LIVING BETWEEN THE MONUMENTS
THE PREHISTORY OF THE DISHFORTH TO BARTON A1 MOTORWAY IMPROVEMENTS

EVIDENCE FROM THE A1 DISHFORTH TO BARTON MOTORWAY SCHEME

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SUMMARY

Upgrading of the A1(T) to motorway status over a distance of 40km between Dishforth and Barton, in the Vale of Mowbray in North Yorkshire, was undertaken in two stages between 2009 and 2018. The construction works were preceded by phases of archaeological evaluation, and extensive excavations were undertaken during the construction works. Given the extent of the evidence uncovered, the results of the investigations are being published as a series of monographs and shorter articles. This article presents the bulk of the early prehistoric results (Mesolithic to Early Iron Age) from the two road improvement schemes, although several of the sites have previously been published elsewhere.

The length of the linear corridor allowed examination of past activity across a variety of topographic zones crossing varying geology and which included wetland areas, rivers and higher, better drained ground. The A1 route also runs through an area rich in nationally significant Neolithic and Early Bronze Age monuments; an important research theme for the project was to examine how the evidence reflected the presence of these sites, both spatially and through time.

The A1 excavations, together with non-invasive techniques such as geophysical survey, identified a small number of new monuments in the area of the route, including several probable Early Bronze Age round barrows, although these mostly lay to either side of the construction works. Near Catterick, the most significant monument to be excavated was a small penannular hengiform ditched enclosure radiocarbon dated to the last centuries of the 4th millennium BC and associated with an assemblage of Impressed Ware pottery. Geophysical survey revealed the presence of a similar enclosure immediately to the east, outside the construction corridor. Nearby, a series of post-pits have been interpreted as forming approximately half of a very large Late Neolithic timber circle c.100m in diameter.

Further to the north, between Catterick and Scotch Corner, the A1 is crossed by the projected line of the well-known Scorton Cursus, although the known portion of the monument ends 2km to the south-east. Slight, and largely circumstantial, evidence is presented from the A1 scheme to suggest that the monument continued beyond its recorded extent to cross the line of the recent road scheme, almost doubling its recorded length to 4.1km.

The bulk of the early prehistoric evidence from both of the A1 schemes consisted of small pits, many of which contained deposits of burnt stones, charcoal and other plant remains. Some natural tree-throws seem to have performed a similar function and were included in this total. A minority of the features contained diagnostic finds such as struck lithics and potsherds, but the majority remained 'undated'. The pits were widely distributed across the landscape, and often formed part of a multi-period archaeological palimpsest with other features. A set of criteria was formulated in order to conduct a 'triage' to filter these features from among the later evidence. Radiocarbon dates obtained for a sample of 'undated'

pits from both road improvement schemes demonstrated that the great majority of these features were indeed of an early date, and this in itself is an important finding for future archaeological investigations.

The distribution of these features was examined both through time and across the various topographic zones crossed by the route. Later Mesolithic activity, largely represented by lithic scatters, was almost entirely concentrated adjacent to rivers, streams and what were, at the time, other wetland areas. In contrast, Neolithic evidence was primarily found in drier, well-draining areas more suited to small-scale agriculture. Higher ground with boulder clay subsoil towards the northern end of the route was largely avoided. By the Bronze Age, although the same areas were utilised, there was a particular concentration of activity in an area where a series of ponds were the focus of burnt mound activity.

How this evidence related spatially and through time to the construction of monuments in the area from the Middle Neolithic onwards allows some interesting observations to be made. Compared to earlier periods, Late Neolithic pits had a more restricted distribution and were largely concentrated in an area near the north-western end of the probable Bainesse Cursus. At a larger scale, and supporting evidence from a number of other sites in the Vale and elsewhere, pits and flint scatters appeared to be absent from the immediate proximity of monuments.

Combined with the minimal evidence for permanent settlement in the Vale, and only intermittent and slight evidence for agriculture during the Neolithic and Bronze Age, the pits are considered to be representative of a relatively mobile lifestyle. Radiocarbon dating of a sample of the pits showed that their creation, and possibly the movement that they represent, continued into the Late Bronze Age. Cessation of this activity appears to have coincided with the first known 'permanent' settlements in the area in the early 1st millennium BC.

The results from the A1 schemes have made a considerable contribution in moving early prehistoric studies in the Vale of Mowbray, and more widely, away from site-based interpretation and on to a more landscape-based footing. This is in line with other studies elsewhere, which have recognised that, although the Neolithic and Bronze Age landscapes were dominated by large ceremonial and funerary sites, they were occupied by a mobile population who interacted with the landscape, and the monuments within it, in complex ways.

ACKNOWLEDGEMENTS

This text was mostly researched and compiled while homeworking during the strange times of the COVID-19 lockdown of spring and summer 2020. This brought many issues both practical, technical and academic (not least the closure of university libraries), and the author would like to thank the many colleagues who had to put up with numerous emails and phone calls requesting data, illustrations and, perhaps most importantly, the administrative staff at NAA's offices who regularly fielded telephone calls requesting them to re-start my office PC when it repeatedly went to sleep.

The archaeological management, fieldwork and post-excavation analysis on the two A1 improvement schemes was carried out, or facilitated by, several hundred people from a number of different organisations; the significant contribution of these colleagues has been fully acknowledged elsewhere (Ambrey et al. 2017a, xii–xiii; Speed and Holst 2018b, xxxiv–xxxv; Fell 2020, xlii–xliii). For this essay, a number of individuals contributed to the analysis of parts of the artefact assemblage and environmental remains. Although some of the data from these analyses has been included below, the size of the current document has, with apologies to the authors, prevented incorporation of the full specialist reports. These will be made available within the digital archives of the A1 projects to be deposited with the Archaeology Date Service. The author wishes to thank these contributors, who included Anne Clarke and John Cruse (stone axes), Peter Makey, Peter Rowe and Frederick Foulds (lithics), Blaise Vyner, Alex Gibson and Chris Cumberpatch (hand-built pottery), Terry Manby (bronze spearhead), Deborah Jaques, Alexandra Schmidl and Elizabeth Wright (animal bone), and Lynne Gardiner and Jonathan Baines (palaeoenvironmental).

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ARCHIVE

The excavation and post-excavation archives from the Dishforth to Leeming section of the A1 scheme have been deposited with the Yorkshire Museum, York (York Museums Trust) with the accession number YORYM: 2013.783. A selection of electronic data has been deposited with the Archaeology Data Service: https://doi.org/10.5284/1041575.

The archives resulting from the Leeming to Barton A1 excavations are, at the time of writing, held by NAA in Barnard Castle, County Durham. Once analyses of the site records, artefacts and environmental remains are complete, the archive will be deposited with the Yorkshire Museum with the accession number YORYM: 2016.101. Supporting electronic data will be made available via the Archaeology Data Service (https://doi.org/10.5284/1078331). It is expected that all archiving will take place in 2021.

1.0 INTRODUCTION

Project background

This paper presents the early prehistoric evidence uncovered during archaeological excavations undertaken in 2009–2010, and between 2013 and 2017, during the improvement of two sections of the A1 dual carriageway to motorway status between Dishforth and Barton in North Yorkshire. The route passes through an area rich in Neolithic and Early Bronze Age monuments, and the road schemes have added a wealth of new information, including several new monuments, for one of the most significant early ceremonial landscapes of northern England.

The development work was commissioned by Highways England and the Carillion/Morgan Sindall Joint Venture (JV) were the Principal Contractors. Design input was provided by AECOM and Grontmij, which included development of the archaeological mitigation strategy and management of the archaeological fieldwork for the JV by AECOM. Atkins Global acted as consultants on behalf Highways England. Historic England and North Yorkshire County Council Heritage Unit provided additional archaeological advice. The archaeological works for both sections of the improvement works were undertaken by Northern Archaeological Associates (NAA) on behalf of the JV. The upgrade of these sections of road represents the final phase of development which, over the past 25 years, has seen the A1 transformed into a modern motorway between Darrington and Barton. Each stage of the works has been accompanied by archaeological mitigation that has resulted in several important archaeological publications (Tavener 1996; Roberts *et al*. 2001; Bishop 2005; Roberts 2005; Brown *et al*. 2007). Together, these road improvement schemes have presented a unique opportunity to develop an understanding of the people living in and travelling through the region in the past, not least for the early prehistoric period.

The motorway corridor lies entirely within the present county of North Yorkshire (Fig. 1.1). The route of the Dishforth to Leeming scheme ran for 21km from the Dishforth interchange (NGR SE 3691 7287), where the A1(M) joins the A19, to a point just north of Leeming Bar, formerly the northern end of the Leeming Bypass on the (former) A1(T) (SE 2785 9144) (Fig. 1.2). The Leeming to Barton A1 scheme comprised a further 19km of road improvements that stretched northwards from Leeming Bar through the northern end of the Vale of Mowbray. Passing Catterick, the route crossed the River Swale at Brompton and then ascended to Scotch Corner before descending towards Barton at the southern edge of the Tees Lowlands, ending at NZ 2178 0823.

The A1 through North Yorkshire follows approximately the same route taken by its Roman predecessor 'Dere Street', which formed the north-south route between York and Hadrian's Wall, and subsequent incarnations of the Great North Road. Increased traffic in the 20th century led to construction of a dual carriageway, the

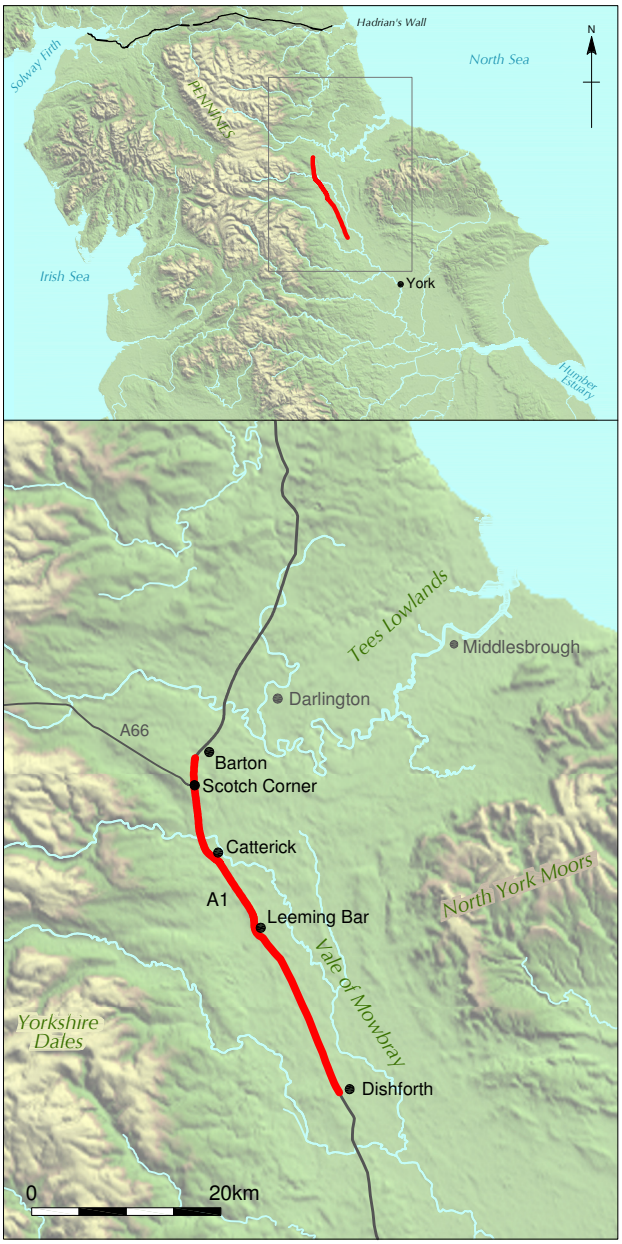

Figure 1.1: location of the A1 schemes.

A1(T), in the late 1950s, which included bypasses avoiding the two main settlements at Leeming and Catterick. Despite continued improvements to the road, such as the excavation of a cutting at Scotch Corner in the early 1970s to bypass the earlier roundabout, by the early 1990s increasing traffic had prompted plans to upgrade the road to a six-lane motorway. Advance works (including archaeological assessment and evaluation works) continued until 1996, when the proposals for the road improvement were withdrawn. A scheme to upgrade the A1(T) between Dishforth and Barton was revived in 2004. Draft Orders for the scheme were published in March 2006 and a Public Inquiry was held in October 2006 as a result of objections raised. The Secretary of State's Decision Letter of 2008 resulted in the scheme being split into two halves, with the Dishforth to Leeming section commencing construction in 2009 and opening

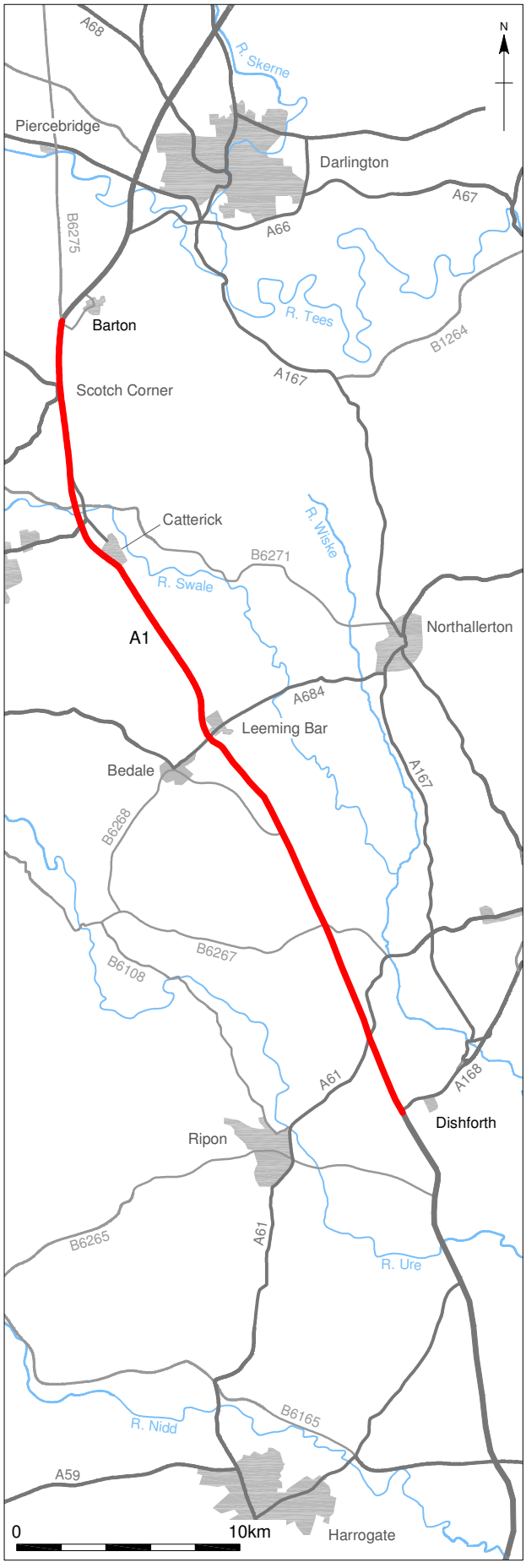

Figure 1.2: the route of the A1 schemes.

in 2012. Work on the second half of the scheme, from Leeming to Barton, began in March 2014, with the new motorway officially opened in May 2018.

Archaeological evaluation works associated with the proposed 1990s motorway scheme were undertaken between 1993–95 and included geophysical survey, fieldwalking and trenching in the Catterick area by English Heritage Central Archaeological Services (Wilson 1994), and elsewhere by the former Lancaster University Archaeological Unit (LUAU 1994; Dennison 1996). Further evaluation was commissioned in the early 2000s to supplement the results of earlier work and inform the Environmental Statement for the new road scheme (Amec/McAlpine Joint Venture 2006, 335–90). This comprised geophysical survey (Hale 2005; 2006; 2007), paleoenvironmental investigations (O'Brien 2005; O'Brien and Innes 2007), fieldwalking (Vyner 2006), trial trenching, test pitting and monitoring of geotechnical investigations (Speed 2006a–f; 2008a; 2010; Maclean 2010). Further geophysical survey, excavation and monitoring was undertaken in 2013 prior to the start of construction works on the Leeming to Barton section (ASDU 2013; Speed 2014; Ross and Falk 2015).

Structure of this report

The first part of this report (Section 1) describes the background to the development schemes (above). The aims of the excavation and post-excavation work and a general description of the methodologies employed is followed by a discussion of the landscape through which the route passes, in terms of its geology and soils, topography and environmental history. A brief account of the prehistoric background for the area of the A1 improvements includes a summary of previous archaeological work in the area. Finally, there is an explanation of the nomenclature used for the various fieldwork areas and the way that they have been grouped for the purposes of this report (which differs from other A1 publications).

Section 2 describes the earliest post-glacial Holocene human exploitation of the area during the Late Upper Palaeolithic, early Mesolithic and Later Mesolithic periods. A description of previous discoveries is followed by results from the A1 schemes, although the most significant investigation, at Little Holtby, has, as noted above, previously been published elsewhere (Speed *et al*. 2018c).

The early prehistoric monuments of the Vale of Mowbray are examined in Section 3, which considers their history of discovery and investigation. It then describes how the A1 works have contributed to our knowledge, with the individual sites investigated along the route described from south to north, and finishes with a brief discussion of their contribution to our developing understanding of this nationally important ceremonial landscape.

Much of the prehistoric evidence from the A1 schemes from the Neolithic and Bronze Age periods was

represented by 'domestic' features and finds. This material is predominantly represented by scatters of lithic material (mostly found residually either in later features or the topsoil) and small pits, frequently found among features of later periods and many of which remained undated. Section 4, which takes up a large part of this publication, begins by describing previous discoveries of similar material within the vicinity of the A1 schemes. It then explains the criteria used to determine which evidence from the recent improvements has been taken under consideration for the current publication and discusses its potential limitations. The selected evidence is then described in a geographic sequence running from south to north along the two projects, subdivided into topographic zones. For each zone, a discussion of the landscape and previous evidence, together with a summary of the lithic evidence from various programmes of A1 fieldwalking, is followed by tabulated and narrative description of the excavated features.

Section 5 covers several sites of Bronze Age and Iron Age date which fall beyond the scope of the material covered in Section 4. These include two areas where evidence for Bronze Age burnt mound activity was identified, associated with former wetland areas. At one site the burnt mounds lay within a probably contemporary enclosure and were associated with pits and a possible circular structure. A third site included part of the perimeter of an Early Iron Age enclosure and a probable four-post structure.

Section 6 presents an integrated discussion of the results of the scheme. It will look at any geographic and topographic variation in human use of the landscape of the Vale of Mowbray through time, from the end of the last Ice Age down to early Iron Age. In particular, it will seek to discover what, if any, impact the beginnings agriculture and of monument construction had on the 'domestic' occupation of the area, and whether this changed through the later Neolithic and Bronze Ages.

During any post-excavation programme as complex as that associated with the successive A1 schemes, particularly where multiple publication outlets are involved, some material inevitably 'falls through the cracks'. Such was the case with a ditched enclosure at Bainesse. Although originally considered to be a Roman temporary camp, academic objection to this interpretation and the suggestion instead that it was of Late Iron Age origin led to its removal from the in-preparation monograph on the Roman archaeology from the A1 Leeming-Barton scheme (Ross and Ross 2021) but came too late for its incorporation into the volume covering the other Late Iron Age evidence from the scheme (Fell 2020). An account of this site is therefore to be found in a short appendix at the end of this work.

The character of early prehistoric archaeology from the A1 project, with its geographically dispersed evidence, meant that the finds and palaeoenvironmental material could not be treated with a 'conventional' site-assemblage approach. Summary information on this material has been used to illuminate the narrative parts of Sections 2–5. Readers requiring more detailed information are directed to fuller analysis of the material discussed in a series of reports and databases contained within the digital archives for the projects, which are to be deposited online with the Archaeology Data Service.

Project aims

The aim of the A1 archaeological investigations was to mitigate for the impact of road construction works on extant archaeological remains. To achieve this, all archaeological remains discovered were recorded to the standards set out in the specifications and consents controlling work in order to 'inform a full fieldwork post-excavation and reporting methodology' (e.g. Maclean 2009a, b; AECOM 2013a–c). The work was required to fulfil the terms of the Scheduled Monument Consents for those excavations within Scheduled areas and to meet guidance contained in the Design Manual for Roads and Bridges (Department for Transport 2007), in addition to commitments provided by Highways England in the Environmental Statement and at the subsequent Public Inquiry. Site investigation works were undertaken in compliance with relevant national guidelines (English Heritage 2008; CIfA 2014a–c; Historic England 2015).

The aim of the post-excavation programme was to undertake appropriate assessment and analysis of the archaeological records and assemblages, leading to publication and the deposition of the excavation archive with the York Museums Trust and the Archaeology Data Service (Russ *et al*. 2017). The work was undertaken in accordance with both national and regional archaeological standards and guidance (Petts and Gerrard 2006; CIfA 2014a–d; Historic England 2015).

The two A1 schemes passed through an area of known prehistoric and historic significance; however, the remains recovered exceeded the expectations of all those involved. In addition to the known, and Scheduled, Roman settlements at Healam Bridge, *Cataractonium* Roman Town and Bainesse (Heritage List nos 1021211, 1021181 and 1021209 respectively), the excavations identified an extensive Late Iron Age and Early Roman settlement at Scotch Corner and investigated smaller sites ranging in date from the Early Mesolithic to the medieval period.

The quantity and quality of the evidence for Late Iron Age and Roman period activity from both road schemes was particularly exceptional, and is in the process of publication in a series of four monographs (Ambrey *et al*. 2017a and b; Speed and Holst 2018b; Fell 2020; Ross and Ross 2021), while some individual sites, finds or aspects of the evidence have been published in a series of shorter papers elsewhere (e.g. Parker and Ross 2016; Speed and Cherry 2016; Gleba *et al*. 2018; Ross and Speed 2019; Fell and Johnson in prep.).

The character of the evidence for the earlier prehistoric periods from both schemes comprised primarily a large number of discrete features distributed along the route. It was therefore felt that analysis of the material would be best served by a landscape, rather than site-based, approach, and that this would benefit by consideration of the whole route rather than splitting the area in two as has been done for the later archaeology. Two elements of the work, the Early Mesolithic site at Little Holtby and the prehistoric funerary evidence, have previously been published elsewhere (Speed *et al*. 2018a; 2018c).

For the Leeming to Barton scheme, NAA, AECOM and Historic England developed five main research themes, which guided the post-excavation and publication programme (Speed 2018, 2); however, these specifically covered aspects of the Late Iron Age and Roman archaeology from the scheme. The earlier prehistoric archaeology was covered by a series of secondary research themes (Russ *et al*. 2017, 49). These were:

- How does the nature of landscape use change from the Mesolithic to the Early Neolithic – is evidence found in the same landscape areas or does the pattern change?

- What evidence is there for changing patterns of activity through the Neolithic and Early Bronze Age?

- What can artefacts (mainly lithics and pottery) tell us about development of material culture in the area through the period?

- How do activity patterns relate to topographic features and wetland areas?

- What impact did the construction of the earliest ritual sites have upon these patterns, and how did this develop through time?

- What patterns can be identified through the deposition of artefacts, animal remains and plant remains into pits, and do these vary both spatially and through time – is deposition of artefacts more common in some periods than others, and do patterns of deposition become more complex?

- How far into the Early Bronze Age does the tradition of pit-digging continue?

- What evidence is there for early agriculture, and does this increase through time – does a hunter-gatherer lifestyle continue in the area into the Neolithic, and, if so, for how long?

- What evidence is there for the character and function of the Middle Neolithic enclosure (at Bainesse) – is it likely to have been funerary, ritual or both?

- How does the enclosure relate to the wider Neolithic ritual landscape within which it is situated – which monuments were intervisible with it and which were likely to been in contemporary use?

- What features were subsequently sited with respect to the enclosure?

- Are enclosure ditches and other features identified at Brompton-on-Swale of Early Bronze Age date, and if so, do they indicate settlement in the area or some form of ritual activity?

- How does the possible Bronze Age enclosure and possible burnt mound deposits near High Goskins relate to nearby groups of pits – are they contemporary or do they represent a change of activity in the area?

- What is the function of the enclosure near High Goskins and is it related to the adjacent wetland area?

- What evidence can be identified for Late Bronze Age/Early Iron Age settlement or landscape division, and how does this develop through time?

The landscape of the A1

Geology and soils

The bedrock geology along the southern part of the route largely comprises Permian and Triassic sandstones in the floor of the vale, with Triassic mudstones occurring east of the River Swale as the land rises towards the North York Moors (Fig. 1.3). To the west of the road corridor in the vale there is a thin ribbon of Permian mudstones with Permian Magnesian limestone to the west of this. The solid geology between Leeming and the Swale consists of Permian Magnesian limestone and mudstones. North of the Swale, the route passes onto Carboniferous Millstone Grit, followed by Carboniferous limestone as it progresses onto the higher ground between Scotch Corner and Barton (British Geological Survey 2020; Fig. 1.3).

Along the southern half of the route, the drift geology of the area surrounding the road corridor largely consists of sands and gravels of uncertain age (Fig. 1.4). A deposit of boulder clay and morainic drift lies in the centre of the route around Burneston and alluvium is present in the valleys of the River Swale and Healam Beck. To the north of Leeming the route follows the glacial sands and gravels of the Leeming Moraine. Beyond this, in the Catterick/Brompton area, the drift geology is typically alluvial gravels deposited by the Swale, although just to the south of the river the A1 cuts through a low hill capped by an area of boulder clay extending from the higher ground to the south-west. Boulder clay is also

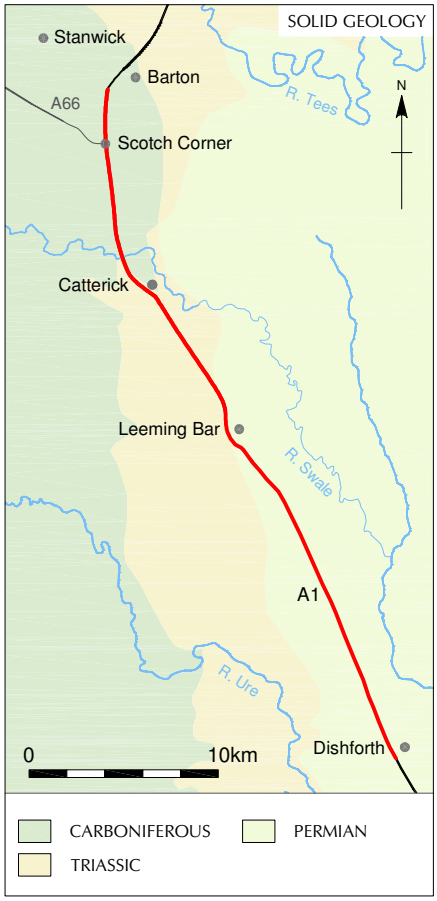

Figure 1.3: solid geology.

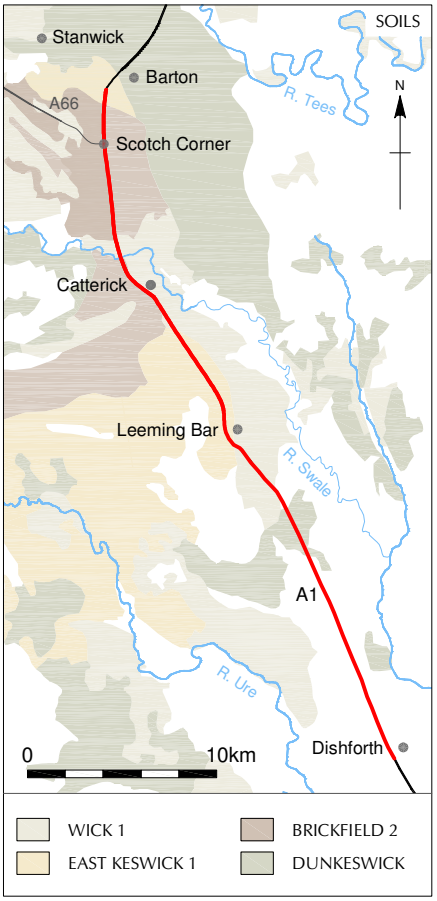

Figure 1.5: soils along the route.

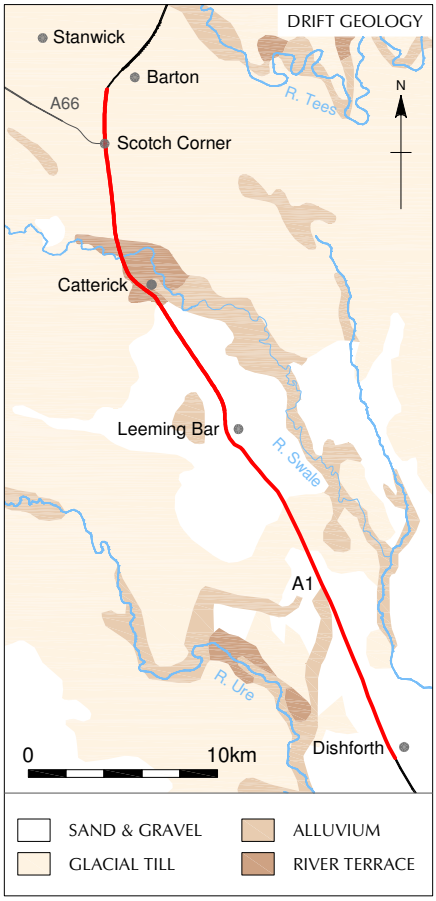

Figure 1.4: drift geology.

present throughout the route north of Brompton towards Scotch Corner and Barton.

The soils which have derived from the quaternary deposits noted above along the southern part of the route (Fig. 1.5) include the coarse and fine loamy brown soils of the Escrick 2 association (Soil Survey of England and Wales 1983; Jarvis et al. 1984, 188). These developed from glacial outwash, and predominate in an area which extends from the area south of Dishforth to the vicinity of Pickhill. From Pickhill to Burneston the soils generally comprise the typical stagnogley soils of the Dunkeswick association (ibid., 165–8), those around Londonderry consisting of the slowly permeable loamy soils of the Bishampton 1 association (ibid., 110–2). Between Londonderry and Leeming, and beyond to Catterick Bridge, Wick 1 Association soils predominate: deep, well-drained, coarse loamy typical brown earths that are well suited to both arable cultivation and pasture (ibid., 302–5). Where the new motorway route diverges away from the old A1 to the west of Catterick village, it passes over soils of the Brickfield 2 Association; slowly permeable, seasonally waterlogged, fine loamy soils, which are suited mainly to pasture with some arable use in drier areas (ibid., 121–3). At Catterick Bridge and Brompton-on-Swale, the soils overlying the Swale Terraces return to the Wick 1 Association. Then, as the ground rises north of Brompton towards Scotch Corner and Barton, Brickfield 2 Association soils resume.

Topography of the route

The project area lies within the Vale of Mowbray, a northward extension of the Vale of York, which is framed to the east by the North York Moors and Howardian Hills, and to the west by the Pennine Dales (Fig. 1.2). At the northern end of the Vale, the route passes onto a ridge of higher ground (Gatherley Moor) separating the Vale from the Tees Lowlands.

The Vale of Mowbray contains the lower valleys of the River Ure and, to the north and east (in the area of the A1 road scheme), the River Swale. Most of the visible geomorphological and sedimentological features are a result of the Last Glacial Maximum (the Dimlington Stadial), with the Holocene beginning in the area from around 11,600 calBC (Bridgland *et al*. 2011, 2–3).

The topography of the vale generally comprises a lowland landscape with gentle undulations, low ridges and knolls created by the underlying glacial deposits. The landscape today is occupied by small towns and large villages, often located on higher ground, the farmland being characterised by a pattern of medium-sized fields largely (but not exclusively) arising from enclosure undertaken in the 18th and 19th centuries. Present agricultural practices consist of a mixture of arable and dairy farming, with some poultry and pig-rearing occurring. Along the southern part of the route, the A1 runs along a slight but noticeable ridge within the floor of the vale, this route clearly having the advantage of lying above the majority of the flood plain of the River Swale while crossing becks at Healam and Leeming.

To the north of Leeming Bar, the route follows the summit of the Leeming Moraine, a ridge of glacial sands and gravels, rising to a height of around 64m above Ordnance Datum (aOD) at Bowbridge Lane. The route then descends as it crosses an area at Killerby, which is dominated by smaller gravel ridges and peat-filled kettle holes that formed during the last glacial retreat. Beyond this, as the route passes Marne Barracks and Catterick village, it crosses more level glacial and alluvial gravel terraces, before crossing a series of morainic ridges (Bridgland *et al*. 2011, fig. 2.1 and plate 2.1).

Immediately south of the River Swale lies a low hill formed from a limestone outcrop capped by glacial boulder clay through which a cutting was created for the A1 in the 1950s. This hill was previously occupied by the Roman town of *Cataractonium*. The A1 crosses the Swale at Agricola Bridge and continues on an embankment across a series of alluvial gravel terraces (lying at a level of c.60–65m aOD) through the western part of Brompton-on-Swale, before beginning to rise out of the Swale valley towards Scotch Corner. This lies at an elevation of 150m aOD at the eastern end of a limestone ridge running westwards, which separates Swaledale from the Tees Valley to the north. The modern A66 follows this ridge westwards towards the Stainmore Pass and Cumbria. At its north end, the route descends into the valley of Waterfall Beck, to a level of c.105m aOD near Barton.

The past environment

Studies of the Holocene landscape and environment in the A1 study area benefit greatly from the comprehensive work carried out by Bridgland *et al*. (2011). This is augmented by a number of other more localised studies, which have investigated individual sites either as part of environmental research or forming part of archaeological schemes, not least the A1 works (O'Brien *et al*. 2017).

A long waterlogged environmental sequence recovered as part of the A1 scheme from Great Raygill Dyke on Hutton Moor, complemented by previous work at Dishforth Bog, has provided a complete Holocene environmental sequence for the southern end of the route (Giles 1992; O'Brien *et al*. 2017, 211–5). To the west, there have been several studies of waterlogged deposits at Ripon Racecourse (Howard *et al*. 2000) and at Nosterfield, close to the River Ure and the Thornborough Henges (Bridgland *et al*. 2011, 93–112). A series of sediment columns recovered during the A1 excavations at Healam Bridge have provided a well-dated environmental sequence for that locality through the last two millennia BC (O'Brien *et al*. 2017, 204–11). A little further to the north, a core recovered by the A1 evaluation from close to the Bedale Beck at Leeming provided some environmental information (*ibid*., 201–4), while a short distance to the west, waterlogged deposits at Bedale Market Place dated to the Mesolithic (Gearey and Allison 2010). To the north of this, relatively little palaeoenvironmental work has been carried out along the line of the scheme, a significant exception being at Killerby Quarry, immediately to the east of the A1, where ongoing archaeological works have included important geoarchaeological and palaeoenvironmental investigations (Parker and Passmore 2019).

Following the end of the last glaciation, the area of the A1 scheme was left covered by extensive deposits of sands, gravels and till, much of it forming morainic ridges. This was punctuated by meltwater channels, lakes, and water-filled kettle holes. From around 13,000 calBC, the loss of the Dimlington Stadial ice sheet and resultant isostatic uplift encouraged the re-establishment of the main river courses and resulting valley incision in the periglacial landscape (Bridgland *et al*. 2011, 16–7).

During the early Holocene, the initial post-glacial landscape of tundra was colonised by species-rich grassland, succeeded in drier areas by shrubs, such as juniper, which were then followed by birch and hazel woodland by around 8000 calBC (Spikins 1999, 89; Bridgland *et al*. 2011, 253–6). Following this, colonisation of elm, pine, oak and other species resulted in widespread mixed woodland. The developing environment attracted a range of game into the area, including deer, horses, boar, elk, aurochs, and smaller animals such as hare, squirrels and hedgehogs (Spikins 1999, 32–6); however, there is little direct evidence from the study area, although both red deer and aurochs were present at Killerby in the Bronze Age (Speed 2010, 81–3, and below).

Table 1.1: archaeological periods used in this report.

Period	Date range	Source
Early Mesolithic	c.9600–c.8000 calBC	Tolan-Smith 2008
Late Mesolithic	c.8000–c.3800 calBC	Tolan-Smith 2008
Early Neolithic	c.3900–c.3600 calBC	Sheridan 2010
Middle Neolithic	c.3600–3200/3100 calBC	Manby *et al*. 2003
Late Neolithic	3200/3100–2500 calBC	Manby *et al*. 2003
Chalcolithic Needham Period (NP) 1	2450–2200/2150 calBC	Needham *et al*. 2010
Early Bronze Age (NP2–4)	2200/2150–1550/1500 calBC	Needham *et al*. 2010
Middle Bronze Age (NP5)	1550/1500–1150/1100 calBC	Needham *et al*. 2010
Late Bronze Age (NP6–7)	1150/1100–750 calBC	Manby *et al*. 2003
Early Iron Age	750–400 calBC	Manby *et al*. 2003
Middle Iron Age	400–100 calBC	Manby *et al*. 2003
Late Iron Age	100 calBC–c.AD70	

Evidence from several sites in the Vale including Healam Bridge, Nosterfield and Killerby suggest that much of the area remained wooded throughout the Later Mesolithic, Neolithic and Bronze Age. Small scale clearances are indicated by episodes of deposition of micro-charcoal and pollen of open-ground taxa and occasionally cereals; however, cereal pollen does not typically travel far and hence can only provide very localised evidence (Bridgland *et al*. 2011, 254–264; O'Brien *et al*. 2017; Parker and Passmore 2019).

There may have been a climatic downturn from the warmer, drier Middle Bronze Age to a cooler, wetter phase during the later 2nd and early 1st millennium calBC (Late Bronze Age/Early Iron Age; Bridgland *et al*. 2011, 264–6), although Tipping (2016) has shown that the evidence for this is currently inconclusive. Nevertheless, the pollen record from Healam Bridge suggests rapid and widespread woodland clearance in the Vale of Mowbray from the Early Iron Age, initially for pastoralism but with evidence for the cultivation of cereals appearing early in the sequence (Ambrey *et al*. 2017a, 26). The climate continued to improve, probably reaching a peak in northern England in the late pre-Roman Iron Age (Passmore and Waddington 2012, 230).

Archaeological background

As with other parts of the A1 projects, a primary study area comprised a 5km radius around the route of the scheme, although comparative material from elsewhere in northern England and further afield was sought as appropriate (Figs 1.6 and 1.7). Fortuitously for this current study, almost all of the major early prehistoric sites in the Vale of Mowbray lay within the primary study area, including the whole of the Marton-le-Moor Neolithic landscape, the Nunwick, Cana Barn and Hutton Moor Henges and their associated features, the newly identified henge at Sinderby, the complex of monuments at Scorton/Catterick and the henge at Moulton. Almost all of the Thornborough Henges and their associated features (including those at nearby Nosterfield) lay within the area, and they have hence all been included here. In addition, almost all of the barrows (generally presumed to be mainly of Early Bronze Age date) recorded in the Vale lie within the study area. The principal exclusion from the study area is the Devil's Arrows standing stones and other Neolithic features at Boroughbridge a short distance to the south of the study area (but still on the line of the A1). Indeed, the preceding sentences immediately demonstrate the extremely linear distribution of early prehistoric ceremonial and funerary monuments and evidence for contemporary 'domestic' activity in the Vale within a narrow (usually less than 10km wide) band along its western edge, with almost nothing recorded in the eastern two thirds of the area.

The archaeological background for the early prehistory of the Vale has previously been summarised elsewhere (e.g. Manby *et al*. 2003, 92–4; Vyner *et al*. 2011, 211–23) and only a brief overview is offered here. More detailed information, broken down by period, is at the beginning of Sections 2–5. Archaeological periods used in this report are defined in Table 1.1.

Relatively little Mesolithic activity has been recorded in the Vale and this is detailed in Section 2. Most of the evidence consists of lithic scatters recorded from fieldwalking. The only published site of any note is the Early Mesolithic site at Little Holtby, discovered and excavated as part of the A1 scheme (Speed *et al*. 2018c), although recent discoveries at Killerby Quarry (e.g. Hunter and Waddington 2018) have demonstrated the potential of the wider area in this period.

The prehistory of the Vale of Mowbray is rightly renowned for a series of spectacular and nationally significant Neolithic and Early Bronze ceremonial monuments. Best known are the large henge monuments, circular embanked enclosures of Later Neolithic and Early Bronze Age date. Near the River Ure to the west of the A1 lies the Nunwick Henge, and a little further to the north is the group of three large henges at Thornborough

Figure 1.6: sites mentioned in text.

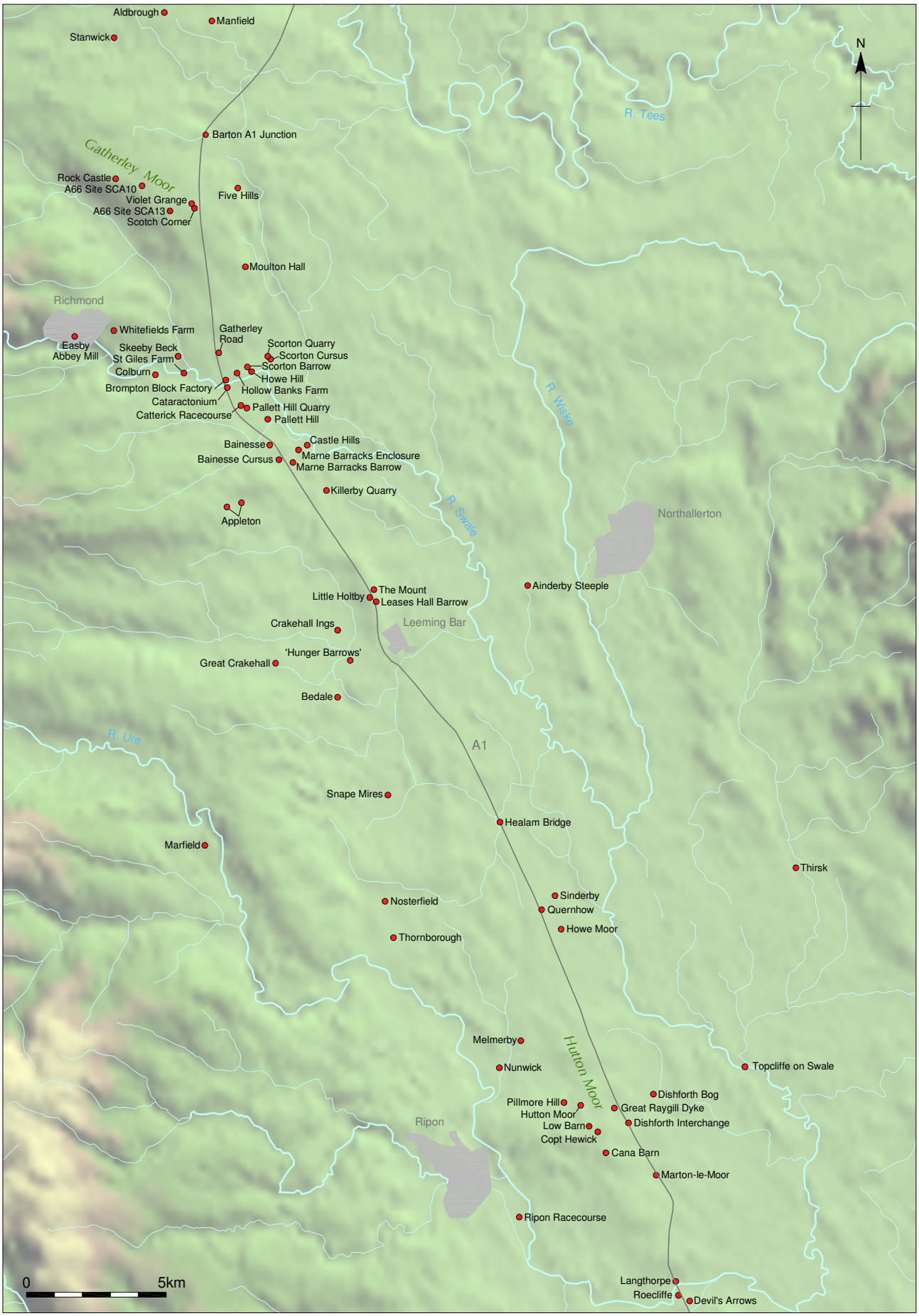

Figure 1.7: sites within the study area mentioned in text.

(Thomas 1955; Harding 2013). Surmounting the interfluve ridge between the Ure and Swale (and followed by the A1) there are more large henges, including the possible site at Tenlands and certain monuments at Cana Barn, Hutton Moor and Sinderby (Atkinson *et al*. 1951, 103; Raistrick 1929, 364–5; Luke 2018). Towards the northern end of the Vale, the Middle Neolithic Scorton Cursus lies on the north bank of the River Swale (Topping 1982). This elongated rectangular ditched enclosure with a central bank once ran for over 2km but has now largely been lost as a result of quarrying. Since the 1990s, it has become apparent that this lies at the centre of an extensive ceremonial landscape extending on both sides of the river at Catterick and Scorton (e.g. Moloney *et al*. 2003; Speed 2005; Hale *et al*. 2009; Speed and Evans 2013; Speed in prep.).

These monuments attracted large numbers of round barrows that remain largely unexcavated but are presumed to be mostly of Early Bronze Age date (Vyner *et al*. 2011, 215–6). These are particularly concentrated along the interfluve ridge along the southern part of the A1 route, although antiquarian accounts and old aerial photographs make it quite clear that there was once a similar concentration in the Catterick/Scorton area towards the northern end of the Vale, and more on Gatherley Moor at the northern end of the A1 scheme. The ceremonial and funerary landscapes of the Neolithic and early Bronze Age Vale are explored in more detail below in Section 3.

Evidence in the Vale of a more 'domestic' nature from the Neolithic and Early Bronze Age comes primarily from surface scatters of struck flint and chert, and from small pits found on a number of development schemes, notably at Marton-le-Moor, Nosterfield, Hollow Banks Farm (Scorton) and during improvements to the A66 (Tavener 1996; Dickson and Hopkinson 2011; Speed 2002; Zant *et al*. 2013). A large part of this report is devoted to this category of evidence from the two A1 schemes, detailed in Section 4.

For the later Bronze Age and Early Iron Age periods there is surprisingly little previous evidence from the Vale, until quite recently limited to finds of metalwork and a single settlement site at Pallett Hill, Catterick (Manby *et al*. 2003, 93–4; Vyner *et al*. 2011, 222). However, the increase in developer-funded archaeology since the 1990s is slowly supplying additional evidence, and the contribution of the A1 projects for these periods is outlined below in Section 5.

Previous archaeological work

Apart from the various phases of investigation associated with the A1 improvements in the 1990s, and between 2005–2017, numerous other archaeological projects have taken place in the Vale. Many sites, notably barrows, were noted or investigated by antiquarians during the 18th and 19th centuries, although the record of such work is variable in quality at least until the early 20th century.

Until the advent of developer-funded investigations in the 1990s, almost all of the surprisingly small number of excavations of prehistoric material in the Vale during the mid-late 20th century had been targeted on known monuments, and the investigations were typically quite small in scale. Examples included trenches excavated at the Thornborough Central Henge, Nunwick Henge and Green Howe (Thomas 1955; Dymond 1963; Wood 1971). One of the largest of these interventions was the partial excavation of Quernhow in 1949 in advance of an earlier phase of A1 widening (Waterman 1951). An early recognition of the damage caused by aggregate quarrying in parts of the Vale led to rescue excavation of Late Bronze Age or Early Iron Age enclosures at Pallett Hill Quarry, Catterick in the 1970s (Manby *et al*. 2003, 94). North Yorkshire County Council and members of the Richmondshire Excavation Group carried out intermittent monitoring during quarrying and other development works around Catterick, Brompton and Scorton in the 1960s, 1970s and 1980s, recording parts of the Scorton Cursus and other potentially prehistoric features. In concert with this ongoing work, a Beaker barrow and other features were recorded at Tancred Quarry in the late 1970s (Greenhalf 1980).

Since 1990, the level of archaeological work carried out in the Vale has accelerated greatly. The majority (in terms of both area and archaeological results) has been associated with the various aggregate quarries in the area, particularly at Nosterfield (Dickson and Hopkinson 2011), Pallett Hill Quarry, Catterick (Moloney *et al*. 2003), Hollow Banks Farm, Scorton (Speed 2002), Scorton Quarry (Speed and Evans 2013; Speed and Zochowski 2015) and, most recently, ongoing works in advance of the new Killerby Quarry to the south-east of Catterick (e.g. Hunter and Waddington 2018; Parker and Passmore 2019). Alongside the quarries, other developments both large and small have recorded prehistoric sites, such as the Neolithic palisaded enclosure found during redevelopment of the former Catterick Aerodrome for Marne Barracks (Carne *et al*. 2013). Modern non-commercial research projects in the area have also recorded important early prehistoric evidence, whether large targeted programmes such as that around the Thornborough Henges (Harding 2013), smaller focused investigations such as that of a Bronze Age ring-ditch at Marne Barracks (Sherlock 2017), or incidentally in the course of excavation of later sites such as the medieval hospital at St Giles Farm near Catterick Bridge (Cardwell and Speed 1996).

Designation of work areas and 'topographic zones'

The 'sites' (or, more commonly, areas of construction work) described in this volume were originally located geographically, both during fieldwork and post-excavation work, by their allocated field number. The initial sequence ran from Field 1 at Dishforth Interchange northwards to Field 245 located to the west of the A1 Barton junction (Fig. 1.8). Additional areas were allocated field numbers where required as the fieldwork programme progressed, and hence do not

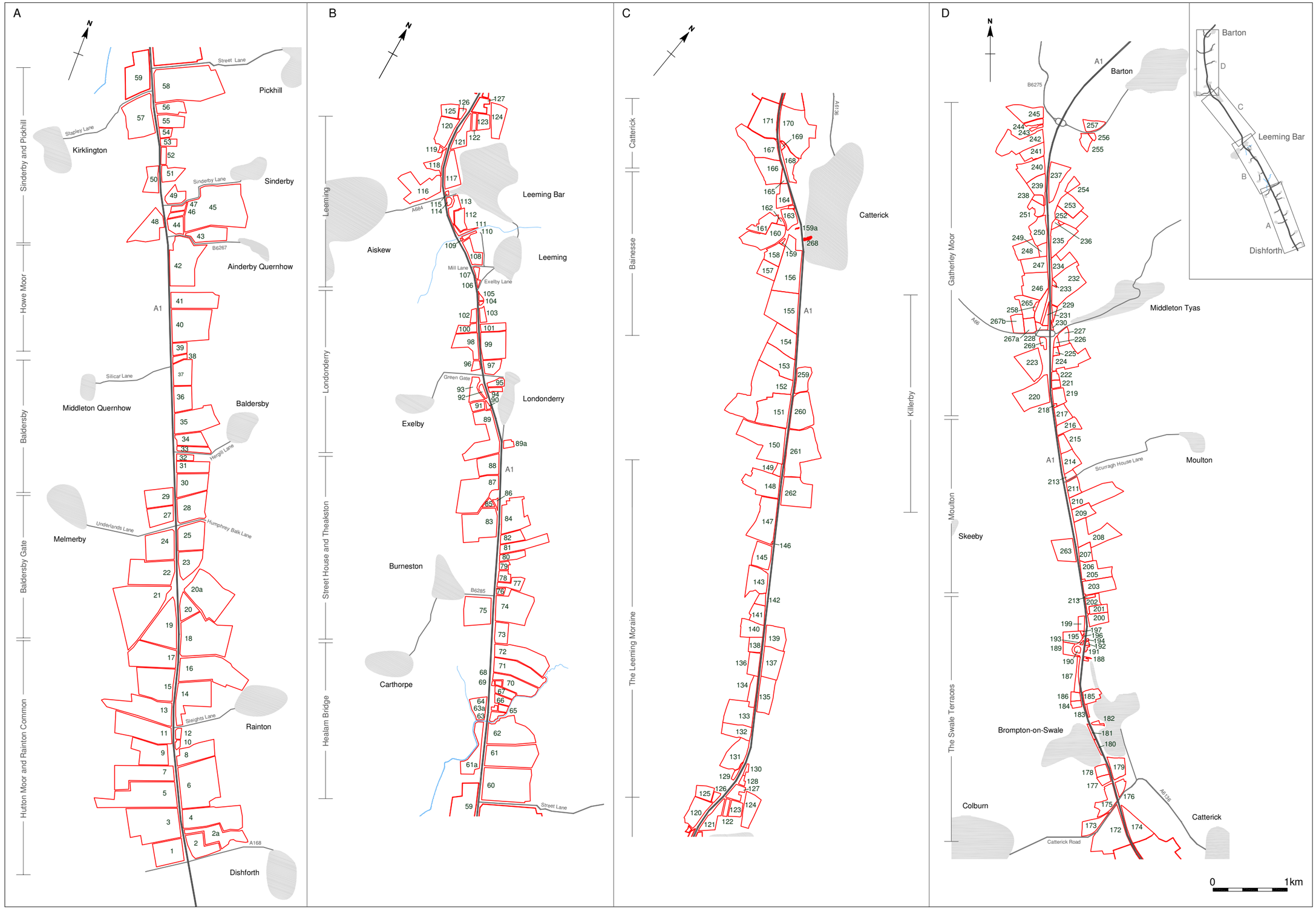

Figure 1.8: field numbering and topographic zones.

Table 1.2 topographic 'zones' used in this report.

Zone	Fields	Length	Description
Hutton Moor and Rainton Common	1–17	2.8km	Section of route crossing east-facing slope below the ridge surmounted by Hutton Moor Henge (topographically comparable to Marton-le-Moor/Cana Henge immediately to the south).
Baldersby Gate	18–29	2.2km	Slightly lower ground. Considerable evidence for Early Bronze Age barrows in the surrounding area. Only c.1.7km from River Swale.
Baldersby	30–37	1.8km	Lower-lying level ground, with higher ground immediately to the west.
Howe Moor	38–42	1.7km	Route rises onto slightly higher ground.
Sinderby and Pickhill	43–58	2.5km	The route descends onto a slightly lower plateau occupied by the Sinderby Henge.
Healam Bridge	60–72	2.2km	Fields to either side of the Healam Beck.
Street House and Theakston	73–88	2.5km	Route gently rises to the north.
Londonderry	89–105	2.0km	Route flanked to the west by Burtree Dyke, gradually descending to the north.
Leeming	106–120	2.3km	Relatively level low-lying areas flanking Bedale Beck.
The Leeming Moraine	121–149	5.0km	A1 route follows a ridge of high ground formerly flanked to the west by wetland.
Killerby	150–154 and 259–262	2.3km	Undulating glacial topography interspersed with peat-filled basins.
Bainesse	155–165	2.2km	Mainly level gravel terraces to the west and north of Bainesse Cursus. Crossed by Brough Beck.
Catterick	165–171	0.75km	Limited monitoring. Much of area previously quarried.
The Swale Terraces	172–202	3.3km	Low-lying areas to south and north of River Swale. Includes three extant or former streams. Much of this area has been the subject of intensive Roman and modern development.
Moulton	203–216 and 263	2.3km	Land gradually rising northwards towards Gatherley Moor.
Gatherley Moor	217–245, 258, 265, 267	4.3km	Higher ground at the northern end of the route before it descends into the Tees lowlands. Scotch Corner at highest point.

retain the same ordered distribution. In addition, some fields out-with the original numbering scheme were allocated an existing number with a suffix, an example being Field 63A which lies across the A1 from Field 63. In addition, some separate excavation areas were allocated suffixes, where more than one distinct (and physically separate) area lay within the same field. For example, Field 163 was divided into several sub-areas, including 'south' (F163S), 'central' (F163C) and 'north' (F163N). In the other A1 publications, sites have also been given site names, such as Little Holtby or Scurragh House. However, for the purposes of this publication, which seeks to regard the vast majority of the evidence as forming part of an extensive archaeological landscape, specific small-scale site designations have been used more sparingly. Instead, the route of the A1 development has been treated as crossing a series of topographic landscape zones, and the 'domestic' evidence presented in Section 4 has been subdivided accordingly (although still referenced by field number). Concordance tables that list the fields crossed by the two A1 schemes, their location, modern civil parish and site name (where applicable) are found in Ambrey *et al*. 2017b, 245–6 and Speed and Holst 2018b, 697–9.

Since the enclosed agricultural landscape found along the route of the A1 schemes was laid-out, at the earliest, from the Iron Age onwards, the Field numbers used during fieldwork clearly have no meaning for earlier archaeological periods and represent a purely artificial subdivision of the remains. In a similar vein, many of the area designations used in other A1 publications are unhelpful when considering the early prehistoric evidence. A prime example is the Roman town of *Cataractonium* which has, from the point of view of this current work, merely served to mask part of a wider pattern of earlier activity. Instead, the name 'Swale Terraces' has been preferred here since it links the area later occupied by the Roman settlement to adjacent areas, particularly down-stream, which have been explored during other archaeological projects. Conversely, Bainesse has been retained as an area designation since, although originally applied to another Roman settlement (Wilson 2002), it also conveniently describes a broad level area occupied by the probable Bainesse Cursus and associated features.

The 'topographic divisions' used below (Table 1.2) have been selected using various (partially subjective) criteria. Apart from obvious physical changes such as

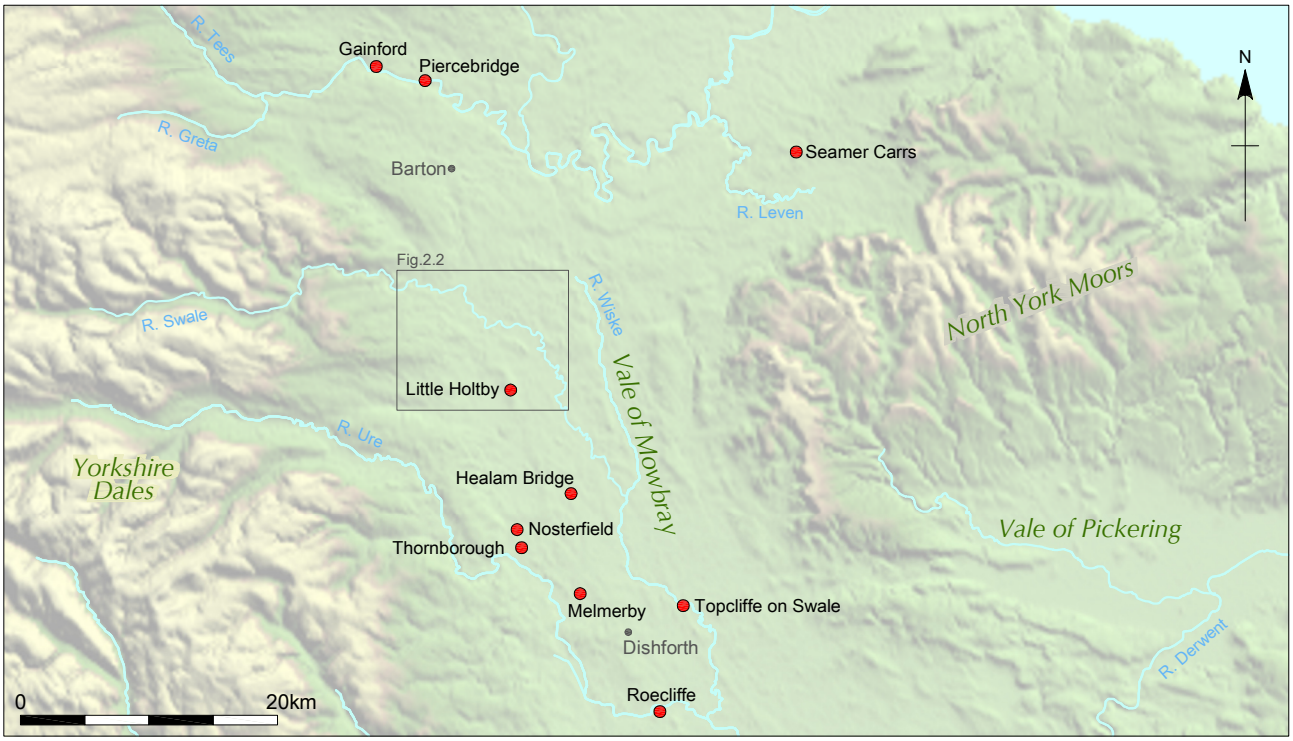

Figure 2.1: Mesolithic sites in the Vale of Mowbray and Tees Valley mentioned in the text.

height, geological variation, proximity to wetlands, etc., consideration was also given to the proximity of major prehistoric monuments such as the Hutton Moor and Sinderby Henges. Elsewhere, variation in the fieldwork opportunities presented by differing construction methodologies meant that there were 'natural' breaks in the available data (the area designated 'Catterick' is an example of this). Consideration also had to be given to dividing the route into sufficient segments of broadly similar length to enable recognition of any patterns in differences or similarities of the data from the various areas.

2. 0 MESOLITHIC

Background

Palaeolithic

There is some evidence for Late Upper Palaeolithic activity in northern England, mainly on the higher ground of the Pennines and North York Moors (Manby 2003, 31; Petts and Gerrard 2006, 14); elsewhere, any evidence is typically concealed by post-glacial drift deposits, although within the Vale of Mowbray a group of possibly Final Upper Palaeolithic flint tools was recovered from a buried soil horizon at Nosterfield (Dickson 2011, 273–4) and similar material may be included within the fieldwalking assemblages from Killerby (Waddington *et al*. 2009, 4–5). Further evidence for human activity in the area during the Windermere Interstadial, a warmer spell near the end of the Ice Age (c.13900–12900 BP) comes from concentrations of micro-charcoal identified in pollen samples from Snape Mires, Marfield and at Killerby Quarry located just the south-east of Catterick (Bridgland *et al*. 2011, 250–1; Parker and Passmore 2019, 55).

Early Mesolithic

For the Early Mesolithic period, in contrast to the North York Moors and Vale of Pickering to the east of the Vale of Mowbray (Schadla-Hall 1988, fig. 3.1; Waughman 2017, fig. 5), there is little evidence from the Dales to the west (Jacobi and Lord 2011, 15), suggesting that the Vale lay near the limit of early post-glacial settlement in Yorkshire. Successive reviews have identified little evidence from the area (Spikins 1999, fig. 2.5; Manby 2003, 33; Vyner 2003, fig. 3.1; Chatterton 2005, 105–8; Vyner *et al*. 2011, 212–3). However, evidence primarily derived from modern developer-led fieldwork projects is beginning to demonstrate that the natural resources of the Vale were exploited from an early date.

The main evidence in the area comes from flint scatters on or adjacent to the Leeming Moraine, around the eastern shore of Crakehall Ings, a former wetland area (Chatterton 2005, 136–60). One of these flint scatters, at Little Holtby (Fields 132 and 133, SE 2765 9167) was investigated by trial trenches in 1995, showing that the majority of the flints were located within a hollow (Wright 1995, 51). Subsequently, excavation in 2014 as part of the A1 scheme demonstrated that occupation, probably seasonal, had taken place within hollows that were probably natural tree-throws. There were several discrete scatters of flint-knapping debris associated with lines of stake-holes probably representing small windbreaks rather than roofed structures. Radiocarbon dates obtained from carbonised hazelnut shells indicated that the site was in use around 8500–8300 calBC (Speed *et al*. 2018c). Timbers from a lightly constructed Early Mesolithic structure were found a short distance to the north-east at Killerby Quarry in 2019 (Brunskill 2019).

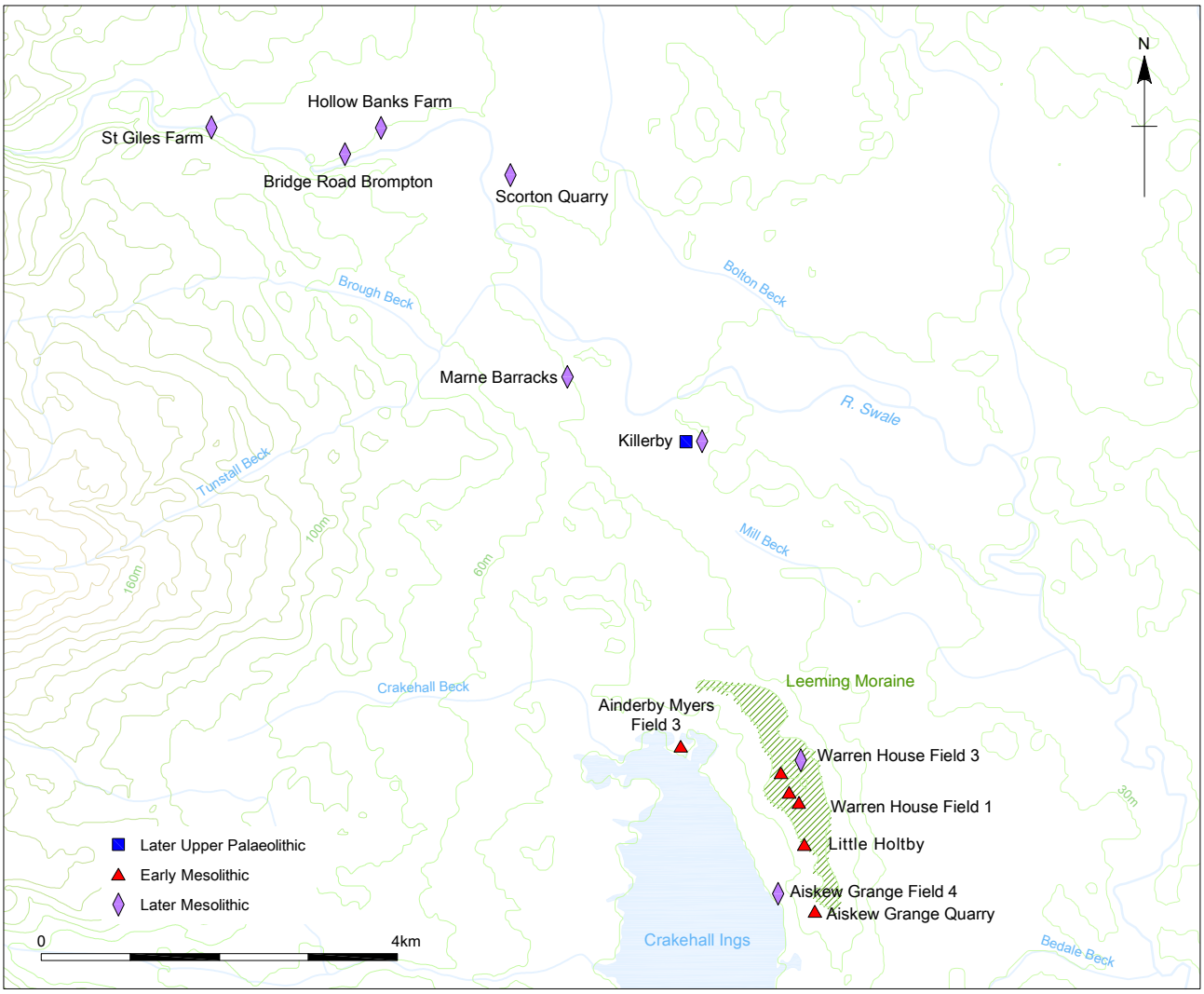

Figure 2.2: Mesolithic sites in the vicinity of the A1 scheme.

Elsewhere in the Vale, Early Mesolithic sites have been identified at Topcliffe on Swale, Melmerby and Seamer Carrs near Stokesley (Cowling and Strickland 1947; Wymer and Bonsall 1977, 365; Vyner *et al*. 2011, 212), with possible material at Thornborough (Harding and Makey 2013). A little later, charred hazel nutshell found within the palaeosol sealed beneath the central bank of the Scorton Cursus (Speed and Evans 2013, 15) demonstrates activity close to the River Swale by 7576-7492 calBC (8453±28 BP, SUERC-52162).

Later Mesolithic

Evidence for the later Mesolithic period is more widespread within the Vale of Mowbray. To the south of the motorway scheme, material has been recovered close to the Ure at Roecliffe. However, investigations in 1993 during construction of the new A1 motorway northwards to Dishforth recovered only a single diagnostically Mesolithic flint (Makey 1995). Closer to the current scheme, a pebble mace-head has been found at Marton-le-Moor village (Roe and Radley 1967, 176), and Wymer and Bonsall (1977, 365) catalogued another site near Marton-le-Moor. To the west of the A1 scheme, more lithic finds dating from this period have been found at Thornborough (Harding 2013, 186–8) and Nosterfield (Dickson 2011, 296), while another pebble mace-head has been found near Melmerby on the higher ground to the west of the A1/A61 junction at Baldersby Gate (Wymer and Bonsall 1977, 365).

Mesolithic lithic finds have been recorded at several sites on the gravel terraces adjacent to the Swale towards the north end of the route, including at St Giles Farm (Cardwell and Speed 1996, 29), Hollow Banks Farm (Speed 2005), at the Thomas Armstrong concrete-block factory in Brompton-on-Swale (Speed 2004) and during ongoing investigations at Killerby Quarry (Waddington *et al*. 2009). The latter site is also significant due to the discovery of a later Mesolithic timber platform, which had been constructed over a pond (Hunter and Waddington 2018). In 2019, waterlogged timbers representing part of a Late Mesolithic or Early Neolithic building were found in another part of the quarry (Brunskill 2019). Larger in situ scatters of lithics dated to either the Late Mesolithic or Early Neolithic periods have been excavated to either side of the Swale in this area at Marne Barracks and Scorton Quarry (Young 2006; Rowe 2015).

To the north of the A1 scheme, a potentially important Mesolithic site has been identified on the north bank of

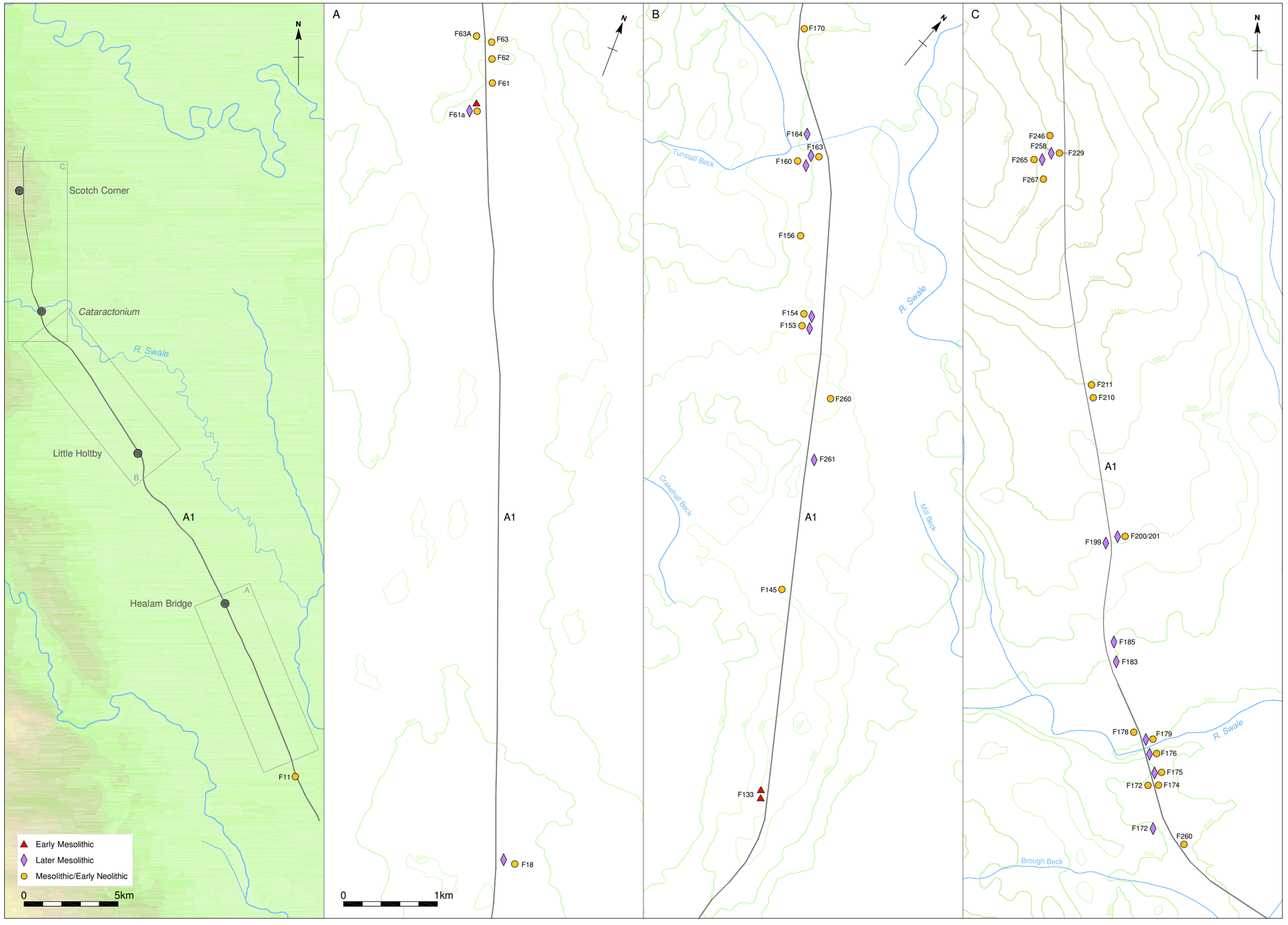

Figure 2.3: Mesolithic and Mesolithic/Early Neolithic findspots from the A1 schemes.

the River Tees between Piercebridge and Gainford, and evidence for blade manufacture has been found to the north of Piercebridge (Haselgrove and Lowther 2016, 351–3).

Evidence from the scheme

With the exception of the site at Little Holtby, the Mesolithic period is, in general, represented along the scheme by an extremely sparse distribution of diagnostic lithics usually found residually in later deposits (Fig. 2.3). Other than Little Holtby, of the material recovered during the 1990s A1 evaluations only that from Bainesse and Catterick had been the subject of specialist analysis (Makey 1994; 2007). However, during the latest phase of work, material recovered by fieldwalking in 1994 from several fields at Healam Bridge was identified within the archive and was re-examined as part of the current work (Rowe 2012) and is described below. Other material found during the 1990s has been unavailable for re-examination.

Apart from Little Holtby, there was little evidence for the Early Mesolithic from the A1 schemes. One of the other flint sites identified by Chatterton (2005, 147–50) on the Leeming Moraine was material eroding out of a quarry edge within what became the main A1 contractors' compound at Leeming Bar. Unfortunately, it was not possible to investigate the exact location of the original scatter, and a trial trench excavated immediately to the north in Field 131 produced negative results (Speed 2015a).

A small assemblage of flint recovered by fieldwalking at Healam Bridge in 1993 included an Early Mesolithic microlith of Jacobi's type 1a or 3b (Jacobi 1978a) from Field 61A, which is paralleled in the material from Little Holtby (Rowe 2012, 3). The only other diagnostically Early Mesolithic artefact was a microlith from Field 265. This was an obliquely backed point probably falling into Clark's (1934) Group B and Jacobi's (1978b) Group A.

For the later part of the Mesolithic, rather more evidence has come from the two motorway schemes.

Only two unstratified lithic items were recovered from the southern end of the route. In 2005, fieldwalking recovered a blade of Mesolithic or Early Neolithic date in Field 11. A small group of flint from Field 18 included the proximal end of a blade with abrupt retouch along one edge. This sort of retouch is similar to that on microliths and the narrow blade technology is characteristic of a later Mesolithic date. A small end scraper based on a narrow flake was also reminiscent of the end scrapers of the later Mesolithic/Early Neolithic.

Healam Bridge (Fields 61–63)

Worked flint and chert was recovered from several fields at Healam Bridge by evaluation works (fieldwalking and trial trenching) in 1993–5 and 2005–6, and during large-scale excavation of the Roman settlement in 2009–10 (Vyner 2006; Rowe 2011; 2012). Lithic material of all periods, but particularly dating from the Mesolithic/

Figure 2.4: Mesolithic fieldwalking finds at Healam Bridge.

Early Neolithic, was concentrated in the fields closest to Healam Beck, with a rapid drop-off in fields further from the water to the north and south-east.

The principal raw material represented was flint, usually a light, translucent brown in colour with reduced cream-coloured cortex where still present. There was variability, with toffee-coloured pieces and red-brown items. The flint is consistent with regionally derived material from glacial sources (e.g. boulder clays) or the beaches of the Yorkshire coast. A small number of pieces were of dark brown, grey or black chert. The most likely sources of this material are carboniferous deposits such as those available in the Yorkshire Dales (Young 1984).

During the evaluation in 1993–5, Field 61 produced three lithics of probable Mesolithic or Early Neolithic date, comprising a plough-damaged flint flake and flint chunk, and a small chert primary blade.

Fieldwalking material from Field 61A had a distinct Mesolithic component, much of it concentrated towards

the northern end of the field closer to Healam Beck. Apart from the Early Mesolithic microlith described above, the assemblage included four further blades, although none as broad as the microlith, which are Mesolithic or Early Neolithic in date. One of these had a notch on its right edge. The blade assemblage was complemented by a worked-out blade core with two platforms opposed to each other. The field produced three well-balanced flakes with complex knapping platforms, diffuse bulbs of percussion and feathered terminations. These are consistent with the Mesolithic material. Subsequent excavation of Roman deposits produced a residual assemblage of four blades of Mesolithic or Early Neolithic date. A heavily fired fragment from a robust blade with abrupt retouch on at least one edge was also likely to be Mesolithic or Early Neolithic in date.

Two blades of Mesolithic or Early Neolithic date were found in Roman features in Field 62. Trial trenching in Field 63 produced three unstratified pieces, an undiagnostic flake fragment, undiagnostic debitage and a small flake core with a single platform. The platform was well-prepared with small flake or blade removals, and the piece was suggested to be of Mesolithic or Early Neolithic date. The subsequent excavation recovered five blades, including two with abrupt retouch, representing the Mesolithic or early Neolithic periods. Two of these, along with a flake, were knapped from black chert rather than flint, and represent three of only four examples of this material found during the whole of the Dishforth to Leeming improvement.

In Field 63A to the north of Healam Beck, fieldwalking recovered two blades consistent with a Mesolithic or Early Neolithic date. One was a plough-snapped distal end with some retouch on one edge. The remainder of the items were flakes with an even split between those that were well-prepared with diffuse bulbs and those with flat platforms and pronounced bulbs. These might represent earlier and later prehistoric knapping traditions, respectively. The flint was mainly concentrated in the southern and centre part of the field.

Field 145 (Bowbridge Lane)

During excavation of Late Bronze Age and Early Iron Age features in Field 145 (below, and Speed *et al*. 2018a, 31–8), a number of residual finds were recovered. These included three Mesolithic/Early Neolithic flint and chert bladelets and a small chert scraper, which could have dated either from the Mesolithic or Early Bronze Age.

Fields 153, 154, 260 and 261 (Killerby)

A Mesolithic flint piercer was found in subsoil during machine-stripping in Field 261. A short distance to the north, three flints (context **720**) were collected during the evaluation in 2006 from the surface of Field 260 at SE 2570 9535. This location is located on a low ridge (Pike Hill) overlooking an adjacent former wetland area (kettle hole). The group consisted of an undiagnostic flake and two bulbar proximal ends from blades, one of which was lightly fired. There was no evidence for edge use on any of these pieces, each of which had a dense white or grey patina. The blades were well-controlled, parallel sided examples with prepared striking platforms. They are in-keeping with a Mesolithic or early Neolithic date and are paralleled at the nearby Marne Barracks site (Young 2006) which lies only 1.5km to the north-west. Later fieldwalking in this field for the Killerby Quarry project found a thin spread of Mesolithic material, again mostly located on the higher ground of Pike Hill, and extending beyond the boundary to the east (Waddington *et al*. 2009, 13–4 and fig. 7.3.4.).

To the north-west, across the A1 in Field 153, residual finds included a Mesolithic flint blade (context **7163**) and a black chert core of Mesolithic or Neolithic date. These were located close to a former wetland area marked by a peat-filled depression. A short distance to the north, a number of lithics were found in a small area at the southern end of Field 154. Finds from the subsoil included a flint flake and a core tablet considered to be of Mesolithic date, together with undiagnostic chert and flint flakes (one each) and two fragments of chert debitage. A Neolithic pit in this area contained a residual Mesolithic flint bladelet (pit fill **7160**).

Bainesse (Fields 160–164)

Fields 160–164 contained extensive remains of Roman date, and, other than in Field 164, almost all of the early lithic evidence was found residually in later features.

To the south of Brough Beck, several diagnostically Mesolithic lithic items were found residually in Field 160. These included three flint blades (contexts **5207** (x2) and **5716**), a flake (**4673**) and context **5857** produced a flanc de nucleus (a flake produced when reshaping a core). Another flint blade was of uncertain Mesolithic/Neolithic date (**4672**). Early finds from Field 163C comprised a Mesolithic black chert core (context **12290**) together with another chert core and a flint blade of Mesolithic or Neolithic date (contexts **13065** and **13325**).

To the north of the beck, a larger number of pieces were found in Field 164. Near the southern edge of the field (and not far from Brough Beck), pit-pair **4129** and **4162** (see Section 4 Figs 4.29 and 4.30), both securely dated by pottery and radiocarbon dating to the Late Neolithic period, each contained lithic assemblages, with six pieces from pit **4129** (fill **4128**) and eight from pit **4162** (fills **4161** and **4160**). All five of the diagnostic pieces (all flint) were Mesolithic in date, comprising a core and blade from **4128**, a blade and bladelet from **4161** and another blade from **4160**; presumably most, if not all, of the non-diagnostic material was of a similar date. Undated pit **4385**, also near the southern edge of the excavated area closest to Brough Beck, contained a piece of flint debitage considered to be of Mesolithic date (fill **4384**).

Further away from the stream, the only dateable find from pit **4110** (described in Section 4) was a Mesolithic flint bladelet; however, given the presence of similar

material from demonstrably Neolithic features nearby, it was considered that this was most likely residual within a later feature. Nevertheless, it remains possible that the pit was Mesolithic in date.

A flint microlith, possibly of Clark's (1934) Class D, also came from the south-west of the field closest to Brough Beck, a residual find from the fill of a post-medieval ditch (fill **4470** of ditch segment **4468**).

Catterick Racecourse/Brough Park (Fields 170, 172, 174 and 176FB)

The area to the south of *Cataractonium* Roman town is crossed by a shallow valley, which once contained a small stream running from north-west to south-east. Mesolithic or Mesolithic/Neolithic lithics were found on the slopes of this valley, suggesting that the stream was a focus for activity from the Mesolithic onwards. Flints were found in Fields 170, 172, 174 and 176FB. In addition, two small pits or hollows may also have dated from the later Mesolithic period.

A residual Mesolithic or Neolithic flint blade (**7121**) was found to the south-west of the former stream in Field 170.

South of the stream in Field 172, a residual Mesolithic flint blade was found in a Late Neolithic pit (**6118**, fill **6119**). Located to the west, two pits lay only 0.7m apart but were otherwise well away from other, later, features (Fig. 2.5). Neither feature contained any artefacts. 'Pit' **6700** was in reality an irregular shallow hollow quite unlike the vast majority of the Neolithic and Bronze Age pits recorded on the scheme as discussed below. It measured 0.7m by 0.4m by up to 0.17m deep (mostly much shallower) and was filled with heat-affected brownish grey silty clay with orange-red flecks, although there was no evidence for in situ burning. *Prunus* charcoal from fill **6701** provided a radiocarbon date of 6058–5983 calBC (7133±23 BP, SUERC-92798; Table 2.1). The adjacent pit or perhaps posthole (**6702**) was 0.4m in diameter, 0.17m deep and was filled with heat-darkened greyish brown clay (**6703**) and charcoal, although there was also no evidence for in situ burning. The similarity of the fills of these two features suggested that they may have been contemporary. Although it is possible that the dated charcoal fragment from pit **6700** was residual, these features may represent an episode of Mesolithic occupation at the site.

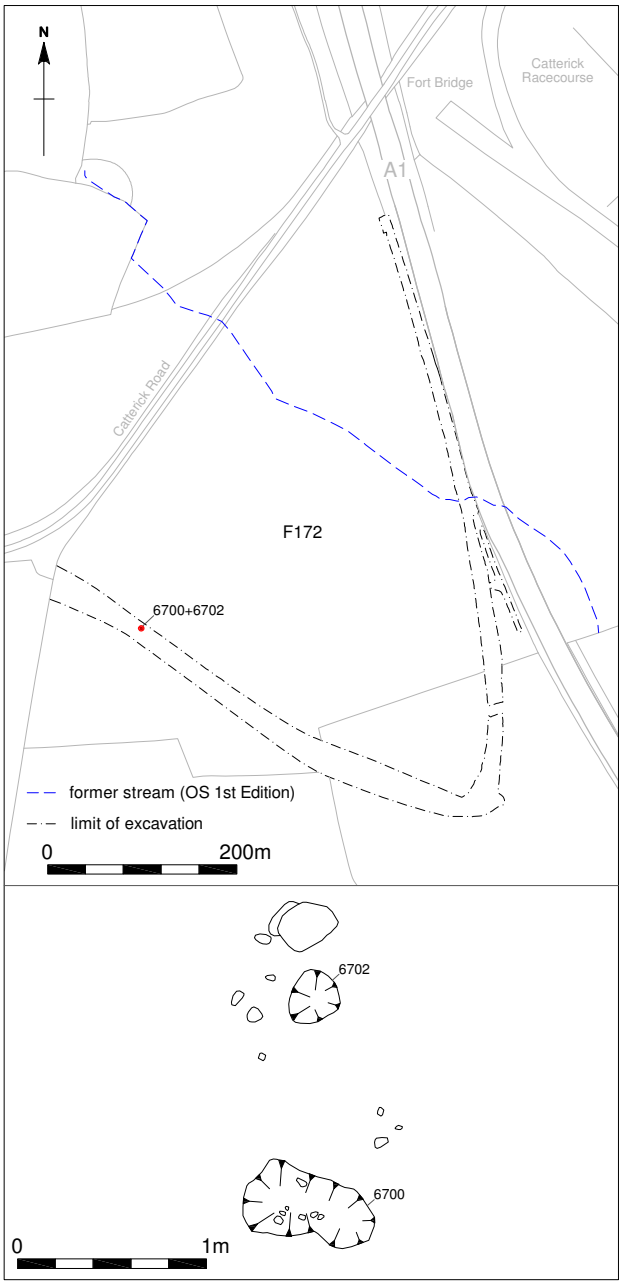

*Figure 2.5: Field 172 pits **6700** and **6702**.*

Similarly sized, shallow irregular hollows elsewhere have provided Mesolithic radiocarbon dates, as for example at Lindley Moor, Huddersfield (SE 1105 1920) dated to 7300–6750 calBC (hazel nutshell, 8060±50 BP, OxA-9781) (Wood and Abramson 2001). At Goldthorpe in South Yorkshire (SE 4490 0380), a pair of shallow

Table 2.1: Mesolithic radiocarbon dates from the A1 scheme.

Field	Feature	Sample context	Lab code	Material		Radio-carbon age BP	1σ	2σ
172	Pit 6700	6701	SUERC-92798 (GU54454)	Charcoal: Prunus	-26.4	7133±23	6026 (68.2%) 5991 calBC	6058 (95.4%) 5983 calBC
185	Pit 10680	10679	SUERC-92803 (GU54456)	Charcoal: Maloideae	-27.1	7916±24	6813 (68.2%) 6695 calBC	7023 (7.1%) 6967 calBC 6947 (1.0%) 6936 calBC 6916 (6.8%) 6881 calBC 6840 (79.7%) 6678 calBC 6668 (0.7%) 6660 calBC

irregular hollows were identified, one of which was dated to 4242–4049 calBC (*Fraxinus* charcoal, 5324±28 BP, SUERC-69396), which contained charcoal and flint debris typical of Mesolithic blade production (Teasdale 2017, 5–6). At Esklets in Westerdale on the North York Moors, a very shallow oval hollow, also of comparable size, contained charcoal, heat-reddened stones and later Mesolithic microliths. In this case, the base of the hollow showed evidence of heating, suggesting that it had functioned as a hearth (Carter 2015, 7). On the A1 scheme, an analogous feature in Field 185 (pit **10680**) also provided a Mesolithic radiocarbon date (below). The characteristic fill of all these features, mainly burnt or heat-affected soil, perhaps suggests extinguishing of a fire-pit within a woodland environment as is still considered good practice today.

No certain Mesolithic material was found on the slope to the north of the stream, although a considerable number of residual chert or flint pieces, mostly recovered from Roman features or deposits in Fields 172, 174 and 176FB (see Ross and Ross 2021 for context descriptions), were considered to be of either Mesolithic or Neolithic date. In Field 172, these comprised two chert blades (contexts **6744** and **6766**), while two flint bladelets were found in Field 174 (**1195** and **33267**). Given the small area excavated, rather more material was found in Field 176FB; however, this apparent concentration is probably a product of circumstance rather than an indication of increased early activity. The lithics were recovered during hand-excavation of a thick sequence of Roman deposits, whereas in Fields 172 and 174 the areas were machine-stripped down to natural deposits and most of the lithic assemblage in these areas (contained in the plough- and sub-soil horizons) will have been lost as a result.

Material of possibly Mesolithic date from Field 176FB included seven flint blades (contexts **18099**, **18239**, **21850**, **22000**, **22211**, **18457**, **21271**), a flint flake (**21290**) and debitage (**21144**).

Swale riverbanks (Fields 176EC, 178 and 179)

Excavation of parts of the Roman town to either side of the River Swale, in Fields 176EC (to the south) and 177–179 (to the north) produced small quantities of residual lithic material of either Mesolithic or Mesolithic/Neolithic date. This low-level distribution mirrors the results from previous excavations close to the riverbank, upstream at St Giles Farm, at the Brompton concrete-block factory (immediately east of F179) and a short distance downstream at Hollow Banks Farm (Cardwell and Speed 1996, 29; Speed 2002; 2004).

Material of diagnostically Mesolithic date from these riverbank areas comprised a flint blade from Field 176EC (context **1881**), and three flint blades, a flake and a possible microlith from Field 179 (**8000**, **8195**, **8239** and **8451**). Additional material of possible Mesolithic attribution included a flint blade and flake from Field 176EC (**1470** and **8100**), another flint blade and a core fragment from Field 178 (**20314** and **20346**), and three chert or flint blades from Field 179 (**8408**, **9973** and **20004**).

Brompton to Gatherley Moor

To the north of the Swale, small numbers of flints of Mesolithic or Mesolithic/Neolithic date were found in a number of discrete locations. In addition, a possible Mesolithic pit was recorded in Field 185.

In Field 183, a flint bladelet of possible Mesolithic date was found (presumably) residual in the fill of ditch **10643** (context **10648**, described in Section 4). The possible Mesolithic pit (**10680**) in Field 185 was located among a palimpsest of later features (Figure 4.35). In plan it was an irregular oval, 0.79m long, 0.49m wide and 0.12m deep, of similar dimensions to feature **6700** in Field 172 (above). Pit **10680** was filled with orange-brown (probably heat-affected) silty clay (**10679**) containing flecks of charcoal. *Maloideae* charcoal from this deposit gave a radiocarbon date of 7023–6660 calBC (7916±24 BP, SUERC-92803; Table 2.1). The pit was located c.75m from a stream flowing along the northern edge of the field.

During the 2005 evaluation in Field 199 (Trench CN2, Speed 2006d, 15–16), the fill (**460**) of an Iron Age gully produced a residual possible microlith. It had been manufactured on a medium grained reddish brown till or gravel flint, and was probably a crude and damaged example of an edge blunted point with right hand side edge retouch. The piece was highly diagnostic, being of probable later Mesolithic date. The site lies on a south-facing slope overlooking another small stream.

In Field 201, to the north of the same stream, a small assemblage of flint recovered from the subsoil (**6016**) included a Mesolithic knife and a Mesolithic/Neolithic blade, and a residual Mesolithic core was found in a later ditch (context **11487**). Further to the north, topsoil in Field 210 produced a Mesolithic/Neolithic flint blade, and a flint bladelet of similar broad date range was found unstratified in Field 211.

Scotch Corner (Fields 246, 258, 265, 267)

After Little Holtby, the high ground at Scotch Corner provided the largest concentration of Mesolithic or potentially Mesolithic lithic finds from either motorway scheme. The main group of material, found in a small area excavated in Field 265, is described first in some detail, followed by the diffuse spread of residual material found in neighbouring areas (Fig. 2.6).

In Field 265, apart from the Early Mesolithic microlith noted above, the struck lithic assemblage comprised a further 107 pieces (Table 2.2). They appeared to represent a small discrete scatter of predominantly Mesolithic date, although a few pieces could have been Neolithic. The lithics were recovered mainly from buried soil deposits (**31617** and **31737**) of probable prehistoric date sealed beneath Roman deposits (Fell 2020), together with some additional disturbed material

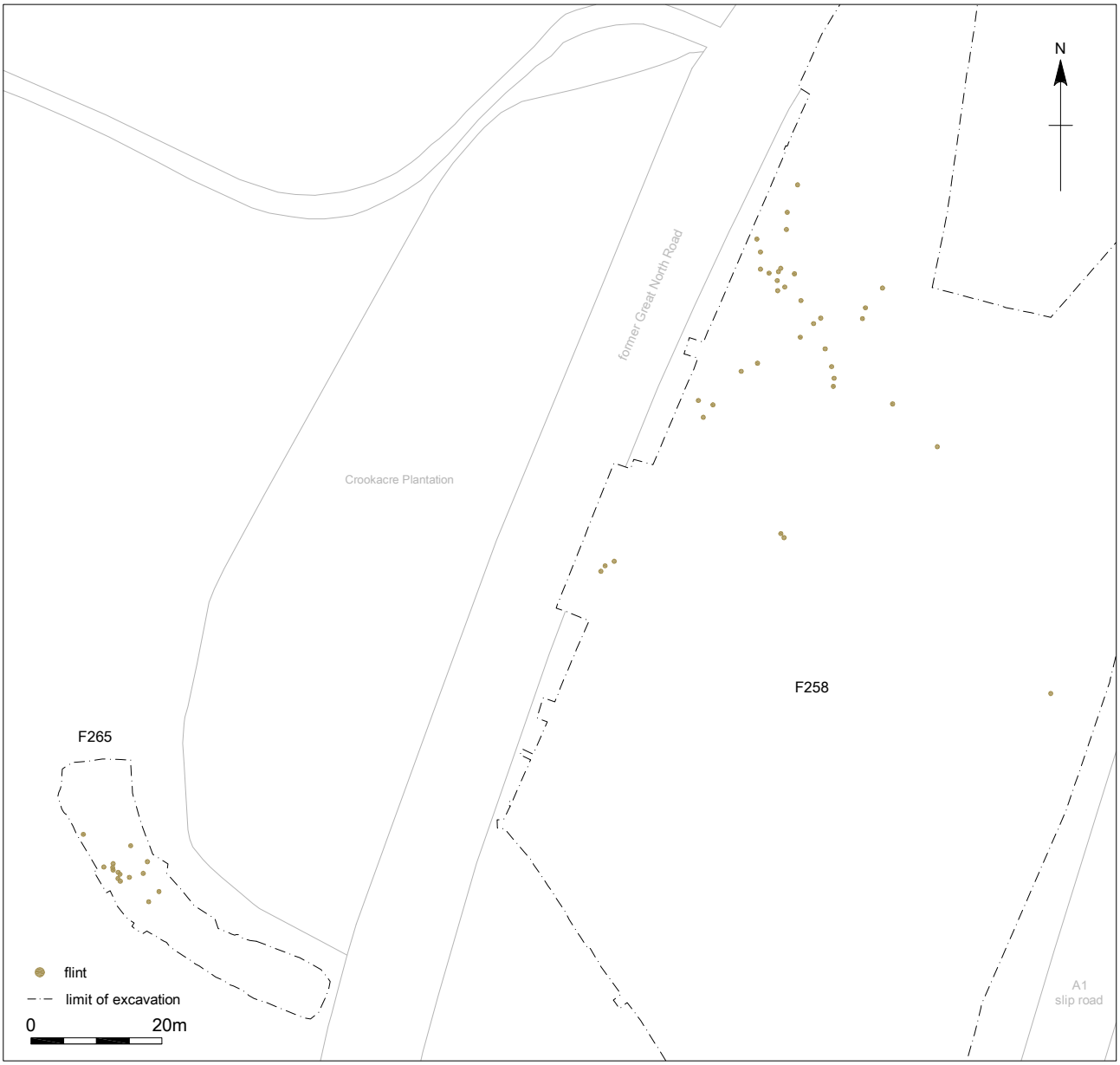

Figure 2.6: location of flint scatters in Scotch Corner Fields 158 and 165.

found residually within nearby Roman contexts.

The raw material used in the production of the assemblage was primarily flint (78%), with some chert. Both components reflected predominantly later stages of lithic reduction, with limited primary reduction taking place. It is highly likely that much of the raw material was obtained from locally available sources. Much of the flint is likely to have come from till deposits, which are known in Yorkshire (Manby 1979; Henson 1985; Young 1984). Chert, on the other hand, would likely have been obtained from the local carboniferous limestone, with several outcrops known in nearby Nidderdale and Swaledale (Chatterton 2005).

Table 2.2: composition of the worked lithic assemblage from Field 265 according to type.

Knapped Form	**Quantity**
Cores	5
Flakes	46
Blades/bladelets	19
Microburins	1
Microliths	4
Debitage (angular waste)	25
Retouched tools	8
Total	**108**

Apart from the Early Mesolithic piece, three additional microliths were identified among the lithic assemblage. A geometric form fell into Clark's Group D, probably subtriangular, and Jacobi's Group b, possibly representing a scalene triangle. The other two had affinities to Clark's Group H, specifically broad-based, trapezium-shaped type. Other likely Mesolithic pieces of note included a microburin, a piercer, a scraper with very fine retouch, a flake with five denticulations, and a tool combining a side scraper and burin.

Material of likely later date included a scraper and an arrowhead of hollow-based type, a Later Neolithic form that is relatively rare within the British Isles A burin and another denticulated flake was of either Mesolithic or Neolithic date.

Other Scotch Corner Fields

Residual material of Mesolithic/Neolithic date from Field 246 comprised two flint blades (contexts **24634** and **24649**) and a flint bladelet (**24921**).

The only certain Mesolithic piece from Field 258, to the east of Field 265, was a microlith (context **26619**). Other residual material of more broadly Mesolithic/Neolithic date, all flint, comprised six bladelets (contexts **15000**, **15257**, **26004**, **26089**, **26606**, **27312**), three blades (**26658**, **26902**, **27226**) and a blade-like flake (**26183**). This material is discussed in more detail along with other material from the field in Section 4.

A residual Mesolithic/Neolithic flint blade was found in Field 267 (context **32625**) in the same area that two similar pieces had been found during the A66 widening works in 2006–7 (Zant *et al*. 2013, 28).

Mesolithic discussion

What was immediately apparent when examining the distribution of the Mesolithic evidence as a whole along the length of the two schemes was its spatially intermittent character. For the Early Mesolithic, there is currently a pronounced concentration of sites on the Leeming Moraine to the north of Leeming Bar, with a near-absence of equivalent material elsewhere within the study area; the solitary early microliths found in Fields 61A and 265 could indicate the presence of campsites but could equally represent casual losses perhaps while hunting. Although the site at Little Holtby was discovered during the 1990s A1 evaluation, the concentration of Early Mesolithic sites now known in this area is largely the product of Chatterton's limited academic research project (2005), and is unlikely to provide a true picture of the extent to which the area was exploited in this period, as recently demonstrated by discovery of the Early Mesolithic structure at Killerby Quarry.

There was a marked similarity in the distributions of later Mesolithic and Mesolithic/Early Neolithic material from the A1 schemes, often with lithics from both groups found together. This suggests either that most of the latter category was in fact Mesolithic in date, or that there was little change in areas of activity between the two periods, and that '…ways of life that were essentially Mesolithic continued later than in some other areas of the country' (Vyner *et al*. 2011, 214). The former explanation seems more likely since, as will become apparent in Section 4, evidence of more certain Early Neolithic date from the scheme has a very different and much more widespread geographic distribution. The two groups of material, Mesolithic and Mesolithic/Early Neolithic are therefore treated as one here.

Finds of this period were concentrated in specific areas along the route, with long 'blank' stretches. At the southern end, the topography suggests that any Mesolithic activity is likely to have been concentrated to the east of the A1 corridor on the fringes of Dishforth Bog. Material was conspicuously lacking from the fields along the eastern margin of Hutton Moor, as it had been in topographically similar landscape at Marton-le-Moor to the south of the scheme, and this 'blank' result continued across Howe Moor to the north. The only Mesolithic material from this 11km part of the route comprised one item from Field 11 and two from Field 18.

This contrasted with a scatter of residual material found in fields to either side of Healam Beck (Fields 61, 61A, 62, 63 and 63A). This was very localised, with all of the material found within c.200m of the stream. To the north of Healam, no later Mesolithic material was found along the next 11km of the A1 works, despite the route running close to Burtree Dyke, which seems to have been a focus of activity in later periods (Ambrey *et al*. 2017a, 23; Ross and Speed 2019, 168–9), and crossing Bedale Beck.

The only later Mesolithic flint found on the Leeming Moraine during the A1 scheme was a small group of residual material found in later deposits in Field 145 (Bowbridge Lane, see Section 5); however, during his fieldwalking programme, Chatterton identified two later Mesolithic flint scatters on the ridge but away from the line of the A1 in Fields 135 and 137 (2005, fig. 3.19), indicating continuing interest in the same area as during the Early Mesolithic period in Field 133 and other nearby sites (*ibid*.; Speed *et al*. 2018c). To the north of the Leeming Moraine, the ongoing investigations in Killerby Quarry suggest that later Mesolithic activity was concentrated on wetland areas between the A1 and the River Swale (Waddington *et al*. 2009; Hunter and Waddington 2018), of which the flints found in Fields 261, 260, 153 and 154 should perhaps be regarded as forming the western periphery.

Although the section of the route running to the north-east past Bainesse (Fields 156–159) seemed relatively 'blank' in the A1 scheme, occasional earlier finds from Field 156 included a microlith and a Mesolithic or Early Neolithic end-scraper (Rowe 2006, 50; Makey 2007, 122), while other material from the field has not been analysed (Brickstock *et al*. 2007), so this apparent gap in the distribution is probably illusory. A concentration of material within Fields 160, 163 and 164 to either side of Brough Beck may reflect a focus of Mesolithic activity around the stream; however, it should be noted that the quantity of lithics recovered is still small compared to the very large areas examined in these fields. To the north of Field 164, a gap in the distribution of material reflects the return of the new A1 carriageway to its former alignment (resulting in little opportunity for archaeological investigation), while much of the work during construction of the new Catterick Central A1 junction took place in an area previously disturbed by quarrying (Field 170).

The identification of cut features potentially of Mesolithic date in Field 172 marks the start of a long prehistoric exploitation of the small valley to the south of the Roman town, which is discussed further below (Section 4). A moderate quantity of residual lithics recovered from Roman deposits on both sides of the Swale (Fields 176, 178 and 179) reflected the findings from several previous nearby excavations along the river banks (Cardwell and Speed 1996, 29; Speed 2004; Speed 2005), and suggest a long-term but relatively low intensity focus on this area during the later Mesolithic.

The next two areas to the north where Late Mesolithic or Mesolithic/Early Neolithic material was found were both located close to streams, at Fields 183/185 and at Fields 199/201; however, this distribution will again have been affected by limited opportunities for investigation during the A1 scheme through much of the Brompton trading estate area and between Field 185 and the former Catterick North A1 junction.

To the north of Field 201, over a distance of 4km, no certainly Mesolithic material was found on the higher ground leading up towards Scotch Corner. A small quantity of lithics found at Scurragh House (Fields 210 and 211) being equally likely to have been of Early Neolithic date.

All of this diagnostically later Mesolithic or Mesolithic/Early Neolithic material showed, in general, a strong locational bias towards raised ground bordering wetland areas such as Healam Beck, the River Swale, streams and ponds. A similar apparent focus of flint scatters on waterways has been noted in other areas, as at Howick in Northumberland, where Waddington (2007, 22) noted that the density of fieldwalked lithics fell away with distance from Howick Burn. The two largest lithic assemblages of Late Mesolithic/Early Neolithic date previously excavated close to the A1 schemes, at Marne Barracks and Scorton Quarry, both lay close to the River Swale (Young 2006; Rowe 2015). To the north of the A1 scheme, Late Mesolithic and Mesolithic/Early Neolithic material has, to date, been found mainly around Mary Wild Beck at Stanwick and close to the River Tees (Haselgrove and Lowther 2016, 351–3).

Given this apparent Mesolithic emphasis on areas close to water, it is somewhat surprising that the most significant later Mesolithic assemblage from the A1 was found at Scotch Corner (Field 265). This site lies at the summit of the eastern end of Gatherley Moor in an area where there are no obvious water sources. It is possible that small streams or ponds may have been present in the early prehistoric period, and an adjacent quarry (Crookacre Plantation) may have altered the hydrology of the immediate vicinity; against this, however, the Iron Age and Roman settlement on the site seems to have relied for its water supply on a series of wells and cisterns (Fell 2020).

The lack of water aside, the Scotch Corner location would have provided a good hunting base, with wide views (dependent on tree cover) and easy access to the lower ground to the south, east and north. Previous finds of Mesolithic/Early Neolithic flints on the ridge of higher ground to the west of Scotch Corner (Zant *et al*. 2013, 28), together with a pit that provided a Late Mesolithic/Early Neolithic radiocarbon date of 4240–3990 calBC (*ibid*., 27), indicate that the wider area of the ridge may have been exploited, and perhaps provides a westward link to the extensive evidence for later Mesolithic activity known from the North Yorkshire and Durham Dales (e.g. Laurie 2003, 229–36; Petts and Gerrard 2006, 15). This presents the possibility that the main areas of 'settlement' in the later Mesolithic were concentrated in the upland areas, with the river valleys used as access corridors for seasonal forays into the more forested lowlands of the Vale (Haughey 2016, 111–113).

A significant finding from the A1 scheme was the presence of cut features of probable Mesolithic date in Fields 172 and 185. These were of a rather different character to the bulk of the Neolithic and Bronze Age pits discussed below. Together with the examples cited from other projects, they can be characterised as small, shallow irregular scrapes, rather than the more steeply sided and regularly shaped form of most later features. None of these Mesolithic features had burnt sides and yet all were primarily filled with burnt soil and some charcoal. This contrasts with 'typical' Neolithic pits (described further below), which were most commonly filled with brown soil mixed with charcoal, burnt stones and sometimes artefacts. None of the Mesolithic features contained artefacts and were generally of an 'anonymous' character unlikely on most projects to attract selection for radiocarbon sampling.

3.0 THE NEOLITHIC AND EARLY BRONZE AGE MONUMENTAL LANDSCAPE

Background

The Neolithic and Early Bronze Age ceremonial sites of the Vale of Mowbray (Fig. 3.1) represent the largest concentration of such monuments in northern England and as such are of national significance.

For the Early Neolithic, it has been suggested that long barrows are regionally unrepresented, apparently replaced by an early tradition of round barrows such as those more commonly found on the Wolds and North York Moors to the east, and northwards into County Durham and Northumberland (Manby 1973, 221–2; Harding 2000b, 3). These have been suggested to be absent from the Vale of Mowbray and the Dales to the west (Harding, A. F. 2003, fig. 3.4), although the earliest burials in a round barrow at Thornborough have been dated to between 3920 and 3530 calBC (Harding 2013, 74). Other possible early barrows include Pallett Hill in Catterick village (SE 2400 9805) and The Mount near Leeming Bar (SE 2780 9195) (Vyner *et al*. 2011, 216–7). However, potential long barrows have been identified in the Yorkshire Dales to the west (Luke 2015), while within the vale, aerial photographic evidence suggests the possible presence of a long barrow at Low Barn (SE 3550 7275; Deegan 2013). An undated long

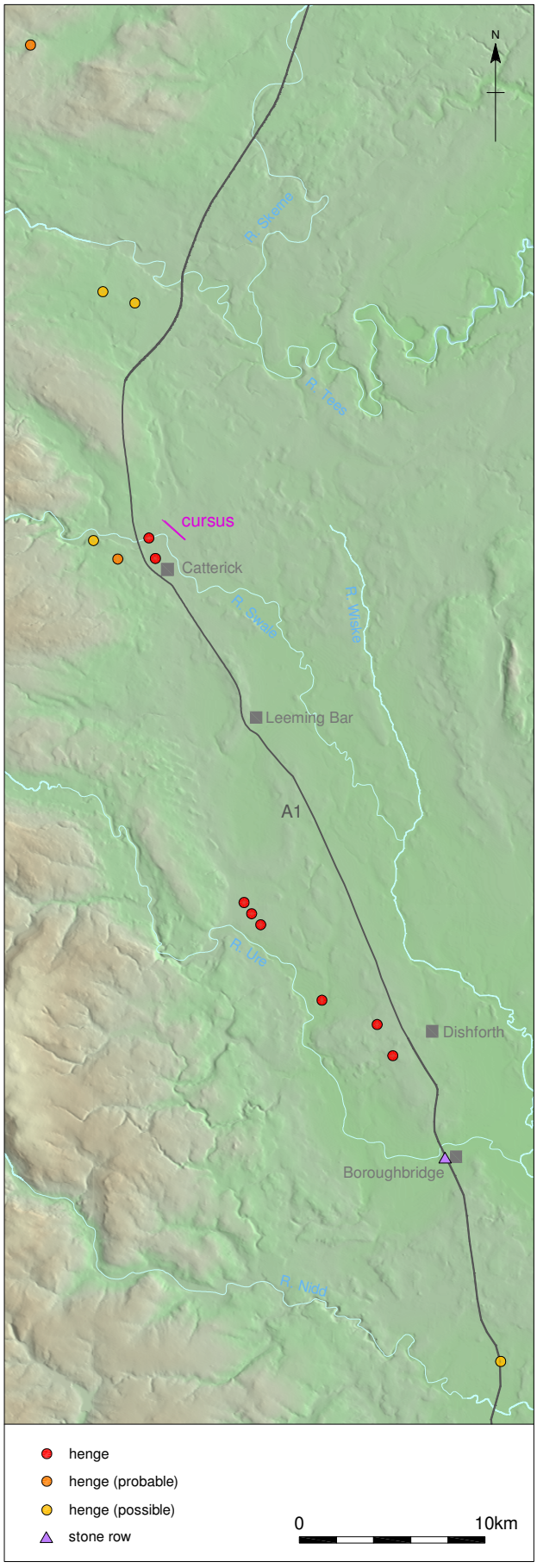

Figure 3.1: major prehistoric monuments in the Vale of Mowbray.

enclosure to the south of the Scorton Cursus, possibly with a rounded end, was formed by parallel small gullies or slots which could have housed a timber revetment to a long turf mound that has long since been ploughed away (Speed and Zochowski 2015). Immediately to the east of the cursus (at NZ 2475 0000), and beneath earthworks of ridge and furrow, a long mound visible on Lidar imagery could also be of an early date. Other Early Neolithic monuments such as causewayed camps have also not previously been recorded in the area, although the status of the outer enclosures at the Thornborough Henges remains unresolved (Harding 2000a, 35–6; 2013, 109–10; Vyner *et al*. 2011, 216), as does that of the enclosure at Hasting Hill, Sunderland (Manby *et al*. 2003, 111).

Middle Neolithic cursuses are the first certain large monuments in the area. These are generally dated to the period c.3600–3000 calBC (Barclay and Bayliss 1999, 25), with most falling in the period c.3600–3300 calBC (English Heritage 2011), although no regional dating is yet available. The largest and best-known of these in the study area is the Scorton Cursus on the north bank of the Swale opposite Catterick, discovered from the air in 1949. This elongated rectangular ditched enclosure, measuring over 2.1km long, has been the subject of several campaigns of investigation (DoE 1977; Topping 1982; Field Archaeology Specialists 1997, 15; Harding 1997; Speed 2009b; Speed and Evans 2013) and appears to have crossed a second 'B' cursus (Speed and Evans 2013, 6; Speed *et al*. 2018a fig. 2.7). Other cursus monuments lie adjacent to the Ure at Thornborough (Thomas 1955; Harding 2013, 38–43). A probable smaller monument known from cropmarks lies on Copt Hewick Common on the Ure-Swale interfluve at the southern end of Hutton Moor at SE 3581 7255 (Harding and Lee 1987, 308), and another has been suggested on Pillmore Hill, a short distance to the west of the Hutton Moor Henge at SE 346 736 (MNY 35030). At Catterick, on the south-west bank of the Swale opposite the Scorton Complex, lies the possible Bainesse Cursus (SE 244 966), and a small cursiform enclosure has been suggested from cropmarks recorded within Catterick Racecourse (SE 230 989) (Speed *et al*. 2018a, 25–6 and 29). To the north of the A1 scheme, such monuments had until recently been absent from the Tees Valley, but a cursus has been suggested on a riverside terrace at Barford to the west of Gainford (DCC HER H68129, NZ 1510 1690), with another possible monument at Copeland House, West Auckland (NZ 1687 2621).

The Vale of Mowbray contains a number of later Neolithic monuments, particularly henges and timber settings. The best-known are the large henges, three at Thornborough (SE 290 789, SE 285 795 and SE 281 801) and one at Nunwick (SE 322 748) a short distance to the south, all lying close to the River Ure, and monuments located on the interfluve ridge at Cana Barn (SE 361 718) and Hutton Moor (SE 352 735). Another large henge has recently been identified as low earthworks on Lidar imagery at Sinderby (SE 3428 8100; Ambrey *et al*. 2017a, 156; Luke 2018).

Despite some excavation at Thornborough and Nunwick (Thomas 1955; Dymond 1963; Harding, J. 2003, 90–96; 2013, 85–110), these 'classic' henge monuments are not closely dated, but the main phases were probably constructed during the early to mid-third millennium BC (Harding, J. 2003, 12). Part of an Early Bronze Age double post-row associated with the southern henge at Thornborough has also been investigated (Harding *et al*. 2013), and single and double pit alignments have been nearby at Nosterfield Quarry (Dickson and Hopkinson 2011, 101–8 and 119–25). On the south bank of the Ure at Boroughbridge, 7km to the south of the A1 scheme, lies the Devil's Arrows stone row (SE 391 665), presumed to be of later Neolithic or possibly Early Bronze Age date (Burl 1991), and two Late Neolithic double post-rows (Tavener 1996, 186). Another large henge has been suggested at Langthorpe on the north bank of the river opposite these monuments (Hart 2019, 17), and another double post-row crosses the line of the A1 c.1km east of Cana Henge. This has produced a series of radiocarbon dates with an overall range of 2900–2200 calBC (Tavener 1996, 184–6; Abramson 2003, 116).

Towards the northern end of the A1 route, a probable henge incorporating an Early Bronze Age burial cairn, and therefore itself possibly of Early Bronze Age date, has been partially investigated at Catterick Racecourse (SE 2304 9854; Moloney *et al*. 2003), and a large palisaded enclosure dated c.2530–2310 calBC has been identified at Marne Barracks (SE 251 969; Hale *et al*. 2009). An enclosure located 2km west of the A1 on the south bank of the Swale near Colburn (SE 1998 9964) may also be a henge (MacLoed 2002, 44). To the north of the Swale, investigations at Hollow Banks Farm in 1998–2000 identified a small hengiform enclosure associated with a double pit alignment (Speed 2005), and a large oval setting of post-pits and a double-ringed pit circle have been excavated close to the two cursus monuments at Scorton (Speed 2009a; Speed and Evans 2013). Another large henge, c.170m in diameter, has been identified from Lidar and aerial photographic evidence at Moulton Hall (NZ 232 035), to the east of the A1 midway between Brompton and Scotch Corner (North Yorkshire County Council (NYCC) HER No. MNY 38793).

To the north of the A1 schemes, a series of further possible henges run northwards into County Durham, at Aldbrough (NZ 203 126; NYCC MNY 23676), Manfield (NZ 220 123; NYCC MNY23677) (Still *et al*. 1989, 4; Vyner 2000, 103) and Copeland House, West Auckland (NZ 166 263; Durham County Council HER 1675).

The Early Bronze Age is typified across the area by round barrows associated with both cremation and inhumation burials, often accompanied by Beaker, Collared Urn or Food Vessel pottery. A considerable number of these barrows lie (or lay) along the higher ridge of the Ure-Swale interfluve to the west of the A1, particularly on Hutton Moor, around Melmerby and eastwards towards Baldersby St James, and also on Howe Moor, which projects slightly further to the east and is crossed from north to south by the A1. However, this dense distribution diminishes further to the south (Vyner *et al*. 2011, 219–20 and fig. 4.2).

Several barrows have been recorded in the immediate vicinity of the A1, including Quernhow (now lost beneath the dual carriageway, Field 42) and a ring-ditch probably representing another levelled site a short distance to the south at SE 3434 7956 (in Field 40) (Waterman 1951; NYCC MNY 19917). More barrows have been recorded to the south and north of Kirklington. To the east, Wide Howe Barrow (long since levelled by agriculture), may have been located on a low hill to the south-east of Baldersby St James overlooking the Swale at SE 3694 7669, its probable site marked by 'urns' found in 1909 (NYCC MNY 19928/34496). Cropmarks of a possible ring-ditch are visible on aerial photographs at this location.

To the west of Leeming Bar, the historic name 'Hunger Barrows' suggests the site of at least one former mound (SE 2695 8942; NYCC MNY 25779). There is a cluster of possible round barrows close to the A1 near Leases Hall (Speed 2018, 16), located on the high ground of the southern end of the Leeming Moraine. To the north, a mound of uncertain origin stands at the eastern side of the A1 opposite the middle of Field 145 at SE 2650 9364 (MNY 23711; Speed *et al*. 2018a, 32 and fig. 2.9), and close to a site historically called Great Standing Stone Plantation (Field 146). This heavily truncated area was investigated as part of the A1 works but no early remains were identified. As described below, a ring-ditch has been recorded by geophysical survey in Field 261.

More barrows are known on the higher ground to the south-west of the A1 between Leeming Bar and Catterick. These include a cropmark ring-ditch at Great Crakehall (SE 2428 8932; MNY 15670) and two Scheduled mounds located between East and West Appleton at SE 2254 9491 and SE 2306 9506 (List Nos 34737 and 34738).

Mounds are known to have existed among the monuments of the Neolithic and Early Bronze Age ceremonial complex at Catterick/Scorton on either bank of the Swale, although most have been lost as a result of agriculture and quarrying (Speed 2018, 16-18). A small number of Early Bronze Age monuments have been investigated, including a ring-ditch at Marne Barracks (Sherlock 2017, 79–82), a large stone cairn incorporated into the ring-work of the Catterick Racecourse Henge (Moloney *et al*. 2003, 6–9) and a penannular ditch at Scorton Quarry which enclosed an oval pit containing a beaker and evidence for a coffin (Greenhalf 1980, 1).

Beyond the Swale valley, Violet Grange Barrow stands on the summit of Gatherley Moor just to the north of Scotch Corner (NZ 2128 0576; MNY12587), while Five Hills Barrow lies on lower ground a short distance to the north-east of Middleton Tyas village (NZ 2293 0632; Scheduled Monument 1010542). There are faint cropmarks of a small ring-ditch just to the south-east of Scotch Corner (NZ 2177 0471; Deegan 2004, site 158).

New discoveries from the scheme (Fig. 3.2)

Quernhow

On the Dishforth to Leeming A1 scheme, the new motorway alignment crossed part of the site of Quernhow. This large Early Bronze Age barrow once lay adjacent to the A1 to the west of Ainderby Quernhow, at the western edge of Field 42 (SE 338 805).

The central part of the multi-phase barrow was excavated in 1949 by Waterman (1951) during building of the A1 dual carriageway. Several earlier features sealed beneath the barrow are discussed in Section 4. The barrow was associated with a number of cremations, either unaccompanied or associated with Food Vessels. The mound was enlarged in stages until it was more than 33m in diameter (the full extent of the monument was not established). To the east, excavation was restricted by the edge of the dual-carriageway development, with the barrow continuing into the area subsequently investigated during the motorway development in 2009 (Fig. 4.11).

Topsoil stripping of the part of the field where the outer south-eastern quadrant of the earthwork once stood showed that there had been extensive truncation in the 60 years since Waterman's excavation and no surviving remains of the barrow were recorded. However, one important observation was that the barrow had not been surrounded by a ditch during any of its phases; no ditches were found around the central (and earlier) components in 1949 and none was identified in the area in 2009. This is similar to Green Howe near North Deighton, where there is also no evidence of a ditch (Wood 1971, 4).

Mound at Leases Hall, Leeming Bar

During reconnaissance of the A1 scheme, Vyner noted a previously unrecorded earthwork mound at the eastern side of the A1 in the grounds of Leases Hall, Leeming Bar, at SE 2788 9152. This shows signs of having been the subject of antiquarian investigation. Two barrows have previously been recorded in the field to the north, and the new discovery most likely forms part of this group (Speed 2018, 16). There is at least one more possible ploughed down mound within the field (Jonathan Shipley, pers. comm.). The monuments lay beyond the area affected by the A1 works, and no further recording was undertaken.

Goskins ring-ditch (Field 261)

The geophysical survey for the A1 scheme evaluation identified a ring-ditch in Field 261 at SE 2591 9465 (Fig. 5.1). This was sited on a low ridge, which originally projected eastwards from a small hill called High Goskins, although the two are now divided by a cutting for the A1. The ridge was flanked to the north and south by large ponds (former kettle-holes), which in the Bronze Age became a focus for burnt mound activity (see Section 5). The ring-ditch, which lay equidistant between the ponds, had an external diameter of c.20m. No internal features are apparent on the geophysical survey. Since the monument was located between the A1 and the new local access road

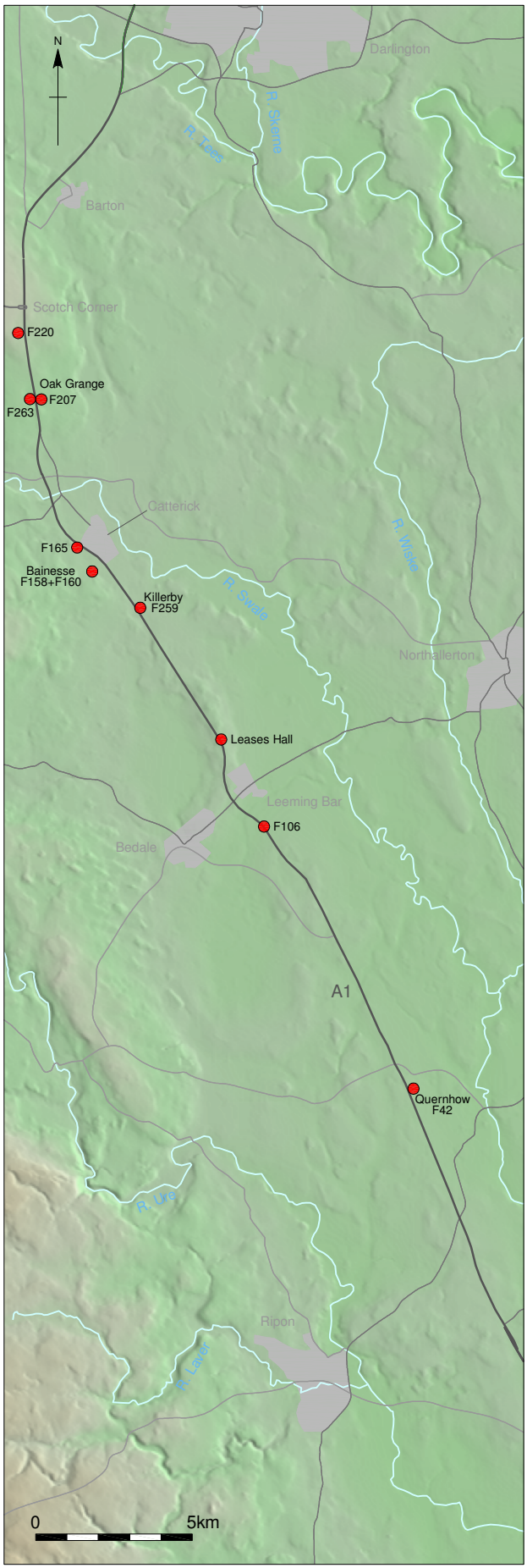

Figure 3.2: sites described in this section.

passing to the east, no further investigation was carried

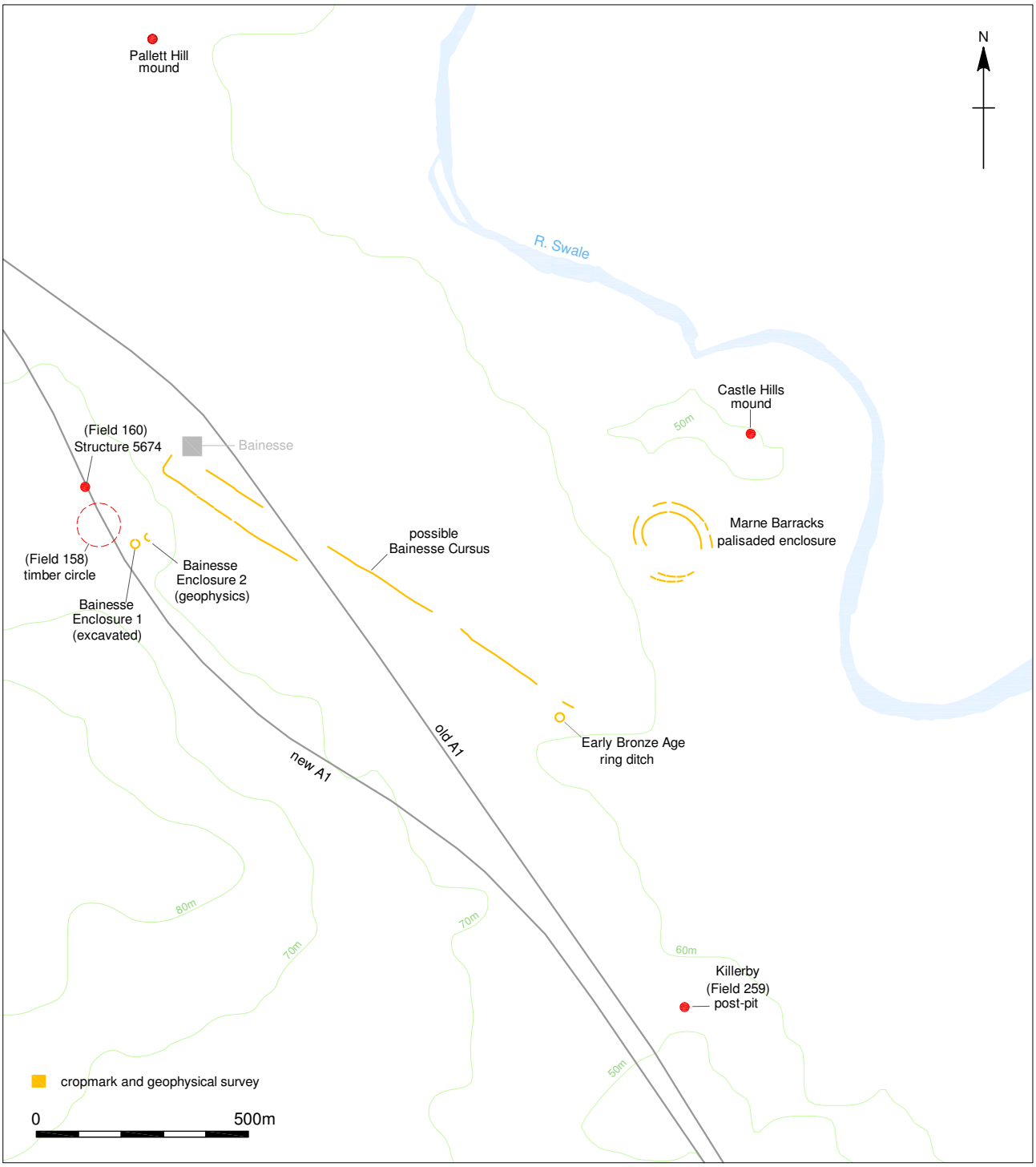

Figure 3.3: prehistoric monuments at Bainesse.

out and it has been retained in situ.

The Bainesse/Marne Barracks monument complex

A concentration of Neolithic and Early Bronze Age monuments had previously been identified in the area to the south and south-west of Catterick village (Fig. 3.3). The perimeter ditches of the possible Bainesse Cursus have been recorded by geophysical survey running from the southern edge of the former airfield at Marne Barracks (at SE 2499 9644) to the north-west for 1.1km, passing below the Bainesse Roman settlement and the former A1(T), and ending in a squared terminal to the west of Bainesse farmhouse (SE 2403 9705) (Hale 2001, fig. 5; Brickstock *et al*. 2007, fig. 15; Speed *et al*. 2018a, 24–5). A short distance to the east within Marne Barracks, there was a large Late Neolithic palisaded enclosure (SE 251 969; Hale *et al*. 2009), and a probable Early Bronze Age barrow is located between the cursus ditches near the southern end of the former airfield (Sherlock 2017, 79–82). It has been speculated that Castle Hills close to the River Swale to the east of the palisaded enclosure may, although incorporated within a medieval motte-and-bailey castle, represent a large prehistoric mound (Hale *et al*. 2009, 286), and the results of a recent investigation of this monument by the University of Reading's Round Mounds Project (Leary *et al*. 2018; https://roundmoundsproject.wordpress.

Table 3.1: radiocarbon dates obtained for 'monuments' on the A1 scheme.

Field	Feature	Sample context	Lab code	Material	$\delta^{13}C$ ‰	Radio-carbon age BP	1σ	2σ
158	Ring ditch seg. 500	505	SUERC-20368 (GU17287)	Carbon residue on potsherd	-26.5	4470±35	3330 (46.4%) 3210 calBC 3190 (8.9%) 3150 calBC 3130 (13.0%) 3090 calBC	3340 (95.4%) 3020 calBC
158	Ring ditch seg. 500	505	SUERC-39628 (GU26853)	Hazel charcoal	-25.6	4675±35	3517 (15.5%) 3492 calBC 3469 (45.6%) 3397 calBC 3385 (7.0%) 3374 calBC	3626 (6.2%) 3600 calBC 3525 (89.2%) 3366 calBC
158	Pit 5907	5906	SUERC-92788 (GU54447)	Charcoal: Corylus	-25.8	3923±22	2471 (30.3%) 2436 calBC 2420 (13.9%) 2404 calBC 2379 (23.9%) 2349 calBC	2476 (94.8%) 2339 calBC 2315 (0.6%) 2310 calBC
158	Post-pit 5924	5922	SUERC-92792 (GU54448)	Charcoal: Rosa	-25.5	3443±24	1863 (6.7%) 1851 calBC 1772 (35.4%) 1732 calBC 1720 (26.0%) 1693 calBC	1877 (15.5%) 1840 calBC 1825 (7.0%) 1795 calBC 1783 (73.0%) 1686 calBC
158	Post-pit 5924	5927	SUERC-92793 (GU54449)	Charcoal: Prunus	-24.5	1516±22	538 (68.2%) 590 calAD	432 (17.2%) 490 calAD 531 (78.2%) 605 calAD
158	Ring ditch seg. 5969	5977	SUERC-92794 (GU54450)	Charcoal: Corylus	-28.0	4619±22	3492 (46.1%) 3469 calBC 3374 (22.1%) 3363 calBC	3499 (65.1%) 3437 calBC 3379 (30.3%) 3355 calBC
207	Ditch 11786	11787	SUERC-84008 (GU49925)	Charcoal: fraxinus	-26.3	3861±31	2455–2418calBC 2408–2375calBC 2368–2362calBC 2351–2287calBC	2462–2276calBC 2254–2209calBC
259	Post-pit 6849	6850	SUERC-92808 (GU54462)	Charcoal: Alnus	-25.7	4006±22	2567 (55.1%) 2520 calBC 2498 (13.1%) 2487 calBC	2573 (95.4%) 2474 calBC

com) are eagerly awaited. Pallet Hill, another large mound located to the north-east of the cursus in Catterick village, overlooking an undated palaeochannel of the river (now followed by the main road through the village), might, as mentioned above, also be of early date (SE 2400 9805; Vyner *et al*. 2011, 216–7).

Features excavated during the A1 scheme were located to the south-west of each end of the Bainesse Cursus and are considered together here since it can be assumed that they formed part of the wider monument complex.

Killerby post-pit (Field 259)

An isolated post-pit was found in Field 259 at Killerby (Fig. 3.4). Post-pit **6849** was subcircular, 0.7m in diameter and 0.6m deep. A post had been set within a slightly deeper socket cut into the base of the pit on its west side. The pit had then been backfilled with a sequence of deposits including yellowish grey clay (**6873**/**6878**) and blackened burnt stones (**6870**). Fill **6873** contained hazel nutshell and a fragment of flint debitage, while the upper soil fill (**6850**) contained a quantity of oak, hazel and alder charcoal, fired clay and 16 pieces of non-diagnostic flint debitage, a retouched flake together with a Neolithic flint knife and a scraper, and a fragment from a flint core of Mesolithic/Neolithic date. *Alnus* charcoal from this deposit produced a Late Neolithic radiocarbon date of 2573–2474 calBC (4006±22 BP, SUERC-92808; Table 3.1), which provides a *terminus post quem* suggesting a Late Neolithic or Early Bronze Age date for the post itself. The position of the post was marked by a post-pipe (**6874**) 0.3m in diameter and filled with black silt (**6875**) (Plate 3.1). Five more flints (described in Section 4) were recovered from the surface of the natural subsoil adjacent to the post-pit.

*Plate 3.1: post-pit **6849** showing the base of post-pipe **6874**, facing south-facing west, scales 0.5 and 0.1m.*

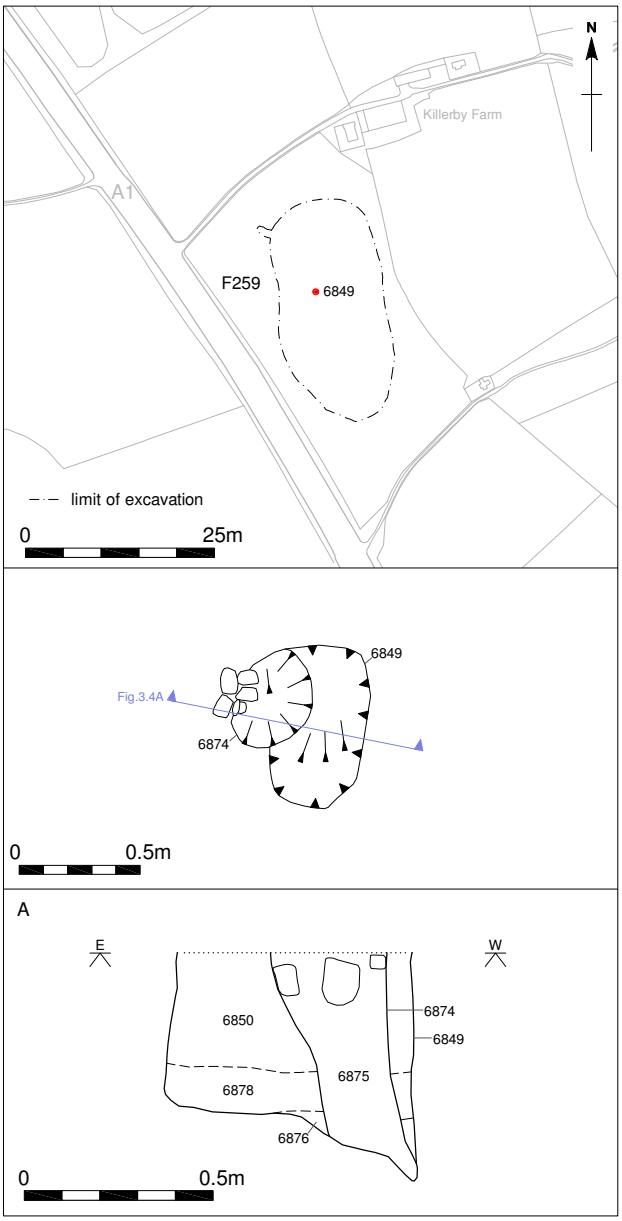

*Figure 3.4: section of post-pit **6849**.*

Discussion

Although the surviving remains of such features do not seem impressive to modern eyes, the large posts they once held will have had a significant visual impact on the Neolithic ceremonial landscape of which they formed a key part, and should be considered as 'monuments' in their own right. They are quite likely to have been decorated in some way, with carving, paint or other ornamentation of which no evidence survives. Such a monument is likely to have attracted its own meaning, narrative and 'personality' (Pitts 2001, 252–3).

Single, apparently isolated, post-pits have been recorded nearby at Scorton Quarry. One example, found as an outlier to the undated timber oval located to the north of the Scorton B Cursus, was typologically similar to the post-pits of the oval, each provided with a stone-packed ramp, and was therefore presumably associated with the nearby monument and hence ceremonial in nature. Charcoal from the post-pipe in one of the pits of the oval provided an Early Neolithic radiocarbon date of 3640–3518 calBC (hazel charcoal, 4771±27 BP, SUERC-52146), but given that the charcoal may have been residual material introduced into the post-pipe as the timber decayed this does not provide a reliable date for the creation of the oval. Two more single post-pits lay close to the Scorton Cursus. Although one was undated, the second provided a high-quality radiocarbon date (from the outermost rings of the timber) of 2876–2628 calBC (oak charcoal, 4150±30 BP, SUERC-52163; Speed and Evans 2013, 24, post-pit 1046), slightly earlier than the Killerby example.

Unless knapping was taking place as the post was being erected at Killerby, the assemblage of flint incorporated into the backfill around the post was (along with the similar material found adjacent to the post-pit) presumably already present at the site, either as a surface scatter or perhaps a midden. The 26 pieces of flint found both within and around the post-pit, taken as a group, were assessed as being of likely Early Neolithic date. Whether the presence of the flint assemblage and post in the same location was intentional, commemorating a location of continuing significance, is now impossible to determine.

Neolithic penannular enclosures, a possible timber circle and a possible structure at Bainesse (Fields 158 and 160)

Geophysical survey in Field 158 at Bainesse (Hale 2005) identified a curving anomaly. The anomaly was subsequently investigated by a trial trench, which showed that the feature was a large ditch that contained Neolithic Impressed Ware pottery and which produced two radiocarbon dates in the later 4th millennium calBC (Speed 2010, 77–9). Further geophysical survey prior to the construction phase of the A1 scheme showed that the ditch formed the western side of a penannular enclosure, almost all of which lay within the construction corridor and was later excavated. It is designated Bainesse Enclosure 1. The geophysics also revealed the presence of what appears to be a second, similar, enclosure to the north-east beyond the area impacted by the scheme, hereafter Bainesse Enclosure 2 (Fig. 3.5). Following excavation of features in Field 158, it was realised that the arrangement of many of the discrete pits and postholes followed an even curve describing a semi-circle with a radius of approximately 50m, suggesting that they may represent the eastern half of a large timber circle, the remainder surviving in the field to the west of the new road. A short distance to the north-west, on the opposite side of Catterick Lane, features excavated in Field 160 are suggested below to represent the remains of a small structure of possible ceremonial function and therefore forming part of the same monument complex.

The features in Fields 158 and 160 lie close to the north-west end of the probable Bainesse Cursus, while the excavated penannular ditched enclosure is 175m from its south-west side.

The general landform in this area consists of level glaciofluvial gravel terraces to the east, occupied by Bainesse and Marne Barracks, with rising ground to the

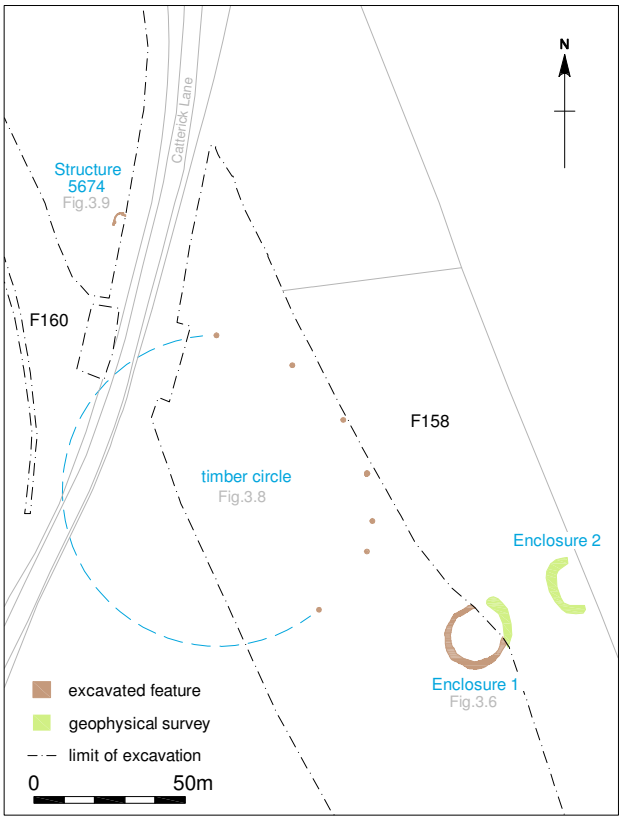

Figure 3.5: ceremonial monuments in Fields 158 and 160.

west. The enclosures were located on top of a small hillock (drumlin) standing forward from this hillslope. To the south of the drumlin there were formerly isolated ponds, while to the north, the drumlin and the more general hillslope formed a shallow amphitheatre opening to level ground to the north-east.

Bainesse Enclosure 1

The part of the ring-ditch within the motorway corridor was machine-stripped to the level at which the ditch was visible. A narrow baulk demonstrated that no associated earthwork survived and was then removed. The ditch was investigated in 19 hand-dug segments, mostly 1m long, except where the trial trench was re-excavated (segment **12279**), which was 3m long (Fig. 3.6). The remaining parts of the ditch fill were removed by machine to recover any additional artefacts. Finally, a layer of subsoil inside (and cut by) the ring-ditch was removed by machine to determine whether any undetected features were cut into the central platform.

The geophysical survey showed the enclosure (**5961**) to be slightly oval, orientated north-northeast to south-southwest, and measuring c.25m long and 21m wide. The south-east side of an apparent entrance was recorded at the north-northeast end although any opposing terminal lay beyond the survey area.

The exposed part of Enclosure **5961** measured 20m from north-west to south-east and 17m from south-west to north-east, continuing beyond the stripped area to the north-east (Plate 3.2). The ditch cut a layer of light brown sandy silt and gravel natural subsoil (**12276**) up to 0.2m thick. This deposit survived across the area within the circuit of the ditch, but elsewhere had been truncated except at the south-west side where it extended a short distance beyond the enclosure.

The ditch varied considerably in width and depth, probably reflecting modern plough-truncation to the north-east. Several older furrows crossed the area from south-west to north-east, and one in particular had truncated the enclosure ditch on its north-west side. The profile of the ditch varied from U-shaped to flat-based.

Between one and four fills were recorded within the ditch, with the more complex deposits recorded around the western and south-western parts of circuit where it was widest and deepest.

Around the northern side of the ditch (segments **5965**, **5964**, **5960)**, it gradually narrowed in width from 1.84m to 0.94m but deepened from 0.35m to 0.53m, and had two fills of greyish brown or brown silty sand. The next three segments to the west (**5886**, **5933** and **5878**), each had an additional primary fill against the north-western (outer edge) conceivably representing collapse from an external bank. Segment **5872** had an additional tertiary fill (**5870**), recorded as black silty clay (Fig. 3.7, section A), which continued in segments **5885** and **5873** (contexts **5882** and **5875**) where it was overlain by a fourth fill of mid-brown sandy clay.

The next segment **12279** is worth describing in more detail since it was originally excavated in 2005 (segment **503**) when the ring-ditch had seen nine

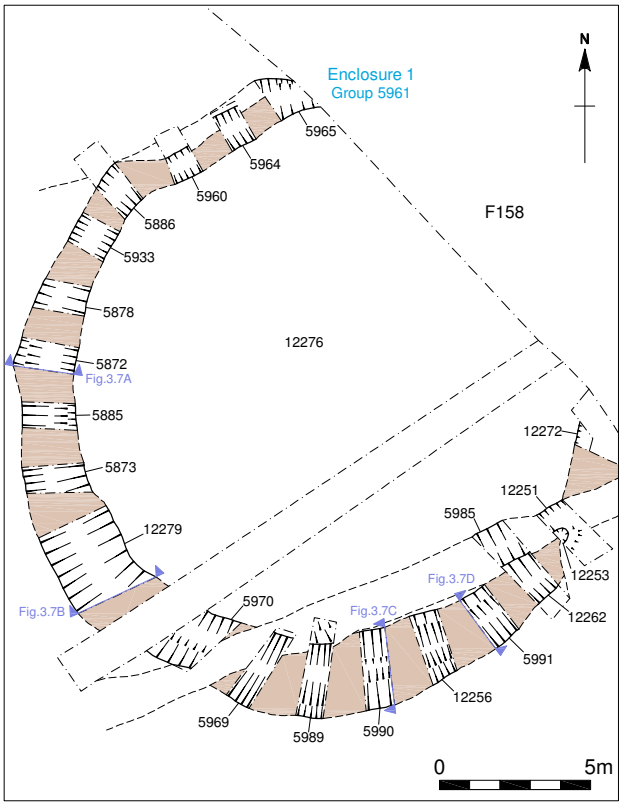

Figure 3.6: Bainesse Enclosure 1 plan.

Plate 3.2: Bainesse Enclosure 1 during excavation, facing east. The Bainesse cursus crossed the field beyond, with Marne Barracks in the background.

years less truncation from modern agriculture. The ditch here was 2.55m wide and 0.77m deep (Fig. 3.7, section B). It had fairly gently sloping, slightly irregular sides and a narrow, concave base. The base of the cut was filled with a layer of stones presumably eroded from its the sides, overlain by a compacted layer of very dark grey or black fine sandy silt (**507**), possibly representing initial turf formation within the base of the ditch. This was overlain by a more substantial deposit of mid-brown sandy clay (**506**) containing numerous stones and small boulders measuring up to 0.5m across, probably representing either collapse of an accompanying bank or perhaps intentional partial infilling of the ditch. At the south-western (outer) side, this was overlain by a lens of clean clay (**509**) apparently slumped from the adjacent ditch side (not shown on section). The upper part of the ditch was mainly filled with mid- to dark brown sandy silty clay (**505**) containing occasional rounded stones, charcoal flecks and burnt or heat-shattered stones. Fill **505** was equivalent to the dark tertiary fill in the ditch segments to the north. An assemblage of 31 sherds of Middle Neolithic Impressed Ware pottery, from at least eight different vessels, was recovered from deposit **505** (Plate 3.3), and removal of the baulk to the south produced another nine sherds (context **12278**). A flint secondary flake with left-hand side use wear, of a style consistent with a Neolithic date, was recovered from deposit **505**. Towards the south-eastern side of the trench deposit **505** was overlain by a small lens of dark grey sandy silt (**508**) containing burnt or heat-shattered stones, unidentifiable wood charcoal and another sherd of Impressed Ware pottery. The upper central part of the ditch was filled with mid-reddish brown sandy silt (**504**) which did not produce finds. During re-excavation of the trial trench, an undiagnostic flint flake and a fragment of debitage were recovered (context **5869**).

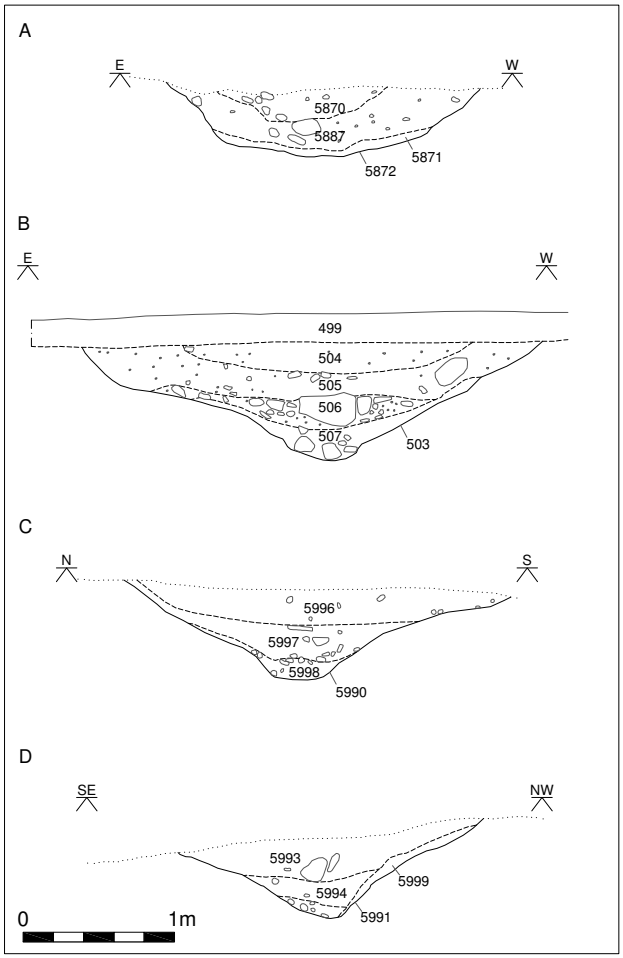

Figure 3.7: Bainesse Enclosure 1 sections.

Plate 3.3: impressed Ware pottery from the enclosure ditch.

Compared to the segment excavated in 2005, the next segment to the south (**5970**) was narrower (1.9m) and shallower (0.5m) indicating the impact of recent ploughing and concomitant loss of evidence. A profile of a deposit of brown sandy clay (**5976**) surviving down the eastern (inner) side of the cut suggested possible recutting of the ditch at this point. The primary deposit of the main fill sequence was black silty sand (**5974**), equivalent to fill **507** to the north, which contained an undiagnostic black chert bladelet. Above this was mid- brown sandy clay (**5973**) which produced a single sherd of probable Impressed Ware plus two sherds assessed as being of Pre-Roman Iron Age or Romano-British date (discussed in Section 6). The overlying black silty sand (**5972**, equivalent to **505**) produced five more sherds of Impressed Ware, of a differing fabric to the sherd from fill **5973** but including some possibly from the two of the vessels represented in deposit **505**. Charcoal from this deposit included indeterminate hardwood, hazel, alder/hazel, poplar/willow and ivy. Any fills above this had been lost as a result of truncation.

To the south-east (segment **5969**) the ditch was slightly better preserved but with a similar sequence of three fills. The secondary fill (**5978**) produced an undiagnostic flint blade, while the tertiary fill (**5977**) again contained a rich variety of charcoal, including oak, other undetermined hardwood, alder/hazel, apple subfamily and ivy, together with fragments of hazel nutshell. Two potsherds from here were assessed as being of Iron Age date (considered further below). During removal of the baulk at the southern side of this ditch segment, a Neolithic flint blade was found (context **12280**), possibly derived from fill **5977**.

Segment **5989** had a deposit of black silt (**5988**) in the base (reminiscent of deposit **507** to the north-west), but the charcoal-rich upper fill was absent. The next two segments, **5990** (Fig. 3.7, section C) and **12256**, each produced single sherds of Impressed Ware from their upper fill (respectively **5996** and **12257**). Segment **5991** had a deposit of greyish brown silty sand running down the northern (inner) edge, below a sequence of more level fills (Fig. 3.7, section D), while adjacent segment **12262** a similar deposit down either side of cut but not into base. The fill-profiles of these segments suggested some localised recutting of the ditch.

Beyond this point the ditch was heavily truncated, and the last point where it could be identified was at segment **12253** where it either terminated or shallowed and had therefore been entirely removed by ploughing. Here the ditch was only 0.45m wide and up to 0.18m deep with a single fill of dark brown sandy silt (**12254**). Beyond this point, despite the geophysical survey record, the ditch could not certainly be identified continuing to the north-east. The land fell away to the south-east in this area, and a slight 'terrace' up to 0.15m deep in the natural (**12272**) approximately continued the line of the north-western (inner) side of the ditch.

During final cleaning of the enclosure ditch following machine-removal of the baulks two struck flints were recovered, an undiagnostic bladelet and a piece of debitage (not accurately located, allocated context **12281**). No finds were recovered from the interior of the enclosure.

Bainesse Enclosure 2

Approximately 17m to the north-east of Enclosure 1, the geophysical survey recorded part of a second enclosure, which extended eastwards into the adjacent Field 156; the eastern part of the enclosure is 'lost' in a zone of magnetic 'noise' either side of the boundary between Fields 158 and 160 (Wilson 2007, fig. 15). The entire enclosure lay beyond the area of the A1 improvement works and therefore remains otherwise uninvestigated. The geophysical survey shows a curving ditch defining the south-western side of an enclosure measuring c.19.m externally from north-west to south-east, similar in size to Enclosure 1. The ditch also appears to be of a similar width to Enclosure 1. Without further investigation, the overall form of Enclosure 2 cannot be determined, although, at least superficially, it appears to bear a strong resemblance to Enclosure 1.

Discussion of the Bainesse enclosures

As discussed by Gibson (below), the Impressed Wares (previously known as Peterborough Ware) from the ring-ditch have affinities with both the Ebbsfleet and Mortlake sub-styles, which recent studies suggest were in use during the periods c.3700–3100 calBC and c.3100–2900 calBC respectively.

Three radiocarbon dates have been obtained from material found within the ring-ditch (Table 3.1). Carbonised residue from a potsherd found in deposit **505** in segment **12279** gave a result of 3340–3020 calBC (4470±35 BP, SUERC-20368), while a fragment of *Corylus* charcoal from the same deposit gave 3626–3366 calBC (4675±35 BP, SUERC-39628). Another sample of *Corylus* charcoal from deposit **5977**, the upper fill of segment **5969**, produced a date of 3499–3355 calBC (4619±22, SUERC-92794).

The radiocarbon dates accord broadly with the ceramic dating, placing filling of the ditch at Bainesse during the later centuries of the 4th millennium calBC; however, the charcoal dates, which are somewhat earlier than that from the pottery residue, suggest either that very mature

hazel trees (or old timbers) were being burnt, or that residual material from earlier use of the site was being incorporated into the ditch fill. Given the evidence for discrete dumps of burnt material being placed into the ditch, the former explanation seems more likely.

What was the Bainesse enclosure and its adjacent companion, and why was it placed where it was? Following excavation of the evaluation trench, it was speculated that the ditch had originally encircled an earthwork mound or internal bank (Speed 2010, 79). Neolithic round mounds, many of them barrows, are known from areas across Britain, including, in the north, lowland eastern Scotland and the Yorkshire Wolds (Kinnes 1979; Manby 1988, 56–65; Brophy 2010), although Neolithic round barrows are typically somewhat earlier in date than the evidence from Bainesse. However, the new excavation suggested that, at least around the north-western side of the ditch, any bank had been external to the enclosure. Nevertheless, this earthwork had still been of sufficient size to protect the subsoil on the top of the drumlin from truncation by ridge and furrow cultivation (which was still visible as earthworks in 2005) and modern ploughing, which on the slopes of the drumlin had removed any subsoil down to the underlying gravel. The presence of a large external bank around the Bainesse enclosure suggests that in belonged to the class of monument known as henges.

Harding (2003, 12–17), reviewing the available dating evidence, suggested that 'classic' henges, described as circular earthworks with a bank, internal ditch and usually one or two entrances, generally date to after c.2800 calBC, and were the end product of a long period of evolution from earlier oval or circular funerary monuments. By the end of the 4th millennium calBC a variety of circular monuments were being constructed, some with segmented ditches, others with internal banks, which Harding describes as 'formative' henges. The monument(s) at Bainesse falls into this class both in date and form, although Burrow's (2010, 182–9) summary of the evidence for 'formative henges' includes sites that are considerably larger in diameter (75–180m) than the current examples. However, Gibson (2018, 48) notes that dating of small, single-entrance henges may fall towards the early or late parts of the development of henges through the third and second millennia calBC, and hence the Bainesse enclosures may represent very early examples of this group.

Henges were frequently located adjacent to, and commonly accompany, existing cursus monuments. Near to the A1 scheme, the best known example is at Thornborough, where the three henges were constructed close to one, and probably two, cursuses, with the ditches of the central henge apparently respecting one of the earlier monuments (Harding 2013, 38–43). At Copt Hewick, there is a probable cursus between the Cana and Hutton Moor Henges (Harding and Lee 1987, 308). Elsewhere, in the Catterick/Scorton monument complex, the Catterick Racecourse Henge is situated alongside a possible small cursiform enclosure (Speed *et al*. 2018a, 29), while to the north of the River Swale, the small henge at Hollow Banks Farm lies close to the projected line of the Scorton B cursus (*ibid*., fig. 2.7). To the north of the A1 scheme, the possible henge at Copeland House, West Auckland is located alongside a pair of parallel ditches c.40m apart and visible over c.200m (DCC HER 1675). Further afield, in East Yorkshire, the Maiden's Grave Henge was constructed alongside the Rudston D cursus (McInnes 1964; Harding and Lee 1987, 168–71).

Despite this, the excavated Bainesse enclosure was situated in a highly abnormal location for a 'classic' henge, on top of a small hillock, but here again the word 'formative' must be stressed. The drumlin on which it was built was a very distinctive local landmark, giving and receiving wide views across the Swale gravel terraces, and is always likely to have had some (but varying) significance. When the enclosure was first constructed, it would have overlooked the north-western end of the Bainesse Cursus (Plate 3.2); a remarkable abundance of pottery, glass and other small objects found in the topsoil over the evaluation trench attested to use of the site for 20th-century picnics, perhaps while surveying the more recent use of the cursus site as an aerodrome. This topographic context for a henge is not unique in the region, however. The small single-entrance henge at Yarnbury in Wharfedale (SE 014 654) sits on a ridge and, from close-by, would have appeared on the skyline from any direction of approach (Gibson 2018, 15), much the same as at Bainesse Enclosure 1.

The internal diameter of Bainesse Enclosure 1 (c.16m), although quite small, is sufficient for it to fall within the lower end of Harding and Lee's (1987, 37) henge class, rather than 'mini-henge'. Since only one side of the entrance of the enclosure was recorded by the geophysical survey, its true orientation remains uncertain, but was either north-east or north-northeast. For single-entrance sites, north-east is the most common alignment (*ibid*., fig. 27); however, in contrast, Harding and Lee's survey recorded none facing to the north-northeast. For the group of henge monuments in Wharfedale, it has been suggested that they were orientated to the river valleys and cross-Pennine routes (Harding 2013, 201), although alternatively they may be aligned on solar events (Gibson 2018, 1).

Despite the volume of hand-excavated ditch fill, the lithic assemblage from the feature was small, comprising two blades, a bladelet, two flakes and two pieces of debitage. None of this material was closely diagnostic (two pieces were suggested to be 'Neolithic') and hence none of it need relate directly to use of the monument. This contrast between the quantities of lithics and pottery may relate to production versus consumption: the 'sacred space' was not considered suitable for industry (such as flint-knapping) but may have been the scene of occasional feasting or other ceremonies resulting in charcoal, other charred plant materials and smashed pottery.

Although the enclosure ditch was truncated to the north and north-east, it was clear that pottery was overwhelmingly concentrated within the south-western side of the ring-ditch and above the base of the ditch. This location lay at the 'rear' of the monument opposite the entrance. A smaller cluster of pottery (comprising only two sherds) was found at the southern side of the ring-ditch. Twelve bulk soil samples were processed from 10 contexts within the ring-ditch. The majority of the charcoal and all of the charred plant remains (unidentified grain from context **505** and hazel nutshell from deposit **5977**) came from the same main phase of deposition as the pottery, although the spread of charred material extended further to the south along the ditch. The very diverse range of charcoal from contexts **5972** and **5977** was suggestive of opportunistic collection of firewood for small 'campfires' rather than a more formalised fuel supply. The result was similar to that from the Scorton timber circle, where charcoal from the post-pipes (presumably introduced after the posts had either rotted or been removed) included hazel, hawthorn and heather (Lowrie 2013, 81). This suggests that the monuments may have been used for small gatherings rather than major, organised festivals.

The distribution of material around the perimeter of the Bainesse monument is in contrast to other henge sites where material appears to have been preferentially deposited around the entrance(s) (Harding, J. 2003, 66–8). However, it should be remembered that there was no opportunity at Bainesse to investigate the ditch terminals flanking the entrance.

It is also worth noting that the finds show an apparent change in the way that the monument was used through time. No cultural material was recovered from the primary fills of any part of the ditch. Apart from some initial weathering and possible slumping of any accompanying bank, there was some evidence for possible soil development in the ditch, which will have taken some years to accumulate, and also signs of recutting and maintenance of at least parts of the circuit. Following this, the ditch began to accumulate silt (which would also have taken quite some to occur), and it was only then that pottery, burnt stones and charcoal started to be deposited into the partially filled ditch hollow, indicating a change in the way it was being treated. Cessation of the activity depositing pottery perhaps coincided with final abandonment of the site since no cultural material was present in the latest silting.

The distinctive black deposits (contexts **507** and **5988**) found surviving in places in the base of the Bainesse enclosure ditch compare to similar deposits recorded within the ditches of the Scorton Cursus (e.g. Topping 1982, 10), another 'Neolithic ditch' recorded to the north-east of Hollow Banks in 1977 (typescript record held by the North Yorkshire HER), which superficially resembled the cursus ditches and conceivably represented the B Cursus terminal (Speed in prep.) and possibly echoed by a dark, 'near-black', soil layer found beneath the bank of the Catterick Racecourse Henge (Moloney *et al*. 2003, 12). Investigation of some of the dark soil layer from the cursus (Matheson 1982) showed that the colouration was due to the presence of large amounts of highly comminuted charcoal. This could perhaps have been a product of large-scale land-clearance by fire, with the finer fraction of the resulting charcoal subsequently washed or blown into the features.

Circular Neolithic monuments commonly occur in clusters, so the proximity of Bainesse Enclosures 1 and 2 is not unusual. Although slightly more spread out, henges often occur in groups such as those of the Millfield Plain in Northumberland (Harding 1987), at Penrith in Cumbria (Topping 1992) or, in the Vale of Mowbray, the three monuments at Thornborough (Harding 2013, 43–55). At Ferrybridge in West Yorkshire, the large henge monument lay at the centre of a cluster of circular Neolithic and Early Bronze Age monuments including hengiform ditched enclosures, timber circles and barrows (Wheelhouse 2005). In Wharfedale, to the south-west of the A1 scheme, the two small henges at Threshfield are only c.60m apart (Gibson 2018, illus. 3). Just across the Swale from the Bainesse enclosures, at Hollow Banks Farm, there also may once have been two adjacent and similar-sized enclosures. The small excavated henge (Speed 2002) lay in an adjacent field to the earthworks known as Howe Hill, recorded by MacLaughlan (1849, 346) as a 'tumulus' (SE 2342 9975; NYCC MNY13088); however, the accompanying depiction appears to show an embanked enclosure and in a footnote MacLaughlan describes Howe Hill as a 'camp'. It is conceivable, but unlikely (MacLaughlan was, after all, a surveyor), that the depicted earthworks were upstanding remains of the excavated henge, but more likely represent a second enclosure, possibly another henge.

A possible timber circle

To the north-west of the Bainesse Enclosure 1, the land slopes down into a slight hollow, open to the north-west. Thirteen discrete features were excavated within the hollow, including pits and post-pits. It was noted that seven of these features, including all of the post-pits, lay on an arc with a radius of c.50m, creating the eastern half of a circle with a diameter of 100m (Figs 3.5 and 3.8). From south-west to north-west, these features were **5936**, **5983**, **5907**, **5924**, **5902**, **5908** and **5934**.

Pit **5936** (Fig. 3.8, section E) was filled with mid-reddish brown silty sand and charcoal flecks (**5937**) while pit **5983**, the next feature to the east, contained mid-greyish brown sandy silt (**5982**) (not illustrated).

The third feature, **5907**, was not certainly part of the circle, and as discussed below its location on the circumference may have been coincidental. It was filled with a sequence of light greyish brown clayey sand (**5906**), dark grey silty clay (**5905**) and yellowish brown sandy clay (**5904**) (not illustrated). Charcoal from fill **5904** included oak and poplar/willow, while an unidentified hardwood, hazel and a *Prunus* species were represented in fill **5906**.

Table 3.2: features forming the possible Bainesse timber circle.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes
158	5902	5903		Oval	1.15x0.88x0.40m	
158	5907	5904, 5905, 5906		Subcircular	1.10x0.90x0.40m	Charcoal
158	5908	5911–5920		Circular	1.3x0.8m	Postpipe
158	5924	5921, 5922, 5923, 5925, 5926, 5927		Oval	1.74x1.16x1.08m	Probable postpipe. Charcoal and charred wheat grains
158	5934	5935, 5938, 5941, 5942		Circular	1.1x0.65m	Postpipe
158	5936	5937		Subcircular	1.2x0.4m	Charcoal
158	5983	5982		Sub-oval	0.80x0.60x0.20m	

In the base of post-pit **5924** were three relatively level deposits (**5927**, **5926** and **5925**) (Fig. 3.8, section D). Above **5925**, redeposited gravel (**5923**) ran almost vertically down the north-west side of the cut. Against **5923** there was a deposit of dark greyish brown silty sand (**5922**), which contained *Prunus* charcoal, while the upper part of the pit was infilled with mid-greyish brown silty sand (**5921**) and oak and heather charcoal. Only the north-eastern half of this feature was excavated, but the profile and character of the backfill deposits could perhaps suggest that this feature was a post-pit, with the post located within the south-western end of the cut just beyond the excavated section, creating the near-vertical profile of possible packing material **5923** and with fill **5922** representing the fill of the post-pipe. Fills **5922** and **5927** each produced single charred wheat grains.

Oval pit **5902** was filled with dark brown sandy clay (**5901**) (Fig. 3.8, section C). Post-pit **5908** had contained a post standing approximately central within the pit (Fig. 3.8, section B and Plate 3.4). Part of the original packing material **5920**, consisting of tightly packed rounded stones measuring up to 0.3m, still stood around the eastern side of the pit preserving that edge of the post-pipe, but elsewhere the packing had been displaced suggesting removal of the timber. A small lens of material (**5915**) surviving on the western side of the pit possibly represented a remnant of the original fill, in which case the post may have been c.0.35m in diameter. The void resulting from removal of the post was filled with a sequence of dark grey or dark brown sandy silt deposits (**5918**–**5916**, **5914** and **5913**). Following slumping of these deposits, the upper part of the pit had become infilled with more dark brown sandy silt (**5912** and **5911**).

Most of post-pit **5934** was filled with a single deposit (**5935**) of dark brown silty sand containing lenses of yellow brown sand. At the western side of the pit this deposit was cut by a well-defined post-pipe (**5941**) 0.3m wide and 0.46m deep, filled with dark brown silty sand (**5942**) (Fig. 3.8, section A and Plate 3.5). The upper eastern side of the pit was filled with material (**5938**) similar to **5935**. The concave profile of this deposit, which partially overlay the post-pipe, could

*Plate 3.4: post-pit **5908** half-sectioned, facing south-west, scale 1m.*

have resulted either from slumping of the pit fill or, alternatively, represent back-filling of a hole resulting from removal of the post.

Most of these features were fairly evenly spaced around the circumference of the suggested circle. Pits **5936** and **5983** were 25m apart, **5983** and **5924** were also 25m apart, **5924** to **5902** measured 20m, while the spaces between **5902**, **5908** and **5934** were 25m and 26.5m, respectively. The only feature on the circumference

*Plate 3.5: post-pit **5934** half-sectioned, facing south-east, scale 0.5m.*

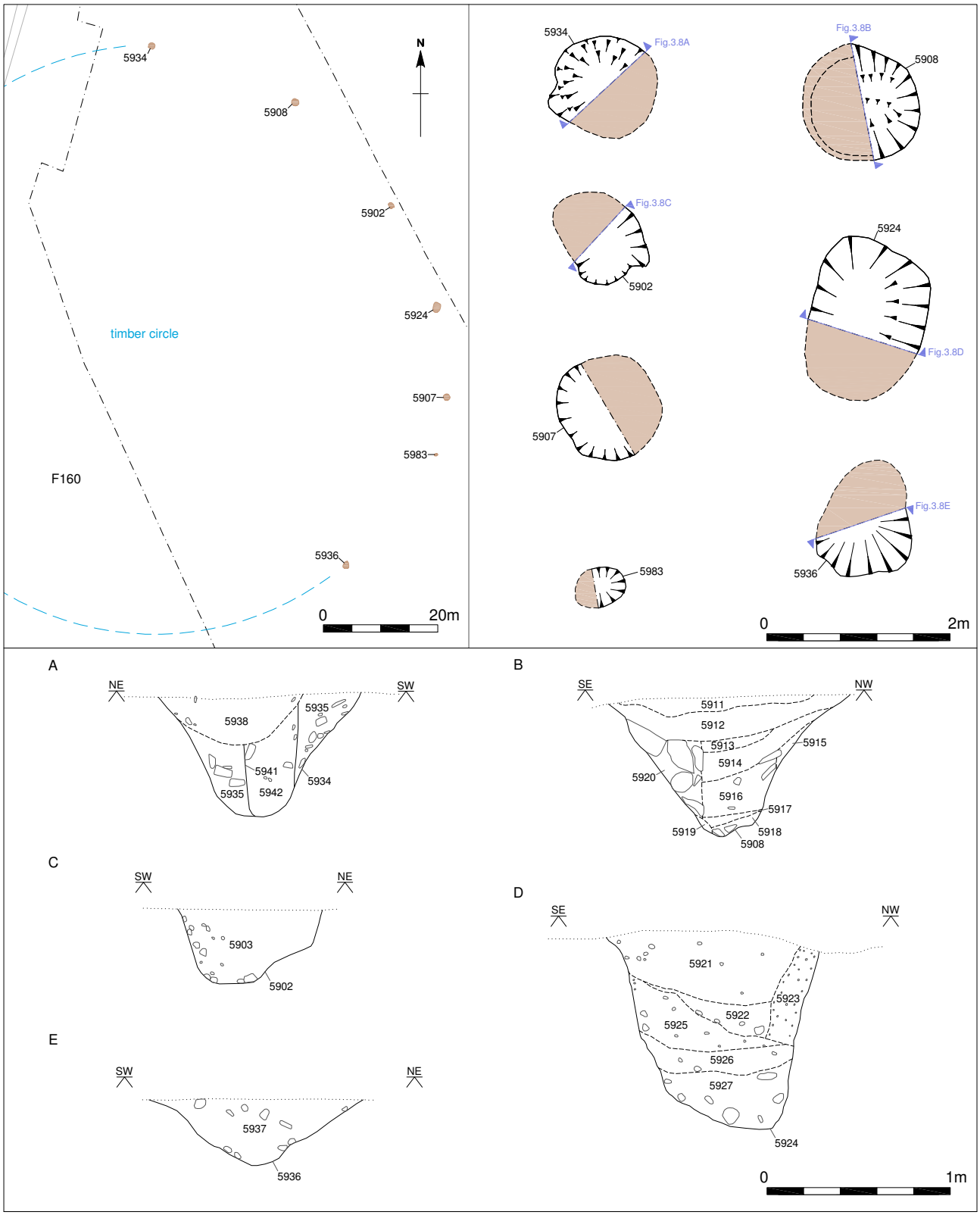

Figure 3.8: Bainesse timber circle.

which broke this spacing was pit **5907**, located between features **5983** and **5924**.

No artefacts were recovered from any of the features. Three samples of carbonised material were submitted for radiocarbon dating (Table 3.1). Hazel (*Corylus*) charcoal from the primary fill (**5906**) of feature **5907** gave a result of 2476–2310 calBC (3923±22 BP, SUERC-92788), but it should be noted that this was the 'extra' feature in the ring, and it could have been an earlier feature coincidentally located on the circumference of the suggested timber circle. *Rosa* charcoal from fill **5922** of post-pit **5924** provided a date of 1877–1686 calBC (3443±24 BP, SUERC-92792). However, a sample of *Prunus* charcoal from fill **5927** at the base of the same post-pit gave a result of 432–605 calAD (1516±22 BP, SUERC-92793), suggesting that it could have been intrusive, perhaps as a result of faunal disturbance.

Discussion of the possible timber circle

Although there was not definitive evidence for the former presence of a post within more than two of these features, they are nevertheless discussed here as representing a ring of posts. Varying (and in some areas severe) truncation meant that in some cases only the base of what may once have been a more substantial feature had survived. However, it should be noted that at Thornborough, detailed analysis of the evidence from the excavation of the double 'post-row' associated with the southern henge concluded that some of the features may never have held timbers and the term 'pit-row' was preferred in the final publication (Harding *et al*. 2013, 112–13).

Excluding 'extra' pit **5907**, and extrapolating the full circumference, the spacing of the recorded features suggests that the Bainesse monument may once have consisted of a circle c.100m in diameter but consisting of only 13 relatively evenly spaced posts. Both figures are extreme, both in the size of the monument and the wide spacing of the post-settings.

Circular or subcircular arrangements of posts have been recognised as a relatively common form of ceremonial monument in prehistory and are found throughout Britain and beyond. Gibson's published catalogue of British monuments (2005, 155–73) included 102 certain or possible monuments of this type. Since then, a number of additional sites have been published and other discoveries have not yet reached the public domain. Certain or possible timber circles in the British Isles are thus now likely to number nearer 200, with Millican (2016, 105–17) cataloguing 85 potential examples in Scotland alone. This is, however, still a small number, and hence the possible monument at Bainesse represents a significant addition to the total. The monuments typically varied in diameter from 7–44m in diameter, although there are some larger examples such as Balfarg or the outer ring at Stanton Drew at 71.4m and 100m respectively (Gibson 2005, 155 and 171). The most common monument association was with later Neolithic henges, although at a number of sites circles were associated with cursus monuments, as at Dorchester or Sarn-y-bryn-caled (Atkinson *et al*. 1951; Gibson 1994), or even lay inside a cursus, as at Dorchester 3 or Springfield (Hedges and Buckley 1981; Bradley and Chambers 1988). The Bainesse setting lies adjacent to the hengiform enclosures in the same field, and only a short distance from the north-western end of the probable Bainesse Cursus. The other two timber 'circles' known in the area lie just to the east of the Scorton Cursus and to the north of the Scorton B cursus (Speed 2009a; Speed and Evans 2013).

The extensive discussion on the dating of timber circles presented by Gibson (2005, 62–77) concluded that the first circles were constructed sometime before 3000BC. The larger and more complex sites developed during the third millennium BC down to around 2000BC, after which there appears to be a decline in size and complexity through the Bronze Age. The latest examples on mainland Britain might date as late as 1000BC, although in Ireland construction continued long into the Iron Age.

The dating of the possible Bainesse setting is problematic, not helped by the extremely limited availability of sample material. The three radiocarbon samples which it was possible to submit provided very different results. What should have been the most reliably secure sample of the three, from the primary fill (**5927**) of post-pit **5924** gave an early post-Roman date range of 432–605 calAD. Radiocarbon results obtained from material found within the ditches of the nearby Scorton Cursus demonstrated the potential for faunal disturbance to introduce later material to a significant depth (over 1m) into prehistoric deposits (unpublished data) so this is a possibility here; alternatively, post-pit **5924** could have been of Roman date, although this is unlikely given the type of monument of which it formed part. The other date of 1877–1686 calBC from fill **5922** of the same feature was from charcoal which was presumably residual within the feature and can therefore only be regarded as providing a *terminus post quem* for construction of the timber setting, implying an Early Bronze Age or later date. Assuming that the Bainesse monument is indeed a timber circle (or at least a pit circle), Gibson (2005, 62) suggests that, based on the available radiocarbon dating, these monuments were mostly constructed in mainland Britain during the period from c.3000 calBC (maybe a little earlier), tailing off in the later Bronze Age down to around c.1000 calBC, although the tradition continued later in Ireland. Given that it is difficult to suggest another origin for the Bainesse features, they are therefore most likely to be of Neolithic or Bronze Age date. Other evidence for monumental timber construction continuing well into the Bronze Age in the Vale of Mowbray comes from Thornborough, where radiocarbon dates and pottery from the double post-row suggest a Middle Bronze Age date (Harding *et al*. 2013, 136–7).

Despite the apparently compelling location on the arc of the circle, the rather earlier date of 2476–2310 calBC from the 'extra' feature **5907** raises the possibility that its location on the circumference of the post-setting was coincidental; its removal from the pattern of features reinforces the regularity of layout of the remaining features.

As noted above, the setting at Bainesse is distinguished by its very large size, larger than almost all other recorded timber and stone circles, with a handful of exceptions such as the possible timber oval located across the Swale at Scorton and the outer stone circuit at Avebury, and the extremely sparse arrangement of posts (Burl 1976, 335-71; Gibson 2005, 155–73; Speed 2009a). The small number of markers is more reminiscent of some stone circles than for any recorded timber monument; the 88m diameter circle of The Twelve Apostles, Dumfries is comprised of only 11 (probably originally 12) stones, and at Hethpool, Northumberland, only eight stones

form a horseshoe up to 61m across. However, only six evenly spaced post-pits marked out the Scorton timber oval, which measured 140m by 100m, with the posts approximately 60m apart. The large concentric oval enclosures at Marne Barracks, up to 200m and 160m in diameter and each defined by double post-rows, lie 800m to the south-east of the Bainesse setting and have been radiocarbon dated to the second half of the 3rd millennium BC (Hale *et al*. 2009). The very small number of posts used at Bainesse to enclose such a large space is, however, in contrast to perhaps 2000 posts used to define the two circuits of the Marne Barracks enclosure. It is conceivable that the very small numbers of widely spaced posts recorded at Bainesse and Scorton represent either unfinished monuments or perhaps truncation from later ploughing has destroyed smaller, intermediate, post-settings between the major post-pits. Alternatively, they may be representatives of a class of hitherto unrecognised monument. Apparently isolated post-pits are occasionally found during excavation; however, determining that such widely spaced and relatively small features formed part of a larger monument would be extremely difficult from aerial photographs or geophysical survey. It is only where sufficiently large areas are subject to soil-stripping that identification of these monuments is possible.

In common with the nearby settings at Scorton, there was no clear evidence for activities associated with the timber circle at Bainesse. Timber circles are commonly associated with complex activity including repeated modification of the structure, pit-digging and burials. Sometimes the area retained a degree of ritual significance even after the posts had decayed or been removed, as at the Durrington Walls Southern Circle where, after the posts had rotted away, the postholes were recut as pits, which were filled with rich deposits of pottery, flint arrowheads, animal bones and antler picks (Wainwright and Longworth 1971; Pitts 2001, 58–60). It is possible that some similar evidence at Bainesse had been lost due to subsequent severe plough-truncation of the site.

The possible evidence at the Bainesse circle for dismantling of some of the posts can be paralleled by evidence for modification, decommissioning, or destruction elsewhere. Many of the posts forming the Late Neolithic double row at Marton-le-Moor had been burnt in situ, with scorching of the post-pipes, suggesting deliberate destruction, while the large amounts of charcoal found in some of the post-pits of the Scorton timber circle suggested a similar fate (Tavener 1996; Speed and Evans 2013).

A possible structure in Field 160

In Field 160, c.45m north-west of the possible timber circle, a 7m-long curvilinear gully (**5674**) was excavated. From its south-western terminal this ran north-east before curving to the south-east and passing out of the excavated area, describing the north-western part of what, if it was symmetrical, may have been a horseshoe-shaped plan with the open end to the south-west. The feature measured 4.75m from north-east to south-west, and may have been c.4m wide. The gully, which was heavily truncated, had a surviving width of 0.28–0.4m and depth of 0.06–0.09m, and was filled with dark brown silty sand flecked with charcoal. At the north-east side, the gully may have been cut by a sub-rectangular pit or posthole (**5676**), although the relationship between the two features was obscured by the similarity of the fills. The pit was 0.67m long, 0.42m wide and 0.22m deep. A second pit or posthole (**5685**), 0.9m in diameter and 0.3m deep with a similar fill, cut the gully near its south-western terminal.

None of this group of features produced finds or material suitable for radiocarbon assay, and in themselves could not be dated. However, they are included here by analogy to similar, unpublished, features previously recorded elsewhere in the Vale of Mowbray and further afield. At Marton-le-Moor, a structure comprising a slot or trench 11m long formed a horseshoe-shaped enclosure measuring 5m by 4.2m with its open end to the south-west. Several possible post-settings within the trench were represented by discrete patches of charcoal flecks and lumps, and in one case by a 0.25m-diameter patch of different coloured soil, also with charcoal. Finds from the slot included a flint flake and two sherds of Woodlands style Grooved Ware pottery (Manby 2008). The structure was situated in an area containing Neolithic and Early Bronze Age pits. A second structure at Roecliffe, a little further to the south on the southern bank of the River Ure, was slightly smaller, c.4.5m by 4m, but with a similar orientation. Several contexts associated with this feature produced sherds of Durrington Walls style Grooved Ware (*ibid*.). The Roecliffe structure lay close to the Devil's Arrows standing stones and other Late Neolithic ceremonial features including a double post-row and was itself directly associated with a second double post-row. Later Neolithic structures of broadly similar form and size, although with different orientations, have been found at Little Paxton in Cambridgeshire and Briar Hill, Northamptonshire (Rudd 1968; Bamford 1985, 42–5; Darvill 1996, fig. 6.10).

Given the presence of other, dated, structures within the Vale bearing such a close resemblance to feature **5674** in Field 160 at Bainesse in terms of form, size and orientation, it seems reasonable to suggest that this was also a Late Neolithic structure. The apparently ceremonial function of the Roecliffe structure (although there is no such evidence for the Marton-le-Moor example) is supported by the small size of all three structures, which would only have provided very cramped domestic accommodation for at most one or two people. The rigid orientation of the three structures, all facing south-west, suggests some cosmological significance. For the Early Neolithic at least, 'houses' in Britain are now generally considered as a type of monument rather than as dwellings (Thomas 2008, 79). Although rather later, the proximity of the Bainesse example to the monuments in Field 158 may indicate that it formed part of the same ceremonial complex.

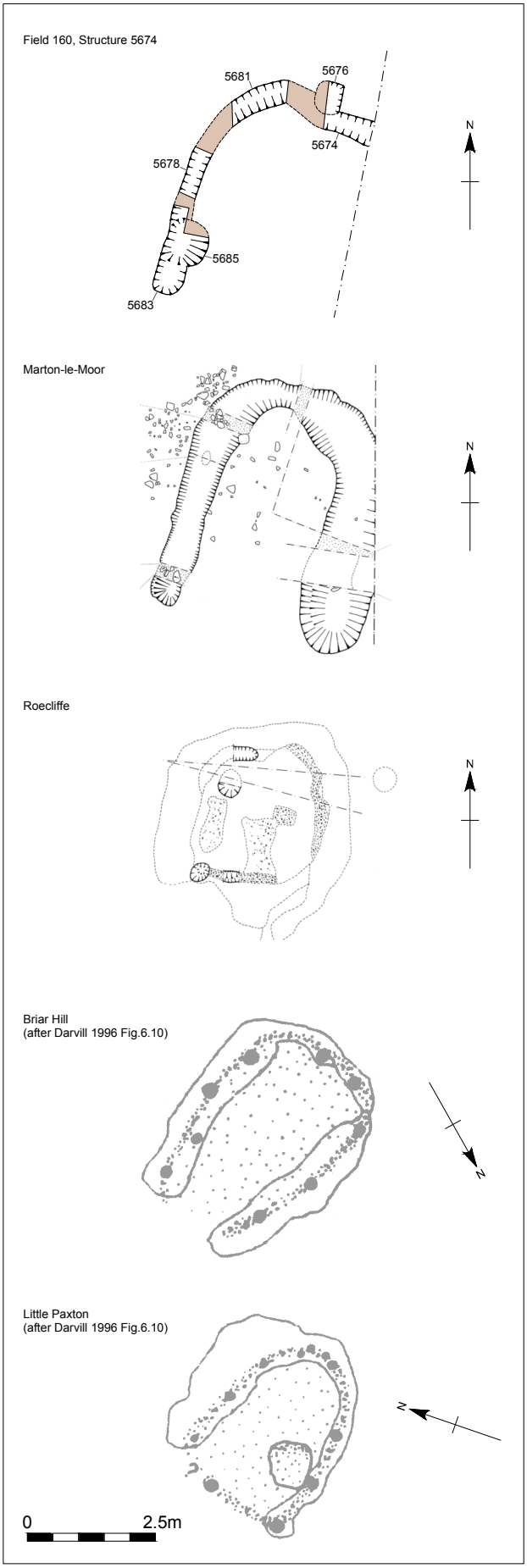

Figure 3.9: the Bainesse possible Neolithic structure and comparanda.

A possible mound in Field 165

In Field 165 at the western side of the A1, the new motorway alignment crossed the foot of an east-facing slope. Centuries of ploughing had truncated the upslope part of the field with resulting colluviation to the east, which had buried an ancient land surface represented by a soil layer (**4887**) containing Roman pottery and cut by a possibly Roman ditch (**4898**/**4897**/**4902**) and later ridge and furrow (Speed 2015b). Within the buried soil horizon was a circular 'plug' of material (**4873**) similar to the overlying colluvium (Fig. 4.31). This was 5.4m in diameter, had a surviving thickness of 0.1–0.25m and directly overlay the surface of the natural boulder clay, which was scored by a series of probable ard-marks. Deposit **4873** was initially considered to have been deposited in a cut feature; however, given its size and undisturbed base (preserving the ard-marks), it seems more likely that the deposit represents a preserved circular patch of prehistoric land surface, probably representing a circular earthwork such as a prehistoric burial mound. Roman ploughing around this will subsequently have created the increased depth of the buried ploughsoil **4887**, while later (medieval and post-medieval) ploughing has since levelled the mound.

A number of pits in Field 165 are described in Section 4.

Oak Grange

As noted by Fell (2020), a series of ditches aligned either from north-west to south-east or from south-west to north-east in Fields 207–211 were arranged at an angle to Dere Street Roman road and provide evidence for the Late Iron Age agricultural landscape in that area. However, a sample of *Fraxinus* charcoal from the fill of the southern boundary in Field 207 (ditch **11786**) provided a Chacolithic radiocarbon date of 2462–2209 calBC (context **11787**, 3861±31, SUERC-84008; Table 3.1). Where investigated, ditch **11786** was 1.75m wide and 0.38m deep with steep sides and a flat base. It was filled with a single deposit of greyish yellow sandy silt.

Given the early radiocarbon date, it is of some significance that the feature, while on a slightly different orientation to the nearby Iron Age ditches, is almost exactly co-linear with the north-eastern side ditch of Scorton Cursus, 2km to the south-east (Fell pers. comm.; Fig. 3.10). To the south, in Field 206, geophysical survey results are rather indistinct and 'noisy' (Hale 2005, fig. 180), but there are hints of two narrow parallel linear magnetic anomalies c.4m apart with a less magnetic area between (Fig. 3.11). This is considered likely to represent an archaeological feature (Alice James, pers. comm.), such as might be produced by a large ditch with an aeolian (and less magnetic) upper fill, as seen on excavated parts of the Scorton Cursus. These geophysical anomalies ran c.10–15m inside the northern field boundary on a similar north-west to south-east alignment to ditch **11786**. The distance between the ditch in Field 207 and the anomalies in Field 206 is c.35m, similar in width to the south-eastern end of the Scorton Cursus (28m between the inner edges of the ditches, Speed and Evans 2013, 16).

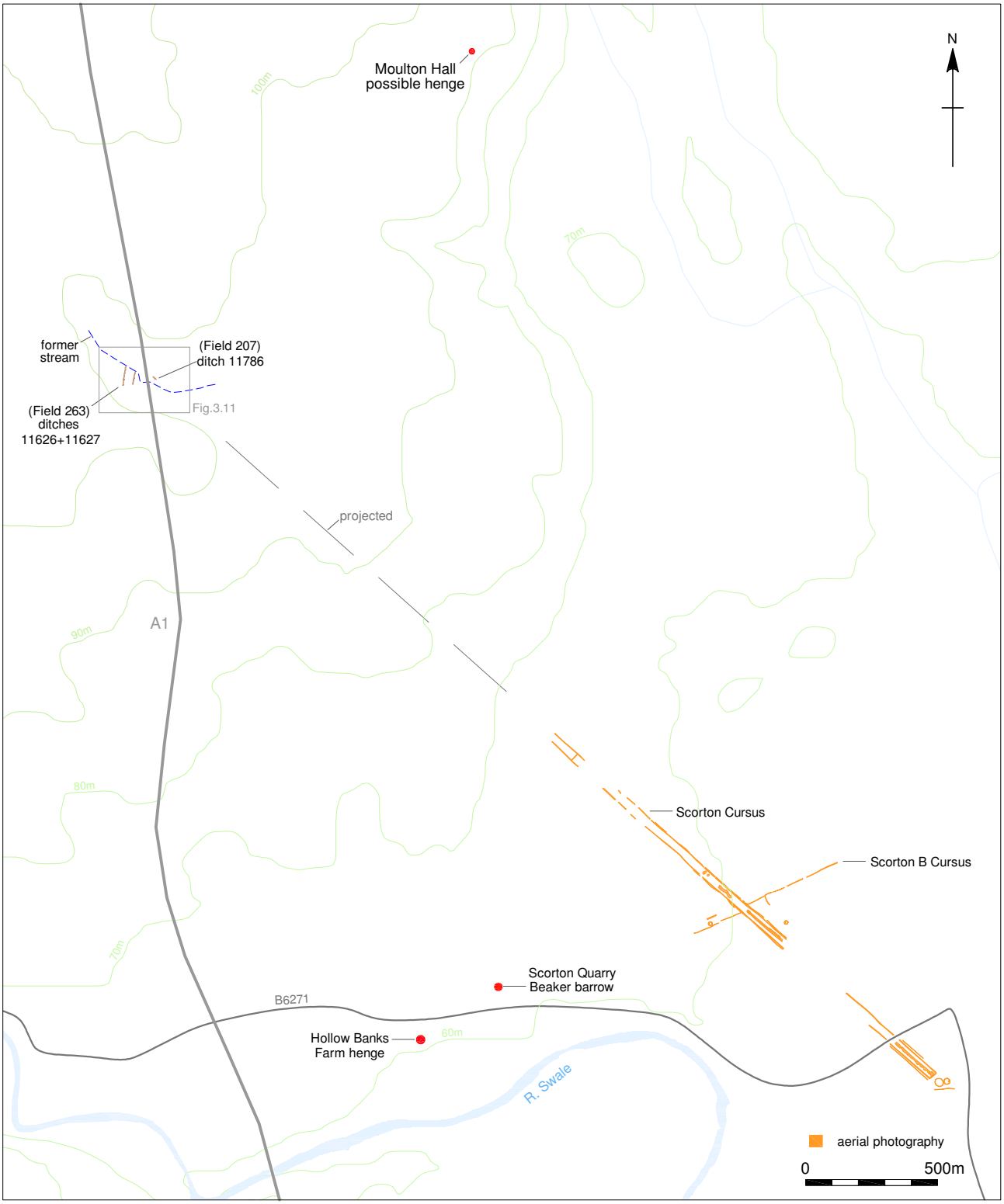

Figure 3.10: features at Oak Grange (Fields 206, 207 and 263) in relation to the Scorton Cursus and other nearby prehistoric monuments.

At the western side of the A1, the design of a new balancing pond in Field 263 at the western side of the A1 (below) neatly avoided the linear zone between the projected line of these ditches, suggesting a rise in the ground in this area. This rise is visible on some aerial photographs taken in dry weather to extend part way across the field as a diffuse, broad parch-mark (Fig. 3.11) reminiscent of the appearance of the central bank of the cursus towards its southern end in St Josephs' famous 1949 photographs of the south-eastern part of the Scorton Cursus.

Back on the eastern side of the A1, the hedge between Fields 206 and 207 was the only field boundary along this entire stretch of the A1 between Brompton and Scotch Corner that approached the A1 at a sharp angle, but only for the last section where it lay between the ditches; further away from the A1 it runs approximately at a right angle to the road. The angled part of Its alignment follows the line

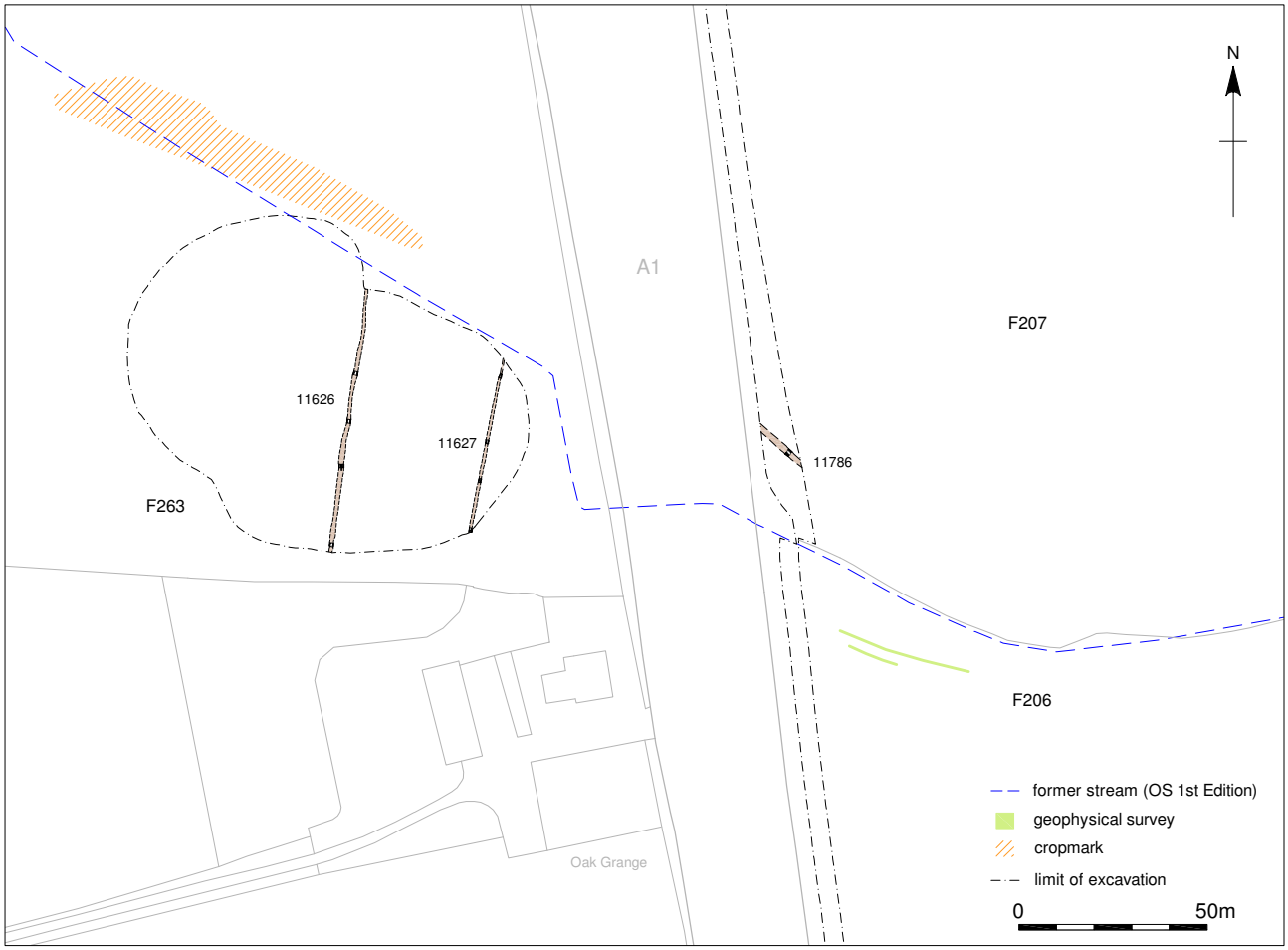

Figure 3.11: features at Oak Grange (Fields 206, 207 and 263).

of a stream shown on the First Edition Ordnance Survey six-inch map of the area (1857, surveyed in 1854) to have once run from north-west to south-east (again on a similar alignment to the ditches and parch marks), crossing the Great North Road (now the A1) in the area of interest (Fig. 3.11). The road at this time still consisted of a broad, hedged medieval droveway with the narrower, more recent improved 'turnpike' road running up the middle. At some point, probably when the road was 'turnpiked', but conceivably even as long ago as the construction of Roman Dere Street, the stream appears to have been re-routed to run for a short distance along the western boundary of the droveway and then turn 90 degrees to pass under the road below a small bridge. Upon reaching the eastern side of the road corridor, it then resumed its south-easterly alignment, between Fields 206 and 207, giving the modern angled field boundary. What dictated this very straight and probably artificial stream alignment over a distance of c.300m? Was it exploiting a man-made ditch or constrained from running downslope to the east by a bank? The somewhat 'untidy' relationship between the stream, field boundaries and road could suggest that the stream was the primary feature of the three and the others were planned out without due regard to its presence.

Although the plan of some 2.1km of the Scorton Cursus is known, primarily from aerial photographic evidence (Loveday 2006, 203; Deegan 2013), it ceases to be visible once it leaves the Swale gravel terraces and passes northwards onto boulder clay. Topping (1982) demonstrated by excavation that it continued to the north-west for at least a short distance beyond the plotted extent, but his suggestion that his trench was close to the north-western terminal remains unproven. If ditch **11786** is indeed associated with the monument that would make it at least 4.1km long. However, this would still lie within the known size range for such monuments, an example in Yorkshire being the Rudston D cursus of which a similar length has been identified (Loveday 2006, 203). The known section of the Scorton Cursus was constructed in at least three segments of differing character, presumably at different times (Speed and Evans 2013), and hence any new section 2km away should not necessarily be expected to appear directly comparable in form, and could even be segmented and constructed in episodes in the manner of the overall (North and South) Drayton Cursus in the Thames Valley (Barclay *et al*. 2003, 67 and 94). However, despite the mostly circumstantial evidence presented above, demonstrating that the ditch in Field 207 formed part of the Scorton Cursus is not currently possible and requires additional investigation.

Further features were found in Field 263 during stripping of an area measuring c.100m by 75m for construction of a new balancing pond. The area was crossed from north-northeast to south-southwest by two parallel ditches (**11626** and **11627**) spaced c.35m apart (Fig. 3.11). The

area had previously been levelled for commercial turf production, and the surviving features were therefore extremely truncated (in some places totally lost) and presumably represented only the bases of what had originally been much more substantial ditches.

The western ditch **11626** was recorded for 71m and the eastern ditch **11627** for 48m. The surviving part of ditch **11626** was up to 1.3m wide but only 0.18m deep, with a shallow U-shaped profile, and filled with orange grey silty clay. It had a narrower, more V-shaped recut along its north-western side, which was filled with a slightly paler fill. Ditch **11627** to the east was typically 0.75m wide and up to 0.15m deep with a flat-based U-shaped profile and similar fill. No artefacts or botanical remains were recovered from either feature.

The function of these two ditches is not easily explained. They did not appear to be furrows or field boundaries and were rather far apart to represent any sort of trackway. However, they clearly had some long-term significance given the evidence for recutting. Their alignment was at odds both with nearby Iron Age field boundaries and Roman Dere Street; all subsequent Roman and post-Roman boundaries in the vicinity appear to have been laid out with respect to the road. As has been pointed out by Fell (2020), this may imply that they are of pre-Iron Age date. The full extent of these features, and therefore the overall form of the monument of which they are part, remains unknown, although its width and apparently extended length is suggestive of another cursiform enclosure.

The proximity of two cursiform monuments to one another would not be unusual. There are a number of examples elsewhere of cursuses crossing one another, for example at Rudston, where four cursuses serve to 'box in' the Rudston Monolith standing stone (Loveday 2006, 31 and fig. 17), and closer to hand, the Scorton Cursus and the B Cursus cross one another. Another variation is where one end of a cursus either respects or even butts the side of another, as for example a cursus (designated C2) revealed by the Heathrow Terminal 5 excavations, which terminated where it met the Stanwell Cursus, or at Benson in Oxfordshire (Lewis *et al*. 2006, 29; Loveday 2006, fig. 14).

The possible significance of the absence of other early prehistoric features or artefacts from the area surrounding the Oak Grange features is discussed further in Section 6.

Scotch Corner ring-ditch (Field 220)

Geophysical survey for the A1 scheme in Field 220 to the south of Scotch Corner identified a large ring-ditch at NZ 2145 0445, which had not previously been identified by aerial photographic surveys (Deegan 2004). The magnetometer survey (ASDU 2014, figs 31 and 32) shows a slightly irregular ring with an external diameter of c.20m in diameter (Fig. 3.12). The ditch appears to be c.2m wide with no clear breaks, but with a very tentative candidate for an entrance at the eastern side; however, the variability in intensity of the magnetic response from the ditch may have served to mask any gaps in the perimeter. Rather indistinct and much fainter anomalies of a possible larger crescent-shaped enclosure surround the ring-ditch.

None of the A1 improvement works impinged upon this part of the field. Without further investigation it is difficult to interpret this feature. Despite its proximity to the extensive Scotch Corner Iron Age settlement, given its relatively large diameter and the size of the ditch it is unlikely to represent an Iron Age structure; the numerous examples of roundhouses from the A1 scheme were rather smaller and surrounded by relatively narrow 'drip gullies' (Fell 2020), although more substantial encircling ditches are known elsewhere in northern England (e.g. East Brunton house H, Hodgson *et al*. 2012, 57–8). The irregular shape of the ring probably rules out a more recent origin, such as a

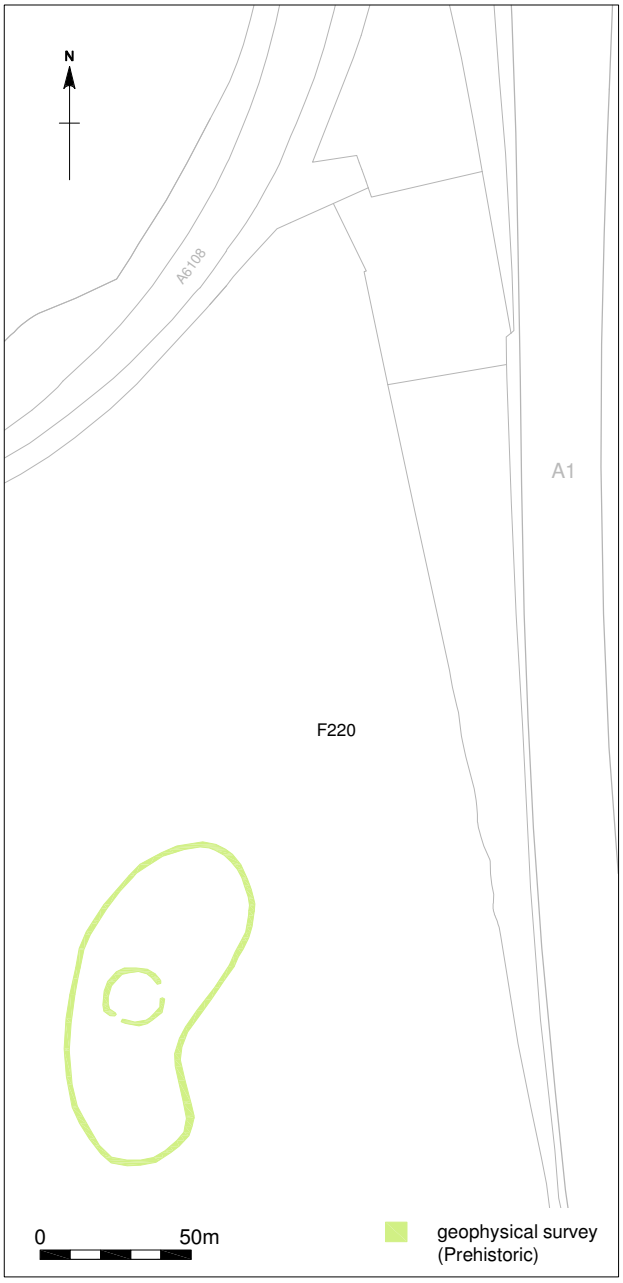

Figure 3.12: geophysical survey of the ring-ditch in Field 220.

medieval or post-medieval windmill.

On balance, the ring-ditch is more likely to have an earlier prehistoric origin. This still leaves three possibilities as to what it was. The 'blobby' character of the feature on the survey might suggest that the monument was a conjoined pit-circle, where a ring of pits were linked at the top by a shallower ditch (Harding, J. 2003, 38 and fig. 25). Equally, the ring-ditch might represent a small hengiform enclosure similar to those described above at Bainesse. Both types of monument would be of likely Neolithic date.

The third possibility is that the ring-ditch once surrounded a barrow that has long-since been levelled by agriculture. As such, it would normally be considered of probable Early Bronze Age date (Vyner *et al.*, 2011, 215–6), but could conceivably be of any period from the Early Neolithic to early medieval period. A Bronze Age barrow would add to the widely dispersed group of such monuments in the vicinity of Scotch Corner, including the Violet Grange Barrow to the north, the Five Hills Barrow to the north-east, and a ring-ditch plotted from aerial photographs 600m to the north-east of Field 220, complemented by the 'flat' Early Bronze Age cremation burial found by the A1 scheme excavations in Field 258 (Speed *et al*. 2018a, 27–9 and fig. 2.5). Any mound in Field 220 would have stood on an east-facing slope just below the summit of this part of Gatherley Moor, and both it and the nearby small ring-ditch would effectively have been 'skylined' from the large henge monument at Moulton Hall less than 2km to the south-east.

Monuments discussion

The Vale of Mowbray, as noted above, is home to a nationally important series of early prehistoric monuments. More sites are discovered in the area almost yearly, whether as a result of planned programmes of aerial photography and geophysical survey or, more recently, people (both professional archaeologists and interested amateurs) spending their lunch breaks and evenings searching online data such as satellite imagery and Lidar data. Despite all of this, and organised evaluations in advance of development works (such as the A1 improvements), other sites are only found during soil-stripping as the development progresses. This is particularly true of the increasing number of timber monuments that have been identified. Other than the double post-row at Thornborough (Harding *et al*. 2013), already known from aerial photographs, and the Marne Barracks palisaded enclosure, hinted at by geophysical survey but only fully appreciated during area excavation (Hale *et al*. 2009), all of the other Neolithic or Bronze Age timber monuments of the Vale have only been discovered during monitoring of soil stripping.

The A1 scheme has made a very significant contribution to the tally of monuments now known in the Vale. During initial evaluation works, the widespread geophysical surveys undertaken for the schemes identified the two Bainesse hengiform enclosures and the ring-ditches at Goskins (Field 261) and Scotch Corner (Field 220). In addition, during the course of an unconnected project, previously published A1 geophysical data from Field 156 (Wilson 2007, fig. 15), in combination with other information, allowed the author to suggest the existence of the probable Bainesse Cursus (Speed and Zochowski 2015, 5; Speed *et al*. 2018, 24–5). The initial phase of work also identified the previously unrecorded probable barrow at Leases Hall.

Additional finds were made during the construction phases of the two A1 schemes. It is unfortunate for the purposes of this study that the alignment of the A1 between Dishforth and Leeming passes between the major monuments at Hutton Moor and Sinderby, and this part of the route has hence contributed little to this section. Nevertheless, the finding that Quernhow, largely destroyed during post-war A1 widening, was never surrounded by a ditch is a significant addition to our knowledge of the monument. It adds to an expanding list of un-ditched monuments in northern England, such as the Catterick Racecourse Henge or the probable Late Bronze Age barrow found on the A1 at Bowbridge Lane (Field 145; Speed *et al*. 2018a, 31–8), and shows that many monuments that may once have existed will have since been levelled by the plough without leaving substantial below-ground evidence.

At Bainesse, in addition to the hengiform enclosures identified during the evaluation phase and, in one case, largely excavated in advance of construction works, large-scale soil-stripping revealed a possible timber circle (Field 158), a nearby probable small Neolithic structure (Field 160) and, further to the north, the truncated remains of a probable small mound (Field 165), which was not encircled by a ditch. None of these features had been identified by evaluation works and emphasise the value of continuous archaeological monitoring of soil stripping during this type of large-scale scheme. The new monuments greatly expand the ceremonial landscape centred on the probable Bainesse Cursus, previously only seen to the east (the Marne Barracks palisaded enclosure, barrow and perhaps the mound at Castle Hills). It can now be seen that there was extensive ceremonial activity around the north-western end of the cursus, while to the south, the post-pit in Field 259 and a nearby Early Bronze Age cremation burial (Speed *et al*. 2018a, 24–7) presumably formed part of the same wider complex.

The sheer number of Neolithic and Bronze Age monuments, which it is becoming apparent once existed in the Catterick/Scorton area to either side of the River Swale, compares with similar Neolithic ceremonial centres elsewhere in lowland Yorkshire such as Thornborough or Ferrybridge (Roberts 2005, fig. 10; Harding 2013, fig. 3.4); however, compared to these more densely packed complexes, the Catterick/Scorton monuments extends across a considerably wider area that is several kilometres across. Large parts of the Catterick/Scorton complex have been obscured by later development, either Roman or medieval/modern, particularly the 'core' area now occupied by the former

Catterick Aerodrome and Catterick village where the enigmatic Pallett Hill mound survives. Other areas have been lost, in many cases in the past without adequate record, as a result of quarrying. The question of the full extent of this ceremonial landscape is greatly impacted by the suggestion above, currently unproven, that the Scorton Cursus, already mapped over a length of 2.1km, may have extended for a further 2km to intersect with the line of the A1 at Oak Grange. Large cursuses elsewhere, such as at Dorchester (Atkinson *et al*. 1951), seem to have acted as 'magnets' for other later monuments along their length, and any expansion to the known extent of the Scorton Cursus will immediately draw archaeological attention to very large areas of hitherto archaeologically 'barren' farmland to either side of the A1 between Brompton and Scotch Corner, where the Moulton Hall Henge is located (Fig. 3.10).

4.0 'DOMESTIC' EVIDENCE – PITS AND FLINT SCATTERS

Background

Evidence for Neolithic and Early Bronze Age 'domestic' activity was widely but sparsely distributed along the route of the two A1 schemes. No structures of certain domestic function were identified. Apart from a possible structure at Hollow Banks Farm, which was associated with Impressed Ware pottery (Speed 2002, 10–11), no Neolithic domestic buildings have been identified in the immediate area of the A1 schemes. Neolithic structures are extremely rare in northern England, although occasional examples have been recorded, such as an Early Neolithic building partially investigated at Yarnbury near Grassington in the North Yorkshire Dales (SE 014 654; Gibson 2017) and two more Early Neolithic structures, together with another dated to the Late Neolithic/Early Bronze Age, have been found at Street House on the North Yorkshire coast (NZ 739 196; Sherlock 2019, 16–25).

Apart from the limited number of ceremonial features described in the preceding section, and a small number of Bronze Age burials (Speed *et al*. 2018a), the evidence from the A1 almost exclusively comprised lithics (worked flint and chert, and several polished stone axes), whether recovered by surface-collection or as residual inclusions within later excavated features, and from a large number of dispersed pits. Few other 'cut' features of likely early prehistoric settlement origin were identified on either A1 scheme. However, use of both of the main classes of evidence, lithics and pits, present their own challenges.

Lithics

The projects took place against a significant background of archaeological fieldwalking, both for the 1990s and 2000s A1 evaluations and during other, unconnected, projects (e.g. Chatterton 2005). There have historically been issues with the way such data has been collected and interpreted (Haselgrove 1985; Mills 1985; Adams 1996, 2; Last 2016). For the current study area, the areas fieldwalked have been extremely patchy. Large parts of the A1 route were never examined at all, often through unavailability due to crop or pasture cover, or were merely subject to rapid 'reconnaissance' walkover. Where formal fieldwalking has been undertaken, both on the A1 and other projects, a bewildering range of methodologies have been employed by many different organisations, but rarely have these been adequately explained in any of the resulting reports. Data cannot, therefore, be meaningfully compared between different surveys, for instance comparing the density of flints by area. Some fieldwalking projects merely noted the presence of lithics without collecting the material for identification (e.g. in a field just to the south of Field 1, Speed 1993a, 7–8), or the material was collected but never analysed, as with an intensive fieldwalking project carried out across Field 156 as part of the Catterick Metal Detecting Project (Brickstock *et al*. 2007). Equally, much of the 1990s A1 material, being found during the 'evaluation' phase of the project by at least five different archaeological contractors, was only summarised at the time, presumably with the intention of full analysis following the construction phase. Much of the archive deriving from that project can no longer be found (Speed *et al*. 2018c, 73), although as noted in Section 2, material recovered by an extensive fieldwalking survey of fields at Healam Bridge in 1993 was relocated and included in a study of the lithics from all phases of investigation at that site (Rowe 2012).

The combined result of all these factors means that, in general, the available data can only be used to provide a very general indication of presence/absence of flints, and therefore activity, of a particular period in any given area, and only along a narrow corridor (and obviously excluding areas where no fieldwalking has occurred). This clearly has the potential to provide an unsatisfactory picture of past landscape use, as exemplified by the site at Little Holtby, where an apparently isolated Early Mesolithic flint scatter was subsequently shown by Chatterton (2005, 136–60) to be situated among a dense distribution of such sites, which happened to lie just beyond the edges of the A1 evaluation.

In the following account, lithics found during fieldwalking, together with unstratified material found by the excavations for the two A1 schemes, are used to provide some background to the excavated features found in each area (some of which contained their own, stratified lithic assemblages), but are only discussed in general terms except where individual pieces of intrinsic interest were recovered.

Pits

The second main group of evidence, the pits, presented a completely different set of challenges. They were almost all found during large-area soil-stripping during the construction phases of the projects, and investigated to a consistent methodology (and similar to other large excavation schemes) so that, in contrast to the fieldwalked flint assemblages, we can compare them like-for-like. Barring parts of the schemes where there was limited or no opportunity for recording these features, their distribution across the project-area landscape can be

described with some confidence. The main issues with pits concern 'which pits' and 'what date are they'.

Anderson-Whymark and Thomas have commented (2012, ix) that 'Beyond monuments and surface artefact scatters, pits frequently provide the only traces of Neolithic-early Bronze Age activity in Britain and Ireland…Their small, shallow, circular form and charcoal and artefact rich fills are distinctive and represent a tradition that persists for over 2000 years' (although rich artefact assemblages are typically found in only a small percentage of these features). Although there is a general academic consensus that the creation and filling of early prehistoric pits is likely to have combined practicality (the need to bury rubbish) with some sort of ritual significance, whether religious or social, there is no evidence as to what this might have been, and indeed it may have changed through time and had many different meanings (Carver 2011, 131; Garrow 2012, 223). There is a general consensus that the pits were normally dug for the purpose of burying the contents, rather than having had a different, primary, purpose such as being used for storage (Carver 2011, 112). The features of this type found on the A1 schemes and described below did not, in general, contribute to any discussion of function or meaning, and hence further discussion of these themes is limited. The main theme to which this material contributes here is, rightly or wrongly, and in the absence of more 'domestic' structures (such as houses), to act as a proxy for Neolithic and Bronze Age settlement. This will allow examination of the distribution of early prehistoric activity along the Vale of Mowbray and, where dating evidence is available, how it varied through time.

North Yorkshire as a whole, including the Vale of Mowbray, is relatively rich in such features (Garrow 2012, fig. 15.1 and table 15.1). This apparent wealth of data may, apart from the relatively large land area of the county, be as a result of increased developer-funded recording in the last 30 years. This has allowed exploration of large areas of previously undeveloped farmland, particularly as a result of quarrying and road schemes. By comparison, few such sites are known immediately to the north in Teesside and County Durham (*ibid*.) although continual new evidence in these areas suggests that plenty more await discovery (e.g. Carne *et al*. 2013, 22; Speed 2015c).

A review of the prehistory of the Vale of York by Radley (1974) concluded that, beyond the ceremonial monuments, the evidence for the Neolithic period was mainly restricted to the distribution of stone axes and struck flints; Manby *et al*. (2003) indicated that the situation had changed little in the intervening decades. The most recent reviews of the evidence for the immediate area of the road scheme (Vyner 2007; Vyner *et al*. 2011, 213–20) do, however, reflect the increasing body of data created by developer-funded excavations since 1990.

Pits securely dated to the Neolithic and Early Bronze Ages have been found close to the A1 schemes (all within the 5km study area) at Marton-le-Moor, Nosterfield (Tavener 1996; Dickson and Hopkinson 2011, 80–5), adjacent to the Swale at Catterick Racecourse, Hollow Banks Farm Quarry and Scorton Quarry (Speed 2002; Moloney *et al*. 2003, 6; Evans 2011; Speed and Zochowski 2015), and further upstream at Easby Abbey Mill and Whitefields Farm, Richmond (Manby 2007; Ross 2013; Haselgrove 2016, 25) (Fig. 4.1). More groups of pits of very late Mesolithic or early Neolithic and Bronze Age date were found during improvements to the A66 just to the west of Scotch Corner (Sites SCA10 and SCA13; Zant *et al*. 2013, 25–31).

The majority of such features investigated on the two A1 schemes did not contain finds and remain undated. Given that the majority of the known 'Neolithic' pits excavated previously within the Vale of Mowbray at Marton-le-Moor and Nosterfield, and at numerous sites elsewhere, have failed to produce dateable artefacts, it seemed reasonable to assume that at least a proportion of the undated but morphologically similar features excavated along the motorway scheme might date from this period.

At Marton-le-Moor, just to the south of the A1 scheme project, a total of 153 pits were identified spread along a 4km stripped corridor with an area of c.25ha (Tavener 1996).

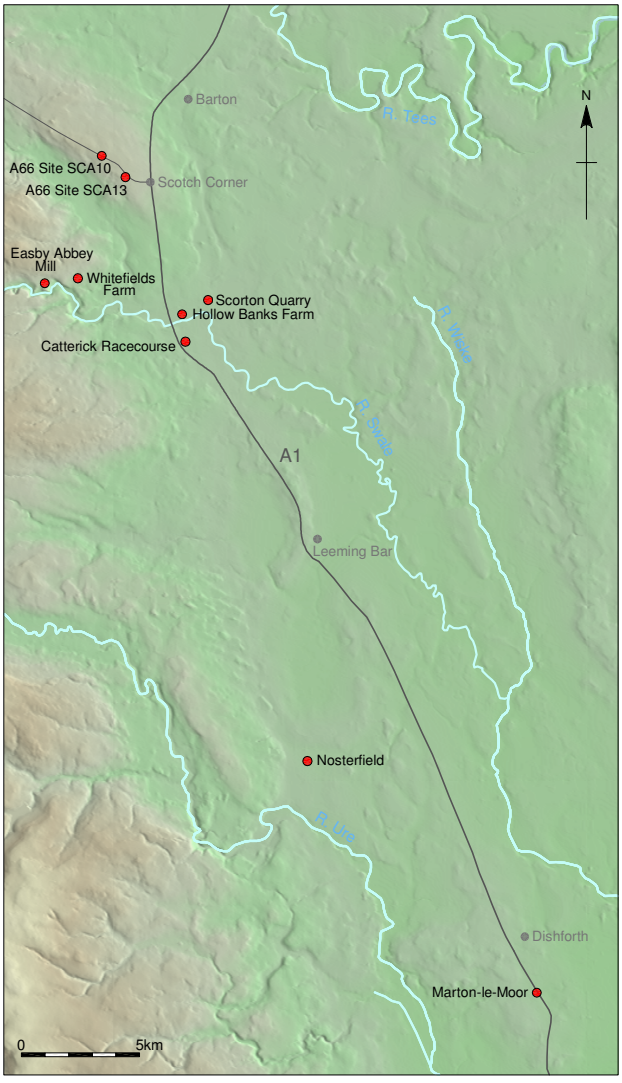

Figure 4.1: other pit sites in the study area.

Artefacts were recovered from only 78 pits (51%), of which 65 pits (42%) produced Neolithic or Beaker pottery; many of the pits without finds were associated spatially with those that had, and a comprehensive suite of radiocarbon dates showed that the features (including some with no pottery or flint) ranged in date from the earlier Neolithic through to the latest Neolithic/Early Bronze Age (Abramson 2003). With the exception of two small but very dense clusters (one of which produced flints but no pottery), the pits generally occurred singly, in distinctive pairs, or in widely dispersed 'groups' (many of which included several pit-pairs), although these larger groups sometimes included pits of widely varying date. Morphologically, the pits generally had a limited range from 0.5m to 1.2m in diameter and 0.1m to 0.6m deep, and very few of the features were either large or deep. Many pits contained a deposit of burnt material, which included the carbonised remains of foodstuffs such as cereal grains and hazelnut shells, together with burnt or fire-shattered stone (Tavener 1996, 183).

This size range for pits and the presence of burnt materials (hazel nutshells are particularly common) and artefacts seems to be typical both within the Vale of Mowbray (Dickson and Hopkinson 2011; Moloney *et al*. 2003, 9; Speed 2005), elsewhere in northern England (e.g. Manby 1974; 1975; Abramson 1996; Roberts *et al*. 2001; Johnson and Waddington 2008; Carver 2011), and indeed elsewhere across Britain and Ireland (e.g. Anderson-Whymark 2012, 192; Brophy and Noble 2012; Smyth 2012). A small proportion of pits are larger (Garrow 2006, fig. 4.9) and sometimes naturally created features such as tree-throws and possibly rock fissures (grykes) were exploited for deposition of similar materials (e.g. Thomas 2012, 8; Jackson and Ray 2012, 147; Robinson and Town 2020, 25); on this basis, several tree-throws from the A1 schemes have been considered below as being the possible equivalent of human-made pits. At most of these other sites, the dated pits are interspersed with a varying proportion of similar but undated examples; at Thirlings, Northumberland, 60 pits (26%) containing Neolithic potsherds lay among a further 168 undated features (74%) (Miket and Edwards 2009, 1 and illus. 2), while at Nosterfield, North Yorkshire, 65 dateable Neolithic features (37%) (excluding pit alignments) lay among an additional 109 'undated' pits and hollows (63%) considered likely to be of similar date (Dickson and Hopkinson 2011, 69). Occasionally the 'undated' pits can be dated by other means, and typically prove to be broadly contemporary to the 'dated' features. A good example is the site at Wellington-Moreton in Herefordshire, where over 100 pits of certain or probable Neolithic date were interspersed among numerous 'undated' pits and tree-throws which could be shown to be broadly contemporary due to the alluvial sediment sequence across the site (Jackson and Ray 2012, 147).

Pits often contain a single deposit that appears to have been tipped or dumped in with little (if any) arrangement of any artefacts (Garrow 2012, 223), and in many cases the material appears to have derived from a 'pre-pit context' (Thomas 2012, 9), presumably a midden (e.g. Garrow 2006; Speed 2015d; Robinson and Town 2020). There is some evidence that deposition into pits may occasionally have become more complex during the Late Neolithic (Garrow 2012, 223).

During the post-excavation process for the A1 schemes, a review was undertaken of all pits matching these criteria that could not be shown to be Iron Age or later in date. In practice, as any experienced field archaeologist knows, many pits just 'look' prehistoric, small, circular and often filled with a distinctive brown, charcoal-flecked fill (a description which applied to many of the features described below) and excavators' comments along these lines in the site record were given due consideration.

Other factors were considered, such as the phenomenon of pit-pairing, common at Marton-le-Moor and Nosterfield (Tavener 1996; Dickson and Hopkinson 2011, 198-9) and further afield in north-eastern England (e.g.; Harding 2006, 121 and fig. 4). Manby *et al*. (2003,55) have noted that pits occur '…variously single, paired and, less frequently, clustered…' (2003, 55). This is a widespread phenomenon. In the Thames Valley, 'pits may be found as isolated features but paired pits, typically with a gap of c.0.4–0.6m between the cuts are common (Anderson-Whymark 2012, 192), while in the West Midlands '…pits in the Severn-Wye region …are often dug in pairs…or they are conjoined or intercut' (Jackson and Ray 2012, 146). There is a broad academic acceptance of the widespread phenomenon of pit-pairing, to the extent that occasional regional variants, such as groupings of three pits are described as '… commonly a pair of pits plus an additional pit' in the upper Thames Valley (Anderson-Whymark 2012, 192). Although the pits in a pair can contain differing materials, or none, enough examples have been excavated with refitting flint or potsherds from both pits to show that the features were often dug either at the same time or in close succession (Jackson and Ray 2012, 151). At the Cotswold Community excavations by Oxford Archaeology in 1999–2004 on the Gloucestershire/Wiltshire border, 84 pits dating from the Middle Neolithic to Early Bronze Age were spread widely across the 23ha site. The features occurred in 49 separate groups of between one and four pits. The excavated evidence (such as the absence of pottery re-fits between different pit groups) suggested that the groups each represented temporally separate events (Powell *et al*. 2010a; 2010b). This is in contrast to sites in East Anglia, where large numbers of pits have been found within quite restricted areas and frequently lying in large and dense groups with the pits often intercut (Garrow 2006).

On the A1, likely relationships to later archaeological features (either stratigraphic or spatial) were identified, and a number of pits were rejected on these grounds. The survival of animal bones in several pits suggested a more modern origin (except in waterlogged conditions, unburnt bone rarely survives in the acidic subsoils encountered along most of the A1 route). Some features appeared to be of natural origin. Thereafter, a selection was made of a small number of pits from both schemes containing only carbonised plant remains and samples from these 'undated' pits were

submitted for radiocarbon dating. Pits considered to fulfil the criteria laid out above, and which were demonstrably earlier prehistoric or undated, are set out below in a series of tables divided between the topographic zones defined in Section 1. The location of fields where pits were found is indicated on Figure 4.2. Radiocarbon dates obtained for features described in this section are to be found in Table 4.1 but are, for convenience, also quoted in the text.

Finds immediately south of the A1 scheme

Some evidence for Neolithic and Early Bronze Age activity has been recorded in the area immediately to the south of the current A1 projects. Objects including a flanged axe, a 'stone battle axe', a stone axe-hammer, a Bronze Age mace-head and two flint knives have been recorded from various locations around Marton-le-Moor village (NYCC MNY19646; MNY19650/1; Sheahan 1859, 717), and Neolithic and beaker pits were found during construction of the existing A1(M) to the east of the village (Tavener 1996). Immediately to the south-west of the A1/A168 Dishforth Interchange (south of Field 1), an undated flint scatter has been recorded over the summit and slopes of a low natural mound (Speed 1993a).

Dishforth Lane, Hutton Moor and Rainton Common (Fields 1–17)

Over the 3km stretch northwards along the A1 from the A168/Dishforth Lane junction at Dishforth towards Baldersby Gate, the route follows relatively level ground, flanked to the west by the higher ground of Hutton Moor and Rainton Common, which is surmounted by Hutton Moor Henge and a series of barrows. The area is very similar to the Marton-le-Moor site just to the south, both topographically and in relation to its respective nearby henge (in the case of

Table 4.1: radiocarbon dates from 'domestic' features.

Field	Feature	Sample context	Lab code	Material	$\delta^{13}C$ ‰	Radio-carbon age BP	1σ	2σ
1	Pit 3294	3293	SUERC-39576 (GU-26813)	Hazel nutshell	-25.00	4855±35	3695 (13.5%) 3679BC 3666 (50.9%) 3634BC 3549 (3.8%) 3544BC	3706 (79.5%) 3631BC 3579 (15.9%) 3535BC
19	Pit 834	836	SUERC-39578 (GU-26815)	Hazel nutshell	-24.10	4770±35	3635 (7.4%) 3625BC 3601 (60.8%) 3525BC	3641 (88.1%) 3513BC 3424 (7.3%) 3383BC
19	Pit 837	838	SUERC-39579 (GU-26816)	Charcoal: hazel/alder round-wood	-25.80	3920±35	2471 (45.3%) 2400BC 2382 (22.9%) 2347BC	2549 (1.2%) 2539BC 2490 (94.2%) 2293BC
20	Pit 800	802	SUERC-39580 (GU-26817)	Hazel nutshell	-24.50	4825±35	3653 (30.1%) 3631BC 3578 (3.4%) 3573BC 3566 (34.7%) 3536BC	3695 (2.6%) 3680BC 3665 (36.7%) 3623BC 3604 (56.1%) 3523BC
21	Pit 823	824	SUERC-39581 (GU-26818)	Hazel nutshell	-24.30	4730±35	3631 (31.4%) 3579BC 3534 (13.6%) 3509BC 3426 (23.2%) 3382BC	3635 (42.9%) 3549BC 3544 (20.7%) 3497BC 3457 (31.8%) 3377BC
33	Pit 4019	4020	SUERC-39832 (GU-26993)	Burnt animal bone	-26.40	3715±35	2194 (9.4%) 2177BC 2144 (17.9%) 2114BC 2101 (40.9%) 2037BC	2205 (93.9%) 2019BC 1995 (1.5%) 1981BC
42	Pit 4029	4031	SUERC-39582 (GU-26819)	Hazel nutshell	-25.40	3895±35	2462 (68.2%) 2345BC	2474 (95.0%) 2286BC 2247 (0.4%) 2243BC
42	Pit 4041	4043	SUERC-39586 (GU-26820)	Charcoal, unident. Round-wood	-24.30	4950±35	3770 (62.4%) 3695BC 3678 (5.8%) 3669BC	3796 (95.4%) 3652BC
99	Pit 6084	6086	SUERC-39618(GU-26846)	Hazel nutshell	-25.20	4820±35	3650 (25.0%) 3631 calBC 3578 (43.2%) 3535 calBC	3693 (1.2%) 3684 calBC 3662 (32.7%) 3621 calBC 3606 (61.5%) 3522 calBC
153	Pit 7168	7169	SUERC-92776 (GU54438)	Charcoal: Prunus	-26.7	1826±24	139 (50.9%) 198 calAD 205 (17.3%) 225 calAD	126 (95.4%) 248 calAD
153	Pit 7227	7228	SUERC-92777 (GU54439)	Charcoal: Corylus	-28.0	3847±24	2399 (6.0%) 2384 calBC 2347 (46.1%) 2278 calBC 2251 (11.9%) 2229 calBC 2221 (4.3%) 2211 calBC	2457 (9.2%) 2418 calBC 2408 (10.9%) 2374 calBC 2368 (52.8%) 2268 calBC 2260 (22.6%) 2206 calBC
153	Pit 7243	10501	SUERC-92778 (GU54440)	Charcoal: Corylus	-26.2	4645±22	3498 (58.1%) 3454 calBC 3377 (10.1%) 3369 calBC	3513 (79.7%) 3424 calBC 3384 (15.7%) 3363 calBC
154	Pit 7156	7157	SUERC-92782 (GU54441)	Charcoal: Corylus	-24.9	4522±22	3350 (13.6%) 3326 calBC 3231 (30.0%) 3174 calBC 3161 (24.6%) 3119 calBC	3355 (28.3%) 3264 calBC 3241 (67.1%) 3104 calBC

Table 4.1: radiocarbon dates from 'domestic' features (continued).

Field	Feature	Sample context	Lab code	Material	$\delta^{13}C$ ‰	Radio-carbon age BP	1σ	2σ
154	Pit 7161	7160	SUERC-92783 (GU54442)	Charcoal: Corylus	-24.6	4684±22	3516 (15.7%) 3497 calBC 3459 (46.8%) 3397 calBC 3385 (5.8%) 3377 calBC	3621 (2.5%) 3610 calBC 3522 (22.4%) 3488 calBC 3472 (70.4%) 3372 calBC
154	Pit 7362	7363	SUERC-92784 (GU54443)	Charcoal: Corylus	-24.8	4851±23	3657 (68.2%) 3636 calBC	3695 (89.2%) 3632 calBC 3555 (6.2%) 3539 calBC
155	Pit 11852	11853	SUERC-92785 (GU54444)	Charcoal: Maloideae	-27.3	3976±24	2559 (31.8%) 2536 calBC 2491 (36.4%) 2470 calBC	2570 (50.2%) 2514 calBC 2502 (45.2%) 2462 calBC
157	Pit 6114	6115	SUERC-92786 (GU54445)	Charred nutshell: Corylus	-24.3	4058±24	2623 (50.3%) 2568 calBC 2519 (17.9%) 2499 calBC	2835 (5.3%) 2818 calBC 2663 (3.3%) 2646 calBC 2637 (59.7%) 2550 calBC 2537 (27.2%) 2490 calBC
158	Pit 4631	4630	SUERC-92787 (GU54446)	Charcoal: Calluna	-25.5	4473±22	3326 (49.5%) 3232 calBC 3224 (1.5%) 3220 calBC 3173 (5.6%) 3161 calBC 3119 (11.6%) 3095 calBC	3336 (58.9%) 3211 calBC 3193 (13.1%) 3151 calBC 3139 (18.3%) 3086 calBC 3060 (5.0%) 3030 calBC
158	Pit 5907	5906	SUERC-92788 (GU54447)	Charcoal: Corylus	-25.8	3923±22	2471 (30.3%) 2436 calBC 2420 (13.9%) 2404 calBC 2379 (23.9%) 2349 calBC	2476 (94.8%) 2339 calBC 2315 (0.6%) 2310 calBC
164	Pit 4162	4161	SUERC-76348 (GU45966)	Carbonised residue on potsherd	-29.1	4487±25	3330 (31.8%) 3264 calBC 3246 (14.4%) 3215 calBC 3182 (11.1%) 3158 calBC 3125 (10.9%) 3101 calBC	3341 (95.4%) 3092 calBC
164	Pit 4340	4339	SUERC-92795 (GU54451)	Charcoal: Prunus	-25.7	4393±22	3082 (9.4%) 3069 calBC 3026 (15.4%) 3006 calBC 2989 (43.4%) 2931 calBC	3090 (20.6%) 3045 calBC 3036 (74.8%) 2921 calBC
164	Gully 4858	4859	SUERC-92796 (GU54452)	Charred grain: Hordeum	-24.5	858±22	1167 (68.2%) 1212 calAD	1057 (2.7%) 1076 calAD 1153 (90.4%) 1226 calAD 1231 (2.3%) 1245 calAD
172	Pit 6118	6119	SUERC-92797 (GU54453)	Charcoal: Corylus	-25.0	3995±22	2565 (43.4%) 2526 calBC 2496 (24.7%) 2475 calBC	2571 (61.6%) 2513 calBC 2504 (33.8%) 2470 calBC
172	Pit 6704	6705	SUERC-92802 (GU54455)	Charcoal: Corylus	-24.7	4971±23	3766 (68.2%) 3711 calBC	3796 (94.6%) 3694 calBC 3677 (0.8%) 3671 calBC
185	Gully 11728	11729	GU54457	Charcoal: Quercus (small roundwood)		Failed – insufficient carbon		
201	Pit 11493	11494	SUERC-92804 (GU54458)	Charcoal: Fraxinus	-25.3	4394±22	3082 (10.4%) 3068 calBC 3027 (15.5%) 3007 calBC 2989 (42.3%) 2931 calBC	3090 (21.6%) 3044 calBC 3037 (73.8%) 2922 calBC
211	Pit 7807	7806	SUERC-92805 (GU54459)	Charcoal: Corylus	-27.1	2228±24	364 (8.3%) 352 calBC 297 (53.2%) 228 calBC 221 (6.7%) 211 calBC	381 (17.9%) 342 calBC 325 (77.5%) 204 calBC
236	Pit 16555	16556	SUERC-92806 (GU54460)	Charcoal: Corylus	-27.0	3467±24	1875 (24.2%) 1842 calBC 1818 (12.2%) 1798 calBC 1780 (29.6%) 1743 calBC 1708 (2.1%) 1704 calBC	1881 (87.6%) 1737 calBC 1716 (7.8%) 1696 calBC

Table 4.1: radiocarbon dates from 'domestic' features (continued).

Field	Feature	Sample context	Lab code	Material	$\delta^{13}C$ ‰	Radio-carbon age BP	1σ	2σ
258	Pit 15370	15371	SUERC-92807 (GU54461)	Charcoal: Fraxinus	-24.3	4095±22	2834 (12.6%) 2818 calBC 2664 (12.9%) 2645 calBC 2639 (42.8%) 2580 calBC	2855 (20.4%) 2812 calBC 2747 (4.3%) 2725 calBC 2698 (70.8%) 2574 calBC
259	Pit 6863	6864	SUERC-92812 (GU54463)	Charcoal: Corylus	-27.5	4819±23	3646 (30.6%) 3632 calBC 3558 (37.6%) 3538 calBC	3652 (37.8%) 3628 calBC 3583 (57.6%) 3532 calBC
259	Pit 6891	6892	SUERC-92813 (GU54464)	Burnt bone: unident	-24.2	3612±22	2018 (23.0%) 1995 calBC 1981 (45.2%) 1940 calBC	2031 (95.4%) 1906 calBC
259	Pit 6897	6899	SUERC-92814 (GU54465)	Charcoal: Fraxinus	-28.5	3903±22	2463 (42.5%) 2402 calBC 2382 (25.7%) 2348 calBC	2469 (90.5%) 2335 calBC 2324 (4.9%) 2306 calBC
260	Pit 689	688	SUERC-13998 (GU-15321)	Charcoal: unidentd	-29.4	3660±35	2130 (24.8%) 2080 calBC 2050 (43.4%) 1960 calBC	2140 (95.4%) 1930 calBC
260	Pit 691	690	SUERC-13999 (GU-15322)	Charcoal: unident	-25.3	6555±35	5530 (68.2%) 5475 calBC	5610 (5.2%) 5590 calBC 5570 (90.2%) 5470calBC
260	Pit 691	690/A	SUERC-20352 (GU-17277)	Antler: red deer	-25.5	3380±30	1740 (13.6%) 1710 calBC 1700 (54.6%) 1630 calBC	1750 (95.4%) 1600 calBC
260	Pit 691	690/B	SUERC-20353 (GU-17278)	Antler: red deer	-26.2	3390±30	1740 (26.2%) 1705 calBC 1700 (30.8%) 1660 calBC 1655 (11.2%) 1635 calBC	1760 (95.4%)1610 calBC
260	Pit 691	690/C	SUERC-20354 (GU-17279)	Antler: red deer	-26.8	3375±35	1740 (11.8%) 1710 calBC 1700 (56.4%) 1620 calBC	1750 (89.4%)1600 calBC 1580 (6.0%) 1530 calBC
260	Pit 691	690/D	SUERC-20358 (GU-17280)	Bone: dog	-26.7	3405±35	1750 (64.5%) 1660 calBC 1650 (3.7%) 1640 calBC	1870 (3.7%) 1840 calBC 1780 (91.7%) 1610 calBC
260	Pit 691	690/E	SUERC-20359 (GU-17281)	Bone: dog	-26.9	3250±30	1610 (14.4%) 1570 calBC 1540 (42.2%) 1490 calBC 1480 (11.6%) 1450 calBC	1610 (95.4%) 1440 calBC
260	Pit 691	690/F	SUER -20360 (GU-17282)	Bone: dog	-27.6	3310±35	1625 (68.2%) 1525 calBC	1690 (95.4%) 1500 calBC
260	Pit 689	688/A	SUERC-20361 (GU-17283)	Bone: aurochs	-23.5	3465±35	1880 (23.3%) 1840 calBC 1830 (44.9%) 1730 calBC	1890 (95.4%) 1690 calBC
260	Pit 689	688/B	SUERC-20362 (GU-17284)	Bone: aurochs	-26.5	3245±35	1610 (9.1%) 1580 calBC 1540 (59.1%) 1450 calBC	1610 (95.4%) 1430 calBC
260	Pit 689	688/C	SUERC-20363 (GU-17285)	Bone: aurochs	-26.5	3205±35	1500 (68.2%) 1435 calBC	1610 (1.1%) 1590 calBC 1540 (94.3%) 1410 calBC
260	Pit 694	695	SUERC-39622 (GU-26850)	Quercus charcoal	-26.7	3635±35	2111 (3.5%) 2103 calBC 2036 (64.7%) 1943 calBC	2133 (14.9%) 2084 calBC 2057 (80.5%) 1902 calBC
261	Pit 7218	7219	SUERC-92816 (GU54467)	Charcoal: Corylus	-25.2	2869±24	1107 (2.8%) 1102 calBC 1086 (65.4%) 1003 calBC	1119 (92.6%) 974 calBC 957 (2.8%) 942 calBC
261	Pit 7355	7356	SUERC-92815 (GU54466)	Charcoal: Corylus	-28.2	3177±24	1495 (23.3%) 1476 calBC 1460 (44.9%) 1426 calBC	1499 (95.4%) 1415 calBC
262	Pit 12028	12029	SUERC-92822 (GU54470)	Charcoal: Quercus (small round-wood)	-28.7	3455±22	1870 (17.5%) 1864 calBC 1810 (3.2%) 1804 calBC 1776 (34.6%) 1738 calBC 1714 (12.9%) 1697 calBC	1879 (23.0%) 1838 calBC 1829 (12.7%) 1792 calBC 1785 (59.7%) 1692 calBC

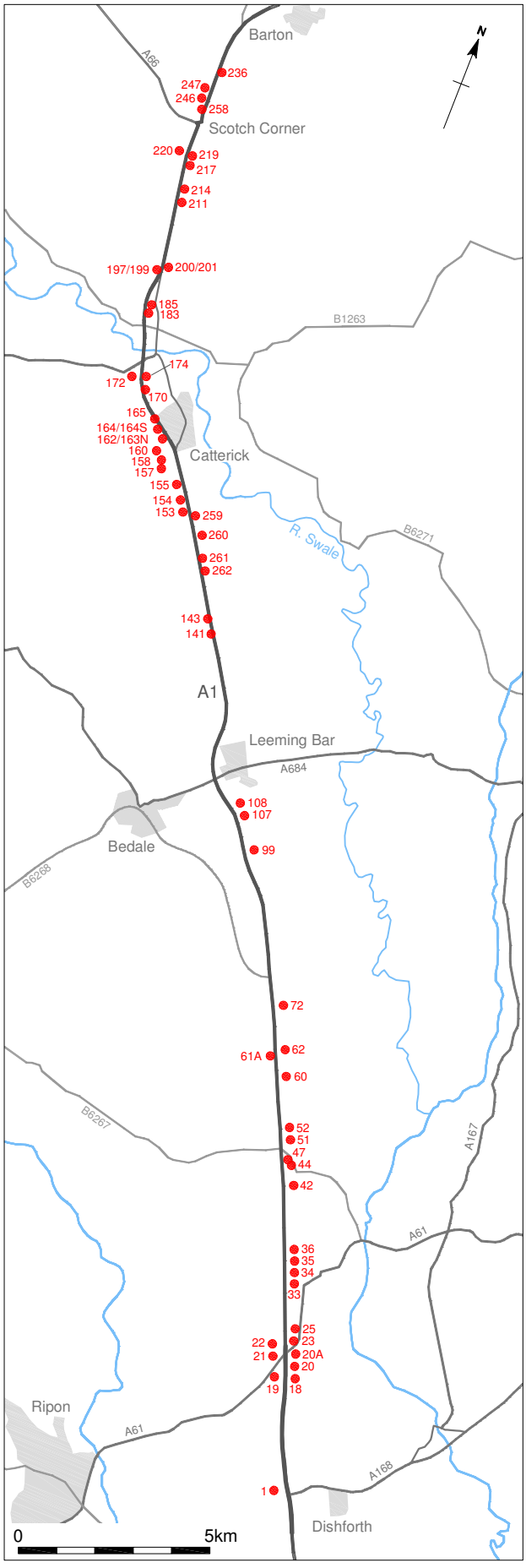

Figure 4.2: fields on the A1 schemes with pits or other 'domestic' features.

Marton in relation to Cana Barn Henge).

In the area immediately to the south-west of Rainton village, a number of finds of Bronze Age metalwork have been reported, including a flanged axe (NYCC MNY 19959), a socketed axe (MNY 19954) and two spearheads (MNY 19955 and 19960), perhaps representing a scattered hoard. It is unclear whether other records for socketed axes and spearheads to the south and west of Rainton refer to the same or additional items (MNY 35206, 35207, 35211). Other finds of flints (MNY 19965 and 33131), stone and bronze axes (MNY 19940, 19939 and 35211) extend westwards towards the A1. A possibly duplicated reference records a stone axe and bronze spearhead (complete with remains of a haft) to the north-east of Rainton village (MNY 19937/19938).

During various phases of the A1 works, flints have been recovered from a number of fields along this section of the route. In Field 1, fieldwalking in 1995 and 2005 recovered a total of 10 objects, none of which were diagnostic to period. Field 3 produced a core and flake from fieldwalking in 2005, and in Field 4 two non-diagnostic flints were recovered during topsoil stripping in 2009. Fieldwalking in 1994 in Field 5 recorded five struck flint flakes located close to the marshy area of Great Raygill Dike (on the opposite side of the A1 in Field 2), while six non-diagnostic pieces came from Field 9 in 2005. Material from Field 11 comprised, besides a blade of Mesolithic to Early Neolithic date, five non-diagnostic items. Fieldwalking in 1994 in Field 13 recorded six flint artefacts, together with another flake in Field 14. In Field 16, five flints recovered during topsoil stripping (context **815**) in 2009 included an Early Neolithic scraper and a leaf-shaped arrowhead of Green's ogival type 3B (Green 1980). This type of arrowhead was current throughout the Neolithic and continued into the Early Bronze Age.

During the construction phase of the A1 improvement scheme, the new motorway design meant that there was only limited opportunity for archaeological investigation, comprising a small area stripped at the western side of the A1 in Field 1 and a narrow strip running along the eastern side of the existing carriageway in Fields 2 and 4. As a result of these limitations, only two pits were identified on this section of the route.

Two very similar pits (**3291** and **3294**) were found 0.5m apart in the north-east of Field 1 (Fig. 4.3). The pits were on a gentle east-facing slope at 43m aOD, and were located at the head of a shallow dry valley running to the south-east. Both were filled with charcoal-rich black silty (?sooty) sand. Soil samples produced charred barley grains and a fragment of chaff, together with small quantities of hazelnut shell. Pit **3294** provided an Early Neolithic radiocarbon date of 3706–3535 calBC (hazel nutshell; 4855±35 BP, SUERC-39576) and pit **3291** contained sherds from three Early Neolithic Carinated Ware pottery vessels. Thirteen lithics were recovered from the pits' fills (**3290** and **3293**). The raw material was a light brown, translucent flint and the

Table 4.2: pits in Field 1.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
1	3291	3290	Pair with 3294	Subcircular	0.94x0.80x0.14m	Charcoal	Paired with 3294, ENeo pottery, ENeo flint
1	3294	3293	Pair with 3291	Circular	0.72x0.70x0.17m	Charcoal	ENeo flints, 3706–3535 calBC (SUERC-39576)

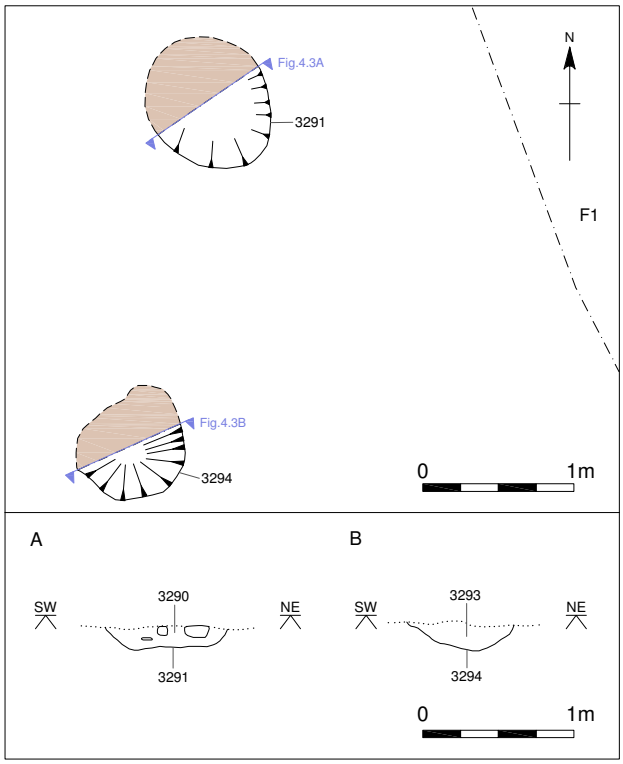

Figure 4.3: pits in Field 1.

material could conceivably have been derived from a single episode of knapping. There were two parallel sided blades, consistent with the Early Neolithic date. The nine flakes all had prepared knapping platforms with the majority having diffuse bulbs and feathered terminations. They were chronologically consistent with the blades. The two items of angular waste were not diagnostic but the raw material associated them with the rest of the collection. Each pit produced a single example of a thermally damaged flake, the remainder showing no signs of heat damage.

Baldersby Gate (Fields 18–29)

The route around Baldersby is flanked by a line of prehistoric barrows following the ridge of slightly higher ground c.1km to the west around Melmerby. A clutch of 'howe' placenames just to the east of the A1 in this area, including 'Howlamarr Field', 'Wide Howe' and 'Howefield House' suggest that these monuments formerly had a wider distribution but have been levelled on the lower-lying ground by modern agricultural regimes. There have been a number of early objects found in the area containing the barrows at Melmerby, and a stone axe-hammer of probable Bronze Age date has been found on Gallow Hill to the west of Middleton Quernhow (MNY 19904).

Fieldwalking in 1993/4 and 2005 identified a scatter of worked flints within the fields to the south and east of the A1/A61 junction in Fields 18, 19, 20, 20a (Fig. 4.4) and 23 (Dennison 1996, 7–8; Vyner 2006). Eleven flints ranging in date from later Mesolithic to Early Bronze Age date were recovered from Field 18. Apart from two Mesolithic/Early Neolithic pieces described above, the group included a finely worked knife in the plano-convex tradition based on a thick flake, measuring 39mm x 21mm x 8mm. The sides and end had been retouched with oblique pressure flaking followed by fluting of the dorsal face. This sort of artefact had particular currency in Beaker and Early Bronze Age assemblages but also occurred from the Early Neolithic.

Parts of Fields 19 and 20 produced 92 worked flints including flakes, two cores and 25 tools, together with a struck flake of 'black volcanic glass (obsidian, Arran pitchstone or similar)' (Dennison 1996, 7–8). If the identification of pitchstone was correct, this would be a significant find for the area. Arran pitchstone was exchanged across north-western Britain from Orkney to the Isle of Man and Dublin during prehistory, and is found occasionally in Cumbria. Ballin (2020, 11) has speculated that it would have been traded into Lancashire and Yorkshire, but there is currently little evidence for this.

In 2009, a denticulate, an elongated flint flake with serrations along both long edges, was found during topsoil stripping (context **844**) in Field 19. Its execution on a flake suggests a later Neolithic date (Butler 2005, 168).

To the north of the A61, small numbers of flints, including a petit tranchet arrowhead, a scraper of later Neolithic or Bronze Age date, retouched and unretouched flakes and debitage were recovered from Fields 22–25. The arrowhead from Field 22 was 21mm long, 3mm thick, 19mm wide at the tip and 6mm at the base. The petit-tranchet arrowhead form was present from at least the Early Neolithic (Green 1980, 113) and continued into the later 2nd millennium (*ibid.*, 114–15).

Further to the north in Field 28, a scraper was recovered from the subsoil (**893**). The scraper was based on a squat, thick, hard hammer-struck flake, and its morphology and semi-abrupt retouch suggested a later Neolithic or Bronze Age date.

Overall, the fieldwalking results indicated a concentration of lithics on the slightly higher ground within the fields to the south of the A61, with little material in the lower-

Figure 4.4: fieldwalking results at Baldersby Gate.

lying fields to the north and east (Field 20A).

Pits, found either individually or in small groups, were excavated in seven fields (18, 19, 20, 20A, 21–3, 25) encircling the A1/A61 junction and extending over an area measuring c.1.25km from south to north and 300m from east to west (Fig. 4.5). Some of the pits could be dated to the earlier prehistoric period, and it seems likely that many of the comparable undated features in Fields 19, 20A, 21 and 22 were also of earlier prehistoric date. In Fields 23 and 25, the pits were found among features of later Iron Age or Roman date, and some may have been contemporary with these later features; however, the presence of Middle Neolithic Impressed Ware pottery in a pit in Field 25 demonstrates that earlier features were indeed present amid this group.

To the south-east of the A1/A61 junction, pit **T21** was found at the northern edge of Field 18 during geotechnical investigations. It was filled with brown sandy silt and contained three sherds of probably Mortlake style Impressed Ware pottery of Middle Neolithic date pottery. A 2–5m wide strip examined along the western edge of the field did not identify additional features.

Pit **800** was located in Field 20 c.260m to the north of pit **T21**, and a pair of pits (**1003** and **1005**) a further 190m to the north-east in Field 20A. Above a primary fill of brown sandy silt, pit **800** contained a secondary deposit (**802**) of black silt (soot?), unidentified wood charcoal and fragments of carbonised hazelnut shell, one of which provided an Early Neolithic radiocarbon date of 3695–3523 calBC (4825±35, SUERC-39580). The only artefact was a small undiagnostic potsherd. Near-identical pits **1003** (Plate 4.1) and **1005**, which lay 1m apart, contained large amounts of wood charcoal and heat-shattered stones but no artefacts.

To the south-west of the Baldersby Gate junction, nine pits lay within the areas stripped in Field 19 for a slip-road and balancing pond (Fig. 4.6). Pit **834** lay 165m to the south of the other pits but was only 80m west of pit **T21** in Field 18. Its irregular shape suggested that it possibly represented a utilised tree-throw rather than a purpose-dug pit. Above a dark brown sandy primary silting, there was a deposit (**836**) of sand, unidentified wood charcoal, hazel nutshell and fragments of probable Neolithic pottery. The nutshell gave an Early Neolithic radiocarbon

Table 4.3: pits at Baldersby Gate.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
18	T21	T20		?	0.86m wide x 0.15m deep		MNeo
19	837	838	Pair with 839	Subcircular	0.75m diameter x 0.20m	Abundant charcoal, no finds	LNeo
19	839	840	Pair with 837	Irregular oval	0.99x0.66x0.32m	Abundant charcoal, burnt stone, no finds	LNeo by association with 837
19	853	854		Subcircular	0.70x0.50x0.20m	Abundant heat-fractured stones	Undated
19	841	842	Line of 3	Subcircular	1.2x1.0x0.07m	Black patches, heat shattered stones	Undated
19	855	856	Line of 3	Subcircular	0.42x0.32x0.15m	Flint blade	Flint – Meso/ ENeo
19	857	858	Line of 3	Oval	0.30x0.24x0.17m		Undated
19	861	862		Irregular	1.1x0.6x0.15m	Charcoal-rich, no finds	Undated
19	859	860		Subcircular	0.6x0.5x0.1m		Undated
19	834	835, 836		Irregular	1.7x1.0x0.28m	Charcoal, heat-shattered stones	ENeo
20	800	801, 802		Subcircular	0.76m diameter x0.15m	Charcoal rich, undiagnostic potsherd	ENeo
20A	1003	1002, 1006	Pair with 1005	Subcircular	0.82x0.80x0.27m	Charcoal rich, heat shattered stones, no finds	Undated
20A	1005	1004, 1007	Pair with 1003	Subcircular	0.90x0.80x0.28m	Charcoal rich, heat shattered stones, no finds	Undated
21	819	820		Subcircular	0.66x0.56x0.13m		Undated
21	823	824		Oval	0.70x0.50x0.10m	Charcoal, heat shattered stones	ENeo
21	825	826	Pair with 829	Oval	0.74x0.50x0.18m	Charcoal, heat shattered stones	ENeo by association with 829
21	829	830, 831	Pair with 825	Subcircular	1.40x1.16x0.36	Charcoal, heat shattered stones	ENeo (flints)
21	827	828		Subcircular	0.85x0.80x0.19	Charcoal, heat shattered stones	Undated
22	866	867, 868		Subcircular	0.70x0.60x0.30	Charcoal, no finds	Undated
23	1060	1059		Subcircular	0.70x0.50x0.30m	Charcoal	Undated
23	1064	1063		Circular	0.30m diam x 0.18m		Undated
23	1080	1079	Near/similar to 889	Subcircular	0.80x0.62x0.25m	Bowl-shaped, charcoal flecked	Undated
23	889	888	Near/similar to 1080	Circular	0.88m diam x 0.2m	Charcoal in fill, no finds	Undated
23	1082	1081		Circular	0.56m diam x 0.10m	Charcoally fill, no finds	Undated
23	1405	1403, 1404		Irregular	Up to 1.0m diam x 0.21m	Charcoal flecked fill, no finds	Undated
23	1433	1434	Paired with 1437	Subcircular	0.44x0.35x0.48m	Charcoally fill, no finds. Carbonised grains	Undated
23	1437	1438	Paired with 1433	Oval	0.60x0.38x0.25m	Charcoally fill, no finds	Undated

Table 4.3: pits at Baldersby Gate (continued).

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
23	1550	1549		Oval	1.60x1.02x0.42m	Burnt stone, no finds	Undated
23	1804	1803	Paired with 1806	Subcircular	0.36x0.28x0.15m	Small but with charcoal, no finds	Undated
23	1806	1805	Paired with 1804	Subcircular	0.25x0.20x0.12m	Small but with charcoal, no finds	Undated
23	1815	1813, 1814		?Subcircular	0.79x?x0.29m	Charcoal in primary fill, no finds	Undated
25	1027	1026		Oval	1.25x0.90x0.40m	No finds	Undated
25	1442	1443		Circular	1.30m diam x 0.19m	No finds	Undated
25	1482	1481, 1489		Subcircular	0.65x0.56x0.11m	Charcoal-rich primary fill, charred grain	Undated
25	1613	1614		Oval	1.27x0.68x0.24m	Charcoal in fill, no finds	Undated
25	1630	1629		Oval	1.23x0.82x0.22m	Charcoal in fill, no finds	Undated
25	1632	1631		Oval	1.06x0.82x0.18m	Black fill, no finds	Undated
25	1636	1635		Circular	0.55m diam x 0.18m	Bowl-shaped, no finds	Undated
25	1638	1639		Oval	1.10x0.85x0.25	Charcoal in fill, no finds	Undated
25	1672	1671		Circular	0.62x0.60x0.18m	Bowl-shaped, black fill, no finds	Undated
25	1686	1687	Paired with 1710	Circular	0.85x0.84x0.18m	Heat shattered stones, charcoal, Impressed Ware pottery	MNeo
25	1710	1711	Paired with 1686	Subcircular	0.70x0.68x0.40m	Heat shattered stones, no finds	MNeo by association with 1686
25	1694	1695		Subcircular	1.09x1.01x0.27m	No finds	Undated

date of 3641–3383 calBC (4770±35 BP, SUERC-39578).

The other eight pits in Field 19 were located at the north end, across an area measuring 70m by 50m. These included isolated undated features **859** and **861**. Pit **853**, located at the southern edge of the area was filled with very dark brown silty sand containing abundant heat-fractured stones. Pits **837** (Plate 4.2) and **839** (Fig. 4.6, section A) were of similar size, had charcoal-rich fills containing numerous burnt stones and lay only 0.6m apart. A small-roundwood fragment of either hazel or alder charcoal from pit **837** returned a Late Neolithic radiocarbon date of 2549–2293 calBC (fill **838**, 3920±35 BP, SUERC-39579).

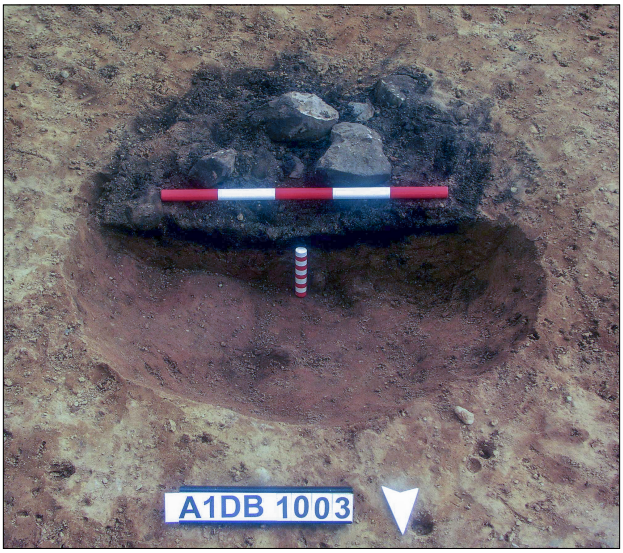

*Plate 4.1: pit **1003** half-sectioned, facing south, scales 0.5m and 0.1m.*

Some 20m to the south of these pits, there was a short line of three evenly spaced features, 11.8m long and aligned from north-east to south-west. The north-eastern feature, pit **841**, was filled with brown sandy silt containing black sooty lenses and heat-shattered stones. The other two features, **857** and **855**, were smaller but deeper, and it was possible they were postholes rather than pits (Fig. 4.6, sections B and C). The proximal end of a flint blade of Mesolithic/Early Neolithic date from pit **855** (fill **856**) may have been residual.

Three segments of a shallow, discontinuous ditch **847**/**845**/**849** crossed the northern end Field 19, curving through the north-eastern part of the balancing pond area and across the northern end of the slip-road with an overall recorded length of 30m (Fig. 4.6). The ditch was generally 0.8m wide but only survived to 0.13m deep. It

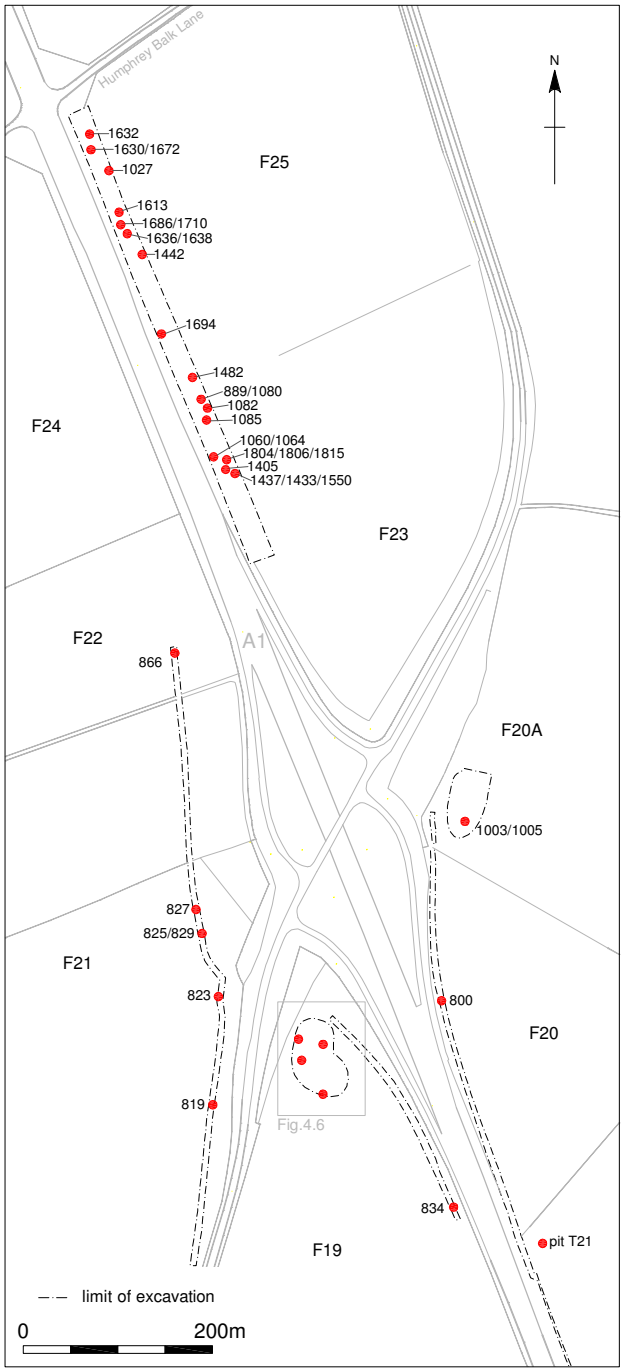

Figure 4.5: pits in Fields 18–25.

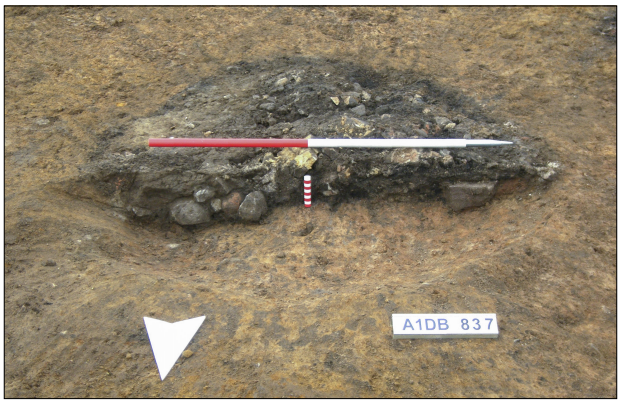

*Plate 4.2: pit **837** half-sectioned, facing south, scales 1m and 0.1m.*

was filled with stone-free grey silty sand, which did not produce finds. Although undated, this ditch was of a very different character to Iron Age and Roman features in Fields 23 and 25 just to the north, and its curving, shallow and segmented nature, together with the absence of any finds, perhaps argued for an earlier prehistoric origin. A similar (although continuous) shallow curving feature was recorded at Nosterfield Quarry, also close to, but not obviously associated with, Early Neolithic pits (Dickson and Hopkinson 2011, 74 and fig.55); at Nosterfield the ditch contained Early Neolithic pottery.

Several widely spaced pits were found in Fields 21 and 22 along the line of a narrow easement stripped for an access track. It should be noted that, despite the apparent wide spacing of these features, the narrowness of the investigated area meant that these features represented one of the densest distributions of pits per hectare seen on either motorway scheme, and denser than the overall

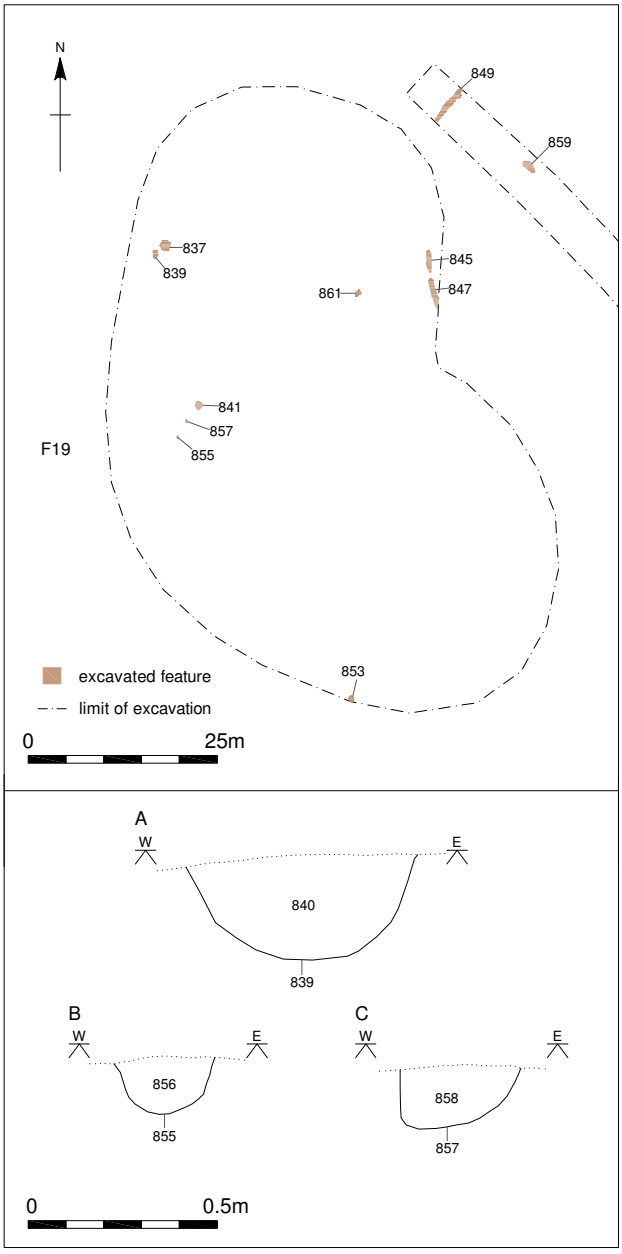

Figure 4.6: features in Field 19.

distributions at either Nosterfield or Marton-le-Moor. In Field 21, undated pit **819** was apparently isolated, as was pit **823**. This second feature contained a deposit (**824**) of heat-fractured stones in a charcoal-rich matrix of light brown silty sand containing unidentifiable wood charcoal, and fragments of charred hazel nutshell which provided an Early Neolithic radiocarbon date of 3635–3377 calBC (4730±35 BP, SUERC-39581).

Pits **825** and **829** were only 3m apart, centre to centre. Pit **825** was filled with yellowish brown sand containing heat-shattered stones and unidentified wood charcoal. Pit **829** was rather larger and had a primary fill (**830**) of heat-shattered stones in a matrix of black charcoal-rich silt (Plate 4.3) containing unidentified wood charcoal and a charred triticum glume base. The upper part of the pit was filled with light brown silty sand (**831**) containing more charcoal fragments. Six flints in this deposit were all of a translucent brown material and possibly from the same episode of knapping. There was a complete blade and a mid-section from a broken blade, both Mesolithic or Early Neolithic in date, and the well-executed flakes in comparable raw material may have been of similar date by association. None of the flints were thermally damaged.

Undated pit **827**, located 25m to the north, was filled with charcoal-flecked reddish brown sand containing numerous burnt stones. At the north end of the narrow stripped area, in Field 22, pit **866** contained flecks of charcoal, but also three very small fragments of pottery of Roman or medieval date which, given their size, may have been intrusive.

In Fields 23 and 25 at the east side of the A1 and north of the Baldersby Gate junction, a number of pits found among the features of an Iron Age and Roman settlement excavated at Humphrey Balk Lane (Ambrey *et al*. 2017a, 111–9) were considered to follow the criteria described above for possible early prehistoric pits, and could not be demonstrated to date from the later period; 12 pits in Field 23 and another 12 in Field 25 were included in this category and are listed in Table 4.3 and shown on Figure 4.5. However, the possibility remains that some of these features were of later Iron Age or Roman date.

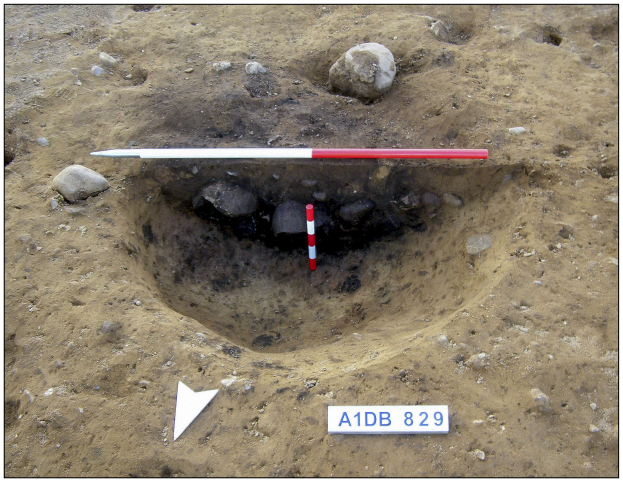

*Plate 4.3: pit **829** half-sectioned, facing south, scales 1m and 0.25m.*

The most secure early prehistoric features in the Baldersby Gate area were two pits (**1686** and **1710**) located close together in Field 25. Pit **1686** was bowl-shaped and filled with brown sandy silt (1687) containing fire-cracked stones, fragments of unidentifiable charcoal and sherds from two Neolithic Fengate style Impressed Ware vessels. The adjacent pit (1710), of similar dimensions and also filled with fire-cracked stones, was considered to be broadly contemporary.

Baldersby (Fields 30–37)

This section of the route ran between the modern villages of Baldersby and Middleton Quernhow, crossing relatively level ground at the foot of higher land to the west. A number of prehistoric finds have been made to the south of Baldersby (east of Fields 30–1), including a Neolithic stone axe (MNY19949), a bronze axe and a bronze ring (MNY 19950, 19951). Fieldwalking in advance of the A1 project recovered single struck flints from Fields 30, 34, 36 and 37. The single flint scraper from Field 36 is very unusual. Made from extremely good-quality very fine dark brown, almost black, flint, the flake has been removed by direct hard hammer percussion and is 8mm at the bulbar end. The sides have been retouched steeply and this extends around part of the proximal end. The distal end has more invasive retouch while the dorsal surface has several pressure flake scars. This piece would have suited a scraping function but given its unusual combination of retouch may have been a more novel item. The pressure flake scars suggest a date after the Mesolithic. The raw material is out of character with the rest of the assemblage and this may be an import.

No significant archaeological features were identified within the main construction corridor in Fields 30–33, but a pair of shallow subcircular pits were found in the balancing pond area in Field 33 (Fig. 4.7). Pit **4019** contained a single fill (**4020**) of dark grey silty clay with burnt stones, a large quantity of unidentified charcoal, charred cereal grains and sherds of possible Food Vessel pottery. Fragments of unidentifiable burnt animal bone provided an Early Bronze Age radiocarbon date of 2205–1981 calBC (3715±35 BP, SUERC-39832). The second, smaller, pit **4022**, located 2m to the south (centre to centre) was filled with a deposit of soot, unidentified wood charcoal, lumps of burnt clay and pebbles, but did not contain artefacts. A third, undated, pit **1161** near the southern end of the stripped corridor in Field 34 was filled with charcoal-flecked grey silty clay.

In Field 35, there were five pits and a segment of shallow curving ditch (not illustrated; c.f. ditch **847**/**845**/**849** in Field 19 above, ditch **4992** in Field 163N below, and at Nosterfield Quarry, Dickson and Hopkinson 2011, 74 and fig.55), any or all of which could have been of early prehistoric date. The southernmost feature was pit **1186**, of which only the western side was within the stripped area (not illustrated). It was rather larger

Table 4.4: pits in Fields 33–36.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
33	4019	4020	Pair with 4022	Oval	1.75x1.50x0.10	Very charcoally, burnt bone flecks, burnt stones, burnt clay, Food Vessel pottery	EBA (C14 and pottery)
33	4022	4021	Pair with 4019	Subcircular	0.6x0.5x0.13m	Charcoal, burnt clay, no finds	EBA by association with 4019
34	1161	1162		Oval	1.30x0.76x0.17m	Charcoal	Undated
35	1189	1190	Pair with 1213	Oval	2.10x1.70x0.40m	Frequent charcoal, no finds	Undated
35	1213	1214	Pair with 1189. Cut pit 1215	Subcircular	1.08x0.92x0.31m	Quern fragment	Undated
35	1215	1216	Cut by 1213	Subcircular	1.10x0.68x0.32m	No finds	Undated
35	1188	1187		Circular	1.05x1.04x0.25m	Pit possibly marked by posthole? no finds	Undated
35	1221	1220		Oval	1.75x0.80x0.21m	Frequent charcoal, hazel nutshell	Undated
36	3036	3035		Circular	0.90m diameter x 0.45m	Charcoal, animal teeth and burnt bone	Undated
36	3060			Oval	1.70x1.02x0.38m		Undated
36	3062	3063		Oval	1.60x0.69x0.60m	Some charcoal	Undated
36	3056	3055		Subcircular	0.72x0.60x0.17m	Large lens of charcoal down E side, no finds	Undated
36	3085	3086, 3087		Subcircular	0.86x0.78x0.36m	Very dark primary fill	Undated

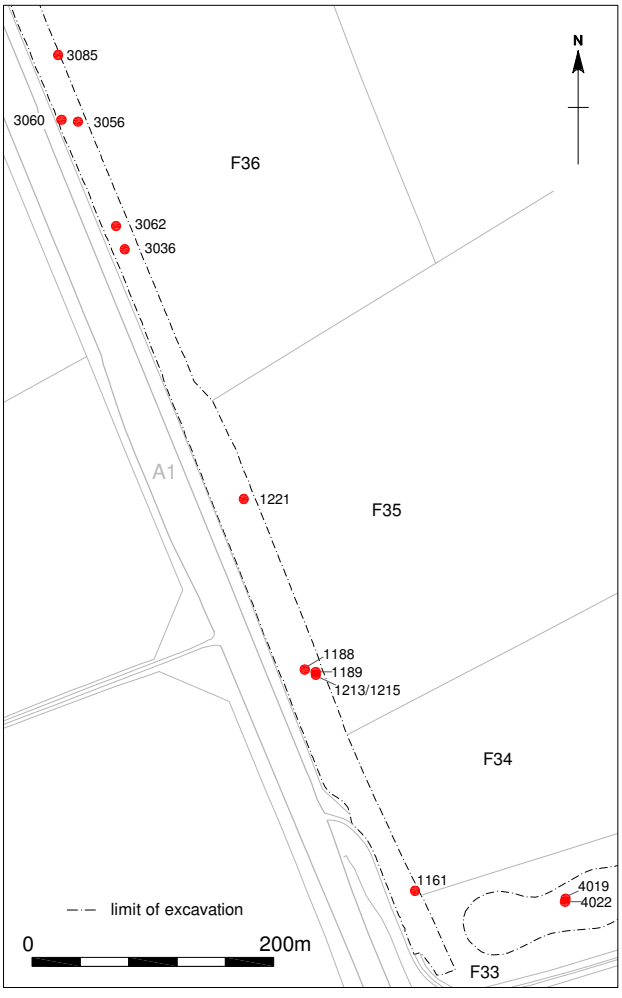

Figure 4.7: pits in Fields 33–36.

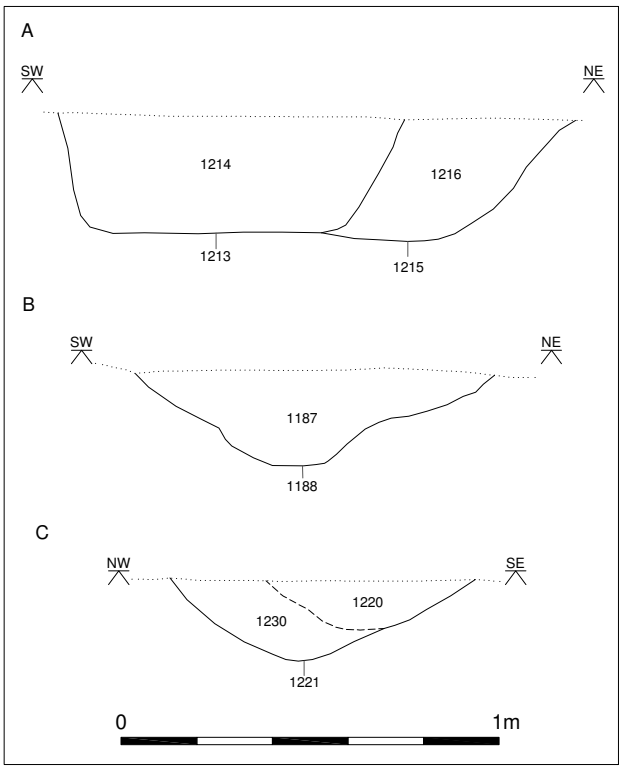

Figure 4.8: Fields 33–36 pit sections (1).

than the majority of dated early prehistoric pits but had a brown clayey silt fill flecked with unidentified wood charcoal similar to many other examples. Pits **1189** and **1213/1215** were only 3m apart (centre to centre). Pit **1189** was also quite large, measuring 2.1m by 1.7m,

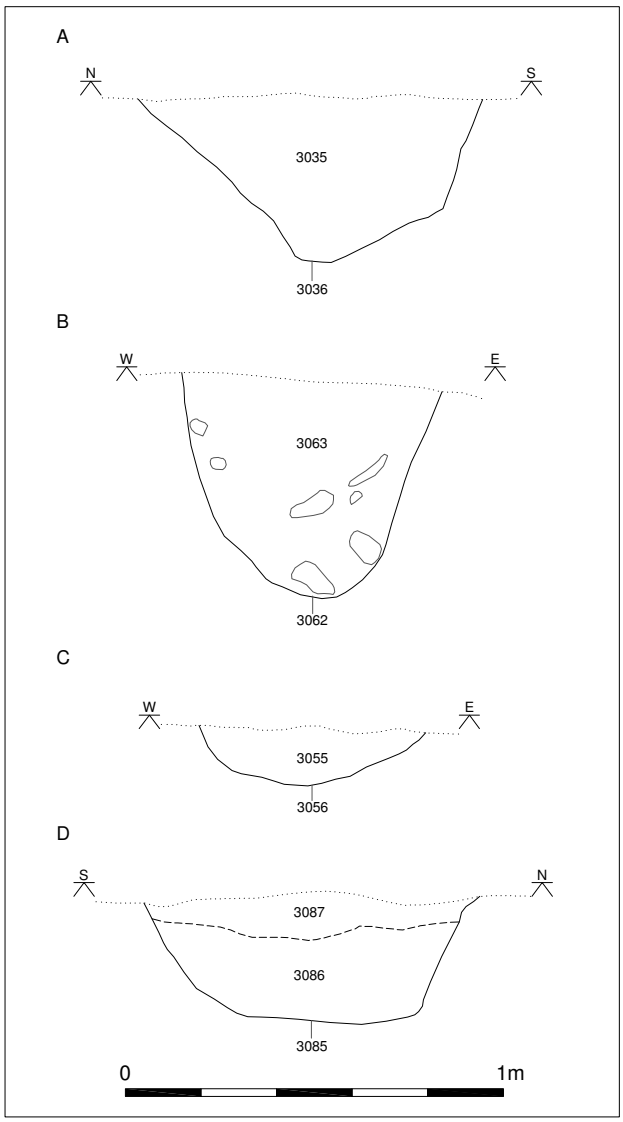

Figure 4.9: Fields 33–36 pit sections (2).

and was filled with brown silty clay containing frequent fragments of unidentified wood charcoal. The second, smaller pit **1215** appeared to have been recut as feature **1213** (Fig. 4.8, section A). Both cuts were c.1.1m in diameter and filled with brown clayey silt. Another undated pit (**1188**) located 8m to the north-west was similar in size and appearance. The base of this feature had possibly been cut by a central, deeper posthole (Fig. 4.8, section B). Another pit (**1221**) 150m to the north of this group of features contained frequent small fragments of unidentified wood charcoal and some charred hazelnut shell fragments (Fig. 4.8, section C).

The five pits in Field 36 (features **3036**, **3056**, **3060**, **3062** and **3085**; Fig. 4.9 sections A–D, **3060**, not illustrated) all contained wood charcoal and **3036** also contained fragments of animal teeth and burnt animal bone. To the north, the ground rises onto a low hill in Field 37, and no features were identified in this more exposed position.

Howe Moor (Fields 38–42)

Prehistoric finds and features were recorded along a 2.5km section of the A1 route crossing the slightly higher ground of Howe Moor. A Neolithic perforated stone axe-hammer and a bronze axe have been found on Howe Moor to the south of Ainderby Quernhow (MNY 20045 and 20046)

No early prehistoric features were recorded in Field 39, although a Bronze Age spearhead was recovered from a modern plough-furrow during the 2005 evaluation (Speed 2006d, Trench L3) (Fig. 4.10 and Plate 4.4).

In Field 40, a ring-ditch has been recorded from cropmarks at SE 3434 7956, just to the east of the motorway corridor. Fieldwalking was undertaken in 1994 along a strip at the western edge of Fields 40 and 41 (Fraser *et al*. 1994). In Field 40, 30 worked flints were recovered, comprising 24 flakes, a retouched flake and five scrapers. Twenty-one of these were concentrated across a spur of slightly higher ground near the north-eastern corner of the field (Fig. 4.10), leading to the suggestion in the Environmental Statement (Amec/McAlpine 2006) that the earthwork perhaps represented a ploughed-down barrow; however, the presence of a badger set precluded further investigation during the construction phase. There was only a sparse flint scatter across the rest of the field. Field 41 produced 16 more flints including 11 flakes (one

Plate 4.4: spearhead from Field 39.

utilised as a blade), a barbed and tanged arrowhead, an oblique arrowhead, a horseshoe scraper, a thumbnail scraper and a core. There was no obvious patterning to this material, which was broadly distributed.

Along the Howe Moor section of the A1 route, pits were only found in Field 42. In 2009, the 45m-wide construction corridor adjacent to the existing A1 and a 7.5m-wide strip for a new access track along the opposite field boundary 350m east of the A1, were investigated. From the access track, a polished Group VI Langdale stone axe was recovered from the subsoil (Fig. 4.11).

As described above, Quernhow, a large Early Bronze Age barrow containing Food Vessel cremation burials,

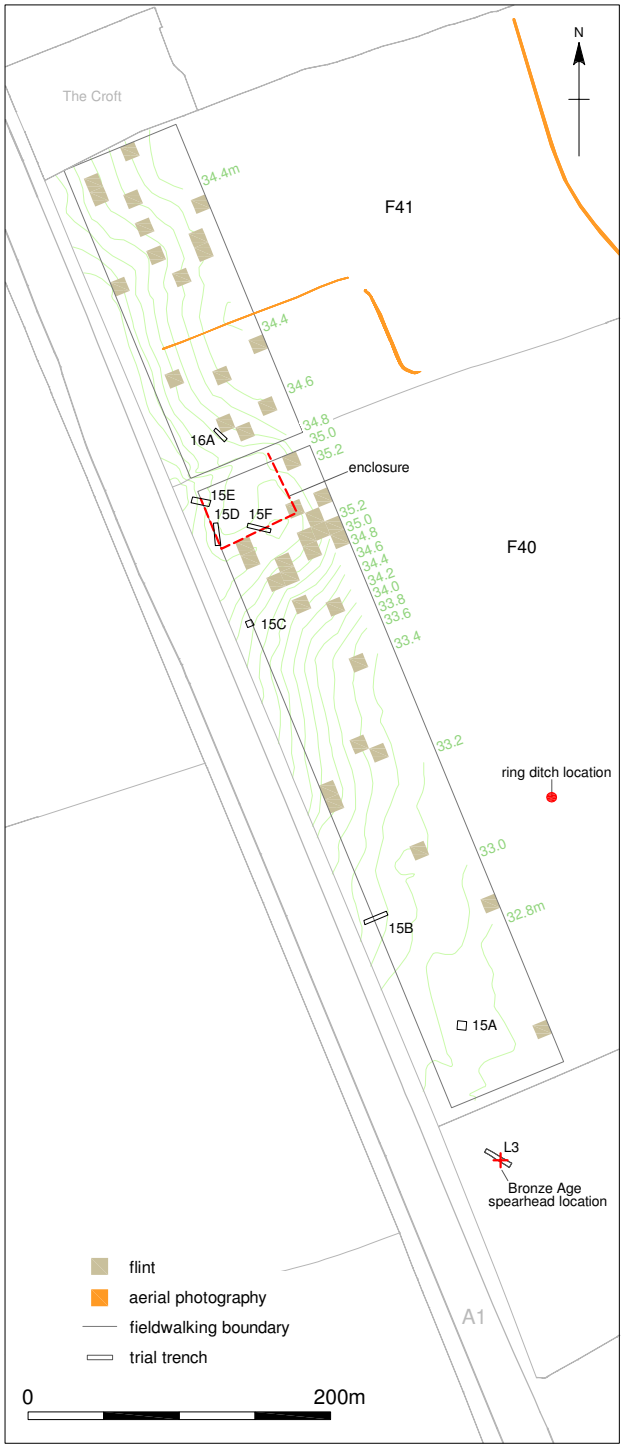

Figure 4.10: Howe Moor fieldwalking.

once stood at the western edge of Field 42 but was largely excavated during carriageway widening works in 1949; however, part of the footprint of the eastern edge once extended into the north-eastern corner of the investigated area (Fig. 4.11), although modern truncation had removed all trace of the monument.

During excavation of the central part of the monument in 1949 (Waterman 1951) several features were found cut into the original ground surface, sealed beneath the mound and possibly pre-dating the funerary use of the site. Below the centre of the barrow were two intercutting pits, one c.1.2m in diameter, the other slightly smaller, filled with heat-cracked cobbles and charcoal and hence of similar character to other Neolithic and Early Bronze Age pits recorded nearby in non-funerary locations. Due to the protection from subsequent truncation afforded by the barrow mound, Waterman was able to make the interesting observation that the charcoal deposit filling the base of the smaller pit ran up one side and out for a short distance across the adjacent contemporary ground surface. Another small pit located 2.5m to the south was included by Waterman in his 'burial complex' but could equally have been another pre-barrow feature; it was up to 0.6m across and filled with 'burnt soil containing oak charcoal' (pit 4, *ibid.*, 7). A rectangular arrangement of four large stones, one of which overlay the fill of one of the paired pits, was attributed to the first phase of the barrow activity but could equally have pre-dated it.

In addition to these features, the 2009 excavation

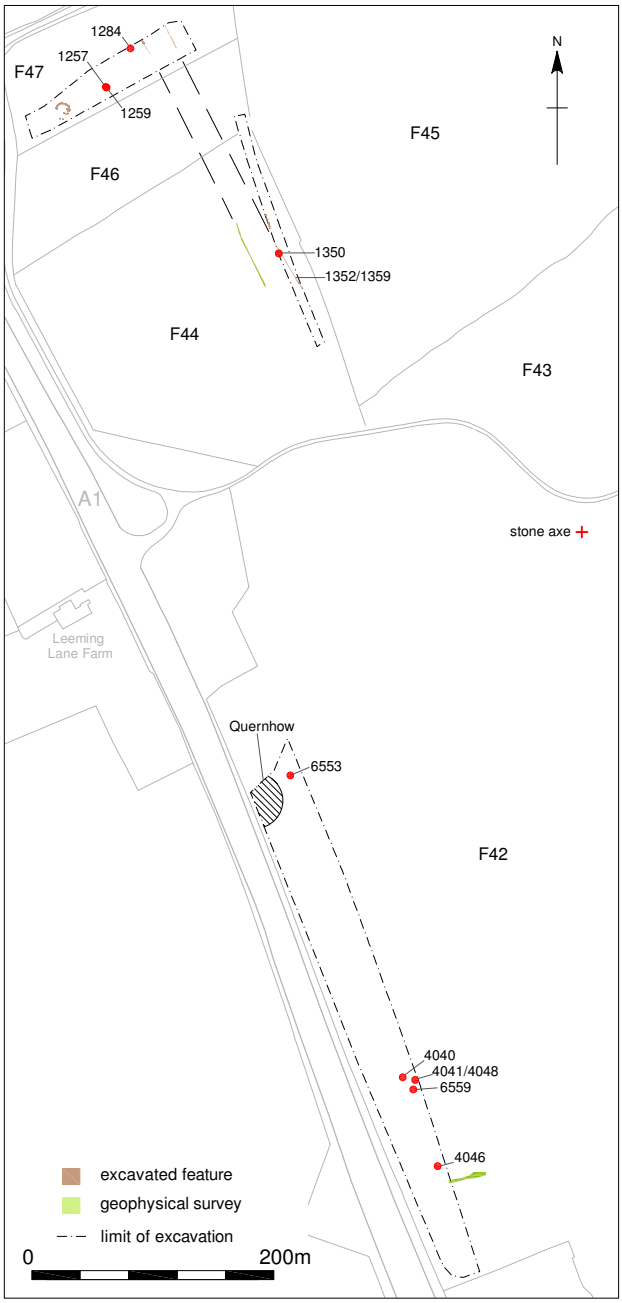

Figure 4.11: pits in Fields 42–47.

Table 4.5: pits in Field 42.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
42	4046	4045		Subcircular	1.3x1.2x0.45m	Charcoal, grains, seeds, nutshell, burnt clay	Undated
42	4040	4039		Circular	0.53m diameter x 0.15m	Charcoal, hazelnut shells, burnt stones	Undated
42	4048	4049, 6557	Cut by 4041	?	1.3m wide x 0.85m deep		ENeo (cut by pit 4041)
42	6559	4037, 4038, 6558	?Cut 4041	Oval	1.49x0.69x0.55m	Flints	Undated, ?later than 4041
42	6553	6552		Subcircular	0.85x0.70x0.20m	Largely filled with cobbles	Undated
42	4029	4030, 4031	Pair with 4032	Circular	0.81x0.80x0.33m	Beaker pottery, charcoal, hazelnut shell, heat-affected stone, flints	Chalcolithic (pottery and C14)
42	4032	4033, 4034	Pair with 4029	Circular	1.09x0.94x0.31m	Charcoal, charred grain, *prunus* fruit stone, Neolithic pottery, flint	Chalcolithic by association with 4029
42	4041	4042, 4043, [4044], 6555, 6556	Cut 4048 ?cut by 6559	Oval	2.03x1.08x0.63m	Charcoal, hazelnut shell, pottery	ENeo (pottery and C14)

identified a further eight pits in Field 42.

The feature furthest south was undated pit **4046** (Fig. 4.11), which contained a lens of wood charcoal together with charred hazelnut shell, grains and seeds.

Another group of features was located 75m to the north. Undated pit **4040** contained burnt stones, wood charcoal and charred hazelnut shells. Two more small pits, **4029** and **4032**, were located nearby (not illustrated on Fig. 4.11). Pit **4029** (Fig. 4.12, section A) had a primary fill (**4031**) of black silty sand containing burnt stones, flecks of wood charcoal, charred hazelnut shells, a lump of fired clay, and sherds of Beaker pottery. There were 35 flints, of which 26 were small preparation chips taking the form of very small flakes (between 5mm and 15mm in maximum dimension). A single larger flake had light damage along one edge consistent with use. The raw material was a consistent dark brown flint likely to be from a single parent piece. Two of the items were burnt fragments with the remainder being undiagnostic angular waste. Nutshell from deposit **4031** provided a Chalcolithic radiocarbon date of 2474–2243 calBC (3895±35 BP, SUERC-39582) consistent with the pottery. Pit **4032** (Fig. 4.12, section B) also had a similar black primary fill (**4033**) containing wood charcoal, charred grains, a fragment of *Prunus* fruit stone, two non-diagnostic flint flakes, three fragments of fired clay and sherds from two 'Neolithic' pottery vessels.

Three intercut pits (**4048**, **4041** and **6559**) were located to the east. The primary feature, **4048**, lay to the north-east. It was filled with mid-reddish-brown sandy silt (**4049**) below mid-brown silty sand (**6557**) (Fig. 4.12, section C). The pit had been heavily truncated by feature **4041**. The base of this was filled

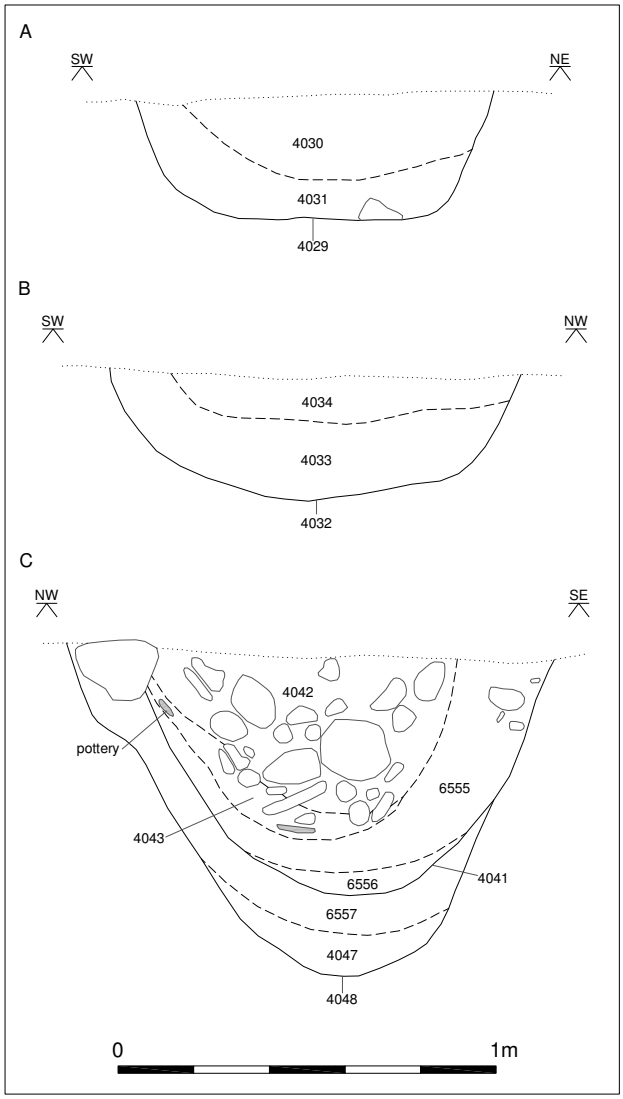

Figure 4.12: pits in Field 42, sections.

with yellowish brown sandy silt (**6556** and **6555**) below mid-yellowish brown silty sand **4043** containing unidentified wood charcoal, charred hazelnut shell, sherds from two Early Neolithic fineware vessels and a scrap of presumably intrusive 3rd-century AD Nene Valley pottery. One particularly dense concentration of pottery was recovered as a separate context (**4044**). Unidentified roundwood charcoal from deposit **4043** provided an Early Neolithic radiocarbon date of 3796–3652 calBC (4950±35 BP, SUERC-39586). The top of the pit was infilled with more yellowish brown silty sand (**4042**). Pit **6559** (not illustrated) cut through the fills of pit **4041** and contained two non-diagnostic flint flakes (fill **4038**).

At the northern end of the stripped area, immediately adjacent to the former eastern edge of Quernhow, was another undated pit (**6553**), which was filled with cobbles (Fig. 4.11).

Sinderby and Pickhill (Fields 43–59)

The Sinderby–Pickhill section of the A1 route crossed undulating ground between the floor of the Swale valley to the east and higher elevations to the west. The recently discovered Sinderby Henge (Luke 2018) is located 700m to the north-east of the A1 in Field 45, at SE 3428 8100.

A stone axe and a stone hammer are recorded as having been found at Butcher's Bar (MNY 34127/8), which was located where Sinderby Lane intersected the Great North Road; this suggests that the findspot was somewhere within Fields 47–50.

A cluster of prehistoric finds has been found in and around Sinderby village, including flint blades, scrapers and flakes from a number of locations (MNY 20186, 20192, 20193), a Bronze Age flint arrowhead at Village Farm (MNY 4125) and a perforated stone axe hammer at Sinderby Manor (MNY 20187). The findspots in Sinderby village are close to the confluence of Sikes Beck and Pickhill Beck, which join to become Howe Beck flowing to the south-east past Ainderby Quernhow and Howe to join the Swale. Upstream along the Pickhill Beck, a Neolithic stone axe has purportedly been recovered from a barrow at Pickhill, although the location of this monument is now unknown (MNY 34125/6). Other lost nearby findspots include those of another Neolithic polished stone axe (MNY 20179) and a Bronze Age stone macehead (MNY 20178).

West of Pickhill village and nearer to the A1, a number of prehistoric finds have been made in the area close to the upper part of Sikes Beck, including a flint scraper in the field east of Field 56 (MNY 20194) and a backed flint blade to the east of field 58 (MNY 34110).

To the west of Sikes Beck stands a ridge of higher ground separating it from the Healam Beck, occupied

Table 4.6: pits in Fields 44–52.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
44	1350	1351		Subcircular	0.70m diameter x 0.23m	No charcoal or finds	Undated
47	1257	1256	Pair with 1259	Circular	0.36m diameter x 0.16m	Charcoal	EBA by association with 1259
47	1259	1258, 1260	Pair with 1257	Circular	0.40m diameter x 0.11m	Charcoal, pottery – Collared Urn	EBA (pottery)
47	1284	1285		Subcircular	0.75 diameter x 0.26m	Filled with heat-cracked stones, charcoal	Undated
51	2006	2007		Oval	0.82x0.35x0.28m	Charcoal rich, heat-shattered stones, no finds	Undated
51	2001	2003	Intercut with 2002, grouped with 2004	Subcircular	0.3m diameter x 0.1m	No finds	Undated
51	2002	2003	Intercut with 2001, grouped with 2004	Oval	0.4x0.25x0.05m	No finds	Undated
51	2004	2005	Grouped with 2001 and 2002	Subcircular	0.4m diameter x 0.17m	No finds	Undated
51	2008	2009		Subcircular	0.45m diameter x 0.16m	Charcoal rich, no finds	Undated
52	2048	2049	Pair with 2052	Subcircular	1.15x0.90x0.16m	Rich in charcoal and heat-shattered stone, no finds	Undated
52	2052	2050, 2051	Pair with 2048	Oval	1.1x0.56x0.19m	Rich in charcoal and heat-shattered stone, no finds	Undated

by Healam House and formerly by Roxby House, and crossed from south to north by the modern A1. Finds from the ridge include a perforated stone axe from Field 58 at SE 3290 8245 (MNY 20190), and a polished flint axe from Field 59 at the west side of the A1 (MNY 34051), overlooking Healam Beck.

Below the confluence of Pickhill Beck and Healam Beck, pieces including flint blades, scrapers and flakes have been found near Swainby (MNY 20301, 20302, and 32909), with a chert core (MNY 20298) and a polished Neolithic axe (MNY 6154) found uphill closer to the A1 in the same area.

No significant archaeological features were identified in Fields 43, 45, 46 and 46A within the loop of the Sinderby Lane A1 junction (Fig. 4.11). However, an undated pit (**1350**) recorded during stripping of an access road along the eastern edge of Field 44 was of a size and form consistent with an earlier prehistoric feature but contained no artefacts, charcoal or other diagnostic material. Nearby features including a ditch and other pits were considered to be of later date.

The majority of the features recorded in Field 47 related to two areas of Iron Age activity (Ambrey *et al*. 2017a, 14–17); however, between the areas there was a pair of pits of probable Early Bronze Age date and a third, discrete pit also considered of likely earlier prehistoric date (Fig. 4.11).

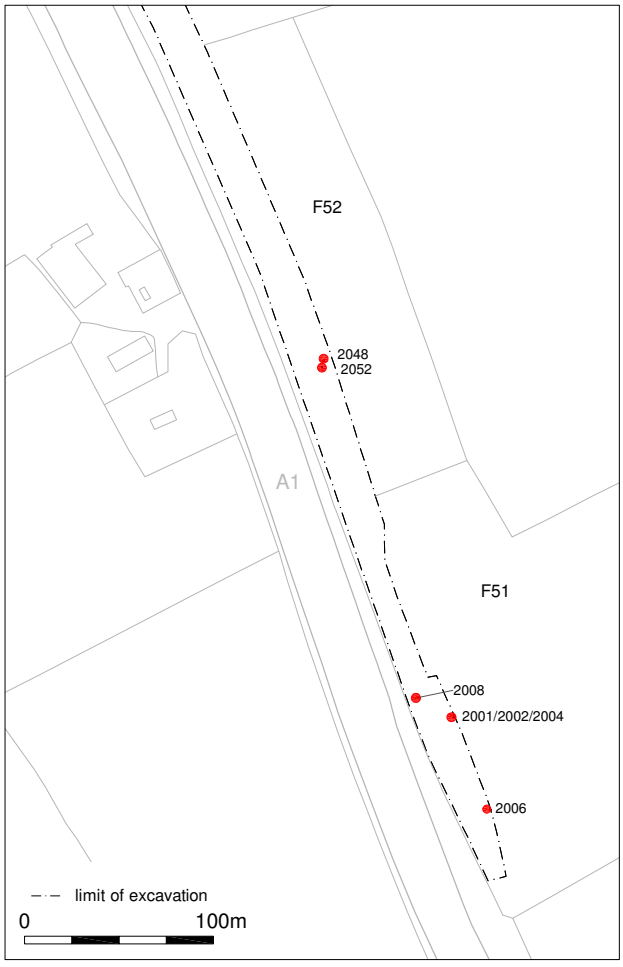

Figure 4.13: pits in Fields 51 and 52.

The pit-pair was located on a slight east-facing slope on the edge of a shallow natural gully. Pit **1259** had steep sides and a flat base. The black sandy silt fill (**1258**) contained frequent charcoal fragments and sherds from a small Collared Urn of Early Bronze Age date. The second pit (**1257**), which lay 0.37m to the north-west, had a similar size and fill but did not contain finds. Pit **1284**, which was undated, lay 40m to the north-east. It had a primary fill of orange brown silty sand overlain by black silt and heat-cracked cobbles.

No archaeological features were identified in Fields 48, 49, 50 and 54, but within Fields 51 and 52, four dispersed pits (**2006**, **2008**, **2048** and **2052**) and a group of three small pits or postholes (**2001**, **2002** and **2004**) were recorded, the former containing charcoal-rich fills and heat-shattered stones. Pit **2052** contained carbonised cereal grains.

Healam Bridge (Fields 60–72)

The A1 scheme route around Healam Bridge comprised the fields to the south and north of Healam Beck. The area was fairly level except in the immediate vicinity of the beck where the fields sloped down to a narrow floodplain containing alluvial peat deposits (O'Brien *et al*. 2017). The route of the new A1(M) in this area runs to the east of the former A1(T) in order to avoid the core of the Healam Bridge Roman settlement. This meant that relatively large areas were investigated in some of the fields, although the presence of extensive Roman archaeology potentially served to mask any earlier features.

There is a record of 'much flint' having been noted to the east of field 60 (MNY 34120) and a flint blade and flake recovered (MNY 20191). The base of what may be a truncated prehistoric cairn has been recorded at the eastern end of Field 60 (MNY 36025) at Pasture Farm.

The only secure evidence from the successive phases of A1 works for earlier prehistoric activity in Fields 60–72 comprised assemblages of worked flints from fieldwalking, augmented by residual material found in Roman settlement (Ambrey *et al*. 2017a, 28–106). Palynological evidence suggests that the area was primarily woodland throughout the early prehistoric period, with occasional small clearances from the later Neolithic through to the Early Iron Age when more widespread clearance occurred (O'Brien *et al*. 2017).

Fieldwalking in 1994 examined large areas of Fields 61, 61A and 63A. In Field 61 only three lithic items were recovered. Rather more lithic material came from Fields 61A (17 pieces) and 63A (18 pieces). Most of the material was located on slightly higher ground a short distance from Healam Beck, although this can perhaps be explained to some extent by the known presence of extensive alluvial deposits on the fringes of the beck, which may have obscured the presence of stream-side material (Fig. 2.4). Much of the fieldwalking material was diagnostically Mesolithic/Early Neolithic and has been described above.

Table 4.7: pits at Healam Bridge, Fields 60–72.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
60	2104	2105	Pair with 2108	Oval	1.16x0.54x0.13m	Rich in charcoal, burnt clay and stones, no finds	
60	2108	2109	Pair with 2104	Subcircular	0.62m diameter x 0.1m	Rich in charcoal and fire-cracked stones, no finds	Early medieval C14 date
61A	8150	8151	Pair with 8152	Subcircular	0.38x0.35x0.12m	No finds	Undated
61A	8152	8153	Pair with 8150	Subcircular	0.24x0.2x0.12m	No finds	Undated
62	2366	2364, 2365		Oval	1.26x1.9x0.38m	Charcoal in fill 2364, no finds, charred grain, charcoal, some roundwood	Undated
62	2389	2390, 2391, 2396		Oval	1.46x0.9x0.24m	Cut by Roman ditch, fired clay in top fill 2390	Undated
62	2643	2644		Subcircular	1.2x1.1x0.31m	No finds	Undated
72	1504	1503		?Oval	>0.86x0.67x0.23m	No finds	Undated
72	1505	1507	Cut 1506	Oval	0.8x0.75x0.30m	No finds	Undated
72	1506	1508		Crescent-shaped	>1.4x0.3x0.15m	No finds	Undated
72	1509	1510		Oval	1.9x0.48x0.2m	No finds	Undated
72	1512	1511		Subcircular	0.35x0.22x0.15m	Charcoal flecked	Undated
72	1514	1513		Oval	0.24 wide x 0.13m deep	No finds	Undated
72	1516	1515		Subcircular	0.24m diameter x 0.17m deep	No finds	Undated

The extensive A1 scheme excavations at Healam Bridge produced residual flints from Fields 61A (18 flints), 62 (26 flints), 63 (31 flints) and 64 (five flints), ranging in date from the Mesolithic to Early Bronze Age, and showing a broadly similar distribution to the fieldwalked material.

Apart from the Mesolithic pieces, other diagnostic residual items in Field 61A included a scraper (**8498**) of later Neolithic or Early Bronze Age date, and a very small thumbnail scraper (**8255**) characteristic of the Early Bronze Age.

In Field 62, the flake technology tended to be typical of a hard hammer struck assemblage with flat knapping platforms and pronounced bulbs of percussion dominating. The raw materials were more variable with a range of shades of brown, toffee and red-brown flint, possibly indicating later prehistoric knapping that was less specialised and which made use of locally available resources (Young and Humphrey 1999). Apart from the two Mesolithic/Early Neolithic blades noted above, two items were of note. An invasively retouched flake (pit fill 2378) was consistent with a later Neolithic or Early Bronze Age date. A borer from context 2589 was less diagnostic. An elongated pebble of fine-grained stone (pit fill 2714) had some damage at one end and may been a hammer or grinding stone.

In Field 63, apart from five blades of likely Mesolithic/Early Neolithic date noted above, and a probably later Bronze Age scraper, the material was generally non-diagnostic. Flakes were of a variety of shades of flint as noted for Field 62, and where knapping platforms were present there was an even split between well-prepared complex types and flat types, suggesting multi-period knapping.

Excavations in Field 64 produced only five residual worked flints, including a single blade and a flake fragment along with a pair of tools. Roman ditch fill **7223** produced an end scraper with semi-abrupt retouch, of an indistinct style with a broad date range from the Neolithic to Early Bronze Age. Another ditch fill (**6883**) contained a robust blade (in two fragments) with abrupt retouch along one side and semi-invasive retouch along the other. The item had a concave profile and might be classified as a simple knife of the Neolithic or Early Bronze Age.

No demonstrably prehistoric features were identified in Fields 60–72. Two small pits (**2104** and **2108**) located close together near the northern edge of Field 60 (Fig. 4.14A) had a form and filling suggestive of an earlier prehistoric origin; however, one of the features returned an early medieval radiocarbon date, and they have therefore been described elsewhere (Ambrey *et al.* 2017a, 125–6). A number of pits in Fields 61A and 62

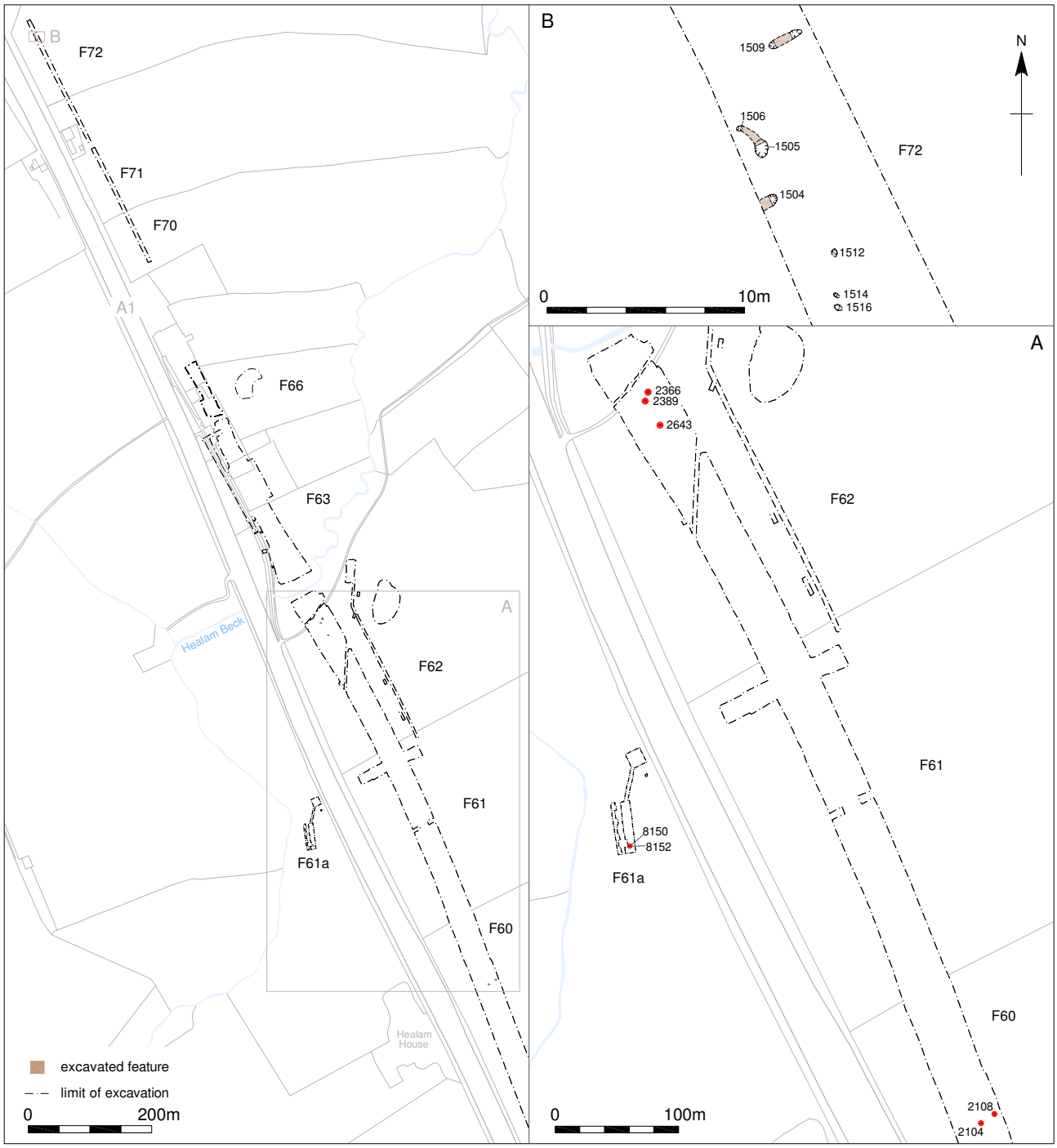

Figure 4.14: pits in Fields 60–72.

were undated and, although presumed during excavation to be of Roman date, it is possible they could have dated from earlier activity. No evidence for prehistoric activity was observed in Fields 65–71. In Field 72, a piece of debitage retouched to form a scraper was recovered by fieldwalking, along with a flint flake from topsoil stripping in 2009 (context **904**). A 6m-wide sample strip was monitored in Field 72 and seven pits were identified over 14.2m (Fig. 4.14B). It should be noted that these features were located well to the north of the known extent of the Healam Bridge Roman settlement. The features included three small subcircular pits or postholes (**1512**, **1514** and **1516**), two larger pits (**1504** and **1505**), and two elongated oval pits (**1506**, and **1509**). Pit **1512** had a charcoal-flecked fill. No dating evidence was recovered from any of the features.

Street House and Theakston (Fields 73–88)

To the north of Healam Bridge, the A1 route passed along a ridge of slightly higher, undulating ground at an average height of c.44m aOD. The nearest watercourses to the east and west run broadly parallel to the road at some distance away. Perhaps in consequence, the Historic Environment Record does not record any prehistoric finds within the study area in this area, and no evidence for earlier prehistoric activity was identified works for the A1 in Fields 73–4, 76–86 and 88. Struck flint cores were noted by the geophysical surveyors in Field 83 (SE 3105

8610), and fieldwalking a short distance to the north in Field 87 in 2005 recovered two worked flints: a utilised flake and a blade.

Londonderry (Fields 89–105)

As it approaches Bedale Beck at Leeming, the modern A1 Leeming Bypass diverges westwards from the historic line of Dere Street (Leeming Lane) and crosses an area of slightly lower ground. The relatively level nature of the landscape in this area is indicated by the presence of RAF Leeming to the east. The route is flanked on the west by Burtree Dyke (now canalised along field boundaries), a tributary of Bedale Beck flowing from south to north (Fig. 4.15). This stream appears to have been a focus of activity in later periods (Ambrey *et al*. 2017a, 23; Ross and Speed 2019, 168–9).

No previous early prehistoric material has been recorded along this part of the route other than a stone axe found at Floodbridge Farm (MNY 24152) close to the Old Stell, another tributary stream of Bedale Beck to the west of the A1.

The near-absence of early material along this part of the A1 scheme was, in general, reflected by the results of monitoring during soil-stripping. However,

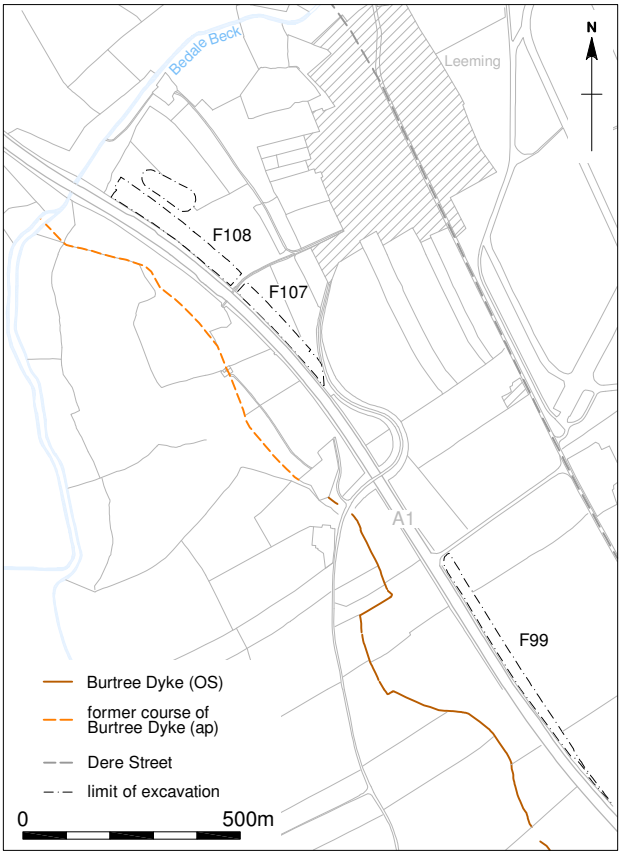

Figure 4.15: Fields 99, 107 and 108 in relation to Burtree Dyke.

in Field 99, a series of pits was identified interspersed among ditches forming part of an Iron Age enclosure system (Ambrey et al. 2017a, 21–2). The pits were concentrated on slightly higher ground overlooking

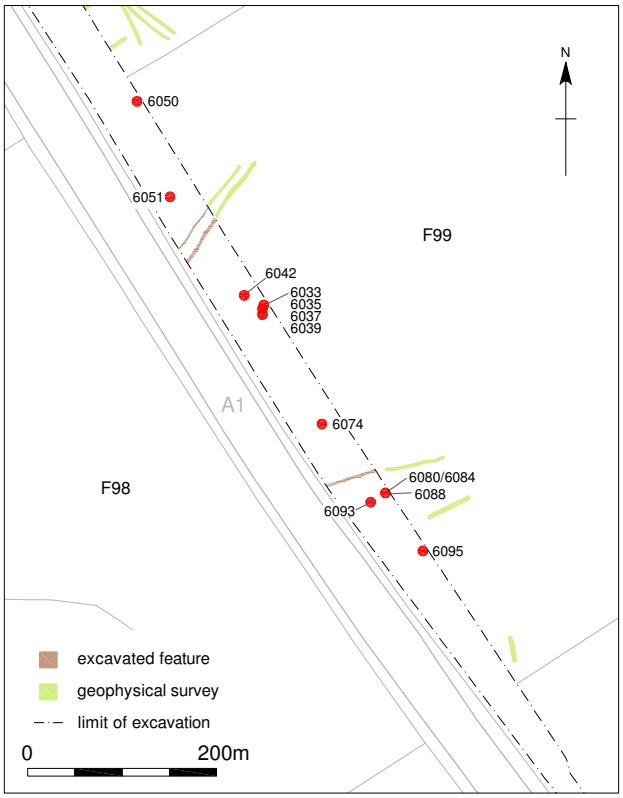

Figure 4.16: pits in Field 99.

Burtree Dyke (Fig. 4.16).

The southern feature, pit **6095**, contained fire-cracked stones and charcoal. To the north-west lay a group of four discrete features. Feature **6088** was very small, truncated and disturbed by a modern land-drain, but it had a black sandy silt fill similar to some of the material in nearby features and possibly represented the remnants of an early prehistoric pit. A pair of closely spaced pits lay immediately to the north. Pit **6080** had three distinct fills. The primary deposit **6083** consisted of light greyish brown silty sand containing frequent pebbles. Above this was a lens of black sandy silt **6082** containing quantities of burnt stone, charcoal, charred hazelnut shells and grain. The upper central part of the feature was infilled with mid-brown clayey silt (**6081**) flecked with charcoal. The second pit **6084** was rather larger, but had a very similar filling sequence, with relatively sterile primary and upper fills (**6085** and **6087**), with a secondary fill (**6086**) of burnt material including burnt stone, charcoal, small fragments of fired clay, charred hazelnut shells and grain, and a single flint flake. Nutshell provided an Early Neolithic radiocarbon date of 3693–3522 calBC (4820±35 BP, SUERC-39618). The fourth pit, **6093**, lay 8m to the southwest and also produced quantities of heat-cracked stones, charcoal, charred nutshells and cereal grains and three flint flakes and small fragments of tempered fired clay in fill **6094**. Pit **6074**, located 50m to the north-west, had been badly disturbed, but contained some charcoal and small fragments of fired clay.

Pit **6051** was a large, elongated feature (Plate 4.5). The

Table 4.8: pits in Field 99.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
99	6095	6096, 6099		Subcircular	c.0.55 diameter x 0.32m	Charcoal, fire-cracked stones	Undated
99	6093	6094		Subcircular	0.7 diameter x 0.10m	Charcoal, heat cracked stones, hazelnut, cereals	Undated
99	6080	6081, 6082, 6083	Pair with 6084	Subcircular	0.32 diameter x 0.08m	Charcoal, burnt stones, hazelnuts, cereals	ENeo by association with 6084
99	6084	6085, 6086, 6087	Pair with 6080	Circular	0.7 diameter x 0.14m	Charcoal, burnt stones, fired clay, hazelnut, cereals	ENeo (C14)
99	6074	6075		Circular	0.4 diameter x 0.07m	Charcoal, large pieces of fired clay, ?badly disturbed hearth	Undated
99	6051	6068 6067 6052		Irregular (see below)	4.65x1.32x0.54m	Pottery – ?Beaker	Chalcolithic (pottery)
99	6050	6049		Circular	0.8 diameter x 0.25m	No charcoal or finds	Undated

*Plate 4.5: pit **6051** during excavation, facing west.*

shallower 'tail' running to the north-east did not produce finds. The wider 'head' to the south-west contained three distinct fills. A primary fill (**6068**) of brownish grey sandy silt containing some stones and charcoal fragments was covered by a deposit (**6067**) of orange-brown silty sand. The upper fill (**6052**) consisted of cobbles (some large) in a matrix of brownish grey clayey sand and contained small fragments of fired clay, charcoal fragments, charred remains of onion couch grass, and a single sherd of probable Beaker pottery. Pit **6050** near the northern edge of the field did not produce any cultural debris.

Leeming (Fields 106–120)

The A1 scheme crossed the lower-lying ground to either side of Bedale Beck to the west of Leeming. To the north of the beck, 'Hunger Barrows' (MNY 25779) and 'Standing Stone Field' (MNY 25789), both located at Sand Hill Farm just to the north of Aiskew, are suggestive

of former monuments. The name Standing Stone Field has been recorded repeatedly since 1595 (Golder Associates 2006, site 72). A Bronze Age stone hammer has been found nearby at Warwick House Farm (MNY 24151).

Apart from a residual flint blade of Mesolithic or Early Neolithic date found in Field 112 (noted above), the only lithic items found during the A1 scheme along this part of the route were a large flint blade of probably Early Neolithic date from topsoil stripping in Field 108 (context **1945**), and a flint flake from the topsoil in Field 112b (context **4005**).

No definite earlier prehistoric features were identified, although nine undated small pits interspersed among later features in Fields 107 and 108 could have been of earlier prehistoric date. In Field 107 they were distinguished by an absence of residues from Early Iron Age ironworking, which was ubiquitous in surrounding contexts.

The pits in Fields 107 and 108 were found amidst medieval settlement and agricultural features (Ross and Speed 2019). None contained any artefacts and could not be dated, although in several cases they had been truncated by medieval or post-medieval features.

The three undated pits in Field 107 (**1981**, **1983** and **1985**) lay near the centre of the stripped area in a closely spaced group (Fig. 4.17A). All three were filled with charcoal-free mid-brownish grey stone-free sand. A very similar group of three closely spaced pits (**4331**, **4333** and **4335**) was located at the north-western side of Field 108 close to the Bedale Beck (Fig. 4.17B). This location on the floodplain was reflected in the pit fills which consisted of charcoal-flecked bluish grey and orange silty clay. In both cases, the largest pit (**1981** and **4331**) was at the south or south-east side of the group. The other pits in Field 108 (**4195**, **4220** and **4226**) were each filled with mid-brownish grey sand or silty sand, in the case of **4195** was flecked with charcoal.

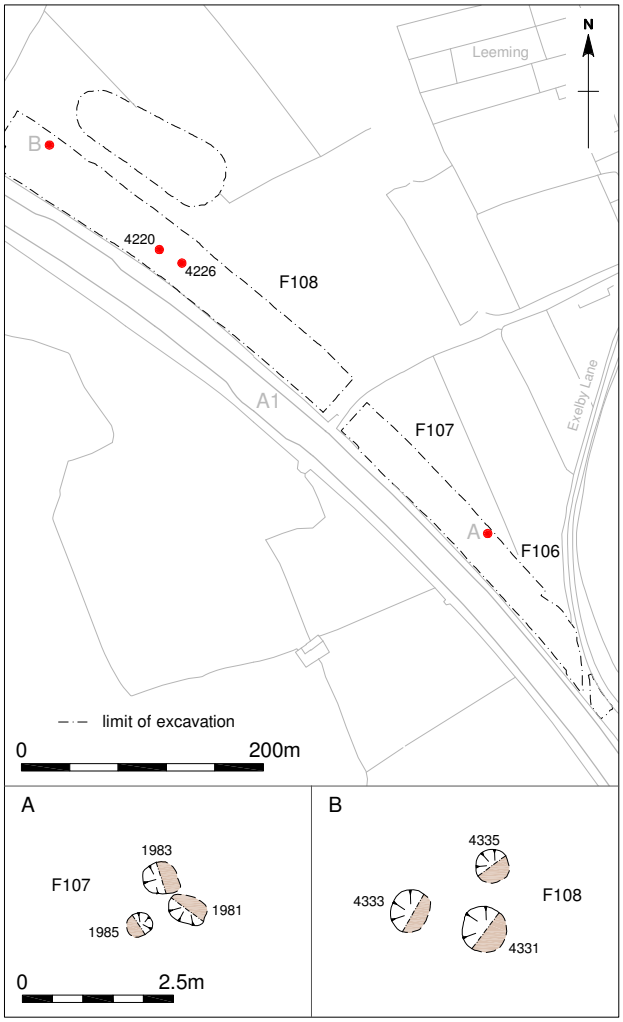

Figure 4.17: pits in Fields 107 and 108.

Table 4.9: pits in Fields 107 and 108.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
107	1981	1982	Pair with 1983	Oval	0.64x0.45x0.12m	No slag in fill, stone free – ?not associated with nearby features	Undated
107	1983	1984	Pair with 1981	Subcircular	0.58x0.44x0.09m	As 1981	Undated
107	1985	1986	Near preceding pair	Circular	0.47 diameter x 0.15m	As 1981	Undated
108	4195	4196		Subcircular	0.68x0.58x0.27m	Charcoal flecked fill, bowl-shaped profile, no finds	Undated
108	4226	4227		Circular	1.50 diameter x 0.16m	No finds	Undated
108	4220	4221		?Subcircular	1.24 diameter x 0.35m	No finds	Undated
108	4331	4332		Circular	0.70 diameter x 0.40m	Charcoal flecked fill, no finds	Undated
108	4333	4334		Circular	0.60 diameter x 0.07m	Charcoal flecked fill, no finds	Undated
108	4335	4336		Circular	0.60 diameter x 0.20m	Charcoal flecked fill, no finds	Undated

The Leeming Moraine (Fields 121–149)

Immediately to the north of Leeming Bar, the A1 rises rapidly to run along the crest of a distinct ridge of higher ground, the Leeming Moraine (Bridgland *et al*. 2011, 32–3 and fig. 2.11), passing west of the summit at Carr Hill. Directly east of a small hill called High Goskins (Field 149), the road descends to slightly lower ground past Killerby. The southern part of the route was formerly flanked to the west by an extensive wetland area called Crakehall Ings (*ibid*.; Chatterton 2005, fig. 3.20), while the River Swale is c.2km to the east.

As noted in Section 2, the Leeming Moraine appears to have been a centre of activity during the Early Mesolithic. Fieldwalking and trial trenching for the A1 scheme produced little Neolithic or Early Bronze Age material. A few flints of this period were distinguishable from the predominantly Mesolithic assemblage from Fields 132 and 133 (Little Holtby). Elsewhere, a total of 13 flints were recovered from widespread locations in Fields 136, 137, 138, 139, 145 and 148. In addition, Chatterton's research in fields around Little Holtby (2005, 136–60) apparently recovered Neolithic and Bronze Age material; however, since the work was focused upon Mesolithic material this later material was unfortunately not described in the resulting thesis. A sherd of 'prehistoric pottery' was recovered a short distance to the west of the A1 corridor in Field 133 by fieldwalking in 1994 (Dennison 1996, 6).

Other than some lithic material of uncertain Mesolithic/Early Neolithic date at Little Holtby (Fields 132 and 133; Vyner 2006, 15), no Neolithic or Bronze Age lithic material or pits were found in the fields south of Field 141.

Three pits were found in Field 141, a pair of intercutting features (**7107** and **7109**) in the centre of the field and another (**6122**) towards its northern edge (Fig. 4.18). Pits **7107** and **7109** only slightly intercut and the relationship between them could not be determined. Pit **7107** was filled with light brown clayey silt (**7106**), which contained several large stones, charred hazelnut shell, a sherd of Early Neolithic Carinated Bowl, a flint flake and three fragments of debitage. Pit **7109**, which was larger and more irregularly shaped, lay to the north-west. The single fill (**7108**) of very dark brown clayey silt contained fragments of charcoal, two unidentifiable fragments of bone, two more Carinated Bowl sherds and a flint flake, three fragments of debitage and a possible retouched knife of likely Neolithic date. The flint from the two pits was very similar in character and conceivably derived from a single knapping episode. Pit **6122** contained two fills, a primary deposit (**6124**) of yellow-grey clayey silt containing some oak charcoal, and a similar upper fill (**6123**) containing large lumps of oak charcoal.

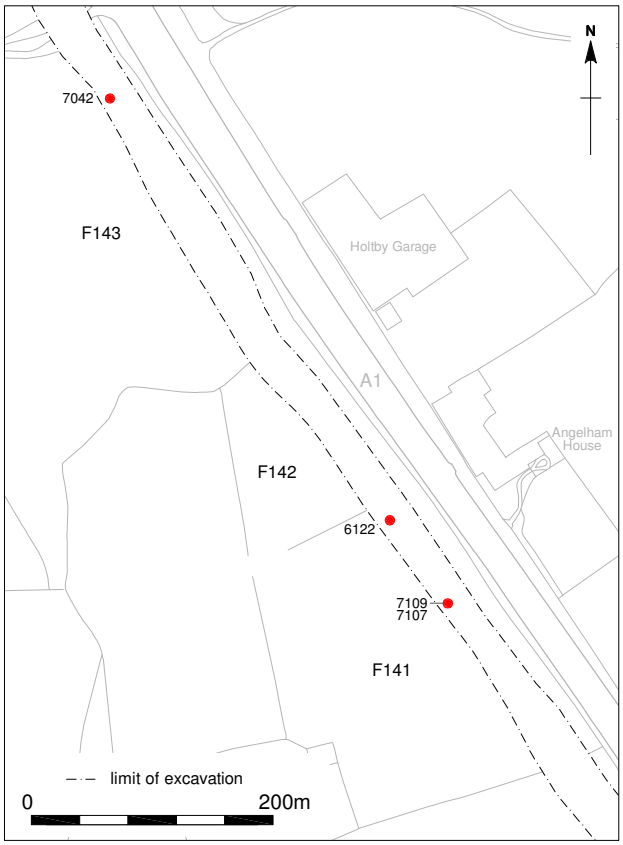

Figure 4.18: pits in Fields 141 and 143.

A single pit (**7042**) was found at the north end of Field 143. Since it was close to the complex of Late Bronze Age features, including many pits, found in Field 145, it has previously been published elsewhere (Speed *et al*. 2018a, 35). However, the pit was not dated and, given its relative isolation away from the other features, its location could have been coincidental. Pit **7042** contained a single deposit of dark greyish brown sandy silt (**7043**), which contained fragments of oak, hazel, poplar/willow

Table 4.10: pits in Fields 141 and 143.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
141	7107	7106	Pair with 7109	Subcircular	0.4–0.55x0.11m	Carinated bowl pottery, flints, nutshell	ENeo
141	7109	7108	Pair with 7107	Irregular	0.65–1.25x0.15m	Carinated bowl, flints, bone fragments charcoal	ENeo
141	6122	6123, 6124		Irregular oval	1.23x0.60x0.34m	Charcoal in both fills	Undated
143	7042	7043		Circular	0.54–0.60x0.34m	Charcoal, hand-built potsherd, unidentifiable bone fragments	Undated

and rose charcoal, unidentifiable calcined bone and an undiagnostic hand-built potsherd.

Features recorded to the north of Bowbridge Lane in Field 145 were all considered to be associated with a Late Bronze Age funerary complex, which has been published elsewhere (Speed *et al*. 2018a, 31–8), or an Early Iron Age enclosure (below, Section 5). However, a number of earlier artefacts were found residually within these features and associated deposits. The fragmentary and quite dispersed pottery assemblage included two sherds considered most likely to be of Early Bronze Age date (Cumberpatch and Gibson 2018, table 7.1). A quite varied assemblage of 22 knapped lithics included material of Mesolithic/Early Neolithic to Bronze Age date, and only one item could be suggested to be of Late Bronze Age date and therefore potentially contemporary with the excavated features (Foulds 2018, 559). Apart from three bladelets of Mesolithic/Early Neolithic date, the remaining material included a fragment from what may have been an Early Neolithic leaf-shaped arrowhead, four pieces of debitage, 11 non-diagnostic flakes, a small chert thumbnail scraper of either Mesolithic (probably) or Bronze Age date, another scraper of probably Bronze Age date, and a core fragment of possibly later prehistoric date. The presence of the residual material suggested a long-standing interest throughout prehistory at a prominent location on high ground with wide views (Speed *et al*. 2018a, 31).

Killerby (Fields 150–154, 259–262)

The A1 passes off the Leeming Moraine into lower-lying land flanked to the west by higher ground occupied by Sowber Hill Farm and to the east by a low ridge called Pike Hill, and which features a series of peat-filled basins (Bridgland *et al*. 2011, 32), understood to most likely be former ponds formed in glacial kettle holes (Plate 4.6).

Skirting to the east of a small hill called High Goskins, the A1 passes a former peat-filled hollow in Field 262. A new local access road in Field 262 crossed this wetland area and then ran northwards parallel to the A1 (Fig. 4.19), passing another peat-filled hollow (opposite the southern end of Field 150) to Low Lane, and this is where features in Fields 262 and 261 were identified. Field 260 at the eastern side of the A1 north of Low Lane contains another large peat-filled hollow. This area was excluded from the final A1 improvements design, but was the subject of evaluation works in 2006, which produced significant results that are described below. A second peat-filled hollow at the north-eastern corner of Field 260 extended beneath the line of the A1 into Field 152, where there is also an extant pond just to the west of the motorway corridor. Field 152 and Field 259 (and the A1) sloped fairly steeply up to the north and north-west,

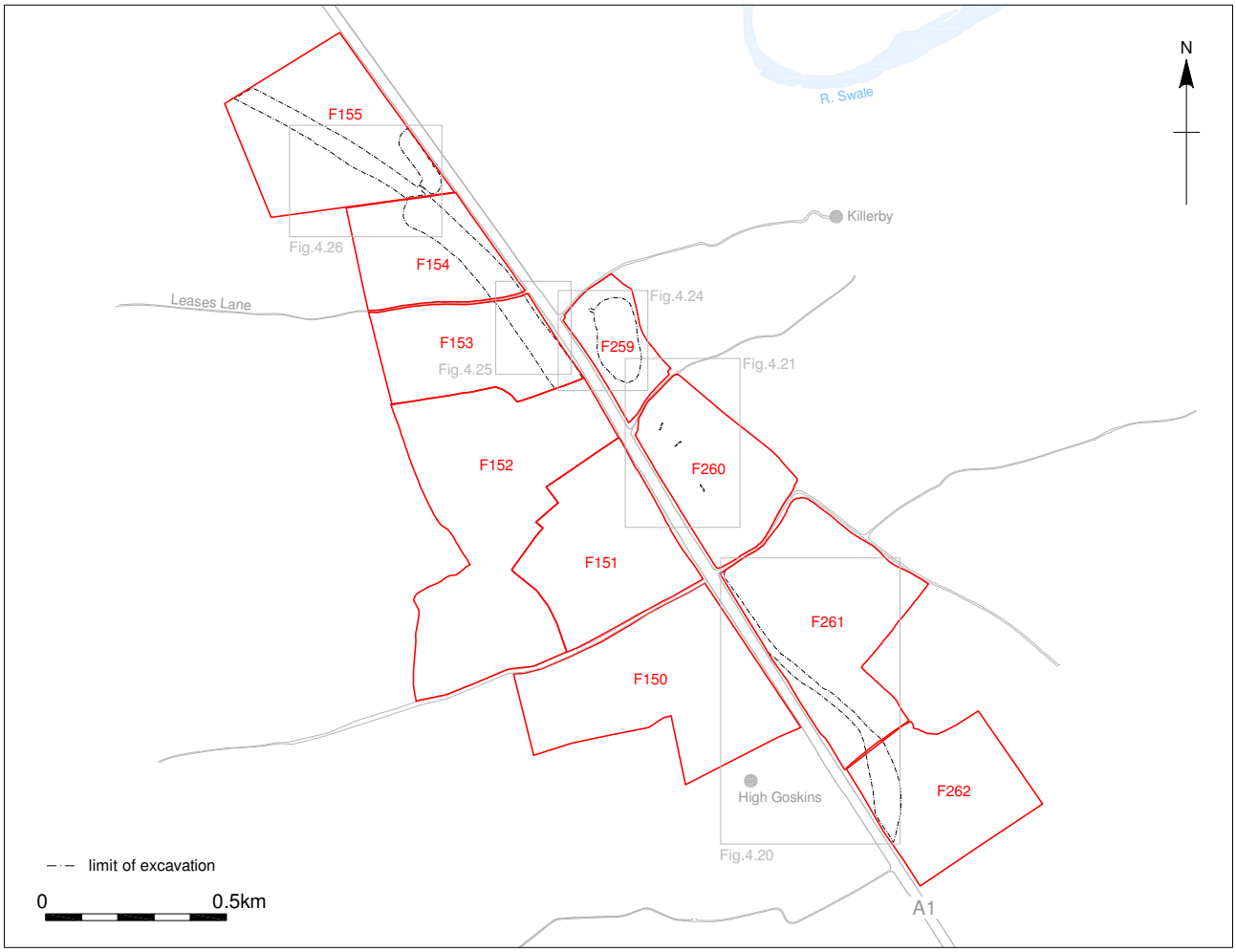

Figure 4.19: Fields 259–262 and 150–155.

Table 4.11: pits in Fields 259–262 and 153–154.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
262	12018	12019	Pair with 12050	Circular	0.24x0.11m	?posthole	Undated
262	12050	12051	Pair with 12018	Subcircular	Up to 0.7m x 0.17m		Undated
262	12028	12029		Subcircular	Up to 0.57x0.11m	Charcoal and calcined bone	EBA
262	12075	12076	Cut 12077. Pair with 12077	Subcircular	0.62–0.64x0.17m		Undated
262	12077	12078	Cut by 12075. Pair with 12075	Subcircular	0.62–0.64x0.09m	Charcoal and burnt bone	Undated
262	12085	12082		Irregular	Up to 1.4x0.3m	Charcoal, burnt bone, fired clay	Undated
262	12097	12098		Irregular	Up to 0.70x0.1m	Possible root-bowl, charcoal	Undated
261	7218	7219, 7220		Oval	1.20x0.74x0.12m	Probable hearth, charcoal, wheat grain	LBA (C14)
261	7352	7358, 7359		Oval	Up to 0.46x0.08m	Oak charcoal	Undated
261	7353	7354	Pair with 7355	Circular	0.3x0.17m	Charcoal	MBA by association with 7355
261	7355	7356	Pair with 7353	Circular	0.25x0.3m	Charcoal	MBA (C14)
261	12079	12080		Oval	1.55x1.25x0.41m	Burnt stones, charcoal, fired clay, bone (cattle tooth)	Undated
260	689	688	Grouped with 691	Irregular	>2x1.3x0.2m	Charcoal, auroch bones	EBA (C14)
260	691	690	Grouped with 688	Sub-rectangular	>2x1.0x0.2m	Charcoal, dog bones, antler	EBA (C14)
260	676	677	Grouped with 678 and 694	Irregular	1.3x>0.6x0.18m	No finds or charcoal	EBA by association with 694
260	678	679	Grouped with 676 and 694	Subcircular	0.66 diameter x 0.09m	No finds or charcoal	EBA by association with 694
260	694	695–8	Grouped with 676 and 678	?Oval	>0.7x1.18x0.16m	Charcoal, heat-affected soil	EBA (C14)
260	670	671	Grouped with 672 and 674	Oval	>1.7x>1x0.14m		Undated
260	672	673	Grouped with 670 and 674	Subcircular	1.25 diameter x 0.31m		Undated
260	674	675	Grouped with 670 and 672	Circular	0.6 diameter x 0.2m		Undated
259	6832	6833		Circular	0.55–0.60x0.13m	Charcoal flecks, fired clay	Undated
259	6834	6836	Pair with 6835	Circular	0.7x0.27m	Fired clay, fragment of bone	Undated
259	6835	6837	Pair with 6834	Circular	0.6x0.24m	Fired clay, charcoal, chert	Undated

Table 4.11: pits in Fields 259–262 and 153–154 (continued).

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
259	6851	6852, 6854		Oval	1.58x0.95x0.23m	Probable hearth. Lots of oak charcoal, soot, fired clay, flint	Undated
259	6855	6856		Horseshoe-shaped (around earth-fast boulder)	0.38x0.28x0.14m		Undated
259	6857	6858	Grouped with 6863 and 6871	Oval	0.67x0.56x0.24m	Charcoal, flint	ENeo (flint and by association with 6863)
259	6863	6864	Grouped with 6857 and 6871	Subcircular	0.42–0.54x0.15m	Charcoal, burnt stone	ENeo (C14)
259	6871	6872	Grouped with 6857 and 6863	Oval	0.6x0.41x0.35m	Burnt bone	ENeo by association with 6863
259	6877	6895, 6896	Recut by 6897	Oval	2.5x1.85x0.30m		Chalcolithic (C14)
259	6885	6886		Subcircular	0.52x0.46x0.12m	Burnt clay, charcoal and stones	Chalcolithic by association with 6877
259	6889	6890 (6894)		Oval	2.14x1.74x0.08m	Probable hearth, burnt base, burnt clay and stones, charcoal.	Chalcolithic by association with 6877
259	6891	6892	Next to cremation Grave 6887	?Circular	0.8x0.2m	Probable hearth, burnt sides to cut, burnt stones, charcoal, burnt bone, flint	EBA
259	6897	6866, 6867, 6869, 6893 6898, 6899	Recut of 6877	Subcircular	1.6x0.3m	Probable hearth, primary fill burnt purple, charcoal, soot, burnt bone, flint	Chalcolithic by association with 6877
153	7158	7159		Subcircular	1.02–1.20x0.4m	Fire-cracked stones, charcoal, flint blade	?ENeo (ENeo flint blade)
153	7164	7165		Subcircular	0.7x0.65x0.15m	Fire-cracked stones, charcoal, fired clay, undated hand-built pottery, bone fragment	Undated
153	7168	7169	Pair with 7170	Subcircular	1.2–1.45x .3m	Fire-cracked stones, charcoal, flint debitage, bone	Undated (Roman C14)
153	7170	7172, 7173	Pair with 7168. Cut by 7175	Subcircular	0.77–0.85x0.2m	Burnt stones, charcoal, flint debitage	Undated
153	7175	7174	Cut 7170	Circular	0.36x0.13m	Charcoal flecks	Undated
153	7221	7222		Circular	1.3x0.3m	Charcoal flecking, hazelnut, barley, flint debitage	Undated
153	7223	7224	Pair with 7225	Oval	0.36x0.24x0.05m	Fleck of burnt bone	Undated
153	7225	7226	Pair with 7223	Circular	0.43–0.47x0.15m	Charcoal flecks	Undated

Table 4.11: pits in Fields 259–262 and 153–154 (continued).

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
153	7227	7228, 7235, 7236	?Pair with7232	Subcircular	1.8–2.08x0.32m	Burnt stones, charcoal, flints, wheat x 1, barley x 1	Chalcolithic (C14)
153	7232	7233, 7234	?Pair with7227	Irregular	3.6x>1.8x0.2m	Probable tree throw, lots of burnt stones, charcoal	?Chalcolithic by association with 7227
153	7239	7240		Oval	0.85x0.6x 0.13m	Heat-affected soil, burnt stones, charcoal flecking	Undated
153	7241	7242	Pair with 7243	Circular	0.67–0.75x0.14m	Fire-cracked stone, charcoal	MNeo by association with 7243
153	7243	10501	Pair with 7241	Circular	0.6–0.65x0.13m	Fire-cracked stones, charcoal, burnt bone	MNeo (C14)
153	10502			Circular	0.4x0.16m	Charcoal flecked	Undated
153	10504	10505, 10506		Circular	0.43x0.18m		Undated
153	10507	10508		Circular	0.42–0.46x0.12m	Charcoal flecked, bone fragments	Undated
153	10509	10510		Subrectangular	1.2x0.8x0.17m	Fire-cracked stones, charcoal, flint debitage	Undated
154	7150	7151	Pair with 7152	Circular	0.8–0.85x0.2m	Fire-cracked stones, charcoal flecks	Undated
154	7152	7153	Pair with 7150	Circular	1.5mx0.25m	Fire-cracked stones, charcoal, flints	Undated
154	7154	7155		Subcircular	0.8–1.2x0.3m	Burnt stone and charcoal	Undated
154	7156	7157	?Pair with 7161 (widely separated	Subcircular	0.85–1.10x0.25m	Fire-cracked stones, charcoal, flint debitage	MNeo (C14)
154	7161	7160	?Pair with 7156 (widely separated)	Oval	1.9x1.2x0.2m	Possible hearth, burnt sides, stones, charcoal, flints	MNeo (C14)
154	7237	7238		Circular	0.3–0.35x0.25m	Charcoal	Undated
154	7362	7363, 10610		Circular	0.56–0.61x0.24m	Charcoal	ENeo (C14)

Plate 4.6: view to the south-west across Field 260 from Pike Hill towards the A1 showing the peat-filled basin.

with a damp, low-lying hollow at the eastern side of Field 259 flanked by a smaller, parallel glacial ridge (Pike Hill). The investigated corridor in Fields 153 and 154 crossed a relatively level plateau, Field 153 featuring another 'perched' peat-filled hollow.

No prehistoric features were identified in this area by geophysical surveys of the 1990s and 2005–6. No lithic material has been recovered from Field 150. Intensive fieldwalking in 1993 recovered a single waste flake from Field 261 (Site LU10), while a strip along the western edge of Field 260 immediately to the north produced two flint tools and a waste flake. Two overlapping fieldwalking surveys in Field 153 in 1993 produced a total of six worked flints (Buxton and Quartermaine 1994, Site LU9; Wilson 1994, CAS Site 504). No fieldwalking had been done in Field 154, although, a trial trench in 2005 recovered two flints, a core rejuvenation flake and a leaf-shaped arrowhead showing impact damage consistent with having been fired (Speed 2006b, 7–8).

Field 262

The main concentration of archaeological features in Field 262 was around a low-lying undrained boggy area that measured over 100m from north to south and more than 60m wide. This contained stratified peat deposits up to 3.5m thick. For operational reasons it was not possible to excavate this deposit; however, the upper part of the peat sequence was observed to contain well-preserved timbers, animal bones and worked flints (not recovered). Organic preservation appeared to be excellent throughout the deposit, indicating the palaeoenvironmental potential of other such deposits in the area.

A series of Bronze Age features comprising an enclosure, a possible structure and burnt mound deposits are described in Section 5. However, a number of pits of potentially early prehistoric date and not obviously associated with the Bronze Age complex are included here.

Three pits lay to the south-east of the peat deposit (Fig. 4.20). Pit **12050** was up to 0.7m in diameter and 0.17m deep, while pit **12028** was up to 0.57m in diameter and 0.11m deep. Both were filled with mid-greyish brown sandy silt (**12051** and **12029** respectively). Deposit **12029** contained oak and alder charcoal and some unidentifiable calcined bone fragments. A fragment of small roundwood *Quercus* charcoal provided an Early Bronze Age radiocarbon date of 1879–1692 calBC (3455±22 BP, SUERC-92822). Between these two pits was a third, smaller feature (**12018**). This was circular, 0.24m in diameter, 0.11m deep, and filled with light yellowish brown sandy silt (**12019**) that did not contain any finds.

Two pits were located adjacent to the Bronze Age enclosure at the eastern edge of the area, but were filled with material different to those features associated with the burnt mound complex and hence their proximity may have been coincidental. Pit **12085** was filled with stones in a black sandy silt matrix (**12082**) that contained oak

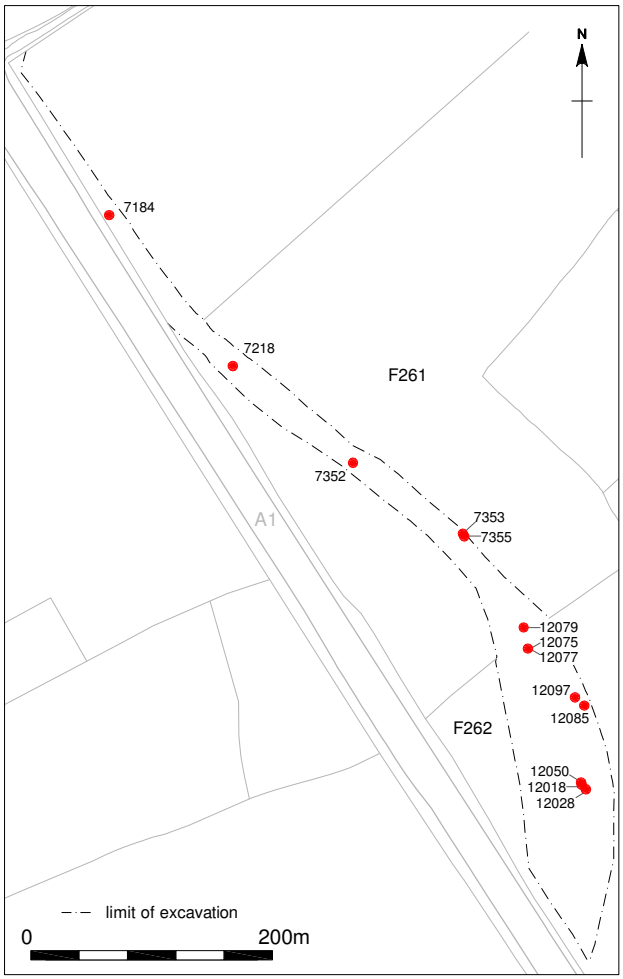

Figure 4.20: pits in Fields 262 and 261.

and hazel charcoal, flecks of burnt bone and a fragment of fired clay. The very irregular shape of the second pit (**12097**) suggested that it could have been a natural rather than an anthropogenic feature. It was filled with greyish brown sandy silt (**12098**) and oak charcoal.

Two more pits (**12075** and **12077**) were located on the slope to the north of the wetland area. Pit **12075** slightly cut the northern edge of pit **12077**. Both were filled with dark grey clayey silt (**12076** and **12078**). Deposit **12078** contained small quantities of unidentifiable hardwood charcoal and burnt bone.

The only early artefact from Field 262 was a Mesolithic/Early Neolithic bladelet found residually in one of the Bronze Age features (context **10531**, Section 5).

Field 261

Six widely distributed pits in Field 261 were considered to be of potentially early prehistoric date, although none produced any finds. Lithic material from this large area comprised only an unstratified Mesolithic piece described above and a fragment of debitage found residually in a Roman ditch.

Pit **12079** was located just upslope from pits (**12075** and **12077**) in Field 262 (above), overlooking the same wetland area (Fig. 4.20). Pit **12079** was filled with

brownish grey clayey silt (**12080**) containing c.50% burnt stones, fragments of hazel and *Prunus* charcoal, fired clay and some fragments of cattle tooth.

Two small circular pits (**7353** and **7355**) lay close together on the slope overlooking the eastern side of the unexcavated infilled wetland area. They were both filled with mid-brownish grey sandy clay containing oak and hazel charcoal (respectively fills **7354** and **7356**). *Corylus* charcoal from deposit **7356** gave a Middle Bronze Age radiocarbon date of 1499–1415 calBC (3177±24 BP, SUERC-92815). Pit (**7352**) overlooked the northern side of the same former wetland area. It had a primary fill (**7359**) of very dark greyish brown sandy silt containing charcoal, and a secondary fill of light grey sandy silt (**7358**) flecked with oak charcoal.

Another larger feature (**7218**), probably a hearth, lay near the crest of the rise to the north. The base was lined with a deposit of black silt, fired clay and burnt stones (**7219**), below a deposit of light brownish grey sandy silt (**7220**). Charcoal, found in both deposits, included oak, hazel, alder and poplar/willow, and a single carbonised wheat grain came from **7219**. Radiocarbon dating of *Corylus* charcoal from deposit **7219** provided a Late Bronze Age date for this feature of 1119–942 calBC (2869±24 BP, SUERC-92816). The final pit lay on the north-facing slope towards the northern end of Field 261, overlooking the former wetland area in Field 260 to the north of Low Street. Pit **7184** contained a mottled deposit of light greyish or yellowish brown sandy silt (**7185**) containing flecks of oak charcoal and burnt stones.

Field 260

In 2006, three evaluation trenches were excavated down the edges of the main peat-filled hollow in Field 260, and an auger survey was carried out (Speed 2006f, 21–6; O'Brien *et al*. 2007; Fig. 4.21). These events have been summarised previously (Speed 2010, 80–4).

Trench B14 ran down the slope into the depression formed by the southern end of the basin. Undisturbed grey glacial boulder clay and cobbles was overlain by 0.1m of dark brown silty clay containing flecks and small lumps of wood charcoal. This was overlain by a 0.1m-thick layer of mid-grey clay (**692**) with lenses of dark brown peaty clayey silt. Upslope to the north-west, **692** was overlain by colluvial deposits.

Clay layer **692** was cut by two shallow pits or hollows (**689** and **691**), which were sealed by a layer of peat (**687**) (Fig. 4.22 and Plate 4.7). Both pits were filled with dark brown peaty clayey silt (**688** and **690**). Deposit **688** contained small quantities of unidentifiable wood charcoal that provided a radiocarbon date of 2140–1930 calBC (3660±35, SUERC-13998). In contrast, **690** included c.10% large, apparently hand-selected, lumps of wood charcoal from an unidentified deciduous tree, which gave an apparently anomalous calibrated radiocarbon date of 5610–5470 calBC (6555±35SUERC-13999), and it is suggested that old timber had been retrieved from the adjacent bog, dried

*Plate 4.7: pit **689** showing the overlying peat layer. Facing north, scales 2m, 1m and 0.5m.*

and burnt. The two pits also contained the only unburnt prehistoric faunal assemblage recovered from either road scheme, presumably preserved by the anaerobic, damp conditions. Fill **688** produced two auroch vertebrae (*Bos primigenius*) while deposit **690** included the (probably articulated) bones from the leg of a small dog, and also a fragmented red deer antler, which had been cut using a flint tool (Jaques and Schmidl 2008). Three radiocarbon samples from the auroch vertebrae gave an overall Early Bronze Age date range of 1890–1410 calBC (SUERC-20361–3) while samples from the dog bone and antler gave similar ranges of 1870–1440 calBC (SUERC-20358–60) and 1760–1600

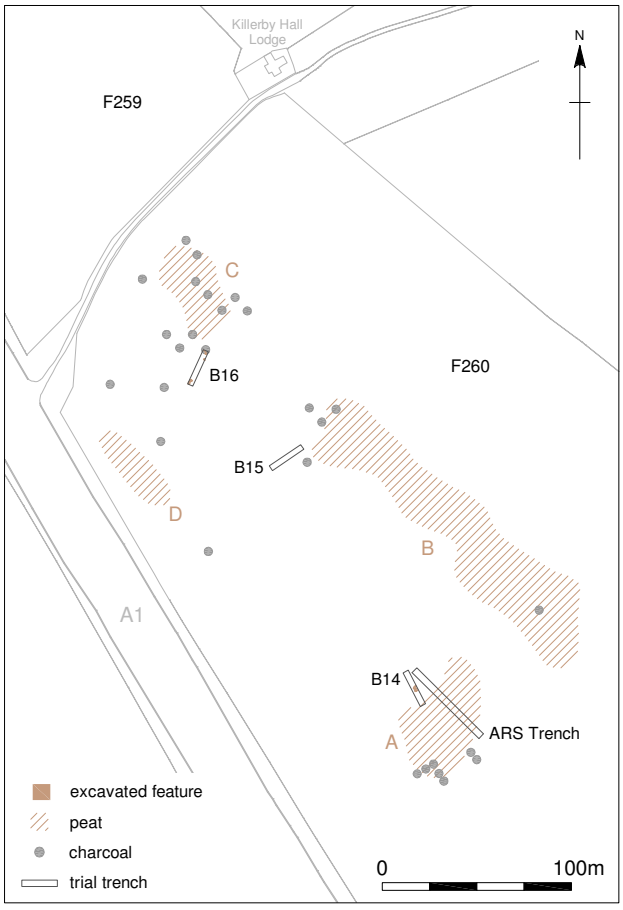

Figure 4.21: evaluation trenches and auger survey results in Field 260.

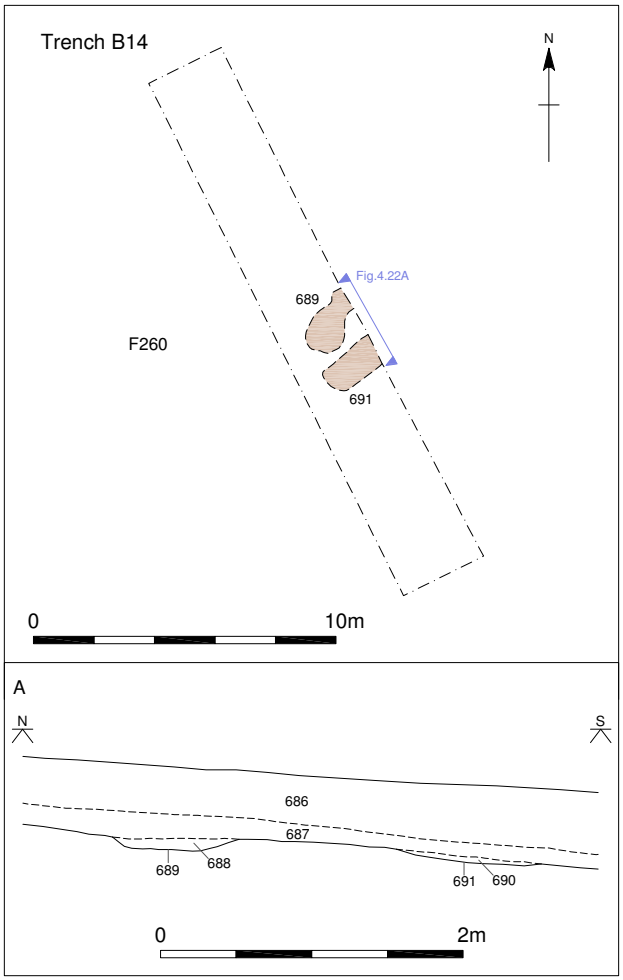

Figure 4.22: Field 260 Trench B14.

calBC (SUERC-20352–4).

No archaeological remains were found in Trench B15, probably as result of previous removal of material from the slope in order to infill and reclaim the adjacent lower-lying area to the north-east. A progression down the slope from oxidised yellowish brown or brown deposits to greyer reduced deposits indicated that the hollow had once held a considerable amount of water.

In Trench B16, removal of the topsoil, which produced a non-diagnostic retouched flint flake, revealed a sequence of deposits that was investigated in two partial sections. Natural boulder clay (**684**) was only seen at the south-western (upslope) end of the trench. Downslope, the earliest deposit consisted of greyish brown sandy clay (**705**) containing fragments of yellow sandstone, cobbles and occasional larger boulders and probably representing material weathered down the slope from parent material **684**. An oxidised version of this deposit (**683**) was observed further upslope. Context **683/705** was overlain by a probable buried primary soil horizon (**682/704**), consisting of up to 0.12m of dark brown silty clay. Except at the south-western end of the trench these deposits were sealed by up to 0.12m of orange brown silty clayey sand colluvium (**681/693**).

A group of three small pits was identified at both ends of the trench (Fig. 4.23). At the north-east end, pits **676** and **678** were cut into layer **705** and were filled with very dark reddish brown peaty silty sand. Pit **694**, 2.5m to the south-west, cut buried soil **704** (which was not present in the area of the first two pits). In the base of the pit was 0.01m of soot and charcoal (**697**) overlain by 0.06m of dark brown silty clay (**696**) containing small lenses of possibly heat-affected yellowish, orange and reddish brown silty clay. Above this was a second lens of soot and charcoal (**695**) and finally a deposit of stone-free dark brown silty clay (**698**) containing rare flecks of charcoal. None of these features produced dateable artefacts, but oak charcoal from deposit **695** provided an Early Bronze Age radiocarbon date of 2133–1902 calBC (3635±35, SUERC-39622).

The second group of (undated) pits, located at the south-west (upslope) end of the trench, were cut directly into boulder clay **684**. Pits **670** and **672** were filled with very dark grey (almost black) clayey sand and cobbles. Pit **674** was more neatly cut and packed with angular sandstone, which differed from the soft yellow sandstone predominant in the surrounding boulder clay and had presumably been brought from elsewhere.

In view of the results of the trenching, an auger survey was carried out (O'Brien and Innes 2007). This identified three areas (designated Areas A–C) within the base of the basin where thin deposits of peat were present (Fig. 4.21). A fourth pocket of peat (Area D) in the north-west corner of the field coincided with the basin extending below the A1 into Field 152. The auger survey also highlighted locations in which charcoal was present, possibly indicating previous human occupation activity. There was a discrete charcoal cluster at the southern edge of Area A, and a more general distribution across the whole of Area C and extending upslope to the south-west towards the pits identified in Trial Trench B16. As noted in

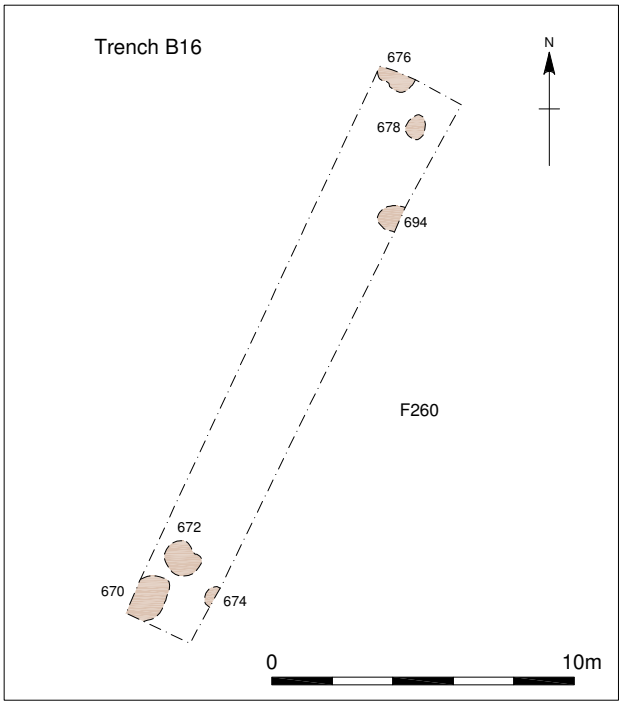

Figure 4.23: Field 260 Trench B16.

Section 2, the field was subsequently fieldwalked as part of the Killerby Quarry project. This identified a sparse distribution of Mesolithic lithics but no diagnostically later material was found (Waddington *et al*. 2009, 13–14 and table 7.3.1). As a postscript, the peat deposit investigated by Trench B16 was investigated by another trial trench as part of the Killerby Quarry project in 2012 (Fig. 4.21, ARS trench; Cockburn and Scott 2012). This identified that the remaining peat in the hollow was relatively poorly preserved. No archaeological features were identified. A single cattle tooth recovered from the peat provided a radiocarbon date of 1738–1699 calBC (3476±26 BP, SUERC-42599), broadly consistent with the results from the nearby pits in Trench B14).

Field 259

In Field 259, immediately to the north of Field 260, the stripped area for a new balancing pond comprised an elongated oval measuring c.

240m by 120m (Fig. 4.24). As described above, the stripped area sloped fairly steeply down to the east into what is now a dry valley running northwards from a peat-filled basin in Field 260.

Certain or possible early prehistoric features included a number of pits, a post-pit (described in Section 3), several probable hearths, an Early Bronze Age cremation burial (previously published elsewhere in Speed *et al*. 2018a, 24–7) and several groups of worked lithics. Some of the pits were spatially associated with small flint scatters.

During topsoil stripping of the area, five unstratified flints were recovered (context **6828**) including debitage, two flakes and a possible combination tool of Neolithic date. A further 15 flints and a group of four fragments of prehistoric pottery were found in the subsoil (**6829**) and are detailed in Table 4.12.

Three pits were found at the north-east corner of the area (Fig. 4.24, detail A), towards the foot of the slope into the dry valley. Pit **6857** was filled with dark brown sandy clay (**6858**) which contained 28 fragments of flint, mainly non-diagnostic debitage and flakes but including a flint bladelet of Meolithic or Early Neolithic type. Nearby pit **6871** had a similar fill (**6872**) containing some fragments of burnt bone. Pit **6863** was filled with mid-brown sandy silt containing flecks of charcoal and fragments of heat-reddened sandstone. Charcoal from this group of features included poplar/willow, hazel and apple subfamily. *Corylus* charcoal from fill **6864** of pit **6863** provided an Early Neolithic radiocarbon date of 3652–3532 calBC (4819±23 BP, SUERC-92812).

A small scatter of worked flints and fragments of undated hand-built pottery was recovered from the stripped surface within the immediate vicinity of these pits (Table 4.12). A fourth pit **6855** lay 10m to the south-west of pit **6863**. It was horseshoe-shaped, having been dug around the end of an earth-fast boulder, which intruded into its south-west side. It is likely that this was an incidental discovery while digging the pit. It was filled with orange brown sandy silt **6856**, probably redeposited subsoil.

Two worked flints were recovered from the stripped surface towards the north-western corner of the balancing pond area (Table 4.12), close to pit **6832**. This contained flecks of charcoal and fired clay but no finds (Plate 4.8). Two more worked flints were found a short distance to the west.

Table 4.12: recorded finds from subsoil in Field 259 (general locations marked on Figure 4.24).

Area	RF No.	Context	Object type
Cluster at NE corner of area	6526	6829	Flint arrowhead: Neolithic
	6527	6829	Flint debitage
	6528	6829	Flint flake
	6529	6829	Undated hand-built pottery fragments x 4
	6530	6829	Flint flake
	9000	6829	Flint flake
NW part of area	6524	6829	Flint scraper: Early Neolithic
	6525	6829	Flint flake
	9001	6829	Flint core fragment: Mesolithic/Neolithic
	9002	6829	Flint core fragment
Central part of area adjacent to post-pit 6849	6533	6853	Flint flake
	6534	6853	Flint flake
	6535	6853	Flint flake
	6536	6853	Chert flake
	6537	6853	Flint debitage
Not located	6539	6829	Flint core frag: Mesolithic/Neolithic
	6540	6829	Flint core: Neolithic

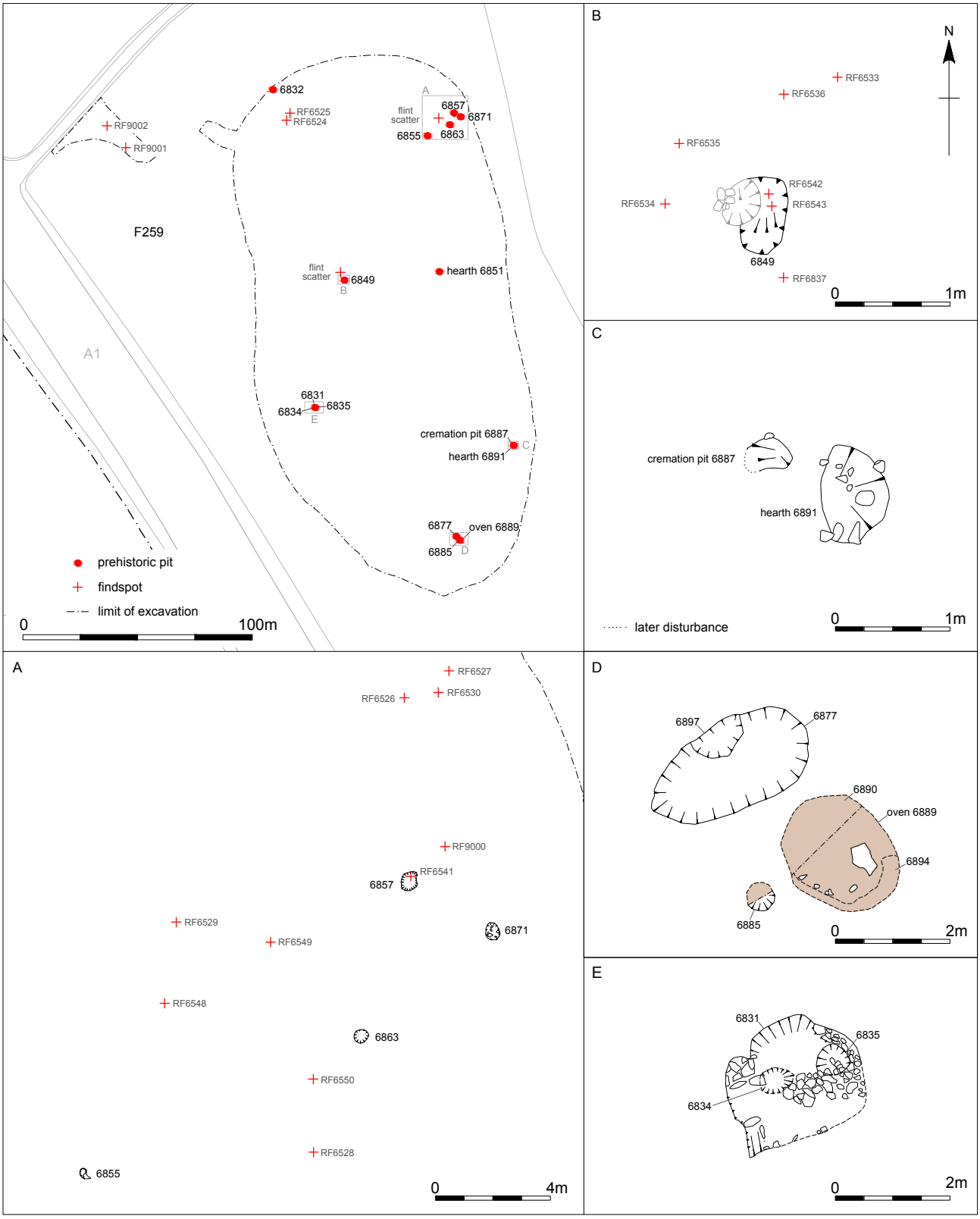

Figure 4.24: features in Field 259.

As described above (in the Monuments section) post-pit **6849** was located near the centre of the area. Five flints were recovered from the stripped surface adjacent to this feature (Fig. 4.24, detail B; Table 4.12).

Feature **6851** (Plate 4.9) was mostly filled with stones in a matrix of oak charcoal, black silt and sand lenses (**6854**), and containing fragments of fired clay, an assemblage of non-diagnostic lithic debitage (15 pieces of flint, three chert and one chalcedony) and a fragment of glass (presumed to be intrusive). Overlying this was a layer of mid-reddish brown to black burnt clay and silt (**6852**), also containing angular stones and oak charcoal, which extended beyond the edges of the pit over a total area measuring 2m by 1.5m. The deposits can be interpreted as a hearth subsequently reused as the base for a larger fire, which had burnt the surrounding soil. This can be compared to Waterman's findings at Quernhow (1951), where a spread of burnt material extended across the surface beyond the confines of one of the pits.

*Plate 4.8: pit **6832** half-sectioned, facing east, scales 0.5m and 0.1m.*

Two of the pits lay close to each other between two boulders (which had been dragged out by the machine during soil stripping) (Fig. 4.24, detail C). To the east, the larger feature **6891** had a bowl-shaped profile and was probably a hearth as the sides of the cut were burnt, and the base had several cobbles pressed into it. The feature was filled with clay **6892** which was burnt red towards the base, becoming mid-brown or black towards the top and containing quantities of burnt stones and oak charcoal. The deposit produced a flint flake, a fragment

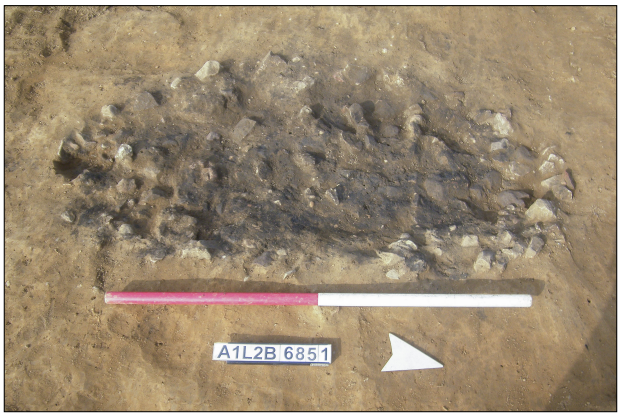

*Plate 4.9: pit **6851** pre-excavation, facing west, scale 1m.*

of chert debitage and fragments of unidentifiable burnt bone which provided an Early Bronze Age radiocarbon date of 2031–1906 calBC (3612±22 BP, SUERC-92813). The western pit **6887** contained the early Bronze Age cremation burial (Speed *et al*. 2018a, 24–7).

Three features were excavated at the southern end of the stripped area, none of which produced finds (Fig. 4.24, detail D). To the south-east there was a large oval hearth **6889** with a burnt base. It was fringed around one end by a 0.15–0.3m wide band of burnt clay (**6894**), which had been truncated, and was filled with fragments of baked clay, oak charcoal and burnt soil (**6890**). Immediately to the south-west was a small pit **6885** filled with heat-affected stones, oak charcoal and clay fragments (**6886**).

To the west of these features, a large oval pit **6877**, filled with greyish brown sandy clay (**6895** and **6896**), had been cut centrally by a second, smaller pit **6897**. A deposit of sand (**6898**) in the base of this had been burnt to a greyish purple colour. Overlying **6898** on the west (upslope) side of the feature was a deposit of grey silty sand **6867** which had possibly washed in. Above **6867** and **6898** was a lens of black silt and charcoal **6899** below a layer of small cobbles **6869**. The upper part of the pit was filled with a mixture of brown silty sand and charcoal (**6866**/**6893**). Charcoal from these deposits included oak, ash and alder/hazel. Context **6899** produced unidentifiable calcined bone fragments and a piece of chert debitage was recovered from deposit **6893**. *Fraxinus* charcoal from **6899** was dated to 2469–2306 calBC (3903±22 BP, SUERC-92814).

Near the western edge of the stripped area was a large, stone-filled sub-rectangular pit **6831** which was probably a natural tree-throw hole (Fig. 4.24, detail E). The fill had been cut by two undated, similar-sized circular pits, **6834** and **6835** filled with greyish brown sandy silt (respectively **6836** and **6837**) containing fragments of fired clay, alder charcoal (**6837**), burnt bone (**6836**) and a chert flake (**6837**).

Fields 150, 151 and 152

During the A1 construction works there were only limited opportunities for monitoring in these fields (Speed 2015 table 1; Section 5). Presumably as a result the only early prehistoric artefact recovered was an unstratified and undiagnostic flint flake found in Field 150. A Bronze Age burnt mound deposit in Field 150 is described in Section 5.

Fields 153 and 154

Unstratified or residual lithics in Field 153 comprised three undiagnostic flakes and a piece of debitage, a Mesolithic/Neolithic core and a second fragment, an early Neolithic blade, knife and disc scraper, and another Neolithic blade. The topsoil and subsoil in Field 154, together with fills of Roman or later features produced eight flints, comprising a burnt flint core tablet of Mesolithic or possibly Neolithic date, three flakes and four pieces of debitage.

Three widely spaced but similarly sized pits were identified on the slightly higher sandy ridge towards the southern end of Field 153 (Fig. 4.25). At this point, the field begins to slope down to the south overlooking a former wetland area in the east end of Field 152 and extending eastwards below the A1, to the south-west towards an extant small pond, and also gently down to the north towards the peat-filled basin in Field 153 (see below). The pits therefore lay between, and overlooked, three distinct wetland areas. The southern feature in Field 153, pits **10507** and **10502** were filled with charcoal-flecked mid-orange brown silty sand. The third pit **10504** had a primary fill of yellowish brown sand below a secondary deposit of greyish brown silty sand.

Two larger pits were located c.60m to the northwest. Pit **7164** contained orange brown sandy silt (**7165**), a quantity of fire-cracked stones and occasional fragments

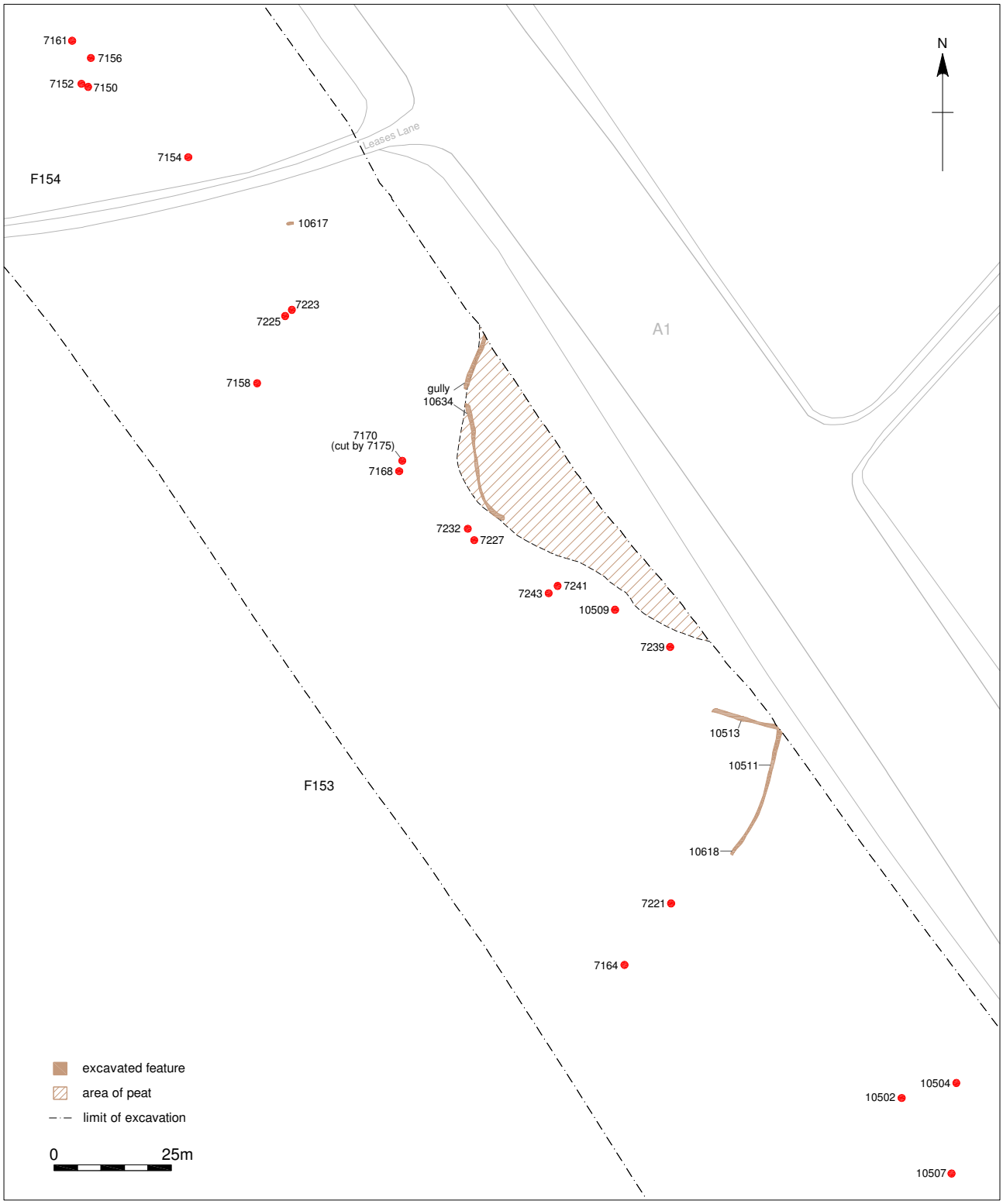

Figure 4.25: features in Fields 153 and 154 (southern end).

of charcoal and fired clay. Pit **7221**, located 15m to the north-east, was filled with dark brown sandy silt (**7222**) containing charcoal flecking, mainly concentrated at the base, and a piece of flint debitage. Charred barley grains and fragments of hazel nutshell were recovered from a soil sample.

Rather speculatively, pits **7164** and **7221** may have continued the line of a slightly curving small ditch running to the north-east. A similar arrangement (the line of a ditch continued by several pits) was observed at Marton-le-Moor, where the features contained Beaker pottery (unpublished). In Field 153, the ditch was recorded over a length of 30m before running out of the stripped area. It was investigated in two hand-excavated segments (**10511** and **10618**), where it was typically 0.65m wide and 0.25–0.35m deep with either a shallow U-shaped or sharp V-shaped profile. It was filled with reddish brown sandy silt (**10512**) which contained three flints, a flake, a piece of debitage and a combination scraper/piercer of Neolithic or Bronze Age date, and a sherd of undated handmade pottery. At the eastern limit

Plate 4.10: gully **10634** *facing north, showing the overlying peat and the high ground between Fields 153 and 154. Scale 2m.*

of excavation, a third excavated segment (**10622**, not illustrated) showed that the ditch cut at right angles a second ditch (**10513**) running to the north-west. It was not possible to determine whether either ditch continued to the east. Ditch **10513** was 1.2m wide and 0.32m deep with a shallow V-shaped profile and extended for 15m. It was filled with mid-orange brown sandy silt (**10514**), which did not contain any finds.

To the north of the ditches, the stripped corridor crossed a relatively level plateau. Within this area, topsoil stripping revealed the western edge of a former wetland area represented by a thin peat deposit, which extended eastwards below the line of the A1 (Fig. 4.25). The peat had long-since dried out and was no longer of any palaeoenvironmental value. Removal of part of the peat revealed two discontinuous lengths of a small gully (**10634**) running around its north-western edge (Plate 4.10). No dating evidence was recovered from the gully, although it was presumed to be an ancient feature since the peat had accumulated over it. The gully was 0.7m wide and 0.3m deep with an irregular profile. At the north edge of the peat it was observed for 12m before running beyond the stripped area to the east. To the south, after a 3.3m gap, the gully continued for a further 26.8m before terminating. It was filled with reddish-brown degraded peat containing some charcoal and bone fragments.

Nine pits bordered the south-western edge of the peat, presumably located around the edge of the former wetland. The southern-most feature **7239** was filled with lenses of heat-affected greyish or orange-brown sandy silt (**7240**) containing frequent burnt stones and charcoal flecks. Pit **10509** contained black clayey silt (**10510**), large quantities of fire-cracked stones, oak charcoal and two pieces of flint debitage.

Two similar small circular pits (**7241** and **7243**) were close together and were both filled with very dark brown or black silty clay (respectively **7242** and **10501**) containing large quantities of fire-cracked stones and charcoal. Deposit **10501** also produced fragments of burnt bone and *Corylus* charcoal provided a Middle Neolithic date of 3513–3363 calBC (4645±22 BP, SUERC-92778).

Another 20m to the north-west lay two larger features. The size, shallowness and irregular shape of feature **7232** suggested that it represented a tree-throw. The majority of the feature was filled with dark brown or black clayey silt (**7234**) containing large quantities of burnt stones and oak charcoal. The upper part of the feature contained redeposited orange clayey sand natural (**7233**), suggesting deliberate backfilling. Pit **7227** immediately to the south was partially filled with grey clayey sand (**7236**), lenses of yellowish brown and red sand, stones and a large quantity of charcoal. Within the centre of the pit, **7236** was overlain by a small lens of redeposited natural (**7235**) mixed with charcoal, while the upper part of the pit was infilled dark brown sandy clay (**7228**), numerous burnt and fire-cracked stones and a moderate quantity of oak charcoal. Single charred grains of barley and wheat were recovered from a soil sample. A significant assemblage (20 pieces) of flint came from all three fills of the pit, including nine flint flakes and 11 pieces of flint or chert debitage. Some of flakes might have derived from thinning during flint axe manufacture. *Corylus* charcoal from deposit **7228** deposit provided a Chalcolithic date of 2457–2206 calBC (3847±24 BP, SUERC-92777).

A group of three pits lay 18m north-west of the tree-throw.

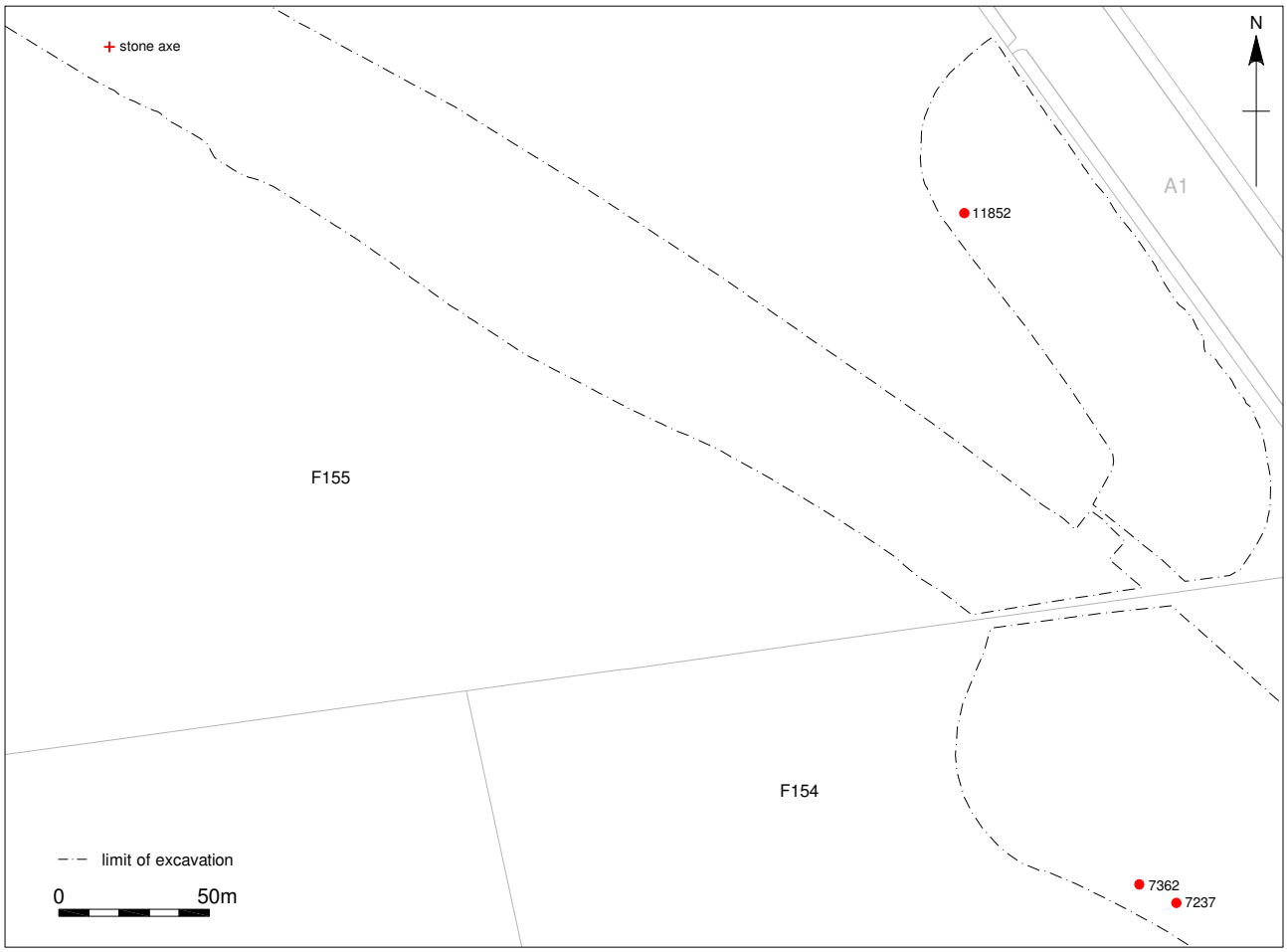

Figure 4.26: pits in Fields 154 (northern end) and 155.

Pit **7168** was largely filled with charcoal and stones, including many fire-cracked pieces, in a matrix of dark brown or black clayey silt (**7169**) which also contained a piece of flint debitage. A sample of *Prunus* charcoal provided a somewhat unexpected Roman radiocarbon date 126–248 calAD (1826±24 BP, SUERC-92776). The second pit **7170** had an upper fill of grey clay, burnt stones and charcoal, (**7172**), while the lower fill (**7173**), which was barely distinguishable from the surrounding natural the surrounding natural, included charcoal fragments and two pieces of flint debitage. The western edge of pit **7170** was cut smaller pit **7175** filled with light brown charcoal-flecked sandy clay (**7174**) and stones and flecks of charcoal.

To the north of the peat deposit, on the slightly higher ground to either side of Leases Lane, there was a number of additional features (Fig. 4.25). Several pits and three post-medieval animal burials were located within the northern end of Field 153 and five more pits lay to the north of the lane in the southern part of Field 154.

To the south of the lane, pit **7158** was filled with black silt (?soot) (**7159**), many fire-cracked stones, oak, hazel and rose charcoal, and an Early Neolithic flint blade. Two small pits **7223** and **7225** lay only 2m apart. Pit **7223** was filled with dark brown sandy clay (**7224**), which produced a fleck of burnt bone, while pit **7225** contained orange-brown silty clay (**7226**) with a small amount of charcoal.

Of the post-medieval animal burials at the north-western end of Field 153, an articulated pig burial in pit **10617** is worthy of mention here. Although the pig itself provided a radiocarbon date of calAD 1689-1926 (117±27BP, SUERC-74418), it was accompanied by a variety of residual finds including three pieces of flint debitage and a polished stone axe fragment (RF6503) (fill **10629**).

Across Leases Lane, five more pits were located on the same fairly level plateau in Field 154. Pit **7154**, was filled with mottled mid-brown and black silt (**7155**), burnt stones and charcoal. The other four pits lay in a group a short distance to the north. Two of the pits were placed close together (**7150** and **7152**) while the other two features (**7156** and **7161**) were more widely spaced. The larger of the paired pits, **7152**, was filled with mixed orange-brown and black clayey silt (**7153**), numerous fire-cracked stones, charcoal and two worked flints, a Mesolithic/Early Neolithic blade and a Neolithic or later flake. The smaller pit, **7150**, immediately to the south-east was filled with black soot (**7151**) mottled with lighter brown silt and also contained fire-cracked stones. A particularly varied charcoal assemblage included oak, field maple, hazel, alder/hazel, heather, *Prunus* and rose. The other two pits lay a short distance to the north-east. As with pits **7150**

and **7152**, in this case the larger pit also lay to the north-west of the smaller; however, in this case the pits lay 5m apart so if they had been intended as a 'pair' they were unusually widely separated. In the base of the larger feature, pit **7161**, the natural clay had been burnt bright red or orange, suggesting that it may have been a hearth. This had been backfilled mainly with large stones in a matrix of dark red or black gritty clayey silt (**7160**), oak and alder charcoal. A residual Mesolithic flint bladelet and an undiagnostic flint flake were also recovered. A sample of *Corylus* charcoal returned a Middle Neolithic date of 3621–3372 calBC (4684±22 BP, SUERC-92783). The smaller pit, **7156**, was filled with fire-cracked stones in a matrix of mottled orange and black gritty clayey silt (**7157**) which contained hazel and poplar/willow charcoal and a piece of flint debitage. *Corylus* charcoal from this deposit returned a slightly later date of 3355–3104 calBC (4522±22 BP, SUERC-92782), perhaps supporting the premise that, given the wide spacing, this 'pit-pairing' was coincidental.

Towards the north end of Field 154 there were two more small pits, 15m apart (Fig. 4.26). Feature **7237** was filled with mid-brown sandy silt and charcoal, while pit **7362** had a primary fill (**10610**) of orange-brown sandy silt below a black deposit of charcoal and silt (**7363**) (Plate 4.11). Fill **7363** provided an Early Neolithic date of 3657–3539 calBC (*Corylus* charcoal, 4851±23 BP, SUERC-92784). Charcoal from these pits came from an undetermined hardwood, hazel, and rose.

Bainesse (Fields 155–165)

In the Bainesse section of the road scheme, the new A1(M) diverged from the line of the former A1(T), running to the north-west across Field 155 and then followed the foot of the scarp up to higher ground to the west. As noted in Section 3, in Field 158, the new alignment crossed a small glacial gravel mound (drumlin), which was removed as part of the works. Beyond this, the route negotiated relatively level gravel terraces, crossing Brough Beck (which runs from west to east at the northern edge of Field 163) before heading northwards to reconverge with the original line of the A1 to the west of Catterick village. In the northern part of Field 155, the route crossed a shallow dry valley probably marking the course of a former stream running from west to east. There was also formerly a pond in the area to the south of the drumlin in Field 158.

Plate 4.11: pit **7362** *half-sectioned, facing west, scale 0.5m.*

A limited amount of archaeological work has previously been carried out in this area. Fieldwalking in Field 155 in 2005 recovered one burnt fragment of flint and one unworked flake. Trenches excavated at the southern edge and north-western corner of the field (Speed 2006b, 8–10) did not identify significant features. However, fieldwalking of part of Field 156 immediately to the north in 1993 recovered a group of 24 flint and chert artefacts and two hammerstones. The material was generally of later Neolithic or Early Bronze Age character, but included a Mesolithic microlith (Makey 2007, 122). The whole of Field 156, together with the small field to the north of Bainesse (centred at SE 240 972) was intensively walked as part of the Catterick Metal Detecting Project, recovering 69 flint and stone finds, although the material was not analysed further (Brickstock *et al*. 2007). Additional material, including six flakes, a fragment of core, a utilised blade and a Mesolithic or Early Neolithic end-scraper were recovered during further A1 project fieldwalking in 2005 (Rowe 2006, 50). Given the low 'background' level of flint in the area, the cumulative assemblage from Field 156 is probably indicative of concentrated prehistoric activity in the area adjacent to the north-west end of the probable Bainesse Cursus and the Neolithic enclosures in Field 158.

During the A1 scheme, an unstratified Early Neolithic Langdale polished stone axe was recovered from the subsoil (**6108**) in Field 155 (Fig. 4.26 and Plate 4.12), only 750m away from the example found in Field 153 (above). A third, residual Langdale axe fragment was found in Field 160 (context **5272**), another 750m to the north-west of Field 155.

Field 155

One heavily truncated pit (**11852**) was identified close to the former A1 near the eastern edge of Field 155 (Fig. 4.26). It was backfilled with burnt material and angular stones (**11853**) and a sample of *Maloideae* charcoal from this deposit provided a Late Neolithic date of 2570–2462 calBC (3976±24 BP, SUERC-92785).

Fields 157, 158 and 159

A group of flints was recovered during excavation of a Late Iron Age or Roman enclosure in Field 157 (see Appendix A). The material, an unstratified Neolithic core together with five flakes and a piece of debitage from three of the enclosure ditch segments, were all in brown flint, and it is conceivable that this group derived from a single knapping episode. In Field 158, two flints were found while stripping subsoil (**5866**): a Neolithic flint core and an undiagnostic flint blade.

To the south of the drumlin in Field 158 there was formerly

Plate 4.12: polished stone axe from Field 155.

a small wetland area, and this was overlooked from the south by a pit located in Field 157 (Fig. 4.27). Pit **6114**

Table 4.13: pits in Fields 155 to 165.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
155	11852	11853		Oval	0.78x0.49x0.12m	Burnt stones and charcoal	LNeo (C14)
157	6114	6115		Subcircular	0.49x0.58x 0.09m	Charcoal, flint debitage, nutshell, charred weed seeds	LNeo (C14)
158	4624	4625	Pair with 4626	Oval	1.05x0.65x0.17m		Undated
158	4626	4627	Pair with 4624	Subcircular	0.6–0.7x0.23m		Undated
158	4631	4630	Pair with, and cut, 4633	Sub-oval	0.90x0.58x0.20m	Charcoal flecks, Impressed Ware pottery, flints	MNeo (pottery)
158	4633	4632	Pair with, and cut by, 4631	Circular	0.8x0.25m	Burnt stone, charcoal, pottery ? Food vessel	MNeo (relationship with 4631)
158	5907	5904, 5905, 5906		Subcircular	1.10x0.90x0.40m	Possibly part of timber circle	Chalcolithic
158	5928	5929		Circular	0.3mx0.24m	Charcoal, burnt bone	Undated
158	5943	5944		Oval	0.84x0.44x0.05m	Hearth base, burnt clay, charcoal flecks	Undated
158	5946	5949		Oval	2.1x1.5x0.7m	Single charred wheat grain, charcoal	Undated
158	5948	5947	Pair with 5951	Circular	0.34x0.28m	Charcoal, undated hand-built pottery and flint, charred cereal grain	Uncertain
158	5951	5950	Pair with 5948	Subcircular	0.7x0.6x0.2m	Charcoal	Undated
158	5952	5953, 5954		Circular	1.1x0.4m	Flint, charcoal and barley from 5954	Undated

Table 4.13: pits in Fields 155 to 165 (continued).

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
158	5981	5980		Subcircular	0.52x0.43x0.12m	Charcoal	Undated
159	5892	5893		Sub-oval	0.82x0.69x0.29m		Undated
159	5894	5895		Subcircular	1.3x0.4m		Undated
159	5897	5896		Subcircular	1.36x0.85x0.28m		Undated
159	5900	5901		Irregular oval	2 x1.1x0.45m		Undated
159	5909	5910		Irregular	3.32x1.38x0.44m	Possible tree-throw, pottery	?EBA (pot)
160	5121	5120		Sub-oval	0.8x0.48x0.12m		Undated
160	5200	5201		Oval	1x0.9x0.19m		Undated
160	5663	5664, 5665		Subcircular	0.98x0.78x0.32m		Undated
160	5669	5671	Pair with 5670	Oval	1.41x1.35x0.25m		Undated
160	5670	5672	Pair with 5669	Circular	0.49x0.15m		Undated
160	5687	5688		Oval	4.2x1.9x0.59m	Possible tree-throw, Early Neolithic scraper (RF 565)	?ENeo (flint)
160	5713	5714		Subcircular	1.7x1.5x0.28m	Undated pottery, flints	Neo (based on flint)
160	–	5765		Unknown	>0.82 wide x 0.19m thick	Probable feature, Grooved Ware	LNeo
160	5811	5810, 5817		Irregular	3 x1x0.2m	Burnt soil and charcoal flecks	Undated
162	5154	5155	Pair with 5171	Subcircular	0.75x0.6x0.25m		Undated
162	5171	5172	Pair with 5154	Subcircular	0.5x0.09m		Undated
162	5157	5156	Pair with 5174	Circular	0.83x0.8x0.23m		Neolithic, by association with 5174
162	5174	5173	Pair with 5157	Circular	0.64x0.1m	Flints	Neolithic (flints)
162	5190	5193, 5194, 5195		Oval	>2.6x1.4x0.95m	Possible tree-throw, 3 chert flakes	Undated
163N	4999	4997, 4998		Oval	1.14x0.36x0.22m	?EBA pot, flint	EBA
163N	5008	5009	Group of 3 with 5010 and 5026	Circular	0.77mx0.15m	No charcoal	LNeo or EBA by association with 5026
163N	5010	5011	Group of 3 with 5008 and 5026	Circular	0.57mx0.15m	No charcoal	LNeo or EBA by association with 5026
163N	5026	5027, 5028, 5029	Group of 3 with 5008 and 5010	Subcircular	Up to 0.77x0.63m	Charcoal flecks, Grooved Ware pottery, ?EBA pottery, flint	LNeo or EBA
163N	5002	5000, 5001	Group of 3 with 5013 and 5031	Circular	1.2mx0.65m	Charcoal, Grooved Ware pottery, flints	LNeo
163N	5013	5012	Group of 3 with 5002 and 5031	Subcircular	1.12x0.9x0.4m	Charcoal, Grooved Ware pottery	LNeo

Table 4.13: pits in Fields 155 to 165 (continued).

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
163N	5031	5030	Group of 3 with 5002 and 5013	Circular	0.74mx0.27m	Pottery, flint	LNeo by assoc. with 5002 and 5013
164S	13694	13695		Oval	0.76x0.56x0.12m	No charcoal	Undated
164S	13689	13690, 13691	Pair with 13692	Subcircular	1.36x0.9x0.27m	No charcoal	Undated
164S	13692	13693	Pair with 13689	Subcircular	0.6x0.13m	No charcoal	Undated
164S	13706	13707		Subrectangular	1.4x0.62x0.22m	Charcoal, flint	Undated
164	4004	4003		Subcircular	1.64x0.43m	Charcoal, chert	Prehistoric (chert assemblage)
164	4033	4032, 4042, 4043, 4044		Sub-oval	2.58x1.73x0.84m		Undated
164	4048	4049	Cut by 4050	Circular	0.68x0.43m		Undated
164	4050	4051, 4052, 4091	Cut 4048	Oval	2.2x1.45x0.35m		Undated
164	4059	4057, 4058	Pair with 4062	Subcircular	0.48x0.3m		Undated
164	4062	4060, 4061	Pair with 4059	Circular	0.55x0.35m		Undated
164	4110	4109, 4116		Subcircular	1.08x1.02x0.61m	Charcoal, Mesolithic flint (?residual)	Undated
164	4114	4115		Oval	0.6x0.5x0.24m	Charcoal	Undated
164	4129	4128, 4136	Pair with 4162	Subcircular	1.2x1x0.33m	Charcoal, pottery, flint	LNeo
164	4162	4160, 4161, 4212	Pair with 4129	Circular	1.1x0.7m	Charcoal, pottery, flint	LNeo
164	4193	4194		Subcircular	0.9x0.75x0.37m	No charcoal	Undated
164	4204	4203		Oval	1.44x>0.55x0.1m	No charcoal	Undated
164	4222	4221		Subcircular	0.38x0.3x0.09m	No charcoal	Undated
164	4229	4230, 4231		Subcircular	1.8x1.6x0.54m		Undated
164	4279	4278	Relationship with pit 4162 not determined	Circular	0.6x0.12m		Undated
164	4340	4339	Pair with 4353	Subcircular	0.84x0.76x0.2m	Charcoal	LNeo (C14)
164	4353	4352	Pair with 4340	Subcircular	0.78x0.56x0.08m		LNeo by assoc. with 4340
164	4385	4384		Circular	0.5x0.13m	Mesolithic flint debitage (?residual)	Undated
164	4396	4395		Circular	0.29x0.08m		Undated
164	4397	4398		Circular	1.08x0.14m		Undated
164	4400	4399, 4405		Circular	1.00x0.36m		Undated
164	4402	4401		Subcircular	0.38x0.21m		Undated
164	4403	4404		Subcircular	1.4x1.3x0.3m		Undated
164	4419	4420		Oval	1.98x1.54x0.28m		Undated

Table 4.13: pits in Fields 155 to 165 (continued).

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
164	4494	4495	Cut by IA/ RB enclosure ditch	Circular	1.35x0.33m	Charcoal	Undated
165	4865	4866	Pair with 4867	Oval	0.37x0.26x0.21m		Undated
165	4867	4868	Pair with 4865	Circular	0.4x0.10m		Undated
165	4869	4870		Subcircular	1.31x1.3x0.42m	Charcoal flecks	Undated
165	4871	4872		Oval	0.52x0.43x0.19m		Undated
165	4877	4874, 4875, 4876		Sub-oval	2x1.3x0.55m		Undated
165	4884	4879, 4880, 4881, 4882, 4883		Sub-oval	2x1.28x0.92m	Flint debitage	Undated
165	4889	4890		Sub-oval	1.06x0.58x0.13m		Undated

was rich with hazel charcoal, and contained fragments of flint debitage and charred hazelnut shell (fill **6115**) that provided a Late Neolithic date of 2835–2490 calBC (4058±24 BP, SUERC-92786). On the opposite side of the wetland area, in Field 158, there was a pair of closely spaced pits **5948** and **5951**. Pit **5948** was filled with charcoal-flecked dark brown sandy clay (**5947**), which contained eight handmade potsherds assessed as being of Pre-Roman Iron Age or Romano-British in date (but see discussion in Section 6), a flint blade and two undiagnostic flakes. Slightly larger pit **5951** to the northwest did not contain finds. Charcoal from these pits included an unidentified hardwood, poplar/willow, hazel and privet.

Further upslope to the north, pit **5943** was filled with orange clay and hazel charcoal (**5944**). To the west of this, and also on the 'saddle' connecting the summit of the drumlin to the hillslope to the west, was a pair of intercutting pits (**4631** and **4633**). The earlier pit **4633** was filled with yellowish grey sandy silt (**4632**) containing burnt stones, charcoal and a sherd of pottery provisionally identified as being from an Early Bronze Age Food Vessel. Pit **4633** was cut by pit **4631**, which had a charcoal-flecked yellowish grey fill (**4630**) that produced a piece of flint debitage, two sherds of Impressed Ware and a corresponding radiocarbon date of 3336–3030 calBC (*Calluna* charcoal, 4473±22 BP, SUERC-92787). This suggests that the uncertain identification of the potsherd from the earlier pit as Food Vessel was incorrect, although it should be noted that there are stylistic links (with modification) between the earlier Impressed Wares and the later Food Vessels and Collared Urns (Gibson 2018, 47). The radiocarbon date intimates that pits **4631** and **4633** were broadly contemporary with use of the small hengiform enclosure 50m to the north-east (above, Section 3). The charcoal assemblage from the pits was varied and probably represented opportunistic gathering of firewood. Species present included an unidentified hardwood,

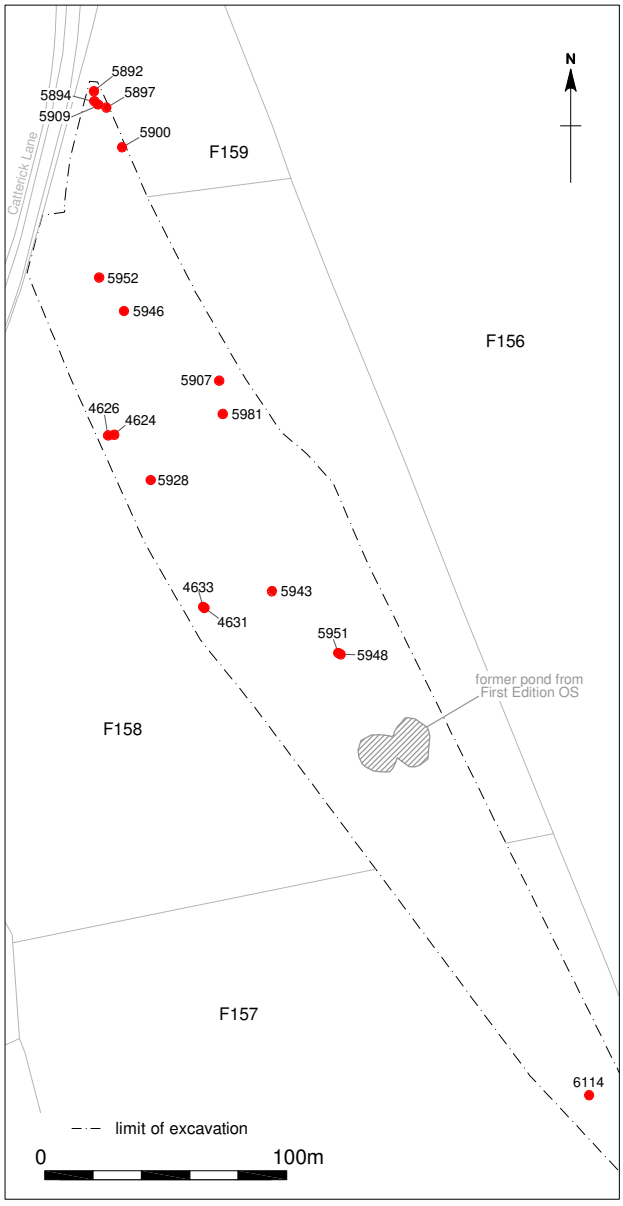

Figure 4.27: pits in Fields 157 and 158/159.

hazel, ivy, heather, *Prunus*, alder/hazel and rose.

On the lower ground to the north of the drumlin, many of the discrete features have been described earlier as forming a possible timber circle. It has been noted that pit **5907** (described above as part of the circle), despite lying on the projected circumference of the monument did not fit the expected spacing and, based on limited radiocarbon dating, may have pre-dated it. It has therefore been included again in Table 4.13 above as a possible 'domestic' feature. Just to the south-east of the circle, small pit **5981** was filled with dark brown sandy silt (**5980**) flecked with oak charcoal. Another small pit **5928** was also located close to the southern perimeter of the circle. It was filled with dark brown sandy clay (**5929**) containing fragments of unidentifiable burnt bone and a varied assemblage of charcoal including oak, rose, field maple, hazel and wild privet.

Four undated features were located inside the area of the circle, although none could be shown to have any association with it. A pair of pits (**4624** and **4626**) filled with reddish brown sandy silt lay near its southern edge at the western side of the stripped area. To the north-east, pit **5946** appeared to have been left open for some time, allowing weathering of the sides, before being infilled with dark grey sandy silt (**5949**), which produced an unidentifiable charred cereal grain, *Prunus* and hardwood charcoal. Pit **5952** contained two fills of brown silty sand (**5953** and **5954**). Deposit **5954** produced an undiagnostic flint flake, a charred barley grain and alder/hazel charcoal.

Five more pits were located within the narrow northern end of the stripped area in Field 159, and it is believed likely that additional features exist to the east beyond the motorway boundary. Pits **5892**, **5894**, **5897** and **5900** were filled with mid- or dark brown sandy silt or clay and did not contain any finds or charcoal. 'Pit' **5909** was an irregular, elongated feature, which could have originated as a tree-throw. It was filled with mid-brown sandy silt (**5910**) and contained a sherd of possibly Early Bronze Age pottery.

Fields 160 and 162

To the north-west of Catterick Lane, Field 160 formed part of a broad level area to the south of Brough Beck. The northern half was covered by a series of Roman enclosures, including a number of pits; those which could not be shown to be associated with this later activity have been included here. Evidence for Roman activity was largely absent from the southern part of the area.

Given the preponderance of Roman archaeology in Field 160, the majority of the lithics found were residual in later features. Undiagnostic pieces included five flint or chert flakes and six pieces of debitage. Objects of note included a probable later Neolithic oblique arrowhead (context **5179**) and an Early Bronze Age barbed and tanged arrowhead of the Conygar Hill type (BF) (Butler 2005; Green 1980) (context **4857**).

Towards the southern end of the stripped area, three pits were recorded in a narrow corridor stripped along the western side of the area (Fig. 4.28). Despite their small number, the density of these features in such a limited area suggested that more features are likely to be present in this part of the field.

Pit **5663** had a lower fill of dark grey silty sand with some charcoal (**5664**) below a 'clean' backfill of reddish brown silty sand (**5665**). The other two pits, **5669** and **5670** lay adjacent to one another, with the larger pit **5669** to the south-east. Both pits were filled with yellowish brown sandy silt (**5671** and **5672,** respectively).

Within the main excavation area, feature **5687** was located to the south of the Roman enclosures This feature, which may have been a tree-throw, was filled with mid-brown gravel and sandy silt (**5688**) (essentially redeposited natural) and contained a flint scraper of probable Early Neolithic date.

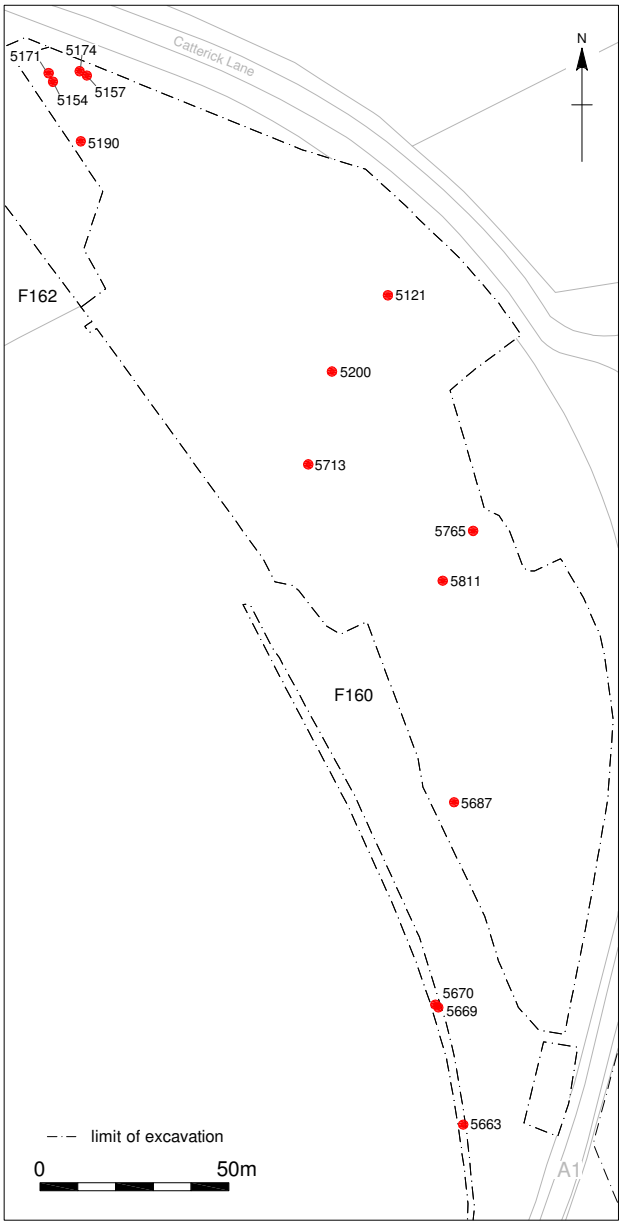

Figure 4.28: pits in Fields 160 and 162.

Several features located among the Roman enclosures may have had an earlier origin. Pit **5713** had a dark brown or black sandy silt fill (**5714**) which contained a small assemblage of flint, comprising four flint flakes and a blade considered to be Neolithic in date. Two pieces of pottery were initially assessed as being of possibly Iron Age date but being abraded non-diagnostic body sherds the dating from the flint has, on balance, been preferred for this feature.

Undated pits **5200**, **5121** and **5811** were each filled with brown sandy silt. Deposit **5765**, located towards the eastern edge of the area, was only recorded in section because of truncation. No edges to the associated cut were evident, but it almost certainly represented another early prehistoric cut feature. The mid-brown sandy silt produced 11 sherds of Late Neolithic Grooved Ware pottery.

In Field 162, directly north of Field 160, two pairs of small circular pits (**5154**/**5171**) and **5157**/**5174**) were located close together near the northern end of the stripped area. All four were filled with dark brown sandy silt. Pit **5174** (fill **5173**) contained four flint flakes and a flint blade, possibly from a single episode of knapping and were considered Neolithic in date. Residual flint amounted to four flakes and a fragment of debitage. Near the southern edge of the field, a possible tree-throw (**5190**) was filled with disturbed grey natural sand and grit (**5195**) overlain by two deposits of dark brown sandy silt (**5194**, **5193**). Fill **5194** produced three chert flakes that were not diagnostic to period. Another flake and a fragment of debitage (both flint) were unstratified.

Fields 163S and 163C

The Roman enclosure system recorded in Field 160 extended to the north-east across Field 163S, and to the north of this in Field 163C was the extensive Bainesse Roman cemetery (Teasdale *et al*. 2018). No certainly prehistoric features were identified in either area and, given the density of Roman activity, it was considered likely that the few undated features were of Roman origin. However, a quantity of flint was found residually across both areas, especially as a result of extensive sieving of grave fills within the cemetery, sufficient to suggest Mesolithic and (probably Early) Neolithic flint-working in this area (Foulds 2018, 559). Given the small area excavated in Field 163S, a surprisingly large assemblage of 25 knapped lithics was recovered, although this was almost entirely debitage (23 pieces). Other pieces were a flake and a badly damaged scraper, which could only be suggested to be of Neolithic or Early Bronze Age date. With the exception of a piece of chert debitage, all of the pieces were flint.

In Field 163C, a small residual sherd of possible Early Bronze Age pottery was recovered from a Roman ditch to the north of the cemetery and close to the beck by the 2005 evaluation (context **434**). A total of 77 knapped lithics were collected, of which, most were flint or chert debitage (63 pieces). Other material comprised two Mesolithic/Early Neolithic chert cores, eight non-diagnostic flakes, three Mesolithic/Early Neolithic blades and a retouched flake of probable Early Neolithic date.

Fields 163N, 164S and 164

The north end of Field 163 was bisected by Brough Beck, and the land north of the beck was crossed at an angle by Tunstall Road (now re-routed) and its embankment to the former A1(T) overbridge. The north-west part of this land was termed Field 163N while 164S represented the land to the north-east and the former road embankment. Between the two areas, the land had been cut back by a former meander of Brough Beck, which would have truncated any archaeological deposits. A channel of probably pre-Roman date was identified below a medieval or early post-medieval streamside structure excavated in Area 163N (Speed 2017, 53 and fig. 3). To the north of Tunstall Road, the new motorway ran along the western edge of the stripped area with a balancing pond created between it and the former A1(T), meaning that a large area was available for examination.

Several flints were recovered from later contexts during excavation of the streamside structure (*ibid*., 63) including four pieces of debitage (contexts **4761** and **4917**) and an Early Neolithic retouched flake (**4781**). Other residual material from Field 163N comprised 14 pieces of debitage.

Seven circular or oval pits of probably early prehistoric date were located on a distinct area of higher ground at the north-west corner of Field 163N, overlooking the beck (Fig. 4.29). Although the beck is today canalised into a straight channel, it once meandered and its bed was at a higher level (*ibid*., 53–5), meaning the lower parts of Field 163 may have been prone to flooding (Teasdale *et al*. 2018, 266–7), so these features may have bordered a resource-rich wetland area.

Three circular pits were recorded in a group in the north-west corner of the higher ground Fig. 4.29). The largest feature, pit **5002**, had a primary fill of greyish brown sandy silt soil (**5001**), which contained charcoal fragments, 13 sherds of Late Neolithic Grooved Ware pottery, a flint core and 18 pieces of flint debitage. The upper part of the pit had been infilled with a dump of large stones and small boulders (**5000**) and some charcoal in a matrix of reddish brown sandy silt. Just to the south, there was a closely spaced pit-pair, features **5013** and **5031**. Both pits had a single fill of reddish brown sandy silt (**5012** and **5030** respectively). Deposit **5012** contained charcoal flecks, 34 sherds of Grooved Ware pottery, a Neolithic flint flake and three pieces of debitage. Deposit **5030** contained a flint flake and three pieces of debitage. Sherds of Grooved Ware were noted on the excavation record, but are not present in the site archive and appear to have been lost.

Located c.10m to the south-west, pit **4999** had two fills of sandy gravel (**4998**) below brownish grey silty sand (**4997**), which contained lenses of soot, charcoal

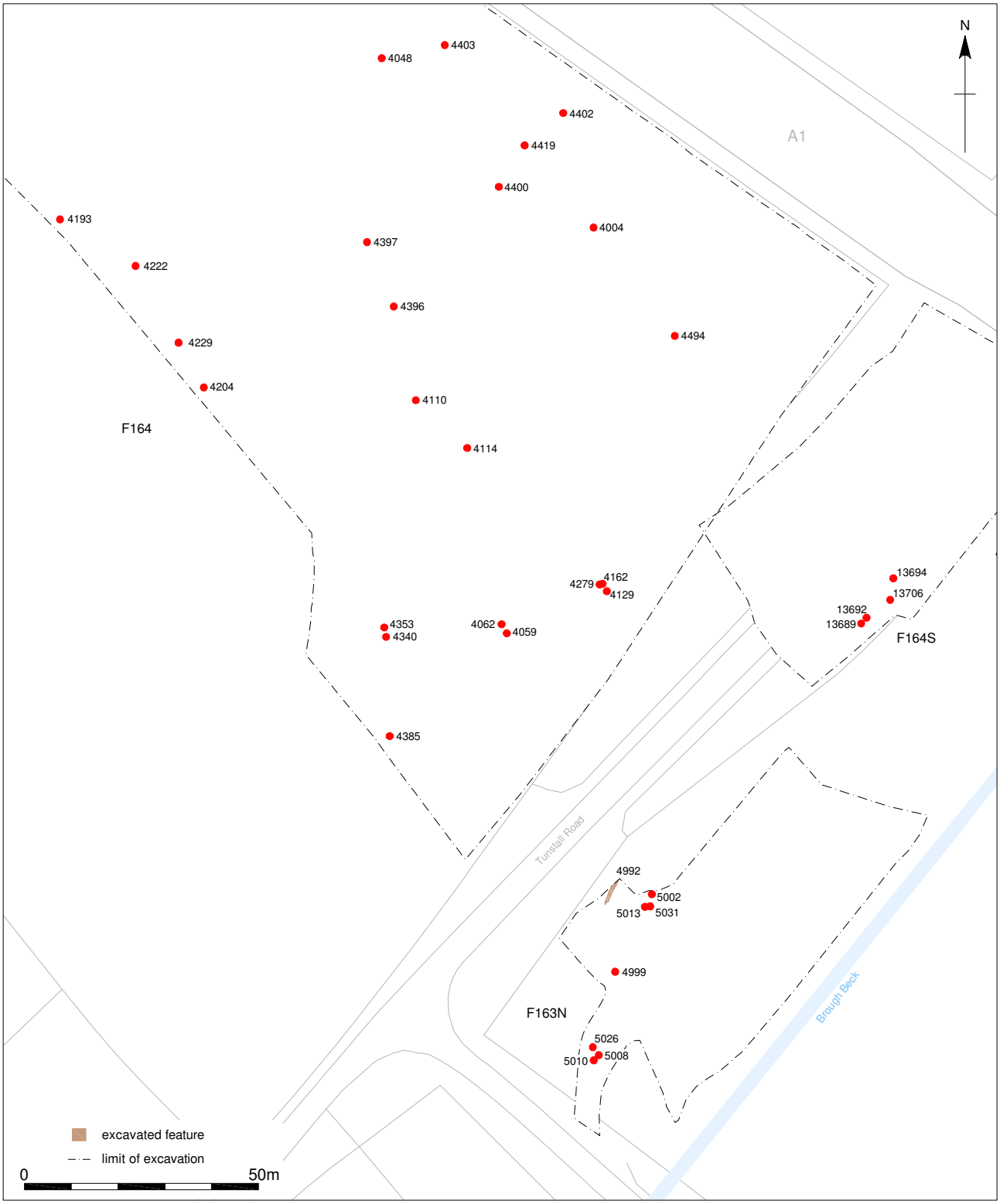

Figure 4.29: pits in Fields 163N, 164S and 164 (south-east half).

fragments, seven small sherds of handmade pottery of possible Early Bronze Age date, four pieces of flint debitage and a flint flake.

Towards the south-west, there was another group of three pits. The largest, **5026**, had three fills. Above a primary silting layer (**5027**) were two fills of charcoal-flecked dark greyish brown sandy silt (**5028** and **5029**). Deposit **5028** contained a sherd of Grooved Ware, eight sherds of possibly Early Bronze Age pottery, another 16 hand-made sherds assessed as being of possible Iron Age or Roman date (see discussion in Section 6), an Early Neolithic flint scraper (presumably residual), five flint flakes and eight pieces of debitage. Deposit **5029** produced five more sherds of Grooved Ware. A pair of smaller pits **5008** and **5010**, was located a few metres to the south. They were filled respectively with greyish brown sandy silt (**5009**) and yellow-brown silty sand (**5011**). Neither produced artefacts.

Just to the west of the northern group of pits, the south-western terminal of a small, curving ditch **4992** was recorded. The ditch was more than 5m long (continuing beyond the stripped area to the north-east), 0.5m wide and survived to a depth of 0.2m. Although no dating evidence was recovered, the form and orientation of the feature (at odds with the surrounding Roman enclosure system) suggested that it may have had a prehistoric origin.

In Area 164S, there was a large number of Roman archaeological features, including a number of pits. Four pit features, located close to the beck to the south-west of the main area of Roman remains, were not demonstrably Roman in date, and are included here (Fig. 4.29). In addition, two residual lithics were recovered, a flint flake (context **13882**) and a triangular arrowhead of Neolithic or Bronze Age date (**13720**).

Pit **13694** was filled with charcoal in a matrix of black silt, possibly soot (**13695**). Pits **13689** and **13692** were located next to one another. The base of the larger pit **13689** contained brown silt (**13691**) with the top backfilled with redeposited natural (**13690**). The smaller pit **13692** was filled with mid-brown clayey silt. The fourth pit (**13706**) was filled with charcoal-flecked brown sandy silt (**13707**). None of the pits contained artefacts and were not dateable.

Field 164

Many of the pits in Field 164 that are considered here were situated among Late Iron Age or Roman enclosures extending across the southern half of the field, with more features in the open area to the north. Several of the pits were large (c.2m across), and some or all of these may have been associated with the later activity. Larger pits, usually circular, are typical of Iron Age settlement sites, for example at Castle Hills near Micklefield in West Yorkshire (Brown *et al*. 2007, 93–9); however, being undated the examples in Field 164 have been included here.

Residual or unstratified lithics from Field 164 were restricted to nine fragments of flint or chert debitage, together with a Neolithic chert core (context **4001**).

Several pits were of certain or probable early prehistoric date, while the rest were undated. In the south-west part of the area (across Catterick Lane from the Neolithic pits in Field 163N), there were three pairs of pits (**4129/4162**, **4340/4353** and **4059/4062**) each of which were aligned north-south and spaced between c.1–2m apart (Fig. 4.29).

Pit **4129** had a thin primary fill of yellowish brown sandy silt (**4136**) probably representing weathering of the pit sides (Fig. 4.30, section A; Plate 4.13). The main fill consisted of a single deposit of charcoal-flecked greyish brown silt (**4128**), which included large stones (up to 350mm), 63 sherds and some small fragments of Grooved Ware pottery from at least three vessels (Plates 4.14 and 4.15). The only diagnostic items among the six pieces of flint recovered (a blade and a core fragment) were both assessed to be Mesolithic in date, and if so, must have been residual.

Adjacent pit **4162** had a primary fill of black silt (**4161**), which contained unidentifiable fragments of burnt bone, 20 sherds of Neolithic pottery and 10 sherds suggested to be probable Collared Urn; however, carbonised residue on one of the main group of sherds provided a Middle to Late Neolithic radiocarbon date of 3341–3092 calBC (4487±25 BP, SUERC-76384). Above this, running down the north side of the pit (Fig. 4.30, section B), was a deposit of yellowish grey sandy silt (**4212**) which had probably collapsed from the side of the pit but which contained six sherds of Grooved Ware from at least two vessels, plus a sherd from another vessel suggested to be possible Collared Urn, some unidentifiable ceramic

Plate 4.13: pit **4129** *half-sectioned, showing pottery in situ, scale 0.25m.*

crumbs and a small fragment of fired clay. The upper fill **4160** was dark brownish grey silt, which contained a sherd of Grooved Ware. As with pit **4129**, feature **4162** contained a quantity of lithics (flint and chert), six pieces from **4161** and two from **4160**, of which all the diagnostic objects were Mesolithic in date, a blade from **4160** and a blade and bladelet from **4161**, suggesting that the lithic material was residual and had been introduced to the pit from another source as it was back-filled.

Plate 4.14: detail of pottery in situ in pit **4129**, *scale 0.1m.*

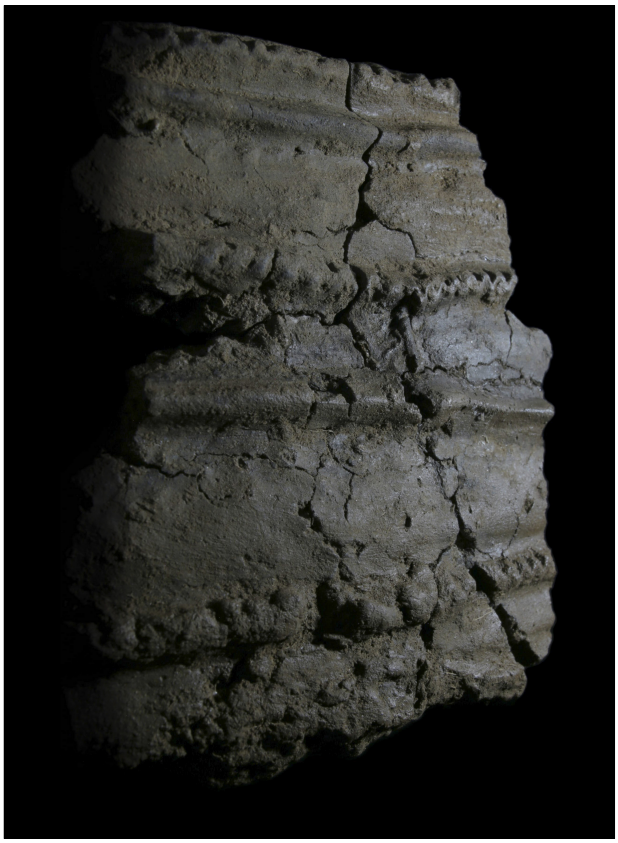

Plate 4.15: Grooved Ware pottery from pit **4129**.

Pit **4162** was intercut with a smaller pit **4279** but the relationship between the two features could not be determined (Plate 4.16). Pit **4279** was filled with dark brownish grey silt.

Pit **4340** was filled with mid-brown sandy silt (**4339**) containing charcoal and a piece of flint debitage. *Prunus* charcoal from this deposit provided a Late Neolithic radiocarbon date of 3090–2921 calBC (4393±22 BP, SUERC-92795). Nearby pit **4353** was filled with grey silty clay **4352** containing frequent charcoal. Of the third, undated, pair of pits (**4059**/**4062**), pit **4059** was filled with reddish brown silty sand below charcoal-flecked greyish brown silty sand (**4058** and **4057**). Pit **4062** contained greyish brown silty sand (**4061**) below charcoal-flecked greyish brown silty sand (**4060**).

Plate 4.16: pits **4129**, **4162** *and* **4279** *fully excavated, facing south-east, scales 1m and 2m.*

Three more undated pits within the area of the enclosures may have been earlier features. Pit **4114** was filled with charcoal-flecked dark brown sandy silt (**4115**). Pit **4385** contained greyish brown sandy silt (**4384**), part of a Mesolithic flint bladelet and a piece of debitage. Pit **4494** was cut by one of the enclosure ditches (**4501**) and was filled with greyish brown silt (**4495**).

Further undated pits were spread widely across the area to the north of the enclosures. Pit **4004** contained charcoal-flecked very dark grey-brown silty sand (**4003**) which included an undiagnostic chert blade and three pieces of chert debitage. Pit **4048** had been heavily truncated by a larger pit **4050** (described below) and was filled with greyish brown sandy silt. Pit **4193** was filed with mid-brown sandy clay (**4194**) while pits **4204** and **4403** were filled with greyish brown clayey silt (respectively **4203** and **4404**), as was pit **4397** (fill **4398**). Pits **4396** and **4402** were filled with yellow-grey sandy silt (**4395** and **4401**), similar to the natural subsoil, while pit **4400** contained two deposits of orange and brownish grey silty sand (**4399** and **4405**). Pit **4222** was filled with burnt material in a reddish brown burnt soil matrix (**4221**). Finally, pit **4110** contained two fills, brown clayey silt (**4116**) below darker brown clayey silt (**4109**). As remarked in Section 2, the only dating

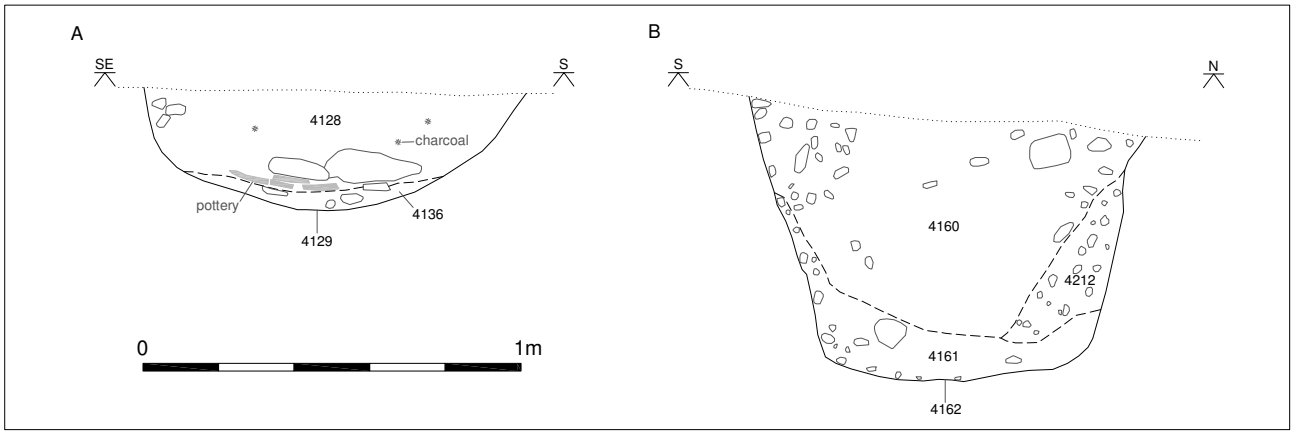

Figure 4.30: pit sections.

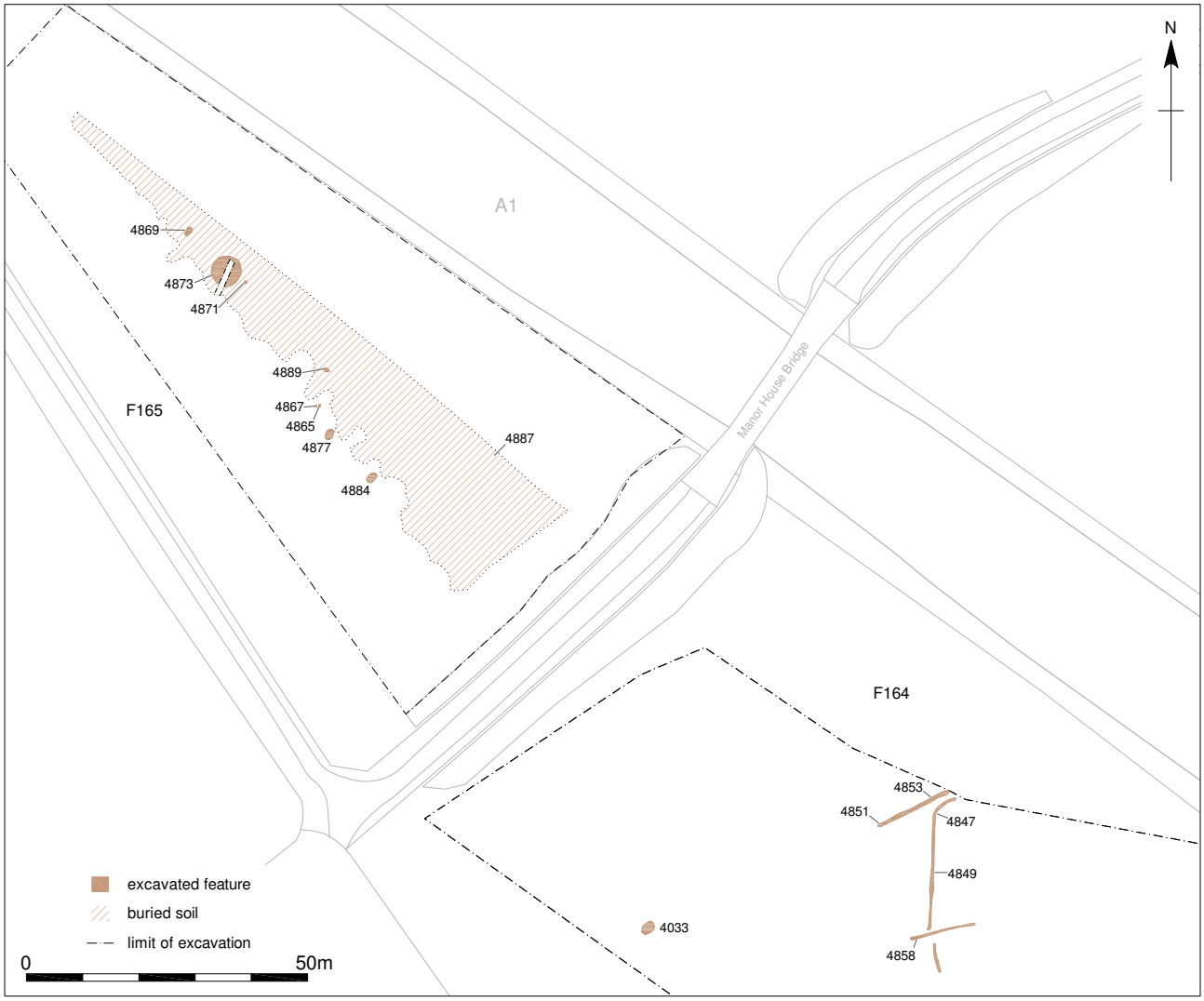

Figure 4.31: features in Fields 164 (north-western half) and 165.

evidence for this feature was a Mesolithic flint bladelet from deposit **4116**, although this is considered likely to have been residual.

As noted above, there were four larger undated pits. Pit **4033** (Fig. 4.31) was filled with three deposits of silty clay below a final deposit of charcoal-flecked mid-brown sandy silt (**4032**). Pit **4050** cut pit **4048** and contained three fills of grey-brown clayey or sandy silt. Large circular pit **4229** contained two deposits, greyish brown silty sand (**4231**) below charcoal-flecked dark greyish brown sandy silt (**4230**). Pit **4419** was filled with dark greyish brown sandy silt (**4420**).

Towards the north-eastern corner of the field, there were several small gullies or slots, including two (features **4847/4849** and **4851/4853**) arranged to form a 'funnel' or 'crush', possibly for handling or sorting livestock (Fig. 4.31). Another short length of gully (**4858**) crossed the line of gully **4847/4849** and produced two sherds of Early Bonze Age Collared Urn (fill **4859**) and two pieces of debitage. Truncation meant that the relationship between the two features had been lost but their presence in the same small area, with no similar gullies nearby, did suggest some association. 'Crushes' of this type are documented elsewhere from the Bronze Age onwards (Pryor 1996), but the lack of evidence for early land-division in the Vale of Mowbray means that similar features have not previously been documented in the area. A carbonised barley grain from **4858** returned a medieval radiocarbon date of 1057–1245 calAD (858±22 BP, SUERC-92796). However, evidence from Scorton Quarry, where nearly all radiocarbon samples on carbonised grain from definitely prehistoric features returned Anglo-Saxon or medieval dates, demonstrates the potentially intrusive nature of this type of sample material, so given the presence of the 'isolated', and therefore possibly associated, early artefacts from the features, the true date of the Field 164 gullies must remain open.

Field 165

The distribution of features identified in Field 165 was constrained as a result of the new motorway alignment running across a northeast-facing slope. Upslope (to the south-west), severe truncation had removed any archaeological deposits. Downslope, removal of colluvium revealed an ancient buried soil, truncated by ridge and furrow and possibly of Roman date, which

was not removed and is likely to have masked additional features (Speed 2015b). Small archaeological features were therefore visible only at the edge of the soil horizon, or occasionally where it had been lost as a result of later activity; therefore, the recorded features had a distinctly linear distribution (Fig. 4.31).

Six undated pits recorded in Field 165 included three large oval features (**4869**, **4877** and **4884**), which were 1.7–2m long, 1–1.3m wide and 0.42–0.92m deep, larger than most of the features considered in this section. The dark grey silty clay fill (**4870**) of feature **4869** was flecked with charcoal and fill **4879** of pit **4884** contained a piece of flint debitage. Another oval pit, **4889**, was half the size, while the remaining pair (**4865** and **4867**) were small circular features only 0.3m apart.

Catterick (Fields 166–171)

No archaeological work was undertaken in Fields 166–169. The area at the eastern side of the A1 has been extensively quarried for gravel (Pallett Hill Quarry), although previous monitoring here recorded Late Bronze Age and Early Iron Age enclosures and Roman features (Wilson 2002, 30; Cardwell and Wilson 2002; Manby *et al*. 2003, 94). Extraction directly to the east of Field 170 has removed much of the Catterick Racecourse Henge. Parts of this monument still survive to the north-east and north (see Field 174 below) and the north-eastern side was investigated prior to quarrying works in 1995 (Moloney *et al*. 2003). However, other than in Field 171, both phases of A1 evaluation works through these fields were restricted to geophysical survey, fieldwalking and a trial trench in Field 171 (CAS Site 510), which did not identify prehistoric remains (Wilson 1994, 30–1).

Monitoring of this part of the route was limited to Fields 170 and 171. The only early prehistoric evidence was found in Field 170. Two residual lithics comprised the Mesolithic or Neolithic blade noted in Section 2, and an Early Neolithic leaf-shaped arrowhead. A single small, undated pit (**7125**) was filled with reddish brown sandy silt.

The Swale Terraces (Fields 172–202)

Fields 172–202 encompass the low-lying areas to the south and north of the River Swale. To the south of the river, a shallow valley (Fields 172 and 174) once held a small, unnamed, stream flowing from north-west to south-east (Fig. 4.32). This was partially canalised in the post-medieval period to carry the overflow from the ornamental lake at Brough Hall, was subsequently culverted and is no longer visible (Speed *et al*. 2018a, 30–31 and fig. 2.7). Between the stream and the river there is a low hill that was the site of *Cataractonium* Roman walled town and fort (Wilson 2002; Ross and Ross 2021). To the north of the river, the northern suburbs of *Cataractonium* extended for some distance across the alluvial gravel terraces. The A1 route runs into the mouth of a shallow valley before the ground begins to rise gradually to the north. The small valley probably represents the northern edge of an ancient meander of the Swale, but today contains another small, unnamed, stream which crosses the northern edge of Field 185. At the northern end of the valley, another small stream approaches the A1, crossing Field 197 from north-west to south-east, passes below the A1 and continues eastwards at the southern edge of the (un-numbered) field to south of Field 200.

Recording of prehistoric archaeology along this section of the route was hampered by several factors, which resulted in only intermittent coverage. The Roman town of *Cataractonium* served to obscure or truncate any early deposits across the hilltop to the south of the Swale and also for some distance beyond it to the north. Roadworks through Brompton-on-Swale consisted largely of embankment widening along a strip of land already severely disturbed by previous A1 construction and subsequent industrial development, although some features were identified in Field 183. The only area excavation possible was where the A1 working area widened out for construction of a balancing pond in Field 185, fortuitously in an area that had not been subject to previous development. To the north of this, addition of lanes to the A1 was achieved by modifications to an existing cutting and adaptation of the existing Catterick North junction. To the north of the junction, there was opportunity for archaeological monitoring within a small area at the west side of the A1 (Fields 197 and 199), and open-area stripping of a wide corridor was resumed at the east side of the existing dual carriageway (Fields 200 onwards).

No fieldwalking was carried out here for the 2013–17 scheme, but evaluation connected with the planned 1990s A1 scheme included work in 1993 in Field 172. A corridor was examined along the route of what is now the local access road from the A1 Catterick Central junction to Colburn. The archaeological work identified a small flint scatter (centred at c.SE 2245 9839; Fig. 4.32) on the slope to the south of the stream (MNY13263; Makey 1994, 108–9), although a trial trench in this area produced negative results. On the opposite side of the A1, the southern two-thirds of Field 174 (excluding the Scheduled area) was fieldwalked for the Catterick Metal Detecting Project in 1998 (Brickstock *et al*. 2007). In total, 26 flint and stone finds were recovered but the material was not studied further.

To the north, in the area of the Roman town, investigations

Table 4.14: pit in Field 170.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
170	7125	7124		Circular	0.33x0.11m		Undated

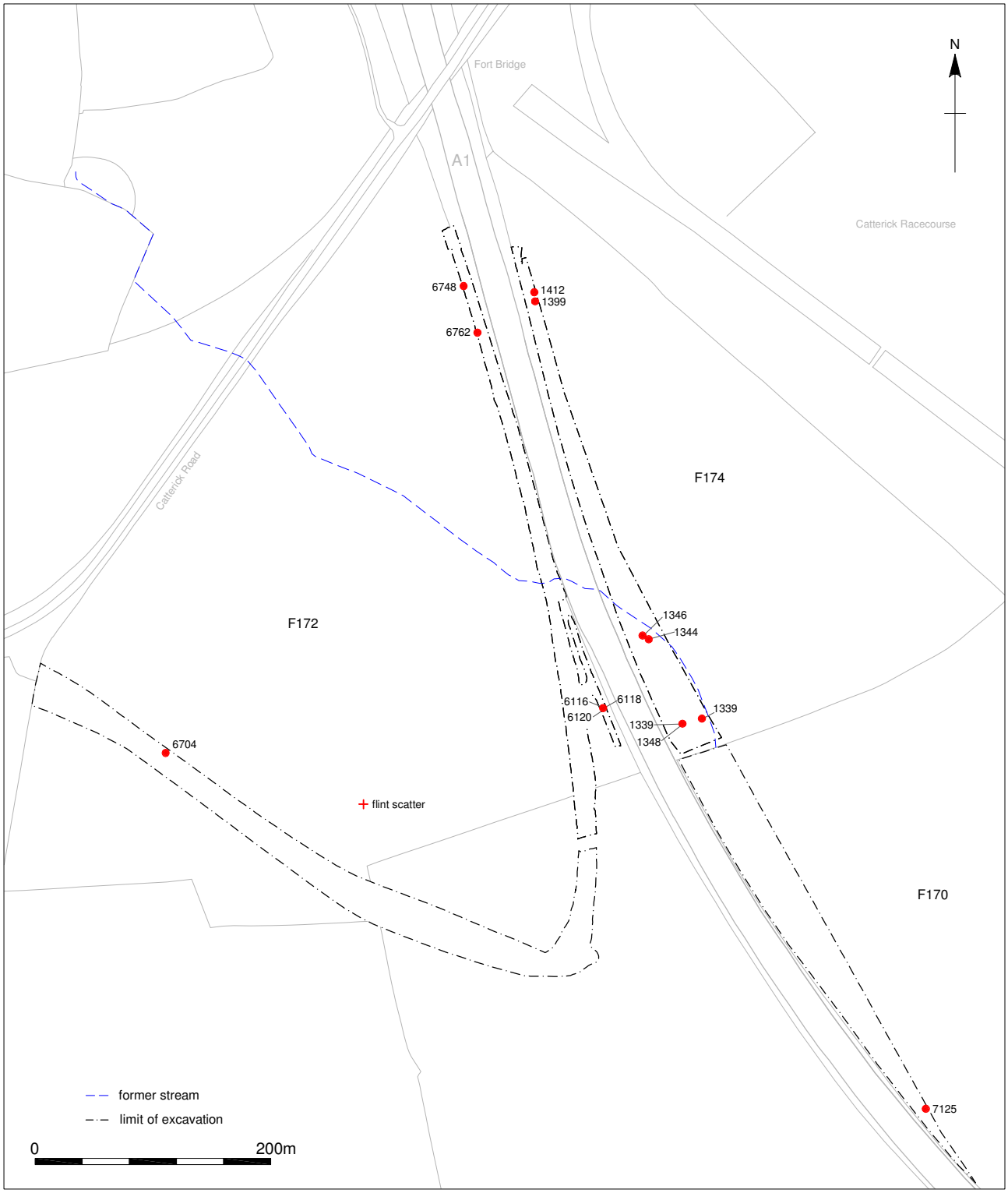

Figure 4.32: pits and flint scatter in Fields 170, 172 and 174.

in both the 1990s and in 2005/6 were largely restricted to excavation of relatively small trial trenches and borehole starter pits, limited by the presence of Thornbrough Farm, the Scheduled areas of the Roman town on both banks of the Swale, and then the village of Brompton-on-Swale at the west side of the A1 and its attendant industrial development along Gatherley Road (Wilson 1994; Speed 2006a; 2006f). Although the presence of the Scheduled Roman town has inhibited modern development close to the river, it has also served to prevent investigation of any underlying prehistoric features, and in general the only prehistoric evidence for this part of the A1 route derives from objects found residually with Roman or later features. However, where total excavation has been possible, some pre-Roman deposits have been identified (Speed 2004). The A1 evaluation works produced small quantities of residual worked flint and chert of probably Neolithic or Early Bronze Age date, recovered from Roman or post-Roman deposits. These included one from Field 175 (Starter Pit 20113), two from in Brompton Playing Field (Field 178, Starter Pit 20121) and one from Field 179 (Starter Pit 20001). A flint core was recovered in this area by

Table 4.15: pits in Fields 172 and 174.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
172	6116	6117	Group with 6118, 6120	Circular	0.65x0.08m	Charcoal, EBA	EBA
172	6118	6119	Group with 6116, 6120	Circular	0.85x0.24m	Charcoal, pottery, hand-made pottery	?EBA (C14)
172	6120	6121	Group with 6116, 6118	Circular	0.82x0.23m	Charcoal, EBA pottery	EBA
172	6704	6705		Oval	0.92x0.49x0.08m	Charcoal, hand-built pottery, flint	ENeo (C14)
172	6748	6749		Circular	0.6x0.17m		Undated
174	1344	1345	Pair with 1346	Sub-oval	1.10x0.52x0.34m		Undated
174	1346	1347	Pair with 1344	Sub-oval	1.45x1.1x0.15m		Undated
174	1339	1340	Pair with 1348	Oval	0.65x0.27x0.09m	Lenses of burnt soil	Undated
174	1348	1349	Pair with 1339	Oval	0.62x0.44 x0.12m	Filled with burnt soil	Undated
174	1399	1400		Oval	0.78x0.65x0.27m	Hand-built pottery, bone, burnt bone, flecks of 'CBM'	Uncertain
174	1412	1410, 1411		Subcircular	0.80x0.25m	Nothing, cut by Roman ditch	Undated

trial trenching in 1993 (CAS Site 511). An isolated flint was found in Field 187A in 1993 (CAS Site 507). A flint found in Field 199 has been described in the Mesolithic section above. Such small numbers of finds would conventionally be considered to suggest low-intensity contemporary activity on either bank of the river. However, only small numbers of flints were recovered during extensive excavations of later Neolithic occupation and ceremonial features at Hollow Banks Farm immediately to the north-east (Speed 2005), and almost no flints at all have been found across a much larger area investigated around the Scorton Cursus a little further downriver; the implication has to be that the low numbers of lithics recovered from the area cannot be equated to an absence of concentrated earlier prehistoric activity in this area.

Although the Roman town has largely obscured or obliterated earlier features, finds made in peripheral or protected areas indicate the wealth of early prehistoric evidence that may once have been present. Several prehistoric pits, one containing a Late Neolithic flint scraper, were found at the Thomas Armstrong Block Factory where they had been protected by the surface of Dere Street, and a sandstone block covered on two faces with rock art had been incorporated into a Roman structure (Speed 2004, 9 and plates 3–4; Vyner *et al.* 2011, fig. 4.8). Immediately to the east of the Roman town, a widespread number of pits, some containing Impressed and Grooved Wares, was found on the north bank of the River Swale at Hollow Banks Farm (Speed 2002). The absence of similar features, despite extensive monitoring on the opposite riverbank to the east of the Roman town is likely to be the result of Holocene reworking in the form of active river meanders. An Early Bronze Age pottery vessel, possibly derived from a burial, has previously been recovered a short distance to the west of the A1 excavations in Field 178 (Brompton Playing Field) (Wilson 2002, 8–10).

Given the fragmented nature of the monitoring along this part of the route, the following account has been sub-dived into several sections.

Fields 172 and 174

Fields 172 and 174 were located to the south of Catterick Road, Field 172 to the west of the A1 and Field 174 to the east. As noted above, they were formerly bisected by a stream flowing from north-west to south-east which is no longer visible (Fig. 4.32). At the top of the slope on the north side of the stream extensive remains associated with the southern edge of *Cataractonium* Roman town (Wilson 2002; Ross and Ross 2021) will have truncated and/or masked any earlier evidence.

In Field 172, a small quantity of residual flint was recovered from a number of later deposits. This comprised several Mesolithic/Neolithic pieces (see Section 2), an Early Neolithic flint scraper (context **6026**), two flint flakes and three pieces of chert and flint debitage. Only a small quantity of residual lithics were found in Field 174. Apart from two Mesolithic or Early Neolithic bladelets described in Section 2, the only diagnostic piece was a brown chert flake of probable Early Neolithic date. The remainder of the assemblage comprised four more flakes, six pieces of debitage and another piece which may have been 'tested' before being discarded. Although the residual lithic material was almost entirely recovered from the northern part of each field, these were the areas where Roman deposits had served to protect the residual earlier material from plough truncation and soil stripping, and probably does not reflect their original distribution.

Together with two features of possible Mesolithic date (**6700** and **6702**) described above, six more pits, an

undated hearth and a Bronze Age cremation burial were located on the low ridge running across the southern edge of Fields 172 and 174, overlooking the course of the former stream. The flint scatter identified in 1993, including material of probable Bronze Age date, was also located on the ridge (Makey 1994, 108–9). Pits **6116**, **6118** and **6120** were positioned in a tight cluster at the eastern edge of Field 172 adjacent to the A1. The pits were each filled with greyish brown clayey sandy silt (respectively **6117**, **6119** and **6121**) containing charcoal. All three features contained assemblages of hand-built pottery. Deposit **6117** produced 12 sherds of probable Collared Urn while deposit **6119** contained six sherds assessed as being of Iron Age or Roman date together with a Mesolithic flint blade, a flake and nine pieces of flint and chert debitage. Fill **6121** of pit **6120** included a sherd of Collared Urn, 10 sherds of probably Early Bronze Age pottery, a sherd assessed as being of Iron Age or Roman date, and two flint flakes. Corylus charcoal from deposit **6119** provided a Late Neolithic radiocarbon date of 2571–2470 calBC (3995±22 BP, SUERC-92797); however, allowing for possible 'old wood effect' this need not be inconsistent with most of the pottery from the other two pits, and on balance the features are considered to form a coherent Early Bronze Age group. The apparently 'intrusive' pottery assessed as being of Iron Age or Roman date is considered further in Section 6.

Pit **6704**, located on its own a short distance to the west, had been backfilled with a mixture of sooty black silt, charcoal and orange burnt soil (**6705**). This contained two flint flakes and 13 sherds of hand-built pottery. A sample of Corylus charcoal provided an Early Neolithic radiocarbon date of 3796–3671 calBC (4971±23 BP, SUERC-92802). Despite this, the pottery from the feature was again assessed of being of Iron Age or Romano-British character.

On the opposite side of the A1, features at the southern end of Field 174 included two pairs of pits and a Middle Bronze Age cremation burial, which has been described in detail elsewhere (pit **1391**, Speed *et al*. 2018a, 29–31). The pits were all undated. Two pits (**1344** and **1346**) lay close to the southern bank of the stream, which then turned more to the south, parallel to but east of the stripped corridor so that the other features, cremation burial **1391** and pits **1339** and **1348**, were also close to it (Fig. 4.32). Pits **1344** and **1346** were 5m apart so were widely spaced for a 'pit pair', but no other features were observed nearby so it is still possible that they were associated in some way. Both were filled with brown sandy clay (**1345** and **1347**, respectively), with a concentration of charcoal in the base of **1346**. Pits **1339** and **1348** were adjacent to each other. Although initially thought to represent a possible small kiln and flue (but with any connection lost to truncation), an interpretation as a pair of pits seems on balance more likely. Pit **1339** was filled with greyish brown sandy silt soil and lenses of orange burnt soil while pit **1348** was entirely filled with orange brown heat-affected sandy silt soil.

On the slope to the north of the stream, in the vicinity of the southern edge of *Cataractonium* Roman town, two more undated pits (**6748** and **6762**) met the selection criteria for possible prehistoric pits (but see below), while the presence of residual Early Bronze Age pottery in a nearby Roman layer (**25128**) supported early activity in this area. Pit **6748** was filled with orange brown silty clay containing charcoal fragments. Pit **6762**, however, contained an assemblage of unburnt animal bones. Given that unburnt animal or human bone rarely survives in prehistoric features in this area, the presence of this material suggests a more probable Roman origin for the feature and it has been excluded from this study.

To the east in Field 174, pits **1399** and **1412** were also found among numerous Roman features. Pit **1399** was filled with stones in a matrix of greyish brown silty clay (**1400**), which included charcoal, flecks of fired clay, burnt bone and two small, abraded sherds of hand-built pottery. Although reported with the Iron Age and Roman-period hand-built pottery, the same provisos on the dating of this highly non-diagnostic material apply and it could equally be earlier in date. The only dating for pit **1412** was that it had been truncated by a Roman ditch. It contained two fills. In the base was yellowish grey clayey silt with lenses of grey clay (**1411**) below a deposit of similar material containing large stones (**1410**).

In the same area, a fragment of Early Bronze Age Collared Urn was recovered from a Roman ditch (fill **1264**, ditch **1251**). Direct comparison to an equivalent sherd from a Collared Urn that contained a cremation burial at Hollow Banks Farm 1km to the north-east (Speed 2002, 9) showed a striking similarity in fabric, form and finish between the two vessels, which are therefore considered likely to have been in broadly contemporary use. The Hollow Banks burial was dated 1920–1690 calBC (carbonised tubers of *Arrhenatherum elatius*, 3493±41 BP, Wk-14321).

Fields 175–179

Due to disturbance from extensive Roman occupation in Fields 175–179, no early prehistoric features were identified by the A1 scheme. The only pre-Roman features identified previously (adjacent to Field 179) had been protected from later disruption by the earliest incarnation of Dere Street (Speed 2004).

There was little excavation in Field 175 and this was reflected in the small number of lithics recovered. Apart from a blade of Mesolithic or Early Neolithic date (described in Section 2), the assemblage comprised a Neolithic end-scraper, a single flake and a piece of debitage. In contrast, the more extensive investigations in Field 176, which excavated up to 3m of stratified Roman and post-Roman deposits, produced 115 residual knapped lithics. Besides 10 Mesolithic or Early Neolithic pieces, the material included a Neolithic chert blade, two cores, a retouched flake of possibly Bronze Age date, 35 other flakes and 63 pieces of debitage. Retouched tools included a notched piece of Neolithic or Bronze Age date, with two notches on one lateral edge and a

larger single notch on the opposing edge. A piercer/awl had been created on a flint flake, with abrupt, propeller retouch used to form the working point. The final piece of interest was an Early Neolithic leaf-shaped brown chert (or possibly ironstone) arrowhead of Green's (1980) type 1A or 2A. This displayed finely worked invasive flaking that covered both faces. It was similar to the ogival type, except that the edges as they converged to the tip were convex rather than concave.

To the north of the River Swale, more residual lithics were recovered from Fields 177–179. Apart from a Mesolithic or Early Neolithic core, Fields 177 and 178 produced a total of 34 pieces. The collection included two non-diagnostic blades, 11 flakes and 19 pieces of debitage. There were two objects of note. A finely worked disk scraper in chocolate brown flint had been finished using abrupt to semi-abrupt retouch around 95% of the circumference, with only the butt and platform left without modification, and there was a large negative scar on the dorsal into which the thumb fits neatly. It conforms to later Neolithic examples of this type, which tended to be broader and thinner (Butler 2005, 166–7). The second piece was a carefully retouched later Neolithic British oblique arrowhead (Green 1980).

Rather more lithics were recovered from Field 179, reflecting the considerably greater volume of Roman deposits that were excavated by hand. Apart from eight pieces of possible Mesolithic/Early Neolithic date, the 71 knapped pieces included 12 flakes, 54 pieces of debitage and five scrapers. Of two microscrapers, one was either Mesolithic or Bronze Age, the second more confidently of Early Bronze Age date. The three larger scrapers could be attributed to the Late Neolithic or Early Bronze Age.

In addition to the lithic material, a residual sherd of Late Neolithic or Early Bronze Age pottery was found in a Late Roman burial in Field 177 (fill **20961** of grave **20960**; Ross *et al*. 2018, 300–1). Although in a Roman settlement 'back-plot', the grave was relatively isolated and it is likely that the earlier pottery had not been displaced far from its original point of deposition. On the opposite side of the A1, four joining sherds of Early Bronze Age Food Vessel pottery were found residually in an Early Roman (Flavian) pit in Field 179 (Ross and Ross 2021, pit **9407**). The early date of the Roman feature suggests that the sherds are unlikely to have moved far from their original point of deposition, and it is of note that they were found only 20m from probably early prehistoric features recorded in 2002 sealed beneath Dere Street (Speed 2004, 9).

Gatherley Road (Fields 183 and 185)

To the north of Field 179 and Bridge Road, a strip was cleared along the eastern foot of the A1 embankment ahead of widening works. Most of this area was extremely disturbed by previous development and no archaeological features were identified except at the north end of Field 183 and in Field 185 where the stripped area widened to the east to incorporate a new balancing pond (Fig. 4.33). The northern boundary of Field 185 followed the course of a small stream, which was formerly respected by medieval strip fields and therefore presumably of ancient origin.

Dere Street Roman road passes to the east of the balancing pond in Field 185, running between the former Great North Road (now Gatherley Road) and the modern A1, and was recorded by A1 scheme geophysical survey. A previous archaeological investigation in Field 185 (Fig. 4.33) found the Roman road and also identified pits, gullies and postholes that were considered likely to represent prehistoric activity, although they did not produce finds. A small number of worked flints of Neolithic or Early Bronze Age date were recovered from an associated soil layer (Sherlock 2012).

Investigation within Field 183 was restricted to an area measuring 107m from north to south by up to 15m wide. Despite this limited area, five small ditches were identified (Fig. 4.34). These features stood out in two ways, both by running on orientations inconsistent with the known Roman, medieval and post-medieval landscape and also lacking the Roman or later artefacts or industrial residues prevalent in features found in Field 185 to the north. As such, they were considered likely to be of prehistoric origin.

The layout of the ditches suggested they represented successive phases of a 'funnel' narrowing towards an entrance located to the north-east beyond the excavated area. Ditches **10639**, **10641** and **10643** approached this possible entrance from the south, and ditches **11650** and **11661** from the east. Due to an absence of surviving stratigraphic relationships, it was not possible to determine the sequence of the features. The ditches, which were all severely truncated by modern disturbance, had surviving widths of between 0.6m and 1.05m and depths ranging from 0.12m to 0.47m.

Of the three ditches approaching from the south, the eastern ditch **10639** was recorded for 40m and continued beyond the stripped area to the south. Three sections were hand-excavated across the feature, which was filled with mid-greyish brown sandy silt with rare charcoal flecks. No finds were recovered. Ditch **10641** ran broadly parallel to the west of ditch **10639**, although it curved slightly to the west at its northern end. It was recorded for 25m and continued below the motorway embankment to the south. It had a fill of greyish brown sandy silt or clay, which was hand-excavated in three segments; **10645** (fill **10646**) at the northern terminal, **10649** (fill **10650**) and **10641** (fill **10642**). A flint flake was recovered from each segment, with a piece of debitage from deposit **10646**. A third, shorter, ditch (**10643**) ran adjacent to the western edge of ditch **10641** and measured 15m. It had a similar fill to the other ditches, and was excavated in three segments; **10647** (fill **10648**), which contained a flint bladelet of Mesolithic/Neolithic date, **10651** (fill **10652**), which contained two pieces of chert debitage, and **10643** (fill **10644**), which contained a flint flake.

Figure 4.33: location of excavated areas in Fields 183, Field 185 and the previous Gatherley Road excavation.

Ditch **11650**, the northern of the two ditches approaching from the east, measured 15m, bending slightly southwards towards its western terminal. Excavated segments of this ditch comprised **11652** (fill **11653**) at the western terminal, **11650** (fill **11651**) and **10699** (fill **10698**). A flint flake was recovered from each segment. Of the other ditch (**11661**), only the south-western terminal and 10.5m of ditch survived, with the rest lost to truncation to the east. Neither of the excavated segments produced any finds.

Flints were recovered from every excavated segment of ditches **11650**, **10641** and **10643**, while no flints at all were recovered from ditches **11661** and **10639** (of which similar volumes were investigated). The latter were the two straightest features and also those that seemed to oppose each other most directly and neatly. In the absence of any other stratigraphic or dating evidence, it is tempting to place these ditches together at the start of the sequence represented, prior to deposition of flint debris in the vicinity, with the other ditches representing refurbishment or modification of the complex at a later date after flint had begun to be discarded. This may imply an early prehistoric date for the two features. That the deposition of lithics may have been a singular event is emphasised by the total absence of flints from the area excavated in Field 185 just to the north and the presence of only a very small number at the adjacent Gatherley Road site (Sherlock 2012).

Without an opportunity for wider excavation in this area, it is impossible to determine the function of these features. However, their scale and funnel-shaped arrangement is strongly suggestive of a role in stock management akin to the possible 'crush' in Field 164 described above.

The stripped area in Field 185 consisted of two elements. The main excavation to the north was a roughly rectangular area measuring 150m from east to west and up to 64m from north to south. To the south, a corridor extended for 104m along the foot of the A1 embankment joining to the stripped area in Field 183 (Fig. 4.34). The area contained a palimpsest of ditches, gullies and pits of widely varying date including early prehistoric, Roman, medieval and post-medieval, although many were not dated. Several large pits were probably associated with a post-medieval tilery producing pantiles and ceramic land-drains. However, exclusion of these later features left a plan remarkably reminiscent of that of the adjacent Gatherley Road excavation (Fig. 4.34; Sherlock 2012), with dispersed small pits and short lengths of gullies, and it seems likely that both areas originally formed part of the same 'site'. The Gatherley Road features were considered to be of early prehistoric date, an interpretation that is

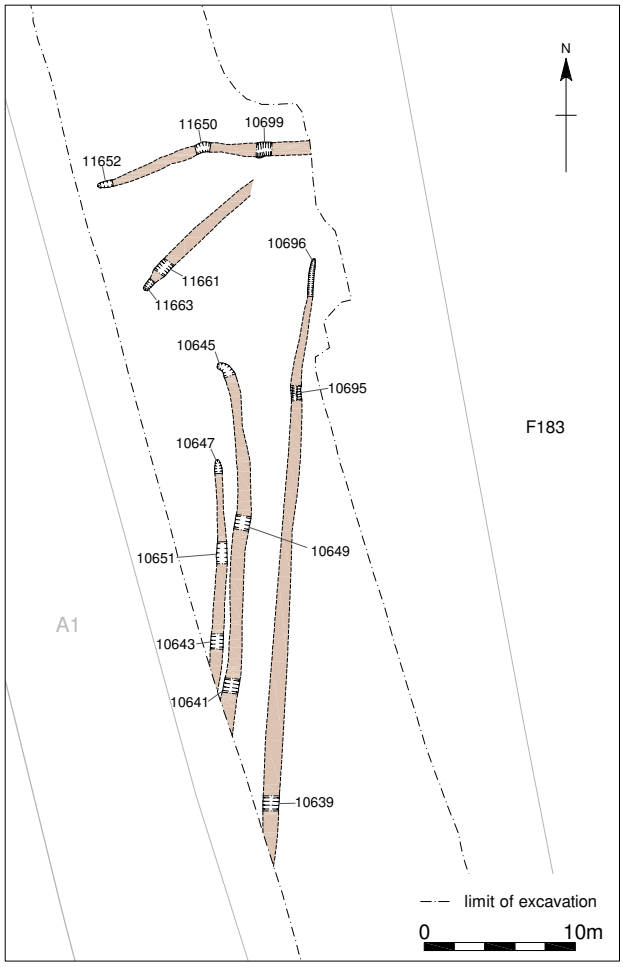

Figure 4.34: plan of ditches in Field 183.

retained for those in the A1 balancing pond area.

A small number of features could be demonstrated to have a prehistoric origin either as a result of finds, radiocarbon dating or stratigraphic relationships. As described in Section 2, one of the pits returned a Mesolithic radiocarbon date. Two ditches (**11667** and **11668**) near the northern side of the stripped area (Fig. 4.35) were both cut by a Roman ditch but did not produce any other dating evidence. Both features measured 30.5m, entering the area from the east-northeast and terminating to the west-southwest (Fig. 4.35). Although very close together and sinuous in plan, at no point did one cut the other at the surviving level and hence no sequence could be determined. The features were 1.3m–1.45m wide and survived to a depth of 0.10–0.16m. They were filled with blue-grey silty clay with orange flecks, probably reflecting their low-lying and often wet position close to the stream at the northern edge of the area.

Pit **11720** was a large feature near the centre of the stripped area. It had a near-vertical northern side and more gently sloping southern side, which, combined with its overall form and size suggested that it may have been a tree-throw. A primary fill of pebbly greyish yellow sandy clay, probably natural disturbed by the tree fall, was overlain by charcoal-flecked grey clay (**11721**), which contained three sherds of Middle Neolithic Impressed Ware pottery. Feature **11680**, to the west, was of similar size and shape and probably represented another tree-throw. It was filled with greyish brown silty clay, which did not contain any finds, and had a very steep western edge and a slightly gentler eastern edge. A third feature (**11722**), located south of tree-throw **11720**, had a similar grey clay fill but did not produce finds.

Many more undated features were recorded across the area. Towards its western side there were two isolated pits (Fig. 4.33), although truncation and disturbance during construction of the original A1 embankment is likely to have removed any further surviving evidence. The circular pits were of similar size, with pit **11657** located 20m to the north of **11654**, and both were filled with brownish yellow silty sand.

Two larger oval pits were excavated within the western part of the balancing pond area (Fig. 4.35). Pit **11725**

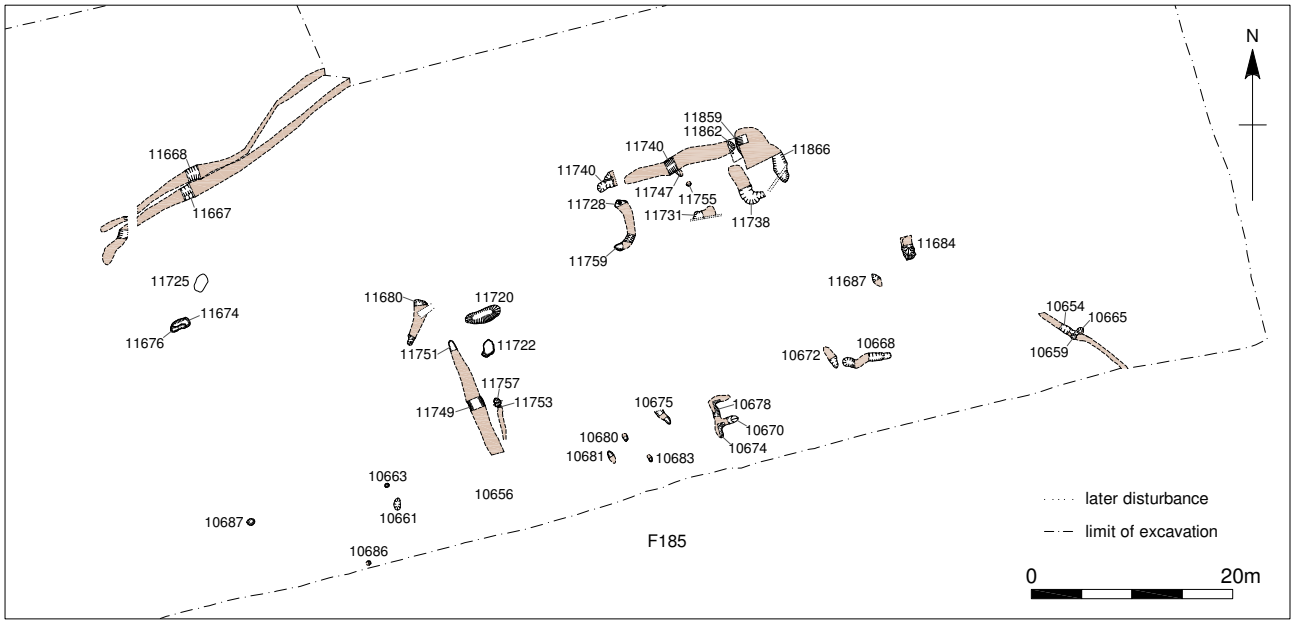

Figure 4.35: features in Field 185.

Table 4.16: pits in Field 185.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
185	10656	10655		Oval	1.32x0.94x0.17m		Undated
185	10659	10658	Later than 10665	Circular	0.56x0.08m	Charcoal flecks and fired clay	Undated
185	10661	10660		Oval	1.3x0.46x0.13m		Undated
185	10663	10662		Circular	0.4x0.19m		Undated
185	10665	10664	Earlier than 10659	Circular	0.68x0.19m		Undated
185	10675	10676		Sub-oval	2x0.74x0.2m		Undated
185	10681	10682		Oval	1.42x0.57x0.13m		Undated
185	10683	10684		Oval	0.68x0.35x0.1m	Charcoal flecks	Undated
185	10686	10685		Oval	0.48x0.37x0.2m		Undated
185	11654	11655 11656		Circular	0.98x0.18m		Undated
185	11657	11658		Oval	0.95x0.7x0.13m		Undated
185	11676	11677 11675		Oval	2x1x0.45m	Charcoal flecks and fired clay	Undated
185	11680	11681 11733		Irregular	4.4x1.3x0.32m	Probable tree throw	Undated
185	11684	11685 11686		Sub-rectangular	2.4x1.08x0.52m	Charcoal flecks	Undated
185	11687	11689 11688		Oval	1.45x0.75x0.22m	Charcoal flecks and burnt clay	Undated
185	11720	11724 11721		Oval	3.65x1.4x0.52m	Probable tree-throw, Impressed Ware pottery	MNeo
185	11722	11723		Curved oval	2.05x1.07x0.44m	Possible tree-throw	Undated
185	11725	11727 11726		Oval	2.5x1.15x0.26m	Charcoal flecks	Undated
185	11731	11732		Irregular	2.1x1.2x0.3m		Undated
185	11742	11743	Cut ditch 11740 and hence later than pit 11747	Oval	0.6x0.4x0.12m	Charcoal, heat-affected soil	Undated
185	11747	11748	Cut by ditch 11740 and hence earlier than pit 11742	Oval	0.98x0.54x0.13m		Undated
185	11755	11756		Circular	0.5x0.03m	Possible hearth	Undated
185	11757	11758	Possibly associated with gully 11753	Circular	0.73x0.24m		Undated

had a primary fill of greyish yellow sandy clay below charcoal flecked grey clay. Pit **11676** was of similar form, although slightly smaller and deeper, and had a lower fill (**11677**) of yellowish grey clay below a yellower deposit (**11675**) flecked with charcoal and fragments of fired clay. Smaller pits **10661**, **10663**, **10656** and **10686** at the southern edge of the area were filled with greyish brown silty clay or silty sand.

Pit **11757** in contrast was filled with blue-grey silty clay mottled with orange, particularly around the edges of the feature. It appeared to have been associated with a short gully (**11753**), which terminated immediately beyond the southern edge of the pit and extended southwards for 3.6m. The gully was 0.44m wide and 0.2m deep and filled with similar orange-mottled grey silty clay (**11754**). The apparent relationship between the two features perhaps suggested a structural function.

Pits **10681** and **10683**, located near the centre of the southern edge of the stripped area, were both filled with dark greyish brown silty clay, pit **10683** also containing charcoal flecks (fill **10684**). Nearby pit **10675** was somewhat larger and filled with mid-brownish grey clayey sand.

Close to the pits, there was an F-shaped arrangement comprising a short north-south gully with extensions to the east at its northern end and centre. The north-south gully was 4m long, with each of the side branches 1.6m

long. The feature was 0.59–0.68m wide and 0.18–0.35m deep with a variously U- or V-shaped profile. Excavation of three segments (**10670**, **10674** and **10678**) showed that it had a single continuous fill of mid-greyish brown silty clay with manganese flecking. To the east, there was a similar linear feature (**10668**) running from east to west and measuring 5m long, up to 0.75m wide and 0.36m deep. It had a primary fill of dark greyish brown silty clay concentrated against the southern side of the cut and overlain by a secondary deposit of slightly lighter silty clay. Immediately to the west lay a possible continuation (**10672**), which ran from south-east to north-west for 2.3m and had a comparable fill. The function and date of these features was not determined.

Two pits were located to the north-east of the gullies. Oval feature **11687** had a primary fill of redeposited natural clay and stones that extended up its sides. Within its centre, there was a secondary deposit (**11688**) of mottled dark grey and mid-brown silty clay containing lenses of red burnt clay and occasional flecks of charcoal. Nearby pit **11684** was sub-rectangular and rather larger, with a primary, almost stone-free orange-brown clayey silt fill flecked with charcoal, distinguishing it from a charcoal-free but otherwise similar upper fill.

Three intercutting but undated features were recorded towards the south-eastern corner of the stripped area. Circular pit **10665** was filled with mid-greyish brown silty clay. It was cut by a small ditch (**10654**), which ran for 10m from north-west to south-east, continuing to the south-east but truncated to the north-west. Ditch **10654** was 0.73m wide, 0.11m deep and filled with mid-greyish brown silty clay. The infilled ditch had been cut by a second small pit (**10659**) filled with heat-affected reddish brown silty clay (**10658**) mottled with frequent flecks of red fired clay and charcoal.

A U-shaped feature (**11728**) was formed from a short gully aligned from north to south that curved to the west at each end. It had an overall length of c.5m, was up to 0.86m wide and typically survived to 0.24m deep. At its northern terminal (**11728**), the feature contained a primary fill (**11730**) of grey clay, the upper surface of which was heat-affected. The primary fill was overlain by a mixed deposit of charcoal and orange and grey fired or heat-affected clay (**11729**). It was not entirely clear whether this deposit represented an in situ hearth or had been cast into the feature while hot. Elsewhere, the gully contained only grey clay, supporting the latter possibility. Radiocarbon dating of a sample of charcoal from this deposit was unsuccessful.

Possible enclosure

Most of the features described above were situated within a possible rectilinear enclosure represented by several widely spaced short lengths of heavily truncated ditch (**11751/11749**, **11740/11862**, and **11738**). The enclosure would have measured c.32m from north-east to south-west, by more than 20m from north-west to south-east. None of the ditches contained any artefacts. The possible enclosure was orientated on a broadly similar alignment to ditches **11667** and **11668**, and at an angle of c.20° to a Roman ditch 30m to the west and to Dere Street c.60m to the east.

The south-western side of the enclosure was marked by 13m of very shallow ditch, which faded-out to the north-west and was truncated to the south-east. Two segments were hand-excavated (**11751** at the north-west terminal and **11749** near the centre), showing it to be 0.7–1.4m wide but only surviving to 30–70mm deep. It was filled with mid-brown clayey or sandy silt. On the north-west side, ditch **11740/11862** was recorded for 11m. It was up to 1.5m wide and 0.25m deep and filled with grey clay with some orange lenses and charcoal flecks. The ditch cut an undated pit **11747** (below) and was itself cut by a small undated pit (**11742**, not illustrated).

An elongated pit or short ditch (**11738**) either formed part of the north-eastern side of the enclosure or may have been associated with adjacent post-medieval pits (**11859** and **11866**). Feature **11738** was 4.3m long, typically 1.4m wide and survived to 0.14m deep. It was filled with brownish grey clay (**11739**). A short gully extended from the southern end of its east side.

Pit **11747** was cut by ditch **11740/11682**, and hence pre-dated it. The pit was filled with grey clay (**11748**). A nearby pit (**11755**) was filled with dark brown clay (**11756**) containing lenses of orange and pink clay suggestive of burning, and it could have represented the base of a truncated hearth. Another pit (**11731**) was filled with dark brown silty clay. As noted above, a fourth pit (**11742**, not illustrated) had been cut into the backfill of ditch **11740/11682** and therefore post-dated it. Pit **11742** was filled with reddish brown, possibly heat-affected clayey silt (**11743**) flecked with charcoal.

Discussion of Fields 183 and 185

Previous excavation to the east had already demonstrated potential prehistoric activity in the vicinity (Sherlock 2012). The features recorded in Field 185 closely resembled the earlier results, consisting primarily of small pits and short linear features. Another similarity was the absence of lithic material in the features. During the earlier excavation, only four flints were recovered and these came from a preserved soil layer rather than the cut features. In the A1 scheme excavation area, where any buried soil horizons had been truncated, no lithics were recovered at all. Given the proximity and resemblances between the two excavation areas, it is considered likely that they represent a single prehistoric 'site'. The level, stream-side location is likely to have been an attractive place to camp, and possibly settle, during the summer months, although during wet weather the low-lying area is wet and liable to occasional seasonal flooding, as evidenced by the clay fill of some of the archaeological features closer to the stream and very wet conditions during the excavation. From probably the Middle Neolithic period onwards, the setting would have been close to the nearest (known) elements of the monument complex to the north of the Swale. It is

only c.700m from the ceremonial features excavated at Hollow Banks Farm, and a double pit alignment there was continuing north-west towards Field 185 (Speed 2005). Evidence from Thornborough and Nosterfield suggests that contemporary 'domestic' activities could be concentrated hundreds of metres away from the ceremonial sites (Harding 2013; Dickson and Hopkinson 2011), and the activity recorded at Marton-le-Moor was a similar distance from Cana Barn Henge (Tavener 1996).

Dating of the prehistoric activity is problematic. In Field 185, only one early feature produced dateable finds, probable tree-throw **11720**, which contained sherds of Middle Neolithic Impressed Ware pottery. As discussed elsewhere, such tree-throws seem to have occasionally served as a substitute for a purpose-dug pit, and are treated as such here. The nearest previous find of Impressed Ware pottery comes from Hollow Banks Farm where it was recovered from a group of pits, a possible lightly built structure and residually from the ditch of a Roman temporary camp (Speed 2005). The only other dating evidence for activity in Field 185 comes from two radiocarbon dates. Feature **10680** (see Section 2) provided a Mesolithic date and indicates at least intermittent activity in the area from as early as c.7000 calBC. It is possible that other features in this area are of similarly early origin. As discussed in Section 2, it has been noted that Mesolithic features (including **10680**) can be characterised by their shallow, irregular form and contents of charcoal and burnt soil, somewhat different from 'typical' Neolithic and later pits and suggesting a different function. Several of the undated pits in Field 185 (e.g. **11687**) were also somewhat irregular in shape and contained charcoal and burnt or heat-affected soil or clay. The strongest candidate was pit **11755**, which was interpreted during excavation as a possible hearth (due to its burnt fill) but not recorded as having burnt sides.

Both the Field 185 excavation and the previous Gatherley Road site featured a number of short, slot-like gullies or elongated pits. Most of these made no clear pattern and were undated; however, the U-shaped slot **11728** resembled a feature excavated at Cheviot Quarry in Northumberland which, together with several other elongated pits and several small postholes, was suggested to have formed part of a lightly constructed Early Neolithic structure (Johnson and Waddington 2008, 135–142), and a similar interpretation is possible in Field 185 given the extent of truncation and disturbance.

Woodside and Gatherley Villas (Fields 197, 199 and 200–202)

Fields 197, 199 and 200–202 were located to either side of the A1 to the north of the former A1 Catterick North Junction. Trial trenching in Field 199 identified only Iron Age settlement features (Speed 2006d; 2010, 84–5). The landscape in this area rises gradually to the north from a stream crossing Field 197 from north-west to south-east before turning east to pass to the south of Field 200. Extensive evidence for Iron Age settlement and field systems was found in Fields 199 and 200–203 (Fell 2020).

Pits of certain or possible early prehistoric date were identified in Fields 197, 199, 200 and 201 (Fig. 4.36).

In Field 197, pits **25507** and **25509** were located to the south-west of the stream. Pit **25507** was filled with reddish brown silty clay flecked with charcoal, while pit **25509** contained mid-grey clayey silt. Pits **25503** and **25505** were situated on the slope to the north-east of the stream. Pit **25503** (in Field 197) was filled with mid-grey clayey silt. Pit **25505** was some distance to the north, close to Iron Age activity recorded in Field 199 and, being undated, may have been associated with the later activity. It was filled with reddish brown silty clay.

On the opposite side of the A1, in Field 200, a pair of pits (**11504** and **11506**) was found away from any other features. Only the west end of pit **11504** was within the excavation area. It was filled with dark greyish brown sandy silt (**11505**), which contained charcoal, burnt

Table 4.17: pits in Fields 197–201.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
197	25503	25504		Oval	0.5x0.25x0.15m		Undated
197	25507	25508		Oval	0.96x0.78x0.2m	Charcoal flecked	Undated
197	25509	25510		Oval	0.76x0.52x 0.2m		Undated
199	25505	25506		Oval	0.65x0.42x0.2m	No charcoal recorded	Undated
200	11504	11505	Pair with 11506	Sub-rectangular	>1.99x1.79x0.22m	Charcoal, burnt stone, burnt soil, hazelnut shell, undated hand-built pottery	Undated
200	11506	11507	Pair with 11504	Circular	1.9x0.27m	Charcoal, burnt stone	Undated
201	11491	11492	Pair with 11493	Sub-rectangular	0.83x0.7x0.3m	Charcoal, burnt stones	Late Neolithic by association
201	11493	11494	Pair with 11491	Oval	0.9x0.7x0.3m		Late Neolithic

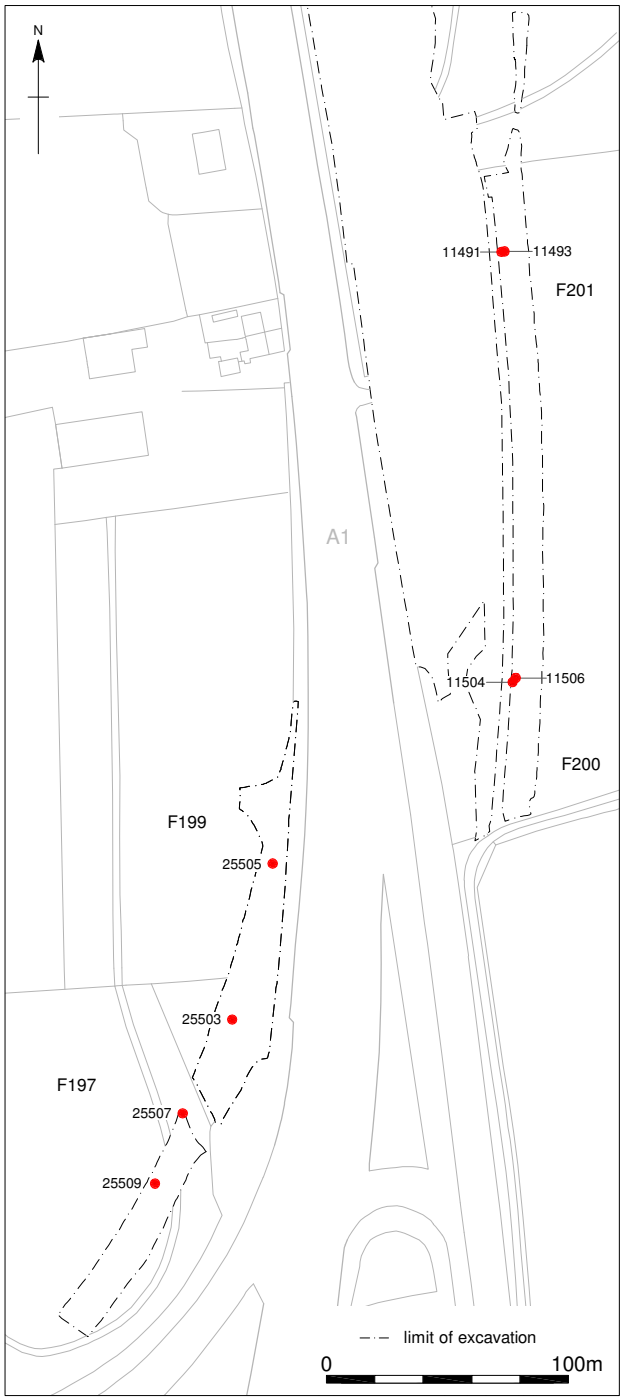

Figure 4.36: pits in Fields 197–201.

stones, lenses of burnt soil and undated hand-built pottery. There was no evidence of any in situ burning. Pit **11506** directly to the north-east had a comparable fill (**11507**) also containing charcoal and burnt stone.

Another pair of pits was located c.175m to the north in Field 201. The pits, which were very similar to each other in size and appearance, were only 0.4m apart with pit **11491** to the west of pit **11493**. Both pits were filled with dark greyish brown silty clay (respectively **11492** and **11494**) containing burnt stones and charcoal, which in both features was concentrated towards the base. A fragment of *Fraxinus* charcoal from deposit **11494** provided a Late Neolithic radiocarbon date of 3090–2922 calBC (4394±22 BP, SUERC-92804). A small posthole (**11496**) was located adjacent to the north edge of pit **11492**. The features were situated within an area of Iron Age enclosures, but no postholes or other small features were located nearby, and it is therefore quite likely that posthole **11496** was associated with the pits. Marking of Neolithic pits by secondary insertion of small posts or stakes has been recorded elsewhere, for example at Thirlings in Northumberland (Miket and Edwards 2009; Edwards 2012). Posthole **11496** was 0.18m in diameter and 0.18m deep with vertical sides and a pointed base (suggesting a sharpened post had been driven in) and was filled with heat-discoloured bluish grey clay and charcoal (**11497**).

Moulton (Fields 203–216)

Leaving the lower ground of the Swale gravel terraces, this part of the route begins to climb northwards towards the higher ground of Gatherley Moor. Almost all of Fields 203–206 were under pasture, effectively restricting the A1 evaluation to geophysical survey, which did not identify any prehistoric features. No prehistoric finds were made during previous investigation of a pipeline corridor roughly parallel to and 400m to the east of the southern part of this section in 1996 (Adamson 1997). As noted above, a large henge lies north-west of Moulton Hall (NZ 232 035; Fig. 3.10), 1.5km to the east of Field 211, and a bronze axe (MNY 24523) was found to the south at Moulton Hall Farm (NZ 2281 0315) to the east of Field 209 close to the Moulton Henge.

Field 211

A number of features, mostly undated, were found near the northern edge of the area stripped in Field 211 (Fig. 4.37). Pit **7789** was filled with mid-brown silty sand. Pit **7807**, which in contrast to other early pits from the A1 scheme was rather square in shape and had been backfilled with a sequence of deposits rather than silting naturally. Two initial deposits of grey silty sand and charcoal (**7806** and **7805**) were sealed by two successive deposits of yellow brown sand (**7804** and **7803**), the last containing charcoal. *Corylus* charcoal from deposit **7806** provided a Middle Iron Age radiocarbon date of 7806 381–342 calBC (2228±24 BP, SUERC-92805).

Pits **7801** and **7810** were filled with almost pure charcoal (**7802** and **7811**) in a dark grey or black silty matrix, while pit **7797** had a similar fill but with less charcoal (**7798**). Pit **7812** had a more complex fill sequence with a primary fill of mid-grey clay (**7813**) below charcoal-rich black clayey silt (**7814**), with the top of the feature backfilled with more grey clay containing occasional charcoal lumps (**7815**). Undated feature **7816** was much larger, irregular in shape and probably represented a tree-throw, but was also filled with oak charcoal.

Field 214

Two undated pits were found in Field 214 (Fig. 4.37). Pit **7413** was filled with orange-grey clayey silt flecked with charcoal. Pit **7547** was filled with mid-grey clayey silt, the upper part of which (fill **7548**) was charcoal flecked.

Table 4.18: pits in Fields 211 and 214.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
211	7789	7790		Circular	0.2x0.05m	No charcoal	Undated
211	7797	7798		Kidney-shape	0.7x0.3x0.3m	Oak charcoal	Undated
211	7801	7802		Subcircular	0.5mx0.15m	Almost pure oak charcoal	Undated
211	7807	7803, 7804, 7805, 7806		Sub-square	1.02x0.86x0.57m	Charcoal	Iron Age C14 date
211	7810	7811		Circular	0.25x0.11m	Almost pure charcoal	Undated
211	7812	7813, 7814, 7815		Subcircular	1.8x1.72x0.57m	Oak charcoal – ?tree-throw	Undated
211	7816	7817		Irregular	c.5mx1.5m	Oak charcoal – ?tree-throw	Undated
214	7413	7414		Oval	1.5x0.6x0.26m	Charcoal flecked	Undated
214	7547	7548, 7553		Circular	0.75x0.23m	Charcoal rich	Undated

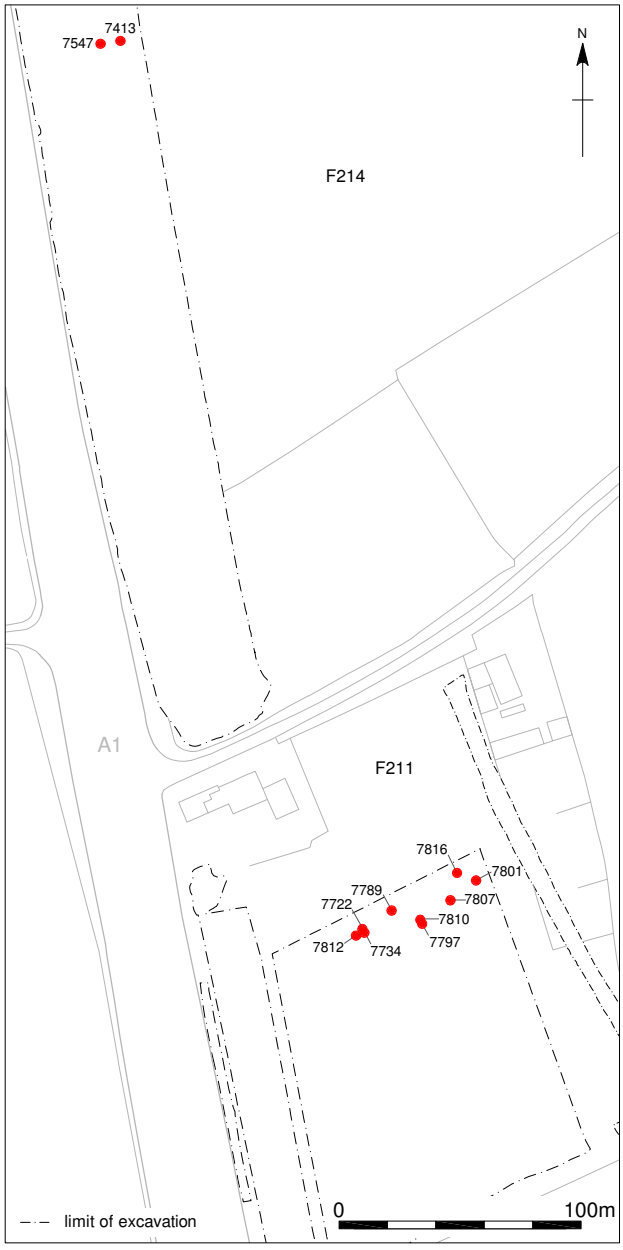

Figure 4.37: pits in Fields 211 and 214.

Gatherley Moor (Fields 217–245 and 258)

The route of the A1 continues northwards, climbing gradually onto Gatherley Moor, reaching a summit in the vicinity of Scotch Corner and then gradually descending towards Barton at the northern end of the road improvement scheme. To the east of Scotch Corner, the land falls more steeply towards Middleton Tyas village. Several barrows were constructed on the high ground around Scotch Corner or on the lower area to the east, including the Violet Grange and Five Hills Barrows, the ring-ditch known from aerial photographs to the south-east of Scotch Corner, and the ring-ditch in Field 220 (above, Section 3).

As with the section of the A1 route to the south, there was little evaluation work north of Scotch Corner due to the new Local Access Road being a late addition to the design. Geophysical survey was carried out only in a single field (Field 220) to the south of Scotch Corner, with a more concentrated campaign in some (but not all) of the fields on both sides of the dual carriageway from the north of the junction towards Kneeton Hall (Fields 233A, 234A, 235, 235A, 236, 236A, 237 and 238A) and at Low Merrybent (Field 240). No obviously earlier prehistoric anomalies were identified other than the ring-ditch in Field 220 described in Section 3.

No prehistoric finds were recovered during fieldwalking or trial trenching in the 1990s in Fields 217, 220, 223, 234 or 245 (Sites LU22, LU23, LU24, LU27 and LU 29). Four flints were recovered by fieldwalking in Field 232 and another in Field 235 (Site LU26).

During upgrading of the A66 to the west of Scotch Corner, a small number of Early Neolithic and Early Bronze Age pits were found at Site SCA 10 (see Fig. 1.7), and a single Early Bronze Age pit containing pottery was found at SCA 13 (Zant *et al.* 2013, 25–30).

Fields 217 and 219

A total of nine small undated features were found

Table 4.19: pits in Fields 217–245 and 258.

Field	Pit	Fills	Grouping	Shape	Dimensions	Notes	Dating
217	12101	12102		Subcircular	0.3x0.1m	No charcoal	Undated
217	12103	12104		Circular	0.4x0.2m	No charcoal	Undated
217	12105	12106		Circular	0.23x0.03m	No charcoal	Undated
217	12107	12108		Oval	0.29x0.18x0.04m	No charcoal	Undated
217	12109	12110		Oval	0.39x0.3x0.05m	No charcoal	Undated
217	12152	12153		Subcircular	0.46x0.05m	No charcoal	Undated
217	12185	12186		Circular	0.15x0.13m	Small pit or posthole	Undated
219	7277	7278		Circular	0.2x0.06m	Very small, no charcoal	Undated
219	7299	7300		Subcircular	0.39x0.36x0.06m	No charcoal	Undated
220	10902	10903		Oval	0.6x0.48x0.2m	Charcoal and burnt stones	Undated
220	10904	10905		Oval	0.82x0.56x0.09m	No charcoal	Undated
220	10906	10907		Subcircular	0.3x0.12m	No charcoal	Undated
220	10908	10909		Circular	0.66x0.2m	Charcoal flecks	Undated
220	10922	10923		Circular	0.5x0.09m	No charcoal	Undated
246	16111	16112		Irregular oval	1x0.5x0.24m	Charcoal rich	Undated
247	24059	24060, 24061		Circular	0.76x0.16m	Charcoal flecking in both fills	Undated
258	15370	15371		Oval	0.84x0.5x0.16m	Charcoal, flint, stone axe	LNeo (C14)
258	27733	27734		Circular	0.3x0.07m	No charcoal	Undated
236	16553	16554	Pair with 16555	Circular	0.84x0.20m	Lens of charcoal, hazelnut shell, bone	EBA by association with pit 16555
236	16555	16556	Pair with 16553	Subcircular	0.68x0.5x0.54	Charcoal, hazelnut shell, sherd of hand-built pottery	EBA (C14)

across Fields 217 (seven) and 219 (two) (Fig. 4.38). The small size of these features suggested that they may have been postholes rather than pits, although if so then none had any obvious function. None contained any artefacts or charcoal.

Field 220

Five undated pits were found in Field 220 (Fig. 4.38). Pit **10902** was filled with a deposit of charcoal and burnt stones (**10903**). The dark brown clayey silt fill of pit **10908** was also flecked with charcoal. No burnt materials were found in pits **10904**, **10906** and **10922**, which were respectively filled with single deposits of yellowish grey sandy silt, dark brown sandy silt and orange brown silty clay.

Field 258

Among a background of Late Iron Age and Roman settlement features, three pits were identified that were either early prehistoric in origin or undated. A significant lithic assemblage was also found, mainly residual within later contexts.

Pit **15170** contained an Early-Middle Bronze Age cremation burial (Speed *et al*. 2018a, 27–9). A second pit, **15370** (Fig. 4.39; Plate 4.17), was filled with dark reddish brown sand flecked with charcoal (**15371**), which contained a stone axe and an assemblage of flint. *Fraxinus* charcoal provided a Late Neolithic date of 2855–2574 calBC (4095±22 BP, SUERC-92807). The third, undated, pit (**27733**) was filled with yellow-brown silty clay.

During the excavations, a total of 120 knapped lithics were recovered from Field 258 (Fig. 2.6, Table 4.20). These were predominantly flint with only nine pieces of chert recorded. The material ranged in date from Mesolithic to (possibly) Early Bronze Age.

Seven artefacts (including two retouched tools and five flakes) were found in pit **15370**, and nine artefacts within the overlying subsoil, which included flakes, bladelets and a scraper; however, these included a potentially Early Bronze Age scraper. The remaining material, found in later contexts or unstratified, was primarily concentrated on the higher ground towards the north-western edge of the field.

Objects of note included a possible microlith, scrapers of diagnostically Neolithic and early Bronze Age date

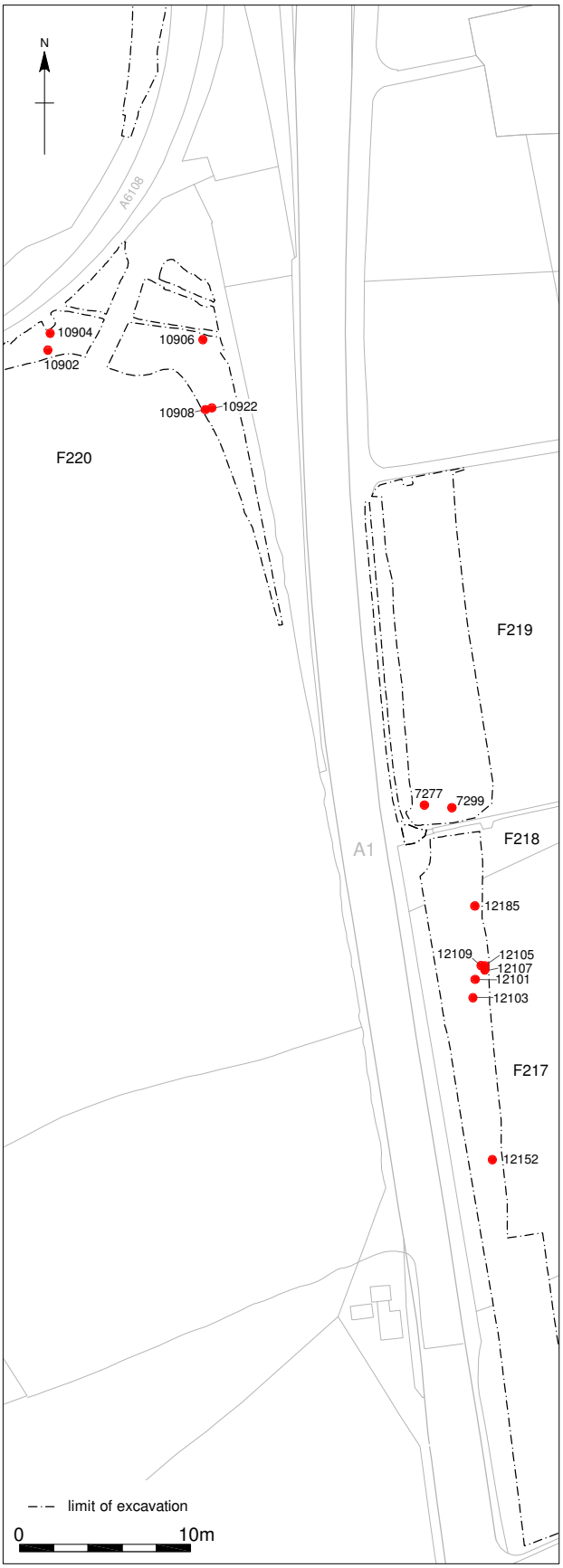

Figure 4.38: pits in Fields 217, 219 and 220.

and a Neolithic combination tool with a piercing point and notch. The three arrowheads included an Early Neolithic leaf-shaped example and two Late Neolithic forms, a chisel arrowhead and a possible British oblique type.

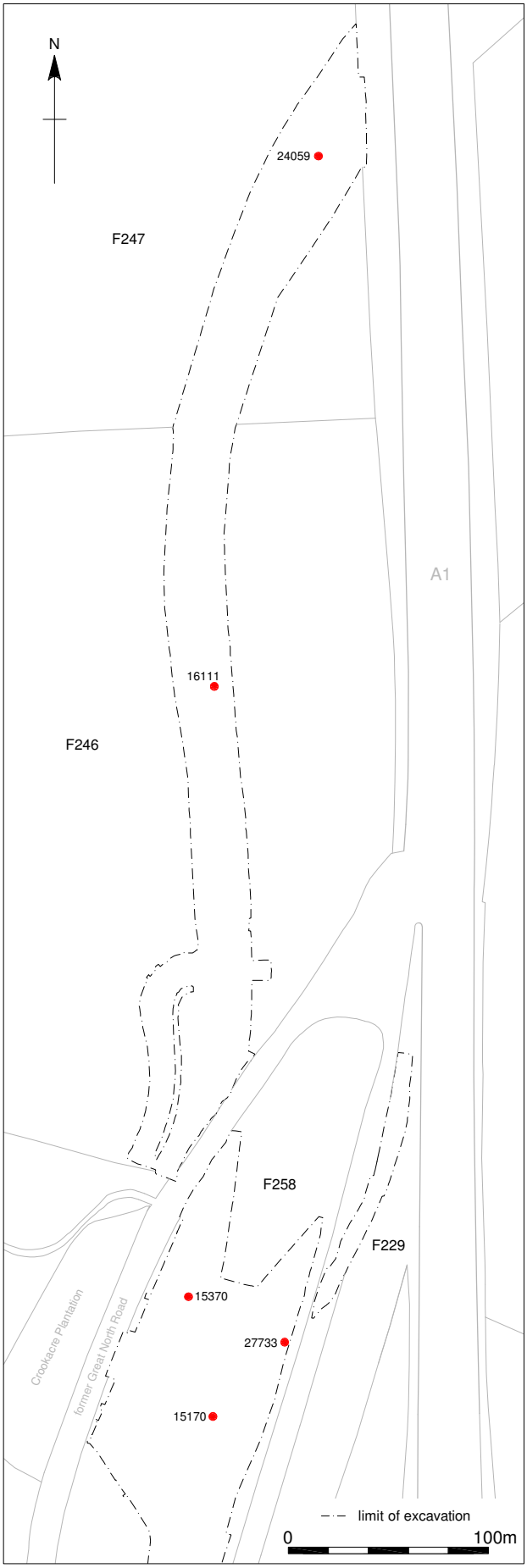

Figure 4.39: pits in Fields 258, 246 and 247.

Fields 246, 247 and 236

*Plate 4.17: pit **15370**. Scale 1m.*

To the north of the core of the Late Iron Age and Early Roman settlement at Scotch Corner, two undated pits found on the line of the local access road at the west side of the A1 may have been prehistoric in date (Fig. 4.39). Pit **16111** in Field 246 was situated within enclosures at the northern edge of the later settlement, and may have been a later feature. It was filled with very dark brown silty clay (**16112**) containing a moderate quantity of charcoal. Further north, pit **24059** in Field 247 was well outside the later settlement. It contained two fills, a primary deposit (**24060**) of mid-grey silty clay with charcoal flecks below an upper fill (**24061**) of mid-brown silty clay also with charcoal flecks.

North of Field 247, the new local access road crosses over the A1, and a construction corridor was stripped at the east side of the A1 through Fields 235 and 236. A stone cairn identified during this work sealed medieval pottery and was discounted, and the only early prehistoric features were a pair of pits found 0.2m apart in Field 236 (Figs 4.40 and 4.41; Plate 4.18). Pit **16553** was filled with dark brown silty clay (**16554**) with a distinct lens of charcoal running through it. A small assemblage of calcined animal bone included a cattle vertebra, longbone fragments from a large mammal and other small unidentifiable fragments also came from the pit. Pit **16555** was filled with charcoal-flecked yellowish brown silty clay (**16556**), which contained a sherd of undated hand-built pottery. Charcoal from the pits included ash, birch, poplar/willow, hazel and field maple, and both contained charred hazelnut shells. *Corylus* charcoal from deposit **16556** provided an Early Bronze Age

Table 4.20: composition of the Field 258 worked lithic assemblage according to type.

Knapped Form	Quantity
Cores	2
Flakes	48
Blades	18
Microliths	1
Debitage (angular waste)	37
Retouched tools	13
Tested pieces	1
Total	**120**

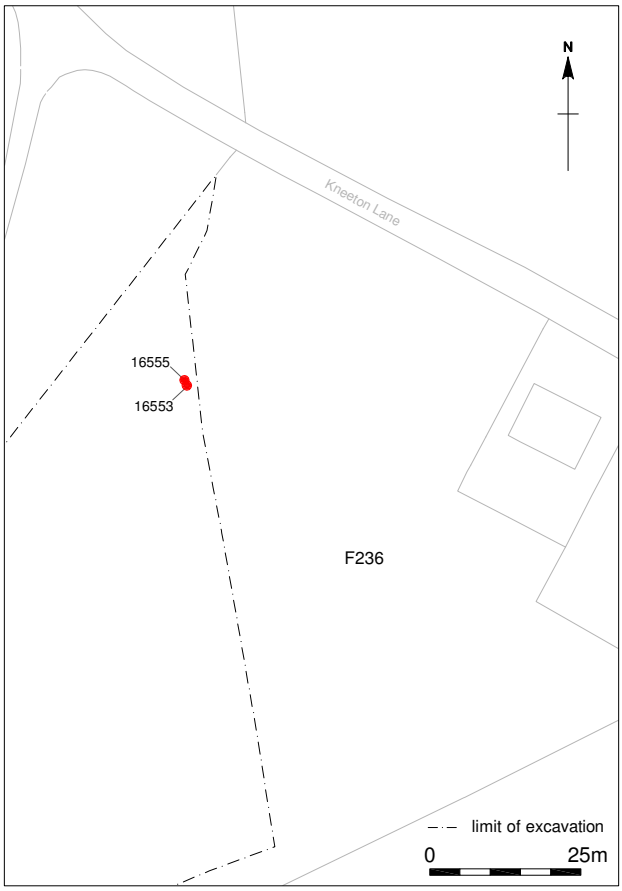

Figure 4.40: pits in Field 236.

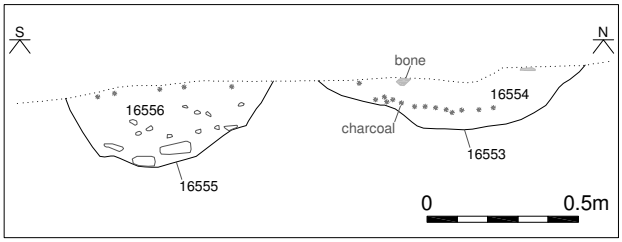

Figure 4.41: sections of pits in Field 236.

radiocarbon date of 1881–1696 calBC (3467±24 BP, SUERC-92806).

Domestic evidence discussion

As described at the start of this section, deficiencies in the fieldwalking record for the immediate area of A1 schemes mean that the lithic evidence, traditionally a mainstay of the study of early prehistoric domestic activity, is of limited value. In this case it can only be used, with caution, to indicate presence/absence of activity in various parts of the landscape during different periods.

In contrast, the other main body of evidence for early prehistoric 'domestic' activity, pits and other cut features, was primarily found during the construction phase of each of the two A1 improvement schemes. As such it is much more quantifiable and suited to analysis. Given that the same archaeological contractor (and

many of the same staff) carried out the work on both halves of the route, similar excavation and recording strategies were used throughout; significantly, use of a local contractor meant that the site staff were operating in familiar conditions and resulted in what was probably a very high rate of identification of features cut into what were, in many areas, 'difficult' subsoils. Nevertheless, the varying areas available for investigation (and sometimes along the length of a single

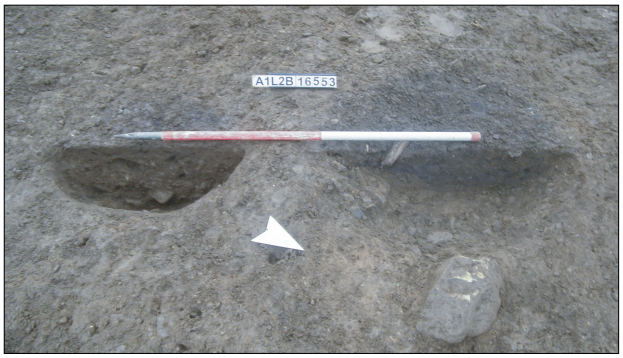

*Plate 4.18: pits **16553** and **16555**, facing south-west, scale 1m.*

field) due to design and construction considerations, and also the need for flexible investigation strategies, particularly between Dishforth and Leeming, has still resulted in an uneven record of such archaeology. This was compounded by areas rendered 'blank' by subsequent development, notably the Roman settlements and modern disturbance particularly on the north bank of the Swale at Brompton.

Pits as defined above are, as far as we know, a phenomenon mainly of the Neolithic and later periods, although, as discussed in Section 2, some similar, carefully dug pits dated to the Mesolithic are known elsewhere in Britain. Nevertheless, as discussed in Section 2, the few features of probably Mesolithic date found on the A1 schemes were of a rather different character to those described in this section and appeared to be shallow scrapes for burial of the remains of a campfire. Given the apparent rarity (or absence) of carefully dug Mesolithic pits in the area of the project, it is perhaps surprising that they seem to have become almost immediately commonplace in the archaeology of the Early Neolithic from the beginning of the 4th millennium BC. This suggests a significant and rapid change in the behaviour of the local population around this time.

What proportion of the pits found on the A1 were early prehistoric?

As described in Section 1, one of the research objectives of the project was to examine how early prehistoric activity varied through time and across the landscape transected by the A1 schemes. In order to achieve this end, it was necessary to consider the very large number of 'undated' features recorded by the projects. 'Undated' pits almost invariably get short shrift in most excavation reports (often merely marked on an overall site plan) despite, on occasion, making up the bulk of the structural site evidence. Not containing diagnostic artefact assemblages, they are expensive to date scientifically, although this is, in general possible.

In an attempt to understand these 'undated' features from the A1, and how they related to the 'dated' examples, a series of radiocarbon dates were obtained from both halves of the project. This had two main objectives. Firstly (and obviously) to find out how old they were! The second was perhaps more fundamental. By including the 'undated' features in the model of prehistoric activity across the project area there was, as described above, a presumptive selection of those pits thought most likely to be early in date on grounds of size, form and contents. The radiocarbon dating programme has served to test this hypothesis and begin to put some numbers on the probability of an 'undated' feature fitting these criteria being of an early date.

The results have, in general, supported the validity of the model. Three undated pits from the evaluations were radiocarbon dated. From the Dishforth-Leeming scheme, radiocarbon dates were obtained for a sample of five more 'undated' features containing no dateable finds and with no stratigraphic link to a dated feature. Likewise, dates were obtained for a sample of 19 undated features from the Leeming-Barton scheme. Of these 27 features, 24 provided early prehistoric dates ranging from the later Mesolithic to later Bronze Age, although the overwhelming majority were Neolithic or Early Bronze Age. Exceptions included pit **2108** (and, potentially, its 'paired' pit **2104**) in Field 60, which returned an early medieval date; this was unexpected since the two pits appeared to be a 'classic' early prehistoric pair, filled with charcoal and burnt stones, and there was no other evidence for early medieval activity in the vicinity and it is possible that the charcoal sample sent for assay may have been intrusive. Similarly, pit **7168** in Field 153, again part of a pair (with pit **7170**) each filled with charcoal and burnt stones, gave a Roman date (in an area where there was no other Roman evidence) and pit **7807** in Field 211 was dated to the Middle Iron Age. These cases highlight the desirability (rarely achieved) of always obtaining more than one determination for each context dated.

Despite the small number of unexpected results, this dated sample of 'undated' pits has, nevertheless, demonstrated that the vast majority of these features dotted across the landscape do indeed represent the 'silent majority' of early prehistoric evidence and are more deserving of attention than they have commonly received in excavation reports.

Fell (2006), in a study of findspots of material within the boundaries of the City of York, concluded that earlier prehistoric activity was primarily confined to areas of higher, better drained and more fertile ground, or adjacent to watercourses, usually both. Iron Age material

was more widespread and extended onto lower ground and away from the rivers. The results from the A1 scheme investigations and the surrounding study area do, in the broadest sense, appear to support this finding.

The gross distribution of all early prehistoric (or undated) excavated features between Dishforth and Leeming appears uneven, with pits found in some locations but not others. However, this apparent distribution is deceptive, and corresponds closely to those parts of the route where soil-stripping across large areas was monitored. Elsewhere, either monitoring was undertaken of a test strip typically only c.5m wide (for the initial construction haul road), or no monitoring took place for a variety of reasons. Thus, no meaningful monitoring took place to the north of Field 1 (although a pit had previously been found by monitoring a geotechnical test pit in Field 18), but extensive soil-stripping of the A1/A61 junction and carriageway widening to the north (Fields 19, 20, 21, 22, 23 and 25), and construction of a balancing pond (20A), resulted in identification of a large number of pits.

The only potential real gaps in the distribution of these features identified on this part of the route occurred to the south and north of the 'pit-cluster' in Fields 34, 35 and 36, and perhaps in an area to the south of Healam Bridge (the northern part of Field 158 and most of Field 160).

Following a long gap in monitoring around the Leeming Bypass to the west of Leeming Bar, the route of the Leeming to Barton A1 scheme afforded many more opportunities for monitoring soil-stripping, although as a result of the new motorway design there are still some significant gaps in the investigated transect.

Pit digging through time

It would theoretically have been possible to date almost all of the pits found on the A1 schemes, using diagnostic artefacts, stratigraphic relationships or by the use of scientific techniques such as radiocarbon or optically stimulated luminescence (OSL). However, relatively few of the features contained closely dateable artefacts, there were even less significant stratigraphic relationships, and not all pits contained material suitable for radiocarbon dating. OSL dating relies on previous exposure to light of certain minerals such as quartz in the soil component of the deposit (Duller 2008); clearly, the way that a pit was filled in will have affected the extent to which any light exposure occurred (for instance sand grains in the middle of a large clod of soil will have received no exposure). This problem needs to be mitigated by analysis of a series of 'profiling' samples in order to understand the formation process of the deposit being dated and thereby calibrate any dating samples. As a result, the technique is prohibitively expensive and therefore almost never used on commercial archaeological projects (as was the case on the A1 scheme).

That leaves radiocarbon dating. The decision was taken on both A1 schemes to dedicate a large proportion of the available resources to obtaining radiocarbon dates for as many of the human burials as possible, which produced very significant results (Teasdale *et al*. 2018, 245–9). For the early prehistoric component, across the evaluation and the two construction phases of the project, in addition to samples submitted from the palaeoenvironmental samples (O'Brien *et al*. 2017), material recovered from the Early Mesolithic site at Little Holtby (Speed *et al*. 2018c) and prehistoric burials (Speed *et al*. 2018a), 56 radiocarbon dates were obtained for other features and deposits considered likely to be early prehistoric. This included samples from 39 of the 319 Mesolithic to Late Bronze Age pits described above.

Excluding the probable Mesolithic features, of the remaining 316 pits, it was possible to date 58 to a specific period (Early Neolithic, Chalcolithic, Middle Bronze Age, etc.) using a combination of finds dating, stratigraphy and radiocarbon, and (following the presumption of pit-pairing) infer dates for further 26 features, giving a total of 84 (26.6% of all pits) (Table 4.21).

This data can be compared to the nearby sites at Marton-le-Moor and Nosterfield, where large numbers of pits have been found (Table 4.22). However, these have few dates from aceramic features.

Although only a small and somewhat limited dataset, it is nonetheless possible to make a number of observations from this table. There is no uniform temporal 'pattern' to pit-digging activity at these three nearby 'sites' which have each produced significantly differing data. Similar variations have been noted between larger regions (Thomas 2012, 10), but the effect may purely be one of sampling bias; most recorded (and published) pits come from a restricted number of excavated sites, while other, unexcavated, sites nearby might produce different results. For the sites included here, combining the figures for the three 'pits with pottery' columns (B+C+D), the results suggest a rise of pit-digging through the Neolithic, then a swift decline in the Early Bronze Age. However, adding in even the few aceramic pits from the A1 scheme that have been dated by other

Table 4.21: dated pits from the A1 schemes by period.

Period	Dated	Dated by association	Total
Early Neolithic	16	5	21
Middle Neolithic	7	3	10
Late Neolithic	11	4	15
Chalcolithic	5	5	10
Early Bronze Age	14	7	21
Middle Bronze Age	1	1	2
Late Bronze Age	1	0	1
Iron Age	1	0	1
Roman	1	0	1
Early medieval	1	1	2
Total	**58**	**26**	**84**

Table 4.22: comparison of the A1 pit dating with Nosterfield and Marton-le-Moor.

Period	A A1 all dated pits	B A1 pits with dateable pottery	C Nosterfield pits with pottery	D Marton-le-Moor pits with pottery	B+C+D Total	A+C+D Total
Early Neolithic	21 (27.3%)	6 (22.2%)	12 (20%)	15 (22%)	33 (21.6%)	48 (23.6%)
Middle Neolithic	10 (13%)	4 (14.8%)	4 (7%)	28 (42%)	36 (23.5%)	42 (20.7%)
Late Neolithic	15 (19.5%)	7 (25.9%)	39 (66%)	16 (24%)	62 (40.5%)	70 (34.5%)
Chalcolithic and Early Bronze Age	31 (40.2%)	10 (37.1%)	4 (7%)	8 (12%)	22 (14.4%)	43 (21.2%)
Total	**77**	**27**	**59**	**67**	**153**	**203**

means (A+C+D) results in some change to the spread of data, 'smoothing' the percentage distribution although still leaving a peak in the Late Neolithic resulting from the large number of pits containing pottery of that date from Nosterfield. This perhaps suggests that, although only based on a very small sample, Early Neolithic pits are common, but only a low percentage contain the 'new' technology, pottery. Such material becomes more common during the Middle and Late Neolithic and is deposited in a higher percentage of pits. Deposition of Beaker pottery in pits is still common at Marton-le-Moor (eight pits) but thereafter in the Early Bronze Age there is a decline in both pit digging and pottery deposition, though this is least marked on the A1 scheme.

Deposition in pits

Many thousands of early prehistoric pits have been excavated across Britain and, although more elaborate deposits are known, in most cases '…the objects within the pit appear to have been introduced to the feature together with the fill matrix, and without having been arranged to any extent' (Thomas 2012, 4). Garrow (2006; 2007, 12) demonstrated that often the material showed signs of weathering and had clearly been stored for some time above ground in a 'pre-pit context' before being deposited in the pit, and this behaviour has since been recognised on many pit sites. As noted above, suggestions as to the function or meaning of this activity has been widely discussed elsewhere (e.g. Thomas 2012; Garrow 2012) but remains unclear.

On the A1, only a proportion of the pits contained any cultural material. The most common was wood charcoal (and soot), presumably in most cases derived from small cooking fires, which were potentially also the source of the common burnt stones that are believed to have been used to heat water. These burnt materials were occasionally accompanied by charred remains of foodstuffs, most commonly hazelnut shells, but a few features contained cereal grains and other seeds. Artefacts only occurred in some pits and were restricted in range, in general comprising worked flint and chert, a single stone axe and pottery sherds. However, this limited range was probably to some extent a product of the ground conditions, which were not conducive to preservation of organic materials; the pits containing animal bones in Field 260 demonstrate what is likely to have been lost from features elsewhere on the A1 scheme, and even here any unburnt plant remains had been lost.

The limited number and small size of the ceramic and flint assemblages from the A1 features, and the generally restricted range of carbonised plant remains, do however restrict their potential for interpretation. In some areas, many of the pits contained artefacts, while in others there were none. In particular, many of the pits found in Field 163N (and extending into the southern edge of Field 164) contained sherds of Grooved Ware pottery, whereas most Late Neolithic pits elsewhere on the scheme contained none. Was this a result of a particular group of people with a preference for pottery use, or were different activities occurring in this location which resulted in an unusually high level of pottery use, breakage, discard and deposition? Without more data, such questions are impossible to answer. As described above, on 'dense' pit sites elsewhere, such as Nosterfield, Marton-le-Moor or Thirlings, only a small proportion of the pits contained artefacts, and at a smaller scale it is commonly the case (including on the A1) that one pit in a pit pair contained potsherds and the other did not. Why this should be the case would require a study considerably beyond the scope of the present work.

It has been suggested that the deposits within pits became more elaborate over time through the Neolithic (Thomas 2012, 6–7), with '…increasing 'complexity' in practices of deposition during the Later Neolithic…' (Garrow 2012, 223). Such a process has been suggested close to the A1 scheme at Nosterfield (Dickson and Hopkinson 2011, 201). However, this process was not apparent at Marton-le-Moor. On the A1 scheme, there is no apparent development in either the form or filling sequences of the pits, and only three features stand out as containing 'different' assemblages, although it is perhaps pertinent to the argument that these were all of Late Neolithic or Early Bronze Age date (i.e. late in the sequence). One of these was pit **15370** at Scotch Corner, which produced a complete stone axe. In a comparable case at Marton-le-

Moor, the axe appeared to have been thrown into the pit with the remainder of the deposit rather than having been carefully placed.

Early Bronze Age pits **689** and **691** at Killerby (Field 260) contained somewhat 'unusual' finds assemblages. Well-preserved and stratified early prehistoric faunal assemblages are rare in north-eastern England and especially in the Vale of Mowbray where soil conditions usually mitigate against the survival of bone, and the two pits at Killerby have given an insight into what may have been lost from 'dryland' pit assemblages elsewhere in the area. However, what was represented within pits **689** and **691** is clearly not deposition of normal domestic refuse and suggests that something more complex is happening. The suite of similar radiocarbon dates from different parts of the assemblage indicates that this material is unlikely to have been curated. By the time these assemblages were buried, the auroch was no longer a common sight in Britain or indeed within the Bronze Age diet, and discovering such remains in an archaeological context of this date is extremely unusual. The choice of two vertebrae for inclusion within pit **689**, together with fragments of (unidentified) charcoal, suggests selection of specific material. The material placed in the second pit **691** was even more unusual, consisting of the articulated leg of a small dog and a large piece of worked antler. The wood charcoal in this context adds another curious facet to the puzzle, having been apparently over 3000 years old when burnt (assuming the single radiocarbon date is correct); was it waterlogged material recovered from the adjacent mire? In neither assemblage was there any evidence to suggest that the wood had been burnt in situ, implying that the charcoal had been brought from a fire-site(s) elsewhere; the lack of burning on any of the faunal remains indicated that they were perhaps unconnected with the burning events and had been added subsequently to the cold charcoal deposits.

Unusual groupings of burnt and unburnt materials are known from other Neolithic and Early Bronze Age sites, often at major ceremonial monuments and frequently incorporating human remains. This phenomenon was recorded by St George Gray during his 'cuttings' across the henge ditch at Avebury between 1908 and 1922 (Gray 1935). To the east of the southern entrance, he identified two areas of burning (either in situ fire-bases or discarded debris) within the secondary ditch silting; one was associated with flint debitage, burnt and unburnt animal bone, a human incisor and the points of four antler tines (*ibid*., 147). The second produced a flint flake and sherds from a decorated beaker (*ibid*., 126). A third area of burning identified at a similar stratigraphic level to the west of the entrance (*ibid*., 119) produced what Gillings and Pollard (2004, 73) have described as '…a rather bizarre range of items: a dog mandible, a boar tusk, a piece of burnt bone, an antler fragment, and a complete antler beam with all tines except the trez (third tine) present'. The presence of dog remains, the modification of antler where present, and the mixed burnt/unburnt material perhaps resembles the Killerby assemblage. Gillings and Pollard (*ibid*.) suggest that these materials '…sound more like ritual paraphernalia than debris from routine activities…Pieces of antler were perhaps symbolic of regeneration, but because of their modified state, also of transformation…'

Grouping of pits

Forty two groups of features designated as pit-pairs dated from all periods from the Early Neolithic through to the Middle Bronze Age (and in one case to the early medieval), or were undated (20). Where pairs could be dated, there was a consistent use of this behaviour through time, with four pairs each of Early, Middle and Late Neolithic and five of Chalcolithic/Early Bronze Age date, although thereafter there was a swift decline with only one Middle Bronze Age example.

Among the 40 pit-pairs (all periods) where an orientation could be determined, there was a strong tendency for the larger pit to lie to the north or north-west (50%). Conversely, placing the pit anywhere in the arc between north-east and south was relatively uncommon (27.5%). A similar result was found at Marton-le-Moor, where eight out of 16 closely spaced pit-pairs (50%) had the larger pit to the north or north-west. Unfortunately, the published accounts of other large early prehistoric pit sites in northern England, such as Nosterfield or Thirlings, typically do not include dimensions for 'undated' pits, preventing similar analysis (Miket and Edwards 2008; Dickson and Hopkinson 2011). In four of the six cases from the A1 where groupings of three pits were considered intentional (pits **2001/2002/2004**, **5002/5013/5031**, **5008/5010/5026** and **6116/6118/6120**), the largest pit was to the north (3) or north-east (1) (66.7%). At Leeming, south-east seemed to be the preferred orientation (pits **1981/1983/1985** and **4331/4333/4335**), although here the size difference between the features was minimal.

There was no clear preference for placing artefacts in the larger pit of a pit-pair, and this could be readily accounted for by the greater volume of deposits excavated from such features (and hence the greater potential for 'finds' to be recovered).

Continuity of place

In general, there is no obvious focus for most of the pits investigated on the A1 scheme. Some are perhaps located close to water sources whereas others (e.g. on Howe Moor) are not. The presence of both earlier and later Neolithic/Beaker features in close proximity at Baldersby Gate, near Quernhow (Field 42), or close to the wetland area in Field 153 at Bainesse, perhaps indicates a long-term focus upon specific points in the early prehistoric landscape, with repeated use of the same areas for similar activities for many centuries or even millennia. Similar 'grouping' of pits was recorded at Marton-le-Moor, where early and later Neolithic features were found together (Tavener 1996). At Baldersby Gate and Quernhow this focus was continued by the subsequent construction of Early Bronze Age barrows nearby. Burgess (2001, 257) has observed that 'seasonal activities such as hunting, transhumant pastoralism and shifting cultivation each

follow clear, repeated routines but leave little trace in the archaeological record'.

Were these pit sites marked in some way? This could account for occasional disparity in the dating of apparently spatially associated features, and may have led to intercutting and contamination of earlier features by later material (and vice versa). At Killerby (Field 259) two earth-fast boulders, which in antiquity probably projected above the ground surface, appear to have acted as a natural landmark. On two separate occasions, pits were dug in the space between them. On the first occasion, dated 2031–1906 calBC (3612±22 BP, SUERC-92813), the shelter provided by the boulders was exploited to shelter a hearth (**6891**, fill **6892**). Many years later (1921–1700 calBC, 3501±36 BP, SUERC-75032) the same boulders became the marker for the burial of the cremated remains of an (unsexed) adult and young child (Speed *et al*. 2018a, 24–7). Artificial markers may also have been employed to mark the location of earlier pits. At Thirlings, 10 out of 156 features (6.5%) defined as pits (rather than postholes) had been marked by a post inserted into the pit fill (Miket and Edwards 2009, table 1). Both Early and Late Neolithic examples of this behaviour were recorded. Many of the discrete features interpreted as postholes lay adjacent to pits (*ibid*., illus. 18), and could conceivably also have functioned as markers. Although no evidence for similar marking was identified at Marton-le-Moor, many of the Neolithic pits were found in 'groups', some of these clusters were of a single period while in others features containing both Early and Late Neolithic pottery were found together (Tavener 1996, 183).

Several possible examples of behaviour similar to that at Thirlings were observed on the A1. For instance, an undated pit (**1188**) in Field 35 had been cut by a central, deeper posthole, in Field 153 undated pit **7170** was cut by a small pit or posthole **7175**, one edge of Late Neolithic pit **4162** in Field 164 was cut by a smaller pit or posthole **4279**, and posthole **11496** in Field 201 may have marked pit **11492**.

Other observations

The residual Late Neolithic or Early Bronze Age pottery from Field 177 and Food Vessel from Field 179 are consistent with earlier finds of similar date from adjacent areas to the west and east. These comprise an Early Bronze Age pottery vessel from Brompton Playing Field (Wilson 2002, 8–10) and a sandstone block decorated with 'rock art' on two opposing faces, also of probable Early Bronze Age date, found during the Block Factory excavation in 2002 (Beckensall and Mazel 2004). Both previous finds have been interpreted as having a funerary association. All these finds have been made a similar distance (c.100–150m) back from the riverbank and within c.150m of one another. Horsley (1732, 400) described mounds (presumably barrows) on either bank of the Swale upstream of Catterick Bridge, so it seems quite likely that there was once an extensive area of Early Bronze Age burials in this area, some levelled by Roman activity and more lost to subsequent development.

The distance that the finds in Fields 177 and 179 lie from the river is perhaps unsurprising. In the earlier prehistoric period, the bed of the Swale was at a significantly higher level, and has only more recently incised its current lower channel (Taylor and Macklin 1998, fig. 43). The Bronze Age rapier found in 1992 just to the east of the A1 excavations lay several metres above the modern river (Speed 1993b; Burgess 1995), yet may originally have been deposited into the contemporary channel. As a consequence of these higher river levels, the lower-lying parts of the A1 excavation areas were presumably far more prone to regular flooding in the past. This observation may also have some relevance for the residual lithics that have been found during excavations within the Roman town. Worked flints and chert have been found in almost all these investigations, such that they now number several hundred; however, the total is still small compared to the volume of deposits that have been hand-excavated in the area. On more rural sites, the vast majority of lithic material, having been disturbed by later agricultural activity, is subsequently lost during soil-stripping prior to excavation, leaving only the material protected within remaining archaeological deposits to be recovered during excavation (c.f. Speed *et al*. 2018c, 55). Given this perspective, the apparently large amount of lithics present at *Cataractonium* does not necessarily represent particularly intensive prehistoric activity in the area.

How the distribution of the 'domestic' evidence across the area transected by the A1 improvement schemes varied through time, what this may tell us about changing exploitation of the environment, and how this was impacted by the developing ritual landscapes within the Vale is discussed in Section 6.

5.0 THE BRONZE AGE AND EARLY IRON AGE

Background

The Middle and Late Bronze Age is to a large extent invisible in the lowlands of the Vale of Mowbray, as elsewhere in the lowlands of northern England (Harding 2000b, 6).

There is a scatter of unstratified bronze weapons from across the Vale, together with small metalwork hoards from Thirsk and Ainderby Steeple (Manby *et al*. 2003, 93–4; Needham 1990; Vyner *et al*. 2011, 222). Excavated features dated to the Middle and Late Bronze Ages (c.1550/1500–750 calBC, Needham Periods 5–7; Needham *et al*. 2010, table 1; Manby *et al*. 2003, 64–9) remain extremely rare. Pits containing carbonised barley and wheat (emmer, spelt and naked) assemblages at Scorton Quarry have provided Early-Middle Bronze Age radiocarbon dates of 1736–1533 calBC (3349±30, SUERC-52140) and 1613–1454 calBC (3254±27, SUERC-52136) (Speed 2009a). Residual wheat grains in an Iron Age pit at the same site dated from the Late Bronze Age (1107–916 calBC, 2839±30 BP, SUERC-52150). At Thornborough, the double post-row adjacent to the southern henge may have been constructed during the Middle Bronze Age, with further activity recorded during the Late Bronze Age probably

after the posts had gone (Harding 2013, 137). Nearby at Nosterfield, a cemetery consisting of one inhumation and 10 cremations has been dated to the Middle Bronze Age, and a series of ditched enclosures was created during either the Late Bronze Age or Early Iron Age (Dickson and Hopkinson 2011, 136–46). At Catterick, a ditch investigated by trial trenching at Marne Barracks contained carbonised plant remains, which provided a Late Bronze Age radiocarbon date (Hale and Still 2002, 39). Also at Catterick, successive occupation enclosures excavated at Pallett Hill Quarry were suggested to be of early 1st millennium BC date (MNY 13636; Manby *et al*. 2003, 94), although the site is not published.

Evidence for the Iron Age is widespread along the A1 route (Speed 2010, 85; Ambrey *et al*. 2017a 12–27; Fell 2020), although few sites are closely dated and little certain evidence of Early Iron Age activity has been recorded.

There is, however, some evidence for Early Iron Age metal production in the area of the A1 scheme. A large assemblage of iron smelting debris, together with some material derived from smithing, was found in several ditches during the Dishforth to Leeming A1 scheme at Exelby Lane, Leeming (Field 107) and has already been published elsewhere (Ambrey *et al*. 2017a, 23–6). Several radiocarbon dates obtained from charcoal trapped within the slag suggested that the remains dated from around the 6th century BC. A severely burnt pit at Scorton Quarry, which had been backfilled with iron-smelting slag and kiln structure (Speed 2009b, 16), has been radiocarbon dated to 773–491 calBC (Quercus charcoal, 2481±27 BP, SUERC-52154). It should be noted that, due to the nature of the sample materials, the dates from both sites may have been subject to 'old wood effect' and be a century or more 'too early'. Although an isolated feature, the presence of slag-tempered Iron Age pottery 1km to the north-east of the Scorton pit (Speed 2009a, 10) suggested that the smelting there had not been a singular event.

Apart from the site described in the Appendix, the extensive evidence for later Iron Age activity found along the two A1 improvement schemes lies beyond the scope of this volume and is published elsewhere (Ambrey *et al*. 2017a; Fell 2020).

Previously unpublished evidence from the A1 schemes

Iron Age evidence from the A1 Dishforth to Leeming scheme, including the ironworking site described above, has been published previously (Ambrey *et al*. 2017, 12–27).

In Field 18, the 2005 fieldwalking recovered an angular chunk of debitage, which had retouch cutting a white patina and was suggestive of reuse of previously curated flint by later populations. The tool type is ad hoc and in-keeping with the less technical flint industries of the later Bronze Age and Iron Age (Young and Humphrey 1999). Two further angular chunks of debitage, with a crudely battered edge and casual retouch respectively, also fitted this pattern;

The 1994 fieldwalking assemblage from Field 61A included a flake of dark brown flint with a flat platform and pronounced bulb that is likely to be later prehistoric in date (Young and Humphrey 1999).

In Field 63, a crude scraper was recovered from a Roman context (**9160**). This was a thick hard hammer struck flake with abrupt retouch along one edge and bifacial semi-abrupt retouch along the opposite. The crudeness of the item suggests a later Bronze Age date.

The Leeming Moraine and Killerby (Fields 145–259)

A number of early prehistoric features dating exclusively to the Bronze Age were found along a section of the A1 route running from Field 143 northwards through Fields 145, 262, 261, 150 and Field 260, and two Early Bronze Age features in Field 259 just to the north are also included here. Features in these fields included pits that have been described in the preceding section (in Fields 143, 262, 261, 260 and 259). Features in Field 145 interpreted as a Late Bronze Age funerary site covered by a barrow have been published elsewhere (Speed *et al*. 2018a, 31–8). This was succeeded by an Early Iron Age enclosure, which is described below following the Bronze Age evidence. A Bronze Age cremation burial in Fields 259 has also previously been published (*ibid*., 24–7).

Other Bronze Age features in this area, which are described here, were located in Fields 150 and 262 (Fig. 5.1). These included an enclosure, a possible structure and features characteristic of burnt mound activity in Fields 262, and another burnt mound in Field 150.

Field 150 was also located on the western side of the A1 directly to the north of a small hill called High Goskins, which represents a detached part of the Moraine. To the east of the A1 and the Moraine there is an area of undulating landscape pockmarked with basins and kettle-holes formed during the last glacial retreat. These once formed a landscape of ponds and wetland areas separated by low ridges of drier land, although most of the ponds have long-since silted up and the land reclaimed for agriculture. Fields 262, 261, 260 and 259 ran northwards through this landscape at the eastern side of the A1.

In Field 262, the alignment of the new LAR crossed a large, wet, peat-filled hollow, flanked to the west by High Goskins and the east by a lower ridge (Fig. 5.1). The route then ran northwards looping around another peat-filled hollow which now lies between the LAR and the A1, crossed over a low ridge (in Field 261) passing the ring-ditch identified by geophysical survey (Section 3), and then descended to Low Street.

The most significant group of Early Bronze Age features were adjacent to the eastern edge of the large peat-filled basin in Field 262 (Fig. 5.1). Part of the western side and

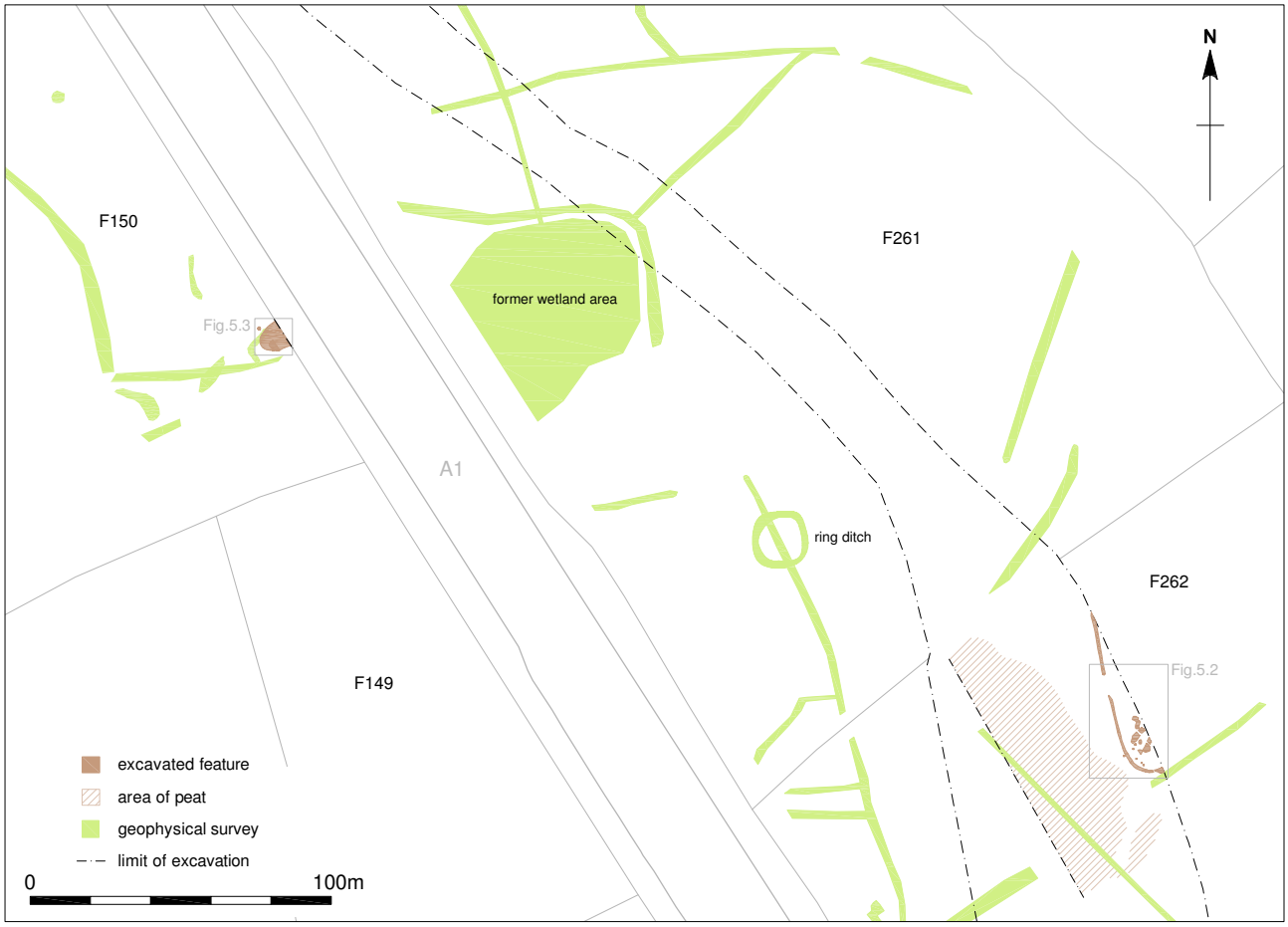

Figure 5.1: Bronze Age features in Fields 150, 262 and 261.

rounded south-western corner of a ditched enclosure extended into the stripped area. This had not been identified by geophysical survey and the full extent of the enclosure remains unknown. It was more than 55m long from north to south, and there was an 8m break in the western side, perhaps representing an entrance (Fig. 5.2).

To the north of the break, the ditch (**12054**) was 0.96m wide and 0.36m deep with steep sides and a flat base. It had a primary fill of mid-greyish brown sandy silt below a deposit of greyish yellow sandy silt. To the south of the break, three excavated sections showed that the ditch was generally 0.6–0.95m wide and 0.2–0.3m deep, with a primary fill of yellowish-brown sandy silt below dark greyish brown sandy silt. However, where it met the eastern edge of excavation (segment **12073**) the ditch abruptly expanded to 1.6m wide and 0.85m deep, and contained a single fill of dark greyish brown sandy silt. The change of character suggested either a recut in this area or the presence of a large pit cut over the line of the ditch. Fragments of unidentifiable calcined bone were recovered from deposits **12099** and **12100** (respectively the primary and secondary fills of ditch terminal **12057**) and **12099** also contained a deposit of oak and hazel charcoal similar in makeup to material from the large pits within the enclosure (below).

The ditched enclosure was initially interpreted as a Roman temporary camp, given the slight nature of the ditch, the rounded corner, broad entrance gap and proximity to Dere Street (part of which may have been identified at the western side of the peat-filled basin). However, radiocarbon dating of a sample of *corylus* charcoal found in the base of the ditch terminal (context **12099**) provided a date of 2135–1960 calBC (3665±24 BP, SUERC-92823; Table 5.1), consistent with the period of burnt mound activity which it enclosed (below).

A group of features lay within the south-western corner of the enclosure. Five postholes in a rough arc may have represented the western side of a circular structure perhaps 10m in diameter. The postholes (**12088**, **12092**, **12090**, **12094** and **12086**) were generally circular, 0.4–0.64m in diameter and had surviving depths of 0.1–0.15m. They were filled with deposits of mid-brownish grey clayey silt or silty sand and did not contain any artefacts.

Within the projected circumference of the possible circular structure there were several pits, including either two or three large intercutting features. The south-western pit (**10529**) was 4.2m long, although its shape suggested that it could have been two intercutting smaller features. At its south-western end it was up to 1.9m wide and 0.4m deep with a flat base. At the north-western end there was a primary fill of redeposited natural sandy clay, interpreted as either weathered or collapsed material from the pit side. Above this, there was a deposit of burnt stones, charcoal and soot, partially covered by a second deposit of redeposited natural clay. The upper part of the pit was filled with another, more extensive, dump of

Figure 5.2: Bronze Age features in Field 262.

soot, oak and hazel charcoal and burnt stones (**10531**), which contained a residual flint blade of Mesolithic/

Table 5.1: Bronze Age and Iron Age radiocarbon dates.

Field	Feature	Sample context	Lab code	Material	$\delta^{13}C$ ‰	Radio-carbon age BP	1σ	2σ
145	Ditch 10082	10116	SUERC-75022 (GU44894)	Calcined human bone fragments	-23.9	2571±35	805 (62.6%) 756 calBC 679 (3.6%) 671 calBC 604 (2.0%) 599 calBC	811 (68.2%) 745 calBC 686 (6.8%) 665 calBC 644 (20.4%) 551 calBC
145	Ditch 10082	10116	SUERC-76354 (GU45962)	Carbonised residue on potsherd	-27.4	2818±24	1002 (68.2%) 932 calBC	1042 (0.6%) 1038 calBC 1030 (94.8%) 908 calBC
145	Ditch 10082	10120	SUERC-76341 (GU45961)	Animal tooth	-22.3	2524±31	788 (23.7%) 749 calBC 684 (10.1%) 667 calBC 640 (27.4%) 588 calBC 579 (7.1%) 563 calBC	796 (31.3%) 728 calBC 717 (0.8%) 708 calBC 694 (63.2%) 542 calBC
145	Posthole 10134	10135	SUERC-75059 (GU44919)	Charred cereal grain	-23.4	2392±33	508 (5.5%) 499 calBC 493 (62.7%) 403 calBC	732 (7.2%) 690 calBC 661 (1.5%) 650 calBC 545 (86.7%) 396 calBC
150	Pit 7602	7599	SUERC-92775 (GU54437)	Charcoal: Maloideae	-25.0	2890±22	1112 (68.2%) 1031 calBC	1190 (1.5%) 1179 calBC 1157 (1.4%) 1146 calBC 1129 (92.5% 1002 calBC
262	Pit 10527	10528	SUERC-92817 (GU54468)	Charcoal: Corylus	-25.3	3658±24	2123 (22.6%) 2092 calBC 2043 (27.2%) 2010 calBC 2001 (18.4%) 1977 calBC	2134 (30.7%) 2080 calBC 2061 (64.7%) 1951 calBC
262	Pit 10529	10531	SUERC-92818 (GU54469)	Charcoal: Alnus	-25.4	3689±24	2133 (45.1%) 2081 calBC 2061 (23.1%) 2033 calBC	2191 (1.4%) 2181 calBC 2143 (91.1%) 2017 calBC 1996 (2.9%) 1981 calBC
262	Ditch 12057	12099	SUERC-92823 (GU54471)	Charcoal: Corylus	-25.9	3665±24	2127 (32.0%) 2090 calBC 2045 (25.0%) 2016 calBC 1996 (11.2%) 1981 calBC	2135 (95.4%) 1960 calBC

Early Neolithic date. A sample of *Alnus* charcoal from this deposit provided a radiocarbon date of 2191–1981 calBC (3689±24BP, SUERC-92818). The north-eastern part of cut **10529** was shallower and contained a single fill of burnt stones and soot, supporting the premise that it was a separate intercutting pit. To the north-east it was cut by another large pit **10527**, which was of uncertain size and filled with a single deposit (**10528**) of burnt stones, oak and hazel charcoal, and soot. Alteration of the colour of the surrounding natural clay suggested that this was either dumped into the pit while still hot or had been burnt in situ. *Corylus* charcoal from **10528** gave a radiocarbon date of 2134–1951 calBC (3658±24BP, SUERC-92817).

A similar discrete pit (**10521**) located to the west of feature **10529** was more than 1.5m wide (it had been severely truncated by a modern drain) and 0.3m deep. It had a primary fill of black silty sand, charcoal and heat-shattered stones below a similar but lighter coloured secondary deposit. A fragment of glass in the upper fill is likely to have been intrusive. The final feature within the footprint of the suggested structure lay near its northern edge. Pit **10525** was 1.1m in diameter, 0.3m deep and filled with heat-shattered stones, charcoal and soot.

To the north, the possible structure was respected by a deposit of burnt and heat-shattered stones (**10545**), which was originally more than 6m long and 1.9m wide but had been extensively truncated by later agricultural activity leaving a c.50mm-thick layer of material pressed into the surface of the natural clay. Another, similar, burnt mound deposit (**10544**) lay a short distance to the north. Both mounds lay within the area defined by the ditched enclosure.

Another area of Bronze Age burnt mound activity was identified at the southern end of Field 150, 260m to the north-west of the Field 262 enclosure (Fig. 5.1). The site lay at the foot of the northern hillslope of High Goskins, with a gentler slope up to the north. To the east, although more recently separated by the A1, the site lay at the western edge of what was, until the 20th century, another post-glacial pond.

Stripping of a corridor 10m wide revealed archaeological features extending for c.17m from north-west to south-east (Fig. 5.3). Initial investigation of these deposits was

restricted to a 1.5m-wide exploratory trench with the intention of subsequent, more thorough excavation. However, a spell of very wet weather flooded the excavation (which lay at the lowest point of this section of the motorway corridor) with liquid mud, precluding further archaeological work. The deposits consisted of a burnt mound, which had subsequently been truncated to the south-east by a medieval or post-medieval ditch, flanked on its south-eastern side by an upstanding earthwork bank.

The burnt mound may originally have been as much as c.10m in diameter. The natural sandy clay was overlain by a 0.08m thick layer (**7598**, not illustrated) of burnt stones and heat-affected sand. Above this was a layer of yellowish brown sandy silt (**7597**) c.0.2m thick. These deposits were cut by a steep-sided pit (**7602**) filled with burnt stones and charcoal (**7599**). Pit **7602**, which extended beyond the limit of excavation and was also truncated, measured more than 1.75m by 1.2m, and was 0.45m deep. A sample of *Maloideae* charcoal from fill **7599** provided a Late Bronze Age radiocarbon date of 1190–1002 calBC (2890±22 BP, SUERC-92775; Table 5.1). The pit and the lower mound material were sealed by an extensive layer of burnt stone **7603/7609** 0.1m thick. The burnt stone layer was cut near its northern edge by a possible small pit (**7595**), which was 1m in diameter, 0.1m deep and filled with burnt stone, charcoal and soot.

Discussion

The Bronze Age activity recorded in Fields 150 and 262 is of regional significance. Although there is widespread evidence for the period on the North York Moors to the east, and the Dales to the west, relatively little evidence for non-funerary archaeology from this period has previously been recorded in the Vale of Mowbray or indeed across the lowlands of north-east England.

Burnt mounds are one of the commonest recorded prehistoric monument types in Britain and Ireland, and more widely across northern Europe (e.g. Larsson 1990). They were created from the Neolithic onwards, although most dated examples are of Middle to later Bronze Age date. They typically consist of a mound of fire-cracked stones, frequently of crescentic plan, which encloses a 'trough' formed of a pit lined with a variety of materials, including wood, wattle, stone or clay (Topping 2011, 2). Although there is a consensus that the sites were used for heating water using fire-heated stones, their function remains uncertain, with a wide range of suggested uses (Brown *et al*. 2016, 260) including mundane activities such as bathing (including saunas), cooking, tanning and fabric processing (Barfield and Hodder 1987, 371; Barber 1990, 99–101; Brown *et al*., 2016, 260) or they could have had a variety of functions (Barber 1990, 99–101). Their location adjacent to an available water source was fundamental. The features in Field 262 on the A1 lay on the shore of what was once a large pond, while the mound in Field 150 presumably drew water from the adjacent smaller pond.

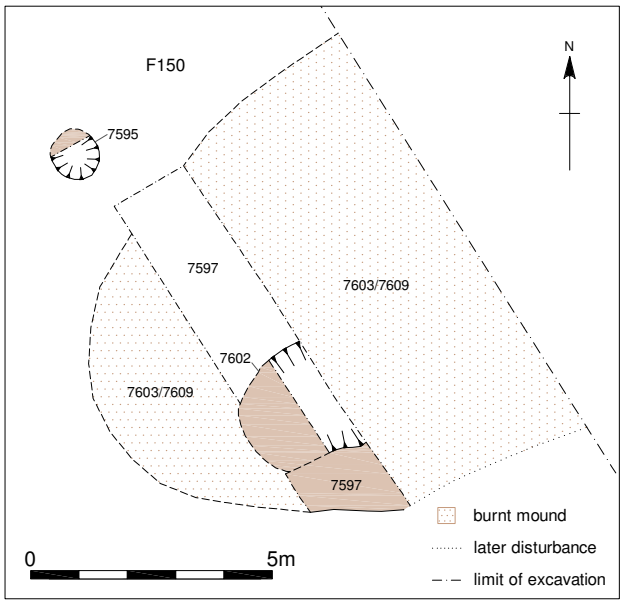

Figure 5.3: Bronze Age features in Field 150.

The recognition of the burnt mound deposits in Fields 150 and 262 represent the first such discovery in the Vale of Mowbray which, as noted above, is largely devoid of evidence for Bronze Age industrial, production or settlement activity. However, numerous burnt mounds have been found in the Yorkshire Dales to the west of the Vale (Laurie 2004). An example 14km to the north-west of the A1 sites on the Feldom Ranges near Richmond has been excavated and radiocarbon dated to the Middle Bronze Age (Mole 2007). The Dales examples are almost all located above 250m aOD, generally lie adjacent to springs or streams, and are positioned with wide views, never being found in narrow valleys or ravines (Laurie 2004, 79). This contrasts with the current examples, which lie in an area without the higher ground, streams or springs, and the local Bronze Age population presumably had to modify the location of their sites to fit in with the local topography and available water sources (ponds located in low-lying basins). Burnt mound sites in other parts of Britain such as the Norfolk Fens are similarly low-lying (e.g. Crowson 2004). Otherwise, the evidence for the activity represented by the burnt mound deposits appears much the same in both highland and lowland topographic zones.

To the south of the Vale of Mowbray, in the lowlands of the Vale of York, a Bronze Age burnt mound associated with a series of 'troughs' has been excavated at Stamford Bridge to the east of York (Parry 2007, 4–5) and another noted at Little Ouseburn (*ibid*., 94), both located in stream-side locations. At Stamford Bridge, the troughs had generally been backfilled with material similar to that comprising the burnt mound, although one appeared to have been left to silt naturally (*ibid*., 5). The size and form of these features was consistent with pit **7602** cut into the mound in Field 150 on the A1, which can therefore be reasonably securely interpreted as a similar trough. The large pits located within the possible structure in Field 262 were of a slightly less typical form, perhaps as a result of their early date, but presumably performed a

similar function.

Laurie (2004, 85) has noted that some of the Dales burnt mounds are juxtaposed with faint 'hut' circles, which he suggested represented not houses but more likely lightly constructed tent-like structures, perhaps 'sweat lodges'. The presence of the arc of postholes surrounding the 'troughs' at Field 262 suggests a similar, if slightly more substantial, arrangement.

The available stratigraphic evidence did not allow sequencing of the main groups of features (the enclosure ditch, burnt mound deposits and circular structure). However, since the other features appeared to be spatially constrained by the ditch, with none occurring outside it, it seems likely that the enclosure was the primary feature, with burnt material from the earliest fill of the terminal providing a similar radiocarbon date to those from the features within.

The possible circular structure located in the south-western corner of the enclosure is of some note. Few circular Bronze Age timber buildings have been found in lowland North Yorkshire and County Durham. Examples recently excavated at Greatham on Teesside were demarcated by penannular gullies, but no structural remains survived (Fell and Robinson 2018, 3–7). More examples are known in Northumberland. Waddington and Passmore have noted that there is a distinction between lowland post-built timber structures and upland examples, which more often have a circular drystone foundation wall (2016, 180). The post-built examples in Northumberland typically have an internal ring of relatively widely spaced posts inside an external wall that has rarely survived, for example at Lookout Plantation, Cheviot Quarry, Lanton Quarry or Halls Hill (Monaghan 1994; Johnson and Waddington 2008, 146–52; Waddington 2009; Gates 2009). These structures were typically c.6–10m in diameter, so at c.10m the High Goskins example would have been relatively large. Assuming that the latter was broadly contemporary with the consistent series of radiocarbon dates obtained from the enclosure ditch and burnt mound deposits, which suggest that they represent activity around c.2000 calBC, it was somewhat earlier than the examples above, which were all Middle or Late Bronze Age in date. Previous works have suggested that construction of roundhouses in Northumberland and Scotland began from the second quarter of the second millennium BC (Ashmore 2004; Passmore and Waddington 2012, 191–2), although it may have begun earlier (Waddington and Passmore 2016, 179), so the High Goskins structure may be an exceptionally early example.

An Early Iron Age enclosure at Bowbridge Lane (F145)

Aerial photographic plotting shows that the site at Bowbridge Lane lies within an area of rectilinear field enclosures aligned from west-northwest to east-southeast, although several linear features associated with this landscape could not be identified following topsoil stripping in Field 145. One boundary has a D-shaped enclosure appended to it c.500m to the north of the Bowbridge Lane site (Fig. 5.4). The line of one of the boundaries is continued to the east of the A1 by Tickergate Lane, which may therefore have an ancient origin.

From a raised area in the south-eastern corner of the field, the topography sloped down fairly steeply to the south, west and north, while to the east it originally linked to the northern end of the slightly higher ridge of the Leeming Moraine. The site therefore had very extensive views (dependent on tree cover) to the south-west, to the Pennine foothills to the west, and towards lower ground to the north and north-east.

Within the south-eastern corner of the field, soil-stripping revealed a complex of archaeological features isolated on a raised 'island'. Ground levels had previously been truncated to the north-east by the existing A1(T) cutting, to the south-east by the cutting for Bowbridge Lane (in the background of Plate 5.2), and to the south-west by an access from the lane into the field for the contractors' haul road.

Later prehistoric use of the site could be split into two periods. For the earlier period, in the Late Bronze Age, which provided a series of radiocarbon dates spanning c.1225–805 calBC, there was evidence for pit-digging, funerary activity and construction of a probable barrow, evidence which is already published elsewhere (Speed *et al*. 2018a, 31–8). At the start of the Iron Age period, there was a change in use of the site, presumably after a hiatus, with a rectilinear enclosure constructed across the area on a similar alignment to the surrounding cropmark field system. Only part of the north-western enclosure boundary and its western corner survived within the excavated area (Fig. 5.5).

The initial phase of the enclosure was represented by a ditch (**10082**/**10033**) running to the south-southwest for 23.2m before returning to the east-southeast for 2.25m (ditch **10101**). A slight raised ridge surviving within the base of the southern end of ditch **10082** suggested that it was created first, followed by the slightly deeper ditch **10101**. The V-profiled enclosure ditch was c.0.9m wide to the south, narrowing down to c.0.5m to the north and east, between 0.55m and 0.92m deep, shallowing where it crossed the site of the Late Bronze Age barrow presumably as a result of passing over the mound of the earlier monument. The base of the ditch contained redeposited natural sandy clay slipped or eroded from the freshly dug ditch sides, overlain by a fill of dark brown sandy silt soil (**10116**/**10120**) that contained an assemblage of hand-built pottery sherds, fragments of fired clay, charcoal, charred cereal grains, and calcined and unburnt bone. Several radiocarbon dates were recovered from these deposits. Carbonised residue from a potsherd returned a date of 1042–908 calBC (2818±24 BP, SUERC-76354; Table 5.1), showing that some of the material was residual from the earlier episode of use of the site. However, samples of

Figure 5.4: the Bowbridge Lane enclosure and its surrounding landscape.

calcined bone and an animal tooth provided similar dates of 811–551 calBC (2571±35 BP, SUERC-75022) and 796–542 calBC (2524±31, SUERC-76341) which probably more accurately reflect the date of this primary phase of the enclosure. The lower deposits were interpreted as fill of an initial ditch rather than packing material for the subsequent reuse of the feature as a palisade trench on the grounds that, if the trench had been dug de novo for the palisade, then logically the excavated natural clay would have been used for packing material rather than bringing in different materials from elsewhere.

During construction of the second phase of the enclosure, the upper part of the ditch fill was removed and a line of postholes (**10119**) cut into the top of the remaining deposits (Plate 5.1). A total of 58 postholes was recorded, although some gaps suggested that a few others had been obscured either as a result of shallower depth or slumping of the surrounding deposits. The postholes were mainly circular or subcircular in plan, although nine were more rectangular. The postholes were spaced 0.2–0.5m apart and measured 0.1–0.3m in diameter. They generally ran in a single line along the centre of the ditch, with some closely spaced pairs perhaps suggesting occasional replacement of individual posts as they decayed. At the south-western corner of the enclosure, a deeper area in the base of the ditch possibly represented an emplacement for a larger post at the angle of the palisade, although no post-pipe could be identified.

The posts had been packed around with large stones,

*Plate 5.1: postholes **10119** cut into the lower fill of ditch **10082**, facing south-west, scale 0.5m.*

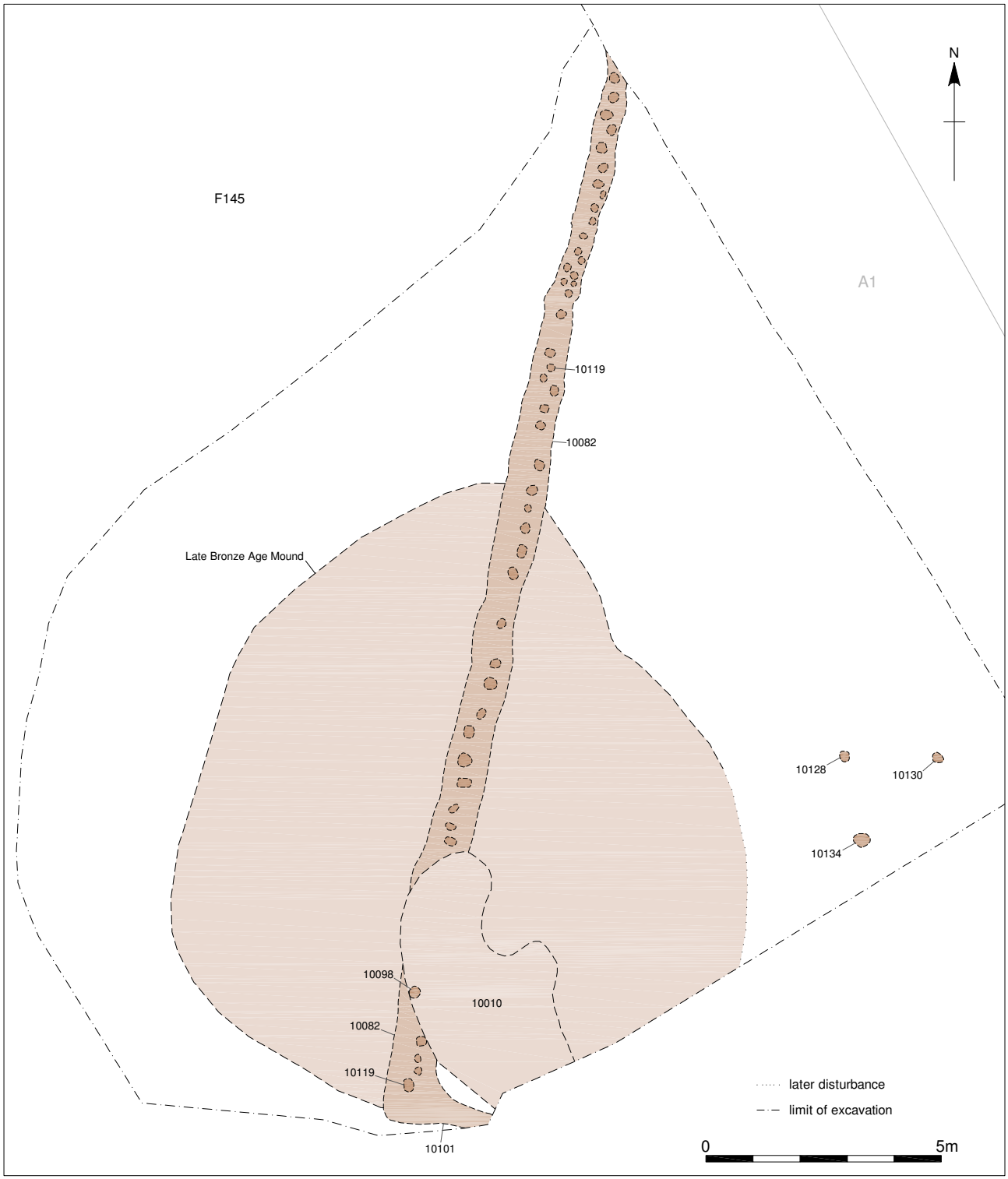

Figure 5.5: the Bowbridge Lane Early Iron enclosure and 'four-post' structure.

measuring up to 0.5m (deposit **10070/10104**), which largely filled the remainder of the trench (Plate 5.2). In many cases these had been wedged vertically between posts and the trench sides, preserving the form of the post-pipes. The upper part of the trench above the packing had been backfilled with a deposit (variously numbered **10004**, **10030**, **10081** and **10103**), which was in all respects similar to the earlier ditch fill **10116/10120**—and containing a similar range of cultural material—and presumably represented the return of spoil from excavation of the palisade trench.

The variation in depth of individual postholes suggested that some effort had been made to create a uniform, level, top to the finished palisade. This premise was supported by the increased depth of the postholes where they passed over the area of the Late Bronze Age barrow mound and provides an interesting insight into the architecture of such structures.

Either during or following construction of the palisade, a layer of stones (**10010**) 0.1m thick was laid down within the south-western part of the enclosure. This survived

*Plate 5.2: packing stones **10070** within palisade trench **10082**, facing south. The A1 cutting lies to the left and the Bowbridge Lane cutting crosses between the excavation area and the cabins.*

across an area measuring up to 3m wide and more than 4m long, continuing beyond the southern limit of excavation. It also extended slightly beyond the palisade to the west, wrapping around one of the postpipes (**10098**). The surface produced a similar range of cultural material to the ditch and palisade trench fills, including potsherds, fragments of fired clay, animal bones and a flint scraper.

The only surviving feature within the enclosure that could be attributed to the Iron Age occupation was a probably four-post structure, although the presumed south-eastern posthole lay beyond the edge of the excavation area. The remaining postholes were arranged at three corners of a rough square measuring 2m square (between posthole centres). The north-western and north-eastern postholes (**10128** and **10130**) were each 0.2–0.23m in diameter and respectively 0.11m and 0.17m deep and filled with dark greyish-brown silt containing some stones and charcoal flecks. The third posthole (**10134**) at the south-western corner was larger, 0.24–0.35m in diameter and 0.23m deep, and contained several large packing stones. Soil samples taken from these features (fills **10129**, **10131** and **10135**) produced a significant assemblage of charred grains, mainly barley (*Hordeum*) and spelt wheat (*Triticum spelta*) (Table 5.2). While posthole **10134** also contained a few contaminants including four wild oats (*Avena fatua*), an undetermined large-seeded grass and charcoal (oak and ash), the other two postholes had only cereal remains. A distinct absence of chaff suggested that the structure probably served as storage for processed grain. A sample of charred grain from fill **10135** of posthole **10134** provided a radiocarbon date of 732–396 calBC (2392±33 BP, SUERC-75059; Table 5.1).

Discussion of Bowbridge Lane

The discovery of the Early Iron Age palisaded enclosure at Bowbridge Lane is of some significance since few similar sites, either in date or form, have been identified or investigated in this part of Yorkshire, although a directly comparable example at Pallet Hill Quarry, Catterick is yet to be published (Manby *et al*. 2003, 94).

Palisaded enclosures in north-eastern England typically date from the early to mid-1st millennium BC, when pollen data suggest a relatively wooded landscape and timber was therefore plentiful, whereas later enclosures defined by a ditch and bank were created in more extensively cleared farmland (Willis 1999, 91; Harding 2004, 41). At Palett Hill Quarry, successive square and oval palisaded enclosures were considered to date from the early 1st millennium BC (Manby *et al*. 2003, 94). The construction slot for the second enclosure was 0.66m wide, 0.4m deep and packed with stones (MNY 13636) in a manner similar to the Bowbridge Lane enclosure. To the south of the current study area, a sub-rectangular palisaded enclosure of probable Middle Iron Age date and with a similar arrangement of close-set posts was excavated at Swillington Common, West Yorkshire (Howell 2001, 56–7 and fig. 45). Replacement of a ditched enclosure boundary can be paralleled locally in the Late Iron Age

Table 5.2: charred plant remains from postholes 10128, 10130 and 10134.

Context	Species	Quantity
10129	*Hordeum* (straight)	5
10129	*Triticum* sp.	3
10129	Indet Cerealia	2
10131	*Carex* sp. (trigonous)	1
10131	*Triticum* sp.	11
10131	*Hordeum* (straight)	25
10131	Indet. Cerealia	18
10135	*Poaceae* indet >5mm	1
10135	*Triticum* sp.	17
10135	*Triticum spelta*	3
10135	*Avena fatua*	4
10135	Indet. Cerealia	56
10135	*Hordeum* (straight)	159

at The Tofts, Stanwick, where two initial ditched phases were subsequently replaced by a palisade probably formed of continuous vertical timbers set into a trench cut into the largely infilled ditch hollow (Haselgrove 2016, 72–8). Other Iron Age palisaded enclosures in the region include the unexcavated example at Rock Castle, Gilling West (Fitts *et al*. 1994), which indirect dating suggests is likely to be of Early-Middle Iron Age date (Haselgrove 2016, 335), and further to the north in County Durham at West Brandon and Coxhoe (Jobey 1962; Haselgrove and Allon 1982). Nearest to Bowbridge Lane, excavations at Hollow Banks Farm revealed two phases of a square enclosure defined by narrow construction slots, presumably for palisades, which could not be dated (Speed 2005).

There was sufficient correspondence between the series of post-impressions recorded in the lower ditch fill and the overlying post-pipes detected between the packing stones to show that both groups probably represented a single phase of structure, although, as noted above, pairing of some postholes suggested occasional replacement or reinforcement of elements of the barrier, implying that it stood (and was maintained) for an extended period of time.

As noted above, the deeper postholes found in the area of the Late Bronze Age barrow suggested that some care had been taken with the design of the structure, with an intent to achieve a level top to the palisade. However, as excavated, relatively few of the post-pipes directly (vertically) overlay the postholes cut into the lower ditch fill; a few leaned either to the north or south and a single example leant slightly to the west, while there was a distinct tendency for them to lean to the east by varying degrees. This situation is difficult to reconcile with the results of weather and decay, particularly if the posts had been joined solidly in some manner to create an impenetrable barrier as seems probable. The comprehensive packing of the upper part of the construction trench with large rocks also makes such movement unlikely, and it may be that the palisade had a somewhat untidy appearance.

Finds recovered from the lower fills of the enclosure ditch, including pottery, fragments of animal bone and teeth and carbonised cereal grains, suggest that the enclosure had a domestic function, supported by the presence of the four-post structure in its interior. The make-up of the small, carbonised grain assemblage from the ditch was strikingly similar to that from the four-post structure postholes, mainly barley (*Hordeum*) and spelt wheat (*Triticum spelta*), supporting an association between the structure and the surrounding enclosure. The limited evidence suggests that the settlement had a mixed pastoral and arable economy. It is regrettable that large cuttings for the A1 and Bowbridge Lane in the 1960s had removed most of the enclosure and any other features such as houses that it may once have contained, and the enclosure is not visible on earlier aerial photographs (Deegan 2004).

The location and orientation of the enclosure suggested that it was directly associated with the wider system of fields and trackway(s) in the area known from aerial photographs and geophysical survey (although not falling within the A1 excavations), which may have its origins at a similarly early date. In this light, Tickergate Lane can perhaps be seen as originally a route leading from the enclosure along one of the longer boundaries down the slope of the Leeming Moraine towards areas of meadow (and water) on the lower ground to the north-east, and may have originated as a droveway. The prominent location of the palisaded enclosure, perched on top of the Leeming Moraine, will have required regular effort to keep livestock watered. Similar arrangements are associated with Iron Age farmsteads elsewhere, with trackways heading from the settlement between fields and sometimes towards water, an example being the recently excavated Late Iron Age site at East Wideopen Farm, North Tyneside (Pratt and Speed forthcoming).

Iron Age four-post structures are typically interpreted as representing small, raised granaries, with raised floors allowing air circulation and denying access to rodents (Cunliffe 1978, 180–1). They are often found close to contemporary settlement as at Stanwick (Structure PS6, Haselgrove 2016, 68–9) or Castle Hills near Micklefield in West Yorkshire (Site M, Brown *et al*. 2007, 90–3), although at Scorton Quarry they seem to have been placed in widely spaced groups across the fields with no obvious focus of settlement nearby (Speed and Evans 2013, fig. 5), a trait which could indicate an alternative use such as mortuary platforms (Ellison and Drewett 1971, 190–2) or for feeding livestock. However, given the association of large numbers of cereal grains with the postholes at Bowbridge Lane, the former interpretation as a granary seems more plausible. The nearby palisaded site at Pallet Hill Quarry, Catterick, which as noted above may be of a similar date to the Bowbridge Lane

enclosure, also had a four-post structure, located close to a central roundhouse (MNY13636).

The manner in which the Bowbridge Lane enclosure cut across the Bronze Age burial mound can be paralleled elsewhere on the A1 scheme and further afield. The ring-ditch recorded by geophysical survey in Field 261, which as discussed above is likely to represent a Bronze Age barrow, was bisected by a ditch which, to judge by its alignment, is likely to have been of pre-Roman date (Fig. 5.1). The relationship between Early Bronze Age barrows and subsequent later Bronze Age field boundaries has been explored by Cooper (2016, 304 and fig. 5), who cites several examples where ditches have impinged upon the body of the mound itself, and comparable slighting of earlier sites continued during the Iron Age (Champion 2007, 100).

Bronze Age and Early Iron Age discussion

Prior to the A1 scheme work, the 'domestic' Bronze Age was almost unrepresented in the Vale of Mowbray. A large number of round barrows are presumed to date from the Early Bronze Age (Vyner *et al*. 2011, 216–7), although only a few have been tested by excavation, some earlier monuments continued to be used and new ones were constructed such as the double post-row at Thornborough (Harding *et al*. 2013). Metalwork was deposited either in 'ritual' contexts (such as rivers) or as buried hoards, although some of the latter may have been the 'stock in trade' of metalworkers (Vyner *et al*. 2011, 222). The remaining evidence consists of a small number of pits and uncertainly dated ditches. The focusing of the A1 radiocarbon dating programme on otherwise undated features has demonstrated that, in fact, evidence for Bronze Age activity in the Vale is widespread, but different from the enclosed landscapes and settlements known in many other areas of Britain in this period. Throughout the period there continues to be little evidence for agriculture, with only occasional finds of small quantities of carbonised grain and even rarer fragments of animal bone. Elsewhere across North Yorkshire, and northwards into County Durham, there is widespread pollen evidence of forest clearance from the Early to Middle Bronze Age, including adjacent to the Ure at Nosterfield (Bridgland *et al*. 2011, 264), although the data from Healam Bridge shows that the area remained wooded, with no significant clearance or evidence for cereal cultivation until the Early Iron Age (Ambrey *et al*. 2017, 20), and there is similar evidence for Early Iron Age clearance from Great Raygill (Field 2; O'Brien *et al*. 2017). What this apparent lack of 'settlement' and agricultural evidence may mean, at least for the part of the Vale crossed by the A1 scheme, is explored further in Section 6.

That the area immediately to the west of Catterick Bridge seems to have had some significance during the later Bronze Age is indicated by finds of bronze swords on the banks of the Swale at Colburn (NZ 201 001) in 1963 (MNY15715) and Brompton-on-Swale (SE 2257 9937) in 1992 (Speed 1993b; Burgess 1995), and an example found somewhere near Brough Beck (SE 21 97) by a metal detectorist and reported to the Portable Antiquities Scheme (id. 803218). Another weapon held by the National Museum of Scotland comes from 'Brompton, Yorkshire' (Elgee 1930, 171; plate XXV). It may be no coincidence that the Swale represents the nearest significant body of water to the Scotch Corner/Middleton Tyas area, which contains one of the three richest deposits of copper ore in Britain (the others are at the Great Orme near Llandudno and Ecton Hill in the Peak District) (British Geological Survey 1998; Timberlake and Marshall 2018, 420–5). The Scotch Corner deposits were probably exploited during the Late Iron Age or Early Roman period (Fell 2020) and Middleton Tyas was the centre of a major mining industry during the 19th century (Hornshaw 1975), so it is highly likely that they would have been known about during the Bronze Age. A large quarry at Scotch Corner (Crookacre Plantation) had already been forgotten as such by 1854 (OS 1857), meaning that it pre-dated the Victorian mining boom but is otherwise undated. The presence of Bronze Age burials in the Scotch Corner area parallels those around the Great Orme and Ecton Hill, both of which were the scene of substantial Bronze Age copper extraction.

The early part of the 1st millennium BC saw the first evidence for landscape division and fixed settlement in the Vale, appearing to mark a significant change in the lifestyle and economy of the inhabitants. The first evidence for the division of the landscape into rectilinear fields comes from Nosterfield, where the earliest enclosures dated either from the Late Bronze Age or Early Iron Age (Dickson and Hopkinson 2011, 136–46), and perhaps also at Marne Barracks in the same period (Hale and Still 2002, 39). Alongside the new field systems, there are the first recognisable settlements represented by ditched or palisaded enclosures containing structures, at Pallett Hill (MNY 13636; Manby *et al*. 2003, 94), and, from the A1, at Bowbridge Lane (Field 145). The four-post structure at the latter site is of some significance, since it is the first evidence from the Vale for cereal production (or at least importation) on a scale large enough to require a specialist storage facility; indeed the charred cereal assemblage from posthole **10134** is itself comparable in size to anything that has been found in earlier features in the Vale. Another innovation identified by the A1 scheme from this period was the first evidence for significant specialist industry represented by the large assemblage of Early Iron Age ironworking debris found in Field 107 at Leeming (Ambrey *et al*. 2017a, 23–6). It has been noted that this site, as with the (possibly even earlier) ironworking site at Scorton Quarry (Speed 2009b, 16), is not in an area where there was any readily accessible ore source, demonstrating that by this date there was the means within the area to transport heavy and bulky resources over relatively large distances.

6.0 DISCUSSION

As noted in the Introduction, the 2009–2018 A1 improvement schemes between Dishforth and Barton formed the northern and last part of an ambitious project

to transform the A1 into a modern motorway running from south to north through West and North Yorkshire. Since the early 1990s, each phase of this work has been accompanied by archaeological investigations resulting in a series of significant publications and extensive archives available for future study.

Publication of these investigations has taken a variety of forms. Some of the publications have concentrated upon individual archaeological 'sites' such as the Roman fort at Roecliffe, the immediate environs of the Ferrybridge Henge or the Roman settlement at Healam Bridge (Bishop 2005; Roberts 2005; Ambrey *et al*. 2017), while others have condensed all of the results of a scheme into an individual volume (Roberts *et al*. 2001; Brown *et al*. 2007), with inevitable summarisation of some information. However, it was apparent from an early stage during the most recent fieldwork project between Leeming and Barton that the sheer quantity of data being generated by the excavations would require a more complex and ambitious programme of analysis resulting in multiple publications. For the Late Iron Age and Roman elements in particular, in order both to answer specific research questions and also to make the end product manageable both logistically and in terms of volume size, publication has been split chronologically between two volumes (Fell 2020; Ross and Ross 2021) together with a third themed work on human burials of all periods from the scheme (Speed and Holst 2018b). At the time when these decisions were being made, the report for the Dishforth to Leeming A1 improvement (Ambrey *et al*. 2017) had not yet been published; given the 'landscape' nature of the earlier prehistoric evidence from the two schemes, it made sense to strip the relevant material from the draft monograph and combine it with that from the Leeming to Barton scheme, resulting in this current work which, rather unusually, spans the two major projects.

As observed in Section 4, the majority of the early prehistoric evidence came in the form of small pits. These were generally widely dispersed across the landscape with large (often very large) 'blank' areas between individual features or small groups of features. No dense concentrations of features were evident, as have been found at some sites such as Thirlings in Northumberland or, closer to hand, at Nosterfield (Miket and Edwards 2009; Dickson and Hopkinson 2011), and presumably the A1 evidence represents more the background levels of activity in the landscape between such areas. However, a relatively constrained corridor was examined by the A1 schemes and it must be remembered that there may be more of the dense pit sites close by, just beyond the investigated areas. Nevertheless, as a result of the extensive (and often wide) areas examined, the A1 works have provided a clearer picture of this background than has previously been possible in northern England. Given the dispersed nature of the evidence, locating early prehistoric features in most small excavations is very much a 'needle in a haystack' process and relies mainly on pure luck; where they are found they are typically few in number and it is impossible to determine whether they form part of larger groups. There are similar problems with most linear development schemes such as pipelines and buried cables, where relatively narrow construction corridors can pass through an area of pits without actually intersecting any. It was calculated for Marton-le-Moor that a 2m-wide linear corridor could easily have been stripped the length of the area without intersecting any of the pits, and indeed this was (almost) the result when such a methodology was employed on part of the route. A similar observation could be applied to sites such as Nosterfield where it is immediately apparent from the excavation plans that even quite large corridors could have been stripped on certain alignments without hitting any pits.

Having been afforded the opportunity to examine the distribution of such features across the landscape, the next major question which the A1 project has attempted to answer is how many of them are early prehistoric in date? Clearly, some contain artefacts that betray their origin but most were undated. The answer has proved to be that, on the available evidence, probably at least 90–95% of the undated features of this type, where found away from later settlement areas, are of earlier date. Why is this? It probably comes down to what the features were for. As discussed in Section 4, this question cannot be accurately answered, although they appear to have had, at least in part, some form of domestic function. Evidently, once people settled down in one place, domestic activity will have become concentrated in a relatively small area around that settlement; it is human nature to carry out domestic tasks nearby rather than, say, on the other side of a hill. There are numerous examples of similar small Iron Age pits (for examples from the A1 Leeming to Barton scheme, see Fell 2020), but they are almost invariably located within or immediately adjacent to settlement areas, and the same can be said for the Roman and later periods. Conversely, there are few reasons to excavate small pits away from settlement areas, an exception being the many thousands of domesticated animals buried in fields across the landscape, post-medieval examples of which were found by the A1 excavations.

What can be drawn from this, and taking into account the wide distribution of early pits, is that during the early prehistoric period in the Vale of Mowbray people were not living in long-term, fixed, settlements but moving around from place to place, occasionally digging pits at some of these locations. This premise is supported by the near-absence in the area of any traces of domestic structures, enclosures or field boundaries until the Late Bronze Age, and clear evidence for a widely settled landscape only begins to emerge in the area from the Early Iron Age.

Dividing the evidence from the schemes by various forms of dating (mainly diagnostic artefacts and radiocarbon), we can begin to see more complex patterns in early prehistoric use of the landscape within the Vale both in terms of distribution and through time.

Mesolithic

As discussed elsewhere (Speed *et al*. 2018c), the scant evidence suggests that during the earliest part of the Mesolithic the Vale appears to have formed a 'frontier' zone, with little evidence from the Dales to the west (Jacobi and Lord 2011, 15). The area may only have been exploited seasonally by hunter-gatherers based further to the east mainly in areas now covered by the North Sea. Against the background of the rarity of below-ground structural evidence for the period in northern England the evidence from the A1 scheme excavations at Little Holtby is therefore of considerable evidence.

For the later Mesolithic, opportunity presented by the A1 projects to examine large areas of both 'wet' and 'dry' zones of the landscape has emphatically reinforced the picture that, at least in the Yorkshire lowlands, activity in this period was very much concentrated on slightly higher ground adjacent to wetland areas, whether ponds, lakes or flowing rivers and streams (Figs 2.1, 2.2 and 2.3). A similar preference has been noted adjacent to the Ure at Thornborough (Harding 2013, 187–8). The one significant exception was the flint scatter found at Scotch Corner (Fig. 2.3), which may represent an outlier on the relatively elevated Gatherley Moor of the widespread Mesolithic activity found in the Dales a short distance to the west. It can be suggested that the 'core' settlement (or base camp) areas during this period were concentrated on the higher ground of the North York Moors and the Dales to the east and west (with Scotch Corner representing an outlier of this higher ground distribution), but that the waterways were utilised as corridors of travel for exploitation of the densely forested lowlands between. This represents a significant change in exploitation of, and movement through, the Vale during the Mesolithic. For the Early Mesolithic, the academic consensus is that the main axis of movement was east-west (base camps on lower ground to the east, with seasonal forays into the 'highlands' (including the Vale) to the west.

As noted above in Section 2, the discovery of several probable Mesolithic pits was a significant discovery for an area where none had previously been identified. The examples from the A1 scheme were recognised due to the random date-sampling strategy employed (there may well be more undated and therefore unrecognised Mesolithic features among the A1 dataset) and Blinkhorn *et al*. have called for a more systematic approach to dating pits in general in order to identify more examples (2017, 220). Identification of Mesolithic cut features has until of late been considered to be rare in British archaeology, although recent studies to collate information from England and Ireland have shown that such features have been found more often than is generally appreciated (Blinkhorn 2012; Lawton-Matthews and Warren 2015). It should be noted here that Mesolithic pits where found elsewhere have demonstrated considerable variety in size, form and filling (Pollard 2017), and sometimes similar depositional activity continued at the same sites into the Early Neolithic, for instance in Yorkshire at Kilham and Heslerton (Manby 1976; Powlesland 1986; Carver 2011, 117).

An important observation from the A1 scheme, found by plotting finds of flint deemed 'Late Mesolithic/ Early Neolithic' against that which was more certainly Mesolithic in date, was that they had almost exactly the same distribution, which was often different to the locations where Early Neolithic pits containing Carinated Ware pottery were to be found. This suggests that there was a time-lag at the beginning of the Neolithic between the adoption of new flint-working technology (an innovation that may not have been significantly life-changing) and other elements of the Neolithic cultural 'package', such as agriculture or pottery production, which resulted in more significant change in lifestyle and landscape utilisation.

Early Neolithic

Compared to the Mesolithic, evidence attributable to the Early Neolithic period was found (sparsely) across much wider parts of the A1 schemes and shows that the population rapidly 'broke out' from the wetland parts of the landscape to exploit the 'drier' area in between. This reflects the evidence from Marton-le-Moor, an area without any extant natural watercourses where there was no Mesolithic evidence but many Early Neolithic pits were found (Tavener 1996). Pits dated to the Early Neolithic were found at Dishforth (Fields 1), in several areas at Baldersby Gate (Fields 19, 20 and 21), on Howe Moor (Field 42), near Londonderry (Field 99), on the Leeming Moraine (Field 141), on the higher ground to the west of the Killerby wetlands (Fields 259, 153, and 154) at Bainesse (Field 160) and to the south of the Swale (Field 172) (Fig. 6.1). These sites were generally 'dry' and away from flowing water, only the pits in Fields 99 and 172 lying within a few hundred metres of minor streams, although the features in the fields at Killerby were close to kettle holes which probably still held water as ponds. No Early Neolithic features were found on the boulder clays of the higher ground of Gatherley Moor towards the northern end of the route.

It has to be presumed that this change in the spatial distribution of the evidence was the result of the adoption, at least in part, of agriculture. Land adjacent to watercourses, often with clayey soils, will have been less attractive to early farmers. Haughey (2016, 110) has noted that although for travellers on foot rivers can be a useful directional guide, neighbouring areas are often heavily wooded inhibiting movement, and also more difficult to clear for settlement and agriculture. This may also have applied to other wetland areas flanking the A1 route. There was surprisingly little Neolithic material found on the part of the route adjoining the area of 'kettle holes' at Killerby (Fields 260–262); what there was, was mainly concentrated around its north-west periphery in Fields 259 and 153/154. Waddington et al. found that, over a large area immediately to the east between the A1 and the River Swale, lithics found by fieldwalking consisted almost entirely of Mesolithic material (with some possible Late Upper Palaeolithic contribution) but that there was 'a tiny Neolithic and Beaker period component' (2009, 26). The evidence suggests that that focus of settlement in

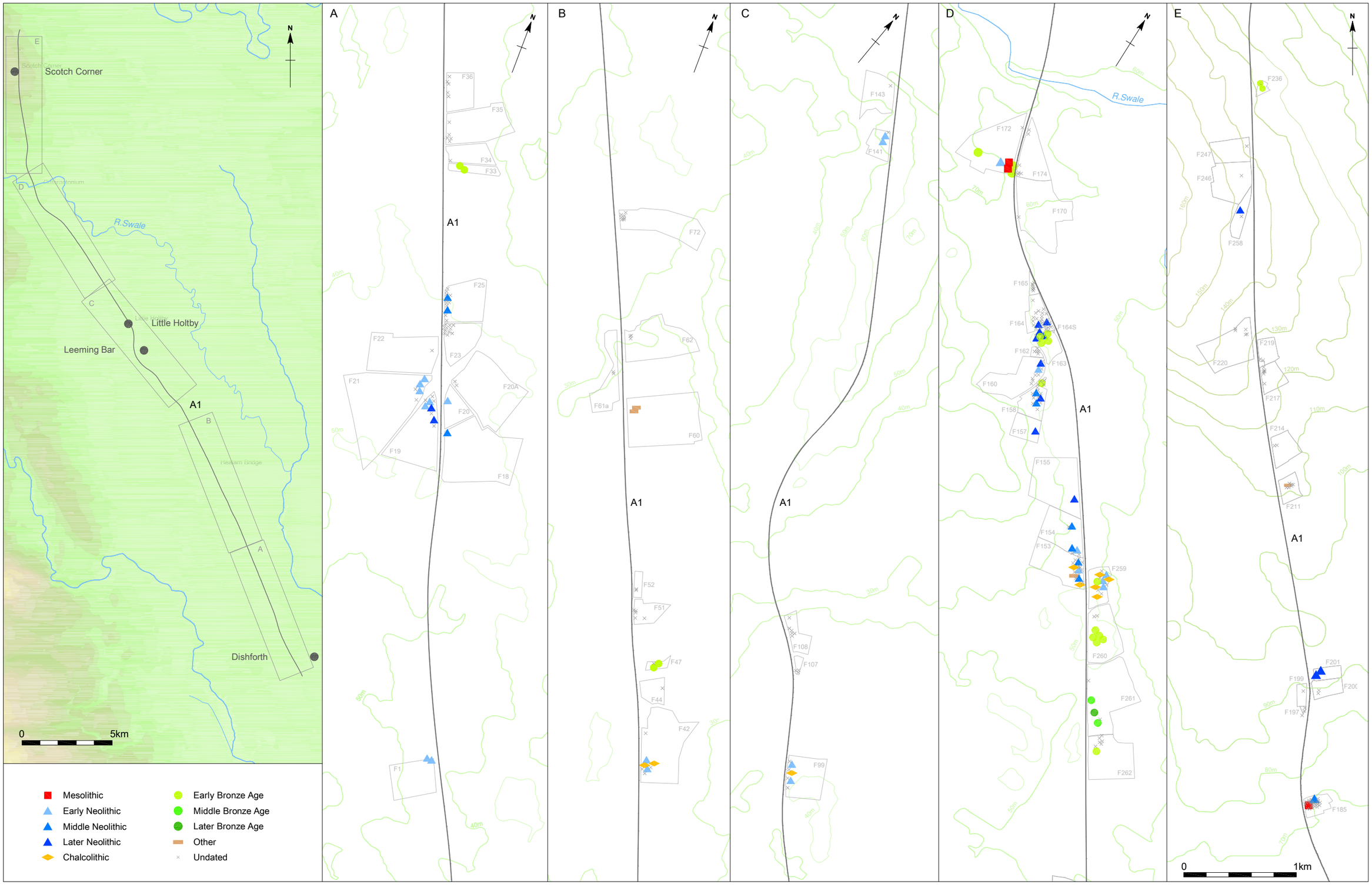

Figure 6.1: fields containing dated pits, by period.

this area, which was clearly strong during the Mesolithic, had relocated onto the drier ground to the north and west during the Neolithic. The form that this settlement took, what lifestyles were followed, and how long they continued, are discussed further below.

As for the Mesolithic, there is currently no certain evidence in the Vale for 'fixed places' during the Early Neolithic such as causewayed camps, long and round barrows, or houses. Several possible burial mounds that have been suggested to date from this period remain uninvestigated (Vyner *et al*. 2011, 216–7).

Middle Neolithic

Ceremonial 'infrastructure' appeared in the Vale during the Middle Neolithic and represents the first clear evidence for large-scale landscape modification. The most significant of these are the cursuses, some of which were extremely large (such as the Scorton Cursus). They will have required large areas free of woodland, either already in existence or cleared of trees ahead of construction. Pollen evidence from the Vale does not support widespread deforestation by this date, so the latter scenario is more likely. This, in addition to the actual monument construction, would have been extremely labour-intensive and indicates a large available workforce, perhaps our only measure of local population during the period. These long, linear monuments, some extending over kilometres, represent the first large artificial boundaries and must have had a significant impact, even if just in practical terms, on the lives of people travelling through and using the landscape. Towards the end of the period, smaller peripheral monuments, such as Bainesse Enclosures 1 and (presumably) 2 were being added.

Along the line of the A1 schemes covered in this volume, there was a particular concentration of early monuments in the area of the River Swale at Catterick/Scorton. Intense, if intermittent, activity from (possibly) the immediate post-glacial period (Waddington *et al*. 2009; Parker and Passmore 2019) through to the Anglo-Saxon period has been observed in this area. Flint finds attest to widespread utilisation of the riverbank areas during the later Mesolithic and Early Neolithic, which finds at Killerby Quarry have shown to have been associated with occasional timber structures (Hunter and Waddington 2018; Brunskill 2019). From the Middle Neolithic, both banks of the river were exploited for the extensive ceremonial and funerary landscape that continued to be developed into the Early Bronze Age (Speed in prep.). Continuing interest in the same area resulted in deposition of Bronze Age metalwork (Manby *et al*. 2003, 93–4; Vyner *et al*. 2011, 222), Iron Age and Roman settlement (Wilson 2002; Speed 2010; Fell 2020; Ross and Ross 2021) a Northumbrian royal palace (*villa regis*) and an important Anglo-Saxon and medieval manors (Page 1968; Wilson *et al*. 1996).

What was the continuing significance of this location? The topography of the northern part of the Vale of Mowbray is dominated by the course of the River Swale. This gradually converges upstream with the higher ground of the Dales, before it finally turns to west to follow Swaledale up into the Pennines. For anyone attempting to travel northwards along the drier ground at the western edge of the Vale (the line of the modern A1) this creates a geographic 'pinch point' where the Swale can be crossed at Catterick, funnelling people and resources (Field 2011, 15–6) and providing a logical location for monuments and, later, an administrative centre.

Although fewer Middle Neolithic pits were found on the A1 schemes compared to the Early Neolithic, they had a generally similar distribution. Middle Neolithic pits were identified at Baldersby Gate (Fields 18 and 25), at Killerby (Fields 153 and 154), at Bainesse (Field 158) and to the north of the Swale at Brompton (Field 185). A number of pits, together with a possible structure, have been excavated on the Swale gravels just to the east of the A1 at Hollow Banks Farm (Speed 2005). No Middle Neolithic features were identified on the boulder clay of the higher ground to the north of this.

Late Neolithic

Many more monuments were constructed during the Late Neolithic (and continuing into the Early Bronze Age). These consisted primarily of circular henges, a variety of timber monuments including circles, a palisaded enclosure, linear post- and pit-rows and individual large posts. As discussed above, the small horseshoe-shaped structures found at several sites (including the example from the A1 at Bainesse Field 160) have been included among these monuments based on the ritual setting of the (unpublished) example found at Roecliffe in 1993. Most of these were concentrated in the areas adjacent to the earlier cursus monuments at Thornborough, Bainesse and Scorton, and possibly at Cana/Hutton Moor and Catterick Racecourse. On the A1 scheme, this 'infilling' around the probable Bainesse Cursus was represented by the post in Field 259 and the possible timber circle in Field 158.

Late Neolithic pits found on the scheme had a rather different distribution to earlier features. Pit digging continued at Baldersby Gate; however, from an A1 perspective, this was spatially isolated. Further to the north, the area to the west of Killerby (Fields 259, 153 and 154) seems to have fallen out of favour in this period, with most of the dated Late Neolithic pits recorded during the A1 improvements concentrated in the fields to the west and north-west of the Bainesse cursus (Fields 155, 157, 158, 160, 163N and 164). No Late Neolithic features were found in the vicinity of the Swale, although several pits containing Grooved Ware pottery were found during the Hollow Banks Farm excavation nearby (Speed 2005), and on the A1 scheme, pits were found at the northern edge of the lowland area in Field 201. In contrast to the earlier periods, a Late Neolithic pit was found on the higher ground of Gatherley Moor at Scotch Corner (Field 258).

The Chalcolithic and Early Bronze Age

There is considerable evidence from the Vale for

continuing construction of ceremonial monuments into the Early Bronze Age, including the double post-row at Thornborough, a double pit alignment at Hollow Banks Farm and probably also the henges at Hollow Banks Farm and Catterick Racecourse. However, this period also saw the proliferation of circular burial mounds around the existing monument complexes and along other areas of higher ground both within the Vale (such as the Leeming Moraine) and on the higher ground to the north at Scotch Corner and Middleton Tyas. The A1 scheme touched on the previously excavated example at Quernhow, but also identified potential new examples at Leases Hall, Goskins (Field 261) and Scotch Corner (Field 220), together with a rather more speculative and undated example at Bainesse (Field 165).

No pits dated to the Chalcolithic or Early Bronze Age were identified at Baldersby Gate; this site was surrounded to the east and west by Early Bronze Age barrows and may have been deemed an unsuitable area for domestic activities. Occasional features were found further to the north near Baldersby (Field 33), on Howe Moor (Field 42) and to the south-west of Sinderby (Field 47) in an area which might be considered to have had more ceremonial/funerary significance given the nearby presence of the Sinderby Henge and Quernhow, although none of the excavated features were particularly close to the monuments. A pit containing Beaker pottery was found in Field 99 at Londonderry. There was then a long gap in the distribution before residual Early Bronze Age pottery found in Field 145 and next a concentration of pits at the western edge of the Killerby wetland area in Fields 262, 260, 259 and 153. More features dated to these periods occurred to the north-west of the Bainesse Cursus and Enclosures in Fields 159 and 163N. On the Swale gravel terraces, pits were identified in Field 172 and residual sherds of Early Bronze Age pottery were found in Fields 174, 177 and 179 although as discussed above these may have derived from disturbed burials rather than domestic features. The only features of this period found on the higher ground at the northern end of the route were a pair of pits found in Field 236.

This distribution is notably different from those for the Neolithic in the concentration of activity close to the wetland areas at Killerby. No Neolithic features at all were found along the northern part of the Leeming Moraine (north of Field 141, and those were Early Neolithic) or in the vicinity of the low-lying wetland areas to the north (Fields 150, 262, 261 and 260). There were more Neolithic features on the slightly higher ground to the north-west (Fields 259, 153 and 154), although some were located adjacent to the 'perched' peat deposit in Field 153. A possible focus for this renewed interest in this wetland area from the Early Bronze Age was represented by the ditched enclosure partially excavated in Field 262 adjacent to one of the former ponds. This represents the most substantial 'domestic' evidence for the earlier part of the Bronze Age yet identified in the Vale, with the ditch enclosing a possible circular structure and large inter-cutting pits filled with dumps of burnt stones, soot and charcoal, with large surface-dumps of the same material nearby. Although, as discussed above, there is some academic dispute as to what this burnt mound activity represents, it involved heating large quantities of water (hence requiring direct access to a water source) and probably explains why so much evidence for the period was found along this part of the route.

The Middle and Late Bronze Age (1500–750 calBC)

As described in Section 5, previous evidence for the Middle and Late Bronze Age in the Vale was restricted to finds of metal objects (generally unstratified), a handful of archaeological features and a possibly Late Bronze Age settlement enclosure at Pallett Hill Quarry, Catterick. Apart from another unstratified metal object (the spearhead found during the 2005 evaluation in Field 39), and the evidence for the burnt mound activity in Field 150, at the end of fieldwork in 2017, it was believed that this near-absence of evidence had continued in the areas examined on the A1 scheme. The results of the radiocarbon dating programme, however, demonstrated that the area was not quite as 'blank' for this period as anticipated. A series of funerary-related features at Bowbridge Lane (Field 145; Speed *et al*. 2018a, 31–8) proved to be Late Bronze Age in date rather than Iron Age as suggested by the associated pottery; this also demonstrated the continuity in local pottery styles between the two periods (discussed further below). The complex funerary activity recorded clearly shows that there was a local population using the site, possibly over a period of several generations, despite the lack of settlement evidence for the period.

Perhaps more significantly for the current study, some of the 'undated' pits excavated during the scheme, otherwise indistinguishable from many of the other features described in Section 4, returned Middle or Late Bronze Age radiocarbon dates. None contained any artefacts, which may explain why such late examples have not been identified on previous excavations nearby where dating has tended to concentrate on features containing either artefacts or environmental assemblages. These three pits were all located in Field 261 and demonstrate (along with the nearby burnt mound activity in Field 150) a continuing interest in this area presumably for the same reasons as during the Early Bronze Age (above).

One of the research questions posed for the prehistoric period on the A1 scheme was: 'How far into the Early Bronze Age does the tradition of pit-digging continue?' The evidence from Field 261 suggests that it actually continued considerably longer into the 2nd millennium BC but has not been recognised due to a decreased incidence of inclusion of durable and dateable finds such as flint, which declined in use through this period.

A continuing mobile lifestyle?

The rare occurrence, usually in very small numbers, of carbonised cereal grains in Neolithic and Bronze Age contexts from the A1 schemes follows a wider pattern across the Vale of Mowbray, where pollen evidence

presents a variable picture of only intermittent clearance and small-scale cereal cultivation until well into the Bronze Age (Bridgland *et al*. 2011, 258–64). Pollen evidence from peat columns taken at Healam Bridge (Fields 62 and 63) suggests that, although the area was wooded at the start of the 3rd millennium calBC, there was some low-intensity clearance throughout the later Neolithic and the whole of the Bronze Age periods (Ambrey *et al*. 2017a, 20), which was possibly for pasture given that no cereal pollen was recorded. Immediately to the south of the A1 work, small numbers of carbonised cereal grains occurred in Neolithic pits at Marton-le-Moor, although the only larger assemblage was associated with Beaker pottery (Tavener 1996; Huntley 1996), while at Nosterfield the numerous pits contained hazelnut shells and evidence for apple/pear, but provided only occasional trace amounts of barley and wheat cereals (Schmidl and Carrot 2011, 365). Cereal grains recovered from a number of Neolithic contexts at Scorton Quarry all proved to be intrusive Anglo-Saxon and medieval material (c.f. the Roman cereal grain in post-pit **5924** of the Bainesse timber circle, Section 3). As is apparent from the results presented in Section 4, the A1 schemes have provided similarly sparse evidence for early agriculture, with only occasional traces of cereal remains from a small percentage of the excavated features. In summary, there is no evidence from the Vale for any large-scale arable cultivation, and in view of the lack of evidence for permanent domestic structures it is possible that a largely hunter-gatherer lifestyle persisted in the Vale into the Early Bronze Age or perhaps later.

Over the last half century, developing archaeological discoveries and theory have made it increasingly clear that the British Neolithic did not contain large numbers of permanent houses and that the population maintained, in most areas, a more mobile lifestyle primarily marked in archaeological terms by flint scatters and pits (summarised by Last 2016, 154–5). In line with this, there is little more evidence for domestic structures in north-eastern England during the Neolithic than for the Mesolithic. As noted above, two Early Neolithic domestic structures and another possibly of Late Neolithic or Early Bronze Age date have been excavated on the northern edge of the North York Moors at Street House (NZ 739 196) (Sherlock 2019, 16–23). A Neolithic house has been excavated at Yarnbury near Grassington (Gibson 2017) and a possible structure associated with Impressed Ware pottery was identified at Hollow Banks Farm (Speed 2005).

Pitts (2001, 271) noted the contrasting evidence in the Late Neolithic for monuments compared to evidence for habitation, and considered that people were living a partly mobile existence, following herds (both wild and domesticated), cultivating temporary fields and gardens and collecting wild foods at locations dictated by the seasons (Whittle 1997; Thomas 1999). Burgess (2001, 257) has observed that, in connection to Neolithic sites in lowland West Yorkshire, the evidence suggests '…short-lived occupation, which was perhaps interleaved with continued seasonal use of the uplands…communities could have used these areas regularly without modifying the landscape in any archaeologically recognisable way'.

It has been suggested that there was a rapid decline in cereal cultivation during the Middle Neolithic, based upon an almost complete disappearance of archaeological evidence for buildings, a period of woodland regeneration and an increased use of some natural resources, perhaps as a result of climatic deterioration (Stevens and Fuller 2012; Whitehouse *et al*. 2014; Leary and Kador 2016, 2). This might indicate a move to a more mobile, pastoral-based economy, and there is now clear evidence, at least in southern Britain, for long-distance droving and movement of other resources in the later Neolithic period (e.g Viner *et al*. 2010; Chan *et al*. 2016). Loveday (2016, 76–9) has observed that this apparent change to a more mobile lifestyle coincides with the creation of cursus monuments, which he notes in several cases have been created in open, grazed landscapes (*ibid.*, 74–6).

The evidence from the A1 schemes and other projects in the Vale of Mowbray for both the Neolithic and Bronze Age does suggest that only limited and probably temporary agriculture was taking place. Although some charred grains occur in contexts from these periods, they appear rarely and are typically few in number suggesting that cereals formed only a minor part of the diet. Many of the features excavated at Marton-le-Moor contained vast quantities of hazelnut shells (over 1kg in some pits), very common crabapples, blackberry, elderberry, sloe, roses, hawthorn, but only occasional small assemblages of emmer and both naked and hulled barley (Huntley 1995, 30–1; Tavener 1996, 183–4). As on other sites in the area, other charred foodstuffs found in pits on the recent A1 schemes (mainly hazelnut shells) had been gathered from natural resources and indicated that gathering was or remained a major component of the economy (Manby *et al*. 2003, 106).

There is considerable evidence for Middle–later Bronze Age activity on the higher ground to either side of the Vale of Mowbray, mostly in the form of linear boundaries and palynological evidence for clearance episodes, and the pollen evidence can be extended to some lowland sites within the Vale (Bridgeland *et al*. 2011, 261–4). However, evidence for land divisions comparable to the upland evidence is absent in the Vale except possibly at Nosterfield in the Late Bronze Age (Dickson and Hopkinson 2011,143–4). This contrasts sharply with the pollen evidence from Hutton Moor and Healam Bridge (Ambrey *et al*. 2017a, 20), which suggests that the area remained mostly woodland with only slight evidence of any human interaction throughout the later Neolithic and the whole of the Bronze Age.

The poor conditions for bone preservation typically found in the Vale mean that there is no indication of the significance of herding and pastoralism during the early prehistoric period. That it occurred is evidenced for the Early Bronze Age by calcined remains of animals found intermixed with the human remains in cremation burials.

Although no such evidence was recovered from any of the burials found on the A1 schemes (Speed *et al*. 2018a), a nearby cremation burial at Hollow Banks Farm included pig and sheep/goat remains (Speed 2005). Against such a background, apart from undated fragments of cattle tooth in Field 261 pit **12079**, the only A1 assemblage of well-preserved and unburnt bone (from pits **689** and **691** in Field 260) consisted entirely of species that either had been hunted (aurochs and red deer) or had likely been used in hunting (dog).

Following the argument above that pit digging in areas away from recognisable 'settlement sites' is probably an indicator of a relatively mobile lifestyle, and given also the late date obtained for some of the pits excavated on the A1, such as Late Bronze Age pit **7218** in Field 261, it is hence quite likely that the end of the practice coincides with the first widespread evidence for establishment of such permanent sites in the area during the Early Iron Age.

How does the 'occupation' and monument distribution compare?

While there appears to be a general coincidence between the location of several of the Yorkshire pit sites and major Neolithic monuments (e.g. at Nosterfield and nearby Thornborough), this stems in large part from the planning process: the presence of a monument leads to an increased likelihood that planning archaeologists will require archaeological work to be carried out during nearby development. In addition, non-commercial academic investigations tend to focus in these same areas. However, in finer detail the distribution actually suggests that most of the known pits are located so as to be consciously not near contemporary monuments. Cleal (1984, 147) has noted the paucity of pottery finds at 'ritual monument' sites in eastern England in contrast to those in Wessex (which are typically rich in pottery), suggesting a regionality in styles of deposition at such sites. Makey (2001) and Harding (2006) have both commented on the apparent movement of evidence for activity (respectively surface flint finds and excavated pits) away from the southern terminal of the Rudston A Cursus in East Yorkshire during the later Neolithic and Early Bronze Age (although see Carver 2011, fig. 7). A similar effect has been suggested for Thornborough, where extensive fieldwalking has shown that, while for the Mesolithic and earlier Neolithic flint is distributed fairly evenly across the area, in the Middle and later Neolithic (i.e. after construction of first the cursus and then the henges) most flint lies some distance (600–800m) away from, and mostly out of view of, the monuments with almost none in their immediate vicinity, creating an 'excluded space' (Harding 2000a, 38–40; 2013, 163–5). The nearby pits at Nosterfield seem to have been focused along the edge of a former wetland area without any obvious reference to the henges. Similarly, the nearest pits found at Marton-le-Moor (Tavener 1996) were 1km from the Cana Barn Henge, although it should be noted that no excavation has taken place closer to the monument. Further afield, the Stonehenge Environs Project noted a near-absence of flint around some henge sites (Richards 1990, 270 and fig. 158).

Several of the major Neolithic monuments in the Vale have now been the extensively excavated, and the results seem even more clear-cut. Stripping of large areas to either side of the Ure at Roecliffe (across a wide area directly west of the Devil's Arrows) and Langthorpe in 1993 during A1 widening works identified a number of Neolithic or Early Bronze Age ceremonial features but no pits of the type considered here. To the north of Langthorpe, a section of the A1 route was unavailable for monitoring, with the nearest pits of the Marton-le-Moor distribution identified 1.5km to the north of the river (and well beyond the suggested 'henge enclosure'; Hart 2019, 17; Yorkshire Archaeological Aerial Mapping, n.d.). Campaigns of trial trenching just to the south of the Arrows (Young and Fraser 1998; Speed 2008) have similarly not identified features of this type. At Marne Barracks, Catterick, stripping of 11ha identified a major Neolithic palisaded enclosure, but few other features. A single small pit located between the posts of the palisade contained a few scraps of calcined bone. A small group of features located near the centre of the enclosure are described in the published report as postholes and no dating evidence was recovered (Hale *et al*. 2009, 274–5). At Scorton Quarry, between 2003–2012 areas totalling 32.6ha were soil-stripped under archaeological control, including 400m of the Scorton Cursus, several other later Neolithic or Early Bronze Age monuments, and wide areas to either side; very few pits at all were recorded and almost no prehistoric finds recovered. One of a group of eight pits located c.350m from the cursus provided a radiocarbon date of 3090–2911 calBC (oak charcoal, 4377±30 BP, SUERC-52161), but thereafter the next dated pits in the area were created in the mid-2nd millennium. Further to the south at Ferrybridge, extensive excavations immediately to the south-west of the henge identified numerous Neolithic and Early Bronze Age funerary and ceremonial features, but the published account describes few pits of the type discussed above, mainly in a single small group consisting of a pair of large pits and two pairs of smaller pits, earlier (possibly much earlier) than a Beaker barrow but otherwise undated (Wheelhouse 2005, 42–3). At sites in the Vale of Mowbray where pits have been found in close association with monuments (notably Catterick Racecourse and Hollow Banks Farm, Scorton), there is a high probability in each case that all the pits pre-dated the monument; at Catterick Racecourse the pit group probably pre-dated the monumental cairn and both were subsequently sealed by the henge bank (Moloney *et al*. 2003, 9), while at Hollow Banks the pits produced Peterborough and Grooved Wares probably pre-dating the nearby mini-henge, which may have been of Early Bronze Age date.

In the light of these suggested 'excluded spaces', the total absence of evidence for Neolithic or Early Bronze Age occupation, either pits or lithics, in the area where the projected line of the Scorton Cursus crossed the A1 route at Oak Grange (Fields 206/207 and 263) or on the main

construction corridor to either side in Fields 203–209 (a distance of 1.5km), must be seen as significant. Almost uniquely for the wider Catterick/Scorton area on the Swale gravel terraces, fieldwalking of large areas around the known part of the cursus in 1997 and 1999 recovered no lithic material at all (Turnbull 1999) and, as noted above, almost no lithics or pits were found in very large excavations.

Dating

While partially targeted towards answering specific research questions (Section 1), the radiocarbon strategy employed for early prehistoric contexts on the A1 schemes also focused on dating as many features as possible. On the Leeming-Dishforth scheme in particular, wherever possible, features containing dateable artefacts were consciously avoided when selecting radiocarbon candidates in order to increase the sample of features for which at least some dating evidence was available. However, several dating slots were set aside specifically to investigate some potentially anomalous finds assemblages which have been highlighted in the preceding sections.

Dating of some of the hand-built pottery from the two A1 schemes proved, in some cases, problematic, particularly in the case of some of the Pre-Roman Iron Age/Romano-British (PRIA/RB) material. Examples from the A1 schemes of PRIA/RB material from contexts which provided Neolithic radiocarbon dates include the material from the Early Neolithic pits in Field 1, within the Middle Neolithic ring-ditch at Bainesse (deposits **5973** and **5977**) (and by analogy possibly also the material from a nearby pit, context **5947**), and pit **6704** in Field 172.

Elsewhere, sherds assessed as being PRIA/RB material occurred in combination with earlier material. Pit **5026** in Field 163N, situated among a group of unequivocally Late Neolithic or Early Bronze Age features, contained an assemblage of finds including worked flints, Grooved Ware sherds, possibly Early Bronze Age pottery, but also 16 sherds assessed as being PRIA/RB. In Field 172, the group consisting of pits **6116**, **6118** and **6120** was, on balance, most likely Early Bronze Age in date, based on pottery assemblages from two features and a radiocarbon date from the third; however, other sherds from pits **6118** and **6120** were assessed as being PRIA/RB. All of these examples are of material where it is suspected that the pottery has been assessed as being 'too recent'. Conversely, sherds from Fields 99 and 199 which, based on radiocarbon dating, context and initial assessment by a materials expert, are inescapably Iron Age, were separately assessed to be Late and Early Bronze Age respectively.

This issue with the dating of hand-built pottery is by no means new or restricted to the A1 project. Pottery from two physically associated pits found in the 1998 excavation at Hollow Banks Farm was variously assessed as Iron Age (when submitted with other Iron Age or Roman material) or Anglian (when submitted again with a large group of Anglian material), although a secure radiocarbon sample obtained from carbonised residue on one of the sherds supplied a date of 3500–3090 calBC (4558±42 BP, Wk-14315), showing that the material was actually Middle Neolithic Impressed Ware (Speed 2005, 29). More recently, excavation of a small pit at Whitefields Farm, Richmond produced pottery (together with flint flakes) that was initially interpreted as Iron Age (Ross 2013); however, the pit was cut by a second feature, which subsequently provided a radiocarbon date of 3621–3368 calBC (hazelnut shell, 4674±30 BP, SUERC-49203) (Haselgrove 2016, 25).

This relatively large number of 'problem contexts' is significant. Although small pits containing sherds of pottery are relatively common on Iron Age and Romano-British rural settlement sites (for examples from the A1 see Fell 2020 and Ross and Ross 2021), they are (as far as it can be known) extremely uncommon in open areas away from other contemporary features (although see Field 211, pit **7807**). Even the presence of such a large number of 'isolated' Iron Age pits containing dateable finds would be a surprising finding for the project; the presence of 'old' or 'curated' material, flints, pottery and charcoal perhaps as much as 3000 years earlier, in so many of them seems barely credible.

Prehistoric hand-built pottery (and indeed some later material) is presumed to have normally been made in small batches using locally sourced materials and often poorly fired, probably in either a bonfire or simple kiln. Allowing for the individual skill and preferences of the potter this is likely to have resulted in an enormous range of fabric, finish and quality, only partly tempered by wider contemporary cultural preferences or expectations, such as design or decoration. This variability presents a considerable challenge to prehistoric pottery studies, particularly where potsherds are 'non-diagnostic', lacking distinctive elements of form or adornment which allow more confident attribution to specific periods or cultures. Cumberpatch and Gibson (2018, 470) have stressed that '…caution should be exercised when attributing hand-built vessels to chronological periods as, especially at a local level, their fabric and form varied little…', and '…it is unwise to date earlier prehistoric pottery from fabric alone' (Gibson 2020, 16). Traditionally, the variability among the earlier material in terms of fabric has led to a relatively subjective approach to the pottery where assemblages have been treated as a whole and the variation accepted; conversely, more recent study of hand-built pottery dating from the Iron Age onwards has moved towards a more 'scientific' approach in which fabric analysis and classification plays a greater role. However, (specifically referring in this instance to this later material) 'the dating of the handmade pottery has proved resistant to the normal techniques used by archaeologists' and '…the fabrics remain impossible to date with any useful degree of accuracy' (Cumberpatch 2018, 19).

Non-diagnostic hand-built pottery can be attributed

to the wrong period as a result either of the perceived context in which it was found or the manner in which it is presented to the individual studying the material (if it accompanies a group of better-dated material, for instance: see the example from Hollow Banks Farm above), rather than as a result of any intrinsic qualities of the material itself. Often this can only be resolved by scientific dating.

As noted above (Section 4) in relation to the pottery from pits **4631** and **4633** in Field 158, there can occasionally be problems dating even material which is considered diagnostic. Decorative themes often changed only gradually through time, with motifs 'borrowed' from one pottery style to another or reinvented. There are stylistic links (with modification) between Middle Neolithic Impressed Wares and Early Bronze Age Food Vessels and Collared Urns, apparently leap-frogging the intervening Grooved Ware and Beaker traditions (Gibson 2018, 47). This was emphasised on the current scheme where the assemblage from trial trenching of Bainesse Enclosure 1 in 2005 was initially assessed as being of Early Bronze Age date (mostly Food Vessel) before being revised to Impressed Wares (subsequently supported by radiocarbon dating).

An early north-south route through the Vale?

Apart from the impact within the Vale that the presence of individual or groups of monuments may have had on the geographic distribution of early prehistoric 'domestic' use of the area, there is a much larger-scale phenomenon to consider, that of any long-distance routes passing through the area.

Almost without exception, archaeological sites within the Vale of Mowbray referenced in this work lie along its western edge (essentially the A1 corridor). Why is this? There is an equivalent zone running up the eastern edge of the Vale (the A19 corridor). Despite the apparent concentration of Roman activity at the western side of the Vale, along Dere Street, by the medieval and post-medieval period settlement focus had shifted, with the major settlements of Thirsk and Northallerton sited at its eastern edge. Yet all of the major prehistoric monuments in the Vale are located towards its western side. Essentially, all of the significant non-monument early prehistoric archaeological sites investigated to date on the floor of the Vale are also to be found towards its western edge. This may to some extent be a product of increased modern development in this area facilitating discovery, not least upgrading of the A1 and extensive aggregate extraction. There have, nevertheless, been numerous opportunities for investigation within a corridor adjacent to the A19 which to some extent have provided an equivalent north-south transect down the eastern edge of the Vale comparable to that of the A1 works, but these have not recorded a similar density of early prehistoric evidence. On a smaller scale, Field (2011, 16) has noted that, on the Wessex chalk, there is an asymmetry with long barrows (and some other sites such as Stonehenge) typically located on the western side of valleys, which receive the greatest amount of sunshine and where the best soils are found.

Movement ('procession') has been suggested as a component of the use of Neolithic henge monuments (Loveday 1998, 17), in some cases with early paths perhaps actually passing through the monuments, explaining their two opposed entrances. Loveday also pointed out that there is a common coincidence between both the orientation and location of double-entrance henges to nearby Roman roads, and often also to Roman military installations, while observing that neither is likely to have directly dictated the placement or orientation of the other, and concluded that in many cases both types of monument may have been positioned to exploit longstanding routeways (*ibid.,* 20–3). Bishop (2014) has also noted that some Roman roads appear to follow existing prehistoric routeways. The monuments, particularly the Late Neolithic henges, at the western edge of the Vale have a loosely linear distribution (Fig3.1; Vyner 2007; Harding 2013, fig. 6.6). Many previous studies, while acknowledging the possibility of one or more alternative north-south routes, have in general focused on the environs of the three Thornborough Henges and attempted to ascribe their presence to a western route leading up the Ure valley and across the Pennines towards the Lake District (Vyner 2007, 73; Vyner *et al*. 2011, 218; Davidson 2017; 2020). The primacy of such a route is suggested to have been fuelled by a trade in Group VI stone axes between the Lake District Quarries and East Yorkshire, with exchange of large number of these objects providing the focus for the Thornborough complex which Harding described as being a 'centre for pilgrimage' (2000a, 43) along an 'important (prehistoric) routeway' that was probably 'concerned with the exchange of polished stone axes' (2003, 97). However, while there is a small grouping of such objects in the area of Thornborough (Vyner *et al*. 2011, 214; Harding 2013, fig. 6.7), possibly due to enhanced levels of fieldwork in the area, surprisingly few have been found elsewhere in the Vale of Mowbray compared to other parts of Yorkshire (Radley 1974, 14–7; Manby 1979, fig. 6). Those that have been found in the Vale are frequently use-damaged or fragmentary and hence unlikely to represent objects lost en route to another destination. In the Tees-Tyne uplands, Young (1994) has cast a doubt on the model of 'trade routes' marked out by these objects, observing that they could equally represent the areas where the axes were actually used. Also of relevance here, the main production period for Cumbrian ground stone axes is now considered to have lain in the first half of the 4th Millennium calBC (Davis and Edmonds 2011, 183), although it is not clear how long it continued, but it may have been much reduced by the time the henge monuments were being constructed. Vyner (2007, 75) has observed that there are 'no monuments of earlier Neolithic date [in this context c.3500–3000 BC] anywhere in the Pennine river valleys', which casts further doubt on any direct linkage between monument building and a trans-Pennine stone axe trade.

Figure 6.2: henges in northern England between the Rivers Aire and Tweed.

There is also an issue with including only henges in the southern Vale of Mowbray (to the south of Thornborough) as evidence for this 'axe-exchange' route. The newly identified henge at Sinderby appears, from the available evidence, similar in form and size to those at Cana Barn and Hutton Moor, yet lies well north of any route out of Wensleydale, and it is apparent that any route through the Vale continued northwards beyond Thornborough (Vyner 2007, 78; Harding 2013, 203–4; Fell and Johnson in prep.).

At a wider scale this suggested 'alignment' of henges can be seen as forming part of a larger pattern of such

monuments extending from south to north through the Vales of York and Mowbray, across County Durham and perhaps continuing into Northumberland. A number of authors have suggested that the Devil's Arrows stone row at Boroughbridge signposted a route northwards across the River Ure towards the monuments in the Vale of Mowbray (Vyner *et al*. 2011, 218; Harding 2013, 217; Davidson 2018), although taken literally this would have bypassed the monuments to the west at Nunwick and Thornborough. In this context, the *Descriptio circumferentiae et extremis liberates et dominie de Ripon* of AD1481 (Surtees Society 1874, 337–48) may be of some significance, describing a perambulation of the bounds of the Liberty of Ripon. This makes reference to a sequence of no less than four different 'large stones', beginning somewhere on Hutton Moor and running southwards past Cana Henge and Marton-le-Moor towards Langthorpe, where a possible stone-socket was excavated on the north bank of the Ure in 1993 (unpublished). The Devil's Arrows stone row on the opposite bank then continue the alignment to the south. One stone, which was probably located down-slope and to the south of Skelton windmill (the hilltop itself may have been another 'way-marker' on this line), is described as '…the large stone set in the ground in antiquity…' (… *magnum lapidem ab antique in terra positum*…).

Figure 6.2 depicts certain, probable or conjectural henge sites in northern England between the Rivers Aire and Tweed. This includes, without any attempt at weighting their individual significance, all subdivisions of this class whatever the terminology that has been used to categorise them: 'formative', 'classic', 'henge enclosure', mini-henge and 'hengiform enclosure'. It is beyond the scope of this current work to carry out an exhaustive literature search for monuments discovered since Harding and Lee published their catalogue in 1987, although the majority of more recent discoveries have been added. The main elements of the resulting distribution are a concentration of most sites into a narrow (c.10km) but also surprisingly long (potentially 225km) north-south linear band running close to the foot of the Pennines, and the Cheviots to the north. A much smaller number of sites are located at some remove to the east (mainly on the Yorkshire Wolds with others on the north-east coast) and west (in the Yorkshire Dales). An interesting observation from the continuing addition of new sites (even the conjectural ones) is that these have tended to emphasise this distribution rather than blur it, which had been the expectation.

The significant point to come from this distribution for the current project is that the entirety of both A1 schemes lay within this north-south 'henge corridor'. In this respect, the early prehistoric domestic evidence from the excavations lay very much 'between the monuments'. This means, if the monuments do indeed represent a zone of movement from north to south through the Vale of Mowbray, that the evidence at least in part may represent activity by long distance travellers rather than a more local population. This would go some way to explaining the absence of any substantial domestic structures in the area prior to the later Bronze Age. This leads on to the possibility that the evidence recovered from the vicinity of the A1 is to some extent atypical of what would be found to either side (east or west) of the suggested routeway. This is a question which will only be answerable when comparable data is available across the full width of the North Yorkshire lowlands. Any continuing significance of this potential north-south routeway, and how it may have been maintained through the later prehistoric period to become formalised by Roman Dere Street, the Great North Road and the modern A1, is discussed at length in another NAA publication (Fell and Johnson in prep.).

7.0 CONCLUSION

On a conventional excavation, restricted to a smaller area in a single location, the presence of one or two pits, perhaps containing a small number of artefacts or more commonly none, and a few residual struck flints, would usually attract little attention and the information would be consigned to a paragraph or two in a grey literature client report. It is only on much larger schemes, where more of this data is generated, that such evidence begins to form interpretable patterns. The early prehistoric evidence from 40km of A1 improvement corridor presented in this report thus takes on a greatly increased significance, and presents a benchmark against which to compare those smaller, 'conventional', groups of information. The large size of the project, in terms of resources, areas examined and geographical extent, has allowed both use of a landscape approach to the data and an appreciation of the significance of the normally silent majority of isolated and 'undated' archaeological features.

The area crossed by the two A1 schemes contains a rich group of nationally significant Neolithic and Early Bronze Age monuments, and the project has added an important haul of new monuments to this extensive ceremonial landscape including three circular Neolithic monuments at Bainesse and several probable Early Bronze Age round barrows, although the latter mostly lay to either side of the construction works. Although a highly tentative suggestion, the possible identification of a 2km extension to the known extent of the Scorton Cursus has considerable implications for our understanding of the significance and extent of the Swale monument complex at Catterick/Scorton, and hopefully the evidence presented above, although largely circumstantial, will stimulate future research on the cursus and its landscape.

The bulk of the early prehistoric evidence from both of the A1 schemes consisted of small pits, widely distributed across the landscape, which often formed part of a multi-period archaeological palimpsest with other features. Use of radiocarbon dating to demonstrate that the great majority of these features were of early prehistoric date was an important finding for future archaeological investigations. Examination of the distribution of these features through time and across the various topographic zones crossed by the route produced important results. While later Mesolithic activity was almost entirely concentrated adjacent to rivers, streams and other wetland areas, Neolithic

evidence was mainly found in drier, well-draining areas more suited to small-scale agriculture. By the Bronze Age, although the same areas were utilised, there was a particular concentration of activity in an area where a series of ponds were the focus of burnt mound activity.

A particular research theme of the project was the way in which this evidence related spatially and through time to the construction of ceremonial monuments in the area. This showed that in the Late Neolithic, by which time the majority of the monuments had been constructed, pits had a more restricted distribution and, in general, pits and flint scatters appeared to be largely absent from the immediate proximity of monuments. This reflects the evidence from other sites within the Vale of Mowbray and more widely across the region.

There is minimal evidence for permanent settlement or agriculture in the area during the Neolithic and Bronze Ages, and the pits are considered to be representative of a relatively mobile lifestyle. On the available evidence, this economic model seems to have continued in the lowlands of the Vale of Mowbray into the Late Bronze Age and the first known 'permanent' settlements and large-scale agriculture only appear in the early 1st millennium BC.

The results from the A1 schemes have made a considerable contribution in moving forward early prehistoric studies in the Vale of Mowbray, and more widely. The move away from site-based interpretation and on to a more landscape-based footing has recognised that, although the Neolithic and Bronze Age landscapes were dominated by large ceremonial and funerary sites, they were occupied by a mobile population who interacted with the landscape, and the monuments within it, in complex ways.

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APPENDIX: AN ENCLOSURE OF LATE IRON AGE OR ROMAN DATE AT BAINESSE (FIELDS 156 AND 157)

Introduction

During soil-stripping of the new motorway corridor, part of a rectangular enclosure was excavated in Fields 156 and 157 (Fig. A.1), centred at SE 2414 9652. The eastern side of the enclosure was within Field 156, which forms part of the Bainesse Scheduled Monument (No. 34734), and 300m south-west of Dere Street and the associated Roman roadside settlement (Wilson 2002; Ross and Ross 2021), although the site of the enclosure appears to have been rural

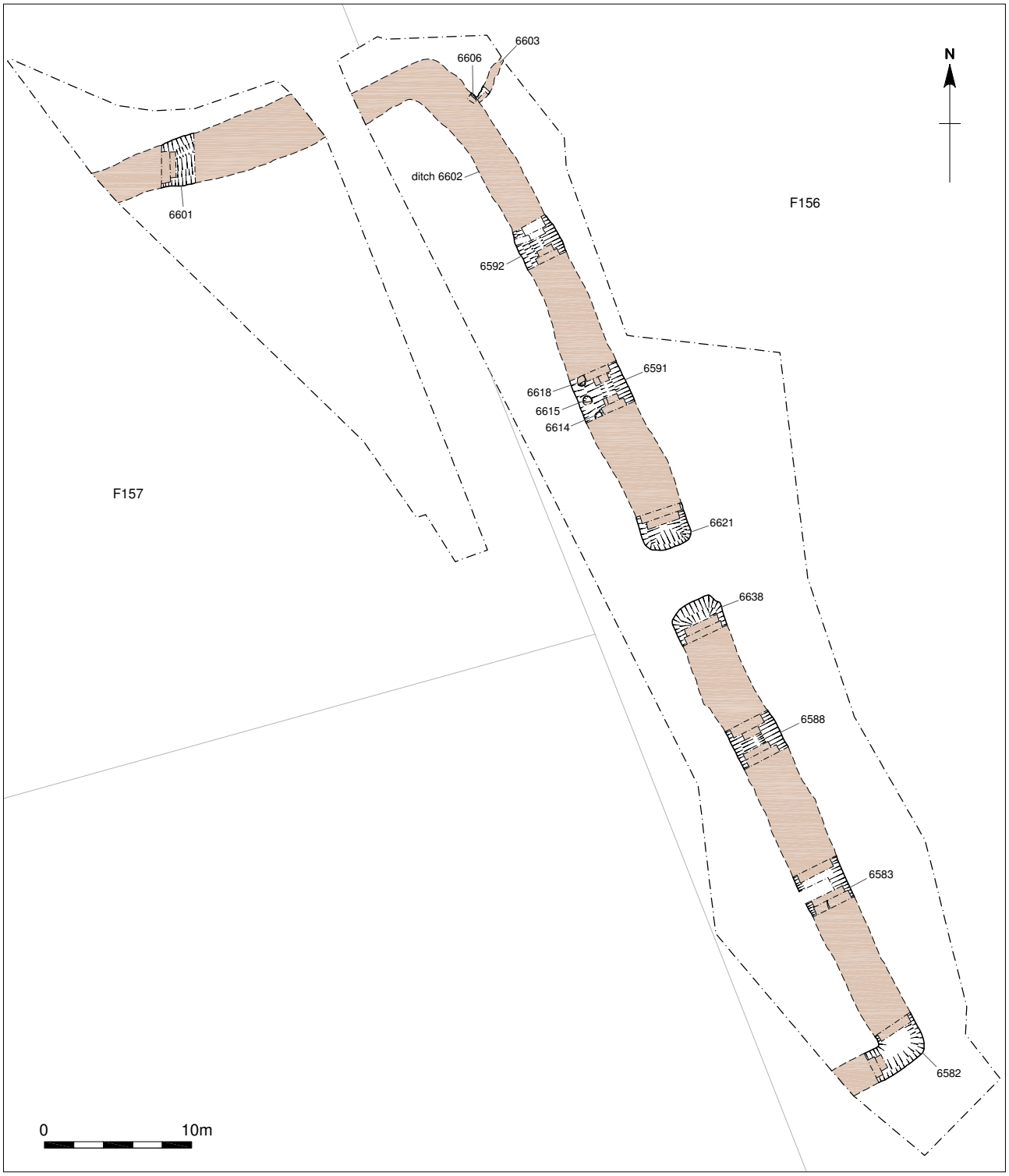

Figure A.1: plan of the Field 157 enclosure.

during the Roman period.

The northern side of the enclosure ran westwards into Field 157, while the southern side continued into the unnumbered field to the south of Field 157. Due to the restricted coverage of geophysical survey in this area (Hale 2005, fig. 132), the extent of the enclosure to the west is unknown. A trial trench excavated in 2005 across the line of the perimeter ditch did not identify any archaeological features (Trench B11, Speed 2006b, 11–2), although it has since been established that this result was due to the presence of a considerable depth of colluvial subsoil overlying the enclosure in that area. One of the ditches was subsequently identified in monitoring geotechnical test-pits in 2013, the results of which were used as a guideline to determine the appropriate depth of subsoil removal in this area during soil-stripping in 2014.

The surface topography at this location is complex, although in general terms the area of the enclosure lies close to the foot of an east-facing scarp, with the modern ground surface in the excavation area sloping down to the east. However, due to extensive colluviation down the slope (above) it is possible that in the past the area may have been more level. The geology of the immediate area consists of Lower Magnesian Limestone (the lower part of the enclosure ditch was cut into degraded limestone) overlain by boulder clay.

Excavation results

Stripping of topsoil (**6574**) and a thick layer of colluvium (**6575**) revealed a light brown sandy clay geological deposit (**6576**). This was cut by the enclosure ditch (**6602**). The whole of the eastern perimeter of the enclosure was recorded, together with the south-east and north-east corners and parts of the south and north sides. Investigation of the interior of the enclosure was largely prevented due to a modern cable running along the former boundary between Fields 156 and 157, and no internal features were identified. A small area was stripped at the western side of the cable, revealing an additional short length of the north side of the enclosure. The enclosure measured 76m externally and 71.5m internally from north-northwest to south-southeast, and more than 25m from east-northeast to west-southwest (geophysical survey shows it to be more than 35m). The south-east and north-east corners were slightly rounded. At the centre of the east side there was an access gap 4.1m wide at the stripped level. Where excavated, the ditch was a maximum of 3.6m wide (usually narrower), up to 1.76m deep from the stripped level, and generally had a steep V-shaped profile, often with slightly convex sides (i.e. steepening towards the narrow base).

Eight segments of the ditch were excavated. Within segment **6582** at the south-eastern corner of the enclosure, a thin primary silting deposit of mid-greyish brown clayey sand **6630** (derived from natural deposit **6626** through which the base of the ditch was cut) was overlain by slightly more mixed deposits (**6629** and **6628**) of similar material. Fill **6629** contained lenses of sand, so was presumably the result of silting rather than backfilling. The upper part of the ditch was filled with darker greyish brown sandy clay **6627**, which produced fragments of leg bones from a truncated human burial, demonstrating the extent of truncation of the archaeological deposits. The burial (which proved impossible to radiocarbon date) has been published elsewhere (Teasdale *et al*. 2018, 244–5).

Segment **6583**, a short distance to the north, had a thick primary fill of mid-greyish brown sandy clay **6632**, which appeared to have been introduced from the western (inner) side either due to deliberate backfilling or a bank-collapse (although no direct evidence for a bank survived). A boulder and large stones had rolled (or had been rolled) down this deposit and come to rest against the eastern side of the cut. An overlying deposit (**6631**/**6633**) of mid-greyish brown sandy clay (which produced a residual flint flake), also at the eastern side of the cut, was overlain by a small lens of stony dark greyish brown sandy clay (**6625**). The upper part of the ditch-hollow was filled with dark brown sandy clay (**6584**).

The next segment, **6588**, appeared to have silted more gradually. Above a primary silting deposit **6612** was a symmetrical fill (**6611**) of mid- to dark greyish brown sandy clay. Overlying the western edge of **6611** there was a small lens of yellowish brown sandy clay **6610** probably representing erosion of the side of the cut, while the upper part of the cut was filled with a single deposit of greyish brown sandy clay (**6587**), which had also accumulated gradually, allowing many of the stones to roll to the centre of the ditch.

Segment **6638** was excavated at the ditch terminal forming the south side of the entrance break. Initial silting (**6637**) was overlain by a lens of mid-greyish brown sandy clay (**6636**) beneath similar material mottled with yellow sand (**6635**), which appeared to have slumped down the western (inner) edge of the cut possibly from an adjacent bank. Deposit **6634** within the eastern side of the cut probably represented continuing erosion of the ditch edge. Finally, the upper part of the terminal appeared to have been deliberately backfilled with a substantial single homogeneous deposit of mid-greyish brown sandy clay (**6639**).

The opposing terminal **6621** at the north side of the entrance break (Plate A.1), contained a thin lens of sandy primary silting (**6624**), which was overlain by a thicker deposit (**6623**) of mid-greyish brown sandy clay. The main upper fill **6622** included lumps/lenses of dark brown soil and a dense mass of stones dumped in the centre of the ditch, indicative of

backfilling.

Segment **6591**, excavated a short distance to the north of the entrance, had convex sides, very steep towards the base but progressively more gently sloping towards the top. In the western (inner) lip of the ditch, and cutting into this gently sloping side, there was a line of three probable post-settings (**6614**, **6616** and **6618**). These were 0.44–0.6m in diameter, had surviving depths of 0.22–0.33m and were spaced 0.9–1m apart (centre to centre). They were filled with reddish or yellowish brown sandy clay (respectively fills **6613**, **6615** and **6617**).

Context **6615** contained four pear pips (*Pyrus communis*). It was not possible to identify the pips to a particular subspecies and the fruit could have come from either a cultivated or wild pear tree (Kuijper and Turner 1992). Pear is known from elsewhere in northern Roman Britain, for instance from Carlisle and appears to have seen an increase during the Roman period (Huntley 1992; Van der Veen 2008, 90).

Plate A.1: ditch segment 6621 section, facing north, scales 1m.

The ditch had a thin primary silting lens (**6620**). Above this, a deposit of mid-greyish brown sandy clay (**6597**) ran down the lower western side of the cut and possibly represented collapse of an internal bank. A more substantial deposit of reddish brown clay (**6619**) overlay the upper part of the western side of the ditch, sealing the three postholes and ran down the western side of the ditch. It contained a piece of flint debitage. The similarity of this material to that filling the postholes suggested that their removal and the collapse of any bank on the inner side of the ditch may have been contemporary events. The upper eastern half of the ditch was filled with a single homogeneous deposit of mid-greyish brown sandy clay (**6596**).

Segment **6592** was located towards the northern end of the east side of the enclosure. The base of the steep V-shaped cut (Plate A.2) was filled with a primary silting deposit (**6608**) below a thicker deposit of mid-greyish brown sandy clay (**6607**). Above **6607** there was a thinner lens of mixed mid-grey and mid-yellow silty clay (**6594**), which sloped down from the western ditch edge and had probably eroded from the ditch side. The remaining upper part of the ditch was filled with a single thick deposit (**6593**) of mid-greyish brown sandy clay. It appeared to have accumulated over time since it included a thin but extensive lens of charcoal, and included four small flint flakes and Roman pottery.

Five metres to the north of segment **6592**, a box **6606** (fill **6605**, equivalent to **6593** above) was excavated against the eastern edge of the ditch in order to investigate its relationship to a possible feature (**6603**) which proved to be of natural origin.

Segment **6601** was excavated across the ditch forming the northern side of the enclosure in Field 157. The sharply pointed base of the ditch was filled with a primary deposit of mid-greyish brown sandy clay **6609 sample**. Above this

were deposits of very stony deposit of greyish brown sandy clay mottled with yellow sand (**6600**), lighter silty clay (**6599**) sample and mid-greyish brown sandy clay (**6598**) sample.

Discussion

As noted above (Section 1), despite the steeply V-shaped profile and dimensions of the ditch, there was academic objection to the interpretation of the Bainesse enclosure as a Roman temporary camp. This was based on its size, the rather angular corners (such sites typically have rounded corners) and the narrowness of the entrance gap in its eastern size. The latter two points are reasonable

*Plate A.2: ditch segment **6592** section, facing north, scale 1m.*

objections, although the apparent angularity of the corners may, to some extent, be a product of the severe truncation of the site and they may have appeared more curved at the original ground surface.

Only one dimension for the enclosure is known, its eastern side being 71.5m internally. Although there can be no certainty here, in her discussion of the orientation of Roman temporary camps, Jones (2012, 45–7) cites Roman sources suggesting that, among other suggested criteria, a camp should face east and have its rear at the highest point. She also notes a tendency for camps further north along Dere Street to face the road; assuming that the excavated portion of the Bainesse enclosure is its 'front' then it fulfils all three criteria. Assuming a 'typical' length to width ratio for the camp of 3:2 (Welfare and Swan 1995, 10), this then suggests that the enclosure extends perhaps 105m upslope to the west, well beyond the geophysical survey area. This would give an internal area (within the ditch) of c.0.75ha, the commonest size for temporary camps in Britain (op. cit. table 1). Objection to the Bainesse enclosure being a Roman camp on the basis of size is, therefore, invalid.

As noted above, the enclosure ditch was narrow, deep and had a very steep V-shaped profile. This appears in Roman military contexts but is not at all typical of Late Iron Age or Romano-British farmstead enclosures in northern England, which typically have relatively shallow broad profiles; indeed, such acute features would, in practical terms, have been extremely undesirable. The steep profile would have led to rapid and severe erosion of the ditch sides, requiring continual recutting of the boundary. The pointed base would have served no purpose in this context. In addition, although such a profile has a military value, in a domestic/agricultural context it would have served as an efficient trap for livestock and small children and have required constant monitoring. Conversely, the short row of postholes on the lip of the ditch, found in only one small area and not apparently continuing around the enclosure, can be paralleled in Iron Age contexts elsewhere as for example at East Wideopen Farm in North Tyneside (Pratt and Speed forthcoming).

The enclosure ditch appears to have remained open for at least a short time, allowing primary silting in all of the excavated sections and some evidence of subsequent slippage of material from the inner side, whether from the edge of the ditch or an associated bank. Above primary silt deposits the various excavated sections provide contrasting evidence, with some showing clear evidence of intentional backfilling while others seem to have silted gradually. It is possible that sections of the fortification were 'slighted' in order to render it unusable upon abandonment, rather than

comprehensive levelling of the site.

The dating of the enclosure remains problematic and can only be resolved by further investigation. As noted above, the human burial cut into the ditch did not supply a radiocarbon date. The presence of Roman pottery sherds in the upper surviving fill of the ditch (which as noted above was truncated) can only provide an extremely vague *terminus ante quem* for its creation, assuming that the material was not residual. The eastern part of the enclosure (in Field 156) fell within the area covered by the Catterick Metal-Detecting Project in 1997–9 (Brickstock *et al*. 2007), which included fieldwalking. However, no analysis of the substantial ceramic assemblage took place (Evans 2007), and no spatial analysis of the substantial metalwork and coin assemblages was undertaken. The Roman metalwork included a significant proportion of potentially military brooches and other items (Cool 2007, 104–7, 111–2) and plotting of this material for the A1 project using the original survey data shows that they were all recovered from the area of the roadside settlement within the eastern and northern parts of Field 156, with none from the area of the enclosure.

Upgrading of the A1(T) to motorway status over a distance of 40km between Dishforth and Barton, in the Vale of Mowbray in North Yorkshire, was undertaken in two stages between 2009 and 2018. The construction works were preceded by phases of archaeological evaluation, and extensive excavations were undertaken during the construction works. Given the extent of the evidence uncovered, the results of the investigations are being published as a series of monographs and shorter articles. This article presents the bulk of the early prehistoric results (Mesolithic to Early Iron Age) from the two road improvement schemes, although several of the sites have previously been published elsewhere.

The length of the linear corridor allowed examination of past activity across a variety of topographic zones crossing varying geology and which included wetland areas, rivers and higher, better drained ground. The A1 route also runs through an area rich in nationally significant Neolithic and Early Bronze Age monuments; an important research theme for the project was to examine how the evidence reflected the presence of these sites, both spatially and through time.

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