Landscape and Social Change within the Hinterland of *Isurium Brigantum,* the Northernmost *Civitas* in Roman Britain

Two Volumes

Volume I

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Abstract

This thesis examines landscape and social changes within the hinterland of *Isurium Brigantum* (Aldborough). The research utilised a range of remote sensing and field-based techniques within the framework of a micro-archaeological approach. An extensive fluxgate gradiometer geophysical survey over 180 acres (73 ha) at Hundayfield Farm, located three kilometres south of *Isurium Brigantum,* and adjacent to the major Roman road Dere Street, identified a rich variety of pre-Roman and Roman landscape features that provided targets for a programme of excavation. A chronology of activity is provided by an extensive assemblage of pottery and other artefacts that document social changes over the period before and during the Roman Empire. An established Iron Age landscape rapidly adapted to the new dynamics of the Roman administration following the establishment of *Isurium Brigantum* around 70 AD, as evidenced by changes in the organisation of field boundaries and the on-site adoption of Roman cultural and social practices. The presence of a unique lead-lined coffin within a stone cist, containing a male likely raised at the centre of the Empire, who migrated to the study site, further testifies to a strong link between this rural landscape and the economic and social activities of the *Civitas.* A major landscape reorganisation is indicated by the rapid and broadly synchronous in-filling of boundary features in the middle of the 2nd century AD. This suggests further modification of boundaries associated with a more classical pattern of Roman landscape use, including their orientation to Dere Street. This research fills an important gap in our understanding of urban and rural relations in Roman Britain, with a particular focus on the role of the *Civitas*, which has previously been understudied.

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To complete the extensive surveys and subsequent excavations would not have been possible without the help of a group of very keen and brilliant volunteers. The geophysical survey of 180 acres (73 ha), followed by an excavation programme which took 12 months to complete (much of it during the COVID 19 pandemic), was a mammoth task. Many miles have been walked and many buckets of soil have been moved and I give sincere thanks to, amongst others, Lucy Crosbie, Richard and Sonia Anderson, Richard Gibson, Pan Thoresby, Bob Barker and his team from the Iron Age (Nidderdale) group and Paul Durdin. Many thanks also to James Lyall and the Roman Roads Research Association for their help with the geophysical surveys. Thanks also to Jamie Walker for his work on the pottery analysis. All these contributions are very much appreciated.

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My final thanks go to my wife Liz and to my daughters Rosie and Rebecca for their support and patience whilst I have been away from the farm carrying out my research. I hope my completed thesis goes some way to explaining why it has been important to do, and why it has taken so long!

I dedicate this thesis to my daughters Rosie and Rebecca as they prepare to become the next custodians of this exceptional landscape.

Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for a degree or other qualification at this University or elsewhere. All sources are acknowledged as references.

1 Introduction

The Roman invasion and subsequent occupation of Britain (AD 43-410) was one of the most significant events in this country's history, profoundly impacting on its peoples and their landscapes. The new administration brought with it new technologies, trade, materials, methods, laws and diplomacy, as well as new social organisation and behaviours (Frere 1967, Hingley 1989, Millett 2002, Creighton 2006).

Questions regarding the organisation and use of landscape within Roman Britain have provided an almost inexhaustible driver of research into how the landscapes of Britain responded to the presence of the Roman administration. Much of this research tends to fall into three main categories, focusing on military (e.g. Webster 2003, Gardner 2016), urban (e.g. Smith *et al.* 2016, Redfern 2020) and rural sites (e.g. Smith *et al.* 2016). Towns within Roman Britain have been widely studied, along with research into the relationships of urban and rural settlements (e.g. Taylor 2013), but relationships between a *civitas* and its hinterland and the social dynamics of its inhabitants require more investigation. For example, Silchester has been the focus of much research (Creighton and Fry 2016), but its hinterland within the Roman period is little understood.

The development of settlements is viewed as a key feature of Roman provincial expansion (Millett 1990), and amongst these, the *civitates* plays a major role as administrative, economic and social centres. They were characterised by a series of features, including organised street planning and Roman style public buildings, notably a *forum, basilica,* baths and sometimes an amphitheatre (*ibid).* The distinct roles of the *civitas* make their potential impact on the surrounding rural periphery of particular interest. The Wroxeter Hinterlands Project (Gaffney *et al.* 2007) carried out an extensive fieldwalking survey, accompanied by limited excavations, but few other studies specifically explore the relationships between the *civitas* and its hinterland.

The core research question, therefore, is "To what extent can we understand the influence that an important civitas has upon the organisation and use of the landscape within its hinterland, and how does it impact upon the social character of those who inhabit that landscape".

1.1 Thesis objectives

This thesis seeks to address the above deficits by examining the evidence for physical and social change in a rural setting located a short distance from the *civitas* of *Isurium Brigantum*, close to the present-day town of Boroughbridge in North Yorkshire. Known today by the name of Aldborough, the sleepy village of the former *Isurium* was once the northernmost *civitas* in the Roman Empire, a major

Roman power base in northern Britain and occupying a key location on the main road and river networks of northern England (Ottaway 2013).

Although there have been important previous investigations at *Isurium,* including most recently the extensive programme of work by Ferraby and Millett (2020), little work has been done to understand this *civitas's* relationship to the surrounding countryside. Indeed, the most recent large-scale mapping of the site and its immediate surroundings, has noted that work connecting the countryside to this settlement is required to explore this relationship fully (*ibid*).

This thesis initially seeks to provide a macro analysis of *Isurium,* placing it within its wider landscape context to understand how the organisational and social dynamics of the landscape responded to its influence. It then follows a micro-archaeological approach (see Ginzburg 1993, Ghobrial 2019) by detailing the results of a detailed programme of field investigations at Hundayfield Farm (Figure 1.1).

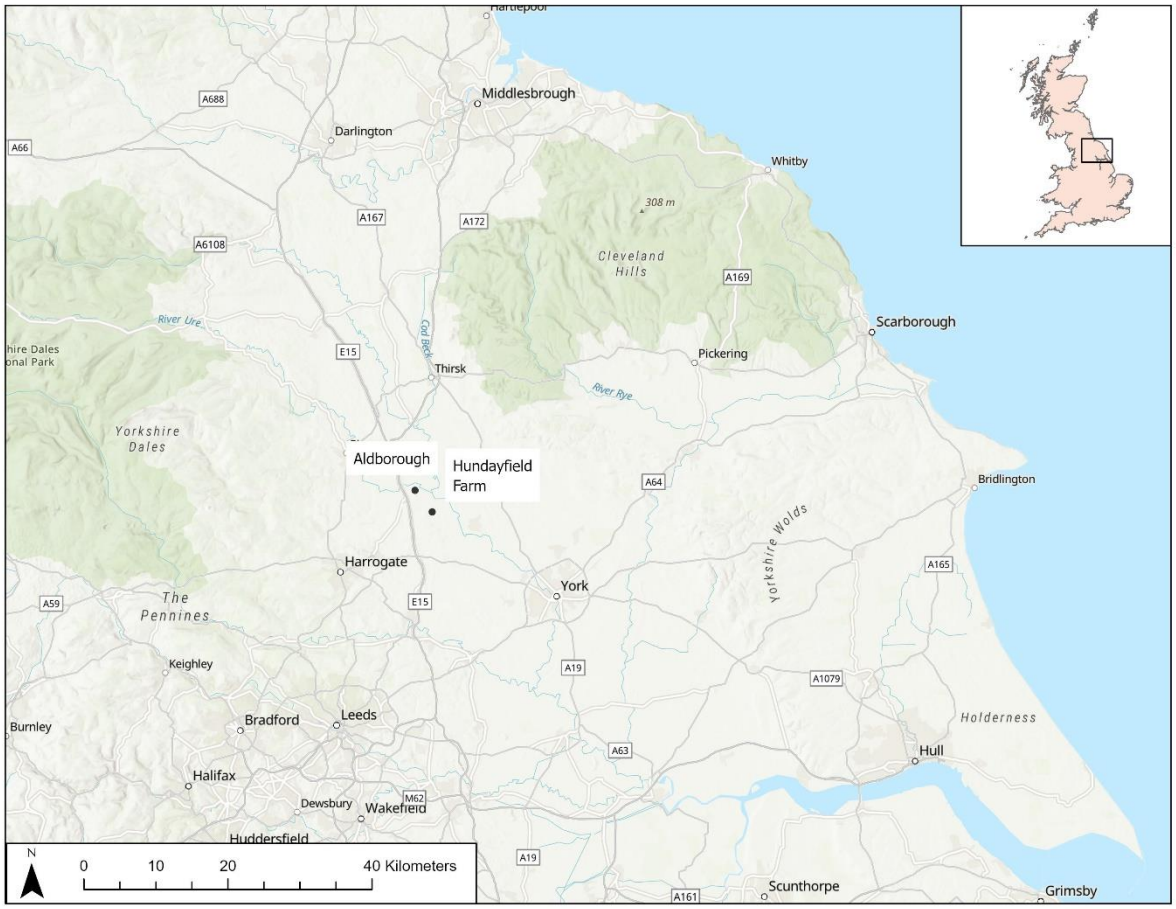

Figure 1.1 Location of Hundayfield Farm and Aldborough (Isurium Brigantum) in the Vale of York.

This research will aim, firstly, to identify and evaluate whether relationships can be drawn between the evolving dynamism, both economic and social, of the *civitas* and how the landscape was used and inhabited and, secondly, to test whether the methodological strategy can provide appropriate data to ensure a robust interrogation of this relationship.

The *civitas* of *Isurium,* provides an ideal opportunity for study, as presented as part of this thesis, having received little attention compared to other *civitas,* particularly those in the south and west of Britain, e.g. Silchester, Cirencester, Wroxeter. Situated at the navigable head of the River Ure, approximately 25 km north-west of the city of York (*Eboracum*) and on the major Roman road of Dere Street, it served as the administrative centre for a large part of northern Britain. The rich farmland which surrounds *Isurium* has provided resources for settlement and agriculture, at least since the Neolithic period (Bridgland *et al.* 2011). This research considers the wider landscape of the town and studies a specific landscape area, 3 km to the southeast, which is bordered on its western side by the route of Dere Street.

Within the broad corpus of data regarding the Roman period in Britain, the specific investigation of the relationship between the *civitates* and its environs is missing. Much of the current research is site specific, and although relationship themes are investigated in the literature available, there is a fragmentary character to these studies, with limited investigations which fully encompass hinterland and settlement dynamics. Thus, rural sites, for example, across different regions can be compared and analysed at this macro scale (Esmonde Cleary 1987, Dark 1997, Evans 2001) but the analysis often fails to provide high resolution scrutiny, with comparisons based on broad trends as a proxy for structural and social change (Riva and Mira 2022, de Vries 2023).

The research makes sense of these issues through a programme of study, utilising a range of techniques and technologies operating at different temporal and spatial scales, from landscape methods including satellite data, down to the micro components of physical investigation. It will seek to bring clarity to the drivers of physical, social and economic change, which operate within environments which may be local, regional, national and sometimes international in scale.

The analysis of the survey area of Hundayfield Farm presents an opportunity to close the gap between generalisations of rural sites within the Romano-British period and to bring a focus to specific areas of that research. The survey area was active before and during the Roman period and offers an opportunity to investigate changing patterns and processes associated with the arrival of Roman influences. The artefact assemblage reported in this thesis shows that people were living within this landscape and demonstrates how an indigenous community responded to the arrival of new people, cultures and products. The presence of a stone cist burial containing a lead-lined wooden coffin (Antoni 2008), containing an individual likely from Italy (Moore 2014), or close by, is definitive evidence that a member of the Roman Empire was present at the site, and that a Roman influence featured within its social dynamics. To understand the flow of landscape change and how a

communities' social activities responded within this unique area is a timely contribution to the current discussions of Roman Britain.

1.1.1 Thesis limitations

Research projects are, of course, subject to limitations. Some of these are internal, others as a result of factors outside the control of the study. For this thesis, it is recognised that the main focus is geographically limited and that other *civitas*/hinterland studies do not feature strongly as part of the evidence. However, one of its main strengths lies in the highly original and focussed approach which has been taken to investigate a specific landscape and to place this within a wider academic framework of complimentary studies.

It is also recognised that within the hinterland of *Isurium,* the survey area is focussed on the approach to the town from the south-east. However, there is presently little archaeological evidence available from other areas within the hinterland of the settlement. Development sites which may have provided information are few in number, and evidence is confined to that gained from linear projects, notably the upgrading of the main A1 (M) road network (e.g. Northern Archaeological Associates 2021). Further, the area investigated through excavation forms only a small part of the overall Hundayfield Farm survey area, and therefore we can only interpret this part of the site but hope to identify patterns that may inform our understanding of landscape use over the wider area.

Time and funding constraints are ever present and as this research has been self-funded and part-time, there will obviously be limitations which cannot be mitigated. External limitations have been severe, particularly since much of the project has been carried out within the period of lockdown due to the COVID-19 pandemic. Not only did this impact upon data collection, and particularly the team of volunteers involved with the excavation, but the inevitable disruption caused to university programmes and support impacted, at times, upon the momentum of this project.

1.2 Thesis structure

Turning to the structure of this thesis, following this introduction, Chapter 2 more fully introduces the area of study and sets the context for the research, looking at the geological signature of the survey area before providing a chronology of archaeological activity. In Chapter 3, I address the discussions contained within the current body of literature, addressing concepts involved with the organisation of landscapes, the development of settlements and how people lived alongside changes to social dynamics. In Chapter 4, I then explore the impacts of Roman territorial expansion on rural areas, adopting a broad European perspective before focussing on Roman Britain and then Roman Yorkshire, including the development of the *civitas* of *Isurium Brigantum.* Chapter 5 sets out the strategy for the methodological approach undertaken within this research, including desk top

studies, remote sensing techniques and the rationale for excavation. Chapter 6 brings together all the results from the various techniques employed and provides an analysis of the artefacts as recovered from excavation. It is supported by a detailed appendix containing site details and specialist reports. Chapter 7 provides the discussion section of this research, adopting a thematic approach by looking at landscape organisation, landscape use and social activity as connected threads within the discussion. It then considers how the evidence from excavation is understood at a micro level and finally brings together the evidence for interactions between the *civitas* and Hundayfield Farm site. The thesis ends with a concluding chapter that summarises the main findings, identifies limitations and outlines future research priorities.

2 Study Area and Context

2.1 Introduction

This chapter introduces the study area of this thesis in terms of its geology, geomorphology and pre-Roman archaeology. The former provides a context for patterns of human and landscape interactions and the latter evidence for activity in the pre-Roman period, providing a template against which developments in the Roman period can be viewed, including the development of Dere Street and the *civitas* of *Isurium Brigantum.*

The landscape of the Vales of Mowbray and York are characterised by a network of glacial and post-glacial features (Bridgland *et al.* 2011). The rivers that cross this landscape, notably the Swale and the Ure, as well as the tracts of land that often originate from former glacial deposits (e.g. eskers and moraines) have provided the focus of communication routes from the Neolithic period to the present day. Within the survey area, these routes have provided a link between several prehistoric monuments including the Thornborough henges (and other associated henges), a variety of barrows around Ripon and Masham and the Devil's Arrows near Boroughbridge (see 2.3).

Some of these communication routes were perpetuated into the Roman period, and the development of Dere Street, a major Roman road running northwards from York to Hadrian's Wall and beyond, is considered to reflect the route of earlier prehistoric routeways (see detailed discussion in Fell *et al.* 2021). This route proved critical to the overland expansion of military infrastructure in the early post-invasion years and later developed into an important component of a developing Roman communication network.

The construction of Dere Street as a recognised Roman road commenced around 70 AD as the northern expansion of the road network to the west of York (Ottaway 2004) with its route determined by the river crossing at *Isurium Brigantum* (Aldborough) (see 4.5). The road continued northwards linking to the important military locations of *Cataractonium* (Catterick), the river crossing at Piercebridge, to Corbridge and beyond. The growth of the road network effectively linked this area of northern Britain to the developing infrastructure to the south-east, providing primarily for the movement of military forces, but also the goods and services associated with the expansion of the empire. Subsequently, it provided for the transportation of goods for the communities which developed in the wake of that military expansion (see 6.1).

The major Roman settlement within the study area is that of *Isurium Brigantum.* Ferraby and Millett (2020) recognised the significance of *Isurium Brigantum* as a site where the transhipment of riverine goods could be maximised at the head of navigation of the River Ure and consider that this

contributed to the development of this settlement as an important communications hub. A sequence of domestic dwellings has been recognised which were constructed around 70 AD (*ibid*), coinciding with the development of Dere Street. Recent excavations at Aldborough (*ibid* forthcoming) have identified areas where the processing and manufacturing of goods took place in the northern areas of the town, within the 2nd and 3rd centuries AD, which demonstrates that a manufacturing base was an important function of the town. *Isurium* grew as a "new town" settlement, both in size and importance, to be recognised as the administrative centre (*civitas*) of the region inhabited by the Brigantes tribe, which covered much of northern Britain (see 4.5). Along with this civic status came the construction of buildings which supported its administrative role, including a *forum, basilica* and public baths. On the outskirts of the town an amphitheatre was constructed which reinforced its status as an important social and political centre. It was laid out as a planned town, with three possible iterations of its layout (*ibid*). A series of ditches and a stone-walled circuit were constructed around 170 AD (Snape *et al.* 2002).

Isurium, located where Dere Street crossed the River Ure, was arguably the most important civic Roman settlement in northern Britain during the immediate post-conquest period and its development would not have been possible without the confluence of the road and the river.

This chapter also presents evidence for archaeological activity within the study area, in particular the Roman period burial which was excavated in 2007. This inhumation burial was placed in a lead-lined coffin, within a stone-built cist. This suggest that a person of high wealth and/or status inhabited part of this landscape and potentially influenced both the use of this landscape and the people who lived there.

2.2 Geology

The geology and geomorphological characteristics of a landscape are key drivers of how human and landscape interactions develop both within a geographical area and a defined period (e.g. Hoskins 1965). The relationships between hydro-geomorphological, ecological and human processes can be investigated to determine how human activity shapes the landscape and, in turn, is shaped by it (Harden *et al.* 2013). A knowledge of geological and other physical characteristics is also essential in order to locate resources which individuals and communities need to both survive and exploit (Booth and Brayson 2011).

As human communities moved from a nomadic existence to one with a permanent base, understanding the physical characteristics within different locations shaped the communities that settled there. For the period of Roman Britain, many areas of the landscape had already been cleared for agriculture and settlement (see 2.3 below), therefore, the focus of activity during this period was

the development of existing landscapes for settlement and resource utilisation. It has been further argued that in some areas the landscape was used as an expression of Roman ideologies "[…] expressed in the context of local agricultural production" (Petts 1998, 91). Whether a landscape was used for physical, resource or ideological purposes, the geomorphological characteristics were critical in determining the potential of economic outputs associated with it and critical to these were the soil properties and their suitability for agricultural production and the availability of water.

2.2.1 Geological Background

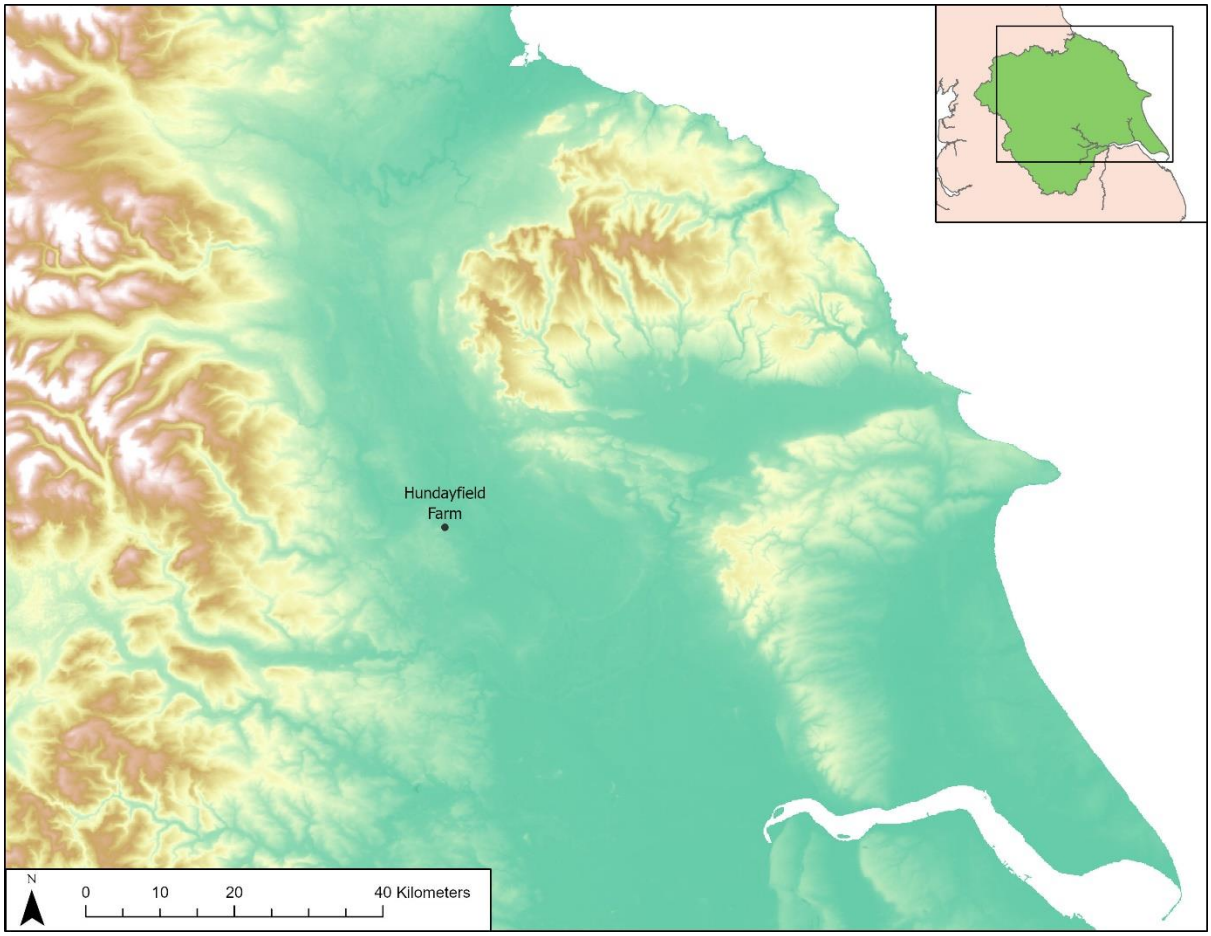

Figure 2.1 Map showing the present-day Vale of York, the low-lying tract of land that extends between the Yorkshire Dales to the west and the Cleveland Hills to the east. Also shown is the location of the survey area at Hundayfield Farm.

The Vale of York (Figure 2.1), and the Vale of Mowbray to its north, form part of a major tract of low-lying ground between the Pennines to the west and the North York Moors to the east. The main river is the Ouse, itself fed by the rivers Ure and Swale, which provides drainage from the Pennine uplands and the Vale, flowing into the Humber estuary and out to the North Sea. The Ouse catchment is England's largest, draining an area of 10,770 square kilometres (Van de Noort 2004).

2.2.2 Bedrock Geology

The predominant bedrock beneath the Vale of York in the study area belongs to the Sherwood Forest Formation, a red Sandstone deposited between c. 272 and c. 237 million years ago during the Permian and Triassic periods (British Geological Society). Carboniferous sedimentary rocks of the Pennine uplands lie to the west. These formations have eroded over time through the actions of ice and water and have been transported through the fluvial systems towards the vale, where they form constituent components of the overlying superficial geology.

2.2.3 Superficial Geology

The landscape of the Vales of York and Mowbray has been greatly affected by the presence of the ice sheet from the last Devensian glaciation (26,000 – 13,000 radiocarbon years BP (Rose 1985)). The superficial (drift) deposits (Figure 2.3) include diamicton (unsorted sediment with particle size ranging from clay to boulders) and sands and gravels associated with meltwater deposits. Other deposits associated with former glacial lakes are present, particularly glacio-lacustrine silts and clays with associated fringe gravels. The largest of these are associated with the former Lake Humber (Figure 2.2), which at its maximum extent is thought to have covered approximately 4,500 km^2 with lakeside terraces recorded as high as c. 33m OD (Van der Noort 2004, Bateman *et al.* 2008). As the ice retreated following the Last Glacial Maximum, it left behind deposits of recessional and lateral moraines, as well as fluvioglacial sands and gravels. The latter were often laminated lake deposits formed within Lake Humber and other water bodies (see Figure 2.3 for the deposits at Hundayfield Farm) during the early post-glacial period (Bridgland *et al.* 2011).

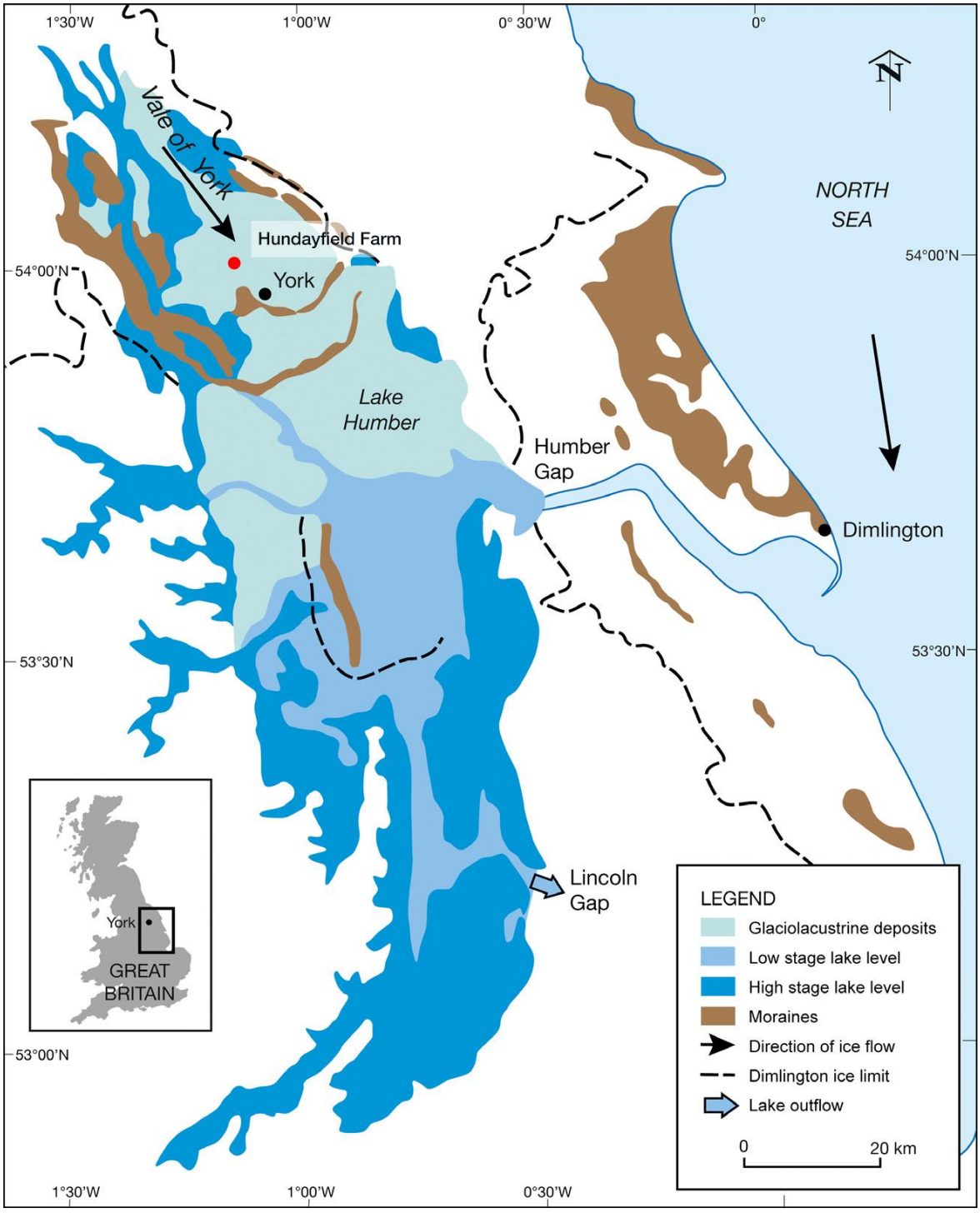

Figure 2.2 The high level of Lake Humber, its low stage level as well as simplified key glacial indicators preserved within the Vale of York and adjoining area (from Fairburn and Bateman 2016). The location of Hundayfield Farm is indicated.

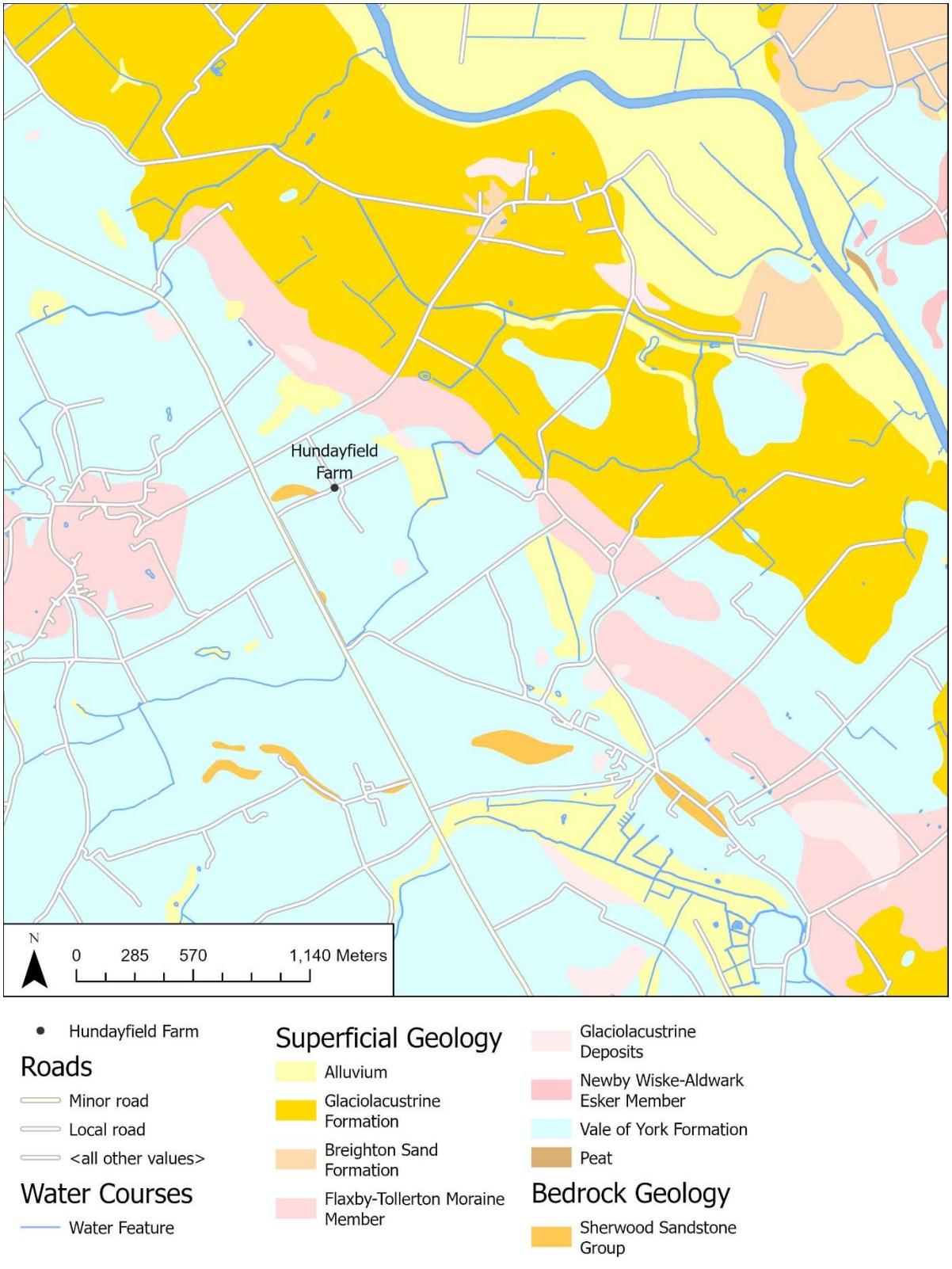

Figure 2.3 Superficial deposits and water courses (British Geological Survey https://geologyviewer.bgs.ac.uk). Note to the west are glacial deposits (mainly moraine) of the Vale of York Formation. These pass into alluvium and glaciolacustrine deposits at lower elevations to the east. The Hundayfield Farm site sits on the junction between these important landscape units.

2.2.4 The Study Area

The British Geological Survey (BGS) characterises this area as containing deposits of complex tills direct from glacial activity along with glaciofluvial gravels and lacustrine clays (Figure 2.3). These clays become more prevalent in the lower ground c. 500 m east of the site and are part of the Alne Glaciolacustrine Formation where surface elevation falls to around c. 30m OD. The geophysical survey area is characterised by Vale of York Formation clay and sandy gravels. The bedrock geology of Sherwood Sandstone underlies the whole area. To the west of the site, the landform rises to a height of c. 70 m, where the main feature is a glacial moraine of the Flaxby Tollerton Moraine Member at the village of Marton cum Grafton.

The wider area reflects this pattern of glacial sedimentation within a generally undulating landscape, typically broken by ridges and mounds, reflective of the underlying bedrock geology. As the ice sheet melted and retreated, it left deposits of moraine ridges and recessional deposits, as seen at Marton cum Grafton. The moraines at Escrick and York are some of the most notable features of this type within the Vale of York. Periglacial conditions at the end of the Devensian glaciation encouraged the establishment of a tundra type landscape across the area. In terms of impact upon the landscape, this was an important period, as the unstable, frost-broken soils and lakeside sand deposits were subject to harsh, aeolian erosion where material was redistributed across the landscape, in-filling the depressions and kettle holes left by the previously retreating ice sheet. The landscape was significantly modified, including the several major eskers formed from the eroded sands and gravels washed from the Pennines and adjacent areas and river channels from the melting ice sheet (Bridgland *et al.* 2011).

At Hundayfield Farm, a borehole sunk by the British Geological Survey (Table 2.1) provides details of the vertical sequence of superficial deposits and bedrock present at this location. It shows c. 14 m of superficial deposits over the Sherwood Sandstone. These deposits were laid down in a sequence of 2.5 m of glacial sands and gravels overlain by 4.2 m of till consisting of rounded red sandstone and subangular and subrounded limestone and sandstone. The till is overlain by glacial sands and gravels from the retreat phase of the glaciers. The uppermost layer is 0.5 m of topsoil. This borehole sample shows no evidence of glaciolacustrine deposits but the BGS maps these at numerous sites near Hundayfield Farm (Figure 2.3), especially at lower elevations to the east of this borehole.

Table 2.1 Hundayfield Farm borehole log results (after Institute of Geological Sciences 1982).

SE 46 SW 61 **4352 6357** **Hunday Field House, Grafton** **Block A**

Surface level +17.6 m
Water struck at +4.7 m
152 mm percussion
August 1978

Overburden 0.5 m
Mineral 1.8 m
Waste 4.2 m
Mineral 2.5 m
Bedrock 4.7 m+

LOG

Geological classification	Lithology	Thickness m	Depth m
	Silty soil, dark brown, soft	0.5	0.5
Glacial Sand and Gravel	**a** 'Clayey' sand, fine, equant, subrounded to rounded opaque and brown quartz	1.8	2.3
Till	Pebbly clay, silty, dark brown, firm to stiff, contains granules (1–4 mm) and pebbles (4–8 mm) of equant subangular to subrounded, black limestone with brown sandstone and some equant, rounded red sandstone	4.2	6.5
Glacial Sand and Gravel	**b** 'Clayey' pebbly sand, reddish brown Gravel: coarse with fine, mostly concentrated between 8.7 to 9.0 m, brown sandstone Sand: fine equant, subrounded to rounded red and brown quartz	2.5	9.0
Sherwood Sandstone Group	'Clayey' sand, fine red quartz, with pebbles of red sandstone below 12.9 m	4.7+	13.7

GRADING

	Mean for deposit *percentages*			Depth below surface (m)	*percentages*						
	Fines	Sand	Gravel		Fines	Sand			Gravel		
					−1/16	+1/16–1/4	+1/4–1	+1–4	+4–16	+16–64	+64
a	12	84	4	0.5–2.3	12	54	28	2	2	2	0
b	16	74	10	6.5–7.5	19	67	7	2	1	4	0
				7.5–9.0	14	57	11	4	2	12	0
				Mean	16	62	9	3	2	8	0
a + b	14	78	8	Mean	14	59	17	2	2	6	0

2.2.5 Geomorphology and Landscape Development

The study area sits within a wider geographical context, which contains geological depositions of connected and related glacial activities. These are distinctly different to the magnesium limestone terrain found 15 km south of the site, and thus, the focus of the wider study area of this thesis is north of the site and encompasses the landscapes of the northern reaches of the Vale of York, the Vale of Mowbray and the connected reaches of the Swale/Ure washlands that all share a broadly comparable geological context.

The earliest signs of human interaction within this landscape are difficult to date, but it is thought that prehistoric clearance of tree cover may have commenced in the Mesolithic period (Bridgland *et al*. 2011, 258). Activities in the Neolithic period are known to involve clearance of woodland areas for

the conversion to agricultural activities, commencing the transition towards a landscape characterised by open, cultivated arable and grasslands.

Palaeoecological evidence across Britain suggests a sharp decline in the frequency of elm pollen around 5,000 BP, which was associated with large-scale woodland clearance activities to facilitate agricultural production (Bridgland *et al.* 2011). This pattern is reflected in the pollen diagrams developed from the wider landscape around the survey site (*ibid*). Increasingly intensive land-use continued into the Bronze Age period, with further large-scale clearance.

The study of the glacial and post-glacial deposits of the Rivers Swale and Ure Washlands, undertaken by Bridgland *et al*. (2011), provides evidence of a significant climatic deterioration in the Late Bronze Age, when much colder and wetter conditions existed. This likely impacted upon human activity within this area, since pollen records show a reversion towards more scrub and tree vegetation. This suggests that at this period agricultural production was being replaced by natural vegetative expansion.

The Early Iron Age saw an extended phase of wet conditions which was replaced by drier and warmer conditions through the remaining Iron Age and into the Roman period (Bridgland *et al*. 2011). Pollen analysis demonstrates that improving climatic conditions encouraged increased agricultural outputs (Van der Veen and Jones 2007) and settlement expansion. This coincided with extensive deforestation in the Yorkshire region (Hambleton 1999). Faunal evidence for stock rearing compliments the pollen evidence, showing that an increase in cereal production was accompanied by increased numbers of livestock utilised for both traction and consumption purposes (Bridgland *et al.* 2011). These Late Iron Age developments suggest that a well-structured, largely open landscape was in place by the time of the Roman occupation. The impetus of the new administration led to further tree clearances and a potential shift towards larger-scale agricultural production (Allen *et al.* 2017).

A consequence of the warmer climatic conditions of the Late Iron Age-Early Romano-British period was that the hydrological relationships within the Ouse catchment area changed (Long 2004). Large areas became drier, offering the opportunity for agricultural expansion into previously unsuitable areas or only offering limited potential for livestock grazing, a transition also recognised at sites within the Thames Valley (Hey *et al*. 2011). However, associated with the expansion in the cultivated area of land, the increase in erosion of these freshly exposed surfaces led to soil moving from the land into the drainage systems of the Vale. Alluvial deposition increased within floodplains causing changes to how water moved across the wider landscape (Van de Noort 2004).

2.2.6 Water Management

From a resource perspective, the Hundayfield area is located at an interface between several landscapes. To the west, rising land associated with the Marton cum Grafton moraine, provides largely well-drained soils with wide open views across the landscape. South-facing slopes are mainly free draining, comprising light loamy soils that would be attractive for cultivation. Several small streams drain across the area, the most significant of which is Burn Beck, which drains in a west-east direction and across the southern area of the geophysical survey (see Chapter 6). To the east of Hundayfield Farm, the terrain descends towards the general level of the present-day River Ure floodplain. A large tract of flat land marks the former location of a possible post-glacial lake, now drained, which forms one of a string of such former wetlands in this area including Dunsforth Carr Such waterbodies would have been attractive to prehistoric people for the wildlife resources which they could provide.

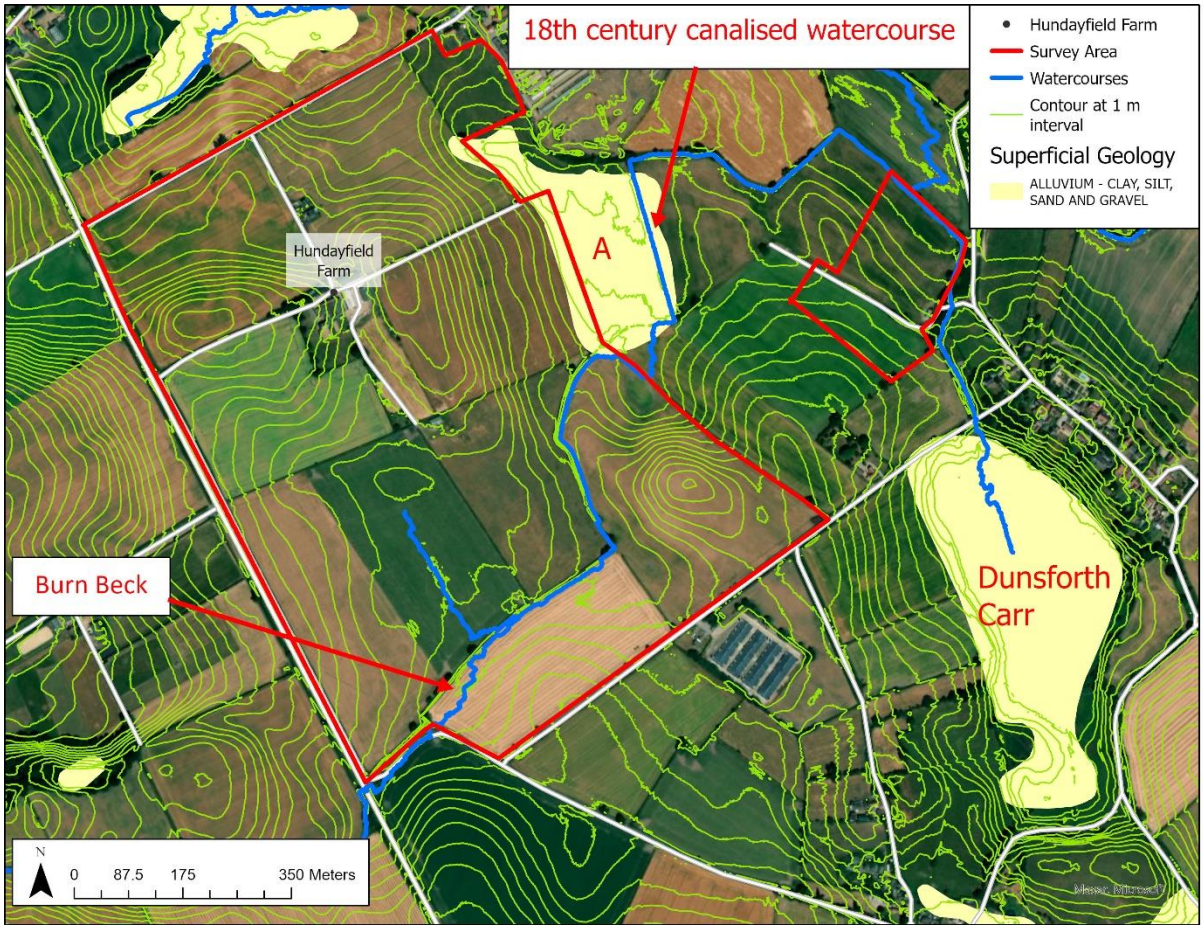

Figure 2.4 Contour map showing the movement and availability of water within the survey area and the alluvium deposits associated with Carr features. Hundayfield Farm sits on a broad upland, with low lying land and water to the north, south and west.

The availability and management of water across any site is vital to the success of activities carried out there. Figure 2.4 provides a contour map of the site showing potential water sources adjacent to the site. Burn Beck is a modern water course but the drainage catchment for this area can be seen to originate to the west and flows in an easterly direction. The present-day drainage of this localised area focuses on Burn Beck, which meanders across the southern portion of the survey area, running west to east on a course leading to its connection with the River Ure system. Figure 2.4 indicates the 18th century canalisation of the Burn Beck watercourse. Historical maps of the Township of this area can date this work to between 1776 and 1808, giving a definitive time frame within which the watercourse was modified to provide drainage along the reach of Burn Beck, to where it enters the River Ure c. 1 km to the east. Analysis of the contours around the survey area indicate that during the period under study, this feature would have formed a braided stream reflecting its present-day course but culminating in an area of open water to the east of the survey area (see area A marked on Figure 2.4).

This topographic analysis provides important evidence for water availability within the survey area. First, a small tributary flows approximately north-south into Burn Beck within the area designated as survey area B (see Figure 6.12). This is not visible in the present-day landscape and may have been filled in by agricultural operations. This new tributary would have been a possible source of water for human activities within its proximity. However, this is likely to have been a seasonal supply as it has a small catchment area. Secondly, the area marked as A (Figure 2.4) is characterised by the British Geological Survey as an alluvium deposit, suggesting that this area was once open water. Burn Beck drains into this area and high ground to the east of it, as can be seen on the contour map, would have formed an effective bund, trapping water in this location. Other areas categorised as alluvium can also be seen on this map, forming a linked pattern of post-glacial ponds and lakes. These areas are now locally named as Carrs, again suggesting an open water-derived habitat.

Spring lines are present within the surrounding landscape but these do not provide for regular flows or supplies of water and are dependent upon a varying water table level and sub-surface hydrological pressures for their existence. Direct access to water could also be achieved through a series of wells which could access the underlying water table. The present buildings at Hundayfield Farm are approximately three metres higher than the excavation site and, before the advent of mains water, were supplied by a well driven down from this level. Therefore, the water table would be accessible from within the excavation site. However, the geophysical surveys undertaken here have not indicated the presence of such structures.

The ditches present on site (see Chapter 6) are boundary and enclosure features and are not thought to have provided a means of drainage; the catchment area is reasonably small and the nature of the soil type means that the area is generally free draining. However, rainfall would enter the open ditches and mechanisms may have been in-situ to retain this water for use within the site.

2.3 Pre-Roman Archaeology

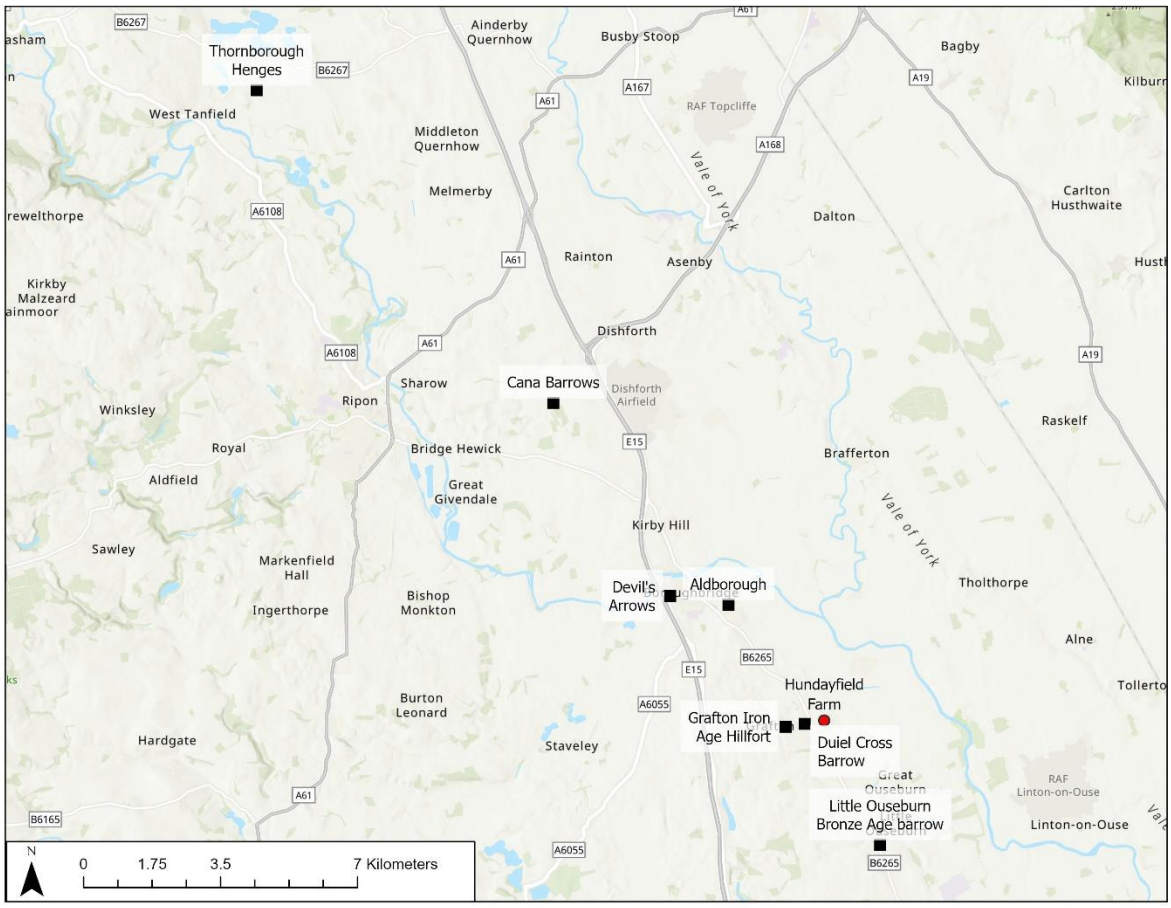

Figure 2.5 Prehistoric monuments in relation to Hundayfield Farm.

2.3.1 Upper Palaeolithic and Mesolithic

In contrast to the well-studied Mesolithic sites in Yorkshire such as Star Carr (Clark 1954), very little evidence is known for human activity in the Vale of York and Mowbray, within the Upper Palaeolithic and Mesolithic periods, although flint artefacts and blades have been discovered during quarrying activities at Nosterfield, near the Thornborough Henge complex (Vyner 2007). The lower frequency of sites within the Vale of York may be more due to lack of visibility rather than an absence of evidence (Hambleton 1999). As discussed above, lowland Mesolithic sites may be covered by deposits of sediments and alluvium, which have accrued as a result of clearance and intensive agricultural use of land, causing soil erosion and movement. The survey area has provided a Mesolithic thumb flint scraper which was found within the back-fill of the excavation of a lead-lined

coffin burial (Antoni 2008). This provides evidence that the site had been visited, within the timescale during which the lower areas of the Vale were characterised by carrs, meres and bogs on the fringes of Lake Humber. The Hundayfield Farm area would have provided dry ground for passage and temporary activities. Microliths, flints and maceheads have also been discovered locally from sites at Topcliffe, Melmerby and Raskelf as well as in the Thornborough/Nosterfield area (discussed by Bridgland *et al.* 2011).

2.3.2 Neolithic

Evidence for Early Neolithic activity within this area is limited but activity is confirmed from the Middle Neolithic period (Figure 2.5) with the earliest phases for the cursus features underlying the Thornborough Henges dating to around 2800 BC (Harding 2003). The Henge monuments of Thornborough, Cana Barn, Hutton Moor and Nunwick (near Ripon) have construction dates of c. 2,800 – c. 2,700 BC and indicate a considerable increase of activity during this period related to the Swale and Ure river systems. The Devil's Arrows at Boroughbridge are also thought to date from this period (Historic England 1996). Closer to the survey area, two hand axes were found in the same location as the Duiel Cross Barrow and are dated to the Neolithic period (see below). The relationship of these monuments to a linked north–south alignment related to the rivers Ure and Swale might imply that an over-land route existed in this area. These routes likely favoured the drier ground of the post-glacial gravel deposits and may have common river crossing points, including across the Ure in the broad area around the current village of Aldborough.

2.3.2.1 Devil's Arrows

Approximately 1.5 km due west of Aldborough are three stone megaliths known as the Devil's Arrows (Figure 2.5). The stones date from the Late Neolithic/Early Bronze Age period and include three of Britain's largest stones of any alignment. They form a rare example of a lowland setting for a stone-aligned feature. The stone at the southern end is approximately 7.0 m tall, placing it second only in height to the Rudston monolith in East Yorkshire. The Devil's Arrows are made from millstone grit and are believed to have been quarried from an outcrop at Plumpton Rocks, 15 km to the south-west. Leland (1539) recorded that there were originally four stones but Camden (1607) later notes that one was lying prone by the end of the 15th century. The stones lie on a north-west to south-east alignment that extends c. 175 metres. Geophysical survey work undertaken in 1993 as part of the assessments for an upgrade to the A1 (M) (Northern Archaeological Associates 2021) revealed that the stones stand within a landscape of buried prehistoric remains of significant quality. They form part of a wider group of prehistoric ritual monuments concentrated on the River Ure, which includes the Thornborough Henge monuments north of Ripon and the henge complex around the

Cana barrows to the east of Ripon; indeed it has been suggested that they form the gateway to a ritual landscape (Bridgland *et al.* 2011).

2.3.2.2 Duiel Cross Barrow

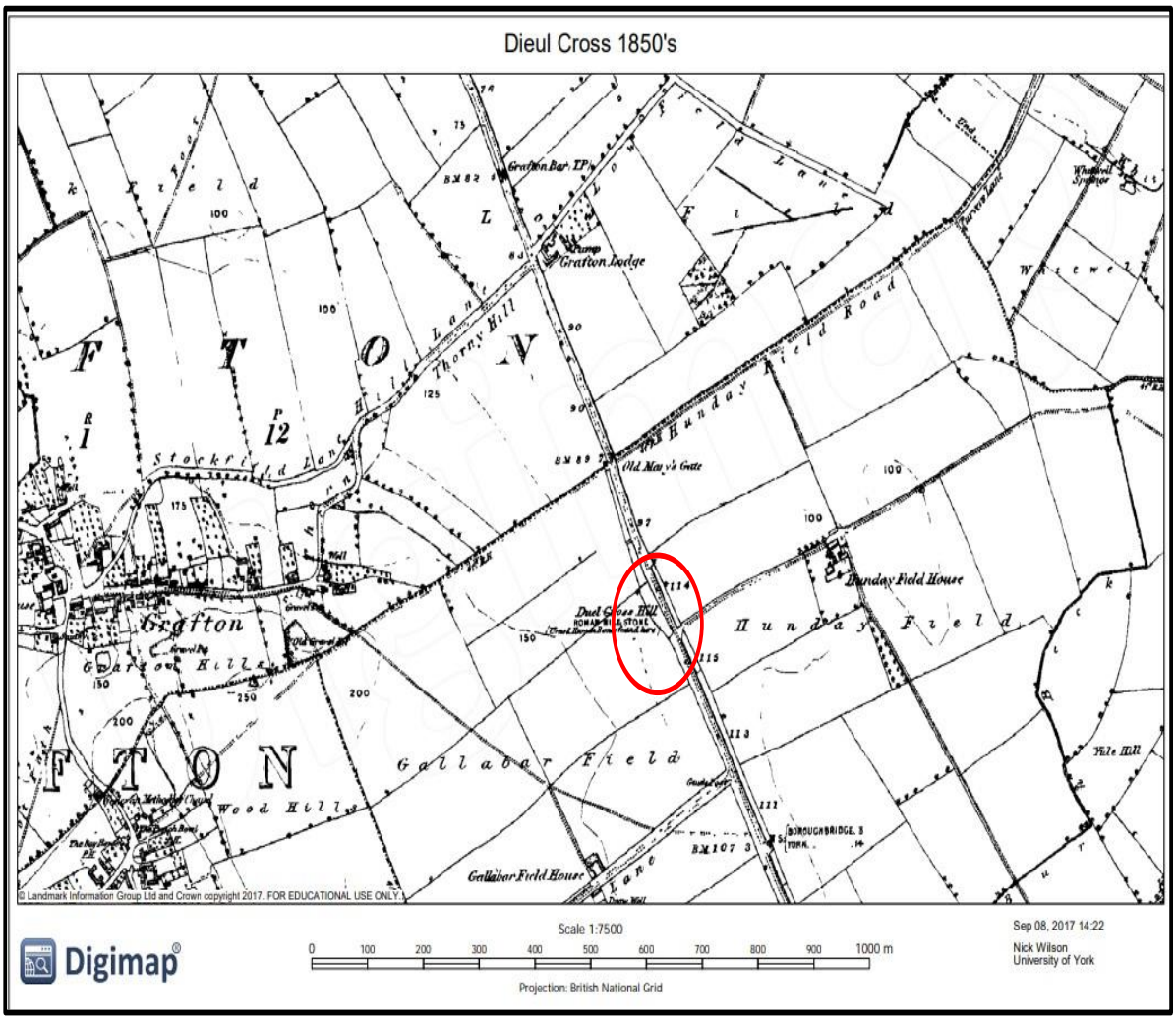

Figure 2.6 Location of the Duiel Cross barrow c. 300 m west of Hundayfield Farm. Source Digimap. Note the deviation of the field boundary around the location of the barrow.

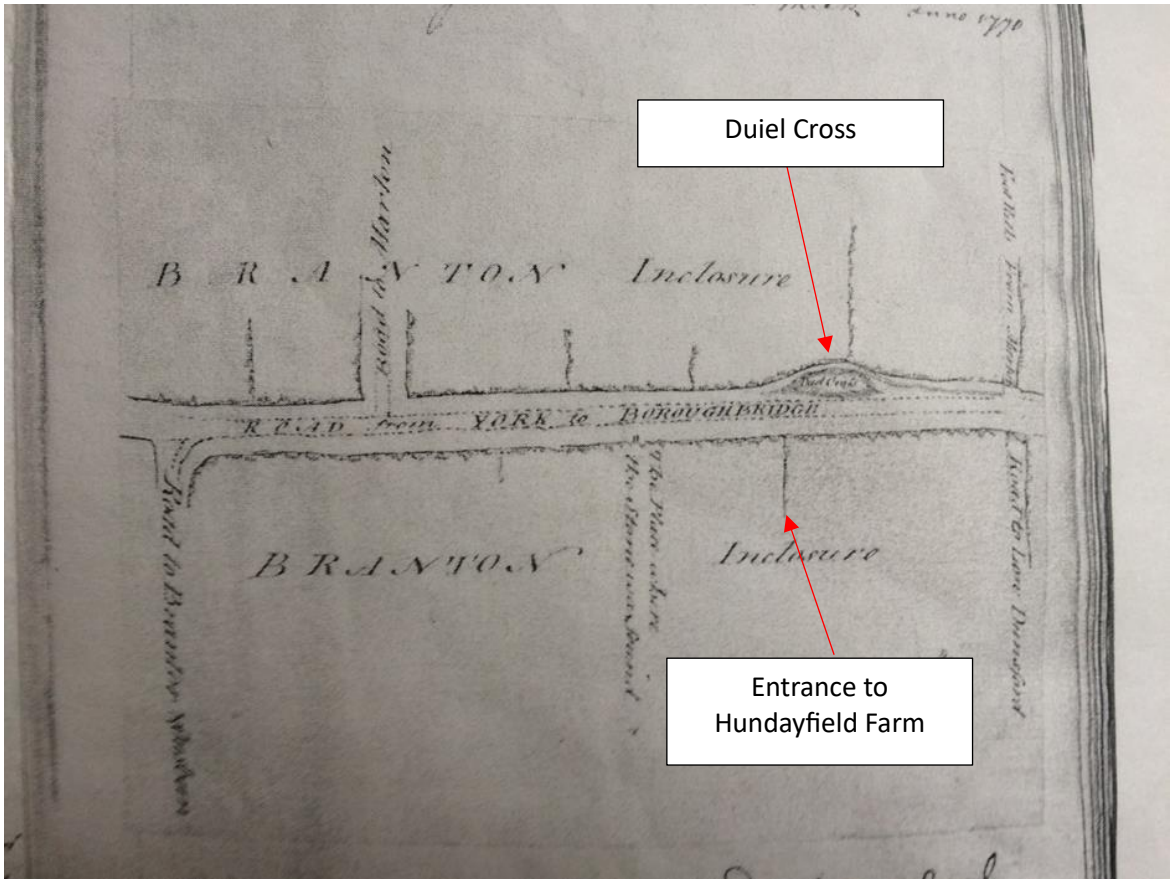

Figure 2.7 Hargroves 1776 map showing location of Duiel Cross barrow.

A prehistoric burial mound was situated immediately west of the survey area, adjoining the present-day B6265 road. Figure 2.6 shows a field boundary which deviates from a straight line of the road to avoid the site of the barrow. Hargroves' map of 1776 (Figure 2.6) shows the location opposite the present-day entrance to Hundayfield Farm.

Known as Duiel Cross Barrow, this burial mound was mentioned in the Gentlemen's Magazine of 1787 and by E Hargrove (1789, 259), who described it as being 18 feet (5.49 m) high and 370 feet (112.8 m) in circumference. The size and scale of this feature mean that it would have been one of the largest known burial mounds in the north of England, comparable in size to Duggleby Howe in East Yorkshire, which is 6.25 m high, 38.10 m in diameter with a circumference around its flat top of 14.33 m (Gibson 2014). The Duiel Cross barrow was dug out around 1756 (Hargrove 1832, 256) when a large number of cinerary urns, human bones and coins were recovered. The Gentlemen's Magazine records that:

> "The soil consists, first, of a black earth, and under that a red sandy gravel, human bones, some of which are entire, and urns of various sizes. The urns are composed of blue clay and sand, some ornamented and others quite plain; several Roman coins have also been found here" (August 1787).

It was also reported that all the cremation urns and ashes were found on one side of the mound, whilst all the inhumations were placed in a different area, separate from the urns. Unfortunately, no record is thought to exist which could indicate the dating of most of these finds. However, a pot from the mound is recorded as being in the possession of the Senhouse Museum at Maryport, Cumbria where it has been dated as Anglo-Saxon (Caruana 2007). Roman coins dating from the periods of Vespasian, Domitian and Trajan (i.e. from the 1st and 2nd century AD) were also found within the tumulus (Gentlemen's Magazine 1787). No coins are recorded from a period later than Trajan (98-177 AD) suggesting that its use as a funerary location ceased by this date. This could be as a result of funerary activity being carried out elsewhere or it could be that the construction of Dere Street (around 120 AD) removed some of the barrow to make way for the road.

There is no definitive construction date for the barrow. However, the variety of material recovered suggests that it was used for funerary practices over an extended period, whilst its size and shape indicate that its most likely construction date was during the prehistoric period, possibly Neolithic.

Ecroyd Smith (1852) also mentions the barrow, but that very little evidence remains at this date. It is reported that when the barrow was dug out, the excavated materials were used to build up the adjacent turnpike road. The landform slopes away to the north from the site of the barrow and the road occupies a low point within the landscape. The road here has clearly been raised above the level of the surrounding fields to prevent erosion by water running off the higher ground to the west.

There are no physical traces of the barrow in the present-day landscape, and the complete removal of such a large feature would require the excavation of many hundreds of tons of material, a task only comparable to its construction. A magnetometry survey of the site, undertaken as part of this research, failed to reveal any responses that may have confirmed its form or dimensions. However, it sits at the bottom of a slope that has seen considerable downslope wash. Therefore, any evidence of the barrow's existence may now be buried beyond the range of the geophysical survey equipment.

2.3.3 Bronze Age

Bronze Age barrows are recorded across the wider area, but the locational focus shifts from the Neolithic sites on the eastern valley slopes of the River Ure to ridge-top sites with greater visibility (Long 2004). The Little Ouseburn barrow (Figure 2.5) is typical in being located along a glacial ridge which connects it on the common north-south alignment to those barrows at Hutton Moor (Ripon) and further north at Quernhowe and Howgrave. The route of Dere Street is consolidated in this period and can be associated with the connectivity of the north- south alignment of these features, along the higher ground of the glacial deposits (for a more complete discussion, see Bridgland *et al*. 2011, 218). The size and frequency of these monuments suggest that the area supported a large

population, or that there was frequent movement of people into the area from other regions, or a combination of both and that the route of Dere Street played an important role in this movement. Located approximately 3.4 km south is the site of an Early Bronze Age Barrow, excavated in 1958 (Rahtz 1958). Described as a spread mound, approximately 30 m in diameter and 1 m high, it contained the degraded remains of an inhumation placed within a log coffin. The burial had been covered with a turf stack, which was itself covered with thousands of boulders forming an impressive cairn. A further deposit of turf had been placed over the cairn with the barrow finally contained within a stone revetment along with a surrounding ditch. Known locally as "Round Hill", the barrow had been subject to significant damage due to ploughing which had exposed the top of the cairn.

2.3.4 Iron Age

The number of visible sites from the Iron Age is low within this area. Construction of monuments that leave an archaeological signal are rare, and the square barrow cemeteries which are a feature of East Yorkshire and the Wolds (see Stoertz 1997) do not feature in this part of the Vale of York. The fertility of the Vale may determine that sites were focused on low-lying areas, which have been subject to hill wash and sediment deposition which mask their presence (Haselgrove and Pope 2007). The nature of unenclosed settlements also means that features which may otherwise be visible in aerial photography do not exist. Archaeological interventions are also rare in rural areas and so evidence from excavations is limited. The Historic Environment Record database confirms that sites are rare.

2.3.4.1 Grafton Iron Age Hill Fort

The hill at Grafton rises to a height of 76 m OD, and at its summit evidence of Iron Age activity has been found (Figure 2.5) Presumed occupation layers, pottery and a small pair of bronze tweezers were found during excavations which give a date for the activity during and around the 4th century BC (Waterman *et al.* 1954). Foundation trenches which may indicate that timber buildings had been constructed on site were also recorded. Additional assemblages of later pottery, including Roman period Samian ware, were also found, indicating that it was still a significant location which maintained its importance during this period. This site has been extensively impacted by quarrying activities, and consequently, little of it remains.

2.4 Roman period archaeology of the survey area

2.4.1 The lead-lined coffin burial

In 2007, a lead-lined oak coffin, within a stone cist, was discovered at Hundayfield Farm, in a field adjoining Dere Street (Figure 5.4). The Yorkshire Archaeological Trust excavated the burial between September and October 2007. The coffin was contained within a stone-built chamber/cist that

measured 2.90 m x 1.40 m externally with a depth of between 0.40 m - 0.60 m (Antoni 2008). Several nails recovered during the excavation indicated that the lead coffin had been contained within a wooden casket before it had been placed within the cist.

Immediately to the east of the burial and within the excavation area, was a second linear feature. This contained a total of 20 iron nails arranged in two north-south rows, indicating the outline of a presumed wooden box with dimensions of c. 1.40 m x 0.40 m. This suggests the possibility of a secondary burial, associated with the presence of the lead-lined coffin (Antoni 2008). A soil sample from this feature was analysed and was found to contain a stem fragment from an ericaceous (heather) plant (Foster *et al.* 2010), suggesting that the placing of flowers formed part of the funerary ritual for this burial.

A total of 36 nails were recorded during the excavation. From these, under microscopic examination, 21 were found to have preserved wood within their corrosion products (Stewart and Allen Unpublished YAT). In each case, the wood species was oak (*Quercus*).

The skeleton and the lead coffin were removed from the site and transported to the Yorkshire Archaeological Trust conservation laboratory in York where the final excavation sequences took place. Rebecca Storm undertook an Osteological analysis of the skeleton (Storm 2014), which showed that it was over 75% complete but with poor preservation (the coffin lid had collapsed and caused damage to the skeleton). Analysis indicated the individual to be male, of around 36-45 years of age with a height of c. 1.71 m, which resonates with the average male stature for Roman Britain.

Analysis of oxygen, strontium and lead isotopes was carried out, using tooth enamel from the skeleton, which can indicate the childhood origin of individuals (Moore *et al.* 2014). This analysis aimed to determine whether this individual was of native origin, who had adopted funerary rites associated with Roman practices, or that this person was of continental origin and had brought funerary practices with them. The conclusion of the analysis was that the strontium isotope results were consistent with large areas of the Roman empire, including Britain. However, the oxygen isotope results were too high for a childhood spent in Britain and indicated an origin with a warmer climate. The lead isotope results for the tooth were markedly different to those sampled from the coffin and the report (*ibid*) indicated that there are very few individuals with values as high as this individual, with only three from London exhibiting higher values. However, a further three individuals from the Trentholme Drive cemetery (Moore *et al.* 2014), have similar values and have been interpreted as migrants to Britain from the southern Mediterranean region of Europe or North Africa (Leach *et al.* 2009). However, the strontium isotope results for the Hundayfield individual exclude limestone and basalt regions such as those found in North Africa and the oxygen and lead isotope

results are also inconsistent with results from this region. A comparison has been made with a Romano-British individual from Spitalfields in London, which showed a consistency with three individuals from Rome. Therefore, a link to a childhood origin in Italy is very likely. However, the oxygen value for the Hundayfield individual is higher than expected for mainland Italy but corresponds to similar values from Sicily (Moore *et al.* 2014).

The burial is an example of the rare Philpott type 1 cist inhumation burial (Philpott 1991). Only two others of this type are known, one at Conderton (near Hereford) and one from the Trentholme Drive cemetery in York, which was excavated in 1951-2 (Wenham 1968). The Hundayfield example is currently unique in that it contained all three elements of a lead coffin, a wooden casket and the stone constructed cist. Whyman *et al.* (2023) suggests close similarities of construction of the cist with the example from Trentholme Drive (Figure 2.8) and suggest that this may indicate a similar date for these two. No dating material was recovered from the Hundayfield site but the Trentholme Drive burial had a complete Nene Valley Colour Coated beaker with a date range of c. 225-280 AD. A coin was also found within the backfill with a date of 253-268 AD. This gives a construction date for this cist of around 253 AD. Parallels in construction would therefore give a possible date for the Hundayfield burial of around the second half of the 3rd century AD (Whyman *et al.* 2023).

Figure 2.8 Left: Trentholme Drive Cist burial (Source Wenham 1968, Plate XII). Right Hundayfield Farm cist burial with lead-lined coffin (Source Author). Note the similarities in construction.

However, isotope analysis of the lead coffin suggests that it originated from the upper end of the Mendip ore fields in Somerset. These mines were in use in the 1st and 2nd centuries AD (Gough 1967)

giving a possible earlier date for the Hundayfield example (although re-use of the lead material must also be considered).

2.5 Conclusions

This chapter has provided evidence for the geomorphological characteristics which make the thesis study area suitable for both settlement and agricultural production. The presence of free-draining, easy-worked soil types has been discussed along with the hydrological balance determining water availability.

The area's underlying geological profiles and the drainage potential have influenced the siting of areas of human activity. The free-draining sands and gravels were the preferred location for routeways and early settlement sites, along with the resources available from the riverine and lake features. The presence of monumental archaeology including henges and barrows, attests to early occupation and use of the landscape.

The presence of several features from different time periods within this area, indicates that this landscape has been exploited and occupied by humans throughout much of the Holocene. Prehistoric features occupy many drier post-glacial areas, focusing on moraines and gravel washlands (see Bridgeland *et al*. 2011). The Thornborough Henge complex to the north of Ripon, the Devil's Arrows, the Duiel Cross barrow and the Bronze Age barrow at Little Ouseburn, all indicate possible ritual activities that are intrinsically related to this landscape. This activity occurs along a central axis with little evidence of features either to the east or west, suggesting a direct relationship not only between the features but also with the cohesion of this landscape.

There is known Iron Age occupation adjoining the study area. The Hill Fort at Grafton provides evidence of a focal point for local settlement activity, indicating that stable communities were present within the area. This site would provide an area for meeting, trade and celebration. The discussion of how this landscape was utilised in the pre-Roman period is important to understand how it functioned before the arrival of the Roman administration. There is no doubt that it was an active landscape, although the intensity of use cannot be determined from the evidence presented.

The discovery of the Roman period burials at Hundayfield Farm could be important for the overall understanding of how this landscape was managed. The selection of the site for the burial location was important, with proximity to the road being a deliberate act. Its location within a landscape which was familiar to the individual (94% of lead coffins are associated with a villa (Toller 1997)) suggests a person who may have been involved in determining the structure and use of this landscape.

The investigation of this landscape as part of this thesis seeks to determine how it changed during the period between 43-410 AD. Crucial to this is whether pre-Roman practices continued or whether the desires and demands of the new administration caused changes, which can be identified by this research, which would not otherwise have occurred.

3 Literature review

3.1 Introduction

The impact of the Roman administration is often viewed as a mixture of political, economic, social and cultural constructs, whereby an entity embodied with a specific identity becomes the identity of a nation or state which did not previously exhibit these characteristics. Whether a single identity can be ascribed to the Roman Empire, which absorbed a complexity of characteristics through its expansion and absorption of other cultures, is a well contested debate (Barrett 1997). However, it is recognised that it existed as an amalgamation, driven from the centre and exhibiting a perception which can be recognised as being Roman. The concept of what it meant to be Roman is not simply a question of legal status but, as the empire expanded, embodied the psychology of submitting a society and its individuals to another authority, by consensus or not. The acceptance that political and social structures were subject to change as a result of conquest is well established (Mattingly 2006). However, frequently absent from the analysis is to what degree the characteristics of empire are visible within landscape organisation, particularly in Roman Britain. Does "becoming Roman" also translate to the activities of land use and management and the structure of settlement patterns? This question matters, since socio-economic responses are often the main focus of studies investigating the impact of the expansion of the Roman empire, yet control of a landscape is the primary requirement upon which to build and develop any societal structures.

In Britain, landscape organisation was already a feature across rural areas preceding the arrival of the Roman forces. Prehistoric field systems, often identified under the term "Celtic", were present over large areas of the country with analysis of these areas demonstrating that their development was not random but often followed an organised pattern (Bradley and Yates 2007). Large areas of scrub having been cleared and then sub-divided into small fields, often only 25-50 m^2. These field systems signify that the landscape was being utilised for the production of agricultural goods and also provide evidence of management of the landscape through division, which signifies a changing dynamic. Imposing boundaries demonstrates not only a physical restraint upon a landscape but also signifies a change in social expression, a statement of ownership and control. How this pre-existing landscape reacted to, or was altered by, the demands and desires of the Roman administration, can be understood through an analysis of changing field patterns and use.

Although examples of prehistoric field patterning remain in British upland areas (Bradley 1977), the characteristics of early field systems within the more fertile lowlands are much more difficult to see. Subsequent agricultural operations have removed most of their visible traces but there can be little doubt that significant areas of landscape were utilised for food production. The analysis of data

which indicates changes to landscape use is fundamental to understanding the drivers of change. Evidence for alterations to field boundaries and analysis of environmental data can indicate changes in agricultural practices. The mix between arable and livestock and variations in cropping regimes are key factors in understanding how practices changed over time (e.g. Hey *et al.* 2011).

We need to look further than the physical evidence of change in order to understand the political, social and economic drivers of change. The management of the landscape provided the opportunity to both influence and control the majority sector of the population, those living in rural areas. This sector required a structural framework whereby productive capacity was maintained, whilst also allowing for the suppression of social power bases which may otherwise present a threat to the new administration. Controlling the landscape and those within it provided effective dispersal of opportunities for resistance. As Hanson (1997) describes, the assimilation of an indigenous population was central to the stability of an expanding empire and the management of the landscape was fundamental to this aim.

The primary aim of food production was accompanied by the requirement to have in place fiscal, legal and administrative structures, ensuring overarching control of the provinces. Within Britain, the development of the *civitas* was central to achieving these aims, providing the organisational network through which social and cultural interaction developed. The pre-Roman settlement pattern had been characterised by small scale, dispersed collections of farmsteads and domestic structures (Smith *et al.* 2016). The development of towns, including the *civitas*, brought a centralised and organised focus to settlement patterns. In this environment the native elites could be absorbed into the new administration; their role within the new structure not only maintained their positions within a tribal hierarchy but also defined their allegiance to the empire. Hingley (1997) argues that this manifestation of Romanisation is tightly focussed on the native elite, who were willing to absorb Roman inspired socio-cultural change, allowing them to maintain their positions within an established hierarchy, noting that a failure to conform would lead to a loss of power and privilege. The poor and the peasantry were not the decision makers and were expected to conform, in support of their tribal masters, as much as the adoption of Roman ways. Control of the landscape was a demonstration of ideological power, requiring significant resources (Petts 1998). Those who had the resources were the dominant political groups who contested for power; cultural sub-groups could not compete. It was an arena which allowed for the development of higher-level cultural identities with little visibility for those from lower social groupings (Petts 1998, 79).

3.2 Pre-Roman landscape

3.2.1 Landscape Organisation

A requirement for division of the landscape was necessary. Emerging agricultural practices and systems of tenure determined that areas would be set aside for different uses. Thus, Taylor (1975) argues that the presence of Neolithic plough marks in Wiltshire provides evidence of organised farming and a move away from ill-defined plots of land. The use of the plough illustrates that a more permanent and repeatable agricultural strategy was being adopted, requiring both the availability and organisation of draught animals and an organisation of the landscape. As land was being utilised for agricultural purposes, elements of division were being imposed upon the landscape. This facilitated demarcation between crop choices and areas utilised for stock management. Community involvement and agreement were being expressed through the creation of a common system of enclosure.

The later years of the first millennium BC and the opening period of 1st century AD were periods of marked social and economic change. Knight (2007) has suggested that the development of field systems, including rectilinear enclosures and major linear boundaries, suggest a managed environment where allocation of the landscape was an important element of organisation and control. From 500 BC there was a progression towards enclosures within the land, but not an enclosed landscape, with enclosures relating to occupation foci (*ibid*). Ditches, banks, palisades and hedges were all utilised as a means of delineating or enclosing the landscape, with the use of such features becoming common practice (Chadwick 2008). Type and function varied. Some features were a focus for specialised activities associated with occupation, including burials; these contrasted with field boundaries dividing pastures and arable land. In much of Britain, pollen data (Hey *et al.* 2011, Bridgland *et al.* 2011) indicate a shift from a wooded landscape to one dominated by grasses and arable, demonstrating the increasing agricultural utilisation of the landscape during this period. Accompanied by the development of complete field systems, in addition to those which were domestic in nature, substantial land boundaries were created as part of the development of a complex field system that included domestic enclosures. The former implied a desire to exert control over the landscape and by association those living and working within that landscape. Knight (2007) also stresses the importance of boundaries fulfilling social and economic functions, where construction and maintenance strategies were designed to emphasise group identity and thereby enhance social cohesion.

The utilisation of ditches as a means of defining land use and tenure introduced a complex dynamic into the discussion of land division. Chadwick (1997) argues that many ditches were far larger than

would be required for simple management of livestock or cropping regimes, indicating that their purpose may not have been purely practical. Additionally, other boundary ditches did not serve a purpose in terms of land drainage but still required a considerable investment in terms of labour and resources for their construction and maintenance. These larger scale boundaries were a statement of land division and control and exemplified that social and community dynamics were present alongside production focused boundary divisions.

The presence of boundary ditches indicates a definite decision-making process. Chadwick (1997) suggests that the variability in shapes, sizes and lengths indicate that such boundaries were the product of family and social group decisions, rather than being determined by a central Roman authority. This indicates decision making at a local level; communities had some control over the land which they inhabited, and concepts of ownership and tenure may not have been relevant in wider landscape terms. Ditches vary considerably in terms of length and design and are frequently cut, re-cut and repositioned demonstrating a presence and purpose over a considerable period. How the processes of landscape organisation responded to the introduction of an external authority after 43 AD is relevant to the understanding of changes in social and economic relationships. Whatever their purpose, there can be little doubt that boundary ditches were a significant feature within the wider landscape. They were shaped by and, indeed, shaped the communities and individuals who lived and worked amongst these landscape divisions.

Landscapes became increasingly enclosed including a focus for community settlement (Allen and Smith 2016). In the Late Iron Age defining boundaries became more important. Small enclosures frequently defined households and individual groups, providing a means of signalling a cohesive group and potentially an autonomy from other communities, reinforcing a sense of identity or indicating status. However, the argument of community independence contrasts with the presence of large-scale enclosure boundaries. These were often too large to be constructed by a small, enclosed community and perhaps signify an exchange of resources across communities. The development of a recognised field system is an important transition, not just because it signifies the presence of a managed landscape but more that these fields had a relationship with each other (see Chadwick 2008, Woodell 1985) whether the reason for their presence was for keeping animals contained or excluded, protecting crops from external threats or delineating a sense of ownership. They displayed a relationship with other fields which indicates active management of the landscape It has been argued (Chadwick 2008) that demarcation of the landscape was not always a function of increasing agricultural productivity or as an indication of intensification of agricultural practices. Boundaries do not always occur where cultivation is intensive and are frequently used as social

boundaries or to manage access. This is evidence of a conceptual division of landscapes rather than an ambition for practical or efficiency gains.

3.2.2 Agricultural Strategies within the Landscape

Iron Age society was generally based upon agriculture. Farmsteads were the most common form of settlement, and most people were farmers. The environment, whether local, regional or national was important in determining the type of agriculture which would succeed in any particular area (Huntley 2007). Subsistence cropping was highly dependent upon local conditions; inappropriate choices would lead to crop failures and potential starvation for a community. The specialisation of some areas into livestock and others into arable has been identified by Huntley (2007) as a contributing factor in the development of social structures during the Iron Age, where communities become less subsistence based and social structures developed more complexity. However, the binary nature of this argument is misleading. As today, although certain areas may favour livestock production, this does not exclude the possibility of cereal cropping. Conversely, areas suitable for arable cropping do not rule out the presence of livestock. It is overly simplistic to see agricultural production in such terms. A sustainable approach based on a mixture of production, rather than specialisation, was the likely agricultural practice. The environmental record for rural sites rarely provides evidence solely for arable production without the presence of livestock (e.g. Hey *et al.* 2011). The presence of livestock and arable is a complimentary activity, with each element bringing benefits for the other.

Hey *et al.* (2011) describe the chronology of the settlement at Yarnton (Oxfordshire) where Early Iron Age landscape use was almost indistinguishable from Bronze Age activity. Yates (2007) identifies these field systems as a wholly Bronze Age phenomenon and concludes that enclosures were not a characteristic of the Iron Age until much later. At Yarnton, grass floodplains were chiefly used for grazing with arable land utilised for crop production. Environmental samples include weed seeds indicative of a plough-based regime with cereal crops including spelt, emmer and barley. Charred plant remains suggest increased arable activity into the Middle Iron Age and indications of production within an open, mixed agricultural landscape. During this period, Yates concludes that although soils continued to be intensively farmed, most of the Bronze Age field systems were abandoned. This may be an indication that requirements for defined enclosures were no longer relevant, suggesting changings in social priorities rather than the requirements of agricultural production. Bradley and Yates (2007, 97) take this argument further, providing convincing evidence of intensive mixed farming but also of a period where people "…no longer invested so much labour in defining the limits of individual plots of farmland". This they relate to a period when the developments of hill forts became much more important, particularly as areas important for the

storage, distribution and consumption of grain and agricultural products. Data gained from environmental samples of the Late Iron Age showed little evidence of further change. The area under cultivation had increased and there was no evidence of declining fertility or pressures within the system. The ability to produce was evidently matching the needs of consumption for this community and a period of long-term stability is evident. These activities were carried out in a landscape which pollen samples indicate had little in the way of scrub areas or hedges. This reflects Piggot's (1981) view that, in situations of balance between land availability and population demand, there was little requirement for permanent field systems.

For other areas in the Late Iron Age there was a change in the structure of society as a whole. Archaeological evidence points towards increasing socio-economic change, regionalisation and the development of elites. This theme is expanded upon by Van der Veen and Jones (2006) who recognise changes in agriculture at this time, particularly in terms of the scale of agricultural production. Changes from extensive to more intensive methods of production, coupled with increasing degrees of specialisation in the methods of arable cropping and livestock, led to the production of a surplus. The dynamics changed from a subsistence economy to one where the trading of goods become an important factor.

The extent of agricultural activity in Britain during the Late Iron Age is discussed by Jones (1989) who describes the period as one of substantial environmental change. Evidence from pollen and other environmental data indicate clearance of woodland on an unprecedented scale and expansion of agricultural activity, yet the drivers of this are unclear. Creation of new areas may have been a response to decreasing productive capacity of existing land, perhaps due to declining fertility and unsustainable practices. Alternatively, it could be driven by a requirement to increase production; the stimulus of increasing demand in response to economic, social and population changes would provide an incentive to existing capacity. Jones (1989) places emphasis on agriculture moving from a position of self-sufficiency being the driver of production and agricultural practices, to one where the production of a surplus was the desired outcome. Evidence of goods and commodities including pottery, metalwork and quern stones being imported into communities suggest a degree of trade that was paid for by the availability of a surplus.

Much discussion of Iron Age intra and inter-regional variation in crop production has focussed on the level of specialisation, namely the identification of producer and consumer sites (e.g. Millett 2006, Allen *et al*. 2017). A model developed by Jones (1985) and applied to sites in the upper Thames Valley, central-southern England, was an attempt to identify settlements which produced their own crops, termed arable or producer sites and those which received crops that had been grown

elsewhere, defined as pastoral or consumer sites. Accidentally charred grain-rich samples were seen as representing large-scale production and consumption, rather than simply reflecting the relative contribution of cereals to the diet (Jones 1985). Greater quantities of grain in the Iron Age suggests that arable production in some parts of Britain had moved beyond subsistence and included a considerable degree of surplus production. This model brought archaeobotanical data into the forefront of mainstream archaeological analysis and stimulated interest in interpretation of environmental data sets.

Van der Veen and Jones (2006) have taken the debate on production of surplus further, questioning whether the surplus was used as a means to develop social bonds within and between communities. Over time, the ability to produce a surplus may have been used by leaders of communities to enhance their own prestige and status. They suggest that this may be partly responsible for the development of hill forts as centres of power, where the storage and consumption of excess production was used to reinforce hierarchy and social cohesion (Bradley and Yates 2007). However, by the Late Iron Age there were further changes to the treatment of surplus. As opposed to being stored within communities, the surplus was being exported outside the local regions, possibly in return for items of elite display. Particularly in southern Britain this may be reflected in episodes of large-scale feasting as a means of reinforcing prestige and status for the tribal elite. They conclude that the grain surplus became economic capital which initially created prestige within a community but was later used to acquire cultural power, which fostered an environment of exclusivity and elitism (*ibid)*.

Lodwick (2018) has explored the geographical provenance of grain consumed within the *civitas* of *Calleva Atrebatum,* present day Silchester, and has challenged the assumption that grain needed to be sourced from regions not closely connected with the area of consumption in order to supply increasing demand. For example, samples obtained from Coney Street granaries in York are confirmed to have a continental origin (Lodwick 2018). The question which Lodwick (2018) addressed looked at the geographical origin of cereals consumed in Silchester. Her work concluded that there was no evidence for cereals being moved from other geological regions and demonstrated that the source point was very close to the urban centre. This suggestion that Silchester was agriculturally self-sufficient is important and may have implications for the study of the area around *Isurium*; the hinterland had the productive potential to supply the *civitas* so did the *civitas* take on responsibility for the management of the hinterland?

3.2.3 Interactions between people and the landscape

Ingold (1993) recognises boundaries as possessing physical properties, but he considers that it is how boundaries are experienced which gives them meaning. A ditch, fence or wall is a physical entity, but it can only become a boundary in relation to the activities of the people who experience it. He develops this argument through challenging both naturalistic views of the landscape being simply a backdrop against which human activity took place and naturalistic views of it as a cognitive or symbolic organisation of space. His view that the landscape constituted the record of the lives and activities of those who inhabited it led to him to identify landscape with a "dwelling perspective" (Ingold 1993, 152), where human agency acts as the primary producer of a testimony of past activities. He viewed these activities as resonating over time and formed the basis for social and community adhesion. Perceptions of landscape are therefore not static acts of recalling past images but more a continual engagement with an environment which constantly responds to its lived experiences. The activities through which people engage with the environment gives significance to the landscape and it is this which aids the creation of its character. As people engage, so the environment in which this engagement takes place is imbued with meaning. Ingold (1993) comments that "…whereas with space, meanings are attached to the world, with the landscape they are gathered from it" (Ingold 1993, 155).

A place owes its character to the experiences it affords to those who spend time there, to the sights, sounds and indeed smells which constitute its specific ambience. And these, in turn, depend on the kinds of activities in which its inhabitants engage. It is from this relational context of people's engagement with the world that each place draws its unique significance. From these ideas Ingold (1993) developed the concept of what he termed the "Taskscape". The landscape he saw as static, it was that which happened within the landscape which gave it meaning. Therefore, any activity which was carried out as part of a person's normal business or life, within the landscape, he saw as a task. These tasks were the very fabric of being. Tasks were carried out individually but were part of a social mesh, interrelated to all other actions and from which it acquired meaning. This inter-relationship is the basis for an interpretation of the Taskscape. As the landscape is a series of associated features, so the Taskscape is an amalgamation of related activities. These actions were also described as the basis through which social cohesion developed. The static landscape was the fabric upon which personal activities were carried out; the physical interaction of people, their speaking and listening and their physical contact were all contributors to a social environment. This was described as a process of "…mutually attentive engagement" (Ingold 1993, 159) which, within a communal context of physical actions, bound persons and society together. The analysis of the lived landscape within the study area is key to investigating the social and economic drivers which influenced changes within this

landscape, and to provide an understanding of how the inhabitants responded to the presence of the new Roman administration.

Bruck's (2005) work is important to this project because the discussion of how people's lived experiences of the landscape can be interpreted through a phenomenological perspective, may provide an insight into how people's perceptions and experiences of landscapes influence their daily lives. This approach aims to "…describe the character of human experience, specifically the ways in which we apprehend the material world through directed intervention in our surroundings" (Bruck 2005, 46). Much focus relates to aspects of monumental landscapes, particularly as they were experienced during the Neolithic period. Themes of lived experience have been developed which recognise that a person's actions, emotions and social interactions are influenced by the presence of monuments and the landscapes within which they exist. How people move in and through these landscapes engages not only with personal perceptions but can also be a mechanism through which social cohesion is maintained. Construction of monuments requires organised management of a work force, through consent or coercion, and the veneration of the monuments perpetuates this relationship. Where the monuments were placed within the landscape and the routeways which connected them, were designed to influence people's experience and perceptions. The monument and landscape become key players in developing personal identities within the encompassing social cohesion which shared activities creates. Moving through a landscape to interact with places with monumental significance, imbues the process with emotions relating to the wider landscape, to routes and pathways and to connections with ancestors who have previously made the same journey (Ingold 1993). Moreover, it allows the development of compliant groups with the common aim of managing ancestor relationships. The construction of monuments, through human endeavour, and their siting within a natural landscape brings together the associations of man and nature. The placing of the monuments is not an action of conflict, instead it can be seen as a strategy to link human agency with the natural world (*ibid)*. In this way, interaction with the monuments and landscape can initiate and strengthen social relations with the natural world, where connections and veneration of natural forces may be considered important for the survival of communities.

The understanding of movement through space is also considered by Bruck (2005). How people move through space can form the way people view their world and the environment within which they exist. Away from the monumental landscape, people inhabit a world of everyday experiences, where they move between areas of work, settlement and recreation. These are landscapes of familiarity and productivity, and this is how they would be experienced. They could also be landscapes of labour, of pain and of conflict and therefore would be experienced in a very different way to ones of monumentality.

The site at Hundayfield Farm is one of a bounded and changing landscape (see Chapter 6) where enclosures delineate areas of different activities. How these were utilised and experienced forms part of the interpretation of this landscape but it is clear that areas of communal engagement would be present. Enclosures for agricultural activity would be experienced differently from those of settlement and the presence of communal areas for social, cultural and economic engagement would encourage a variety of lived experiences.

The site is located 500 m south-east from the presumed prehistoric barrow of Duiel Cross, which would have formed a significant feature within this lived landscape but what relevance it still contained for the people living here during the Romano-British period remains unknown. What it may demonstrate is that people and their behaviour change over time; within a familiar monumental landscape, human experience and relationships change and the same landscape is experienced in different ways by different communities and individuals.

The existence of a divided landscape was not a purely physical relationship. Boundaries and enclosures could also exert influence over the psychological nature of an individual's experience within the landscape. Ditches could be interpreted as being bound with social concepts of space, where interactions of cultural and emotional significance were carried out. Giles (2007) discusses architectural boundaries also being social boundaries, features which exhibited a collective and community engagement rather than one which was imposed by an autocratic authority. These enabled the development of cultural relationships, where the construction of landscapes reinforced the social cohesion of new relationships. This argument is expanded beyond the practical purpose of ditches. Her analysis attributes the cutting and re-cutting of ditches as a spiritual action whereby communities re-visited and re-affirmed their relationships both within themselves and with their ancestors. The digging of the ditch is seen as an opportunity to re-call stories and memories of those who went before and to secure a relationship for those in the present engaging with those from the past. In this way, the continuity of a social bond is preserved. The creation of boundaries could be an independent practice carried out by family members, or it could be a communal process, whereby labour and experiences were shared; an inclusive process rather than an exclusive one. Moore (2007) describes early boundaries as being mainly domestic in nature, a means of defining household space from that of the wider landscape. Boundaries could also act as liminal spaces, where individuals and communities could cross over from one area of agency to another, being separated and joined in the act of transfer at the same time (*ibid)*. This suggests a desire to define these areas as different from other areas of the landscape but also that they maintain connectivity.

Petts (1998) takes the discussion further, moving away from viewing the landscape as purely functional. He claims that landscape is an experienced phenomenon, where different places do not exist in isolation. All have meaning which is both inherent and conditional upon other places. The presence or absence of people affirms how the landscape exists and provides meaning to a person's existence. Cosgrove (1989) also cautions against interpreting the landscape in utilitarian and functional terms where activities are carried out purely in response to economic or demographic stimuli. There can be little doubt that people have a complex relationship with a landscape, particularly where survival depends upon an ability to both exploit and manage that landscape. However, the degree of emphasis which can be placed upon a persons' relationship is conditional upon their primary ability to survive within that landscape. Petts (1998) comments that "[…] landscape constitutes a manifold web of meaning couched within the day-to-day subjective existence of real people" (Petts 1998, 82). However, the primary challenge of securing food, clothing and shelter had to be met before higher order thinking could secure a function within the mindset of individuals and communities.

Whilst Iron Age agricultural practices varied both locally and regionally, dependent upon soil type, fertility and moisture availability amongst other factors, it seems that generalised patterns can be identified (Bradley 2007, Hey *et al*. 2011, Piggot 1981). Landscapes were open with few divisions related to agricultural practices or requirements. The boundaries which did exist were mainly for a demarcation of the landscape into social and ownership units. However, where agricultural activity was present it became more intensive in nature through this period (Van de Veen and Jones 2006) and developed to a degree of production where a surplus was available for trade and distribution (Jones 1985). The volume of surplus cannot be determined but the level would be influenced largely by the size of the local population, set against production levels which were very dependent upon weather and crop production challenges.

3.3 Roman Period

3.3.1 Classical Roman landscapes

If we are looking for the characteristics of a landscape manipulated by a centralised administration, it helps to understand the nature of any changes which may have been imposed across other provinces of the empire. The action of dividing the landscape into regular blocks of land through the process of centuriation can be seen throughout areas of Italy and Europe (Mira 2004, Bonnie 2009, Casarotto *et al.* 2016). Although only one form of management utilised, it is the one most recognised as Roman in character. Palet and Orengo (2011) consider that the regular, grid format which it follows make it "[…] the most commonly recognised expression of Roman landscapes" (2011, 383) and exemplifies

the intention to display dominance over conquered territories through large scale changes to landscape patterning. The land thus divided was often allocated to Roman citizens and retired soldiers to populate and colonise areas. This has also been seen as a widespread attempt to remove traces of the native population (Peterson 1998). Peterson's analysis leads him to conclude that the centuriation of land was a direct political act, playing "[…] an all-embracing role in the process of imperialism. They were a tool of conquest […]" (Peterson 1998, 133). Dyson (1991) challenges this view. Whereas he recognises that in areas such as the *Ager Gallicus* (Central Italy) the process of centuriation caused disruption to the native population, the areas where this occurred were very isolated. Only a very small percentage of the landscape of conquered territories was ever centuriated and resettled. In Cisalpine Gaul (Northern Italy), the centuriation appeared to take place in an area which was relatively unpopulated and can be seen as colonisation as opposed to replacement of the natives (Purcell 2002).

The question of whether centuriation occurred in Roman Britain has been the subject of much study (e.g. Haverfield 1918, Frere 1967). If it is true that centuriation occurred in many areas of the empire, then there is much to be gained from an understanding as to why some areas were not centuriated, or indeed subject to land re-organisation of any sort. What made some areas different from others? From a purely practical point of view, if the structuring of land divisions was designed to improve agricultural efficiency and therefore provide security of production, then it would be expected that its implementation would be widespread across the provinces. However, if it were designed as a political statement, then we would expect to see more intense areas of focus where perception and cultural influence were specific drivers of landscape change. Petts (1998) narrows the debate, focussing on the power of landscape re-organisation to signify ideological control. This he links to a statement of power between competing elite groups "…as an expression of higher-level cultural identities" (Petts 1998, 79). This may go some way to explaining the variations in the treatment of land management, but it is unclear how much flexibility was permitted under the terms of the Roman administration.

The search for evidence of centuriation in Britain has long been an area of focus but evidence, so far, remains elusive. Haverfield (1918) discusses the allotment of land which took place during the Roman period in Britain, determining that under the control of municipal authorities' land would be "[…]centuriated when first surveyed" (Haverfield 1918, 289). From this we would expect to see evidence across widespread areas of Britain; however, this is not so. That is not to say management was not present, it is the form which it took that remains to be determined. Dilke (1962) comments that land merely divided into grids is no proof of centuriation, but this may indicate that the focus of the search is misplaced. Looking for land division which indicates allotment of areas to retired

soldiers is too narrow a focus. What is needed is an understanding of the overall management of landscape; it is not a binary debate; many competing and complementary factors will influence how and why the landscape was structured and managed. A complex mixture of economic, social and cultural factors, alongside the political will of the administration, would form the basis for the re-organisation of the landscape. The diversity of landscape patterning will reflect how these elements interplayed within different areas of Britain.

3.3.2 Landscape organisation

If there is little direct evidence of organised centuriation of the landscape in Britain, can we conclude that there were no changes which were a direct result of Roman directives? Perhaps this may be overly simplistic. Not all the provinces of the empire were subject to such a visible and dramatic form of landscape management; this suggests that there were multiple approaches. The fixation on centuriation may be a product of the focus of attention on the activity of the Roman Empire rather than a targeted approach to understand landscape dynamics. Other features and activities may be a characteristic of the approach of the administration. Reorganisation and removal of ditches alongside the development of alternative settlement patterns may be as characteristic of Romanised management as any evidence of a centuriated landscape. The Late Iron Age landscape exhibited a geographically and socially diverse character. Within it, settlement patterns demonstrated a dispersed structure but exhibited social connectivity within a developing local community. It was a stable environment, potentially sensitive to any wholescale alterations. Hingley (1997) describes incorporation into the Roman empire as bringing a great deal of change, much of it to the detriment of the rural population (see3.3.5).

Allen and Smith (2016) have concluded that field patterns saw little change in the early Roman period. Until the 2nd century the trend was of transitional continuity rather than wholesale alterations to the landscape. The period which followed showed signs of field systems being laid out aligned with new roads. Although these did not replicate a Roman style of extensive grid systems, they do demonstrate a direct link between the construction of roads and a reorganisation of existing field structures. The development of *cadastre* as a form of landscape management may provide an explanation for landscape reorganisation (Peterson 1990,1998) and are discussed more widely in Chapter 4. As opposed to an overarching policy of management through imposition, these changes were more subtle and reflected a requirement for continuity of production and as a means of defining taxation liabilities. Nevertheless, as the driving of roads across the landscape can be seen as an overt demonstration of power (Witcher 1998), the changes to landscape management would also reinforce the strength of the Imperial administration. Deliberate and dynamic statements of authority ensured control over the means of agricultural production.

It is important to understand the degree to which the native elites participated in any changes to landscape use and management. Fields, enclosures and boundaries all existed during the Roman period but were they Roman in design and character? The knowledge and experience of the native population would contribute greatly to any proposals for change, and it is obvious that a delineated grid system, typical of Roman management, was not widely super-imposed over the landscape of Britain. More relevant to agricultural production would be underlying geology, topography, fertility and rotations. Many techniques common to other provinces within the empire would be unlikely to work in Britain and an amalgamation of ideas would be required to produce the increases in production which were needed. The production of food was critical to the success of the occupation. The development of settlements, construction of roads and the introduction of the administrative system could all be achieved without damaging underlying productivity, but the viability of agricultural production must have been more sensitive to change due to the increased pressure to produce a surplus.

3.3.3 Agricultural Strategies in Britain

Fulford's (1992) analysis of farming practices in Britain has demonstrated that the Iron Age was a period of increasing agricultural activity, characterised by much innovation and change. Moreover, he sees this progression being halted in the early Roman era when a period of stagnation ensued. This provides evidence that the arrival of the Roman forces led to a disruption of the established agricultural systems and subsequent pressure on rural areas. The ability to continue the supply of products for community consumption was compromised, at a time when external demands from the Roman administration placed greater demands upon the supply chain. Rohnbogner's (2018) analysis of the health profile of rural populations demonstrates a worsening of dietary standards during this initial period. This reinforces the view that conditions became worse for rural communities as agricultural practices were impacted and the supply of produce was diverted elsewhere.

The degree to which these pressures were aggressively imposed across Britain is not fully understood. There can be little doubt that the administration was not a benign benefactor in the early phases of occupation and would prioritise its own needs over those of the native population. However, exploitation of local communities to the point where they ceased to function as centres of agrarian production would not encourage the stability of supplies which were required (Millett 1990). Disruption would be unavoidable, but security of production was vital. Henig and Booth (2000) have questioned how much change there was as a direct result of the Roman conquest noting that intensification was already happening with a shift from pastoral farming to arable agriculture. Changes to the physical appearance of the landscape were minimal, with little evidence of post-conquest disruption to settlement patterns. Well-defined fields and trackways were already

established and remained so for a considerable period. As Chadwick (1997) comments, rather than enforcing wholesale change on the agrarian economy, the initial effect of the occupation brought a new set of variables into what as an already complex social and economic dynamic.

Although changes to economic, social and cultural factors in the Roman period are well documented, the impact upon the organisation of the countryside is less well understood. The change in settlement patterns and the appearance of villas are all known to demonstrate that the countryside was being managed, although our understanding of field systems and structures is heavily weighted towards evidence from excavated areas of settlement. Knowledge of how the wider countryside was being managed or changed is still scarce. In the south of Britain, villa estates are recognised as an integral component of landscape organisation. However, in the north they are limited in number and therefore the presence of this type of management of rural areas is less certain. Alternative scenarios may be possible; existing control and influence may have continued, as long as taxation levies were paid, or control was taken over by a third party. In the absence of a villa or Imperial estate agricultural structure it must be considered whether the administrative *civitas* played an important role in the processes of landscape management.

It has long been considered that the levels of agricultural production increased as a result of the demands from growing urban and military populations. Agricultural production was central to the dynamics of the Roman economy, based generally on large scale production of cereals, wine and olives. The production of cereals was central to the strength of the economy and fulfilled the primary role of producing food for the population of military, urban and rural consumers. Although production systems for wine and olives have received much attention, the processes of cultivation and land management strategies which secured a constant supply of cereals and livestock are less well understood (Lodwick *et al*. 2020). For Roman Britain, research has centred on the requirements of increasing production to supply an ever growing military and urban population; changes in the scale and nature of crop production, processing and storage facilities and the growth of rural farmsteads have all been subject to research and analysis, as key areas which assisted the growth in supply (Allen *et al*. 2017). However, the way in which the landscape may have altered in order to accommodate the changes in demand has received little attention. Lodwick *et al* (2020) have investigated whether landscape use intensified or was subject to a process of extensification in order to respond to the changing demands of agricultural supply. It has been argued that the deposition of ceramic material within arable fields because of inclusion in manure is an indicator of intensive farming practices (Fulford and Holbrook 2011) and this has been interpreted as characteristic of Roman Britain. Intensive practices were common to small scale plots and involved hand tillage, weeding and the use of manures, whereas extensive agriculture required the use of draught animals

for cultivations, lower levels of manuring and the sharing of labour. The work of Allen *et al.* (2017) focused particularly on the practice of manuring as a proxy for changes in the intensity of cultivations. It demonstrated the transition to an environment which was dominated by cattle and spelt wheat, indicating more extensive methods of production. Could demands be met through producing more from the same land area as a result of improving efficiencies and the use of new technology, or did bringing more land into production through an extensification of practices achieve the required level of production? Isotopic analysis of cereal grains from their excavations at Stanwick has shown that manuring declined from the Iron Age to the Roman period (Allen *et al.* 2017). Hence, if manuring is used as a proxy for the intensiveness of cereal cultivation, we can infer that cereal cultivation practices during the Roman period were more extensive than during the Iron Age and that cereals were produced through lower labour inputs per unit area (Van der Veen and O'Connor 1998).

Control over the countryside was an integral feature of Roman expansion and was important in ensuring that agricultural production could meet the demands of the new administration. How it was received by the native population is unclear. Was it seen as a threat to the norm or was it simply a change in the power dynamic, where the authority of the tribal groups was replaced by a centralised administration? A different social and cultural situation existed where a subsistence and community focused environment was moving towards one which needed a surplus in order to supply the changing demand cycle. This may have caused resentment towards the administration but if the native population viewed their relationship with Rome through the new roles which the elite had accepted, then there would be considerable pressure to accept the changes.

In the absence of Roman influence then landscape patterns and use would have changed anyway. Taylor (1975) has discussed the emergence of new field structures, characterised by the replacement of small, rectangular enclosures with ones exhibiting a more linear structure in the early Roman period. He suggests these changes were not necessarily driven by Roman ideas but were an illustration of development of existing practices. The increasing utilisation of the mouldboard plough (Figure 3.1) was a significant factor in changing the structural characteristic of arable practices. The plough brought greater efficiency to farming practices because inversion of the soil allowed seedbed preparation over a wider variety of soils and reduced weed seed burdens, removing competition from arable crops and increasing yields. Cultivating in strips was considerably more efficient than in restricted, small enclosures. The plough was certainly a factor in altering farmland patterning but its use in a linear management system was also suited to the Roman style of landscape division. The two elements amalgamated into a complementary strategy for landscape management.

The expansion of the Empire into new provinces was not always accompanied by widespread changes to local structures and practices, indeed, absorption of territories without dramatic change was an efficient use of resources. However, an organised agricultural sector was central to the stability of the province. Although Taylor (1975) remarks that Iron Age practices continued to develop in an unbroken manner and that "The impact of Roman civilisation was considerable in many aspects of British life, but agriculture may not… have been one of these" (Taylor 1975, 47), it would be surprising if changes did not take place. Evidence of control and active management would demonstrate that a proactive policy was adopted in order to secure supplies, not only for the military but also for the increasing urban population. Albarella's (2007) interpretation of a re-ordering of agriculture as a response to changing demands rests with the analysis of the increase in cattle numbers visible in the archaeological record. He has identified a cultural preference for beef from soldiers of different culinary backgrounds who now resided in Britain and identifies this as being partially responsible for an increase in demand for cattle. In addition, a need to increase arable production through intensive ploughing of soils using large and powerful oxen led to the import of improved cattle breeds from the continent. The dynamics of increasing demands encouraged changes to the existing management and land use systems. The structural changes which took people away from the land, into roles which were food consuming as opposed to food producing, also impacted upon agricultural production.

3.3.4 Agricultural progress

Technological advances were crucial to increase the scale of production (Allen and Lodwick 2017). Examples of plough marks have been recorded which indicate the use of tools for cultivation from the Bronze Age and into the Later Iron Age. Studies of weed seeds present in charred grain samples demonstrate types common to practices involving ard cultivation rather than plough-based systems (Hey *et al*. 2011). Brindle (2017) discusses the presence of the ard well into the Roman period and argues that it was not until the 2nd century AD that the heavier mouldboard plough began to be utilised for cultivation (see above).

Manning (1964) undertook a definitive analysis of plough types used during the Iron Age and into the Romano-British period. His assessment was that the simple design of the ard was in use throughout this period across Britain, Scandanavia and much of Europe. Although described as a plough, the ard is mainly a tool for surface tillage and cultivation. The plough is an implement which allows for the inversion of a slice of soil, burying debris and weed seed and bringing fresh soil to the surface. The ard was incapable of this and therefore the management of cultivation and cropping would differ from that under a plough-based regime. In its earliest forms the ard was a single pointed implement which, when dragged across and through the soil profile, could move the surface of the soil,

disturbing weed seed and creating a tilth suitable for sowing of subsequent crops. As a tool for destroying weed seeds, it is most suitable for dry conditions as, in wetter periods of weather, although each pass would remove some seeds it would also encourage the germination of others. Different forms of the ard were utilised. A typical Roman form in use consisted of a double wing arrangement, where a broader leading point cultivated a greater degree of soil and would also form small ridges either side of the point. Due to the angle of penetration, this was more efficient at cultivation and threw up small ridges of soil, into which seed could be planted. A number of these asymmetrical shares have been found in Britain (Arberg 1957).

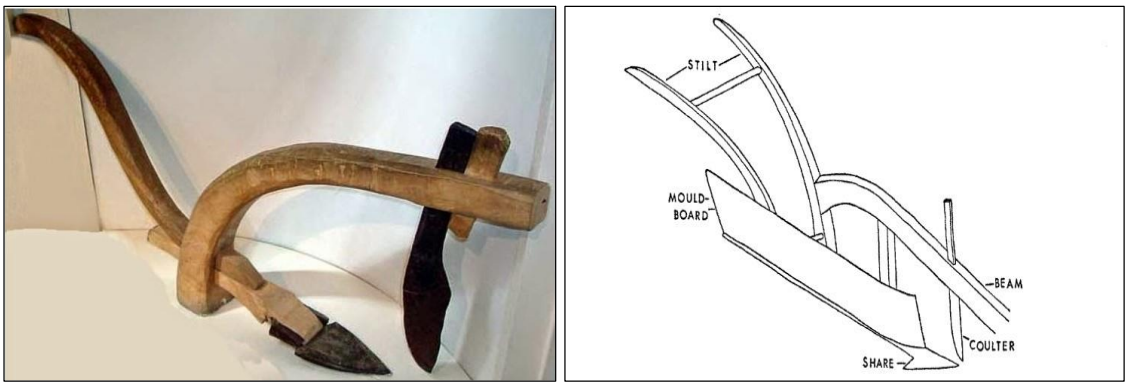

Figure 3.1 Left: Ard type plough (source East Meon History 2018). Right: Early Roman mouldboard plough (source Manning 1964). Note the Ard would scratch a single furrow whilst the mouldboard would invert the soil.

The question of when the mouldboard plough came into use in Britain is unresolved. Variations to the ard meant that some of them came be used to encourage soil to move to one side of the implement but as this did not involve inversion of the soil it cannot be termed as ploughing. The key components of the plough are the presence of a share and a mouldboard. The share allows the plough to undercut the surface of the soil and it is the curved shape of the mouldboard which then inverts the soil. Arberg (1957) believes that the finding of shares at Dinorben Hill fort and two villas at Brading and Folkestone provide enough evidence that a form of plough was in use in late Roman Britain.

Mouldboard ploughs and improved animal genetics were part of agricultural progress, but organisational skills and engineering technology also led to increased production. Land drainage and clearance were undertaken. Cunliffe (1985) cites examples between Nottingham and Doncaster where the landscape was divided up into regular, rectangular plots bounded by ditches. Taylor (1975) comments that in the fenlands of Cambridgeshire and north-west Norfolk, land was brought under cultivation for the first time. A new field system was laid out and although the fields were square or rectangular, there is no evidence that they conformed to a strictly regulated layout. If these fenland areas were utilised first during the early Roman period and were laid out under a central directive,

then it would be expected that they would demonstrate a distinctly Roman characteristic; a carefully planned layout of boundaries and roads as recognised elsewhere in the Empire. He suggests that this new landscape layout did not reflect direct influence, rather that they were laid out with less organisational considerations than many pre-historic field patterns; it was the continuation of both existing and developing practices which shaped their structure. Local geological or environmental conditions may have dictated this structure, or an extension of native practices may explain the divergence from the Roman style. Much of this area was abandoned around 200 AD due to recurrent flooding (*ibid*).

Although many fields continued without change, there was also a development towards fields of larger sizes, sometimes associated with villas. It is difficult to interpret whether this was driven by Roman ideas, or whether it happened in the absence of outside influence. There is also the emergence of new field systems where the rectangular enclosures were replaced by longer, linear arrangements. Arranged in blocks of parallel fields they are very similar to that which would be recognised as medieval strips, but they date from the Roman period (Rippon *et al.* 2015). These are most likely to be a response to the availability of the mouldboard plough, where the efficiency of cultivating in strips is far greater than in smaller square or rectangular enclosures.

Cunliffe (1985) acknowledges that for many areas little change occurred, but he sees the demands of the administration and military causing a significant shift in demand for agricultural produce. The pre-Roman age had seen a move towards increasing production which had been distributed through a social and economic network of exchange and patronage. The demands of the new administration placed different pressures on the basics of production; increased demand from the military and civic populations combined with a commitment to supply goods and taxation to the central Empire, determined that further increases to production would be required. This was achieved firstly by an improvement in the management of existing systems, both physical and technological. Ploughshares and improved genetics were part of this development, but also organisational skills and engineering technology led to increased production. Additionally, pollen analysis has demonstrated that the clearances of the Late Iron Age were accelerated during the Roman period and that more land was brought into production through the extensification of agricultural practices (Lodwick *et al.* 2020). An organised, farmed landscape, although not novel, was spreading over a larger area than previously known.

3.3.5 The Impact of change upon rural health

The understanding of health and dietary characteristics of specific populations has become more accurate with the increased availability of palaeopathology data. The rise of developer funded

excavations has increased the amount of data available and allowed for further analysis and interpretation. As a result, a more accurate understanding of the conditions to which the rural population was exposed can be understood. The view that all sectors of the population underwent an improvement in living and working conditions because of the Roman presence, can be analysed through the presence of this type of data.

The Romano-British population can be split simply into urban and rural, producing a sample for comparison. However, the financial status of an individual could have a greater impact than location upon health. Combining these factors gives a complex scenario whereby rural rich and poor, and urban rich and poor will demonstrate markedly different responses to their environments.

Rohnbonger (2018) has demonstrated that for the working population in rural areas, life was far from the pastoral idyll which may be imagined. In the majority of cases life was difficult, demanding physical labour and potentially oppressive working conditions. Poor diet and ill health were common. Rural populations relying on a plant-based diet exhibited a greater pathogen load, parasitic infections and diarrhoeal disease, alongside potential vitamin deficiencies. Many of these were not reported in urban environments suggesting adequate provision of meat, fruit and vegetables. This suggests certain foods were not commonly available in the countryside as they had been transported to urban areas, providing evidence for the highly stratified nature of Roman society where urban and elite dominance prevailed. For poorer rural populations subsistence was an over-riding consideration. Differential access to food, where the elite had open access and the poor were confined to staple crops and little else, was exhibited in the respective health profiles, with widespread malnutrition amongst many rural communities (*ibid)*.

There was a relatively high incidence of metabolic disease indicating that the quality of the diet in Roman Britain had declined from the time of the Late Iron Age. “[…] it seems likely that the occupants of the countryside of Roman Britain had a less adequate diet than during the Iron Age and also when compared with the inhabitants of urban centres […]” (Rohnbogner 2018, 342). Respiratory disease was also common in both rural and urban sites, suggesting working conditions and exposure to smoke from processing activities and the domestic hearth. An increase in lesions of the spine and stress factors have been reported and indicate problems caused by continuous physical labour, with spinal degeneration being the most prominent. The presence of more fractures, physical trauma and degenerative bone disease all point to greater stresses from engagement in agricultural activities.

The evidence of declining health and nutrition, caused largely by the demands placed upon the rural communities, was as a direct result of increased consumption in urban and military areas of goods from the agricultural regions. Much of the evidence for this comes from analysis of inhumations from

the central and southern areas of Britain within the later Roman period (Rohnbogner 2018). Although there is a geographical and chronological bias in the data, it demonstrates that far from an improvement in living standards for rural areas, they were in a state of continual decline. Evidence of little change in agricultural practices and field structures in the immediate post-conquest period, indicate an agricultural system which failed to meet the increased demands from a growing population, and that as a consequence the rural poor suffered. As Fulford (2018, 5) comments "[…] whatever might be the perceived benefits of the Roman occupation of Britain, they touched only the rural elite, to the detriment of the rural population at large". It is important to study whether evidence exists in other areas which demonstrate an active programme of improvements aimed at increasing production. This is particularly significant for the area of York, Aldborough and northwards. The military presence in the north of Britain demanded security of supply of agricultural products. If dietary evidence indicates a lack of surplus production, then measures would need to be implemented which ensured a continuity of supply, which may have included the control and manipulation of the landscape.

Hingley asserts that the conquest likely caused immense disruption to the natives, but Late Iron Age society was already geographically and socially diverse and undergoing varying degrees of modification. However, he does identify that incorporation into the empire brought change, much of which was to the detriment of many living in the countryside. There is evidence of a split between health and diet in urban areas compared to the rural population; a high incidence of metabolic disease, rickets, scurvy and degenerative bone disease linked with manual labour. In rural areas subsistence was paramount but there was differential access to food. The elite had their choice, but the poor had access only to staple crops and little opportunity for meat in the diet. This is supported by Rohnbogner's (2018) analysis, discussed above, which confirms a considerable decline in health within the rural population after the period of conquest. Demanding physical labour, potentially oppressive working conditions, poor diet and ill health were the norm. People were "[…] forced to shoulder the heavy burden of taxation and supply in an aggressive market economy" (Rohnbogner 2018, 281). Rural dwellers were mostly employed in agriculture and lived within a socially stratified society which allowed little room for autonomy or independence. Rural populations exhibited a greater pathogen load with repeated parasitic infections and disease. Vitamin deficiencies were widespread. This information contrasts markedly with urban areas where evidence suggests adequate provision of fruit and vegetables and availability of sugars from honey and fruit-based ingredients (*ibid)*. This evidence indicates the stratified nature of access to resources in Romano-British society and confirms a decline in diet within the rural population in the post Iron Age period. It also provides an indication that those who controlled the landscape had considerable influence

over what was produced and how much was moved away from the countryside to the expanding settlement centres.

3.4 The Development of Settlement

3.4.1 The growth of towns and the *civitas*

This section will discuss how towns in Britain developed very quickly after the invasion. Those areas in the southern part of Britain that had a long association with European societies were already pre-conditioned to the structure of a Roman administration. The pace of the establishment of towns suggests either that the existing regional structures were capable of change or that they were unable to resist change. This contrasts with Millett's (1990a) suggestion that in other areas of Gaul and Spain the development of towns was slow, often taking a generation or more to establish. The presence of *oppida* which were characterised by a degree of urbanisation, suggests that there was some degree of organisation present. Analysis by Trow (1990) of administration, storage and industry indicated a degree of developmental maturity which aided transition post-invasion. James and Millett (2001) have identified variance in the rates of urban developments between sites and attribute this to the level of economic resources available and to the degree of commitment from individual communities. This suggests a willingness within local areas to absorb change rather than enforcement by state directive. The local elite would garner support, financial and social, in return for maintenance of their positions of power and influence.

Whittaker (1997) determines that the urban areas were central to the organisation of power and the delivery of influence. Administration and taxation were primary roles, but the organising of social classes and the integration of social elites and political control were the basis for citizenship. This ideology was to ensure a moral order and with it a degree of security and stability without the requirement for overt military action. The development of the *civitas* was important in delivering this ideal. They were the symbols of power; the construction of civic buildings was considered as important as fortifications on the frontiers. The interpretation of the *civitas* as simply an administrative and fiscal entity is too simplistic. They were also statements of imperialism; filled with political imagery with statues of emperors and patrons, they were a powerful reminder of the structure of society within the ranks of the elites. The public buildings consisting of *fora* and *basilica* made statements of power and control and reinforced the social order.

Millett (1990) recognises the development of the *civitas* as a process which continued the policy of circumscribed self-governance. "In the western and north-western provinces, the development of the *civitas* enabled Rome to fulfil her requirements by the incorporation of conquered tribes in a way analogous with the *polis*…they could be treated like units of governance with each *civitas*

representing a unit of population, inhabiting a territory" (Millett 1990, 65). The genesis of the *civitas* in Britain can be identified initially through the incorporation of the tribal elites into the administrative systems of Roman governance; a multi-faceted process where tribes were either extinguished through force or absorbed through submission and agreement. Those who took on the roles assumed a new identity, often replacing a decentralised and fragmentary system of governance with one characterised by prescribed functions and aims. This enabled them to continue their positions of authority, maintaining the ability to accrue wealth and disseminate power but they had also to ensure compliance with the aims of the new administration. As an offset to their income earning position, the paternalistic system of patronage, to which the elites adhered (Nichols 2014), ensured that the new *civitas* could benefit from the construction of public buildings, required to enforce the reality of who really held authority across the province. The use of the existing elite determined that Rome could simultaneously maintain the power and influence of the native aristocracy, whilst also enabling the collection of taxes and the dissemination of its social and economic ambitions. For the elite, their reliance on Rome to maintain their own social positions, ensured that the collection of taxes and tribute was achieved effectively. James and Millett (2001) discuss the evidence available for *civitas* centres in the South and East of Britain. However, they note that there are few sites located in areas of proximity to frontiers in northern Britain available for comparison, making these sites especially important.

3.4.2 Hinterland dynamics

The availability of agricultural goods was crucial to both the military and civilian consumers, and therefore security of production was a high priority for the administration. The production levels of the Late Iron Age, balanced mainly around a subsistence economy, would not provide for the increased demand without some form of encouragement. This could be through the growth of existing practices, implementation of new techniques or a combination of these and other factors. Under question is the degree to which the *civitas* was involved and would changes in agricultural practices be needed or desired.

Across other provinces of the Empire the two main drivers of agricultural production were the Imperial estates and the villa economy (Purcell 2005). In Britain, the picture is much less clear. Imperial estates are thought to have existed, but direct evidence is limited. Areas which lack villas have been thought to signify the presence of Imperial estates, for example the Salisbury Plain and the Fens (Fulford and Brindle 2016, 6). However, the presence of villa estates is well attested, particularly in southern regions. Whittaker (1995) discusses the role of villas in the sale and distribution of produce in Italy and identifies that many of the larger estates traded directly with the main consumers, particularly the military. How far this was developed within Roman Britain is

unclear but if present, the requirement for the town to be directly involved in trade could be reduced and would require a different emphasis to create financial security. The administration of taxation was important but the ability to extract rent from landowners was also vital, as recognised by Weber's theory of the Consumer City. Weber's view was that the elites in society held political power and used this to increase their wealth through commercial trading of surpluses and the collection of rent (Whittaker 1990, 1995). The well understood settlement of *Calleva Atrebatum* (Silchester) is recognised as having no industrial or manufacturing sites within or immediately adjoining the town (Creighton and Fry 2016). As such, it would be heavily dependent upon a wealth creating rural hinterland.

This suggests that any changes in the structural identity of the landscape would be driven by those closest to the administration. However, it is important to understand the influences present on those making these decisions; be that as a direct result of Roman directives or, as Millett (1990) would suggest, a demonstration of the native elite to elicit support through the implementation of Roman ideas. The tribal elite within the *civitas* remained an influence and may have encouraged the preservation of cultural traditions and continuation of some Iron Age practices. Alternatively, the desire of the elite to conform to Roman wishes to preserve their positions, may have influenced the implementation of new ideas.

3.4.3 Settlement patterns

Allen and Smith (2016) describe the settlement pattern in Roman Britain as being profoundly diverse in terms of size, function and form. Settlements were immersed within a landscape of field systems and communication routes and included a high degree of regional variation. Their work recognises the classification suggested by Taylor (2007) who had interpreted the development of the farmstead as a settlement form.

- Open/unenclosed: no traceable boundary enclosing the main domestic core. Wide distribution but small numbers known. Almost exclusively an Iron Age phenomenon. Sometimes transformed into enclosed and maybe later complex types but before the 2nd Century. After this they appear to be gradually abandoned between 2nd and 4th Century.
- Enclosed: where all/majority of domestic activity was contained within one or two enclosures and the internal space was not divided up any further. Widely distributed, common in northern England, in the west, Cornwall and southern chalk downland. Sub-divided into four types: rectilinear, curvilinear, irregular and D-shaped.
- Complex: where there is a significant differentiation of space. Either a system of conjoined enclosures or a principal outer enclosure with internal sub-divisions defining different areas

of activity; domestic, craft, industry, livestock, processing. Linear forms, often associated with trackways suggesting a link with livestock.

The existing subsistence culture allied with dispersed settlements, characterised by the enclosed farmsteads of the Late Iron Age, were unlikely to be able to provide the increases in production required due to population, cultural and economic changes, particularly as the administration matured over time. Although there can be seen an increase in this type of settlement through the early Roman period, this appears to be related to an overall increase in agricultural momentum. Further structural change in settlement patterns can be observed with emerging small scale, rural farming settlements being the most numerous across the province, although rare in the north-east region of Britain (Allen and Smith 2016). They reflect the practical efficiencies of how much land can be effectively managed from one location and determined the spatial distribution of sites. Although some early studies considered the villa as being central to the agricultural economy (e.g. Haverfied 1923), these ignored the influence of wider settlement patterns. The nucleated settlements far outweighed those occasions where a villa was present at the centre of an agricultural operation or estate (Smith and Fulford 2016).

The increased incidence of farmsteads is linked to a growth in regular and rectilinear enclosures, associated with changing settlement patterns. Smith and Fulford (2016) identify distinct regional character in settlement type, which partly "…reflect the variable settlement patterns and social structures of pre-Roman Britain" (Smith and Fulford 2016, 394). They categorise the North-East region as displaying a high degree of continuity from the Iron Age with a degree of conservatism. However, they also comment that many of the sites which are related to the road network do not have an earlier Iron Age presence. These sites frequently show a multi-purpose character. They were not solely units of agricultural production but were also important for processing and distribution; their roadside location was crucial to their function, for example the site at Shiptonthorpe, East Yorkshire (Millett 2006). The expansion of agricultural production can be recognised through the increased presence of corn driers, mills and granaries. These suggest a surplus of goods often being processed away from the fields where production was focussed. In the Vale of York and Mowbray, sixteen farmsteads have been recognised, four of them Complex and two Enclosed.

Chronologically across Britain, there is an increase in settlement numbers from the Late Iron Age to a peak in the second half of the 2nd century. This is followed by a decline in numbers through to the late 4th century when settlement numbers were around a third of that in the Late Iron Age, suggesting a drift in population towards urban centres (Smith and Fulford 2016). However, for the Vale of York and Mowbray settlement numbers did not reflect the national picture and increased in

the 2nd century, showing little evidence for decline thereafter "…possibly because of the influence of the major urban centres at York and Aldborough" (Smith and Fulford 2016, 248). The presence of the main route north along Dere Street, specifically between York and Aldborough, would bring an intense sense of focus to which the area would undoubtably react. The increased demand for food would have stimulated production in the area, making it more exposed to change. This would be reflected in settlement and field patterns, particularly when compared to those areas where the demand was less. However, there is a lack of evidence for farmsteads or roadside settlements, encouraging the view that management of the landscape was being carried out elsewhere.

This situation has important implications regarding strategies for landscape management. If rural settlements were increasing in the area encompassing the Vale of York, this may suggest an active policy designed to retain the rural population on the land. This could be related to either agricultural production requirements or other social and cultural reasons. Alternatively, this growth could be explained in reference to the figures which show that in this area, a third of all settlements had been in use in the Middle Iron Age, suggesting continuity and expansion (Smith and Fulford 2016). A comparison can also be made with the figures for new settlements sites; in the East of England this is 60% compared to just 18% in this region (*ibid*). This may reflect a desire for this area to remain culturally related to Iron Age identities. Cunliffe (1991) discusses the scenario where regions which developed greater degrees of community wide engagement were the areas where tribal identities were established; the change from disparate and unconnected units to ones which displayed a higher degree of social order were the areas where a continuity of identity may persist.

3.5 Conclusions

This chapter initially considered the concept of how Britain responded to the presence of the new Roman administration, primarily its manifestation within a landscape context but also through the role of settlement dynamics and changing social practices. The Roman Empire did not exist without these being important components of personal, cultural, social and economic identity. Variability in the degree to which it can be recognised across the Empire is itself a validation that both the people and the landscapes which they inhabited were subject to influences which elicited different responses. The presence of the Roman administration caused a change in people's behaviour and attitudes but this itself was subject to varying degrees of response subject to local circumstances. The question as to whether people became truly Romanised, or that they existed within a culture of Roman influence, has been the subject of much discussion.

Beyond the cultural and social assimilation of a population, a changing landscape can also signify the degree to which Roman influences, needs and aspirations brought about changes to landscape use

and organisation. A pre-Roman Britain landscape comprising field systems, enclosures and settlement patterns (Knight 2007, Chadwick 1997, Allen and Smith 2016) and the study of how they changed during the period of occupation can demonstrate the degree to which new dynamics drove change. Control of the landscape also indicated a statement of authority by which the administration sought to reduce resistance to its ambitions (Hanson 1997).

Beyond the productive and political identity of landscapes, the structural elements of boundaries and settlement patterns define physical characteristics within which human agency exists. Landscapes provide the setting for how people experience both a physical and spiritual environment Ingold (1993). The landscape provides the environment within which people develop practices that give meaning to their everyday tasks. How these experiences were influenced by the presence of the Roman administration and the restrictions on free will, would also shape how they interacted with the environment around them.

Although evidence for management of the landscape exists in many parts of the Roman empire, particularly in the recognised form of centuriation (Palet and Orengo 2011, Peterson 1998, Purcell 2002), there are no definitive examples in Roman Britain. However, this does not suggest that a landscape re-organisation did not happen. Land was not only required as a focus for food production, but it also played a part as a conduit for the collection of taxes. The presence of *cadastre* as a method whereby land ownership and control were recognised, provided a method through which liability for taxation could be measured. Although these areas were not structurally comparable to the system of centuriation, they did exhibit grid patterns and orientation with roads which can be identified as Roman in character (Peterson 1990, 1998). This research project seeks to provide evidence of landscape organisation within an area of northern Britain and to investigate whether changes to landscape organisation can be recognised within the Roman period.

It appears that agricultural strategies were slow to change, particularly in the earlier years of the new administration. Technical developments in cultivation strategies and the adoption of the mouldboard plough were limited. Late in the second century there was an extensification of agricultural practices, with evidence that more land was brought into production rather than an intensification of existing practices (Lodwick *et al.* 2020). The dietary loadings of the rural population suffered (Rohnbonger 2018) as food was directed away towards an increasing urban and military demand.

Development of towns was rapid in the post-invasion period, first in the areas of southern Britain but soon spreading north as areas were considered safe to establish these focal points. Towns were integral to the stability of the administration and the *civitas* played a particularly important role. They were important statements of Imperial control which was reinforced by the construction of public

buildings. Administration and tax gathering were primary roles, but they also formed the hub of social and cultural activity (Whitaker 1997).

There are gaps in our knowledge relating to the response of an indigenous population to the presence of the Roman administration. This lacuna is more evident for northern Britain which has received little study compared to other areas of the province. Additionally, the specific study of the relationships between a *civitas* and its hinterland is lacking. Investigations relating to the interplay of economic, social and cultural factors between the players engaged within the roles of the *civitas* and those who inhabit its environs, are important. This thesis seeks to identify and investigate possible associations and to provide new data against which to test our understanding of these relationships. The next chapter will discuss factors considered as drivers for change as the Roman empire expanded into northern Britain and also consider the development of *Isurium Brigantum.*

4 Impacts of Roman Territorial Expansion

4.1 Introduction

This chapter will investigate how the expansion of the Roman Empire impacted upon the existing landscapes which formed parts of the provincial territories. It seeks to develop an understanding of how the use and organisation of the landscape changed in response to the presence of the Roman administration, and particularly the effect of a *civitas* upon its hinterland. In terms of acculturation of the rural population, the question of how far they recognised themselves as "becoming Roman" has not been resolved (Millett 1990, Woolf 1998) and ideas of social and economic integration through the adoption of Roman-style material culture, particularly pottery, has been challenged (Van Oyen and Pitts 2017). Disconnecting the acquiring and use of pottery as a proxy for acculturation, the wider biography of objects is considered crucial in developing models which reflect the importance of "[…] an objects' context and stylistic and material specificities" (*ibid*, 6).

The relevance of a new administration, with its associated economic and social protocols, would determine that there was an overarching influence upon native individuals and groups, but how these communities responded and to what degree their lifestyles changed are key topics. Evidence from northern Europe indicates that traditional settlement patterns and social structures endured, continuing a strong cohesion with Iron Age practices, beliefs and structures (Taylor 2013). I will examine evidence from European examples before looking at changes within the landscape of Britain. The discussion then moves onto the study of sites within Roman Yorkshire, which brings context to the specific area under study.

4.2 Mainland Europe

As the Empire expanded, how it shaped and reorganised both settlement and land use patterns is seen as a determining factor influencing the identities of both the people and the landscapes which were subsumed by this expansion. The demarcation of territory into recognised divisions formed the basis of an infrastructure required to facilitate the requirements of the Roman authorities (Caceres-Puerto 2019). Division through centuriation is a recognised form, albeit not utilised widely across the provinces, which has been seen as an administrative tool for managing land as much as for the planned resettlement of military personnel (*ibid*). In addition, other forms of land organisation were used, such as the *cadastre*, where defined boundaries were to allocate liabilities for tax collection. The Roman system preferred organised square patterns of regular sizes (see Dilke 1971), and in the rural areas these were usually associated with the road network. However, it is clear that there was no uniform approach to land division within the provinces, with landscape organisation displaying different characteristics across the empire (Caceres-Puerto 2019).

4.2.1 The Ager Publicus

The land categorisation of the *ager publicus* has been selected by scholars as "…the best case to understand the land distribution system applied by Rome throughout the Empire" (Caceres-Puerto 2019, 146). Within this definition is a recognition that dividing land into recognised grid patterns was a common, although not universal, feature of Roman landscape management. This has been identified as a method whereby new lands were colonised by Roman settlers, providing stability for the authorities in the post-conquest periods, through the "[…] creation of infrastructure to guarantee the prevalence of the new Roman order" (*ibid*). This process suggests a dramatic reorganisation of territories and their landscapes, where newly established properties developed either in towns which mirrored Rome, or rural centres characterised by regular distribution of farmsteads and holdings. The creation of landscape divisions through the use of gridded field systems and road networks would have been a new imposition upon landscapes which previously did not exhibit these characteristics. As such, it would have brought different dynamics to established settlement and boundary structures. That these changes appear to be concentrated around at least some emerging urban settlements (see Figure 4.1), suggests that there is, in some circumstances, a close relationship between a culturally Roman town and its hinterland. Centuriation, where it existed, may have its genesis in administrative control of the landscape as well as functioning as a tool of colonisation.

The validity of this perception was tested by Casarotto *et al.* (2016), who studied three landscapes in Central Italy to test two competing models of rural settlement patterns. First, the conventional model (well-organised settlement regularly distributed across the landscape) and secondly, an emerging model (where settlement develops within a polynuclear pattern). Their research found that only a small number of colonised areas were organised in line with conventional thinking and that the polynuclear pattern was more pronounced. The results demonstrated a higher concentration of settlements in the periphery of urban centres but also included a clustered pattern of high-density sites in rural areas. This does not fit with the conventional view of neatly partitioned territories but suggests that native populations may have moved to areas where traditional patterns were re-established, in order to accommodate colonialist settlement closer to the urban centres (*ibid*). Similar results were observed by Verhagen (2023) within the landscape of the Lower Rhine, where it was recognised that the impact of the Roman military had led to an urbanisation of settlement patterns relating to political and economic administration requirements. Beyond these centres however, tribal identities continued, which was reflected in the continuation of pre-Roman settlement characteristics.

Other less well-defined grid patterns have also been identified across different areas of the provinces (Peterson 1998, Palet and Orengo 2011).

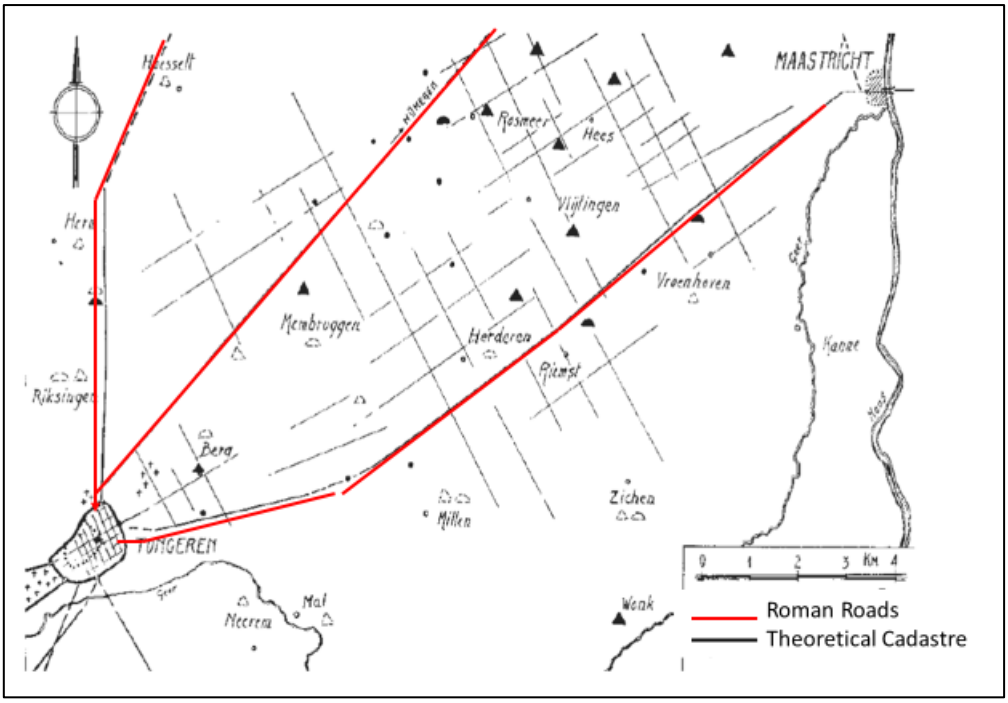

Figure 4.1 Proposed Cadastre east of Tongres (source Bonnie 2009, 38). Note the grid structure of the field boundaries.

Bonnie (2009) has analysed villa distribution in the Tongres and Maastrict region of northern Gaul and used computer modelling to determine whether these sites corresponded to a theoretical framework of cadastre (Figure 4.1). Using different grid sizes and separate time frames from the early to late Roman periods and a specific orientation, he has concluded that a network of these land divisions may have been present in the early Roman period. The development of this type of landscape organisation would have had a significant impact upon the areas where it was introduced. The imposition of a controlled space was primarily an indication of Imperial power which reinforced the hierarchical relationships which existed within the structure of the empire.

4.2.2 Mainland European Civitas landscapes

Central to the research of the thesis is the analysis of the *civitas,* particularly its role as a determining factor in the functioning of the countryside. The relationship between the urban and the rural within the Empire was one of symbiosis, where the two entities were not in competition and each of them were part of a "[…] common universe" (Caceres-Puerto 2019, 135).. JT Qualify – define benefit, was the benefit equal or can you phrase it a different way? Many urban areas were economic powerhouses, with trade and manufacturing bringing economic strength. In the case of the civitas additional administrative and legislative functions brought with them the collection of taxes and further economic activity. Large social and economic structures inevitably control power and with it the direction of social and cultural change (see Sweely 1999).

Studies of the hinterland around the *civitas* of *Vangionum* in northern Gaul claim that the landscape here could be interpreted as a wholly Roman creation, with a strong emphasis on a Roman style, sacred landscape (Haeussler and King 2008). In the east of Iberia, Mira (2004) has studied the creation of the hinterland around the Roman Imperial town of *Dianium.* Already established as a major port, this town became a Roman *municipium* between 10-14 AD when there was a major transformation of both the urban layout and the surrounding landscape. Previously identified as an Iron Age *oppidum,* Mira's research sought to identify "[…] transformations in the landscape in relation to previous Iberian Iron Age periods to adapt to Roman models" (2004, 172). This suggests that the research assumed a Roman model being rolled out across newly conquered territories. GIS analysis was used to construct a cost-benefit analysis model for movement across the landscape, along with a viewshed analysis based on the location of the *oppida.* The analysis concluded that less energy was expended during the Roman period, suggesting that settlement patterns had moved closer to the new settlement of *Dianium.* The viewshed analysis concluded that the hilltop *oppida* had a strong visual relationship with the countryside, which the newly created town, located on the lower plains, did not share. For the pre-Roman town (*oppida)*, visibility was an important function for its location alongside possible defensive requirements, but for *Dianium* a closer link to the management of the countryside was more important, with authority and power being displayed through the construction of new public buildings.

4.3 Roman Britain

The degree to which a regional variation exists regarding reaction to the influence of the Roman administration needs to be investigated. Our understanding of landscape change strongly influences theories regarding the impact of the Roman conquest on Britain. In the south of Britain, for example, Smith *et al.* (2016) discuss that this area had been exposed to pre-conditioning of Roman influence and was therefore receptive to change, whereas the north of Britain was inhabited by unruly Iron Age tribes who resisted the conquest through aggressive combat.

The term "Romanisation" has been widely used to define changes in cultural, social and environmental practices due to Roman expansion (Woolf 1998). Although it has been criticised and subject to re-definition in recent years (see Van Oyen and Pitts 2017), it is still a term used to categorise various changes which took place in Britain during the Roman period. However, the degree to which these impacts were felt equally across both social and geographical contexts remains unresolved. Questions regarding whether there was a single blueprint for change from British to Roman practices, which existed from a centralised authority, is a key component of the debate.

The relationships between towns and countryside within the Roman Empire have been widely studied (Haverfield 1923, Hingley 1989, Millett 1990, Mattingly 2004, Creighton 2006). Organisation and control of the landscape is considered integral to the Empire's structural and political integrity (Mattingly 2006). Land ownership was central to acquiring and holding roles within a hierarchical society. For individuals to hold administrative, legislative and economic positions of power, a degree of wealth was required, and that wealth was frequently associated with the ownership of land. Often, those in control would reside in a town house but would also have a rural base, which represented not only a central display of wealth but was also the place where an economic surplus could be generated. This funded taxation requirements and provided the economic strength to engage in the social activities of the urban settlement. From these dual bases, individuals could perform their administrative roles and exercise "[…] power over both the town and the country of the civitas on behalf of which they were nominated" (Derks 2011, 2).

The concept of Romanisation as the conduit for social and economic improvement was embedded within antiquarian views of the validation of the British Empire. Haverfield (1923) and Collingwood (1930) both determined that archaeological evidence that did not focus wholly on the remains of elite practices, would challenge this historical perspective. Hingley (1989) has challenged antiquarian perspectives that focused on evidence of elite practices and sought to validate empire building as a wholly positive construct. Greater understanding of the impacts upon rural populations and landscapes could be gained by not focusing purely on military installations and villas.

Frere (1967) has recognised a duality of identity within the native population, believing that Romanisation was not a replacement of cultures but more a synthesis. Within this synthesis there was a wide range of variability involving the aspirations to adopt a classical lifestyle alongside a "[…] substantial survival of native characteristics" (Frere 1967, 295). Romanisation, therefore, was not seen as a complete adoption of Roman practices but was more a blend of the old and the new. This duality was more pronounced within social hierarchies, whereby the native and aspirational elites adopted Roman practices to maintain or further their own positions within the emerging administration. Creighton (2006) states that this process "[…] smoothed the way for integration" (Creighton 2006, 2) and was enabled due to pre-existing links with the continent before the invasion. Change was inevitable post-invasion but analysing the degree and pace of how this occurred, alongside whether regional variations were evident, is vital in understanding the impacts of the Roman administration upon the population.

In southern Britain, Allen (2016) has concluded that, although there was pre-conquest influence, there was still a wide variation in rural settlements across the region as well as differences in periods

of establishment and abandonment. Previously occupied Iron Age settlements became the focus for Roman towns and Allen (2016, 81) demonstrates that 25% of Iron Age sites were occupied into late 1st century AD, with some continuing into the 4th century AD.

The site of Silchester (*Calleva Atrebatum)* has been excavated and studied extensively (Creighton and Fry 2016), providing much evidence for the development of this *civitas*, although its related hinterland has received little study for evidence of Roman influence. The eastern part of the region provides evidence of a rapid expansion of settlements followed by an equally rapid decline after the first half of the 2nd century AD. The west is characterised by a slower but more sustained period of settlement growth, where peak settlement numbers are recorded in the late 3rd - early 4th century AD, with abandonment taking place in the late 4th century AD (Allen 2016). Changes in patterns along the south coast of England in the early 1st century AD, including villas with clear continental influence in design and material culture associated with them, have been attributed to the growing power of local elite groups (Cunliffe 1995) and indicate periods of major investments of wealth. Turning to the civitas capital of *Isca Dumnoniorum* (Exeter), a legionary fortress had been established here in the middle of the 1st century AD with a force of 10-15,000 soldiers. The arrival of these forces would have created an immediate increase in demand for foodstuffs which the surrounding area could not immediately accommodate (Rippon *et al*. 2021). The location of Exeter on the river Exe allowed for the transport of supplies by water, in a manner similar to the location of *Isurium* on the River Ure, and its riverine location meant that the production of agricultural goods within the hinterland was not immediately stimulated by the increase in demand. Indeed, little evidence currently exists that shows a growth in new farms within the second half of the 1st century AD or that any settlements persisted after the forces moved on as the military focus shifted westwards (*ibid*). However, isotopic analysis of faunal remains has demonstrated that some of the demand for cattle and sheep within Exeter was met from animals grazing locally, to the east of the fortress (*ibid*). This perhaps demonstrates that these animals were removed from consumption by the native population in favour of the military forces and may have caused cases of malnutrition within the local rural population surrounding Exeter (see 3.3.5).

The legionary centre at Exeter was abandoned around 80 AD with the town converting to a *civitas* capital, complete with public buildings and walled defences (Rippon *et al*. 2021). The removal of the military led to a rapid drop in demand for agricultural produce and meant that the hinterland was now capable of fulfilling the reduced demand. As such, the town "[…] relied heavily for its food supply on animals reared in its Devon hinterland" (Holbrook 2021, 211). Further to the demands for agricultural produce, sites for the manufacturing of pottery are also known within the hinterland area with examples of locally made pottery (e.g. South-western BB1 and Exeter Grey Wares) found

within the urban areas of the settlement (Holbrook 2021). These pottery sites (e.g. Hatherleigh Moor) continued production into the 3rd and 4th centuries (*ibid*).

Although a trade link in agricultural goods and pottery between the hinterland and the town has been established, little evidence for a structural change in settlement patterns exist following the establishment of the *civitas*. A hierarchy of smaller towns and roadside settlements associated with the *civitas* may be expected to develop (Rippon *et al*. 2021) but this has not been identified within the hinterland of Exeter. Villas sites are rare whilst the scattered enclosed farmsteads of the Late Iron Age continued to predominate (*ibid*).

In terms of the adoption of Roman material culture, evidence shows that locally produced pottery (e.g. Gabbroic Ware) continued to dominate known pottery assemblages (Rippon *et al*. 2021), indicating a resistance to change and a persistence of regional identities as expressed through the use of pottery styles.

Across the East Midlands, the landscape was also changing through the Late Iron Age. A short-lived, early Roman military intervention was followed by establishing a colony in the north-east (Lincoln) and constructing a *civitas* capital (Leicester) in the south, but no immediate restructuring of the landscape occurred (Taylor 2013). Rather, a piecemeal process from mid-1st to mid-2nd century AD developed which "[…] appears to re-gear much of the rural landscape partly to enhance the storage, processing and mobilisation of agricultural produce" (*Taylor 2013,* 177). This landscape also became populated with villas with evidence of corn driers, mills and facilities for processing and transporting of grains. These sites also utilised a wide range of Roman-style material culture, indicating that these materials were available and that the local populations adapted to their use and function (*ibid*).

In contrast, evidence from the *civitas* of *Viroconium Cornoviorum (*Wroxeter) in Shropshire (Gaffney and White 2007), demonstrates that despite the wealth and economic vitality of this city, its hinterland did not respond strongly to the impact of its power and influence. The Wroxeter project (2000) utilised an extensive programme of ground-based remote sensing, covering some 78 ha (192 acres) to investigate the relationship between the *civitas* of Wroxeter and its hinterland. The project adopted a methodology which sought to collect data from the hinterland of the settlement in order to analyse how these may relate to the development of the *civitas*.

One of the most notable findings of this study was the contrast between the urbanised settlement of Wroxeter and an apparent lack of Roman period settlement within its hinterland, although note is made of an Iron Age enclosure system at Duncote Farm, 2 km from Wroxeter, which appears to have been replaced by a Roman period rectilinear enclosure. A link here with the *civitas* may be identified

as this site contained a kiln feature producing Severn Valley wares which are also found within the urban settlement (Buteux *et al*. 2000). A roadside settlement has also been identified at Sharpstones Hill, some 10 km from Wroxeter, which may have functioned as a minor processing and marketing centre serving the town (*ibid*). However, fieldwork undertaken to investigate the apparent lack of Roman period activity within the hinterland, seems to confirm that the absence is real and not a consequence of any methodological sampling bias. Although there is direct evidence of Roman influence, such as a villa-type settlements, evidence of Roman material culture is absent from most sites within the study area (*ibid*).

This comparison demonstrates that there was variability in how areas around an urban centre changed, both structurally and socially, in response to the presence of a powerful urban entity. Explanations for this situation are considered to rest with the presence of a dominant elite from the *Cornovii* tribe, who used their position to generate personal wealth at the expense of those from the surrounding area (Gaffney and White 2007). Economic and cultural activity was centred on the *civitas* of *Viroconium*, where the local elite are thought to have held many influential positions (*ibid)* Additionally, pottery products are known to have been brought into *Viroconium* through both regional and international supply routes, but this material is not found within adjacent rural areas. This suggests that, here at least, household practices continued with Iron Age traditions and there was not a move to the types of household food preparation and presentation associated with Roman cultures. Taylor (2013) suggests that this pattern is similar to evidence from rural areas around York and Exeter, where urban and rural coarse ware usage remains mutually exclusive until the 3rd century AD. Taylor also mentions a lack of coins from sites in the rural areas around *Vioiconium,* which he attributes to a lack of supply and usage within rural areas, suggesting that the rural population continued the practices of barter and socially embedded exchange systems. This indicates that taxation may also have been paid through the exchange of goods rather than coinage (Taylor 2013).

In terms of the wider concepts of how far rural communities reacted to the presence of the Roman administration in Britain, it is clear that native groups responded differently. Frequently, it seemed that these communities saw little or no benefit in changing their practices, and they continued, for the most part, with their usual activities. That they chose to do this and, perhaps more importantly, that the Roman authorities allowed for this to continue, illustrates the diverse ways that native practices and the emerging Roman social and economic dynamics co-existed.

4.4 Roman Yorkshire

4.4.1 Location

As a geographical starting point for investigating the impact of the Roman administration in the north, the modern boundaries of Yorkshire are used to locate changes which occurred in the wake of the conquest (Figure 4.2). The varied landforms, routeways, river networks and settlement patterns would all have influenced both the speed and the nature of change within this area.

The major military centre of *Eboracum* (York) played a pivotal role within the administration structure of northern Britain. However, the influence it has over the organisation of the landscape around the *civitas* of *Isurium*, except as a destination for some of the goods produced there, is considered to be small due to the distance between the sites (c. 25 km by road today). In addition, York was located downstream from *Isurium* on the River Ure, with direct access to the North Sea via the River Humber. Surrounded by a large rural landscape, the direct influence reach of York was likely to have been more pronounced within its own hinterland (see Roskams 1999, Roskams and Neal 2020) rather than upon *Isurium*. Further, this research is focussed upon the influence of a *civitas* upon its hinterland rather than a military centre and therefore the relationship between *Isurium* and York is not considered further here.

4.4.2 Settlement in Roman Yorkshire

Ottaway (2013) has discussed the concept of Romanisation in relation to Roman Yorkshire; how the landscape changed, and whether the natives became Roman. He challenges the view of a pre-existing template being super-imposed across Britain, preferring to acknowledge that environmental and geographical circumstances, alongside the nature of the inhabitants, influenced the degree to which a concept of Romanisation was embedded within society. He concludes that the interactions between the natives and Romans "[…] created a culture peculiar to its region – one more variation on the theme of what it meant to be Roman" (Ottaway 2013, 4).

In terms of pre-Roman landscape patterning in Yorkshire, Ottaway (2013) identifies large areas of co-axial field systems, where land divisions with elongated boundaries and a common alignment, dominate areas of intensive land use. In other areas, particularly the uplands, he describes single or small groups of enclosures as being typical. Settlements were also present amongst these areas of organised land use. Primarily roundhouses, either single features or as part of a collective grouping, were distributed within or associated with the enclosures.

In considering the evidence of continuity, the Iron Age *oppidum* settlement at Stanwick near Richmond, North Yorkshire, may provide an existing location where continuation of activity into the

Roman period demonstrated a pattern similar to those seen in southern Britain. Evidence from Stanwick indicates that by the middle of the 1st century AD, a wealthy elite was already engaged with the Roman world in the exchange of goods (Haselgrove 1994, Historic England 2000). This indicates that trade and communication networks were in place by the time of the Roman conquest, either with trade networks in the south or as part of a more extensive network with the continent. This site is understood to have gone out of use later in the 1st century AD. Evidence from excavations undertaken by Northern Archaeological Associates (2021) as part of the upgrading of the A1 (M) at Scotch Corner, has provided data showing Roman period activity here, including the development of settlement, as early as 60 AD, potentially demonstrating a change in settlement patterns for this region with the focus moving from Stanwick to the major road of Dere Street.

As discussed in Chapter 3, Allen (2016) has analysed changes to settlement patterns in the north-east of England, identifying 258 settlements in this geographical region (Figure 4.2), which is slightly larger in area than Roman Yorkshire. Of these, 213 were recognised as farmsteads. In the Vale of York, 64% of the sites were farmsteads. Villas sites are rare, with only 20 recorded describing architecture which is considered to represent a villa. Roadside settlements are also limited with only 13 being recorded.

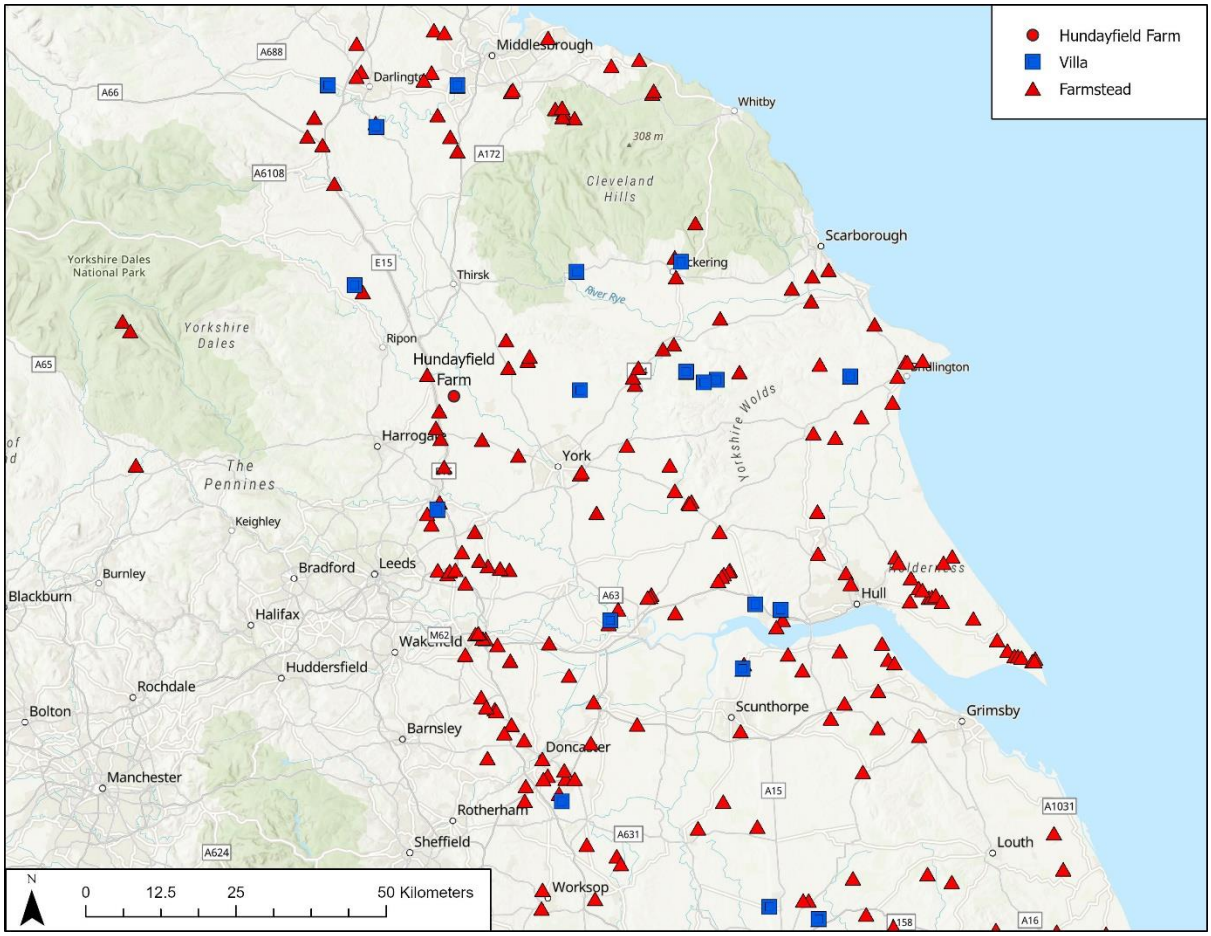

Figure 4.2 Farmstead and villa sites in North-East Britain (source Roman Rural Settlement Project) and the location of Hundayfield Farm.

Dating evidence from these sites shows an increase in settlement numbers from the Late Iron Age to a peak in the second half of the 2nd century AD, declining thereafter into the late 4th century AD. However, the Vale of York area demonstrates a different pattern, where numbers also increase into the 2nd century AD but show little evidence for decline thereafter. Allen (2016) considers that the presence of major urban centres, particularly York and Aldborough, was influential in promoting the longevity of these sites.

Table 4.1 Number of settlement types by landscape zone in the north-east region (source: Smith 2016, 246).

Landscape Zone	Farmstead (all)	Farmstead (complex)	Farmstead (enclosed)	Farmstead (open)	Villa	Roadside settlement	Village	Vicus	Oppidum	Total	%
Durham magnesium limestone plateau	6		3	1						6	2.3
Holderness	30	1	3	3						30	11.6
Humber estuary	5	2				1				6	2.3
Humberhead levels	26	6	4		2			2		30	11.6
Lincolnshire coast and marshes	11	1								11	4.3
Lincolnshire Wolds	10	1	2			3				13	5
North Lincolnshire coversands and clay vales	16		3		3	1	1			21	8.1
North Yorkshire moors and hills	15	3	3	2	1					16	6.2
Sherwood	6		4							6	2.3
Magnesium limestone belt	39	5	17	1	3		1			43	16.7
Tees lowland	17	4	1	2	3	2			1	23	8.9
Vale of Pickering	8	2	1	1	1		1	1		11	4.3
Vale of York and Mowbray	16	4	2		1	6	1	1		25	9.7
Yorkshire Wolds	8	4	2			6	1	2		16	6.6
Total	**213**	**33**	**45**	**10**	**20**	**14**	**6**	**4**	**1**	**258**	**100**

Allen (2016) also notes a difference between this region's northern and eastern areas. Within the north, only 18% of the 156 sites were considered new settlements, whereas in the east, this figure was 60%. This demonstrates that the presence of the Roman administration potentially influenced the east whilst the north remained culturally more Iron Age well into the 2nd century AD. This may be related to military movements along the Humber in the early phases of the military expansion northwards (Van der Noort 2004, Ferraby and Millett 2020). Allen (2016) also identifies that the northern areas are characterised by a more diverse landscape which encouraged different patterns of land use and settlement. This, along with a recognition of "[…] Brigantia continuing to hold political power…" (Allen 2016, 248) he believes made them more resilient to change. Whether the native population were willing agents in this transformation has been addressed by Giles (2007) in her study of landscape divisions in East Yorkshire. Looking at the development of ladder enclosures clustering along roadsides, she challenged Ramm's (1978) view that these were evidence of military veterans setting up landholdings in retirement as a form of Romanisation of the landscape. Roskams (1999) questioned whether these modifications, dated to the Flavian period, were indicative of control from a centralised authority seeking to maximise economic and social advantage. Utilising further evidence from excavation, Giles (2007, 239) makes the case that, contrary to many other regions, East Yorkshire did not experience a change in landscape management until the late third to early fourth centuries AD. This she attributes to a reluctance of these communities to engage in political allegiances with the Roman Empire, focusing instead on local political issues. That this situation may have existed gives an indication of the desires, or lack, of the Roman administration to demand a conformance to Roman ways. The development of a villa landscape began to emerge in the late 3rd century AD, which Whyman (2001) attributes to a later change to an urban aristocracy exploiting the agricultural landscape in order to further their social and economic standing within the elitist hierarchy. Whether these changes were responsible for a complete reorganisation of the landscape and the subsequent removal of native practices is unclear, but it can be certain that it changed the way in which people engaged with the landscape. Giles (2007) concludes that "[…] fundamental changes had taken place in the way in which people defined themselves and their sense of community […]" (Giles 2007, 247).

4.4.3 East Yorkshire

Extensive studies of the transitional landscapes around Hayton in East Yorkshire have been carried out by Halkon *et al.* (2015). This area consists of predominantly fertile lowlands, subject to periodic flooding. It served as a communication routeway, providing access from the lowlands up to the higher grounds of the Yorkshire Wolds. Along these communication corridors were frequent Iron Age settlement sites, demonstrating that this area was subject to human exploitation of resources before

the advent of the Roman conquest. The landscape is recognised as providing sites for different scales of activity and intervention, characterised by settlements, enclosures, stock compounds and agricultural plots, all indicative of an agrarian lifestyle. Over time, social and environmental challenges would provide impetus for changes in both scale and use, with some sites being abandoned in preference for different locations. Within this mosaic it is important to identify those changes that may have been caused by the aims of the Roman administration. To this end, it is reasonable to hypothesise that the construction of a Roman fort at Hayton around 70 AD would have significantly impacted upon the native population. Similarly, Millett (2015) suggests that the inhabitants around the fort at Roecliffe, situated 1.5 km west of Aldborough, which was constructed around 65 AD, would also have been impacted. Proximity to a military centre would mean that the local inhabitants were never far away from military force being exerted if required. This presence would be necessary to reinforce the changes to local administration and social structures that resulted from the expanding empire. The degree of any resistance to these changes cannot be quantified but there would also be opportunities which would benefit the population. For example, the military would be a new focal point for trade, commerce and interaction. Demand for local produce would likely rise and the native population could also provide ancillary services, providing a workforce, skilled craftsmen and local knowledge. Additional commercial and social interactions would take place, all providing the opportunity for increased economic activity. Whatever the changes that occurred, they would change from the dynamics of the preceding Late Iron Age, particularly concerning who held and determined the new power base. Millett (2015) describes this as facilitating "[…] the transition from Iron Age to Roman as in essence, it involved one form of personal power being displaced by another" (Millett 2015, 549). Although the local elite may have lost their original power base it may have provided them the opportunity to move into new roles within the emerging administration.

Within this changing dynamic, there is evidence that a degree of continuity was also possible among the changes which the new administration brought. The site at Burnby Lane, Hayton provides little evidence which demonstrates a significant response to the presence of the fort (Millett 2015, 550). Excavations here have provided stratigraphic evidence for a continuity of occupation, but the ceramic assemblage demonstrates little change over time in aspects of material culture (similar to evidence from *Viroconium,* see above). This site demonstrates that a continuity of settlement and practices was not something which the new administration was particularly concerned with eradicating. This position is supported by evidence from the adjoining area of the Wolds, where landscape organisation was little changed within the first two centuries of the Roman period. Here, the landscape did not change as a result of post-conquest pressure (as also appears at Hayton) but

proved resilient until modifications dating to the 3rd century AD began to emerge (Atha and Roskams 2012).

A further intrusion into the landscape around Hayton was the construction of the Roman road which linked Brough on Humber to York, in the 2nd century AD, some considerable time after the abandonment of the fort at Hayton around 90 AD (Millett 2015). It appears that the route of this road follows earlier trackways; routes which must have served both the previous military garrison and any overland trade networks. In this instance, the development of the road was a precursor to further settlement expansion, including new roundhouses within earlier boundary enclosures. Significant roadside settlements were also established at Shiptonthorpe, Stamford Bridge and Rudstone Dale. Millett (2015, 553) considers these changes to be indicative of a major reorganising of society with a primary focus on the road network, concluding that it demonstrates a shift from Iron Age patterning along the valley route to the Wolds to one where the road itself was the main catalyst for change, with the settlement at Shiptonthorpe cited as being primarily Roman in character. Here, the inhabitants moved from the traditional roundhouses to constructing aisled halls as a new form of building. Enclosures reflected the road alignment, and pottery assemblages represented Roman forms, including higher-status types like Samian and Sand Tempered wares. Millett (2015, 557) concludes that this type of roadside settlement was not just a local phenomenon but was part of a transition which became visible across northern Britain; the new roads became part of a structural change in settlement patterns from the 2nd century onwards.

Further east and encompassing part of the Humber wetlands area project, Van de Noort (2004) identifies 123 new Roman period settlement sites in addition to the 89 previously recorded in the Sites and Monuments record. Within these sites, a clear correlation was identified between the new settlements and rivers, suggesting that these arteries were important factors in establishing new locations. This supports the view that early territorial expansion into northern Britain by the Roman forces, came inland from the Humber, along the river systems, as opposed to an overland route from the south (Ferraby and Millett 2020).

4.4.4 Healam Bridge

Extensive research has been undertaken on the roadside settlement of Healam Bridge as part of the works to upgrade the A1 (M) motorway. Located approximately 20 km north of Aldborough, this site is considered as one of Yorkshire's largest rural settlements. It covers 18 ha and extends almost a kilometre along the route of Dere Street. The road is thought to have been constructed here sometime in the late 1st century AD, with the settlement evidence showing two clear phases of activity during the late first century to late 2nd century AD, and to late 3rd to the early 5th century AD

(Ambrey *et al.* 2017). The extensive excavation programme recovered evidence of both diet and pottery assemblages, demonstrating that the earlier phase was distinctly Roman in character. The presence of a Roman fort and the associated *vicus* supports the conclusion that the earliest inhabitants of the site originated from outside Britain and brought a recognisable Roman culture with them. In particular, the presence of a large number of *mortaria* is considered to provide a military, rather than native signature (*ibid*). The later phase of occupation was distinctly native in character and produced evidence of crop processing on site, similar to the activity at Shiptonthorpe.

The geophysical survey of the Healam Bridge site (Figure 4.3) shows that the orientation of the field enclosures was aligned to the road but that they did not extend further back at this location, suggesting a very deliberate association between the road and the organisation of boundaries. Ambrey *et al.* (2017) describes these boundaries as well defined with a common length of approximately 60 metres from the road frontage. This may be evidence of apportionment of land by a central authority and in this case may be related to the setting out of the *vicus* associated with the fort.

The geophysical surveys and excavations undertaken as part of the development of the A1 (M) corridor have produced an extensive record of activity from the Romano-British period, including a wealth of settlement and landscape organisation information. Although the focus is on the linear corridor created by the road, this evidence indicates that the area was subject to change due to the presence of the Roman force, from the earliest periods post-conquest until early in the 5th century AD (see Ambrey *et al.* 2017).

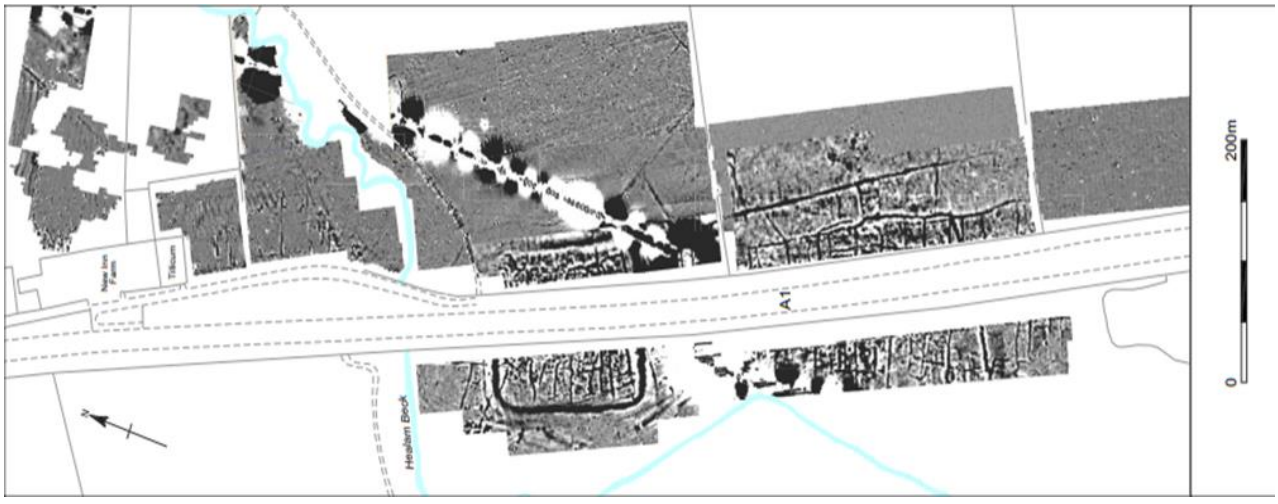

Figure 4.3 Healam Bridge geophysical survey (source Ambrey et al. 2017). Note the location of the fort to the south of Healam Beck and the roadside settlement to the south of the fort.

4.4.5 The Agricultural Economy

Several studies provide insight into how the agricultural economy changed during the Roman period. Research and excavations undertaken at Heslington East (Roskams and Neal 2020) provide evidence of changes in landscape use and organisation within the hinterlands of the major Roman settlement of York. Changes in human activity based around an agrarian economy and boundary modification to accommodate these alternative strategies were identified at a landscape scale.

Production of agricultural goods was evidently part of a system of mixed farming, which was carried out from the Iron Age onwards. The arrangement of boundaries in this area, including evidence of funnel systems, indicates that livestock were integral to the pastoral systems of farming, with a distinct transition from sheep to cattle during the Roman period (Roskams and Neal 2020). Analysis showed that the genetics of the livestock present changed very little until a period within the 3rd century AD. For the Heslington site, the development of a gene pool associated with the import of cattle in particular, from other parts of the country, or indeed the Empire, was limited within the first two centuries of the Roman period. This indicates that there may not have been a policy of agricultural improvement driven by a centralised authority, suggesting that the existing methods were effective in providing sufficient production to meet the needs of a rising population and the increasing demands of a taxation economy. This position was reflected in the production of arable crops with only gradual movement from hulled barley to wheats and oats (*ibid*). However, there was evidence of changes in cereal processing techniques with the development of crop drying and milling facilities. These would not only help with the storage of crops but also facilitate the movement of products in a refined format, increasing the effective quantities available for consumption elsewhere and add value to the product.

Changes within the production of agricultural goods were also reflected in alterations to the structure of boundaries and enclosures at Heslington East. Those in place towards the end of the Iron Age remained with little alteration until well into the first millennium AD. Although limited pottery evidence from the 2nd century AD suggests some changes were taking place, it is not until the later Roman period that significant landscape modification occurred, particularly in some well-defined areas of the site. Simple enclosures were replaced by increasingly complex and sub-divided boundaries, indicating a change in emphasis of the boundary pattern across the site. Significant modification was recorded in the north-east area, which demonstrated a re-orientation of boundaries, including the creation of terracing, indicating a substantial change of use relative to other areas of the site (Roskams and Neal 2020). These changes appear to demonstrate that the organic development of native practices had been superseded by an attempt to utilise the landscape in a format influenced by Roman practices.

Allen and Lodwick (2017, 142) have discussed to what degree a shift in practices was necessary across rural areas to supply the changing dynamic of demand for agricultural produce. Arable and pastoral farming were central components to the function of the economy, and how land and labour were both managed and exploited were key components within the production cycle. Within this, the scale of technological innovations and the uptake of different practices, would influence the degree of security of supply for agricultural produce. Britain was exporting produce at the end of the 1st century AD (*ibid*), although the volume of trade is unknown. Nor is it known whether this was the export of a surplus or whether that produce was being removed from the domestic market at the expense of the native population. As discussed in Chapter 3, Rohnbogner (2018) and Redfern *et al.* (2012) have demonstrated that the diet quality amongst rural populations markedly decreased in the early Roman period, providing evidence that this may have been the case. This also demonstrates the power of the ruling elites to remove produce from the market to satisfy external demands, even though this would be to the detriment of the health of the local population.

Allen and Lodwick (2017) (see also Roskams and Neal 2020), identify an increase in the processing of agricultural products, particularly grain dryers, from the 2nd century AD onwards. Such technological innovations appeared to be initially focussed on processing, rather than any direct attempts to alter growing strategies. This would both reduce wastage and allow for more efficient distribution of goods. The effect of this would be to increase the amount of goods available from the existing levels of production and to allow for a slower transition to developing agricultural strategies into the 2nd century AD and beyond. Archaeobotanical analysis does not provide evidence of dramatic changes in cultivation practices, as indicated by the profile of weed assemblages (*ibid*), and therefore, the increases in production were achieved through an extensification of production. More land was brought under cultivation before any changes were made to how the land was farmed.

The change towards extensive cereal production and the development of processing facilities enabled the production of the surpluses required to provide for the state, its infrastructure and the taxation requirements of the period. There is also evidence of an increase in the growing of fruit and vegetables, alongside brewing and specialist livestock for meat and dairy products (Allen and Lodwick 2017, 144). These activities were mainly sited adjacent to urban and military centres and may be viewed as being specific to an end market rather than a wide-scale industry. An overall regional diversity of production potentially sat alongside both specialisation and variation within local areas. A mixture of strategies and a balance between pastoral and arable farming would be dependent upon land type and weather patterns within the different regions. Risk mitigation strategies, such as grain storage facilities, would be required in order to manage and limit the occasions when production was compromised. These practices were initially important at individual

farmstead level but the subsequent linkage between farms and the development of distribution networks were clearly more significant as the demand for produce grew.

The analysis of the wider landscape of Roman Yorkshire shows that there was variability in how the landscape and settlement patterns changed in response to the new Roman administration. Having considered this issue in general terms in relation to various sites, we can now place the area within the hinterland of *Isurium* into the wider context.

4.5 Isurium Brigantum

The present-day village of Aldborough (see Figure 4.4) is the site of the Roman settlement of *Isurium Brigantum*. Situated on the south-western side of the River Ure, the northern area of the Roman town encroaches onto the current floodplains of the river. Further development occupies a higher ridge at the southern end of the town. This ridge presents a different landscape form to the adjacent flat floodplains, characterised by rolling countryside over the underlying Sherwood Sandstone geology. To some degree, this topography screens the presence of the town from the south, as its visibility is obscured by the rising landform (note contours in Figure 4.4).

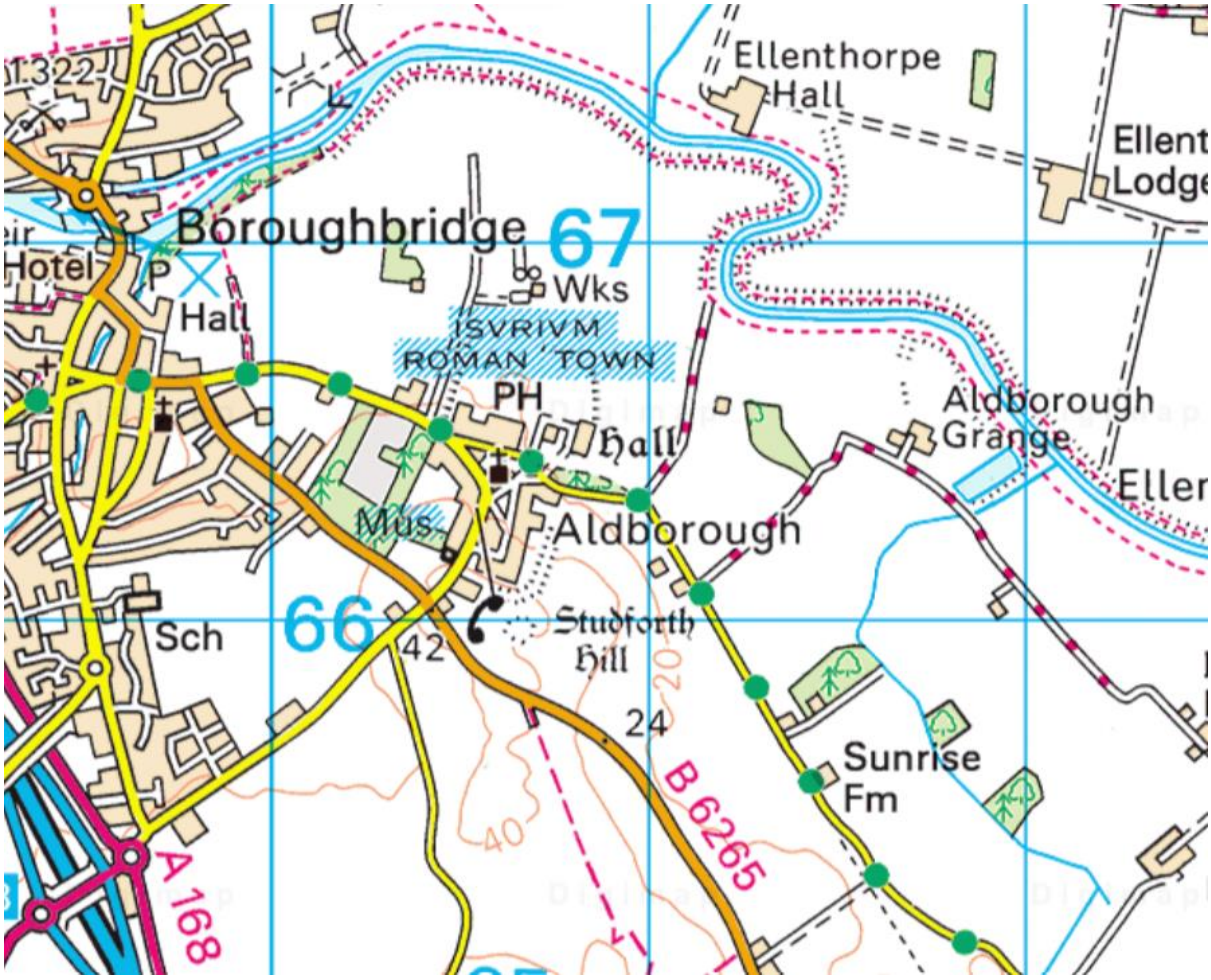

Figure 4.4 Location map (Crown copyright and database rights 2023 Ordnance Survey (AC0000851941)).

This section will consider the history of the site, looking at the situation before its development and considering its growth in relation to social, cultural and economic factors. The role of military influence is considered alongside its development as an economic hub. Its position upon the Roman road Dere Street and its location at the navigable head of the River Ure is considered, as is its development as a civitas and the associated administrative and legislative role which this involved.

4.5.1 History of the Site

The history of Aldborough has been investigated not only through literary publications but also through a series of archaeological excavation works. These have led to an understanding of the patterns of origin for *Isurium* and its role throughout the Roman period. The present village has had little expansion outside the original Roman town plan area, which is unusual compared to many other habited sites. The reason probably lies in the history of ownership of the local estate within which Aldborough lies. In the early 18th century, the Duke of Newcastle purchased the land; the village served as a rotten borough and returned two Members of Parliament. After the changes brought about by the Great Reform Act of 1832 which removed the rotten boroughs, the estate was

bought by the Lawson family, in whose hands it remains. Andrew Lawson was a keen antiquarian who looked to not only investigate the site but also to preserve it. The site is now a Scheduled Monument which precludes further development. The lack of development has certainly preserved remains that may otherwise have been under threat but has also limited the number of excavations that may have been carried out, particularly as a result of developer-funded work ahead of construction. Therefore, archaeological evidence is limited compared to other known *civitas* in Britain (e.g. Silchester, Wroxeter and Cirencester).

Isurium Brigantum is named in the Antonine *Itinerary*, the *Vindolanda* tablets, in Ptolemy's Geography and in the Ravenna Cosmography. References to mileages between it, York (*Eboracum*) and Catterick (*Cataractonium*) leave no doubt that the present-day settlement of Aldborough is the site of *Isurium*. The settlement has long been considered a place of interest. The 14th century cleric and historian Richard of Cirencester recognised it as the chief city of the Brigantes, the antiquarian Leland (1539) considered it a great city and it features in Drake's Eboracum (1736). Turner (1853) describes that the soil within the old walls provided evidence of the previous greatness of the settlement. Camden's (1806) late 16th century observations that the site of *Isurium* was then basically farmland, with hardly any signs of structures or buildings, suggests that finds of pottery, coins and stone artefacts were sufficient to indicate a town of some importance. Horsley's (1732) accounts mention a considerable number of Roman artefacts being present, which supports the view that objects were known and could contribute to an understanding of the settlement. He comments on stones being re-used in buildings and walls. Inscriptions and carvings are noted, and he describes drawing a number of tessellated pavements. It is also evident that artefacts were removed from Aldborough, Horsley himself purchasing several "Aldborough half-pennies".

In 1708 Mr Morris, the Vicar of Aldborough wrote

> "Abundant traces of wealth and luxury, gems of art, fictile ware of that incomparable perfection of which we can shew you not a few exquisite fragments, coins scattered in profusion, as if their owners never knew the value of them, not many older than Claudius, yet some of Augustus Caesar; and some twenty little polished signet-stones of diverse kinds and cuts, with other vestiges of Roman opulence[…]" (Lawson 1864).

Despite this flowing description of the riches present at Aldborough, Lawson, saw fit to comment that the lack of any museum or place of deposit for these valuable artefacts meant that "*Isurium* was rifled and despoiled, and scarce the shadow of its once great name remains" (Lawson 1864, 40). This is a clear indication that many artefacts were being discovered but their removal from Aldborough was damaging the ability to record and understand the nature of the town. What is clear, however, is

that there were many objects that indicated a settlement that operated with a high degree of opulence. Lawson also notes of the number and quality of tessellated pavements, claiming the workmanship to be some of the finest known in Britain. He also points to the destruction of some of them by householders who saw them as more of an encumbrance than of benefit. This, along with those left exposed to the weather and others destroyed through souvenir hunting, goes some way to explain why some of the mosaics no longer exist.

A key figure amongst the 19th century investigators of Aldborough was Henry Ecroyd Smith. A skilled draughtsman, he was also curator of the Liverpool Museum from 1852 until 1870. His book *Reliquiae Isurianae* (1852) is a classic collection of 19th century prints and narrative and includes finely drawn prints of mosaics, plans (Figure 4.5), and excavations that he undertook. The mosaics are a particular feature of Aldborough, Ecroyd Smith notes that nearly 50 had been discovered but that many of them had been lost due to exposure to the elements or the actions of people taking pieces away as souvenirs. The area of Borough Hill in the centre of the settlement had been described by Drake (1736) as having the foundations of a substantial building with regular bases for pillars but it was all "laid open" and therefore vulnerable to decay and depletion.

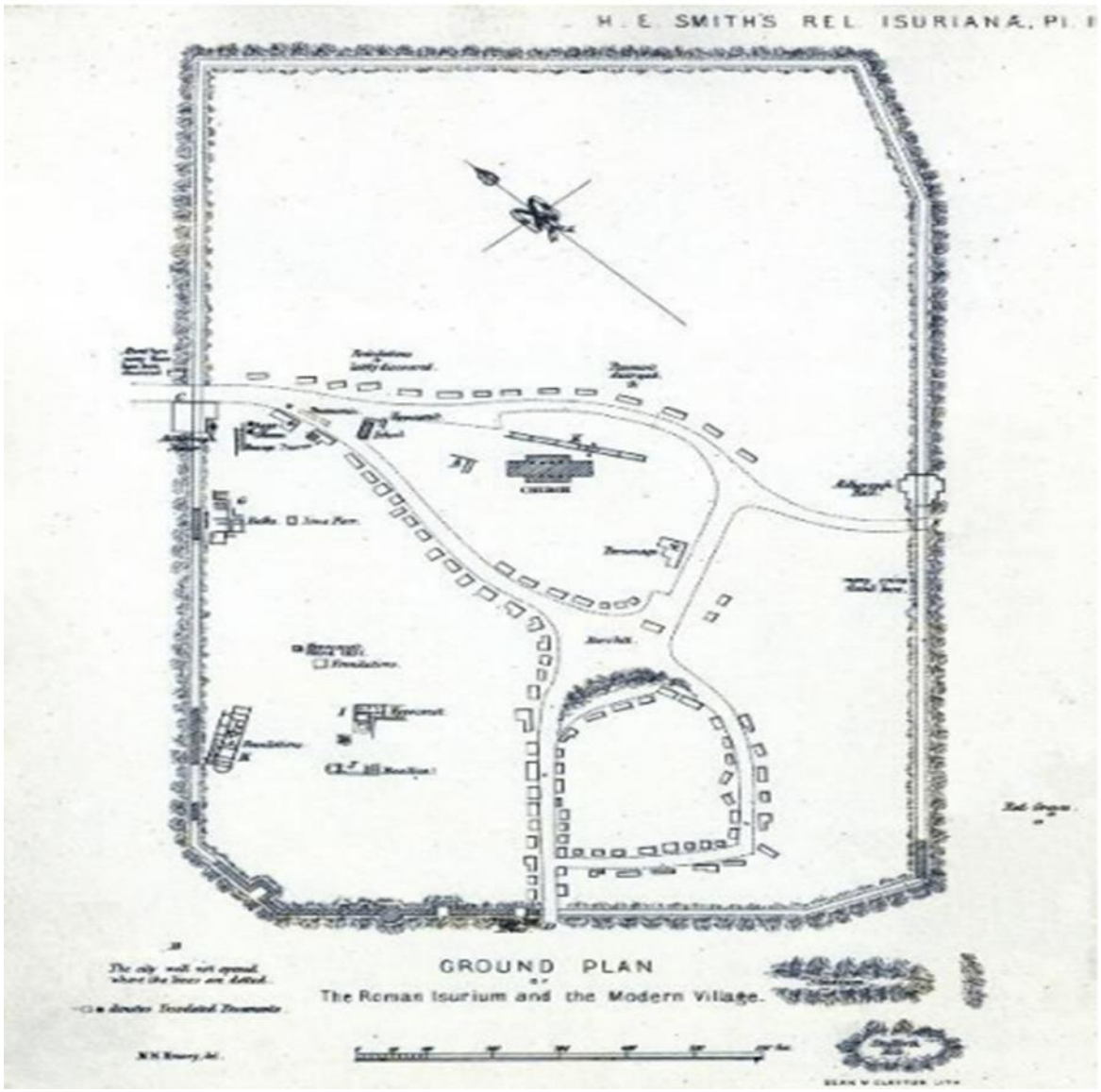

Figure 4.5 Plan of Aldborough (source Ecroyd Smith (1852) in Ferraby and Millet (2020, 20)), showing the main circuit of walls.

Although antiquarian commentary has speculated on *Isurium* having a settlement record prior to the arrival of Roman forces, there is little evidence to support this view. Recovery of artefacts has produced nothing earlier than the Roman period. The Aldborough Museum collection itself, populated by random finds and early excavation material, is notable for its absence of earlier artefacts; Myers *et al.* (1959) note a *Dobunian* coin, which they consider to be a stray and therefore not relevant to the dating of the settlement. Excavations by Barber (1924), Myers and Chitty (1934-50), Steer and Chitty (1937-8), RCHME (1959-60), Charlesworth (1961-73), Jones (1964), and Dobinson (1987) have all failed to produce any pre-Roman dating evidence. While undertaking excavations near the South Gate in 1964, Jones also conducted a watching brief along the route of a new sewer pipe that was being laid from the eastern approaches of the settlement to the treatment works located at the northern side. She observed a trench orientated eastwards from the treatment

works running 120 feet (36m) towards Hall Arm Lane. In places, this trench was up to 10 feet (3m) wide and 11 feet (3.3m) deep. She noted Roman road metalling at a depth of 5 feet (1.5m), signifying considerable overburden, probably caused by flooding of the River Ure. Despite the dimensions of this trench and the large quantity of pottery recovered, she makes no notes of any artefacts of date earlier than the Roman period.

4.5.2 Development of the Settlement

There is a commonly held narrative that the site of *Isurium* was chosen because it was already the location for an established Iron Age Hill Fort and that this would make a good location for a military stronghold (e.g. Wacher 1966, Frere 1967). Part of this narrative was that the local tribal leaders would first be defeated in combat and then subsumed into the military and social structures of the conquering forces. However, as discussed above, there is no evidence, either through direct excavation or analysis of the accumulated finds record, suggesting any degree of Iron Age activity at the site before 43 AD. The latest interpretation of evidence undertaken by Ferraby and Millett (2020, 95-100) gives a concise picture of the foundation of *Isurium* around 70 AD and highlights the lack of pre-Roman activity on the site. Discussion relating to a potential military genesis can also be discounted as a Roman fort was constructed two kilometres to the west at Roecliffe. This was excavated by Bishop (2005) ahead of a scheme to widen the A1 (M) motorway, who dated it to between 71-85 AD. Bishop considered that the cessation of the fort here was a precursor to the establishment of a military centre at *Isurium* but it is more likely that the focus of military activity moved north with the campaign of *Cerialis* during 71-74 AD. This would indicate that *Isurium* was located within a relatively peaceful zone, with its military protection coming from the establishments of both York and those further north from the site.

Ferraby and Millett (2020) provide a chronology for the town's development. The original focus of activity was centred on the level area at the northern end of the settlement with later expansion north towards the river and south onto rising land by the end of the 1st century AD. Numerous coin finds have been studied and provide evidence of occupation from the Flavian period at the end of the 1st century AD. The excavations of 1938 cut through the defences east of the north gate and exposed the footings of a timber building which had wattle and daub walls, covered with painted plaster (Snape *et al.* 2002). The presence of a structure with painted wall plaster is significant in itself, suggesting not only a degree of opulence but also an indication that Roman construction and design characteristics were present at this early date. This also suggests that a network of economic activity was already developing which could support the resources needed for its construction. Pottery evidence dated the structure to around 70 AD and suggested it may have been in use until 130 AD. This dating evidence is in line with a structure found during the 1935 excavations (Myers *et al.* 1959),

which was also a timber building, containing pottery from the Flavian period. The excavations proved that these buildings were on a different alignment to later street grids, showing that they were in use before the construction of the town's defences and potentially before any street planning had been undertaken. Dobinson's investigations (1987) also indicate an early Roman date for activity on the site.

The early settlement was subject to a structured re-organisation which produced a street grid aligned to the orientation of the forum, constructed in the Hadrianic period around 120 AD, a comparable date to many other fora in Britain (Wacher 1966). The forum was a substantial construction and, along with its courtyard, measured c. 72 m east-west by c. 54 m north-south, with ranges of rooms 7 m in width. It is worth noting that the frontage of the forum was aligned east-west in order to present its main façade to the road from the north, indicating a preference for traffic moving to and from the frontier rather than to its west and the route in from York. Excavations at the North Gate demonstrated that this grid plan pre-dated the Town Wall with several road surfaces in place before its construction (Myers *et al.* 1959). This indicates that the early planned town was not initially designed to have a defensive walled circuit. The construction of the wall must, therefore, be linked to a stimulus related to activity later in the 2nd century AD.

The town also has an amphitheatre, which is located on high ground to the south-west of the town. Provisionally dated to the early 2nd century AD (Ferraby and Millett 2020), it pre-dates the construction of the town walls. Although its alignment does not reflect the designed street pattern, this may result from utilising the contemporary landforms rather than a deliberately alternate orientation. In scale, it ranks alongside some of the largest known in Britain. If it is accepted that *Isurium* did not have a military genesis, then the construction of this facility must have been as a result of civic impetus and therefore, its construction may be allied to the town's development as a *civitas*, where the provision of such an amenity was reflective of the power of the emerging administration. The presence of an amphitheatre cannot be underestimated in understanding the growing importance of *Isurium* within the social and economic structures of this location. Its large size demonstrates that it was not constructed solely for the use of the local population (Wilmot 2008). As such, it indicates that it became a destination for people from outside the area and for those who would pass through *Isurium* en-route to other locations. Military units moving to and from the frontier bases would attend events there and it may have provided a focus for social engagement between the local hierarchy and military elites, who used *Isurium* as a base for leisure, entertainment and recuperation. This may also have provided an important income stream for the town. The social organisation of the area would be greatly influenced not only by the presence of the amphitheatre but also by the spectacles which took place there.

4.5.3 The Town Walls

The Town Wall encloses an area measuring 21.6 ha (Figure 4.6) and is mainly rectangular in plan except for a section along the north-eastern side of the settlement where the corner has been built across at a slight angle to the parallel circuit. Four gates provide access through the wall; the North and South gates being placed centrally, whilst the East and West gates are slightly off-centre, possibly to accommodate the existing street grid which is aligned with the forum.

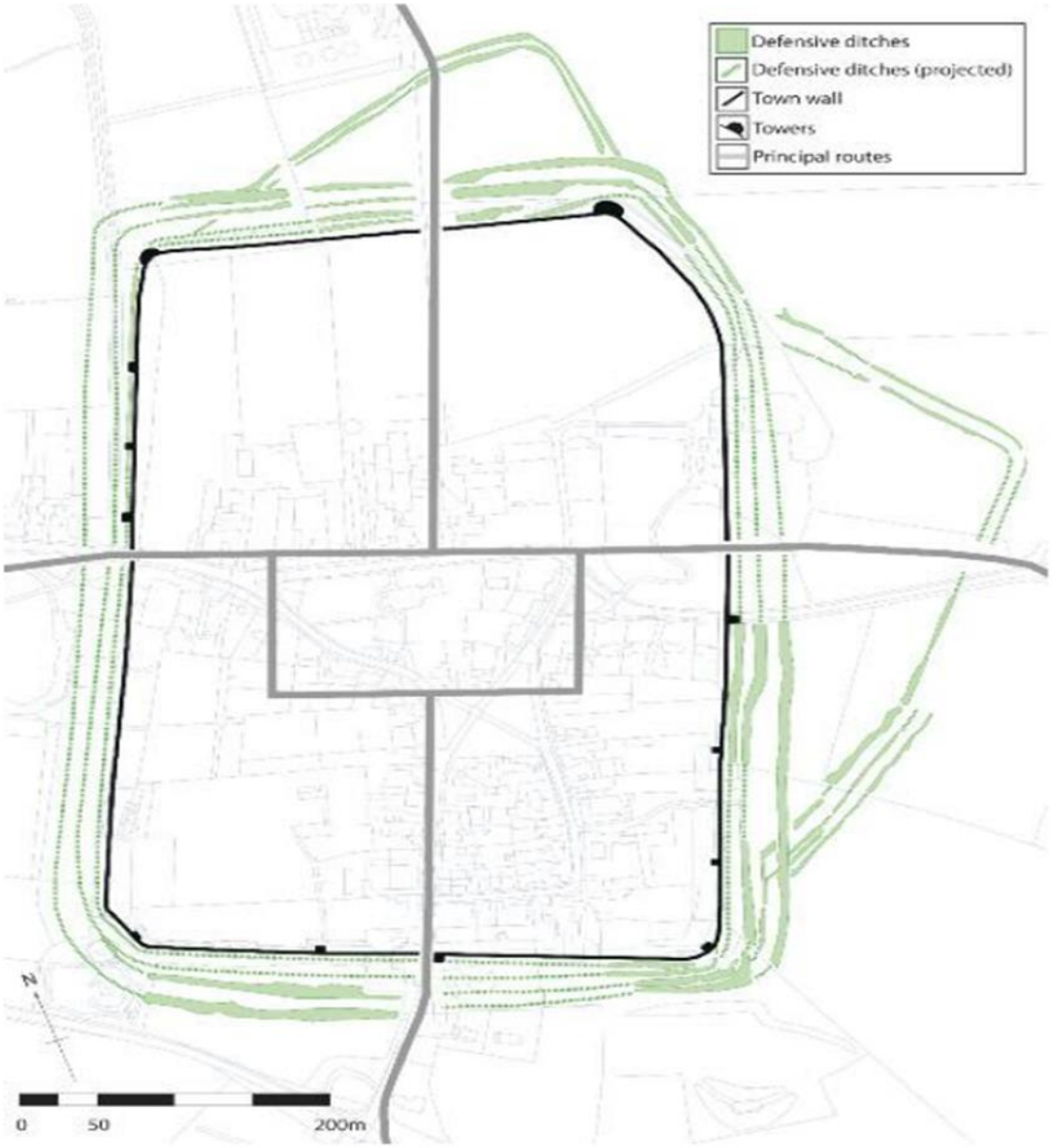

Figure 4.6 Plan showing circuit of Roman defences (source Ferraby and Millett (2020, 109).

The Charlesworth (1970) excavations of 1961-73 concluded that *Isurium* had initially been defended by an earthen bank and ditch, which pre-dated the construction of the stone walls. This seemed to be in line with the views of Wacher (1996) who had identified 13 civitas in Britain that had earthwork defences constructed in the 2nd century AD. However, Snape *et al.* (2002) challenge this and conclude

that the 1934-38 excavations demonstrate that the earth banks, ditch and the stone wall were all constructed simultaneously in the mid to late 2nd century, around 170 AD. This dates the construction of the walls at an earlier date than many other defences around Romano-British towns; Wacher (1974) considers that the 154-55 AD rebellion by Brigantian forces across the north of England may have provided a stimulus for the commencement of construction. The walls were subject to periods of repair and reinforcement including the addition of bastions in the 4th century. These were built over the ditch which had surrounded the walls, with a new ditch being dug further out (Ferraby and Millett 2020). They were not built of the local red sandstone but of yellow sandstone and millstone grit, providing a multi-coloured appearance, possibly designed to make a dramatic statement rather than as a defensive requirement.

There is some question as to the effectiveness of the walls as a defensive circuit, particularly in the southern area of the town. Within the settlement, the landform rises steeply within this southern area to a height considerably above the floodplain levels to the north of the town. This change in landform continues for a short distance outside the walls, before falling away into the undulating landscape to the south. The security of defence from the southern approaches is compromised by this landform, determining that those approaching from this direction could proceed undetected until almost at the town gates. This situation throws doubt on the defensive robustness of the walls and may indicate that they were constructed as a display of civic and social status rather than any attempt to protect the contents and inhabitants of the town (Ferraby and Millett 2020, 111). It is not obvious that there was any direct threat to *Isurium*, as it is located at some distance from the frontier posts and in an area that would appear to be relatively settled. The fact that the town had developed as a centre of administration further indicates that threats to it were minimal, so the walls could be considered as more of a display of civic status than any attempt at defence. Their existence provides evidence that sufficient money had been generated through the town's economic activity to finance such a large-scale project. The bastions added in the 4th century (Ferraby and Millett 2020) further demonstrate the continuing economic strength that enabled these embellishments' funding.

4.5.4 Economic Activity

Isurium developed into a key centre of economic activity but the reasons for its commercial strength remain little understood. Developing as a new town, its location was carefully selected and was important in its establishment as an economic centre. Situated on the banks of the River Ure, it was at the head of navigation on the river and was directly linked to the military centre at York with access to the Humber Estuary and the North Sea. It was also on the main overland route north, with an existing road connection to the fort at Roecliffe. This strategic position, along with the activity associated with military campaigns in northern Britain, provided the foundations for the early

economic growth which followed. It is likely that the military influence was at its strongest during these early years of the campaign; existing local trade networks were based around numerous small scale and fragmented production centres which did not require a complicated distribution network.

Wacher (1974) attributes a period of growth to a stimulus during the Hadrianic period in the early to mid-2nd century AD. The construction of Hadrian's Wall required increased troop numbers in the northern region, which would only be possible if civilian administration could securely replace military governance in other areas. This would require those areas to be politically stable; this stability would provide the environment within which *Isurium* could continue to flourish. The only evidence of insurrection in this area was the *Brigantium* revolt around 155 AD, noted above, which was rapidly quashed by the forces of the Sixth Legion Victrix and the Twelfth Legion Valeria (Davies 2016).

Its position at a significant intersection between the main north-south road and the road from the Pennines to the west was also a critical influence. Its location at the navigable head of the River Ure determined that it had easy access to river transportation to York. Association with the military may have acted as a driver for growth during its early development, but as communication links matured, the military influence would become less important as much of the military supply chain was organised around ad-hoc arrangements, rather than defined military infrastructure (Millett 1990, Thomas and Stallibrass 2008). This policy required flexibility within the supply chain, and water-borne routes were a key element of this provision network. This relied heavily on river and sea routes, as evidenced by many military sites being located on navigable rivers. The riverine network for *Isurium* was focussed downstream to the south and would include York as a major destination. Navigation below York into the Humber would allow access to sea routes which would provide support for production and distribution networks originating in *Isurium* but the degree to which bulky goods would be transported along this route and then north via sea vessels to the frontier posts is not known.

A further stimulus to growth came from the development during the Flavian period of lead and silver mining (Tylecote 2009, Whittick 2014) in the Pennines to the west. Manufacturing processes relating to lead and silver are known in *Isurium* (Ferraby and Millett 2020). These heavy materials could be transported downstream from the production sites. The same situation applies to bulky materials sourced from local agricultural production. Grain could be loaded and transported from the wharves which are thought to have existed at the settlement. Ferraby and Millett's (2020) identification of two large storage warehouses in the northern quarter of the town, supports the view that *Isurium* played an important role as an economic centre of production and distribution. A focus on moving

goods south did not preclude an association with military activity but the communication links north to the frontier areas, were dependent upon the road network rather than water-based routes.

In addition to manufacturing, storage and distribution, there would also be a service economy which provided not only for the military forces as they passed through the town but also for the administrative functions which were also developing, particularly its role as a *civitas*.

4.5.5 The *Civitas*

The development of the *civitas* in Britain as a focal point for local administration, can often be identified through the incorporation of the existing tribal elites into the social and economic hierarchy of the Roman state (Frere 1967, Whitwell 1982, Mattingly 2006). This enabled them to continue their positions of authority, maintaining the ability to accrue wealth and disseminate power, but they also had to ensure compliance with the aims of the new administration. As an offset to their income-earning position, the paternalistic system of patronage, to which the elites adhered, ensured that the new *civitas* could benefit from the construction of public buildings, required to reinforce the authority of Rome (Hingley 1989, Creighton 2006).

The political imagery of public buildings made statements not only of power and control but also reinforced social order within the empire; statues of emperors and patrons, senators and magistrates, were a powerful reminder of the structure of a society within the ranks of the elite. Whittaker describes this as "[…] a cultural instrument of imperialism […]" (Whittaker 1997, 147) which also sought to integrate the lower orders. The use of the existing elite allowed Rome to simultaneously maintain the power and influence of the native aristocracy whilst also enabling the collection of taxes and the dissemination of its social and economic ambitions. For the elite, their reliance on Rome to maintain their own social positions ensured that taxes and tribute were effectively collected.

In the south of Britain, the population was accustomed to trade with the continent and therefore possessed an element of pre-conditioning of Rome's administrative systems. Hingley (1997) has described how Iron Age centres, particularly *oppida*, were frequently used as the site for the new *civitas*. The utilisation of developing social and economic structures within the tribal elite could be moulded to suit Roman aspirations but the new administration imposed a social control which did not exist within the pre-Roman environment. Millett (2001) has discussed the evidence for the spread of the *civitas* in the south and east of Britain (e.g. Silchester) but notes the lack of evidence to understand sites in the north, closer to the areas of the frontier. The development of *Isurium* is thus crucially important in understanding the social and economic dynamics prevalent as the occupying forces gained control of this area. The incorporation of tribal elites into the administrative process

allowed for the development of a degree of self-governance. However, where many sites in the south had a focus for this change in the form of *oppida, Isurium* was conceived as a site without a previous record of occupation. As a new settlement, the inhabitants would probably be drawn from the local communities of the Brigantes, both for administrative and service roles, alongside those who were relocated from existing elements of the Roman administration. The settlement contained several prestigious townhouses and had an exceptional collection of mosaics (Ferraby and Millett 2020). This opulence may owe its existence to the nature of the elite who lived here and benefitted from the settlement's role as an important *civitas*.

The earliest documentary evidence that *Isurium* had developed as a *civitas* can be taken from the Antonine Itinerary. In *Iter V* it appears as *IsuBrigantum*, a corruption of *Isurium Brigantum*, indicating that it was the capital of the Brigantes, the Iron Age tribal conglomerate who controlled the northern regions of Britain. Beyond this the direct evidence is limited. It is, therefore, the interpretation of the circumstantial evidence which leads to confirmation that the settlement did function as a *civitas*. Primary amongst this is the presence of a number of public buildings which would serve functions associated with administrative and legislative roles. As an administrative centre, *civitas* required public buildings (Jones 2004). At *Isurium,* these included the forum, a public square and meeting place, the basilica, town hall and law courts, public baths, temples and an amphitheatre (Ferraby and Millett 2020). Excavations at Aldborough have confirmed the presence of the forum and basilica as well as public baths and the amphitheatre, which validates the references in the Antonine Itinerary. Many of these facilities were in place by the early 2nd century AD, so perhaps fifty years had passed from the inception of *Isurium* to the time of construction of these facilities. During this early period, the influence of the military campaign would be important for economic growth but as a stable environment was created, then other drivers would be required to deliver prosperity for the town.

That *Isurium* was not dependent purely upon military demands challenges a conventional view that its growth was wholly related to military relationships. Its location at a key interface between both road and river networks determined that commercial activities would play an important role in developing its economic strength. How these were both generated and supported by activities within its hinterland is key to understanding the town's relationship to its surrounding countryside.

4.5.6 Interactions with the wider landscape

For *Isurium*, there is presently a lacuna in the knowledge of how the settlement interacted with its wider landscape; was it a major driver of activity, did it exploit the resources or was there a symbiotic relationship which benefitted both parties? A key component of this thesis is to investigate whether the organisation and use of the hinterland were influenced by the presence of the *civitas* and the

administration that existed there. Several theories exist that attempt to understand the cities' relationships with their hinterlands, particularly in economic terms. Whittaker (2005) covers four of these. Weber's "Consumer City" model considers whether the city is supported by the urban elite and their management of the resources of the countryside, where land, rents and goods provide the financial impetus for the city. Engels proposed a "Service City" model, which proposed that a hinterland could not provide sufficient financial or production capacity to sustain a city and, therefore, a degree of manufacturing and trade was required for economic growth. Leveau proposed an "Organiser City" whereby the Romanisation of the provinces was characterised by the development of the *civitates* which were responsible for an exploitation of the rural areas through the development of a villa economy and farmed estates. In this way, agricultural surpluses were extracted from the land with the income being held solely within the rural elite.

A fourth model, the "Processor City" has also been explored. In this instance, the city acts as a processor of goods sourced from the rural hinterland and urban manufacturers add value to the products and return income back to the rural producers. These theories have been challenged, as summarised by Roskams (*pers comm*), with a recognition that theoretical models do not necessarily exist within their own vacuum. There is a move away from the Consumer City models to a recognition that a diversity of responses, encompassing many facets of economic supply and demand factors, were likely regarding relationships between urban centres and the hinterland (*ibid).* Whilst these theories explore the interactions of larger population centres present within cities, they do have relevance for understanding the situation at *Isurium*. The question of did the *civitas* work with its hinterland or exploit it for its own benefit is crucial in understanding the dynamics of its relationship with the countryside. The population of *Isurium* could be physically sustained by food produced within its hinterland, even if that population varied in size in response to military movements along Dere Street. For any surplus that existed, the riverside location would allow for efficient distribution of bulky goods downstream, and so it must be considered that this formed part of the function of the town. Whether this trade also returned income to the rural areas is unknown. If a villa economy existed in this area, which operated its own sale and distribution network, then surplus agricultural production could by-pass the town structure completely. As noted above, the work of Ferraby and Millett (2020) has provided evidence of manufacturing and production taking place within *Isurium*, particularly in the northern areas of the town. This demonstrates that the economy here did not depend purely on the agricultural hinterland and that it also functioned as a processing centre. The discovery of buildings suitable as warehouses indicate distribution activities were present on site. A service function can also be included into the role of the town, with facilities utilised by those moving overland via Dere Street.

The mixture of activities present within the town would indicate that it did not fit into any singular economic model but instead performed a number of functions, potentially at different times during the Roman period. It is crucial, therefore, to understand what direct influences, if any, the *civitas* had upon its hinterland and, of course, if there is evidence that the demands or requirements of those inhabiting the rural areas influenced activity within the *civitas*. Of particular interest to this research, is did it encourage the control and management of the surrounding countryside through the presence of villas and farmsteads or were such activities run centrally by the urban elites?

4.6 Conclusions

This chapter has sought to address whether the expansion of the Roman Empire brought changes to provincial landscape organisation and use, which can be attributed directly to the influence or directives of the Roman administration. Examples from mainland European provinces have indicated that change can be identified in certain areas but also that transformations were not universally imposed (Bonnie 2009, Verhagen 2023, Casarotto *et al.* 2016). Evidence from Roman Britain has been considered (Frere 1967, Taylor 2013, Allen 2016) as a prelude to a focus on Roman Yorkshire and the settlement of *Isurium.*

Traditional views of the acculturation of the population of mainland Europe and Britain within the Roman Empire have been challenged, and there is a recognition that native characteristics frequently persisted amongst a duality of identity, with different cohorts within the population reacting differently to changing stimuli, providing a mosaic of identity within the provinces which evolved over time (Frere 1967, Ottaway 2013). The organisation and use of the landscape are critical components in understanding the impacts of the Roman administration. The structural identity of Late Iron Age Britain was one of a dispersed but organised character, with settlements and enclosures a predominant feature (Ottaway 2013). Studies of the southern areas of Britain indicate that these areas had been exposed to pre-conquest influence, which changed the shape of settlements (Allen 2016) with rapid expansion followed by decline in the early 2nd century AD in the southeast. Areas to the south-west were slower to respond but their decline was also delayed into the later 3rd century AD. The northern regions saw an increase in rural settlement and rural sites, particularly a number in the Vale of York, persisted well into the 4th century AD (Allen 2016).

Although the landscape in Yorkshire was changing, native practices continued, demonstrated by sites at Hayton and Shiptonthorpe, where pottery assemblages reflected Iron Age typology even where new road networks were stimulating the development of new settlements (Millett 2015).

Agricultural production strategies appear to have changed little within the early transitional phases of the Roman period indicating that the new administration did not seek major changes to practices

within this period. However, later changes to agricultural processing techniques can be identified with an increase in corn dryers and milling facilities. These were followed by reorganisation of landscape boundaries later in the Roman period (Millett 2015, Roskams and Neal 2020). At Heslington, one of the few detailed studies of rural Roman Yorkshire, production of agricultural goods was evidently part of a system of mixed farming which was carried out from the Iron Age onwards (Roskams and Neal 2020). Livestock were integral to the pastoral systems of farming, with a distinct transition from sheep to cattle during the Roman period. Here, there is no definitive evidence of planned agricultural improvement driven by a centralised authority, and only a gradual movement from hulled barley to wheats and oats during the Roman period, albeit accompanied by improvements to the processing techniques for cereals via crop drying and milling facilities. Only from the 3rd century AD is there evidence for wider landscape change as simple enclosures were replaced by increasingly complex and sub-divided boundaries, with orientations aligned to a developing road network.

Evidence for a decrease in diet quality amongst the rural population indicates that increasing demand for food from urban and military populations had a detrimental impact on the health of rural populations (Rohnbonger 2018, Redfearn *et al.* 2012).

The settlement of *Isurium Brigantum*, founded around 70 AD, provides an opportunity for understanding the development of the landscape within its hinterland and the wider impact of the Roman occupation of northern England. This settlement developed into a thriving *civitas*, responsible for much of northern England and a population reaching 3000-4000 at its peak (Ferraby and Millet 2020). The original settlement was subject to a structured re-organisation that produced a street grid aligned to the orientation of the forum, constructed in the Hadrianic period around 120 AD, similar in age to many other fora in Britain. Located at the navigable head of the River Ure, Aldborough contained features common to other *civitas*, including a basilica, public baths, an amphitheatre (established in the 1st-2nd century AD), extensive town defences (largely as a show of force rather than for defence *per se*), a significant number of large townhouses (and associated mosaics), as well as evidence for manufacturing and production (Ferraby and Millet 2020). The mixture of activities present within the town would indicate that it did not fit into any singular economic model for the *civitas* (as discussed by Whittaker (2005)), but instead performed a number of functions during its development.

Although more is now known of the layout and aspects of the function of Aldborough, following the extensive surveys of Ferraby and Millet (2020), almost nothing is known of its impact on the wider agricultural landscape. To what extent its development initiated a period of landscape

transformation within its hinterland is unclear. For some sites in Yorkshire, as discussed above, a gradual adaptation and assimilation of Roman culture and practices replaced some Iron Age activities. For the hinterland of Aldborough, detailed field investigation is required to identify signs of change and the potential drivers of a new dynamic.

5 Methodology

5.1 Introduction

This chapter sets out the methods and conceptual approaches used to address the key thesis objectives.

The area of Roman Yorkshire (Chapter 2) is rich in archaeological sites, ranging in size from very discrete and isolated locations through to larger settlements, including urban and military sites (Allen *et al.* 2015). There is, however, a lacuna in terms of research regarding our current understanding of the rural landscape and its relationship with archaeological sites, including settlement and communication networks. This situation is even more marked when considering the impact of an established *civitas* upon its rural hinterland where, like elsewhere in Britain, very limited research has been undertaken which addresses this question.

The overarching question that this research seeks to address is how the presence of a *civitas,* its administration and associated communication networks, influence activities within its rural hinterland. To address this question, the research focusses on a detailed investigation of the preserved activities contained within the archaeological record of the site at Hundayfield Farm, located 3 km south-east of *Isurium.*

5.2 The Micro-historical Framework

There have been several attempts to examine, at both regional and national levels, the impact of the Roman administration upon rural Britain (Chapter 2). These have provided valuable insights into how rural landscapes, and the communities engaged there, changed during this period. These regional studies have highlighted a lack of detailed local investigations at a high-resolution scale. Consequently, the attribution of causal relationships between the dynamics of urban and rural drivers of scale, have not been adequately interpreted.

In contrast to this regional synthesis, the overarching discipline which sets the methodological strategy for this research relies on the theoretical disciplines of a micro-historical framework, which itself leads to a micro-archaeological approach to site specific field investigation. This forms an alternative approach to the frequently used “global” analytical frameworks which are found within both historical (Stearns 2019) and archaeological (Orser 2017) research and which are closest in approach to the regional perspective above.

Global perspectives and the deluge of data which is associated with it, has witnessed a rising presence within archaeological research (Riva and Mira 2022). The “Big Data” revolution, augmented

in the UK through a proliferation of data resulting from developer-led archaeology, has influenced global perspectives in archaeology, where the analysis of large data sets encourages a macro scale interpretation of events. This often means that the small-scale intricacies of human interactions, which are often crucial in determining decision and response processes, can be obscured by the focus of a uniform approach driven by macro dynamics.

Some of the earliest evidence for a micro-historical approach has been recognised by Ginzburg *et al*. (1993) in George Stewart's book "Pickett's Charge: A microhistory of the Final Charge at Gettysburg, July 3, 1863". This event only lasted for around 20 minutes, but Stewart's analysis runs to over three hundred pages. This demonstrated the resolution required for a micro approach, where the identification of events and the contexts within which they occurred, provide for the interpretation of those events within the wider environment. This forensic approach demonstrated the value of micro analysis, where the identification of events and the contexts within which they occurred prove critical to their understanding.

People lie at the heart of archaeological study and Ginzburg *et al.* (1993) contend that the larger the scale of analysis, the further away are the nuances of human agency within the interpretive processes. In contrast, the micro-historical approach provides a high-resolution lens of scrutiny, allowing for an examination of events within small-scale geographical and chronological frameworks. Analysing human agency at the micro level not only provides for this analysis but also "preserves the agency of ordinary people" (Gregory 1999). The study of ordinary people's existence and how they respond to changing events, particularly at a local level, provides information on social dynamics at this scale. Understanding how these events fit with wider scale dynamics, in particular the impact of the Roman administration at *Isurium* and its environs, is an important component of this research.

From a global perspective, events at a macro level are thought to be the main drivers of change which influence actions and decision making down to the smallest level. Micro-history seeks to challenge this whilst providing a complimentary approach (Riva and Mira 2022). Events at a local, small-scale level are not always driven by global forces (Ghobrial 2019), yet they can be the catalyst for change. Community interactions and social protocols can be the more significant drivers of actions within communities than larger scale drivers of change.

Ginzburg's (1993) analysis of the genesis of microhistory centres on principles of scale and involves the identification, in part, of human agency at local levels and the interpretation of how these interactions form a basis for placing human actions in both their immediate context and how these extrapolate to our understanding of wider scale events. This can provide the opportunity to reconstruct events and relationships in a way which a macro approach could not. De Vries (2019)

takes Levi's (1991) position that this micro analysis can reveal relationships and factors which would otherwise be left unobserved, meaning that this scale of observation is critical to our understanding of past events.

The micro-historical approach can be applied to a micro-archaeological analysis, where the results of site analysis can inform how people lived and worked in response to multi scale factors. For example, archaeological evidence can provide information on how social groupings and communities functioned in response to both internal and external forces (Cornell and Fahlander 2002).

The rural site at the centre of this research provides the opportunity for a micro-analysis of events within this area during the Roman period. Evidence gathered through field survey and excavation will provide for an understanding of the relationships present on site and to set them within the wider locality of the *civitas* at *Isurium*. Relationships with the important centre of *Isurium* and the local road network will be explored. Further, the approach seeks to provide evidence for how these local and regional networks inter-reacted with national events and the impetus derived from the arrival of Roman forces and the subsequent laying down of Roman infrastructure; physical, social, legislative and economic.

This approach provides scope for understanding multiple perspectives upon human agency by providing different scales of observation. For example, the analysis of elements relating to material culture can indicate how this site changed, not only in response to the availability of Roman inspired products but also the degree to which the inhabitants chose to utilise them. The micro-archaeological approach will inform understanding of activities and relationships and allow for an interpretation of how the site reacted to both internal and external stimuli.

5.3 Survey Area

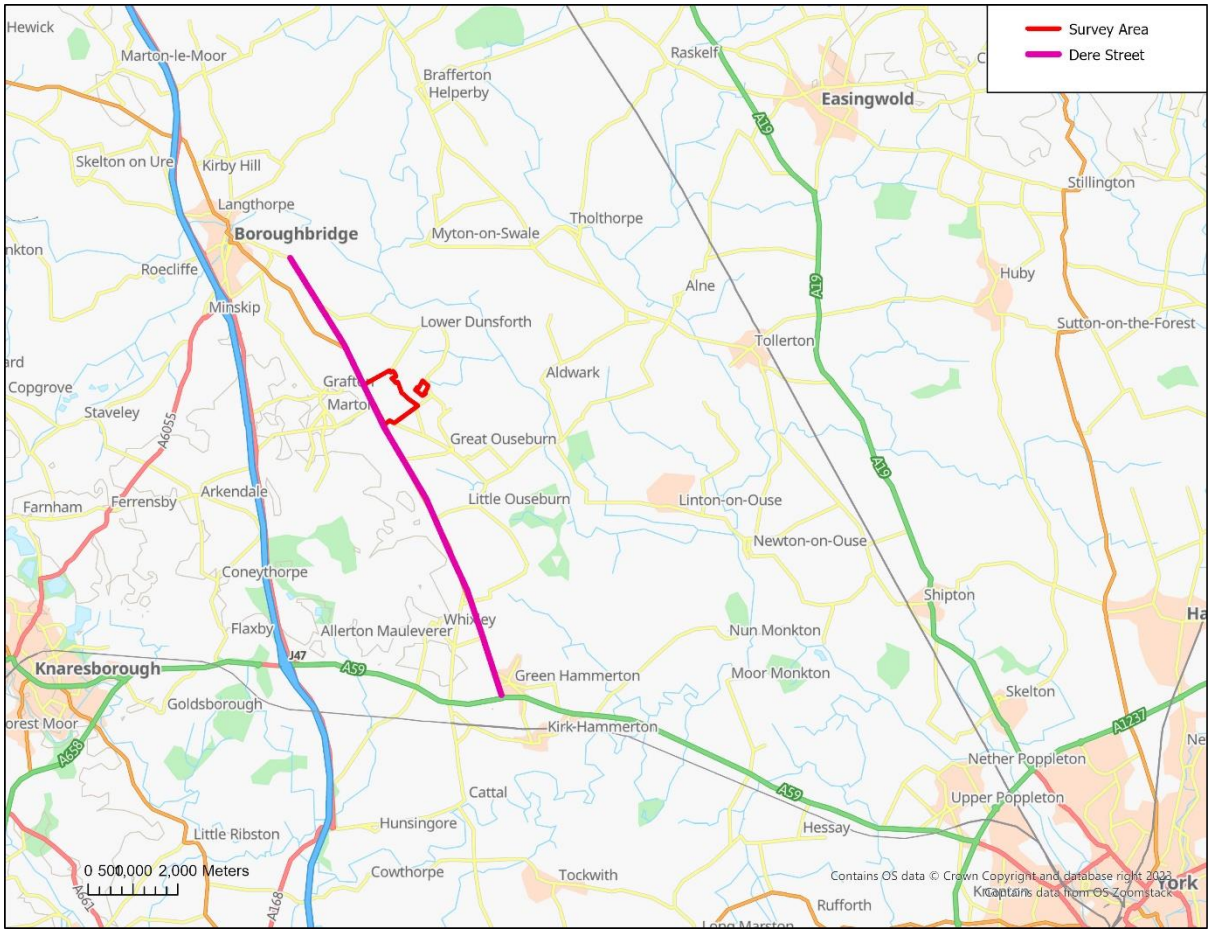

Figure 5.1 Survey area outlined in red and Dere Street adjoining the western edge of the survey area (OS Map Crown copyright).

The geographical focus for this `research investigates the organisation of a landscape area sitting on the western edges of the Vale of York. This is a rural area which has not been subject to modern development and therefore archaeological investigations have been very limited and sporadic. The research seeks to determine whether pre–Roman land use can be identified and to investigate whether any changes to organisation and use could be determined.

A number of methodological strategies were investigated in order to determine their effectiveness and suitability to provide information relating to human activity. In particular, it is important to determine the underlying geological signature of the area (Chapter2). Geological formations and influences on the hydrological signature of the site are important components in understanding availability of water supplies for human activities. These may be factors which contribute to spatial distributions of activity and land use. It was also important to determine whether different parts of the study site developed at different times and various methodologies were considered which could contribute to this analysis.

The size of the survey area dictates that strategies suitable for wider landscape study need to be considered in terms of their suitability for data collection and interpretation. Lower intensity strategies can be useful to develop an overview, with higher resolution techniques utilised for intensive analysis at, for example, the scale of an individual ditch.

The limits of the study area are determined by several physical and human factors. The western limit is defined by the location of the Roman road, Dere Street, which forms a point of connectivity between the survey area and the wider landscape. As such, it allows for identification of linkages between the road and the survey area and for an analysis of whether access routes, trackways and boundary divisions are associated with the road network.

The northern, eastern and southern boundaries are determined by two principal factors. First, the results from an initial magnetometry survey indicated that archaeological evidence of landscape use was present over an extensive area. The survey was progressively expanded to identify the limits of these interactions. The second determining factor was the ownership of the land; the survey indicated that the archaeological evidence was concentrated within the main holding of Hundayfield Farm, forming a definitive boundary to the study area. Most of the archaeological evidence is contained within a north-south axis, concentrated within the survey area. There is very little evidence presently to suggest activity continued in adjacent areas to the west of the main site.

The Historic England (2015) updated revision of MORPHE guidelines for research projects formed the basis of the investigative strategy, alongside the assessment of techniques and technologies which were considered to demonstrate potential as part of the methodological process.

5.4 Research Methodologies

5.4.1 Archives and Records

The Historic Environment Record (HER) for North Yorkshire is curated by the regional County Council and is held at the County offices, Northallerton. It is available to access both digitally and in person and has provided valuable information relating to the study for this area. The Historic Environment Gateway has been utilised to acquire a digital record, suitable for analysis and recording within the ArcGIS software platform.

The HER provides information on the spatial incidence and chronological record for the Iron Age and Romano-British periods. As noted in Chapter 4, very few archaeological features are recorded adjacent to the specific survey area. The most significant being the presence of the possible Iron Age Hill Fort at Grafton and the presumed prehistoric barrow of Duiel Cross. A Roman lead-lined coffin,

excavated by the Yorkshire Archaeological Trust in 2007 (Antoni 2008) and a Roman Milestone are recorded from within the survey site.

The HER provides an extensive data base but it is collated at varying resolutions, which can cause difficulties. For example, many dates relating to the Romano-British period are recorded as 43-410 AD with no specific chronology attached to various finds from within this broad time window. This makes it difficult when comparing the dates of different sites or evidence of material culture. The recorded locations of various find spots is also variable, with inaccuracies relating to poorly georeferenced coordinates. This can cause problems within GIS platforms, where viewshed analysis, for example, may be compromised by misplaced location identifiers.

The Roman Rural Settlement Project (RRSP) provides an invaluable data source. It holds records from 3600 rural sites across Roman Britain, including c. 2500 individual rural settlements and also contains environmental and burial data. Much of the data is derived from "grey literature" reports including developer funded material from excavations carried out since 1990. Three volumes have been published as Britannia Monographs and a comprehensive digital archive is held by the Archaeological Data Service (ADS) and is freely available.

The Portable Antiquities Scheme (PAS) is run by the British Museum and aims to encourage the recording of objects found by the general public. Many of these come from metal detecting activities but also includes random finds from people out walking or digging their gardens. It seeks to encourage reporting of finds to develop a record of archaeological activity which may otherwise be lost. Over 1.5 million objects are recorded within its database which is an open access resource, including online search capability.

The *civitas* settlement of *Isurium Brigantum* is a Scheduled Ancient Monument. As such, a specific archive exists relating to its archaeological record. Excavations which have been carried out add to the written record as do specific literary contributions. Ecroyd Smith (1852) and Ferraby and Millett (2020) are both invaluable resources (Chapter 4).

5.4.2 Remote Sensing Technologies

Remote Sensing Technologies have a long association with archaeological survey applications. From the early use of studying aerial photographs in the 1920's (Orlando and Villa 2011), the technologies have developed to include satellite imagery and high-resolution photographic data capture. Surface based techniques include Fluxgate Magnetometry, Electrical Resistance, Ground Penetrating Radar and Electro-Magnetic Induction Survey. All these approaches involve non-invasive techniques and allow for analysis and interpretation of known and potential archaeological sites without physical

intervention. The following section looks at these technologies initially in the order of decreasing altitude of data capture and then in terms of suitability for ground-based survey and effectiveness relating to the study site.

5.4.3 Satellite Imagery

Satellite data is a freely available resource. Google Earth (GE) has become a primary source for accessing these data with images available from an increasing number of data collection flights (earth.google.com/web/). It uses composite imagery formed from satellite and aerial imagery to produce an interactive map of the earth, most of it available at 0.7m resolution. This has enabled analysis of different images over different years and changing seasons.

Satellite imagery captures multi-spectral data, which when processed allows for identification and interpretation of features with archaeological potential (Wiseman 2007, Parcak 2009). Vegetation emits a varying degree of colour frequency signals, depending on time of year, growth stages, moisture conditions *etc.* Variations in colour are recognised through the Nominal Difference Vegetative Index (NDVI) spectrum and are processed through computer algorithms. As climatic conditions change and vegetation reacts to these changes, new archaeological features are being recognised within the wider landscape. Analysis of GE data forms a complimentary data source along with Lidar (see below), both enabling the study of large areas of landscapes and the identification of potential archaeological features. The availability of high-resolution satellite imagery provides significant advantages for rapid analysis of landscapes and the ease of access means that it has rapidly become an indispensable and powerful tool in Archaeological and Cultural Heritage studies. GE also accepts files from other data sources and the geophysical survey information from the Hundayfield Farm site has been uploaded onto the platform.

Given favourable conditions, GE has the potential to be a very powerful tool for landscape analysis. However, in terms of the visibility of buried archaeological features, other factors are necessary for it to be effective, particularly moisture levels and appropriate vegetative growth stages. If these factors cause either differential growth or variation in colour, and an area is subject to a data collection flight at the same time, then buried features may be visible in the processed image. The discovery of many new sites during the drought year 2018 led to many new discoveries across Britain (Historic England 2018b).

5.4.4 Airborne Laser Scanning (ALS)/Light Detection and Radar (Lidar)

The terms ALS and Lidar can be used interchangeably to describe "[…] any technology which accurately and repeatedly measures distance, based on a precise measurement of time, and aggregates these measurements into a collection of coordinates" (Opitz 2013,13). The earliest

systems were developed by NASA in the late 1970's and by the mid 1990's the technologies involved, particularly georeferencing and processing software, were sufficiently accurate and robust that its use became widespread across both the research and commercial sectors. It is now considered as one of the most important advances in remote sensing techniques, particularly in terms of the availability and accuracy of the data. Two types of models can be produced. Digital Elevation Models (DEM) provided a 3D model of all the objects within the survey area. Digital Terrain Models (DTM) remove surface objects from the scan, leaving only the land surface. DTMs are most used when assessing a survey area for sub-surface archaeology or where human landform modification has taken place.

In the UK, the Environment Agency (EA) have utilised Lidar to develop mapping for flood risk zones and this data is now freely available to the public. The data is presented in resolutions of 1m and 2m and provides an entry point for landscape analysis where variations in landform can be discriminated against at this resolution. Through the National LIDAR Programme, the EA aims to provide accurate data at 1m resolution for the whole of England by 2021. Data is also now available through an Open Government licence on the Department for Environment, Food and Rural Affairs (DEFRA).

Historic England (HE) have also adopted Lidar as a data source and have moved towards open access in line with the EA. HE increasingly utilise Lidar to improve understanding of the cultural history of large areas, focusing in particular on the visibility of human impact upon the landscape. The ability to identify both continuity of land use and change plays an important role in understanding human relationships with the landscape. The scope of data acquisition possible through the utilisation of Lidar, from identification of surface structures to buried archaeology, and the ability to present this information spatially has led to widespread adoption by the archaeological community (e.g. Crutchley 2010, Chase 2017).

Lidar data can be particularly useful for landscape studies as it allows for identification of patterns and relationships over wide areas. Presently, the resolution of the data limits it to broader analysis. Higher resolution data is available, but this is only through commercial agreements, which often prove prohibitively expensive for smaller landscape studies. However, alternatives are available, particularly the use of Unmanned Aerial Vehicles (UAV) which carry elevation capture technology.

5.4.5 Aerial Photography

Aerial photography has been a resource for identifying potential archaeology (Renfrew and Bahn 2020, 91). A large archive of imagery was commissioned during World War Two, which has subsequently been used for this purpose. This has been added to by dedicated programme of research, notably by the Cambridge University Collection of Aerial Photography (CUCAP) and by

Historic England as both a commissioner of surveys and a depository for records. Formerly known as the National Mapping Programme, the Historic England Investigation and Mapping Department now manage this valuable resource. Records are also deposited with local authorities who manage the Historic Environment Record.

Aerial photography is an invaluable tool for identifying areas of archaeological potential (Bewley 2003). Arable and grassland cropping can respond to variable sub-surface ground conditions and variations in growth and nutrition can be visible within crops at certain periods of the growth cycle. Most frequently expressed during the drier summer months, differential crop heights and colour variations may be visible when photographed from the air. The aerial photography library for the survey area is held at the County Record Office and has been studied but the vertical and oblique images available for Hundayfield Farm provided little useful data. Limited features of archaeological potential have been recorded for this site through HE's National Mapping Programme (see Kershaw 2001).

5.4.6 Unmanned Aerial Vehicle (Drone Imagery)

Unmanned Aerial Vehicles (UAV) are defined as any type of aircraft that is flown without an onboard pilot (Campana 2017). Common forms are the fixed wing or rotary configurations. Within the field of archaeology, the rotary predominates and is commonly referred to as a drone. The drone can be fitted with various types of cameras, providing for simple photographic records through to advanced systems capable of multi-spectral imagery and Lidar capabilities. Two types of sensors are commonly used for archaeological survey depending upon the format of the data required. Passive sensors are used in digital cameras and gather data within the visible portion of the electromagnetic spectrum. These are suitable for producing elevation models and 3D photogrammetry (Marin-Buzon *et al.* 2021). Depending on specification, they can also be used to collect data which can be processed through thermal and Near Ifra-Red (NIR) frequencies. Active sensors have Lidar capabilities and can be used for extensive landscape surveys. Drone technology has obvious advantages because of the speed and simplicity of its landscape survey capabilities, and it is becoming increasingly utilised for intensive modelling and recording of archaeological sites. Camera technology now provides for high resolution data capture of archaeological features which can be processed through interactive 3D modelling software, allowing for both recording and analysis of sites. The built heritage environment can also be recorded utilising this technology.

Drone data capture has been utilised over the survey area as part of this research with a degree of success. For example, photographic images have provided evidence of a potential archaeological feature causing differential growth within a crop of wheat (Figure 5.2). A large circular feature is

visible in the centre of the image, measuring 50 m in diameter. This visual response is as a result of differential crop growth due to nutrient or water stress and is an indicator of the potential archaeology below the surface. In the field at the top of the image a linear feature is present. This is an old hedge line boundary. The image contained at Figure 5.3 is taken at a similar time of year but has been processed through a NIR filter. This processing has also picked up the circular feature, but it is registering within a different colour spectrum. The NIR image also shows potential linear arrangements, suggesting that previous enclosure systems may be present within this part of the survey area.

Figure 5.2 Drone image showing circular feature, looking south (source Hunt 2015).

One of the main advantages of Drone data capture is speed. A 50 acre (20 ha) block can be covered in approximately 15 minutes, allowing for large areas to be surveyed within a relatively short period of time.

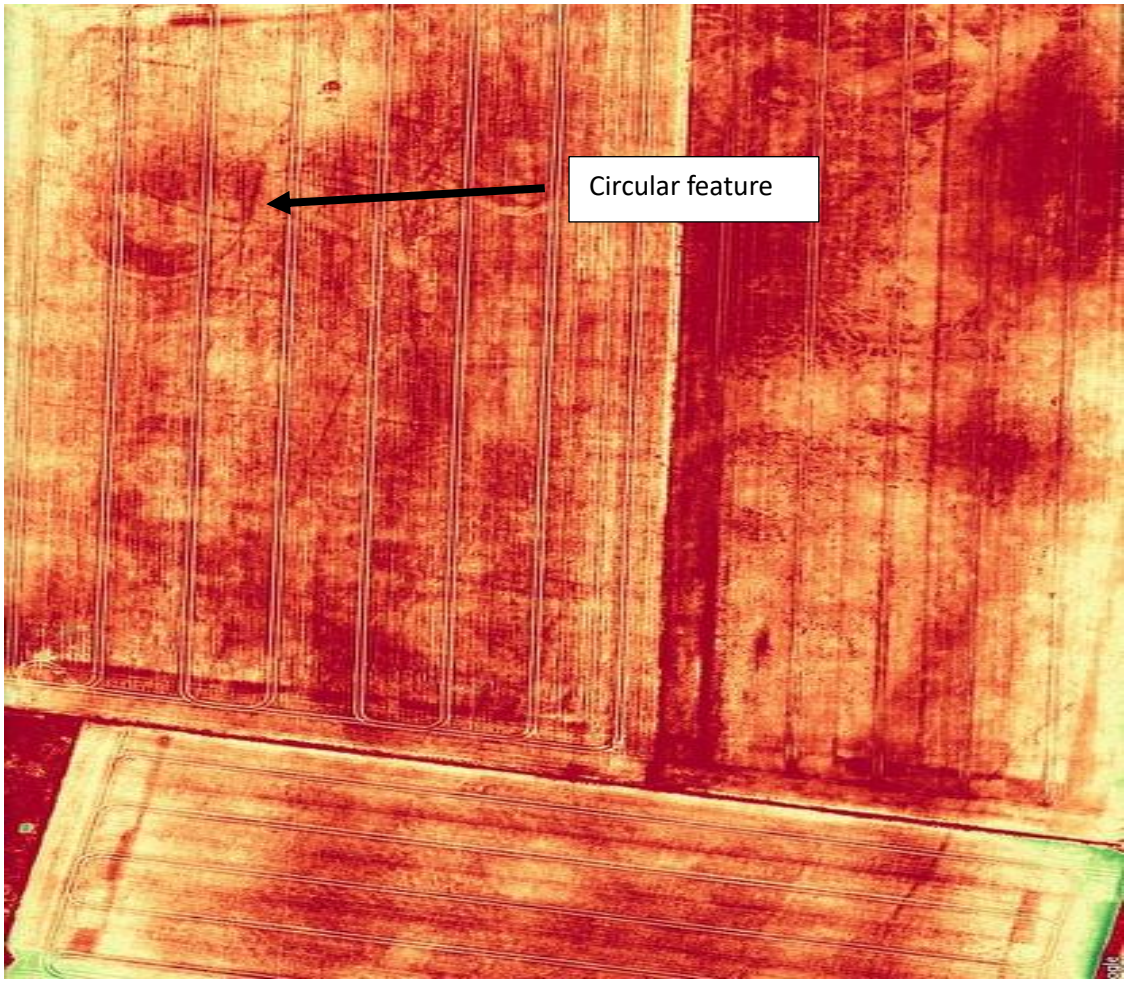

Figure 5.3 Drone image with Near Infrared processing (source Hunt 2015) south to the top of image showing the circular feature present in the drone image at Figure 5.2.

5.5 Geophysical Survey

Geophysical surveys encompass a range of different survey techniques and often commissioned in development situations where they are required to fulfil a planning condition. Surveys within rural areas or areas where there is limited evidence of archaeological activity are infrequently carried out. Where they are, it is usually to fulfil research or community engagement strategies. The requirements for this site obviously fall into the research category. Consideration of the different methodologies in this research was informed by Historic England's (2008) guidelines.

5.5.1 Electro-Magnetic Induction Survey (EMI)

The majority of EMI surveys utilise a continuous wave, low frequency transmitter-receiver configuration and are capable of gathering both conductivity mapping and magnetic susceptibility data (Simpson 2009). However, it is known that problems, particularly in interpretation, can occur on sites where high susceptibility and high conductivity soils are present (Binley *pers comm*). A key feature is that an accurate measurement of magnetic susceptibility in three dimensions is possible,

this being very important when assessing the depth of features. Additionally, where magnetic bacteria are present it can identify the possibility of rotten wood features and so has proved useful in locating timber circles and post built structures. This can be particularly important for long lived occupation sites.

Figure 5.4 Area of EMI survey and location of lead-lined coffin burial site.

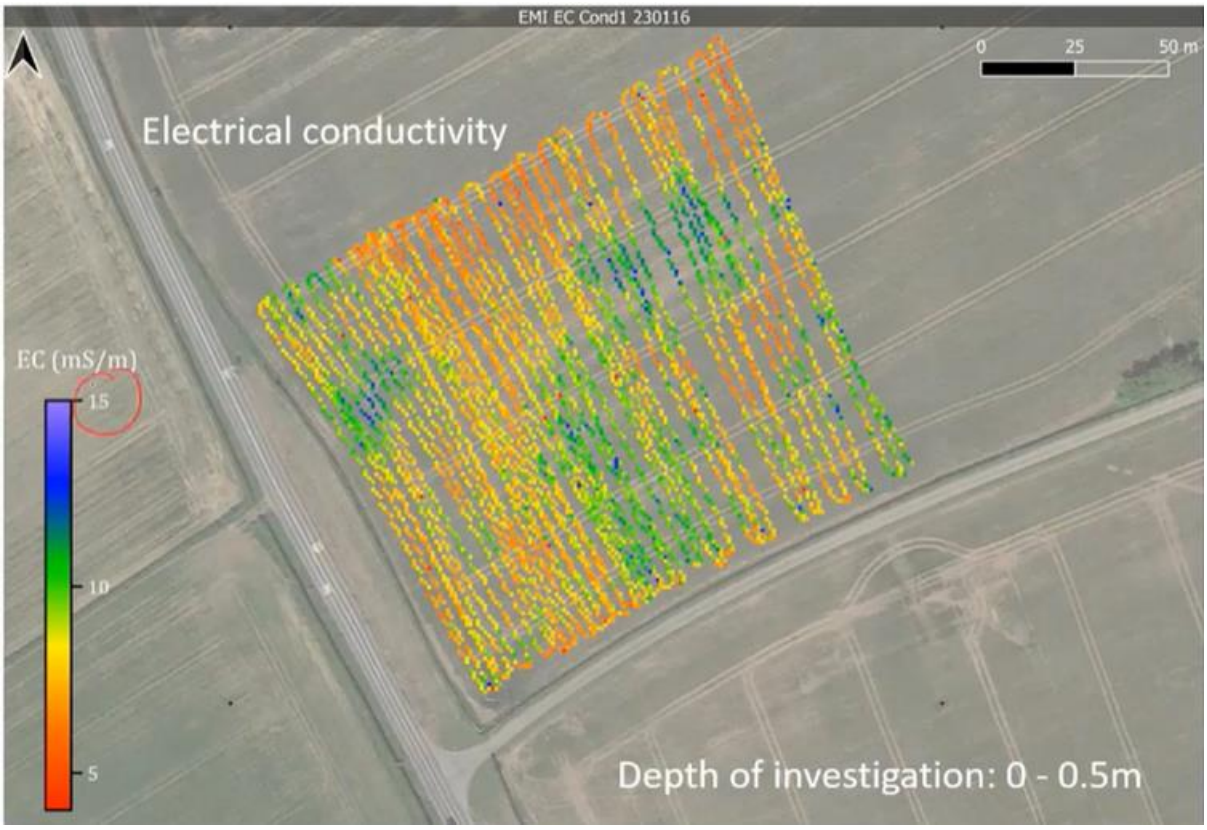

Figure 5.5 EMI survey trial area located 300 m north-west of the excavation area (Binley 2022 pers comm).

Figure 5.5 shows a trial EMI survey which was carried out in the field to the north-west of the excavation site. This survey covered the area of an earlier magnetometry survey, including the site of the Roman lead-lined coffin which was excavated in 2007. The survey discriminated between geological features, particularly where the Sherwood Sandstone bedrock was close to the surface (orange/yellow area in Figure 5.5) and the variable soil types but did not provide evidence of archaeological features and was therefore discounted as an appropriate technique for detecting features of archaeological potential.

5.5.2 Ground Penetrating Radar (GPR)

Principally developed for military applications, GPR has been a routine field procedure feature of archaeological surveys for many years (Conyers 2006). This technique emits pulses of radio frequency energy and records the time and amplitude of features buried beneath the ground surface. The delay recorded can be measured to give a projection of the depth of the buried archaeology. This allows the data to be constructed in a 3D format which can be sliced to display features at different depths from the surface. Data collection from equipment is slow but multi-probe arrays are available which can be towed behind suitable vehicles, thus speeding up the process. The cost of the equipment or the employment of specialist contractors is often prohibitive for general archaeological survey work, however, its suitability for specific circumstances determine that it can be an effective technique.

Figure 5.6 illustrates a GPR survey undertaken after the excavation of the Hundayfield Farm site (not to scale), at a depth of 1.4 m from the current land surface. This shows some of the archaeological features which correspond with results from the magnetometry survey, including ditches and enclosures visible at this depth.

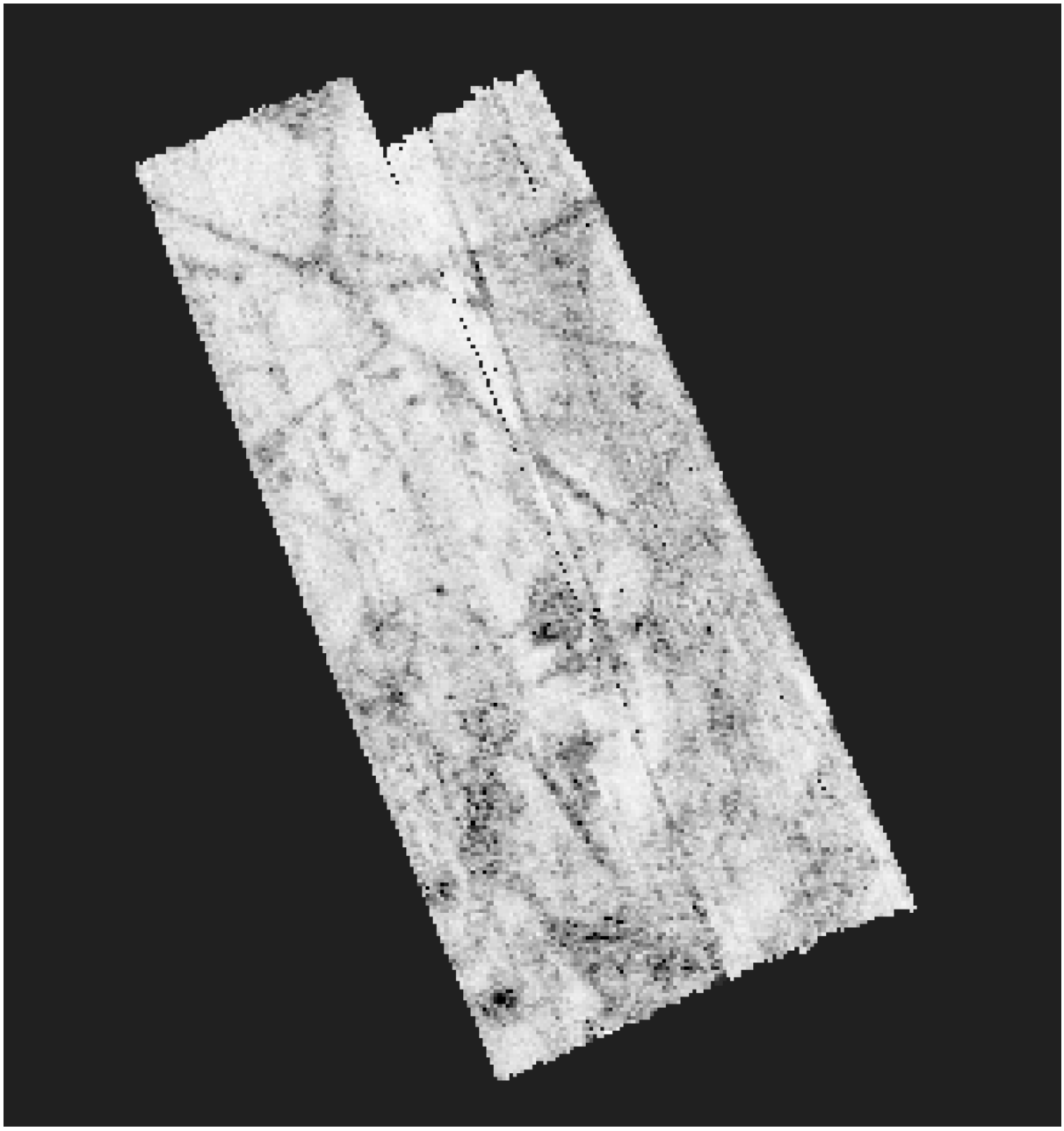

Figure 5.6 GPR survey of the excavation area at 1.4 m depth (not to scale) showing ditches and enclosures.

5.5.3 Earth Resistance

Resistance surveys have been a common feature of archaeological investigation since the 1950's and is the most widely used electrical method (Gaffney *et al.* 2002). This technique introduces a small electric current through probes placed into the ground. This is detected by probes on a mobile frame

which traverses the survey area. The movement of the current is influenced by different conditions present within the soil, particularly moisture. Therefore, timing of the survey can be critical as conditions should be neither waterlogged nor too dry. Soil and rock are considered as insulators and therefore very little current can move through them (for full explanation see Clark 2000). This technique can be used to detect solid features such as buried foundations, walls and compacted floor surfaces where resistance levels will be high. It can also be used to identify ditches, particularly where moisture conditions cause a low resistance response which the equipment can recognise. Two forms of survey can be used. A constant spacing traverse measures variation in the lateral resistivity response and is frequently used for presenting features in a plan format. Vertical electrical soundings are used to determine responses vertically through the ground and can be used to generate a 3D image within the subsurface horizons. Multi probe systems are available, Geoscan Research being the current main UK manufacturer. This system takes several readings at each point, which also allows for resistance maps to be produced displaying responses at various depths. The survey normally requires a grid network to be established but, as with magnetometry, GPS positioning is becoming more common. Towed systems are also available but rely on relatively flat ground to function.

Time spent setting out grids and the requirement to take point readings spaced along a defined traverse, means that data collection through this technique is slow, often limited to 0.15-0.20 hectaresper day. Data is downloaded into a compatible software programme. For this survey area, Snuffler software was used for processing the data as it is a user friendly and freely available resource. Several filter options are available, most commonly used are clipping the range of the data and removal of geological noise followed by interpolation. Resistivity is frequently used after a magnetometer survey (see 5.5.4) has identified potential anomalies which require additional survey techniques, where known archaeology is present or in small areas where magnetometry is unsuitable.

A resistivity survey was undertaken across part of the site prior to excavation. Unfortunately, equipment malfunction determined that it was impossible to download the data which had been collected.

5.5.4 Fluxgate Gradiometry (Magnetometry)

Geophysical survey techniques were first developed in the UK in the 1950's (Gaffney 2007) and initially focused on magnetic prospecting, where Iron oxides in the soil which have been weakly magnetised can be differentiated from background magnetic signals. Human activity can cause a redistribution and transformation of these Iron oxides, causing anomalies in the Earth's magnetic

field, which can be detected by sensitive magnetometry equipment. Aitken (1958) recognised that heat, particularly over 700 ^{0}C, can cause changes to the magnetic properties of materials, a process he called “thermo-remnant magnetism” or “fossilised” magnetism. Natural clay is in a state of a randomly orientated magnetic field which is undetectable to magnetometry. However, upon heating, the weakly magnetic compounds are converted to oxides, including haematite, a common iron oxide component which is strongly magnetic. At a temperature of 675 ^{0}C the oxides demagnetise (the Curie point) and upon cooling are remagnetised together by the Earth’s magnetic field. This becomes a stable and permanent magnetisation which is aligned with the geomagnetic field present at the time of firing (Clarke 2000). As this would occur in baked clays, Aitken (1958), recognised that materials such as tiles, bricks and kiln walls would possess a different signal to background levels and should therefore be recognisable if equipment could be designed which could discriminate between these small differences. He recognised that other materials may not need such high temperatures for transformation to take place.

An early survey carried out on a site at Water Newton by Aitken (1958) was focused on detecting kiln features. However, it also detected rubbish filled pits and it was realised that the technology could have a wider range of detecting parameters. The ability for this technique to discriminate between variations in organic matter, such as the fill of pits or ditches, against a background magnetic field has led to its adoption as the primary technology for terrestrial geophysical surveys. As Gaffney (2007) states “…a new rationale was developed, away from anomalies of thermoremanent origin towards the more subtle magnetically induced anomalies that are considerably more common in the archaeological record” (Gaffney 2007, 1).

A magnetometer survey provides the most rapid form of data collection and so is the preferred choice for many geophysical survey requirements. The most used equipment is the fluxgate gradiometer. Working within the magnetic flux density measurement of nanoteslas (nT), this records changes in the vertical magnetic field continuously across the survey area. It is particularly suitable for shallow investigation and therefore appropriate for archaeological survey. Resolutions of data collection can be varied which also influences the speed of data collection. This technique can also locate ditches and pits where, due to the nature of the material deposited in these features, the magnetic signal is different to the surrounding soil areas. However, it is less suited to identifying buried wall features unless the stone has different magnetic properties to adjacent soils but can detect robbed out wall footings where a different fill is present. Surveys using hand-held equipment usually involve the marking out of grids over the survey area but machines with GPS location are becoming more common. In this case, the element of gridding is removed as this equipment can precisely fix its location through satellite positioning. Carts are also available which have multi probe

sensors and the ability to be towed behind a vehicle, thereby vastly speeding up the data collection process.

5.6 Fieldwalking

A systematic fieldwalking exercise (e.g. Connolly 2008) was carried out over the proposed excavation area at Hundayfield Farm. This is preferentially carried out over freshly cultivated land. Ploughing has been carried out for many years at this site, ensuring that archaeological material, if it has been present within the plough profile, has been brought to the surface. In most circumstances, this material would then be subject to degradation and erosion conditions, compromising its ability to survive. The agricultural practices carried out recently at the farm do not usually include ploughing or cultivations prior to the establishment of crops and therefore the churn of material through the soil profile is considerably diminished.

The fieldwalking was carried out by a team of experienced volunteers and involved transect walking across measured three metre strips, across the area selected for further investigation and potential excavation. The field surface was stubble, post-harvest of a cereal crop of wheat. Compared to walking over freshly cultivated ground, artefact recovery in these conditions may be compromised. However, the complete absence of any material, other than occasional nineteenth and twentieth century pottery fragments, meant that a spatial analysis of pottery distribution was not possible. The lack of material was considered to reflect one, or a combination of, three possible scenarios. First, that the activity visible within the geophysical survey had been present within an aceramic culture, where pottery items did not feature as a component of material culture. Secondly, pottery utilised on site and previously present within the plough soil horizon, was of a fabric which has not survived the erosion and degradation processes present. Thirdly, evidence of material culture may be retained within context due to the depth of archaeological features.

Fieldwalking is often a valuable component of site survey protocols. In this instance, it did not provide any evidence of activity within the survey area. The result, although negative, does serve to demonstrate that multiple survey techniques should be employed when assessing sites. In the absence of different strategies, a fieldwalking survey alone would lead to an interpretation that no evidence of archaeological activity was present, and the site may be discarded as one containing archaeological potential.

5.7 Test Pits

To assess the archaeological potential of a site, a strategy employing the setting out and excavation of several test pits can be an effective method (Wessex Archaeology 2023). Usually one metre

square, they form part of a gridded complex laid out across a survey area and can provide valuable information in the recovery of buried deposits. Normally excavated to a depth at which natural deposits are exposed, it is a key technique whereby archaeological activity may be recognised. However, data gathered from them may be statistically biased because of the nature of the sampling strategy (University of Oxford 2008). Test pits were considered as part of the assessment strategy on the site but were discounted in favour of targeted excavation trenches. This was because the geophysical survey had identified activity sufficient to warrant larger scale interventions without recourse to test pitting.

5.8 Excavation

Excavation is a central component within archaeological frameworks as it can provide physical evidence relating to human activities across chronological phases. (Renfrew and Bahn 2020). Although it is considered as an intervention of last resort and preservation *in-situ* may be possible, particularly within the development sector, preservation by record post-excavation is a recognised strategy (Gamble 2007). In terms of research agendas, where remote sensing technologies identify areas of archaeological potential, excavation can provide the ultimate determinate for identifying human activity. The Chartered Institute for Archaeologists (CIfA) (2014) define the purpose of excavation as a method to examine the archaeological resource "[…] to seek a better understanding of and compile a lasting record of that resource, to analyse and interpret the results, and disseminate them" (2014, 4). In this way, it sets out that excavation has a key aim to primarily understand a site, to preserve the record for that site and to ensure that this information is available to promote wider understanding. This is a key principle as the act of excavation determines that it is a destructive process. As the process of removal means that sequences can never be reinstated two primary criteria need to be met. First, as Roskam states "…excavations require specific research objectives" (2001, 30). Secondly, the physical environment which has been removed must be replaced by accurate records, which replicate the information discovered through the excavation (Carver 2009, 2011). Although much information about a site can be gained by using non-invasive remote sensing technologies (Drewitt 2011), excavation is the definitive method for testing a hypothesis and ground truthing the results of survey strategies. It provides physical evidence in the form of material culture and environmental evidence. It may also allow the chronology of a site to be determined enabling the understanding of changes which may have occurred over time.

The results of the various surveys undertaken at Hundayfield informed the conclusion that the excavation of a number of trenches, located in response to the survey interpretations, would provide the most effective data set against which to test the research objectives. For this site, the areas

identified for excavation were those considered to be ditch and boundary features. It was considered that these had the potential to provide the necessary detail, in terms of artefact retrieval and stratigraphic sequencing, which would provide and evidence for social, cultural and economic activities and a chronology for the site.

5.8.1 Trench Location

The magnetometry survey was the principal data used to select the location for the proposed trenches. The survey had been undertaken within a set of pre-determined 20 x 20 m grids, orientated from a baseline running adjacent to the hedge line on the eastern side of the survey field. Several of the marker canes were left in-situ as reference points for later triangulation requirements and trench locations were located from these points. GPS equipment was later used to georeference precise locations and enable recording through the ARCGIS software platform.

5.8.2 Recording Protocols

The site was assigned a unique reference code, as was each of the excavated trenches. Within the trenches, each recorded context was also given a unique number. Contexts were recorded on standard pro-forma data entry sheets, allowing for consistency across the excavated areas. Artefacts recovered were placed within sample bags, each carrying the site code, date, context number and a description of the artefact where possible. Unique reference numbers were assigned to each artefact at the later cleaning and recording stage.

Permatrace was used for scale drawings, both in plan and section of features. A comprehensive digital photographic archive was also recorded.

5.9 Application of Methods

All of the Research Techniques discussed at Section 4 were considered suitable strategies to investigate the landscape within the study area and its wider setting.

The relevant depositories which held the Archives and Records were consulted. Primary amongst these was the HER, which provided evidence of activity relating to the period under study and presented this in a spatially distributed format.

The survey area contains five significant archaeological records; the Duiel Cross barrow, the Iron Age Hill Fort at Grafton, the Roman period lead-lined coffin burial at Hundayfield Farm, the Roman milestone, also found at Hundayfield Farm and Dere Street. The Hill Fort is c. 0.5 km to the west of the survey area, the Barrow and Road adjoin it on its western edge and the Burial and Milestone are both from within the area. The spatial relationship of these features suggest that this area could be a focus for archaeologically visible activity.

Coverage by Aerial Photography is complete for the survey area and has been subject to analysis through HE's National Mapping Programme. No features were recorded for this specific area, although potential field systems were identified c. 1 km north of the site.

EA, HE and DEFRA Lidar portals were all consulted as part of the survey analysis. As they use common data, all the results were identical. Lidar data is available for the survey site at 1 m resolution however, at this scale there are no visible features of archaeological potential.

The quality of data included within Satellite Imagery continues to improve and the availability of multi-year data allows for comparisons to be made over different time periods, seasons and weather patterns. Similar to Aerial Photography, visibility of archaeological features is dependent upon differential growth of crops or vegetation which are detected through variations in the colour spectrum. The area of the hinterland of *Isurium*, including the site at Hundayfield Farm, has been studied. Archaeological features are present within the general landscape but unfortunately no evidence is present for the site. However, it is important to note that there is evidence of post-glacial activity within the area, which aids in the understanding of the complex geological nature of the site.

Drone Imagery provided a useful contribution to understanding of the survey area. Different data capture and processing techniques produced images which correlated with other survey data and confirmed the presence of archaeological features. Photographic imagery, NDVI, NIR analysis and Thermal Imaging were all successfully utilised to provide visual representations of the survey area. The speed of data capture and processing meant that this technique was valuable in early-stage assessment of archaeological potential. Results can be variable and dependent upon external factors such as weather, time of year *etc* and it cannot yet replace the data resolution capabilities of terrestrial based survey, but it has massive potential in terms of computer analysis strategies. The development of algorithms which can detect patterns in the light spectrum emitted by vegetation and relating this to the presence of archaeological features, is rapidly becoming a key technology for archaeological analysis.

In terms of terrestrial based data collection technology, the use of geophysical techniques was vital to produce high resolution surveys of the study area. Magnetometry surveys had been previously undertaken by West Yorkshire Archaeological Surveys (WYAS) (Antoni 2008) over areas associated with the location of the lead-lined coffin burial. These surveys did not provide evidence of potential archaeological features, with the conclusion that the burial had been placed within a very isolated landscape, devoid of other activity, except the potential relationship with the Roman road running to the west of the site. One of the main aims of the surveys undertaken as part of this research, was to

test whether features were present within the wider landscape, which may provide evidence for a relationship of the burial to the surrounding area.

Initially, surveys were undertaken using hand-held Bartington Grad 601 dual sensor fluxgate gradiometer, in an area commencing 300 m south of the burial location (see Figure 6.4).

This first survey revealed the presence of possible field boundaries and indicated the first signs of further archaeological activity. It was decided that the survey area should be extended, and this showed that the boundaries revealed initially were not isolated. As further archaeology was revealed, the survey area was extended until this initial phase covered an area of 47 acres (19 ha). An intricate and complex network of boundaries and enclosure ditches were visible within the processed results, alongside evidence of possible roundhouse structures. A large, 50 m diameter feature, was also visible. The results showed that evidence of a structured and organised landscape was present beneath the current field systems and that areas of intense activity could also be identified.

The initial survey area had not defined the limits of the archaeology present. It was decided to increase the survey area and further magnetometry was undertaken with a cart-based system. This greatly improved the speed of data collection. A further 100 acres (40.5 ha) was surveyed using a Sensys Magneto 5 probe fluxgate gradiometer, mounted on a dual wheel cart (see Figure 6.3). This extensive survey confirmed that features of archaeological potential were present across the whole of the survey area, with variations in the intensity of the results. Clusters of concentrated activity were present, with overlapping boundaries indicating changes to the landscape over time. Further boundaries and focus of activity, more extensive in character, were also visible.

As a result of the data collected it was determined that there was sufficient justification for a programme of excavation to be carried out. The aims of the excavation were to provide evidence to verify the interpretation of the magnetometry survey and to provide dating evidence from the recovery of items of material culture. This would allow for both an understanding of the features to be gained and for a chronology of the excavated area to be determined. The geophysical survey covered an extended area and identified numerous locations suitable for further investigation. The site chosen for excavation was considered to offer the best opportunity to address the research questions. Importantly, it was adjacent to Dere Street, with the focus being 200 m east from this important road.

The area chosen was 2.5 acres (1 ha) in size. Initially, five locations were chosen for 1.5m x 5m evaluation trenches. These were extended in response to the evaluations. Additional trenches were

also planned, leading to a total of 11. All of these are recorded in the Excavation Report (Appendix A) except Trench 9, which proved to contain no evidence of archaeological activity.

5.10 Conclusions

As stated at 5.2, the methodological framework is based around the principles of a micro-archaeological approach to investigation. Although they employ different degrees of resolution, the interpretation of the results was carried out at a micro level, to understand the impact of individual and community actions upon and within this lived landscape. The premise of asking large questions in small spaces guided the interpretations of the methodological strategies and allows for the question of *civitas* and hinterland dynamics to be investigated through a novel approach.

Each of the techniques had their own advantages and limitations which impacted upon the degree of success for each strategy. The broad analysis of the archive and records provided valuable evidence with some of this being site specific and therefore very relevant. The limitations of records held within the HER determine that evidence from excavation is a robust method of providing material which can be accurately dated, thereby improving understanding of not only cultural and social practices but also providing a chronology for these activities.

Lidar, Aerial and Satellite Imagery are all freely available options which are very easy to access. The vertical resolution of 2 m and 1 m datasets would have little potential to provide information in this part of the open countryside, since structural remnants are not visible at surface level and most historic boundaries have been obscured by agricultural operations. It would require very high-resolution survey to potentially detect any changes in landform and elevations, the cost of which is prohibitive in this instance. Imagery from aerial and satellite sources can provide useful data but often depends upon variation in vegetative growth. Variations over the survey area were not visible and therefore these techniques provided little information.

The use of UAV technology proved more successful. High resolution photographic imagery and different processing strategies provided evidence which supported the geophysical survey. Data collection through this technique is rapid and allows large areas to be covered very quickly.

The adoption of Magnetometry as the chosen geophysical survey technique was extremely successful. The variations in magnetic signals present on the site ensured that much of the data was very clear. This was despite the issue of very complex postglacial landform modifications, some of which can be picked up with magnetometry equipment. The initial survey of 47 acres (19 ha) was a challenge, with all this area marked out in 20 m x 20 m grids and surveyed with the hand-held Bartington Grad 601, the vast majority by the author, in sometimes challenging weather conditions.

The availability of the Sensys cart and a team of willing volunteers, made the survey of the additional 100 acres (40.5 ha) considerably easier. The use of this modern equipment meant that the quality of data and subsequent processing was significantly improved. The large area covered by the survey has provided valuable information on landscape organisation over an extended area.

The excavation was also successful in providing information relevant to the Research Questions. Initially, problems were encountered in the positioning of trenches in the early phase of the excavation. Some data points had been removed and lost during the harvesting of a wheat crop prior to the excavation, this led to errors in triangulating for trench positioning. The problem was rectified as soon as this was realised. The presence of ditch and boundary features indicated on the geophysical survey was confirmed but more importantly was the evidence acquired on the size, shape and construction of these features. This highlighted differences not only between size and shape of ditches but also how parts of the site had come into and out of use at different times. The material culture recovered from the ditch fills provided valuable evidence as to the type of domestic and settlement activity which occurred on site. It also indicated that trade and exchange of goods and products formed an important component of social and economic activity. The next chapter presents the results of the completed surveys and excavations.

6 Results

6.1 Introduction

This chapter presents the key results from the site investigations completed during this PhD based on a combination of remote sensing, field observation and excavation at Hundayfield Farm. Selected details of the study, notably the excavation and artefact assemblage, are reported systematically and in full detail as a series of appendices to this thesis.

The structure of this chapter is designed to focus on the key findings from the site investigations. It starts by dividing the Hundayfield site into nine areas (A-I), providing a structured sequence to summarise findings. The majority of the detailed excavation work of the thesis was completed in area A, within which 11 separate excavation trenches were investigated. The focus then shifts to the thematic interpretation of the identified features across the Hundayfield site, such as ditches, trackways and boundaries. Finally, a chronology for activities across the site is developed, based on the integration of all data sources described, particularly from the pottery assemblage. The chapter provides a basis for the succeeding discussion of the wider implications of the work in the context of the original thesis research questions in Chapter 7.

6.2 Historical Maps

An important map depicting the Township of Lower Dunsforth dating from 1776, sourced from the Borthwick Institute (University of York), provides one of the oldest maps of the area (Figure 6.1). Hundayfield Farm was subject to a Parliamentary Act of Enclosure in 1760. This replaced the open field system and provided for the planting of hedges to enclose the landscape within an ordered network of fields. Historic boundaries also formed part of the enclosure awards, ensuring that long-lived boundaries were also preserved within the landscape. Figure 6.2 shows the survey area at Hundayfield Farm superimposed upon this map.

Figure 6.1 Enclosure Award map of 1776 for the Township of Lower Dunsforth. The location of Hundayfield Farm is shown.

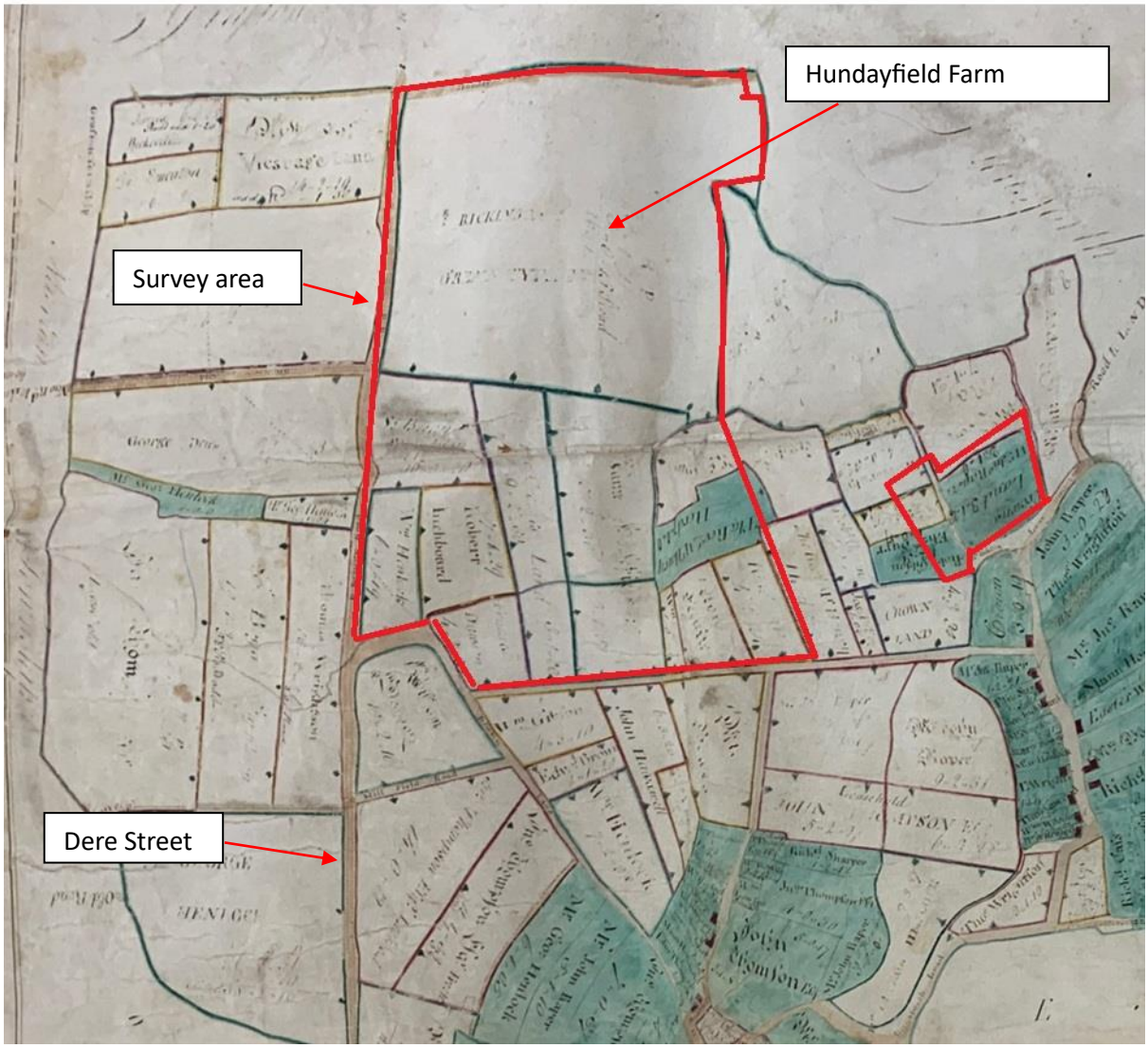

Figure 6.2 Enclosure Award Map of 1776 for the Township of Lower Dunsforth. Also shown is the location of Hundayfield Farm, Dere Street and the Survey Area (not to scale).

6.3 Geophysical Survey

The geophysical survey provides an essential reference in identifying areas for further study. The survey was carried out over 180 acres (73 ha) between October 2018 and April 2020 and represents an extensive contribution to the investigation of a rural site in northern Britain (Figure 6.5). The magnetometry survey was carried out over open arable and grassland fields, with very few restrictions to access. The extent of the geophysical survey is shown in Figure 6.5, which highlights the main focus of investigation around Hundayfield Farm, with a smaller area of study to its east.

The preferred methodology for the geophysical survey (Chapter 5) was to conduct a Fluxgate Gradiometer survey. In this case, two types of equipment were used, the Bartington Gradiometer 601 and the Sensys Magneto MXPDA5. Figure 6.4 illustrates the respective areas covered by these instruments.

An initial survey covering approximately 47 acres (19 ha) (Figure 6.4) was undertaken using a Bartington Grad 601 dual-sensor fluxgate gradiometer. 20 m x 20 m grids were laid out manually, orientated from existing field boundaries. All surveys commenced at the bottom left-hand corner of the grids, with readings taken on 1 m traverses at 0.5 m intervals. Data was logged and saved onto the integral data logger and downloaded up to three times per day as required.

Data was processed using Snuffler software. The data was processed within the nT (nanotesla) range +/- 3.5 using 95% of the readings. The display process is presented in Linear form and is set to Greyscale 64. Data was filtered through despike, destripe, destagger and interpolate functions. The despike option was set at 1.7 threshold and Normal flattening. Within the destripe function, it was processed through the Multi Zero Mean Line option with Vertical Orientation. The Destagger default was set to two sensors and 20% Movement. Interpolation was set to Horizontal.

A further 100 acres (40 ha) (Figure 6.4) was surveyed using a Sensys Magneto MXPDA5 5 probe fluxgate gradiometer, mounted on a dual-wheel cart. The cart was equipped with a Trimble R8S GNSS GPS system, operated in a base and rover configuration. Utilising GPS GPS-enabled equipment determined that grids were not required for this survey, with spatially accurate data readings being taken every 10 cm along the traverse axis and 50 cm along the grid axis. This provides 18,000 readings per 30 m square, collected within a 0.2 nT sensitivity range. The GPS configuration provides sub sub-2 cm accuracy. The data was processed at +/- 7nT through the QGIS platform.

Figure 6.3 Sensys Magneto geophysical survey in progress within area B (source Anderson 2020).

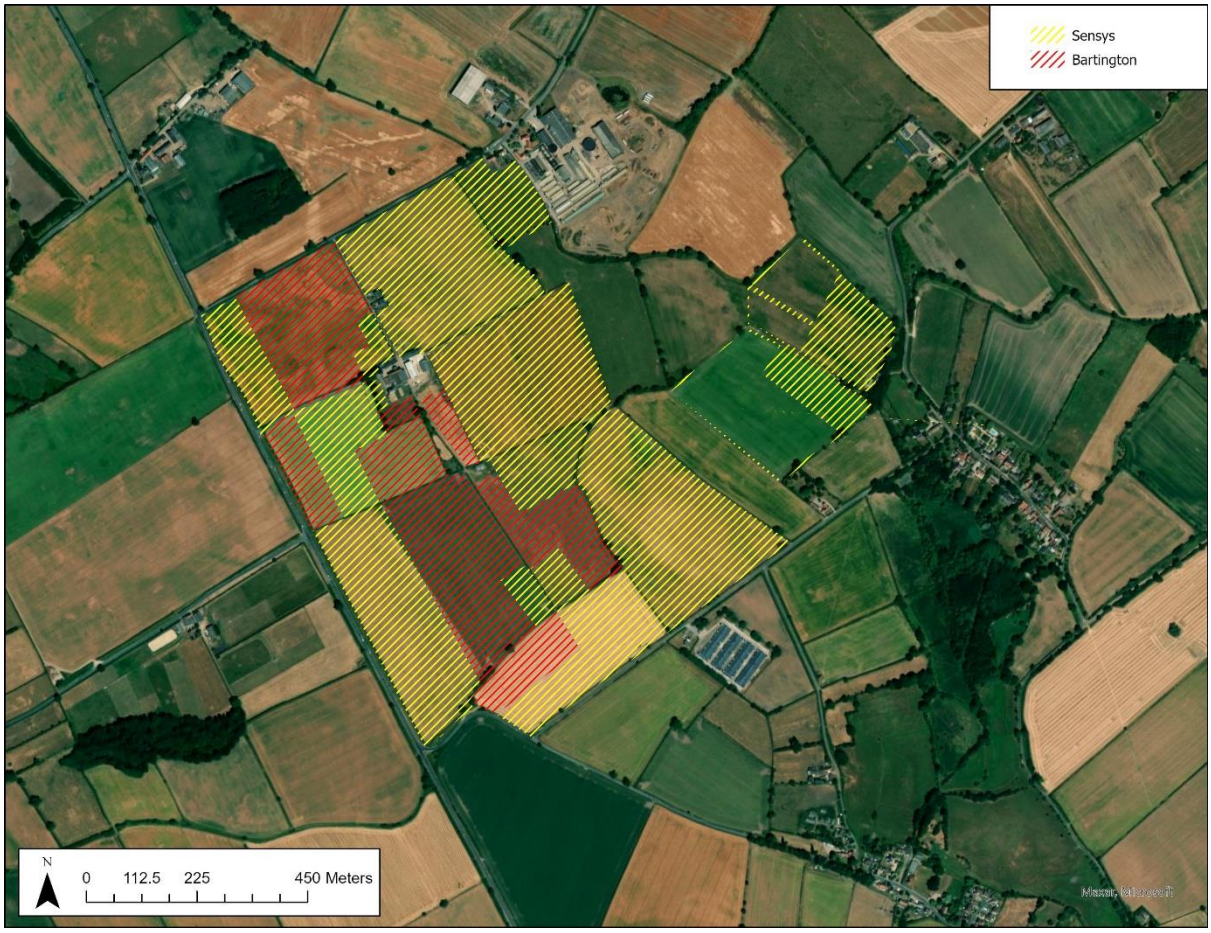

Figure 6.4 Geophysical survey area showing the coverage areas for Bartington and Sensys equipment.

6.4 Geophysical Survey Results and Interpretation

The survey produced results of high archaeological potential alongside evidence of both natural and agricultural activities. The following Figures (Figure 6.5, Figure 6.6, Figure 6.7 and Figure 6.8) present the processed results from the survey along with a visual interpretation of those results. They show the interpreted results against the background of geophysical results, the present-day landscape and independent of background.

Figure 6.5 All Survey Greyscale. Note the data gaps related to the gas pipeline (trending SW to NE across the eastern side of the site) as well as along field boundaries.

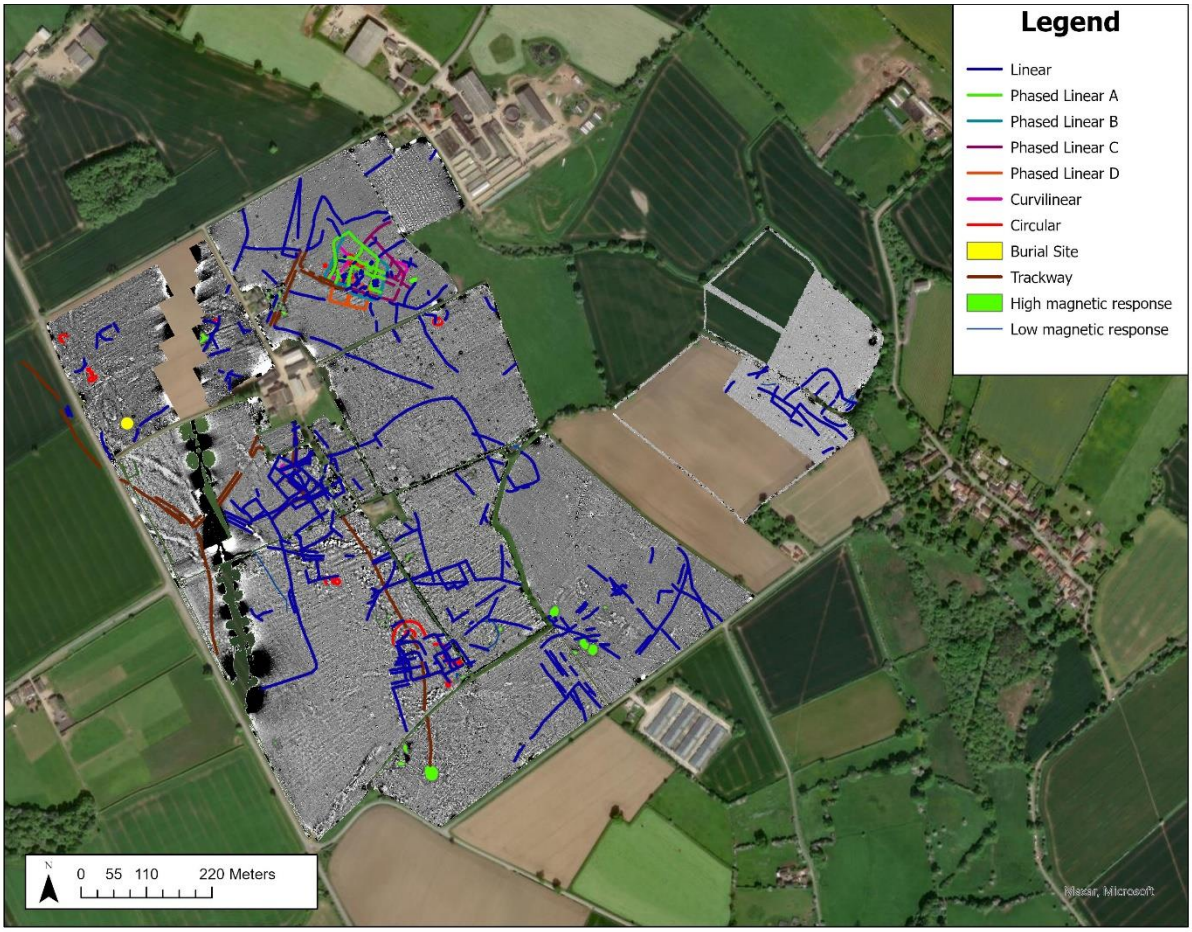

Figure 6.6 Interpreted geophysical results overlaying greyscale showing the dominance of boundary features across the site.

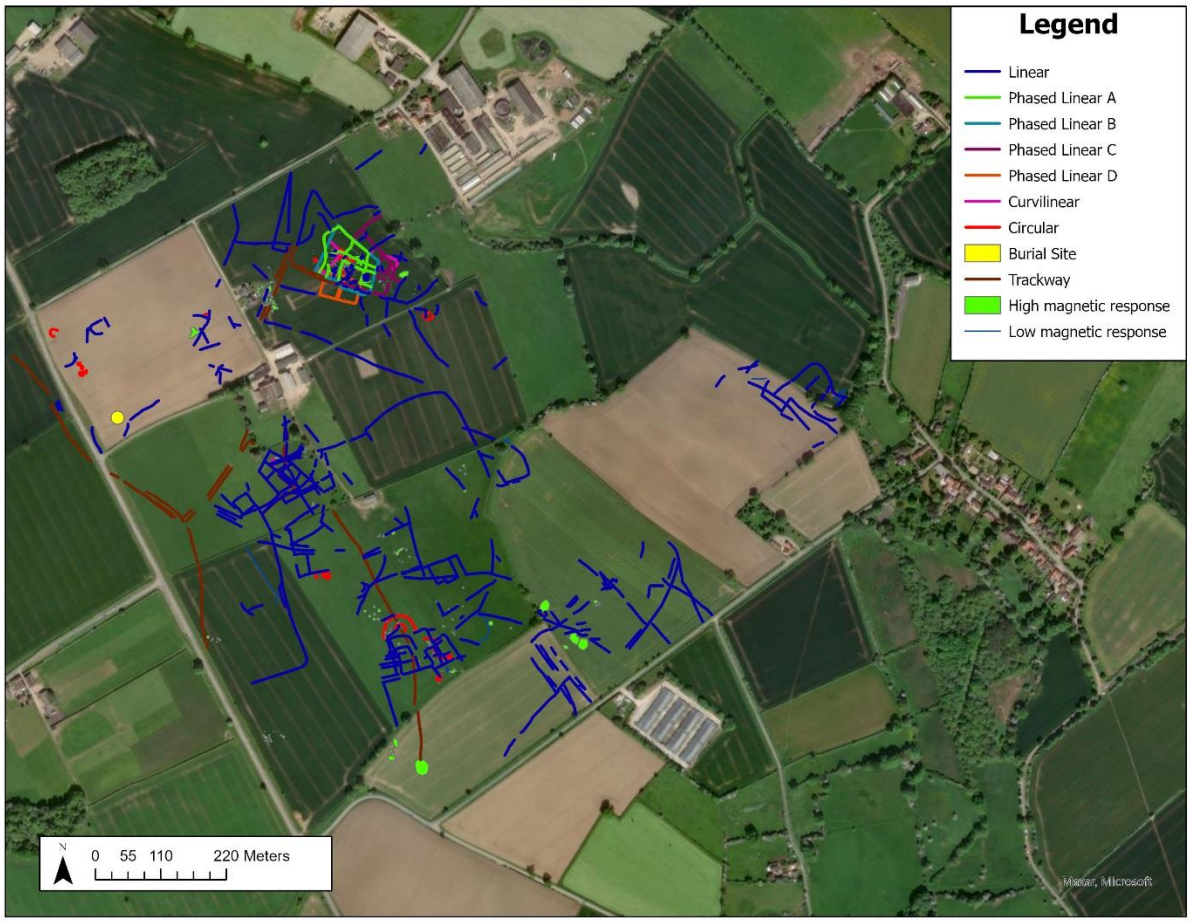

Figure 6.7 Interpreted results overlaying present-day landscape.

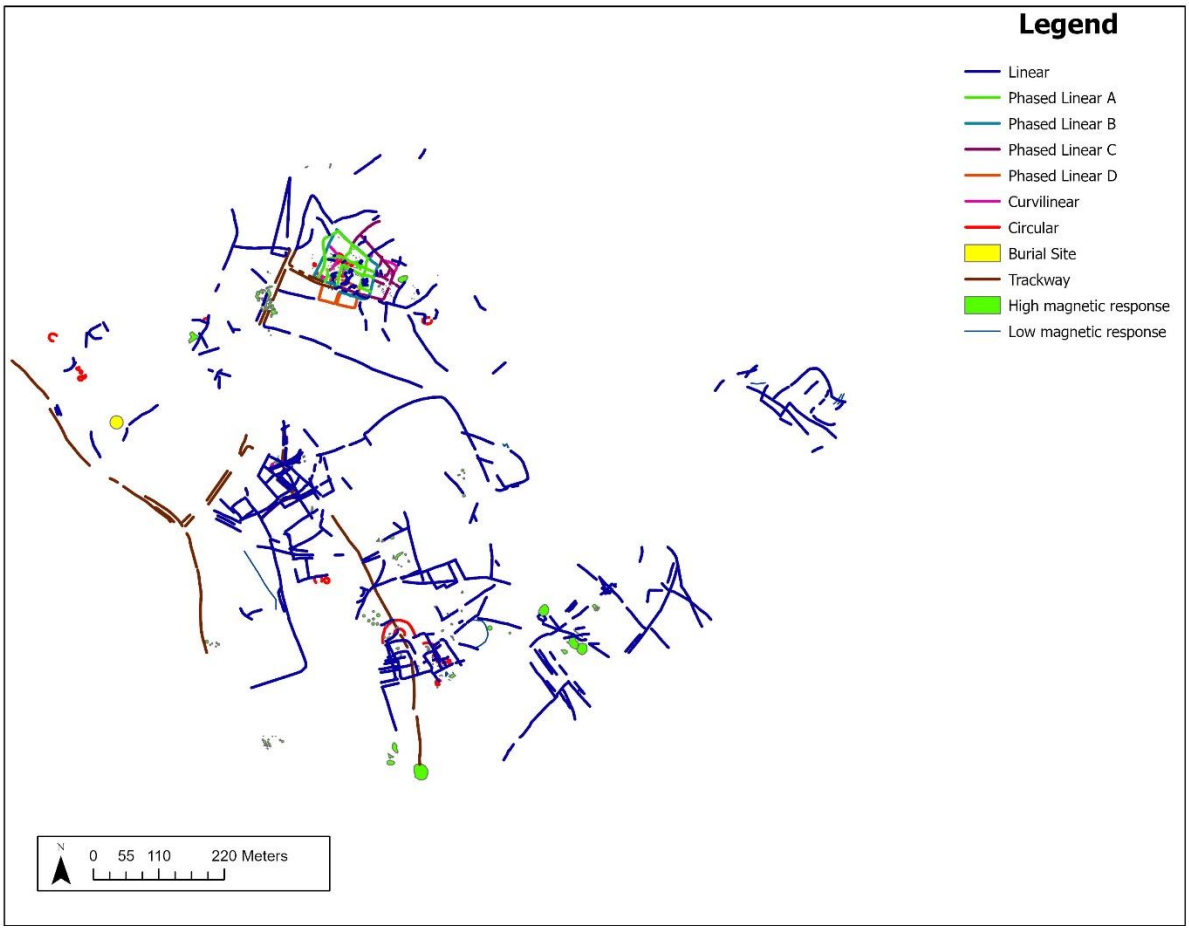

Figure 6.8 Interpreted results without background.

The geophysical results were individually divided by the layout of the present-day field boundaries and apportioned an alphabetical identifier, ranging from A-I (Figure 6.9). The following section provides the interpreted results from each of these areas. Magnetic dipoles (see Billings 2004) are not included within the legend of the interpretation but may be mentioned within the text.

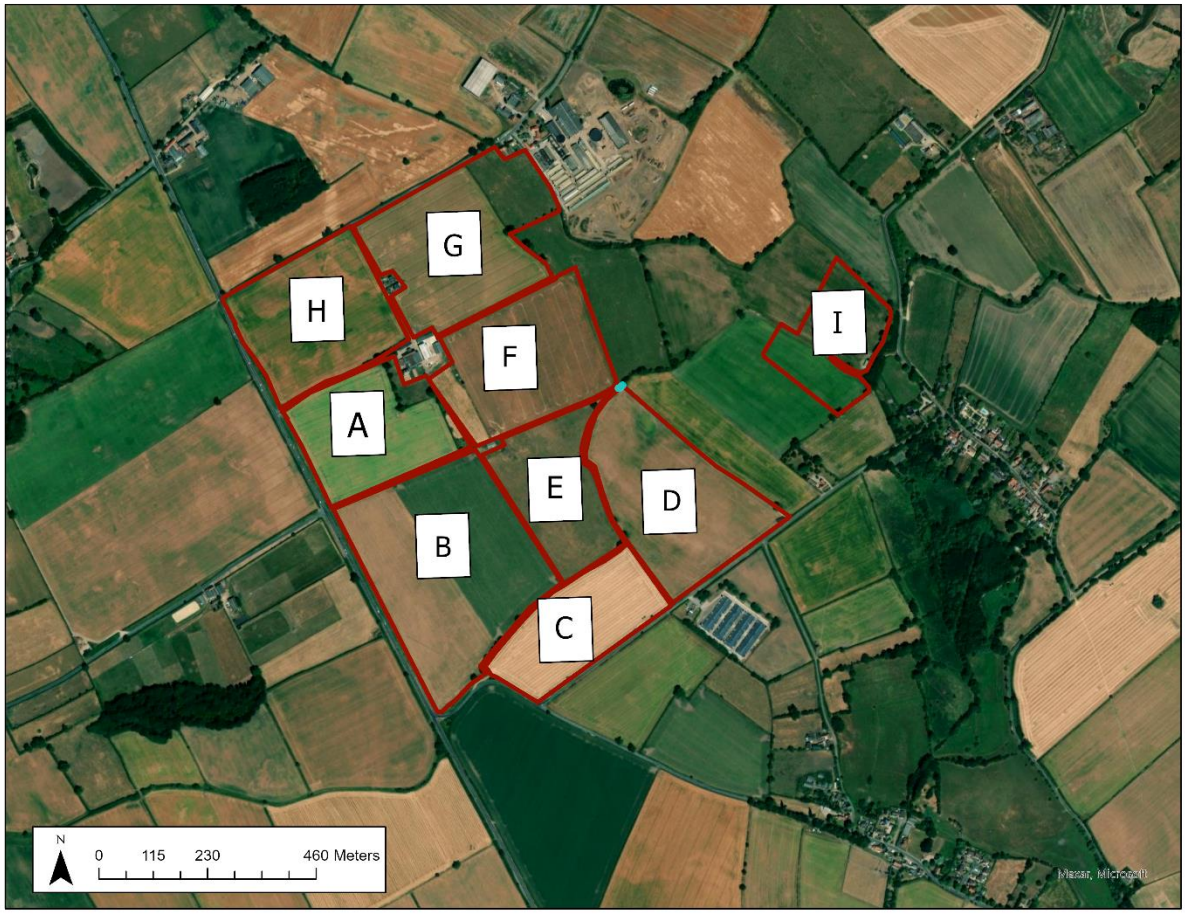

Figure 6.9 Alphabetical division of the survey areas (defined by current field boundary divisions).

6.4.1 Survey Area A

Figure 6.10 Survey area A Magnetometry greyscale.

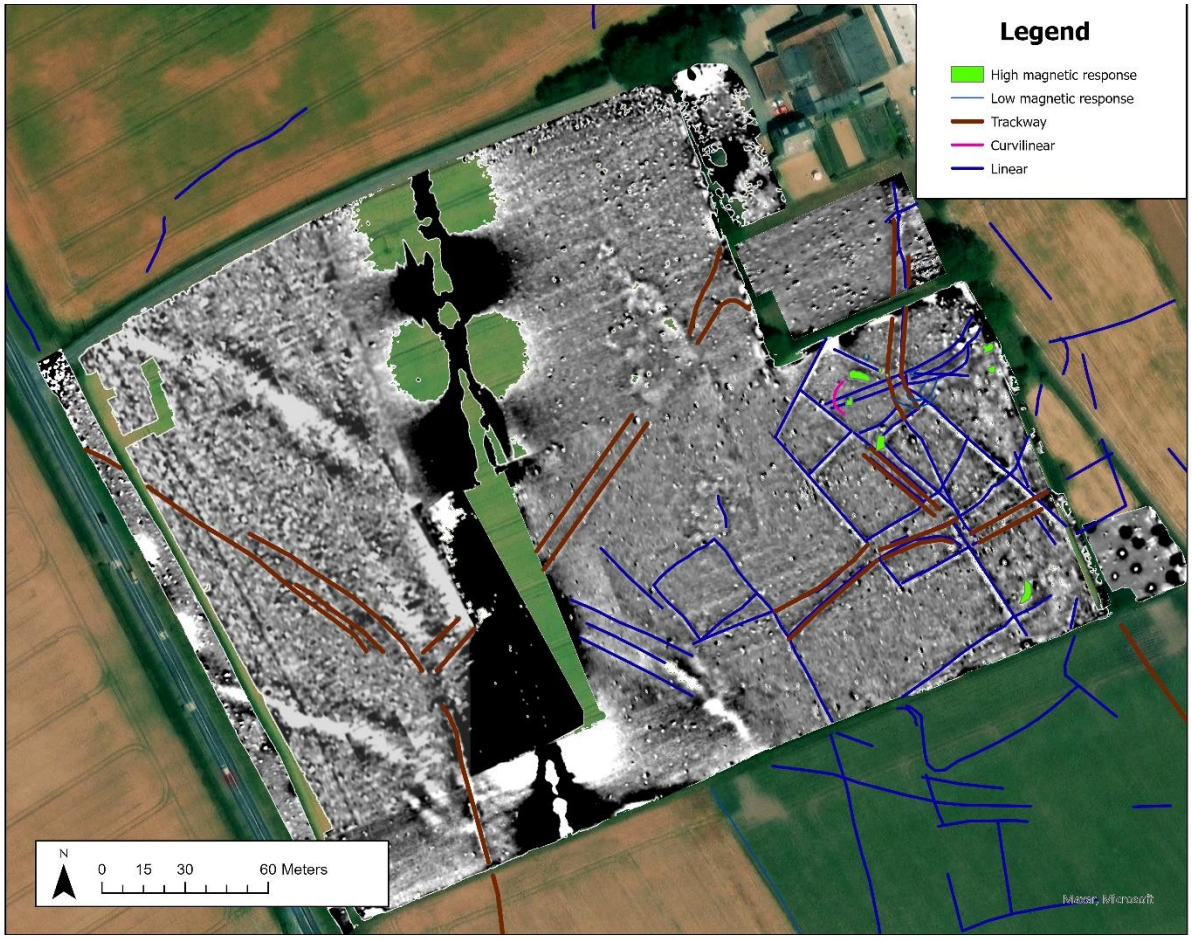

Figure 6.11 Survey area A geophysical interpretation.

Area A is a 15-acre (6 ha) field that exhibits several dipole responses that are indicative of the presence of ferrous material within the plough soil and related to agricultural activity. Although generally quiet in terms of geological influence, the western side of the survey area exhibits a degree of background noise. This is caused by the variable, superficial glacial deposits frequently present across the site. Present also are the remnants of mediaeval rigg and furrow ploughing (Figure 6.29), which are visible to the west and north of this area. Beyond these natural and agricultural features, it is evident that responses of high archaeological potential are present.

The most numerous features present are linear responses which extend across the area (Figure 6.11). These linear responses are interpreted as ditch features, which form a series of organised enclosures within this area. Some of these exhibit characteristics which may define them as double ditch features, but this would need confirmation through excavation. Nevertheless, these appear to form part of a wider network of associated features extending beyond the area A's boundary limits. The predominant alignment is along a north-west, south-east orientation with regular returns at corners, forming a patchwork assemblage of enclosure divisions. Of note is the variable strength of the responses recorded within the survey data. Some features exhibit a stronger white response which

may be related to the physical size of a feature. This is because a stronger response does not always equate to size but may result from the material within a feature being subjected to greater magnetic modification, hence showing greater variability against the background magnetic field.

The survey indicates that several of the features interconnect, forming a pattern of enclosures. It is not possible to determine the purpose and use of these features from the geophysical survey alone. However, it is likely that there is a combination of domestic, field and boundary enclosures present. A presumed trackway enters the site from the south-eastern corner and is an extension of a feature which runs through area B. Distributed across the site are several anomalies described as High Magnetic Response. These are interpreted as potential pit features which may have been used for the disposal of materials generated on site.

The results from the western edge of the survey area are less clear than the rest of the site. This is due to vegetation conditions at the time of the survey where crop regrowth compromised the stability of the survey equipment. There are two distinct anomalies that run north-west/south-east which are geological in nature and are potentially former river channels. The very strong magnetic response that runs north-south across the site results from a high-pressure, steel gas main, approximately one metre in diameter. Historic, likely medieval, ridge and furrow anomalies are also present.

Further linear activity can be seen within the central and western areas, some of which is a continuation of the features located on the eastern side of the study area. Running south-west/north-east across this area is a possible double ditch trackway, c. 190 m long and up to c. 8 m wide. This would have been a significant feature within the landscape. At its north-eastern end it appears to widen, suggesting an entrance into another enclosure. The gas pipeline truncates it but is visible again towards the south-west corner of the site, where it appears to join with another trackway, which is strongly visible where it enters area A from the south-western corner.

The latter trackway is orientated north-south at the southern end but can be seen to curve more to the west as it exists the site. It should be noted that neither of these trackways have any alignment relationship with the route of Dere Street, which lies immediately to the west of the site, and it can be concluded that they pre-date its establishment. This is also true for the linear enclosure features across the rest of area A. A second trackway enters the area from the north-east corner and appears to provide an access into the enclosure complex on the eastern side.

At the south-eastern corner several “halo” feature can be seen. This area is part of a long-established orchard, and these responses are caused by the metal guards that protect the trees. Despite this

interference, there is evidence of a small, rectilinear enclosure within the confines of the orchard. These features cross the modern hedge line and join with the main complex within the main part of the survey area.

Overall, area A provides a rich concentration of archaeological features that are potential targets for further investigation through excavation.

6.4.2 Survey Area B

Figure 6.12 Survey area B Magnetometry greyscale showing a linear concentration of features towards the eastern boundary of the survey area.

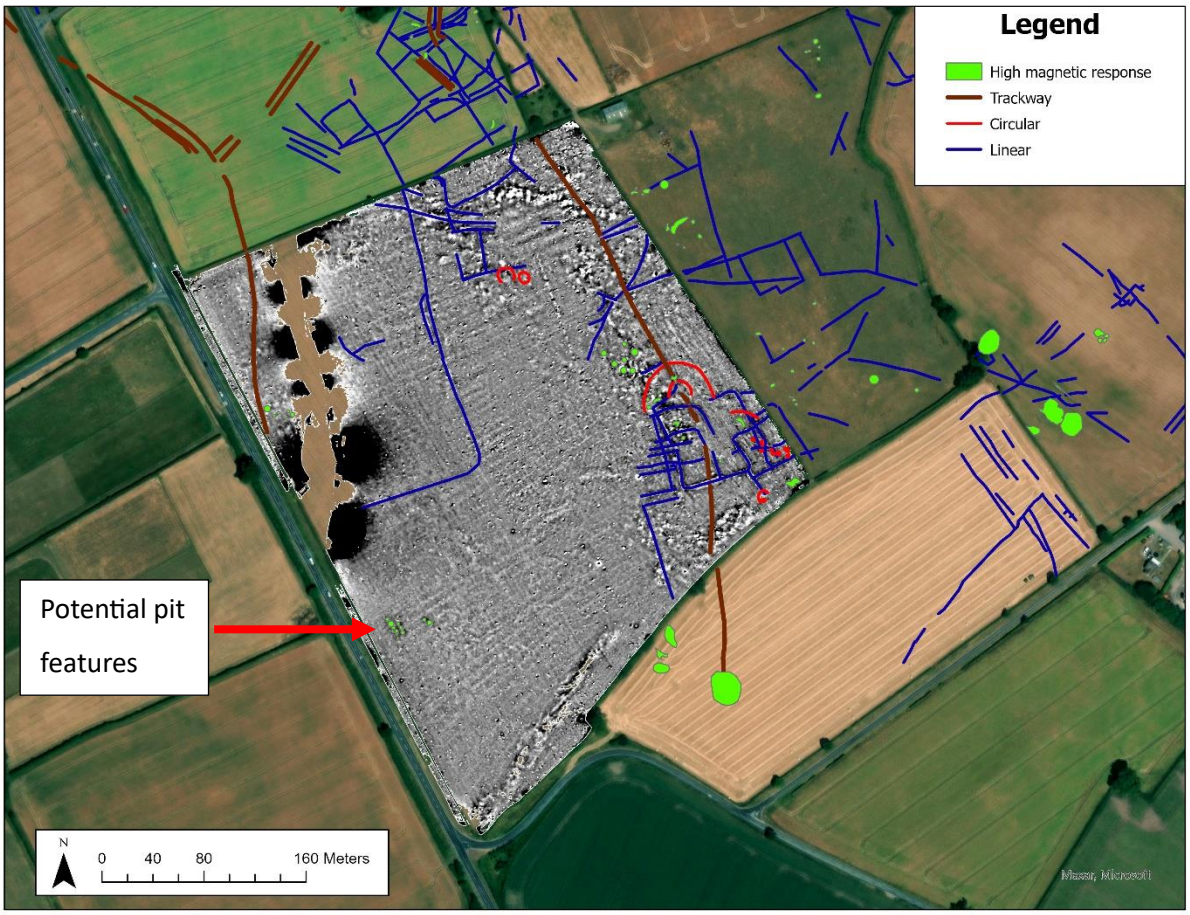

Figure 6.13 Survey area B geophysical interpretation including pit features which may relate to the construction of Dere Street.

Figure 6.13 provides detail of the interpretation from the geophysical greyscale (Figure 6.12). Area B is located immediately to the south of Area A and is separated by an established hedgerow. It is 37 acres (15ha) in size. The continuation of the gas pipeline can be seen clearly in the north-west corner of the field. Also visible here is a single ditch feature running north-south, part of the double ditch trackway which crosses the western side of area A. Relatively few features of archaeological potential are visible within the western part of the survey area. However, c. 320 m south from its northern boundary a group of high magnetic response features are visible. At some c. 20 m in length and c. 9 m in width, they form an apparently organised dual alignment of potential pit features. They could be explained as quarry pits of material for the construction of the road to the west of this area. Two further responses immediately to the east are also suggestive of pit features. Historic ridge and furrow features are visible running east-west across the survey area and in the central southern area there is evidence of an organised land drainage scheme (see Figure 6.29). A single ditch feature can be seen emerging from the gas pipeline area in the western section of the survey area, traversing c. 100 m east before turning north.

The eastern half of area B presents results which demonstrate the presence of a considerable number of archaeological anomalies. Although there are responses relating to the underlying drift geology, the area is dominated by a conglomeration of linear alignments. These can be categorised as a complex series of regular and irregular enclosures. A central linear runs c. 310 m north-south across the site, curving westwards as it approaches the southern extent of the survey area. This is interpreted as a trackway feature, off which several regular features are aligned, particularly in the northern quarter of the field.

The south-eastern end of the survey area contains a collection of linear features, which are interpreted as domestic enclosures. Irregular in plan, they range in size from approximately 15-20 m x 20-30 m across and exhibit evidence of circular features within ditched enclosures. The circular features appear to be between two and six metres in diameter and are potentially small domestic structures either for habitation or storage. Near the southern boundary of the survey area, a circular feature c. 10 m in diameter is visible, which is potentially a roundhouse structure. Further, at the northern end of the survey area are two more circular features between 8 m and 13 m in diameter. These are also considered to provide potential evidence of roundhouse structures.

Within the southern quarter of the survey area, several high response anomalies appear to be associated with the central trackway. These may represent areas of burning, potentially indicating that industrial activity is taking place, or they may be evidence of pits associated with domestic activity. There is a further concentration of possible pits at the south-east corner of the field, where domestic activity may also be present.

A possible enclosure entrance is located c. 240 m south from the northern boundary alongside the central trackway. A characteristic funnel-shaped feature suggests that this may have been utilised as part of a stock movement and management regime. It has an east-west orientation, but no enclosures are visible to the west of the feature.

Of note is a double semi-complete circular feature, which is immediately north of the southern enclosures. This appears to have been truncated by later features, or perhaps the magnetic responses from the funnel shaped feature and other enclosures are partly masking its presence in this area. This feature consists of an outer circle, measuring c. 55 m across and an inner circle of c. 18 m. The survey may indicate activity at the centre of the circle, but this is not clearly defined. The size and form of this feature is suggestive of a possible Neolithic henge or Bronze Age barrow, potentially one of the oldest features within the Hundayfield site (see Figure 6.14).

Figure 6.14 Part of a double partially complete circular feature located in area B, showing differential growth of a clover and grass crop. View is to the south-west (not to scale).

6.4.3 Survey Area C

Figure 6.15 Survey area C Magnetometry greyscale.

Figure 6.16 Survey area C geophysical interpretation.

Survey area C is a 15 acre (6 ha) field immediately south of area B and is separated by Burn Beck (for the route of this beck see Figure 6.29) that runs south west-north east along the boundary of the two fields. At the western side of area C can be seen the continuation of the trackway which runs south across area B. It terminates at a point which demonstrates a high magnetic response, which suggests a linkage between the two features. Excavation would be required to test for an association between these geophysical anomalies.

The centre of this field is quiet in terms of archaeological responses, although they are more frequent towards the eastern boundary, where several linear anomalies indicate the presence of potential enclosure ditches that run north-south across this area. Lastly, a south-west/north-east orientated ditch runs c. 185 m and intersects with the anomalies concentrated in the eastern part of the survey area.

6.4.4 Survey Area D

Figure 6.17 Survey area D Magnetometry greyscale.

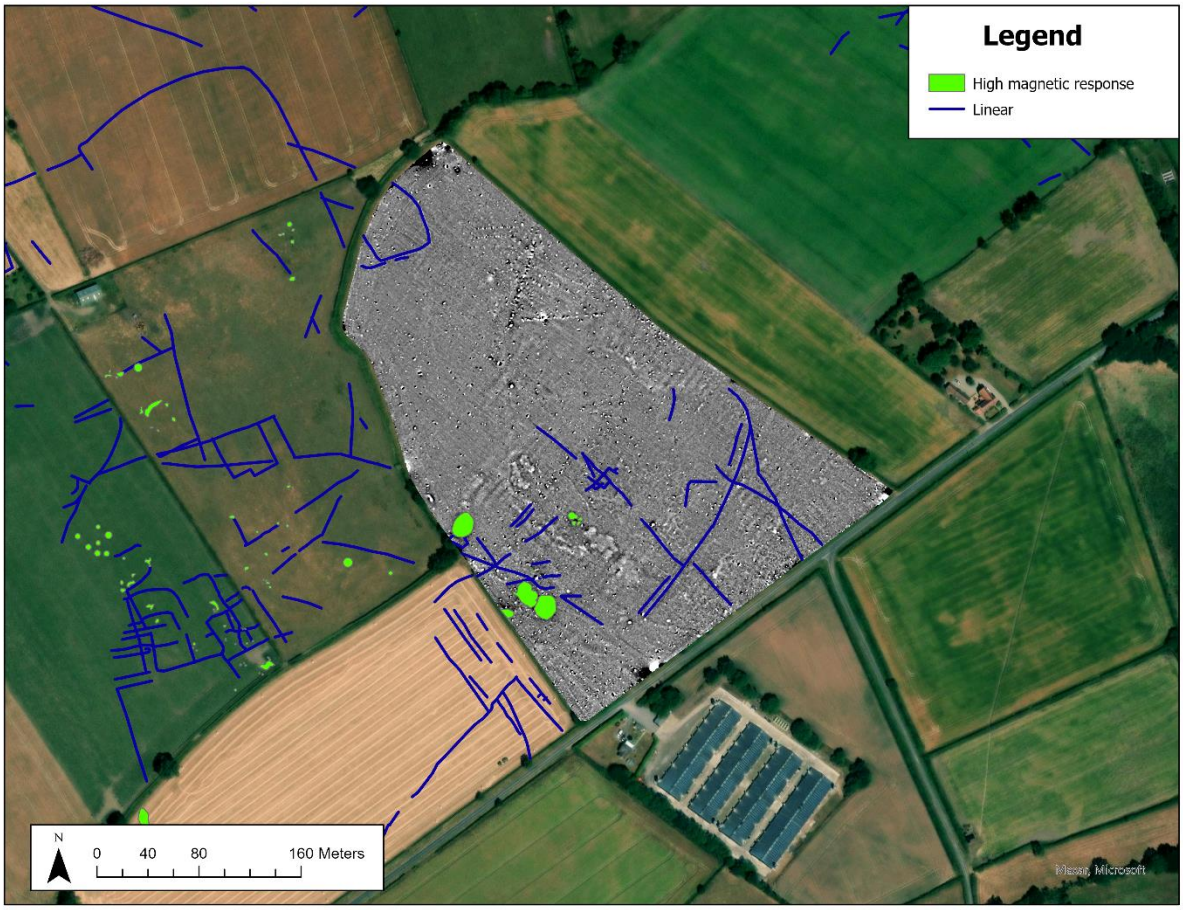

Figure 6.18 Survey area D geophysical interpretation.

Survey area D is a 25-acre (10 ha) field and presents a high point in the local landscape at 31 m OD, with the central area of the field being its highest point. Archaeological visibility appears limited, and a moderate amount of peri-glacial cracking can be seen in the central and southern areas. The central area contains evidence of ditched enclosures and includes a linear which runs c. 140 m from the boundary with survey area C to the west. This intersects with a linear running north-west/south-east over a length of c. 135 m, which joins a possible double ditch feature at the site's southern end. The western area, adjacent to the boundary with area C, also provides evidence of smaller-scale enclosure features.

The interpretation (Figure 6.18) also shows several high response anomalies, concentrated in the south-western quarter of the survey area. Some of these may be due to natural factors but four smaller responses to the north-east of the southern high magnetic response area may be because of human activity. They appear to be organised around a low response area and suggest pits, although their origin or purpose at this stage are unclear.

At the northern end of area D, the field boundary runs along the stream's course separating areas D and E (see Figure 6.29 for the course of the stream). Within this area, there is potential evidence of a

further rectilinear enclosure. However, its northern boundaries appear truncated by the stream's route. If correct, the alteration of Burn Beck in the 18th century may be responsible for this truncation.

6.4.5 Survey Area E

Figure 6.19 Survey area E Magnetometry greyscale.

Figure 6.20 Survey area E geophysical interpretation showing a concentration of activity towards the south and western boundary of the present-day field boundary.

Survey area E (14 acre/5.7 ha) is located between survey areas B and D and to the north of survey area C. It also shares the common watercourse boundary along its southern and eastern limits. Figure 6.20 provides an interpretation of the survey results. The greyscale image shows extensive ridge and furrow ploughing running west-east across the field and a drainage scheme with lateral connections visible at the northern end (see Figure 6.29). However, there is potential evidence of a series of enclosure and boundary features within the central section of this survey area. Some of these appear to continue across the boundary into area B, suggesting direct linkage with features present there. The modern field boundaries mask a previous extensive landscape organisation, whilst the smaller-sized enclosures in the centre of the survey area suggest a possible focus of domestic or settlement activity.

In the south-western corner of the area are two distinct, high-response anomalies. These may be possible kiln features or represent a focus for burning activity.

Although there appear to be fewer features in area E when compared to area B, it is worth noting that area E has been in long-term grass for approximately 30 years, whilst area B is part of a mixed

arable rotation. This may be a factor affecting different responses to the survey technique, thus reducing the visibility of archaeology which may be present.

6.4.6 Survey Area F

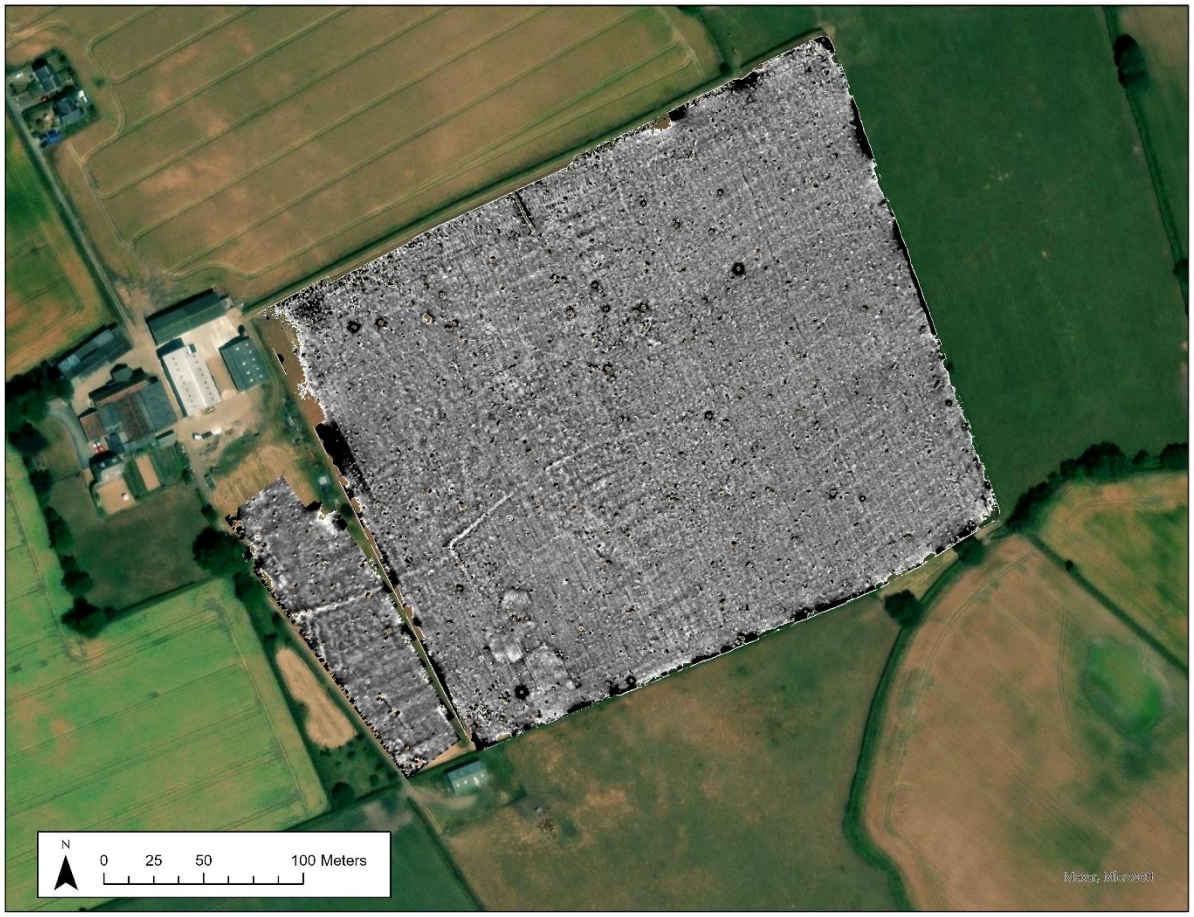

Figure 6.21 Survey area F Magnetometry greyscale.

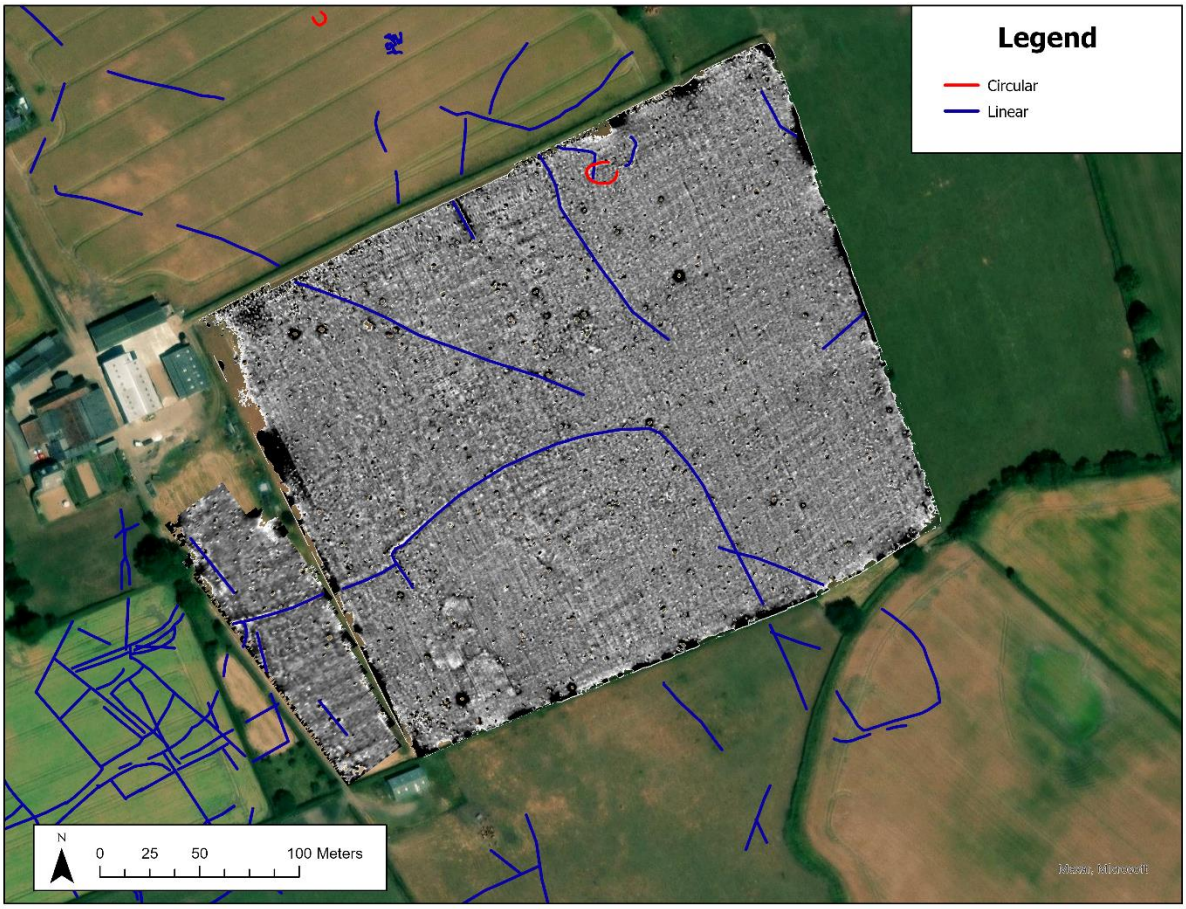

Figure 6.22 Survey area F geophysical interpretation showing extensive field boundaries rather than smaller enclosures.

Survey area F covers an area of 23 acres (9.3 ha) and is located to the north of area E. This area exhibits few standalone features, instead, it displays connectivity with the survey areas alongside its boundaries. The main features appear as linear boundary ditches, forming large-scale enclosures. The largest of these occupies the central and south-east section of the survey area and continues into area E. It also intersects with a ditch feature originating to the west in area A. At the north-western quarter, a linear ditch feature crosses the present-day field boundary linking across into area G.

6.4.7 Survey Area G

Figure 6.23 Survey area G Magnetometry greyscale.

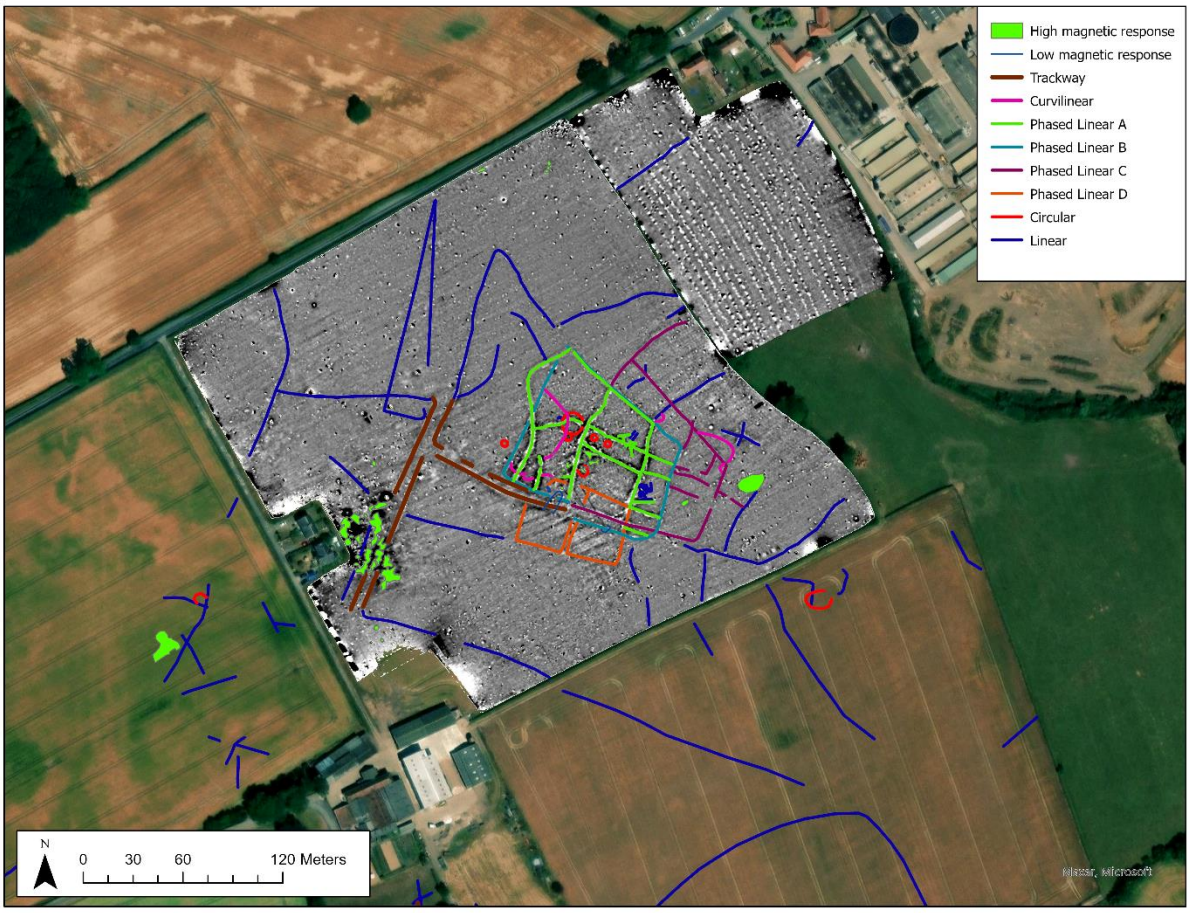

Figure 6.24 Survey area G geophysical interpretation showing complex features and possible chronological sequence (Phases A, B, C and D).

Survey area G covers 25 acres (10 ha) and forms one of the most complex interactions of results from the completed site survey. In general terms, there is evidence of intensive, multi-phase activity covering an area of approximately 7.5 acres (3 ha), set within a wider landscape of associated features. The survey technique does not allow a definitive chronology to be ascertained but the variability of response signals within the results, alongside individual characteristics of features, may indicate activity over different time periods. Four sequences, in addition to other chronologies, have been identified within the approximate centre of area G and are described as Phases A, B, C and D. These sequences have been identified through the potential connectivity of the features and similar characteristics (e.g. corner profiles of enclosures).

The main feature group consists of what are potentially ditched, rectilinear enclosures, varying in size from c. 20 m x c. 20 m up to c. 40 m x c. 40 m. It is possible that these may be sub-divisions within larger enclosures, but this cannot be determined from the geophysical survey results alone. The enclosures are mainly regular, with mostly right-angle junctions, although some exhibit curved

corners, particularly phases A and B. Phase D is the most regular in its form, consisting of two organised, right-angle enclosures, separated by a 3 m wide division.

Phase A exhibits the strongest magnetic response and therefore stands out amongst the other ditched enclosures. The explanation for the higher magnetic readings is due to strongly magnetic material being contained within these ditches. The cause of these responses cannot be ascertained from the survey but may be explained by the human activity, which was present on the site before, or at the time when, the ditches were filled in. The ditch at the western side has a notable curvature. Although the survey results show little in the way of magnetic response in this area, it is considered that the curve of the ditch may have been a construction strategy to avoid a then contemporary feature which was present in the landscape when the ditch was set out.

Within the complex arrangement of ditches in area G there is an apparent concentration of activity towards the centre of the enclosures. A collection of high magnetic responses, indicative of potential pits, which are not present across other areas of the site, suggest that this may have been a focus of human activity. In addition, there is a very clear, c. 13 m circular feature adjacent to this concentration. This feature has an associated c. 4 m circular feature joining at its south-west limit. Excavations by the author (not reported as part of the thesis) indicate that this may be a Class II mini-henge with opposing entrances of possible Bronze Age/Early Iron Age date.

Linking the enclosures to the rest of the survey area is a trackway which runs c. 140 m east-west across the site to where it joins a main trackway running north-south. This trackway is visible within the results for c. 150 m. The main trackway is double-ditched and is approximately eight metres in width. The enclosure trackway also appears to be double-ditched.

Outside the area of concentrated activity are several linear, potential ditch features. They are indicative of larger enclosures and can be seen continuing outside area G, linking into linear features that cross into the adjoining survey areas. Although the chronology is not confirmed, it appears that the focussed activity may sit within a wider scale, organised landscape of larger field enclosures and boundary ditches.

Several high magnetic response anomalies can be seen at the western side of the survey area. These are unusual in their intensity and their concentration within a restricted area. It is unlikely that these results are in response to natural geological conditions, although this cannot be discounted. If they are caused by human activity, then these very strongly magnetic responses may indicate that this area was a focus for industrial-scale processing activities.

At the eastern extent of the main survey is an area of permanent pasture. The most prominent feature here are the regular lines of a field drainage scheme, comprising fired clay tiles, probably dating from the 19th or early 20th century (see Figure 6.29). The distinctly parallel form and narrow spacing of approximately four metres is unusual, as drains are rarely required to be this close. The likely explanation is that the drains have been laid into the furrow of an old ridge and furrow plough system and the field subsequently levelled. There are a further two short linear features visible which may have an association with features identified within the main survey area.

6.4.8 Survey Area H

Figure 6.25 Survey area H Magnetometry greyscale. The route of a high-pressure gas main can be seen cutting north-south across the survey area.

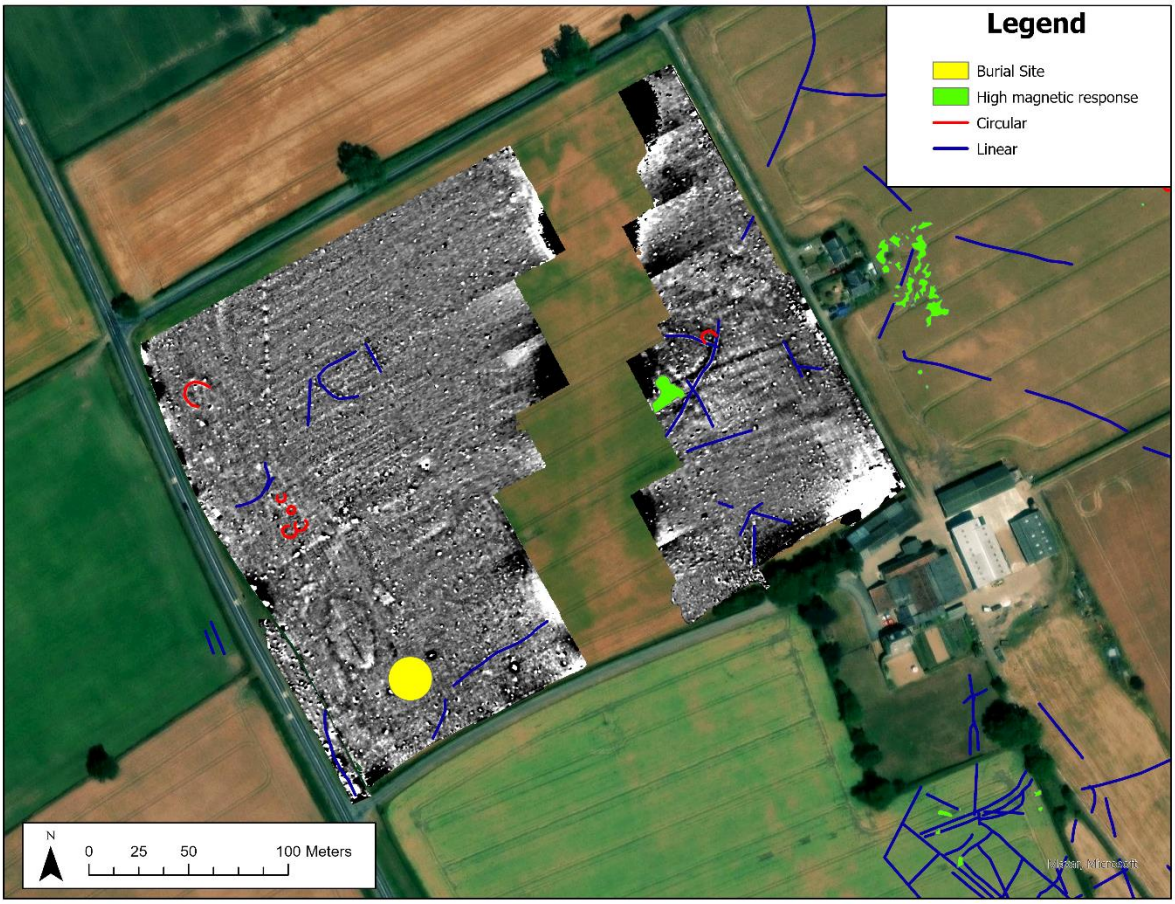

Figure 6.26 Survey area H geophysical interpretation.

Survey area H is located immediately to the west of area G and to the north of area A. The centre of the survey area is dominated by the gas pipeline which runs approximately north-south across the area (see Figure 6.29).

Area H contains the location of the Roman period lead-lined coffin, close to the Dere Street route, excavated in 2007 (see Chapter 2).

In comparison with the adjoining survey areas, there are few anomalies present. A linear feature is visible running north-south to the east of the pipeline. At its southern end it is truncated by the pipeline but at the northern end it can be seen to continue across area G. There is also a discrete circular feature where it joins a possible east-west ditch, some seven metres across with a possible high resistance response at its centre. Several circular features are also present to the west of the survey area. These range in size from four to seven metres in diameter and are potentially domestic in nature. There is evidence that two of the circles cross-cut each other, suggesting distinct phasing.

6.4.9 Survey Area I

Figure 6.27 Survey area I Magnetometry greyscale.

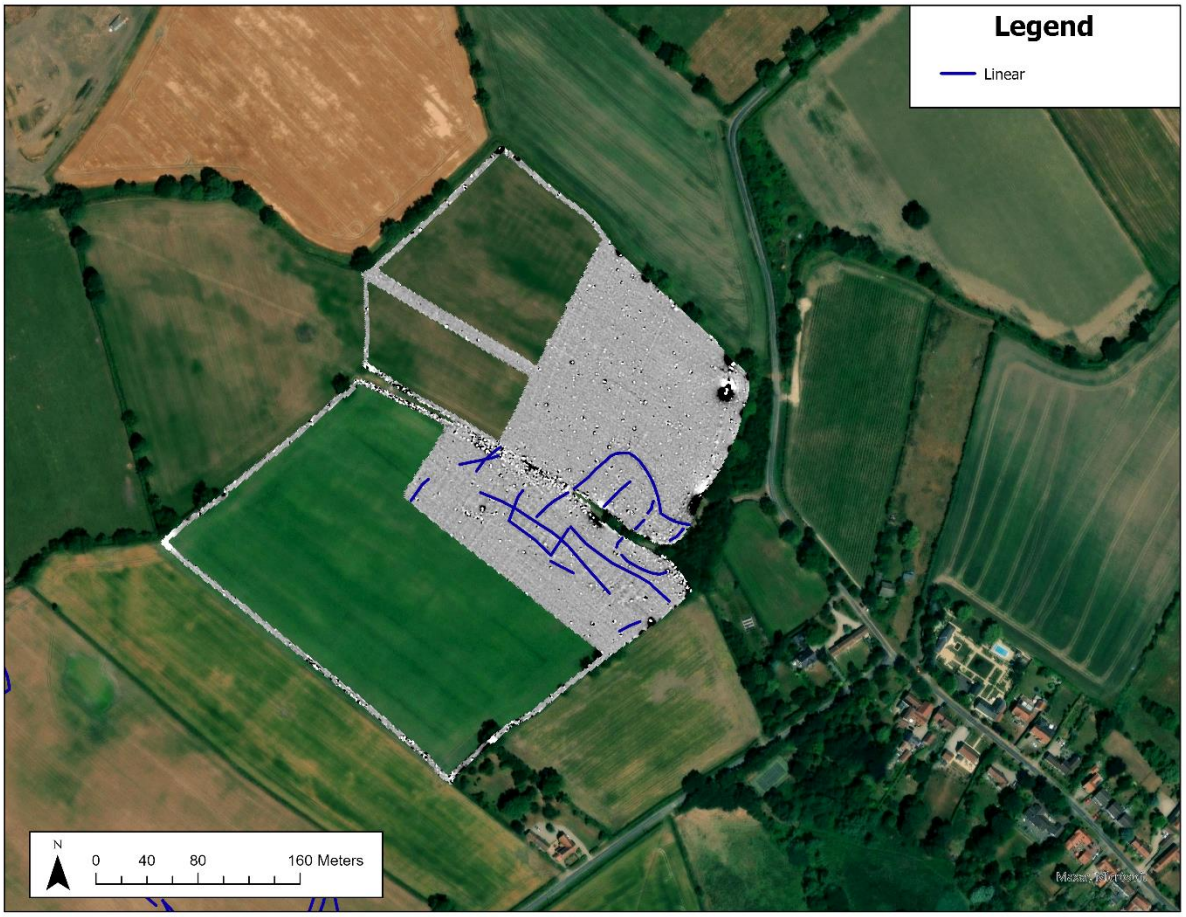

Figure 6.28 Survey area I geophysical interpretation.

Area I is located approximately 300 m to the north-east of the main survey areas. Present here are several linear features which have been interpreted as potential ditches. An evaluation excavation (not reported as part of this thesis) recovered Iron Age pottery from the curved ditch visible within the eastern part of the survey area.

6.4.10 Agricultural and Modern Responses

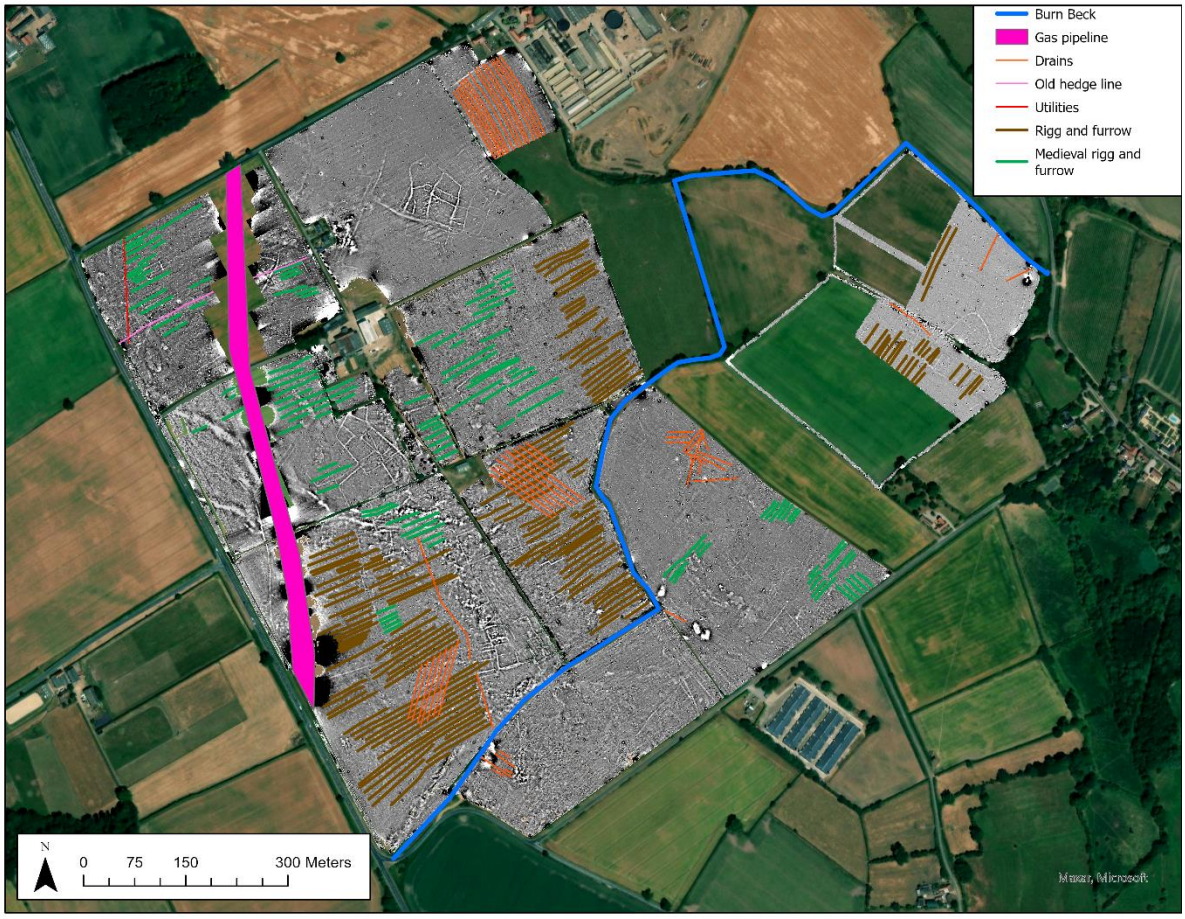

Figure 6.29 Agricultural and modern geophysical interpretation.

The survey has identified several features which appear to be agricultural in origin. These consist mainly of ridge and furrow ploughing, mostly 18th and 19th century in origin but some also dating back to the medieval period. The medieval features are characterised by wider spacing between the furrows, often between 10 m and 11 m wide. The later ploughing is typically spaced between 6 m to 8 m wide. There appear to be concentrations of these different features within certain areas of the survey, suggesting that practices varied according to specific locations. It is likely that later cultivation strategies have truncated the earlier features and consequently they are not consistently visible within the survey results.

There are also organised drainage schemes visible, some typically set out in a herringbone fashion. These are difficult to date but they utilise clay-fired drainage pipes which were first introduced in the early 19th century. These schemes are likely to date to a period within the 20th century.

The large gas main pipeline is clearly visible and cuts through a large portion of the site. The pipeline's course was excavated in 1978 to a width of c. 12 m and a depth of c. 0.5 m with the main trench for the pipe being excavated to a depth of approximately 2.5 m.

6.5 Conclusions of the Geophysical Survey

The fluxgate gradiometer survey has provided a comprehensive illustration of magnetically susceptible anomalies which can be interpreted as archaeological in nature. The extensive survey area, covering 180 acres (73 ha), allows for these anomalies to be represented at a landscape level and illustrates where relationships between different features can be identified. The survey results are dominated by linear features representing boundaries and divisions within an active landscape. Although a chronology cannot be determined from the survey results alone, it is possible to infer relationships between features and to determine this was a landscape subject to change and modification. Several domestic-sized enclosures are present, which may be linked to settlement patterns or field and livestock enclosures. In addition, there also appears to be large-scale demarcation of boundaries within the survey area.

Evidence for habitation is limited but the degree of activity present suggests that this was a lived landscape. There appears to be three distinct areas where activity is concentrated: the eastern portion of area A, the southern end of area B and the central part of area G. A chronological linkage cannot be established between these sites without the physical intervention of excavation, but the results do provide evidence of continuation of features between these sites. The following section describes the results from excavation.

6.6 Excavation

6.6.1 Excavation Rationale

The results of the geophysical survey and their subsequent interpretation provided the basis for the evaluation of an appropriate excavation strategy (see Methodology Chapter 5). The study site is dominated by a series of enclosure ditches and boundaries, some of which appear to overlay each other. This palimpsest indicates that there is a chronology of activity, where features are created, utilised, go out of use and are replaced by other features. The key aim of the excavation was to determine a chronological sequence of events on the site. Previous archaeological excavations had identified Iron Age activity in the field to the north of the excavation site, where a trapezoidal enclosure was investigated. Excavation of a ditch by the author in 2016, and not presented as part of this research, produced an assemblage of Middle Iron Age pottery (Manby *pers comm*). A geophysical survey of this area produced little evidence of landscape organisation, suggesting that this enclosure sat within a more open landscape. How this area compares to the site selected for excavation is an important component in understanding the character of the wider landscape and whether the excavation site was in use in the pre-Roman period.

Further, if samples of material culture could be collected, examination of these assemblages may provide information on social, cultural and economic activities. The excavation strategy was focused on the investigation of ditch features. These were considered to have the greatest potential to provide information on activities across the site. The geophysical survey did not indicate evidence for structures or settlement; magnetometry does not usually indicate the presence of these type of features.

The selection of the site for excavation involved identifying an area which, based on the geophysical survey described above, had a concentration of features that had the potential to date from the period before, during and after the Roman period, and which could be accessed within the restrictions of the crop rotation in place on the farm. On this basis, an area of 2.5 acres (1 ha) was identified within the 15-acre (6 ha) field of area A (Figure 6.30). This was a stubble field post-harvest of a cereal crop, which was scheduled to be sown with grass. This allowed for a period of six months when the area would be available for investigation. The extent of the excavations and three-months of lockdown due to the COVID-19 pandemic, subsequently determined that this excavation phase was extended to 12 months.

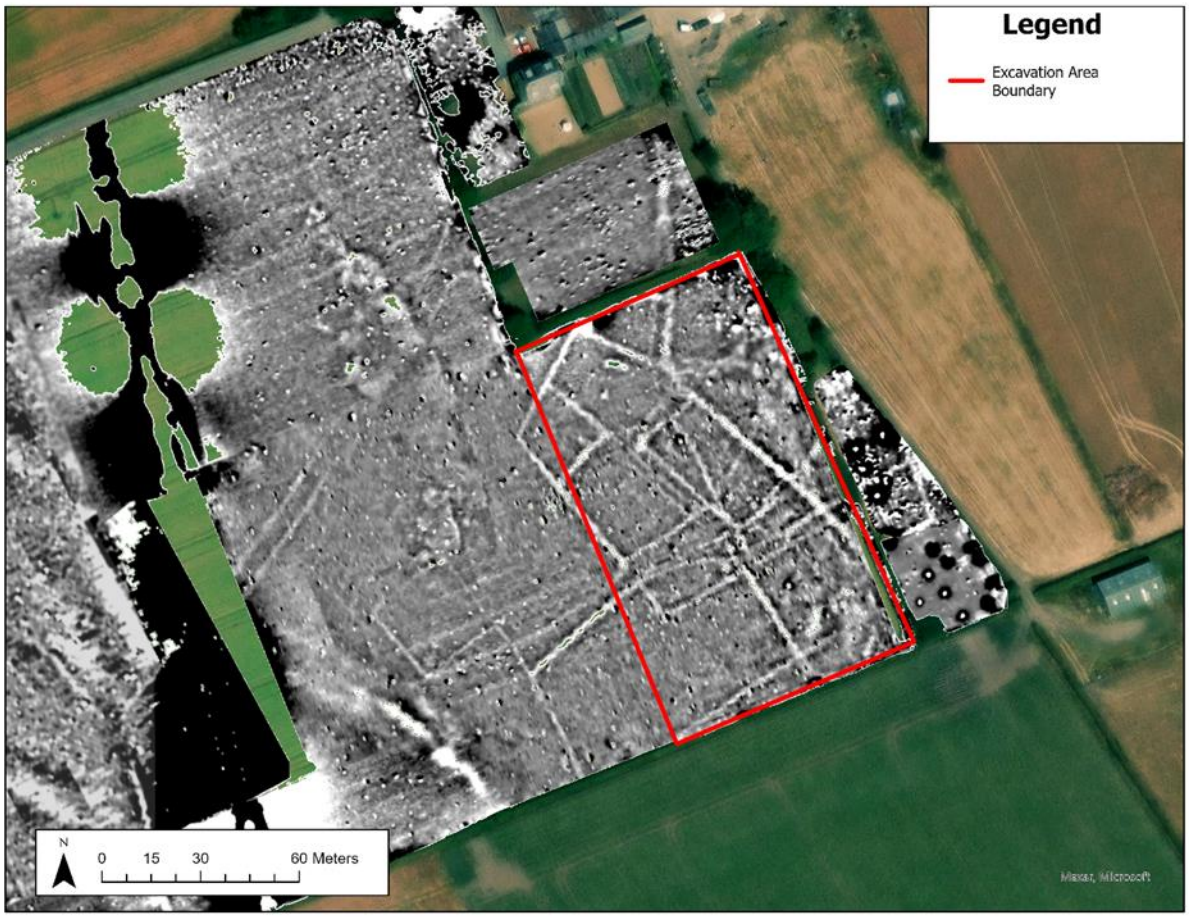

Figure 6.30 Area of excavation outlined in red, within the geophysical survey area A.

Preliminary fieldwalking was undertaken over the proposed excavation area by a team of volunteers, across the stubble of the previous cereal crop, the field not having had any cultivation for a number of years. This lack of cultivation may have impacted on the effectiveness of field walking as very little material was recovered, most of this being 19th century to modern in date. It represented a mixture of broken pot sherds and resembled accidental in-field loss and damage, or deposition as a factor of waste disposal from the adjacent main farm property.

A metal detecting survey was undertaken over the locations identified for excavation, which produced a medieval spindle whorl and a Victorian Florin dated to 1857. The field walking failed to provide firm evidence of archaeologically related activity on the site. This was unexpected, given the apparent presence of a range of features identified in the geophysical survey. Initially, the lack of surface finds was interpreted as potentially indicating that the activities on site simply did not leave artefacts, or that the degree of surface preservation was poor. If the fieldwalking had been the only survey conducted on site, the results would have concluded that there was little of archaeological value on site and that further investigations would not be warranted.

Initially, five sites were identified for the location of the excavation trenches. This was increased to 11 (Figure 6.31). The excavation trenches were placed over linear features, interpreted from the geophysical survey as ditch and boundary enclosures, to investigate that these interpretations were correct and to investigate the form, purpose and possible dates for the features.

Figure 6.31 Trench locations and numbers.

The purpose of the excavations was to ground-truth the features identified through the geophysical survey. Within the excavation, relative dating was identified through standard principles of stratigraphy. Absolute chronologies were established where artefacts (mainly pottery) were identified through the dating of rim sherds. In the following sections, relevant artefact evidence is given to date contexts within features and provide evidence for activities on site. Wider discussion of artefact finds, including site chronology and activities is discussed in Section 6.10 below.

A sequential approach has been taken towards the identification and interpretation of features. The aim is to understand these features by typology initially, before attempting to attach chronological and physical relationships to activity across the site.

As the geophysical survey indicates, the site appears to be dominated by boundary enclosures which have been categorised into potential use categories by the author based on width and depth. There is a degree of subjectivity in the classification, supported by evidence from excavation detailed in the sections below, which allows for a consistency of reasonable interpretation. Other features have been categorised based on their potential use (Table 6.1). Boundary features have been sub-divided into four categories by the author (surface* width denotes dimension visible and does not account

for potential loss through later activities e.g. truncation by ploughing). The categorisation by width and depth relates to on-site evaluation of form and purpose as a result of excavation.

Table 6.1 Typological description of features.

Feature	Sub-division
Boundary	Landscape – where dimensions of the ditch exceed 1m surface* width and 1m depth
	Agricultural – where dimensions of the ditch are between 1m and 0.5m surface* width and between 0.3m and 1.0m depth
	Domestic – where dimensions of the ditch are less than 0.50m surface* width and less than 0.30m depth
	Trackway – features which have corresponding parallel ditches or single track
Structural	Foundation – straight-sided vertical cut
	Wall – freestanding upright construction
	Drain – construction with coping stones
	Fire pit – placed stones where burning has taken place
	Cairn – presumed upstanding feature of deliberately placed cobbles
Other	Pit – former hole in ground with varying deposit fill

6.7 Investigation and Interpretation of Features

6.7.1 Trackways

Interpretation of the geophysical results suggests that trackways are present within this survey area (Figure 6.32). The larger of these is to the north-west of the excavated area which, although not excavated, appears characteristic of a double-ditched trackway, measuring approximately seven metres between the ditches. It traverses north-east across the survey area to a point where a splay is visible, the southern component of this then appears to connect to one of the landscape boundaries within the area of excavation.

Figure 6.32 Trackways indicating possible routes across the site.

A parallel double-ditch feature, not excavated, is visible within the centre of the survey area. The ditches here are three metres apart, significantly smaller than those to the north-west and potentially connects with a west-east trackway running across this area. There are considered to be part of a system for managing the movement of livestock.

A third feature interpreted as a trackway is present in the centre of the northern third of the excavation area and runs north–south across this part of the site. At its southern extent it appears to join with a possible trapezoidal enclosure (Enclosure B, Figure 6.45), parts of which are visible as boundary features in Trenches 1 and 3 (Figure 6.31). This could prove to be a significant feature within the series of landscape modifications which can be identified. A relationship between the trackway and enclosure would indicate movement on and off the site and demonstrate that this enclosure had significance as a destination. Further excavation within the area enclosed by the boundary ditches would be required to investigate whether specific activities could be determined.

6.7.2 Boundaries

The geophysical survey of the excavation area A demonstrated an extremely complex ditch system on the Hundayfield Farm site. Ditches were confirmed by excavation with potential associated forms

extrapolated across the geophysical survey interpretation (Figure 6.33, Figure 6.34 and Figure 6.35). The excavation trenches were contained within 100 m x 85 m of area A, demonstrating that much activity is concentrated in a relatively small space.

6.7.2.1. Landscape Boundaries

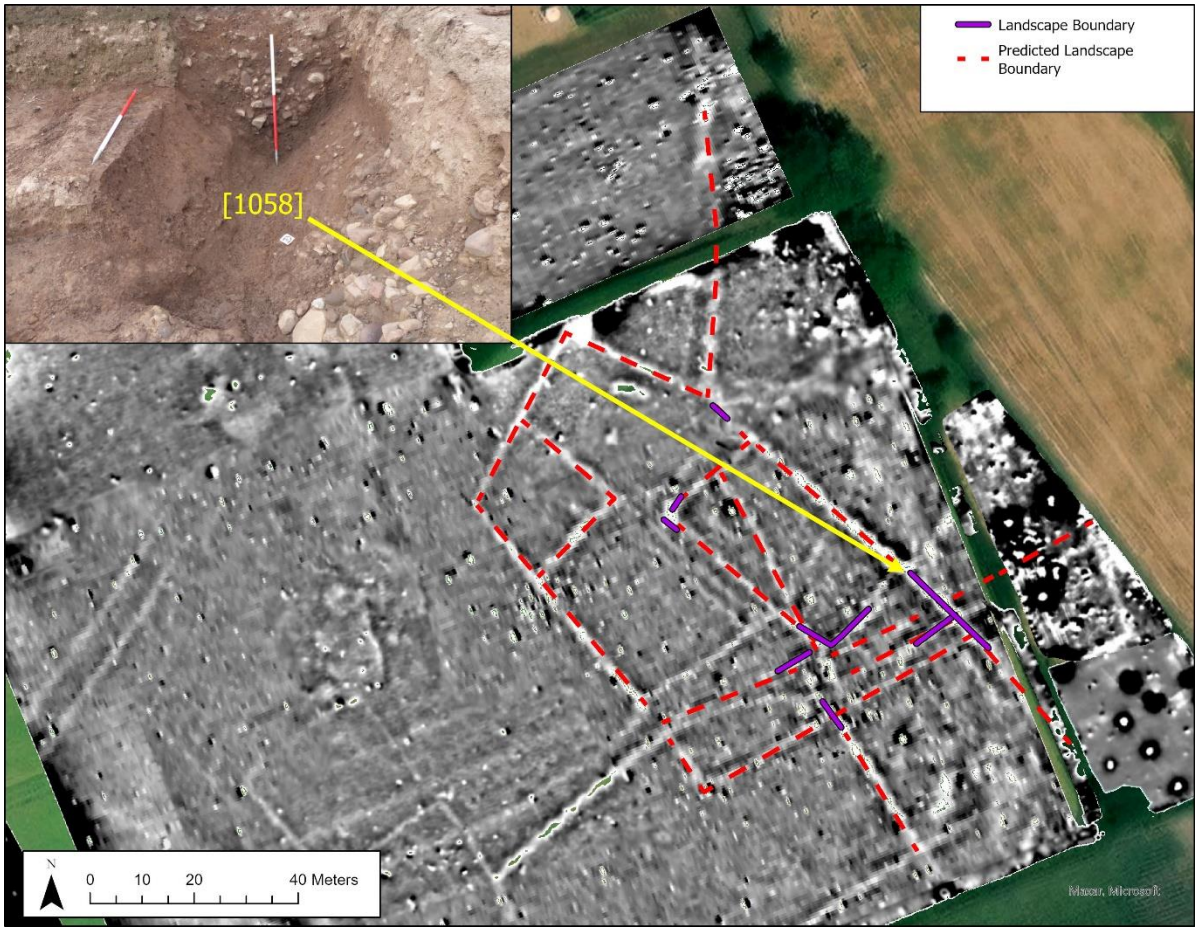

Figure 6.33 Landscape boundaries. Inset photograph illustrates a typical Landscape boundary ditch [1058], with broad V-shaped form, natural primary infill in its base and overlying cobble backfills. Top of sequence truncated by medieval ploughing. Scale rods are 1 m in length.

Landscape-scale boundaries (Figure 6.33) were a particular characteristic and were present in excavation trenches 1, 3, 4, 5, 6 and 10, suggesting a phasing of activity between the features. The dimensions of the ditches and the associated bank which would have been thrown up during construction, would present a substantial feature within this landscape. Figure 6.33 illustrates ditch [1058], a significant feature within the landscape and identified as Enclosure A (Figure 6.45).

6.7.2.2 Agricultural Boundary

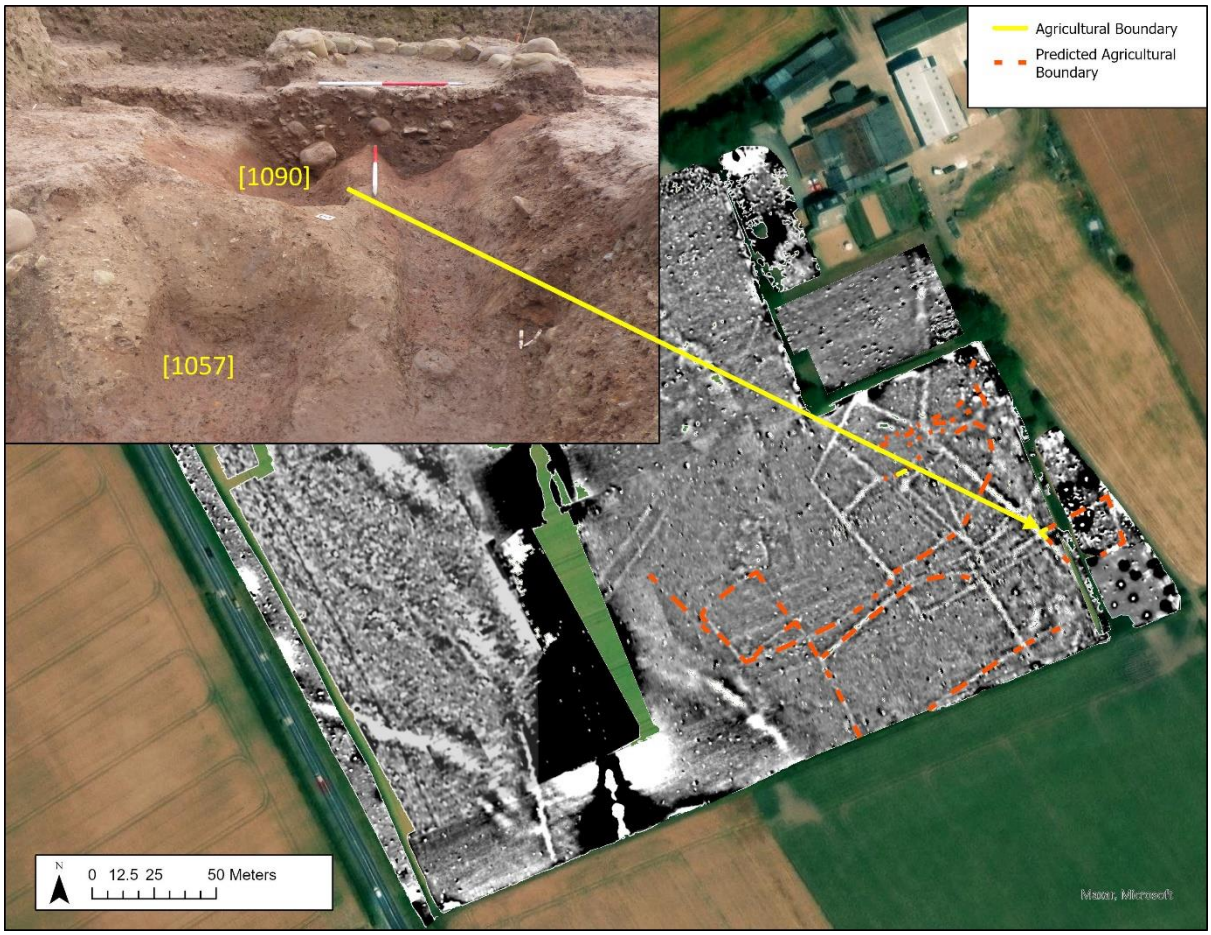

Figure 6.34 Agricultural boundaries. Inset showing [1090]. Scale rods are 1 m in length.

Excavation Trench 1 provided evidence for a possible agricultural enclosure (Figure 6.34). Context [1090] appeared to be contiguous with [1057], forming a bounded enclosure to the east of the excavated area. This enclosure measured approximately 30 m x 19 m and was trapezoidal in shape. A clay baulk which was visible in Trench 1, separated these two features, suggesting an entrance into an enclosure. The characteristics of the geophysical response was extrapolated across other similar features of the survey and, along with evidence excavated from Trench 5, indicated further boundaries which were interpreted as agricultural in nature. Figure 6.35 shows a team of volunteer excavators working within Trench 1 above ditch feature [1090].

Figure 6.35 Volunteers excavating above ditch feature [1090] with fire pit feature (1004a) in the background and wall feature (1008) to the foreground (Source Anderson 2020).

6.7.2.3 Domestic Enclosures

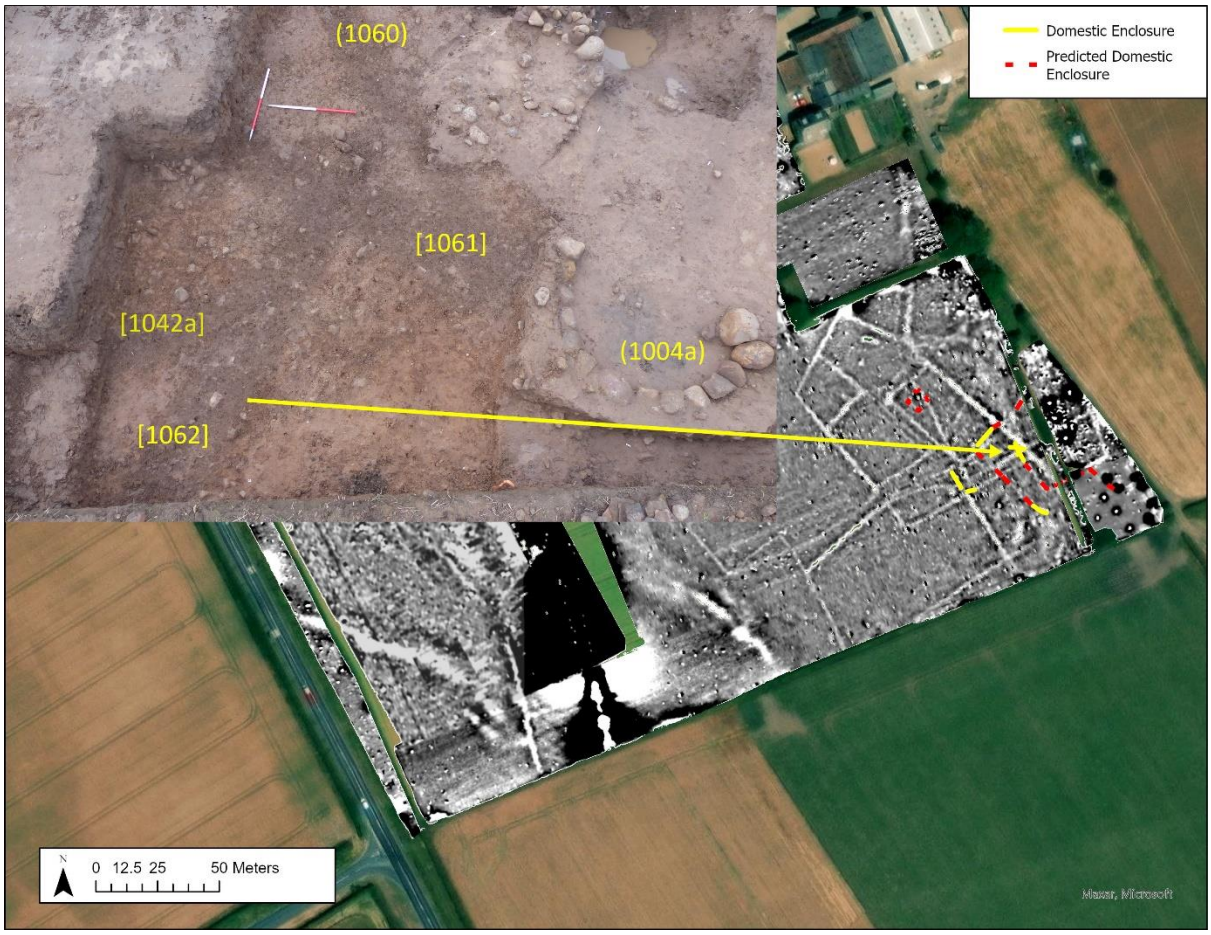

Figure 6.36 Domestic enclosures. Inset showing features in Trench 1. Scale rods are 1 m in length.

Although the pottery assemblage (Appendix C) suggested that domestic and settlement activity was present on site, physical evidence of structures was limited. However, ditches which appeared to be domestic in nature were present. In the south-western quadrant of Trench 1 were three features which were interpreted as domestic. Context [1042a] was a short section of ditch which entered from the western Limit of Excavation (LOE) and curved slightly to the north, where it intersected context [1062], another domestic ditch. This feature appeared to form part of a larger enclosure to the south and east of the excavated area which is visible on the geophysical survey. The third feature was recorded as context [1060]. This entered from the north-western LOE on a north-west to south-east alignment, where it intersected with the landscape boundary ditch recorded as context [1061].

A small, square enclosure, measuring 6 m x 6 m was visible on the geophysical survey. It was located within the northern third of the survey and central within the site. At its northern end a high magnetic response was interpreted as a potential kiln site. Trench 2 was placed over this anomaly but failed to provide evidence which would explain the response.

6.8 Structural features

6.8.1 Foundations

Figure 6.37 Possible Foundation. Inset showing [3031]. Scale rod is 1 m in length.

Evidence relating to potential foundation structures on the site was very limited (Figure 6.37) Only two instances were identified. Within Trench 3 context [3031] was four metres long, 0.6 m wide and 0.4 m deep. It was straight sided and contained a mix of large and small cobbles at its base. A large post- hole feature was found immediately to its south (context [3034]). Additionally, part of a sandstone roof tile was found adjacent to the feature. Taken together, these suggest that a roofed structure may have been present at this location. Eight metres to the north-east, within Trench 8, a 3.5 m curved linear deposit of cobbles was present (context (8003)). These were placed on a ground surface, as opposed to being within a cut feature, and were interpreted as forming part of a walled structure. It could not be determined whether this was a free-standing feature or part of a possible domestic structure but a concentrated area of burning (context (8004)) may suggested that a hearth was present internally within the feature.

6.8.1 Wall

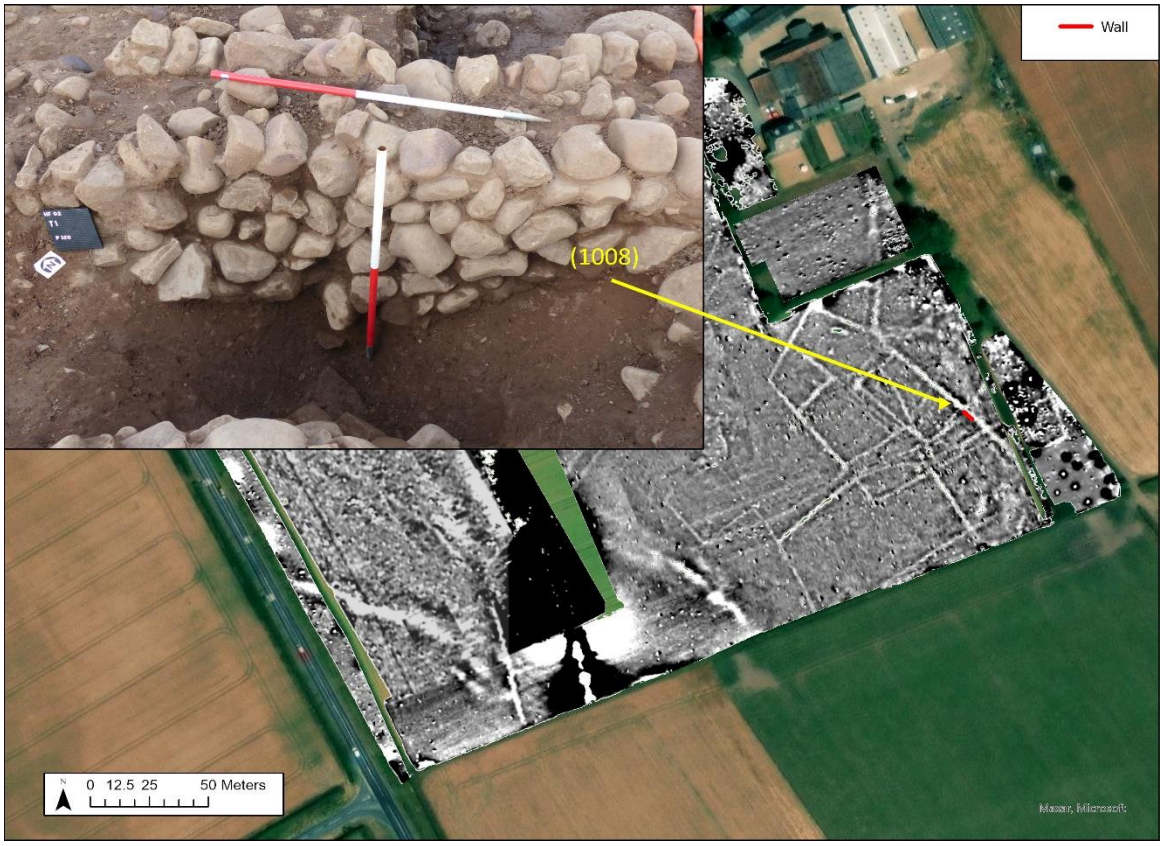

Figure 6.38 Wall. Inset showing (1008). Scale rods are 1 m in length.

The term wall is used here to define a specific feature which was found in Trench 1. The wall (1008) was a deliberately constructed feature made entirely from variably sized cobbles. It had been built over the eastern limit of Boundary ditch [1055] at a point where it intersected with Boundary ditch [1058]. The presence and use of cobbles was a recurring feature of the site. To the south of (1008), an extensive spread of cobbles was present at the same level as the top of this wall feature. It is considered that these were not naturally deposited and were indicative of demolition and spread of material from a possible structure. However, whether they were related to the wall itself, or a structure associated with the wall, remains unclear. Immediately to the north of (1008), there was a complete lack of material which may have been associated with (1008). However, deep medieval ploughing had truncated the site at this point, removing any archaeology that may have been present. The interpretation of the function of the wall remains unclear and it is not a feature with known comparators (Roskams *pers comm*). The feature had been constructed over the remains of a partially infilled ditch, demonstrated by the slumping of the cobble material into the primary fills. This suggests that, although ditch [1055] may not have gone completely out of use, regular maintenance had ceased, indicating a change of emphasis relating to boundary use or purpose. It may have been constructed as a means of crossing the ditch, with the expedient use of the available

supply of cobbles being a simple method of creating access over the ditch. However, the cobbles had been deliberately placed in regular courses, suggesting that care and intent were present in the construction of the feature; it was not random infilling of the ditch but a substantial construction with a specific purpose. That purpose may relate to other structures on the site which were not visible within the excavated area or may relate to a "stopping up" of the ditch to facilitate activities requiring both supply and management of water as a resource.

6.8.2 Drain

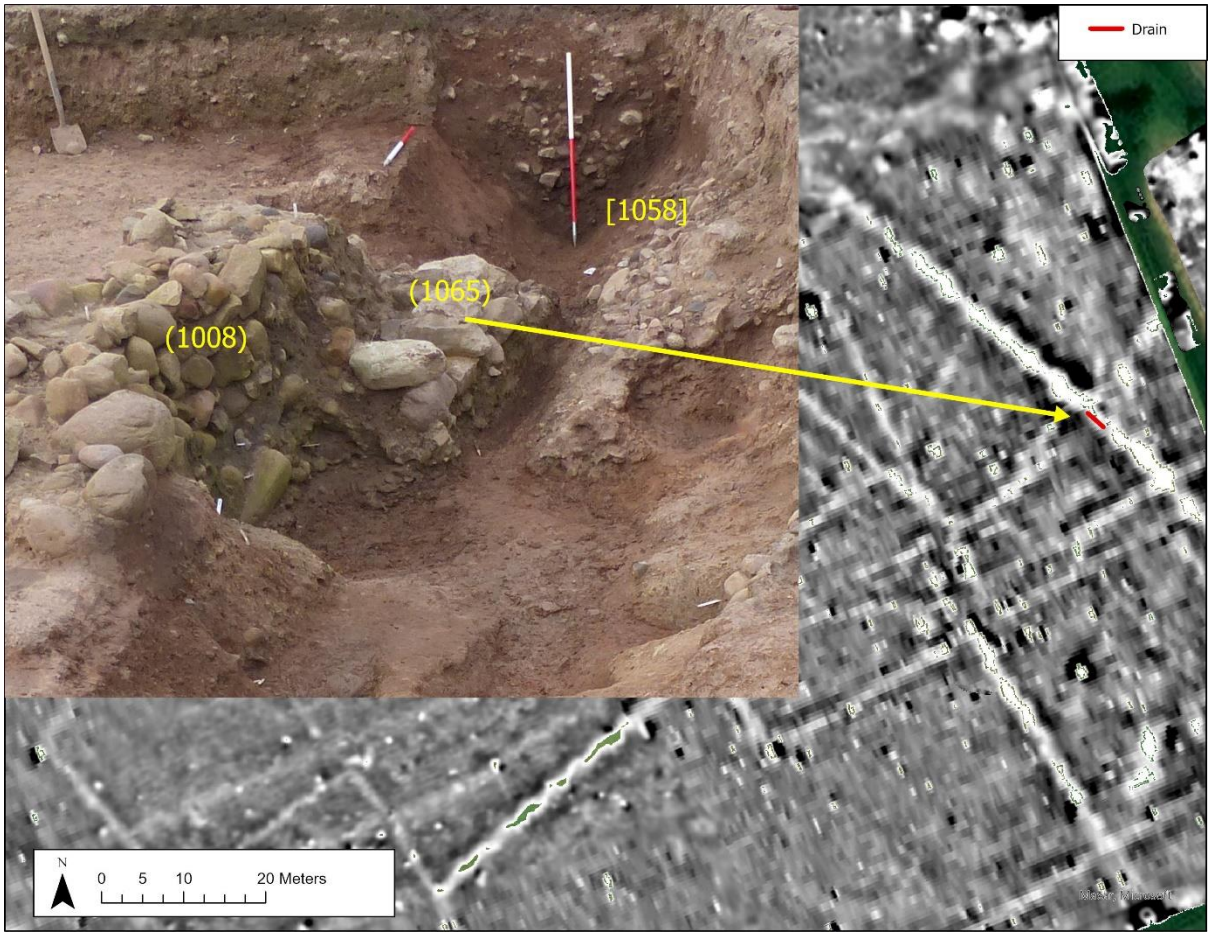

Figure 6.39 Coping stones over drain feature (1065). Scale rods are 1 m in length.

The term Drain is used to describe a singular feature which was present within the excavated area of Trench 1. Recorded as context (1065), this was a short linear feature, of cobble construction. The feature had been placed into a hole cut into the back filled material of Boundary ditch [1058]. This hole had been primarily filled with a levelling layer of small cobbles, over which larger cobbles formed a short channel with large coping stones placed over this channel. This feature abutted the wall (1008) and appeared to be associated with this feature. The lack of evidence for further structures in this area makes it difficult to construct a clear understanding of its purpose. However, if the wall was related to water management, then this drain would function as a means of managing

water away from this area. The relationship between these features indicates that processing or craft activities were a possible function of this part of the site.

6.8.3 Fire Pit

Trench 1 was the location for a further, singular feature. The term Fire Pit is used to identify this feature in the absence of a definitive description of its form or purpose. Situated at the southern end of the excavated area (Figure 6.40), the Fire Pit (1004a) was constructed over the back fill of two earlier ditches. The placing of this feature over these fills may have been a deliberate act, alternatively, it may be that the location was determined by other activity within this area. The excavation process could not discriminate between the date of the in-filling and the time of construction. The feature consisted of a course of large cobbles, arranged in a near circle, the northern side being incomplete. A short section of articulated cobbles at the northern end, may have formed part of the construction and served to complete the circuit of cobbles.

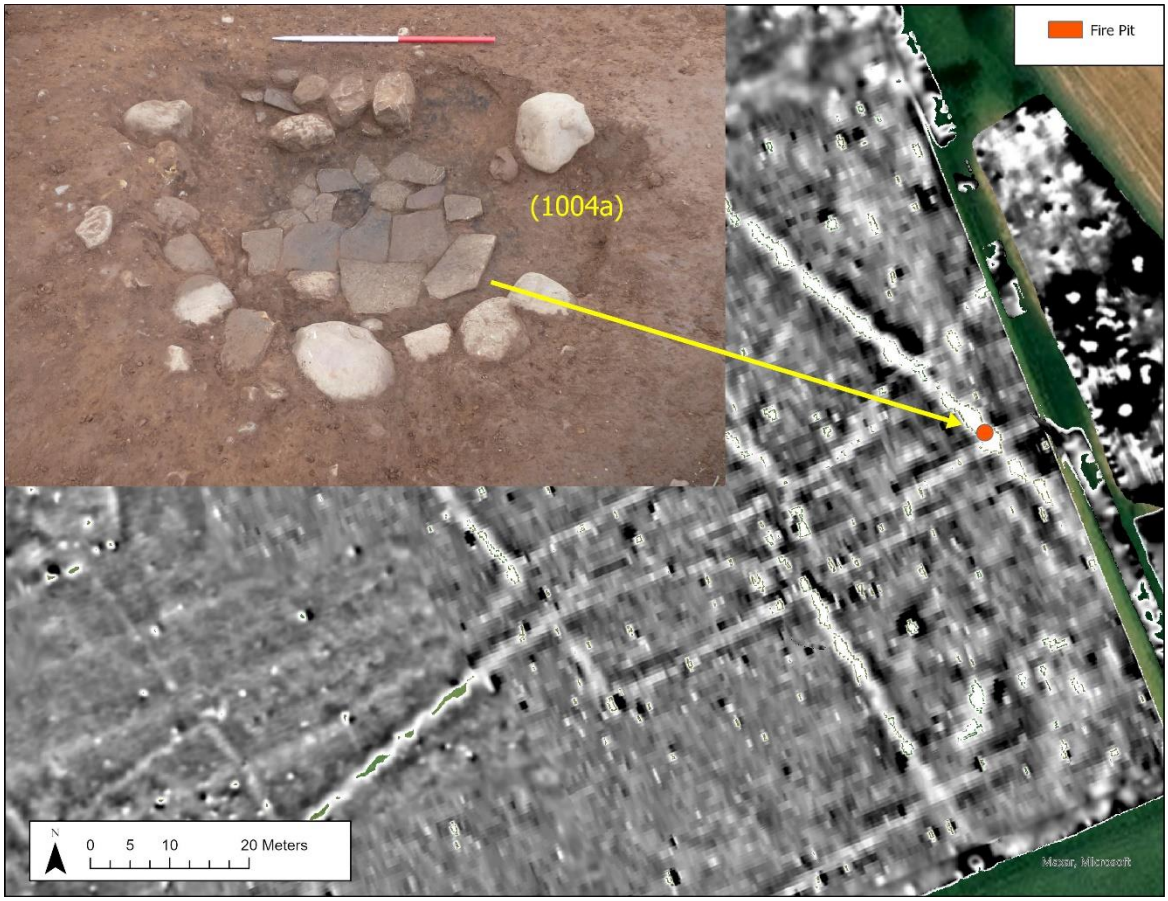

Figure 6.40 Fire pit. Inset showing (1004a). Scale rod is 1 m in length.

A 0.5 m gap at the north-eastern end which contained burnt carbon deposits was interpreted as a stoke hole for the main feature. Ash deposits within the feature confirmed that its use was related to burning and heating of materials. It is of note that the stoke hole was placed at the north-eastern of

the feature, which is opposite to the prevailing south-westerly wind direction. This would have been a deliberate decision and would be determined by the requirements of processes relating to the feature and the potential control of temperature. Flat stones were used as a base, but they were of random shapes and sizes, suggesting that they had been deliberately placed to form a flat base. If the function of the feature related to the drying or malting of grain, then a wooden floor may have been suspended above the heated base, to protect the grain from the effects of direct contact with a heat source. If the in-situ cobbles were the foundation stones for a structure, then this had been deliberately demolished; there was an absence of collapsed material over the base stones, indicating that either a collapse of the structure had not occurred or that any material had been removed from the feature. It must also be considered that the structure may have been suitable for use as an oven, where bread and other products could have been baked on the stone floor. However, comparative examples of this particular type of construction are not known (Roskams *pers comm*).

The Fire Pit and the Wall feature were at the same level within the excavated area, suggesting that they were likely contemporary features.

6.8.4 Cairn

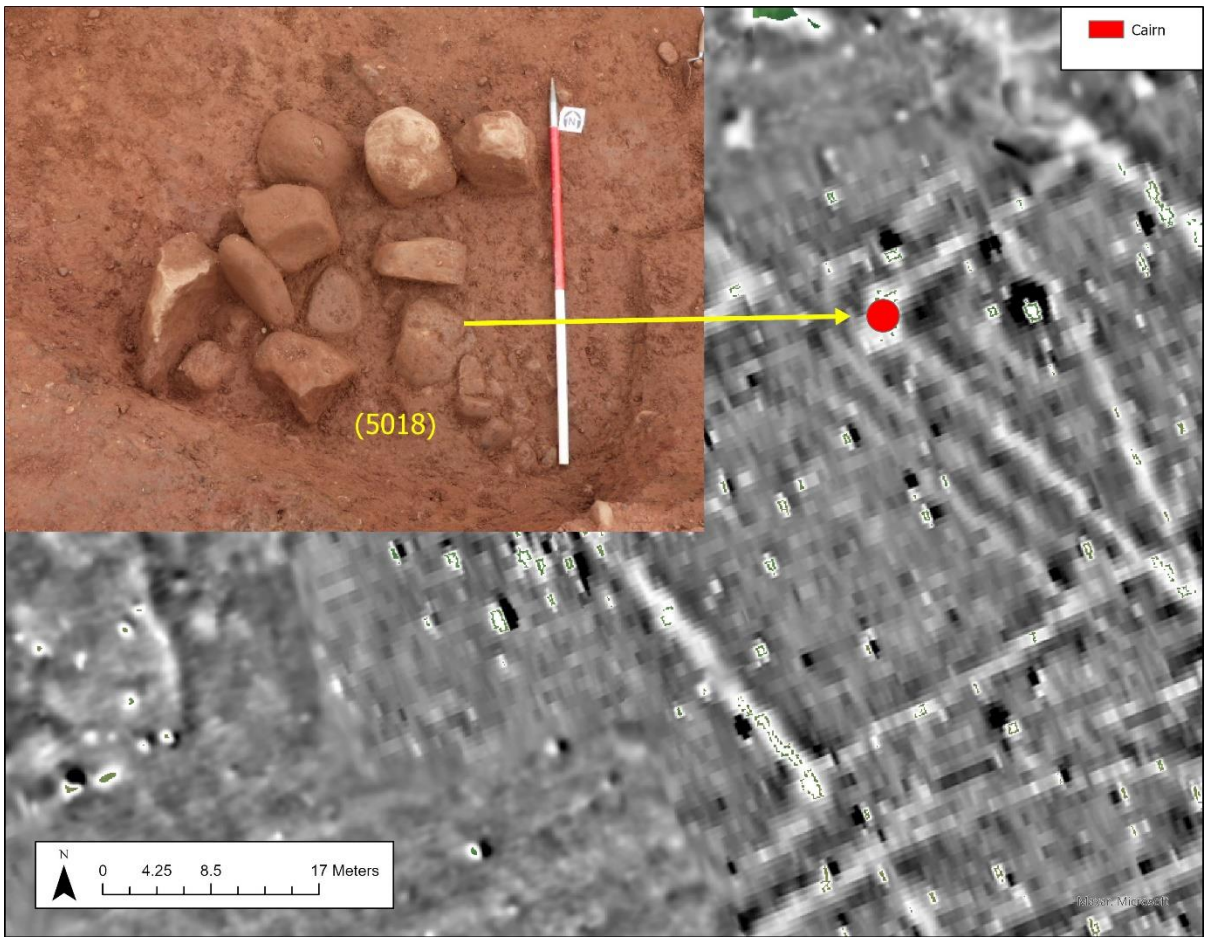

Figure 6.41 Cairn. Inset showing (5018). Scale rod is 1 m in length.

Trench 5 had been placed over a 5 m x 3 m rectangular feature visible on the geophysical survey. Upon excavation, this was confirmed as a large pit (see Figure 6.42), within which a possible Cairn had been constructed from mainly rounded cobbles (context 5018). Its construction confirmed that a foundation layer of cobbles had been inserted into the underlying soil profile at a depth of 2.3 m below the current land surface. Upon these had been built subsequent layers of cobbles to form a free-standing feature. No artefacts were recovered from this feature, and its purpose has not been determined.

6.8.5 Pit

Pit features can present a unique opportunity to understand activity on a site as they often contain material which may have been deliberately deposited as part of a specific activity (e.g. Cairn (5018)). Alternatively, they may form part of the processes of disposal of rubbish and waste generated through the activities of human occupation. Environmental conditions within pit features, particularly those where moisture contents remain high, may encourage the preservation of organic matter and as such can provide valuable evidence of on-site activities.

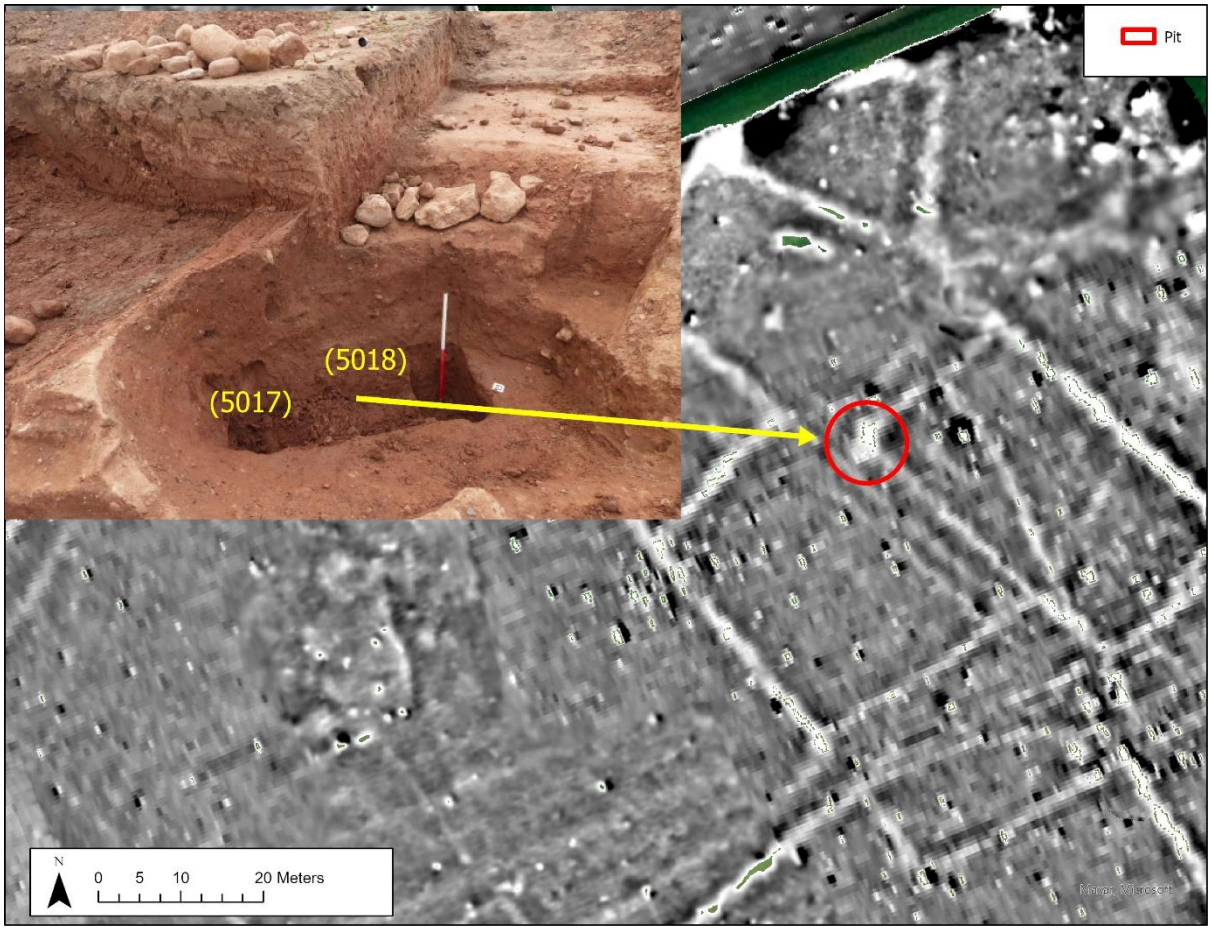

Figure 6.42 Trench 5. Arrow showing base of Cairn (5018) at the base of the pit (the large cobbles visible had formed the structure of the cairn) and location of Dressel 20 Amphorae (5017). Scale rod is 1 m in length.

Three potential pits were investigated on site. The first was the 5 m x 3 m rectangular feature present in Trench 5. The geophysical survey indicated that this was located at the north-western corner of Enclosure C (Figure 6.42). The excavation indicated that the pit was the later feature and truncated the corner of the earlier enclosure. The placing of the pit, accurately intersecting the ditch forming the boundary to Enclosure C, appeared to be a deliberate intervention indicating a specific intention to modify this part of the site. The features contained within it, in particular the Cairn (5018), the deposit of Dressel 20 *amphorae* (5017) and a contained area of burning (5015) at the northern end of the pit but not shown in Figure 6.42 (see Appendix A), all suggest that a coordinated activity occurred within this area.

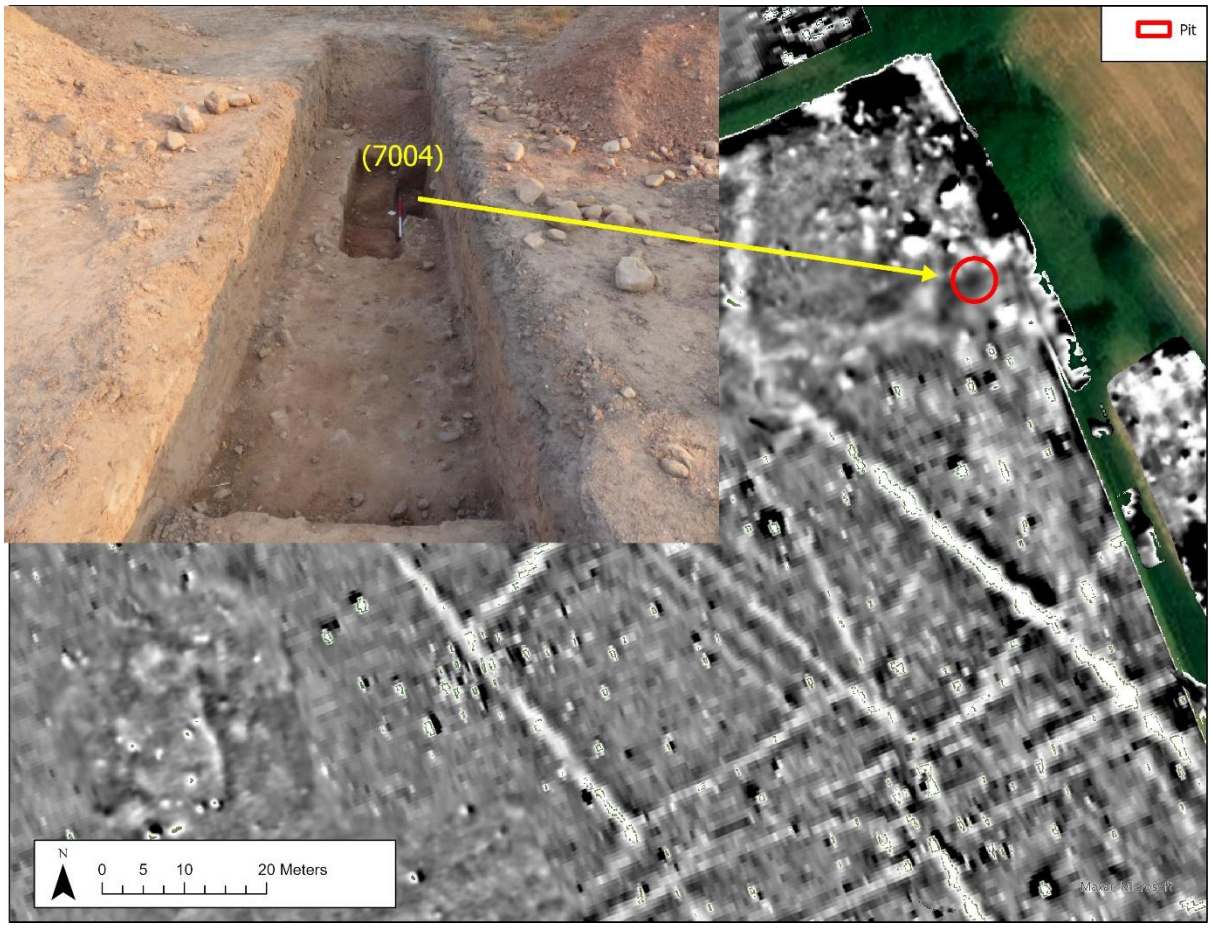

Figure 6.43 Trench 7 (7004) illustrating the depth within the trench of the top of pit feature. Scale rod is 1 m in length.

Within the north-east quarter of the site, the geophysical survey recorded several highly magnetic anomalies considered potential pit features. Trench 7 was placed to investigate one of these. The upper level of the feature was located 0.8 m below the current ground surface. Limited evidence of deposition material was recovered and therefore it could not be definitively identified as a stand-alone pit feature. However, its shape and profile supported this interpretation. The excavation trench was 1.5 m wide, therefore it was not possible to relate the feature to other geophysical responses

within this area. The depth of the feature raises further questions relating to the shape and profile of the contemporary landscape. Currently, the landform is gently sloping to level at this point, but the depth of overburden here suggests that some landscape modification has taken place since this feature was in use. Erosion and downslope wash across the adjoining area may be a cause of soil movement and intervention through agricultural practices may also contribute to the degree of overburden.

The third potential pit feature investigated was located to the north-west of the site, within Trench 11. The geophysical survey indicated a rectangular feature measuring eight metres long and two metres wide. The excavation revealed this to be 1.9 m deep at the point of excavation, but no evidence was recovered from the infill of this feature. A complete excavation would be required to determine its use or function.

6.9 Composition of Ditch Material

Consideration of the fill within the ditches forms an important component of the analysis of activities on site. The Stratigraphic report (Appendix B) qualifies in detail the type and composition of the ditch fills. Many ditches exhibited evidence of primary fills, where natural erosion and the deposition of sand and silt components, along with organic material, form the primary deposit at the bottom of the ditch. This suggests that by the time these primary fills were deposited, the ditch had ceased to function and had gone out of use. Subsequently, the redeposit of previously excavated bank material had been returned as a secondary deposit within the ditches. This material could be differentiated from other primary and natural deposits because it consisted of mixed and unstratified aggregate components. Where it was present within ditch fill, this reinforced the interpretation that a bank had been associated with the feature. In other areas where this type of material was not present the interpretation was that the material which had been removed in the digging the ditch, had potentially being spread over a wide area or utilised to level up parts of the surrounding landscape. Much of the material culture, for example pottery, had been contained within these deliberate ditch-fill materials.A particular characteristic of ditch-fill materials across the excavated area was the presence of cobbles within many of the ditch features. Figure 6.44 shows a typical example of this from within ditch [1055] within Trench 1.

Figure 6.44 Showing the cobble fill of [1055] within Trench 1, facing west.

6.10 Summary of Evidence from Excavation

The major component of archaeological activity on the site relates to the complexity of ditches identified within the geophysical survey and subsequently evaluated through excavation. The focus of the excavation was to investigate these potential boundary features and, therefore, the majority of evidence available for interpretation relies on the presence of these ditches, their specific characterisation and the evidence gained from analysis of the fills of ditches. Dating evidence derived from pottery assemblage analysis is utilised to develop a chronology for the site.

It is important to recognise that the area selected for excavation forms only a small part (0.3%) of a much wider landscape, which the extensive geophysical survey indicates also demonstrates varying degrees of activity. The excavated site, therefore, has the potential to inform our understanding of this limited area but it also provides evidence that allows for an informed analysis of activity across the wider area.

Figure 6.45 Interpretation of boundaries of different enclosures showing context numbers.

Figure 6.45 demonstrates three potential phases of activity defined by the major boundaries on site (Enclosures A, B and C). These features have all been exposed through the process of excavation which has confirmed the interpretation of the geophysical survey. Stratification evidence is available (Appendix B), which can be used to identify some specific areas of phasing and interaction. However, this is not available for every feature on site, therefore, several relationships cannot be verified. The major boundary running north-west to south-east at the eastern edge of the site, visible as context [1058] in Trench 1, forms a common boundary with each of the Enclosures A, B and C. Dating evidence from pottery recovered from [1058] and associated features, indicate that this area of Trench 1 was in use from the Late Iron Age until the end of the fourth century AD. This boundary was therefore a long-lived feature of the site and provided an important axis for several landscape divisions. Enclosure A encompasses a total area of 4,100 metres^2, with an internal division measuring 400 metres^2, located at the north-west corner. Enclosure B may also be contemporary with the Enclosure A, but this was not confirmed through excavation. Enclosure C, identified by ditch [3015], is stratigraphically earlier than [3033].

These enclosures have been identified as boundaries which represented landscape divisions, rather than animal or domestic enclosures. This raises their function beyond the purely practical and suggests that a statement was being made about control and management of this part of the landscape. Despite a lack of evidence for direct settlement activity within this area, the presence of a large pottery assemblage within the excavated material, suggests that the land within these boundaries may have been one of concentrated activity. As such, the role of these enclosures and their associated landscape boundaries, needs to be considered. They can potentially be important collective centres for domestic or community engagement and provide a focus point for the site. The possible phasing of activity also indicates a changing landscape management and organisation regime.

6.11 Artefacts from Excavation

This section will provide an analysis of the artefacts recovered from the excavation of area A (6.4.1). Pottery forms the major component of this archive but glass, jewellery, ferrous and stone objects are also present within the assemblage (Appendix C).

As with many sites, the number of pottery sherds exceeds other artefacts recovered. Although many may be generic in comparison to special or rare finds that may be present, they are a key indicator of not only activities that were present on site but also provide a chronological sequence of events. Phasing of events may be identified which illustrate how activities and practices changed, particularly in relation to social and economic factors. For a rural site such as this, the presence and quantity of different forms of pottery and how these change over time, is important in understanding how the site's inhabitants responded to the changing environment brought about in the post-conquest period and beyond.

6.11.1 Pottery

The pottery assemblage was analysed by Walker (2021) and consisted of material dating from the Iron Age to the Post-Medieval period. The majority of sherds, 491 in number, were identified as Romano-British in date (Figure 6.46). Iron age material included 29 sherds (Table 6.2) with 10 pieces dating from the post-Medieval period. A further collection of 54 Ceramic Building Material (CBM) pieces was also recorded.

A separate analysis of the Samian assemblage was undertaken by Hanks (2020) (see Appendix C) which contained 36 sherds from a maximum of 33 vessels (Figure 6.48) A further six sherds were identified within the total assemblage, bringing the total to 42.

The figures below present the raw pottery data in numerical terms. This does not account for variations in sample size from the different locations within the trenches, with the data presented on a trench-by-trench basis. Information relating to contextual data is contained within Appendix C. Formatting the data by trench does not account for the size of the trench or the size of the sample from which the pottery was retrieved. However, this strategy for interpreting the assemblage is not considered to influence the overall conclusions drawn from analysing the data. The data is utilised at this stage of analysis to provide an understanding of the site as a whole, rather than to specifically identify differentials between the trenches.

The pottery assemblage data has been collated and dated to provide a chronological signature for the site. This analysis has relied primarily on sherds where a rim was present, to provide a secure dating for each object. Some forms may be accurately dated to within a time frame of 20 years, but it is clear from the analysis that some styles may be in use over an extended period. Where this is the case, the earliest date has been used to provide the chronological analysis. There is no filtering for the number of sherds in the sample as a proxy for activity, their presence being determined as sufficient to identify activity within a defined period.

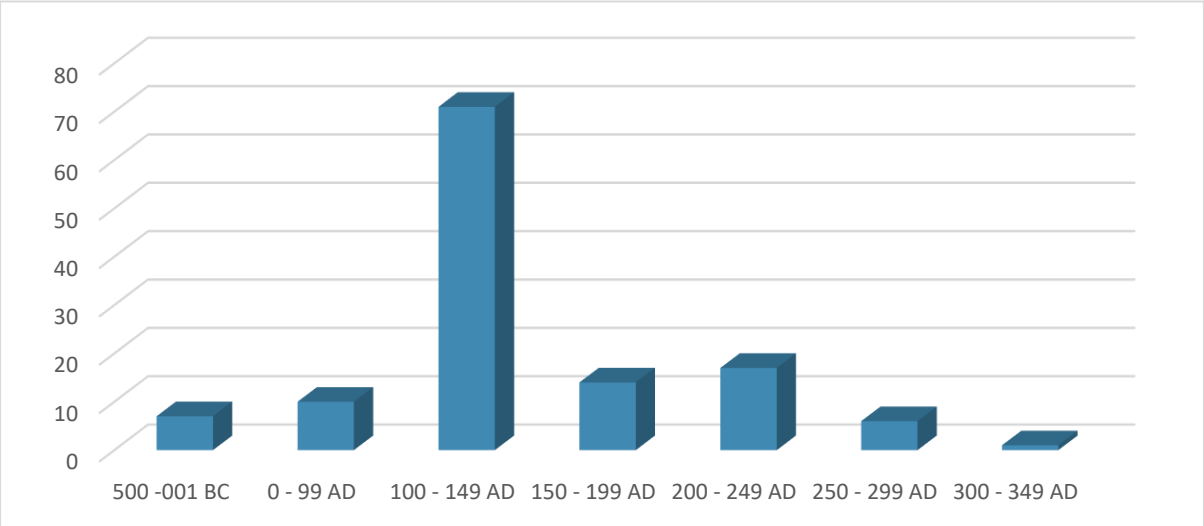

Figure 6.46 Number of sherds (NOSH) across all trenches. Note the chronological interval varies reflecting the dating resolution of the time interval concerned and the number of pottery sherds.

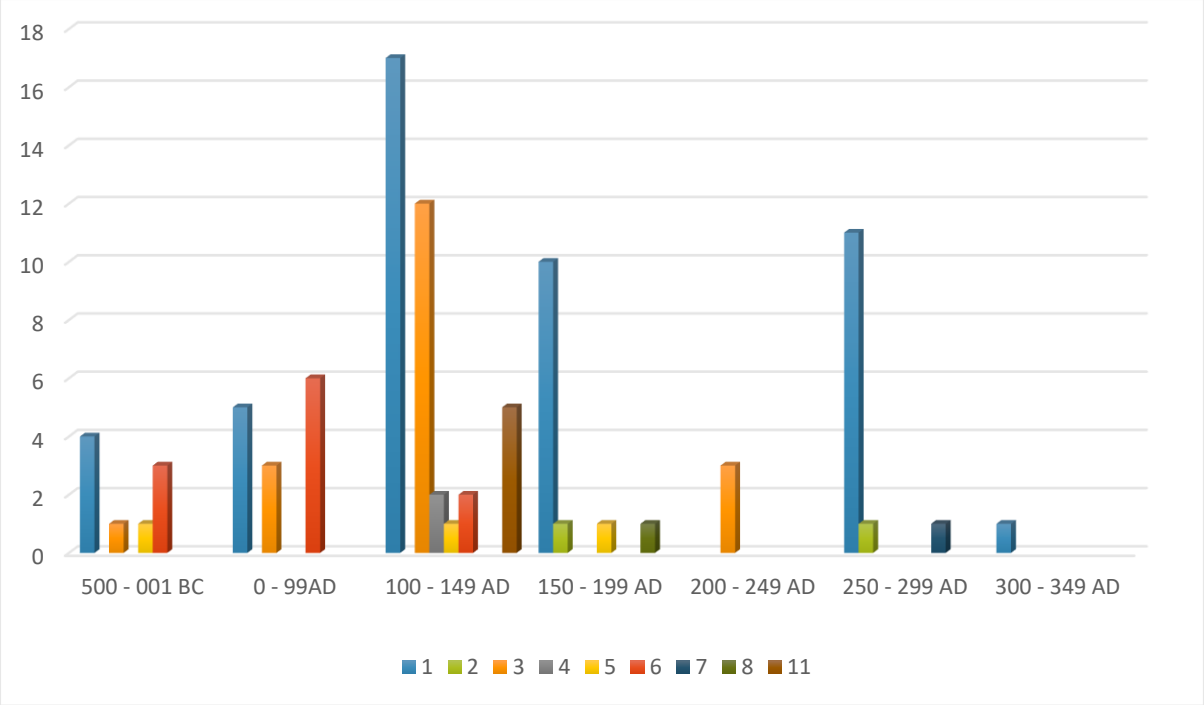

Figure 6.47 Chronological distribution by trench numbers.

In terms of pre-Roman activity, the specifics of the site chronology demonstrate that there was activity within this area from the Middle Iron Age until the first century AD. This activity links well with excavation evidence (not presented as part of this thesis) recovered 400 m north of this area, which provided pottery dating from the Middle Iron Age, confirming an active landscape through the pre-Roman period. This consisted of handmade material featuring Funnel Rim Jars, Wedge Rim Jars, Flared and Everted Rim Jars (see Appendix C).

Figure 6.47 demonstrates that each of the trenches excavated provided pottery examples which could be ascribed to defined periods. It is also clear within the excavated are that use was interrupted with activity ceasing and restarting at different times. It should be noted that this evidence mainly comes from the material removed from ditch fills and that, as these ditches came in and out of use, or were modified, then mixing of the materials may impact upon the interpretation of chronological sequences. However, the presence of the assemblage confirms activity, even where the precise stratigraphic sequence may be compromised.

The dating analysis shows that changes in activity can be identified within the excavated areas. Trench 1 (Figure 6.47) provides evidence for the most connective use of this area of the site, with only a period from the early to middle of the third century where no pottery has been identified. However, as with other areas, a pottery type may span a longer period than the 50-year demarcations in the figures, so activity may have continued within this segmented period. The excavation report (See Appendix A) identifies the features which demonstrate how those activities

changed. Why this area was so long-lived and why there was a concentration of activity over time is unknown but consideration of changing ownership or relationship to resources for production, must be considered as contributing factors. The Wall (Figure 6.38 (1008)) and Fire Pit area (Figure 6.40 (1004a)) were later features in this area, potentially indicating some form of processing activities had superseded the earlier definitions of boundaries provided by the numerous ditches found here, the significance of which will be discussed in Chapter 7.

Trench 4 also has a very defined period of activity as the pottery evidence demonstrates a time focussed on the early part of the second century. This evidence came from the top of the infill of this ditch, suggesting that the ditch may have Late Iron Age or early Romano-British origins. The deliberate deposition of a hobnail boot (see 6.13.5) at the bottom of the ditch fill, suggests that a ceremonial closing of the ditch occurred sometime in the early second century AD. We can also conclude that this part of the landscape was not subject to further intervention or modification through enclosure practices and remained as open land throughout the remaining periods of occupation of the site.

6.11.1.1 Iron Age

The Iron Age sherds consisted of fragments of handmade jars and included specifically a square rimmed everted jar, Featured Vessel 34. (Appendix C). In its most basic form, the Everted Rim jar occurs frequently in assemblages of Pre-Roman Iron Age and early Roman date. However, examples can range widely in size and specific details of the rim, shoulder and body making accurate sub-division of date and typology difficult. The site has Iron Age activity dating from 500 BC which is contemporary with the date of the Iron Age Hill Fort at Grafton, 0.5 km to the west. This phase of activity correlates with evidence from Heslington East (Roskams and Neal 2020) but is earlier than other rural sites at Healam Bridge (Ambrey 2017) and Wattle Sykes (Cumberpatch 2013). These two latter sites commence activity towards the end of the Iron Age, although Cumberpatch (2013) considers that some Iron Age pottery may be late Roman and may indicate a continuation of native practices and tastes, suggesting a conservative approach to change within local populations across the Roman period.

The majority of the Iron Age sherds were recovered from Trench 1, indicating that this area was a focus for the earliest activity on the site. The presence of jar material indicates that this activity was domestic in nature, involving the storage of products and the use of jars as cooking vessels.

Table 6.2 Iron Age material by trench (after Walker 2020).

Trench	NOSH (number of sherds)	Weight (g)
Tr 1	23	495.61
Tr 2	2	28.4
Tr 3	2	17.05
Tr 4	2	21.55
Total	**29**	**1823.25**

Iron Age pottery is an infrequent find from within this area of the Vale of York. A sherd total of 29 is therefore a significant number from only three locations within the excavated area. The pottery report analysed a further collection of Iron Age sherds from an earlier excavation 400 m north of this area by the author (not reported in this thesis), which contained a substantial deposit of 239 pottery fragments. This indicates that a very active Iron Age community was established within, and in close proximity to, the excavated area.

These early examples are considered to represent local production as the source of this pottery. The majority of the sherds were found within Trench 1 but Trenches 3 and 6 also contained similar material. It should be noted that these three trenches were all situated in close proximity to each other, and it can be considered that they formed an area of concentrated activity relating to this period. Stratigraphic interpretation of the contexts within which the pottery was found, indicates that they were present with material from the period of the 2nd century AD. This suggests that their position within the ditch fills from where they were retrieved was a consequence of redeposition of material as landscape boundaries were reorganised and demonstrates the numerical and typological relationship of jars to other forms of pottery from the site, illustrating the changing signature of both type and use of this material culture.

6.11.1.2 Samian (*Terra Sigillata)*

Although a new addition to the array of pottery vessels used amongst native populations in Britain, the appearance and form of *Terra Sigillata* would have stood out amongst native pottery types. It was widely available and is frequently found on Roman period sites throughout Britain (Willis 1998, 2011). Although a standardised tableware, it was used in different ways by different people and communities "[…] the local use of an object is not predetermined by a larger set of social relations, and the same mass-produced, standardised objects can be used in different ways in different socio-cultural contexts" (Luley 2018, 1). The distribution of different pottery types within archaeological derived assemblages can give an indication of how specific types fitted into the social and cultural

actions of different communities and, indeed, of different groups amongst those communities. The site at Hundayfield is characterised by a dominance of Type 33 sherds that are associated with drinking vessels with several bowl and dish forms also present. This is comparable to other small, rural sites in the area (Hanks 2020).

An analysis of the Samian assemblage from Hundayfield by Hanks (2020) is presented at Appendix C. This indicates an assessment of 36 sherds from a maximum of 33 vessels (Table 6.3). This makes up 10% of the table wares from the site. Unfortunately, a large proportion of the Samain wares had suffered from the effect of the acidic soil on the site and therefore preservation was sometimes poor. However, one sherd was stamped and could be attributed to a known potter, *Genialis iv* who worked at the site in Lezoux, central France. A date of 150-180 AD is given. This marked pottery has been found in collections from York, Malton and Aldborough (*ibid*). Analysis of the remaining sherds shows that 19.4% were decorated, 38.9% were plain with the remaining 41.7% indistinguishable. Nine forms were identified with 15 remaining unknown.

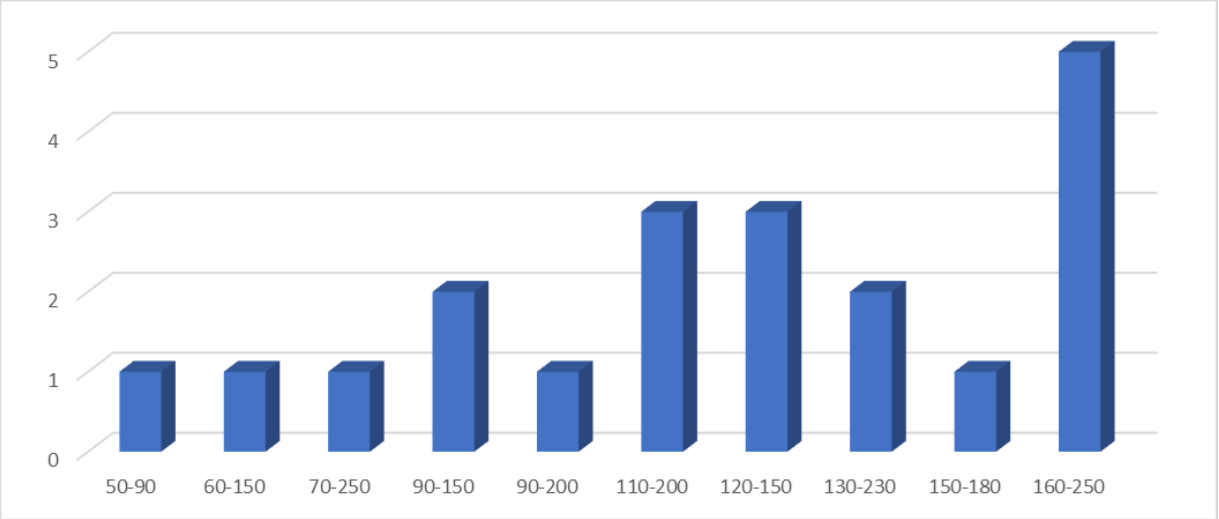

Figure 6.48 Samian sherds by date range (after Hanks 2020).

While some of the sherds date from the middle of the 1st century AD, the majority of the collection dates to the middle of the 2nd century AD.

Table 6.3 Samian typology.

Form	Count
18/31	1
18/31R	2
29	1
30	2

31R	2
33	4
35	4
37	4
79	1
Unknown	15
Total	**36**

6.11.1.3 Romano-British

The majority of the pottery material was identified as dating from the Romano-British period, indicating that this was the period when the site was most active, with a concentration in the first half of the second century. Trenches 1 and 3 provided the largest proportion, accounting for 319 of the sherds, 65% of the collection (Table 6.4). These figures do not provide evidence of the degree of activity intensity compared to the rest of the site; trenches 1 and 3 were the largest excavated and had been placed over the areas where the geophysics suggested contained a concentration of features. However, they do provide an effective chronology of activity in these locations.

Table 6.4 Roman material by trench (excluding Samain after Walker 2020).

Trench	Number of Sherds (NOSH)	Weight	Estimated Vessel Equivalent	% NOSH	% Weight	% Estimated Vessel Equivalent
Tr 1	168	3572.9	418.5	34.3	27.7	44.8
Tr 2	26	306.2	38.5	5.3	2.4	4.1
Tr 3	151	2421.4	285	30.9	18.8	30.5
Tr 4	3	82.8	7.5	0.6	0.6	0.8
Tr 5	65	5290.5	27.5	13.4	41.0	2.9
Tr 6	43	896.2	42.5	8.8	6.9	4.6
Tr 7	5	35.7	24.5	1.0	0.1	0.0
Tr 8	5	18.0		1.0	0.1	0.0
Tr 10	1	10.0		0.2	0.1	0.0
Tr 11	22	262.2	90.0	4.5	2.0	9.6
Total	**489**	**12897.3**	**934**	**100.0**	**100.0**	**100.0**

The assemblage contained a mixture of fine and coarse wares, the latter making up 79% by sherd count and 46% by weight. These included Black Burnished Ware, Calcite and Gritted wares and

Oxidised and Grey wares. Many of these may have been produced locally, as well as within the East and South Yorkshire areas. The fine wares were 2% by sherd count and 0.2% by weight. These included Nene Valley colour coated ware of beaker type and a sherd of Central Gaulish slipped ware.

The majority of the Black Burnished Wares, forming 5% of sherd count and 3% by weight, were from the Dorset region but also included material from Rossington Bridge (South Yorkshire). Other sherds may have been locally made imitations. Typology included jars, cooking pots and bowls.

18% of the sherd count was made up of Oxidised wares, 6% by weight. These were mostly local fabrications, including jars, bowls and flagons. Six sherds of White ware were also recorded, 1% of sherd count and 1% by weight and included a ring-necked flagon.

The Reduced ware assemblage accounted for 55% of the sherd count, 36% by weight. These included Calcite Gritted, Shell and Grey wares, made both locally and from East and South Yorkshire. Common forms were everted rim jars and flanged bowls.

6.11.1.4 Mortaria

Mortaria in Britain are considered as a feature of pottery assemblages where changes to native dietary habits have taken place (Cool 2003). The use of *mortaria* indicates a transition to Roman food preparation practices and is seen as a proxy for societal change within local populations. Commonly interpreted as vessels for the preparation of seeds, spices and purees as a basis for culinary ingredients, it has been suggested that they may also have been utilised as part of the cooking process, where heat was required to assist the mixing of ingredients (Evans 1999). Although considered an atypical product of Roman culture, the presence of *mortaria* in Britain is greater than many other regions within the Empire (Hartley 1998), indicating that they were widely adopted by local populations.

Table 6.5 Forms of the pottery assemblage.

Form	Quantity	Weight	Estimated Vessel Equivalent	% Count	% Weight	% Estimated Vessel Equivalent
Beaker	5	10.42	20	2.62	0.11	2.14
Bowl/Dish	74	2038	343.5	38.74	21.15	36.78
Flagon	5	42.22	29.5	2.62	0.44	3.16
Jar	51	972.86	478.5	26.70	10.10	51.23
Mortaria	17	958.56	59.5	8.90	9.95	6.37
Oil Lamp	2	15.89		1.05	0.16	0.00

Amphora	32	5574.83		16.75	57.85	0.00
Cup	5	22.7		2.62	0.24	0.00
Total	**191**	**9636.70**	**934**	**100.00**	**100.00**	**100.00**

Amongst the assemblage at Hundayfield were 17 *mortaria* sherds forming 3% by sherd count and 7% by weight. *Mortaria* appear on site in the first half of the second century (Figure 6.50) reinforcing Cool's (2003) view that they were readily accepted onto rural sites. The majority were produced locally but also include examples from the Mancetter-Hartshill industry in Warwickshire, whilst one sherd may have been produced in the Normandy area. Of particular interest was one sherd which was stamped and has been identified by Hartley (Appendix C) as being manufactured by the potter *Candidus 3*, who worked in the first half of the second century between 100-140 AD. Hartley (2017) believes it likely that this potter worked at Aldborough (2017, 112).

6.11.1.5 Amphorae

Amphorae are the main archaeological artefact used for identifying patterns of wine or olive oil consumption. Dressel 20 *amphorae*, normally holding between 60-70 litres of liquid, were the most common form used for transportation. Olive oil was a basic food product, but it was also used for lightning, and a base for medicines, skin oils, perfumes and cosmetics (Manhita *et al*. 2020). Kilns to produce Dressel 20 *amphorae* have been found sited in Andalucia, southern Spain, a major production area, with this type being widely distributed within military sites across Europe and Britain (Manhita *et al.* 2020). Importation of the first Dressel 20 *amphorae* containing olive oil from southern Spain began around the end of the 1st century AD (Egri 2007). The movement of *amphorae* from these regions to other parts of the Empire involved a complex and integrated transport network, including sea, river and overland routes (see Manhita *et al.* 2020). The presence of this type of *amphorae* on the Hundayfield site indicates that, within the community there, a significant shift had occurred in relation to consumption and use practices within this population.

Thirty-two sherds of *amphorae* were recorded, forming 7% of the sherd count and 43% by weight (Table 6.5). One handle and 31 sherds of Dressel 20 type vessel were identified which may have been from the same vessel. The majority of the sherds were found within a single context (5023) within Trench 5. These appear to have been a deliberate placement within this area, with the deposit sealed by a cobble placed over the fragments (see Appendix A).

6.11.1.6 Oil Lamp

Two fragments of a small oil lamp were recovered from the ditch-fill [6015] in Trench 6. They consisted of a near complete base and a lid fragment (Figure 6.49). The fabric was a fine clay

providing an off-white colour and had a brownish-orange slip decoration with an illiterate incised stamp on the base. Eckardt (2000) discusses the theoretical function of lamps in Roman Britain and their role in displaying identity and status. Lamps are a very Roman feature in Britain, their presence is normally focussed on military and urban sites.

6.12 Analysis by Form

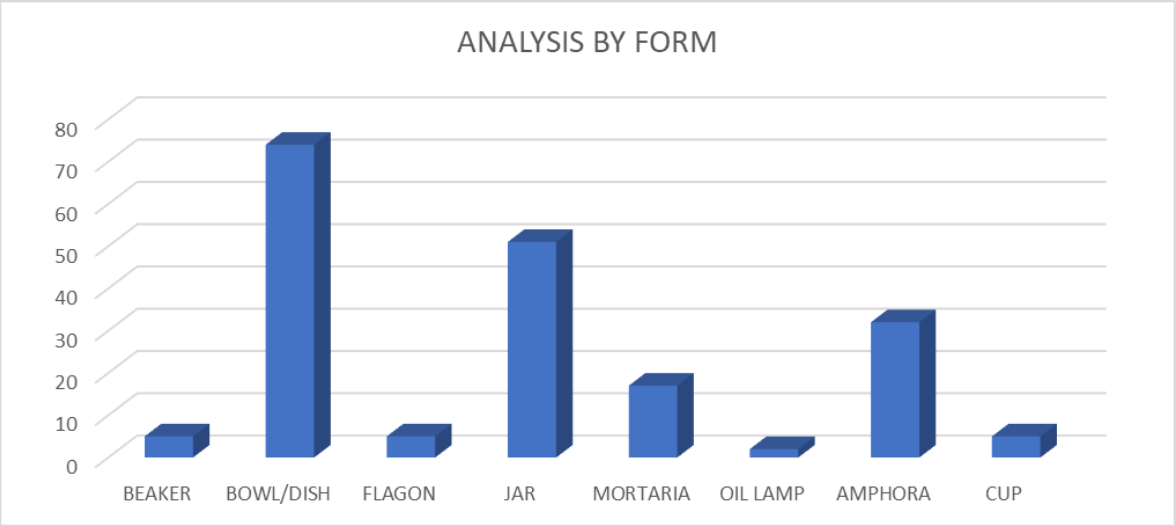

Figure 6.49 Analysis of pottery by form.

The analysis by form of the pottery assemblage identifies that three main components comprise the majority of forms on site. 41% of the assemblage was made up of table wares. The bowl/dish category dominates, making up 38.74% of the assemblage, followed by jars at 26.7% and *Amphorae* at 16.75%. Samian ware made up 10% with the remaining being accounted for by cups, flagons and beakers. The high percentage of bowls and dishes are within the usual range for rural sites and the number of jars from this period also reflects a regional trend (Walker 2020). The relatively high proportion of table wares suggest a strong link between the site and urban and/or military locations. However, the lack of Ebor ware, identified at Heslington East as indicative of links with the military centre of York (Roskams and Neal 2020), suggests that these links may be preferentially related to urban centres. The proximity of *Isurium* and the road connectivity of Dere Street, would suggest that much of the traded wares on site would have an association with this centre as a source of material. The *mortaria* are generally local in origin, with limited examples from Mancetter-Hartshill (Warwickshire) and no evidence of examples from the later production centre of Crambeck, near Malton.

Although the Fine wares proportion is relatively high for a rural site, Coarse wares still make up the greater percentage of the assemblage. Much of the Romano-British pottery is regional in origin but also includes material from surrounding areas. Although the majority of the material is local, the

assemblage included Samian ware as evidence of early continental connections. Black Burnished Ware from Dorset, Nene Valley Ware and examples from Knapton, Throlam and Holme on Spalding Moor demonstrate that trading routes were established enabling access to a variety of products. However, it is unclear that the Hundayfield site was a direct destination for these products, the likelihood being that they were sourced from a centre of distribution, with *Isurium* as the most local source.

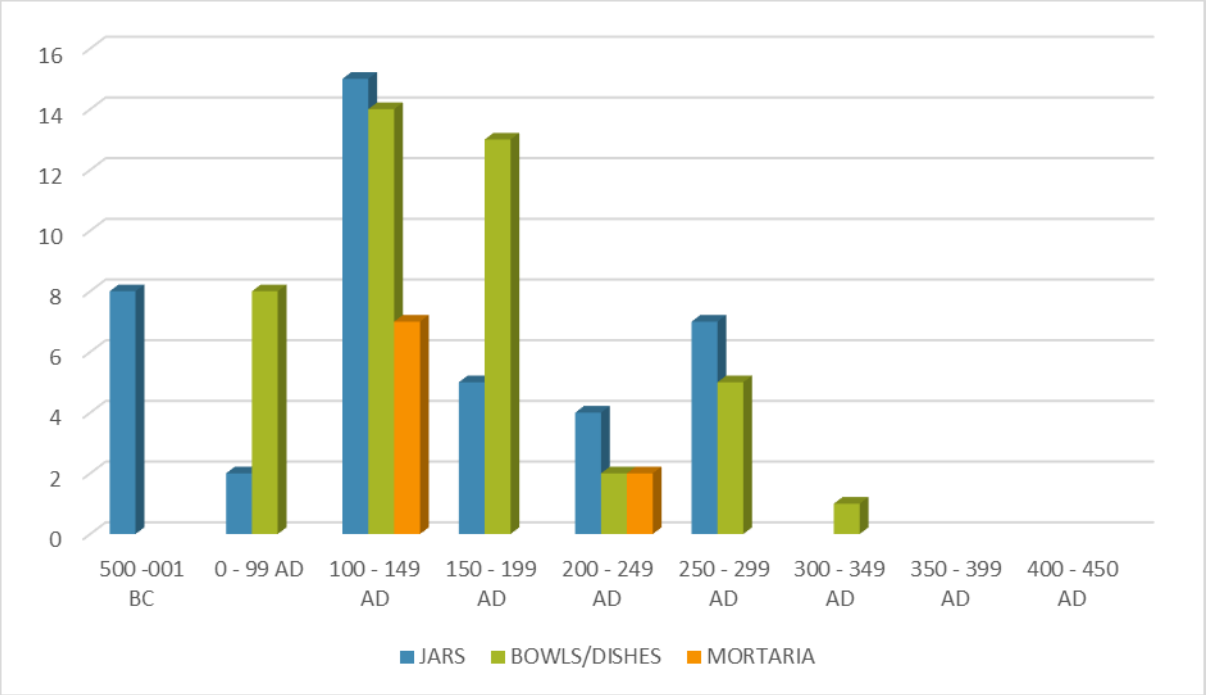

Figure 6.50 Chronological distribution of Jars, Bowls/Dishes and Mortaria

The chronological analysis of the three main categories from the pottery assemblage (Figure 6.50) provides evidence for changing practices on the site. The dominance of jars in the Iron Age period is well recognised (Compton 2015), which is true for the Hundayfield site. Mainly everted rim jars, used for storage and cooking, these would be hand-made either on site or locally and are typical of the periods represented. Although few, they should be viewed in association with the larger sample of 239 sherds recovered from excavations 400 m north of this site (see Walker in Appendix C). The majority of these were recovered from Trench 1, indicating that the earliest activity on the site was centred around this location. Although the style of jars changes over time, the everted rim form remains dominant. A peak in finds can be seen in the early 2nd century AD, where jars dominate the assemblage. What is also clear from the analysis is that after this period, there is a dramatic decline in evidence for jars, suggesting that their purpose or use was being replaced. How this relates to production and consumption strategies on site is unclear but if alternative storage mechanisms are

being utilised then they have not left an archaeologically visible trace. This may indicate that wooden vessels or products may have formed part of the everyday assemblage in common usage.

Jars return to the assemblage within the 3rd century AD in numbers similar to the other forms on site. Jars were a distinct characteristic of the pottery assemblage from the Iron Age and into the second century and showed a resurgence from the mid to late 3rd century AD. This may be indicative of a return to pre-Roman ideas and may reflect Cumberpatch's (2013) view that native practices were never completely replaced by Roman styles and that a degree of continuity of pottery styles endured throughout the Roman period.

6.13 Other Classes of Artefacts

6.13.1 Glass Bead

The earliest assessment of glass beads from the Prehistoric and Roman periods was carried out by Guido (1978) who developed a typology for bead types by defining Class, Form and Group. These identified place and type of manufacture as well as decoration. She identified seven types of manufacture and 16 types of decoration. Many glass beads are continental in origin, some appearing in Britain from the second millennium BC, with most of her recorded examples being found in Southern Britain, suggesting links with continental trade routes. However, Foulds (2017) has reassessed these patterns and has widened the geographical distribution, identifying areas of concentration in Norfolk, Wales, Scotland and East Yorkshire (2017, 3). Known sites of manufacture in Britain are rare, and Guido (1978) tentatively proposes only six, spread across the country (1978, 32).

Figure 6.51 Glass Bead. Guido Class 3 showing eye decoration in honey colour and missing eye decoration on the right of the bead.

A single glass bead was found within the ditch-fill of [3015] (Figure 6.51) and was in a deposit above a datable Roman pottery vessel (Featured Vessel 48 Appendix C), dated to the 3rd century AD. However, it sat stratigraphically below two pieces of Samian pottery, the first dated between 60-150 AD, the second between 110–200 AD. This suggests that it sat within a re-deposit of ditch material, indicating the changing nature of the ditches present on site.

6.13.2 Glass Bangle

A fragment of glass bangle was recovered from the fill of [3033], within a context dated by pottery to 100-149 AD. This ditch appeared to be a continuation of ditch [6015] to the east, which contained the oil lamp fragments, also dated to a similar period.

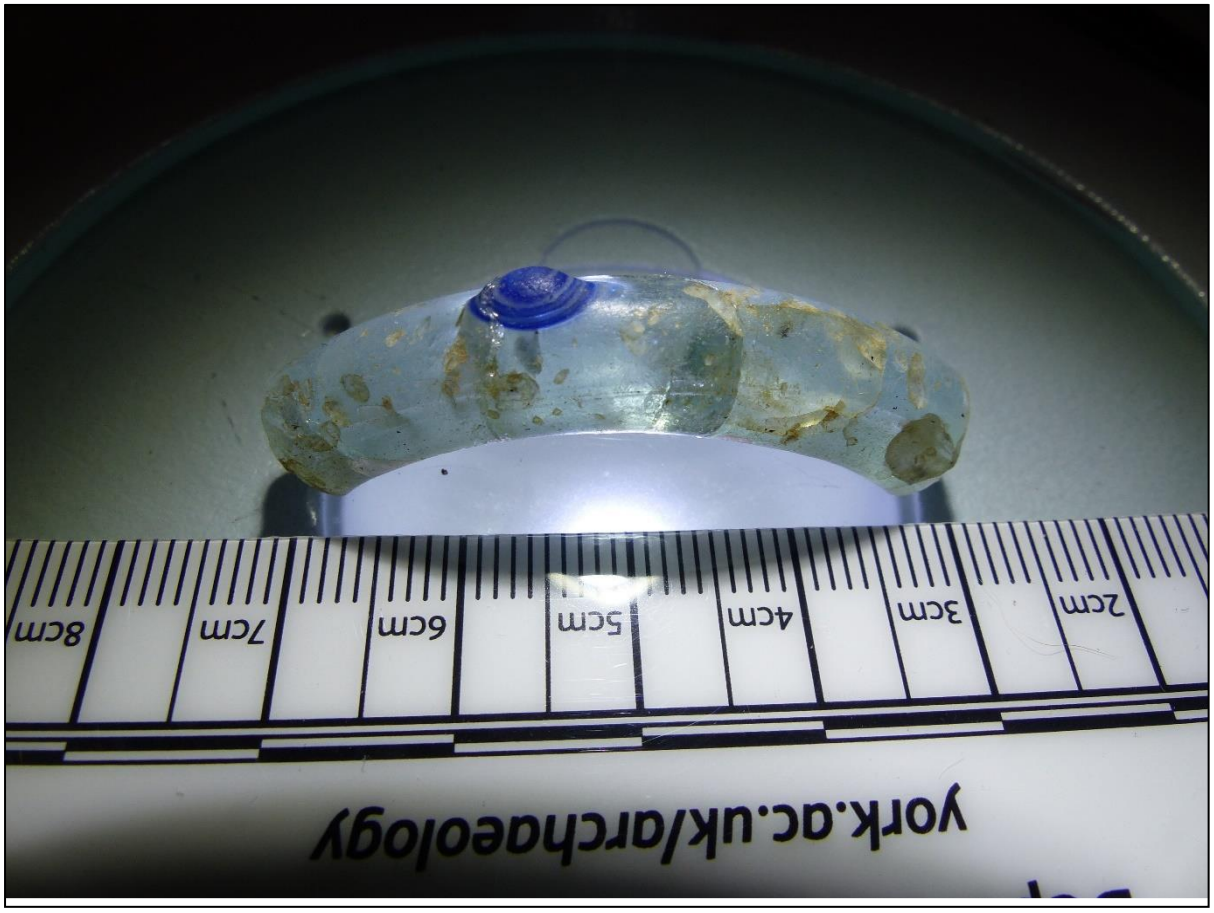

Figure 6.52 Fragment of glass bangle showing blue decoration.

6.13.3 Glass Jars/Bottles

Two fragments of glass jars/bottles were also found during the excavation. Blue/green bottles make up a high percentage of finds on Romano-British sites. Cylindrical bottles were common in the second half of the 1st century AD but the prismatic style took over and dominated until the end of the 2nd century AD. This is particularly evident within the collection from Aldborough (Price *et al.* 2022). The fragments found on site are manufactured from material similar to that found at Aldborough (*ibid*).

6.13.4 Brooches

Two brooches were found within close proximity to each other in Trench 1, within the eastern side of feature context (1065). The first has been identified as a Colchester type (Hattatt 1985) whilst the second is a Trumpet brooch form (*ibid*) (Figure 6.53). Both are thought to date from the mid-1st to early 2nd century AD. Brooches are considered to play a role in both practical and social terms. Practically, a brooch can be used to fasten items of clothing, but social agency may be contained within the presence of a brooch. This may relate to individual or social identities or gender and self-expression (Jundi and Hill 1998, Eckardt 2015, Ivevla 2017).

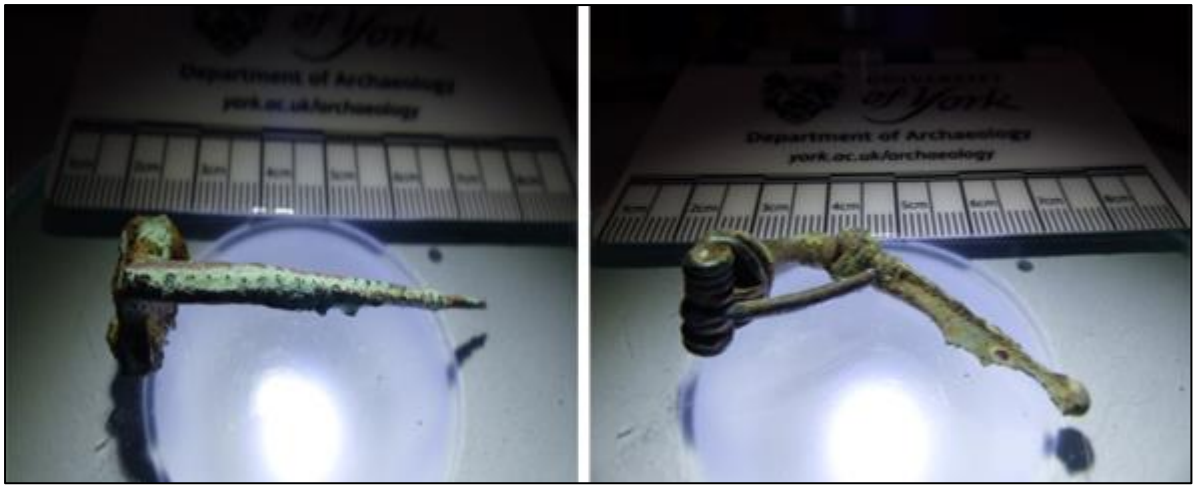

Figure 6.53 Left: Colchester type brooch. Right: Trumpet type brooch.

Two small, enamelled fragments of a Dragonesque brooch were also found. Although the form of these brooches reflects Iron Age characteristics, they are definitively from the Roman period, occurring in large numbers from 40-60 AD. The style replicates examples of Late La Tene art and are considered as strong identifiers of Celtic cultures (Jundi and Hill 1998).

6.13.5 Ferrous

A total of 139 ferrous objects were recovered during the excavation process. Of these, 82 were from a single deposit which was found within Trench 4 (Figure 6.54).

Figure 6.54 Hobnail boot (in situ). Scale bar in 10 cm divisions.

This was a deliberately placed deposit (see Excavation report, Appendix A), which had left a dark stain within the surrounding ditch fill. This may represent decayed organic material, suggesting leather from the boot itself or possibly that this object had been placed within a bag. This deposit was associated with a collection of cobbles (4006) which had also been placed as a closing deposit when ditch [4001] was taken out of use. Pottery artefacts from this area date the deposit to the second century AD. This object was removed for X-ray analysis. This showed that it consisted of rows of hobnails and has been identified as a hobnail boot (Figure 6.55).

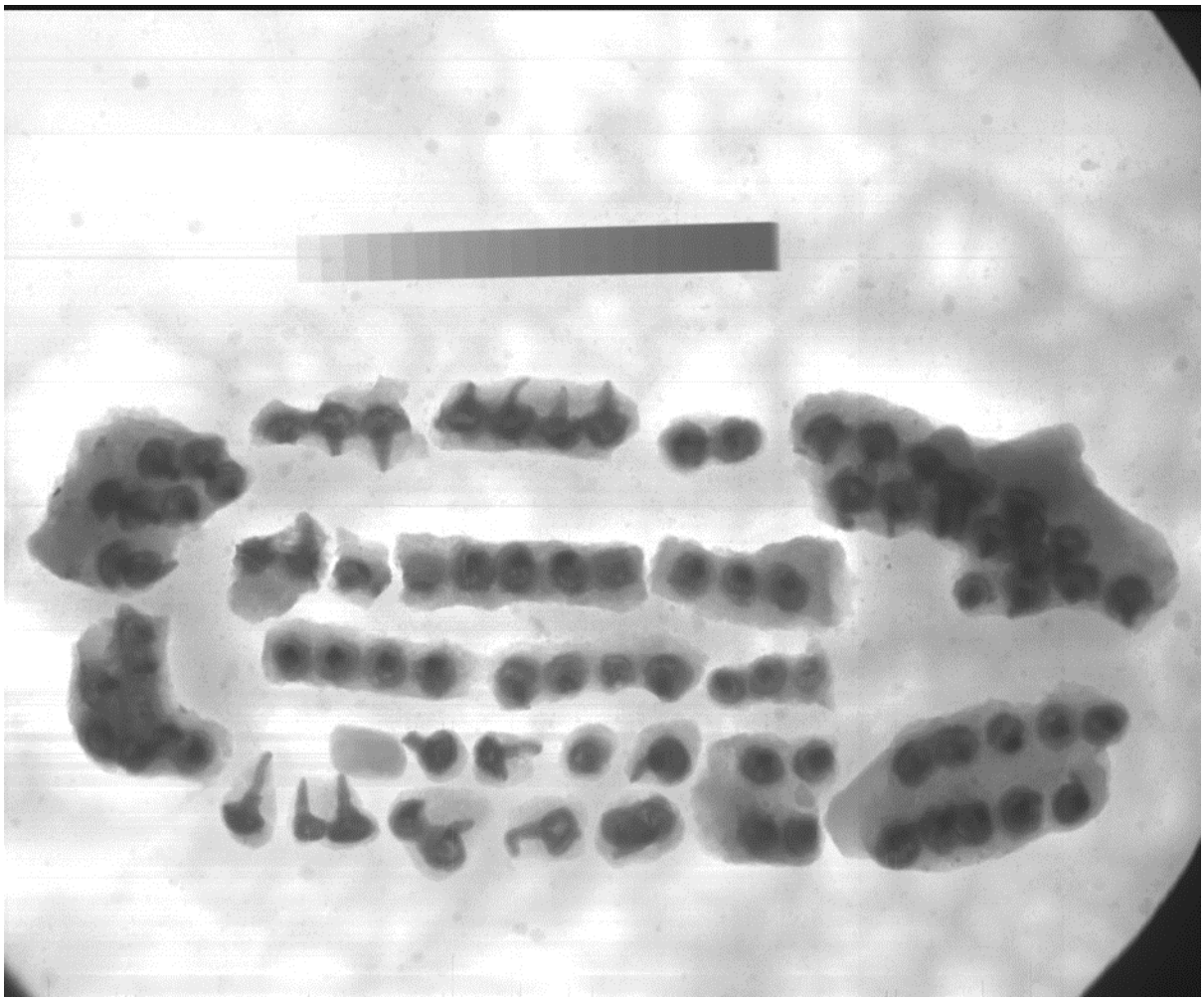

Figure 6.55 X-ray of Hobnail boot (approximately 30 cm in length).

A classification of nailing patterns has been developed by Mould (1997) and this example seems to sit within typology A but with a modification from Burandt (2016) which recognises a large number of nails with an emphasis on the ball and the heel, Pattern E. This indicates that this shoe was possibly a Form III, an ankle-high shoe of open construction (*carbatinae*), similar to the military *caliga* or a Form V, an open boot type(*caligae*). The analysis of hobnails and nailed shoes carried out by Rogers (2017) retrieved from the excavations at Healam Bridge and Bainese provided evidence of different types of both hobnails and related shoe styles. Hobnails could be either domed or pyramid in shape. For the Healam site, domed hobnails were found in both scattered and burial locations, but the pyramid style hobnails were only present in non-burial locations. This differed from Bainesse, where both were found in all locations. Further conservation work is required on the Hundayfield example but early analysis suggests that they are of the domed typology. The find spot is not a burial location, so it is consistent with the Healam and Bainesse evidence. Regarding construction characteristics, the X-ray demonstrates further similarities with the Walton Rogers (2017) analysis.

Several of the shanks have been bent over, showing that the nails were driven through the leather sole material up to a metal plate, which caused the shank to bend, thereby securing the leather to the hob nail. Several shanks are straight, suggesting they were shorter and not required to secure the sole. They formed part of the hobnail pattern but were not a pre-requisite for construction stability.

6.13.6 Stone

A large and significant Saddle Quern stone was recovered from Trench 1(Figure 6.56), from the area to the east of the wall (1008). It was recovered from this area of ditch-fill, which consisted of a complicated series of ill-defined stratification. The quern stone has been assessed by J Cruse (*pers comm*) who identified that it had been formed by splitting a large sandstone boulder with one surface being shaped to produce a grinding surface approximately 70 cm in length by 30 cm width. This is described as larger than the usual upper size limit of 55 cm long. The grinding surface is concave across its length and width, indicating that a one-handed rubber was used for the grinding operation.

Figure 6.56 Saddle quern. Scale bar in 10 cm divisions.

6.14 Conclusions

A geophysical survey was carried out over 180 acres (73 ha) of open farmland which, save for current field boundaries, shows little evidence of human-induced change or use. The results of the survey have demonstrated that the present-day landscape masks one which contains significant archaeological features and demonstrates that human activity has been ongoing at this site over a

considerable period of time. The results indicate that features from the Neolithic period may be present, along with potential Bronze Age activity. Iron Age and Romano-British period features are also visible. Archaeologically derived responses are visible across all this landscape, with particularly visible concentrations of activity in areas A, B and G.

The majority of the features visible in the survey are linear in form and are mostly interpreted as ditches forming bounded enclosures. Some of the features connect, whilst others follow different alignments, suggesting that the organisation of this landscape changed over time. Circular features are also present, particularly at the southern end of area B. These are contained within small enclosures and are interpreted as roundhouses. A singular, large circular feature has been identified in area B (Figure 6.13) which is potentially the oldest feature within the survey area.

As a result of the interpretation of the geophysical survey, area A was selected for excavation. The possible ditch features were considered to have the potential to provide evidence through the recovery of material culture and identification of boundary organisation, which would allow for an assessment of activity in this part of the survey area.

The excavation results supported the interpretations of the geophysical survey. The features which were identified as ditches was confirmed by the excavations, with a variety of dimensions and form revealed. The variability between the sizes and shapes of the ditches indicates that the larger ones would have served as boundary features, distinct from smaller ones which were considered as agricultural or domestic in form. The presence of the large boundary ditches indicated that these enclosed areas may have served as either communal areas, or potentially demarcated parts of the site where a social hierarchy expressed its position through these larger landscape features.

Direct structural evidence of settlement was limited, although the presence of possible foundation trenches and several post holes, indicated that structures did form part of the infrastructure of the site. The Fire Pit (1004a) and the Wall (1008) were indicators of possible processing activity and were the latest features recorded in Trench 1, which itself had evidence of almost continuous use whilst the site was active.

Particularly characteristic of the site was the deposition of cobbles as part of the backfills from when the ditches were taken out of use. Each ditch which was excavated had an inclusion of cobbles, some mixed in with other materials but also sequences where this was the dominant material (particularly Trenches 1 and 3). In Trench 4, cobbles had been used to construct a feature which appeared to be related to the placing on a hobnail boot at the time of the ditch being filled in (see Appendix A). The Cairn feature within Trench 5 (6.8.5 above) was also constructed from cobbles. These deposits did

not appear to be random disposals of material and their use and significance on site warrants further discussion.

The artefact assemblage collected gives an indication of activity and a chronology for use of the site, including examples of Iron Age and Romano-British period pottery. There was no evidence of production of pottery within the excavated area, therefore the assemblage is considered as being imported on to the site. This consists mainly of regional wares but there is also material from a wider geographical area (e.g. Black Burnished Ware). There was a significant proportion of Samian pottery along with *amphorae and mortaria*, suggesting a community which chose items which were heavily influenced by Roman cultural styles. The deposit of a hobnail boot in Trench 4 also demonstrates a definitive aspect of Roman culture.

The chronological sequence of pottery at Hundayfield has periods that align with those from Aldborough, but it also exhibits phases where their patterns diverge. Analysis of fieldwalking assemblages from Aldborough (Evans and Mills 2018) demonstrate a low incidence of pottery from the 1st century AD, followed by a rise in the 2nd century AD, a decline in the early 3rd century AD and an increase to a peak in the middle of the 4th century AD. At Hundayfield, the increase in the pottery assemblage begins in the 1st century AD, so earlier than that at Aldborough, but rises in line with Aldborough into the middle of the 2nd century AD. After this period, the Hundayfield site appears to be in decline whilst Aldborough shows an increase in the middle of the 4th century AD by which time the use of the Hundayfield site has changed and the pottery sequence has all but ended (see Figure 6.46).

The analysis of the Hundayfield assemblage by Walker (see Appendix C.1) identifies a pre-Roman signature, which is not the case for Aldborough, followed by the arrival on site of Samian ware in the middle of the 1st Century AD. Material from the 2nd century AD included locally manufactured examples from Aldborough, York/Malton and possible examples from Rossington (South Yorkshire). *Mortaria* sherds found at Hundayfield are similar to other examples from sites at Healam Bridge, Scotch Corner and Norton (near Malton) (*ibid*).

Although there are several rural sites in the Yorkshire region, and particularly within the area of the Vale of York, it is difficult to compare these general rural assemblages with the specific character of those found at Hundayfield. Few other sites are known within the hinterland of *Isurium*, with even fewer being subject to archaeological intervention. It is therefore of limited value to extrapolate the influence of the civitas to sites which do not fall within its environs.

Although much of the assemblage reflected Roman influence, there were several items which indicated a continuation of pre-Roman practices. The glass bead has been categorised as a native item which had moved from its site of manufacture near the south coast of Britain, to this northerly location and is considered to be a wholly Iron Age typology. The fragments of a Dragonesque brooch are also indicative of a perpetuation of celtic traditions and are thought to reflect a continuation of pre-Roman practices (Jundi and Hill 1998). The complete saddle quern stone which was found in Trench 1 signifies production and processing practices which had been used from the Neolithic period onwards.

The results of the geophysical survey, the excavation carried out and the content of the artefact assemblage form a key component of the discussion which follows in Chapter 7.

7 Discussion

7.1 Introduction

Having presented the substantive findings from the fieldwork at Hundayfield, in this Chapter I return to discuss the original research question of the thesis, namely, to investigate how the presence of the evolving and dynamic *civitas* at *Isurium* impacted upon its wider landscape and the social identities which existed there. The research question was presented as *"To what extent can we understand the influence that an important civitas has upon the organisation and use of the landscape within its hinterland, and how does it impact upon the social character of those who inhabit that landscape?"*

This chapter will consider the methodological framework and discuss the findings of my research in terms of the research question, considering the evidence from Hundayfield Farm at a variety of spatial scales, viewed through the following lenses:

- landscape organisation
- landscape use
- social activity
- development of the *civitas*

This approach allows for a discussion of the macro-scale environment, particularly those components of landscape organisation and use, which are important in understanding how a landscape changed. Evidence from the pre-Roman period is identified and from this I discuss how the landscape in this area reacted to the external influences of the Roman administration. It is within this landscape that the inhabitants lived and worked and the micro-scale approach to investigating the social activities of these people, through the analysis of the objects they left behind, is critical to our understanding. Each of these objects had significance to those who lived here, be they for personal or practical purposes, and understanding the relationships, both within and off-site, are important for our overall understanding of how this community functioned within its lifetime.

7.2 Methodological strategy

As discussed in Chapter 5, the methodological strategy of this thesis utilised a two-stage approach; firstly, to consider the methods which would produce data suitable for interpretation and, secondly, a theoretical approach which would investigate events and the contexts within which they occurred at a micro-level of analysis ("micro-archaeology" see Chapter 5). A macro-analysis considered the wider aspects of this research, bringing together data of national and European relevance against which to set the results of this research. The micro approach identified those key aspects which were unique

to the Hundayfield site, allowing for an analysis of how the site responded to external factors helping to understand its role within the wider area.

The research followed an evaluative protocol (Carver 2009), whereby each stage of the process informed the decision making for the following actions. This decision-making process differed from commercial projects (where strategies are developed at the planning stage, and in most circumstances can be inflexible), and allowed for the overall strategy to respond to information as it emerged.

The geophysical survey and subsequent excavations detailed in Chapters 3 and 6 have provided an extensive body of original data against which to test whether a major centre of economic and administrative strength, the developing *civitas,* influenced activities within its hinterland. The choice to utilise Fluxgate Gradiometry to collect geophysical data has proved key to the mapping of such an extensive survey area (Figure 6.5). These data have demonstrated that human activity was widespread across the survey area throughout the period of study (and, indeed, before the invasion of 43 AD). Boundary divisions and enclosures are a key element of landscape organisation, with boundaries that changed in style, structure and intensity over time. It has also shown that there were areas where activity was especially intense. This information has important implications for understanding the degree to which this was a lived environment, particularly as there is a lacuna of such information for many areas within the Vale of York.

The excavation (Figure 7.1) provided data regarding the physical nature and function of some of the boundary divisions and enclosures. Furthermore, the collection and interpretation of evidence for social activity, as expressed through material objects (notably pottery remains but also a rich dataset of small finds), allows for an interpretation of day-to-day activities carried out within a specific area of the wider landscape at particular moments in, and periods of, time.

Figure 7.1 Volunteers from the excavation team in Trench 1.

As discussed earlier (Chapter 5.5.1), the adoption of a micro-analytical approach has provided high resolution investigation and interpretation to the analysis of material culture recorded on site. This has included evidence of changes in social and cultural dynamics, some of which are in response to, for instance, the availability of different types of pottery. However, others display subtle nuances of the personal life of the inhabitants who occupied or visited this site e.g. items of personal adornment or use.

7.3 Landscape organisation

The literature review (Chapter 2) has shown that a concise understanding of landscape organisation within the hinterland of a *civitas* has not previously been fully developed, especially in a Romano-British context. Much work has been carried out within Romano-British urban areas, with research encompassing rural areas often carried out independent of an urban/rural relationship (e.g. Allen *et al.* 2015). There is, of course, a recognition of a significant linkage between the two, but few studies have looked at the how these relationships manifest themselves within the countryside. Several *civitas* centres are recognised in Britain, such as Cirencester, Silchester and Wroxeter, however, there is a distinct lack of research where the relationship between this particular type of urban centre and its environs has been studied.

This research identified an area close to the site of an important *civitas* that contains previously unknown evidence of landscape organisation and use. Its proximity to this settlement provided the

opportunity to understand how landscapes may have changed in response to the demands of the new administration. To identify changes, an assessment of the pre-Roman landscape is required.

Landscape organisation was an established feature of pre-Roman Britain. Celtic field systems were a structural component which often reflected an organised pattern (Pope and Haselgrove 2006). Although widespread, these field systems were predominantly non-contiguous, delineating local areas rather than large-scale landscape demarcation. Thus, local communities and groups likely structured the land which they inhabited and worked, but other areas were open, wooded or managed differently to the enclosed areas (e.g. Chadwick 1997, Knight 2007, Ottaway 2013, Smith *et al.* 2016). The division of landscape reflected both a need to facilitate agricultural production and also expressed developing social dynamics where boundaries signified a conceptual division of ownership and control (Chadwick 2008).

In the part of the Vale of York under study, there is limited understanding of pre-Roman activity. Chapter 2 brought together evidence for the surrounding area, highlighting the physical nature of the landscape, how it was divided and how the resources it supported may have been managed. The Hundayfield Farm study revealed a pre-Roman landscape that was generally open with discrete domestic enclosures and several landscape-scale boundaries extending across the survey area. The pre-Roman landscape was active, but demarcation through the construction of significant boundaries was limited. Notwithstanding the known limitations of the geophysical survey, it nevertheless succeeded in identifying several previously unknown features, including smaller enclosures, along with some boundary features which extend across the survey area. Previous excavations carried out by the author (but not reported as part of this thesis) have confirmed the pre-Roman date of some of the anomalies identified from the geophysical survey, and this information has been used to identify other potential pre-Roman features. The presence of the Iron Age hill fort at Graton, 1 km west of Hundayfield Farm, provides evidence that this area was the focus of activity during this period. Figure 7.2 illustrates how the pre-Roman landscape may have been organised before the later modifications during the Romano-British period which are also shown.

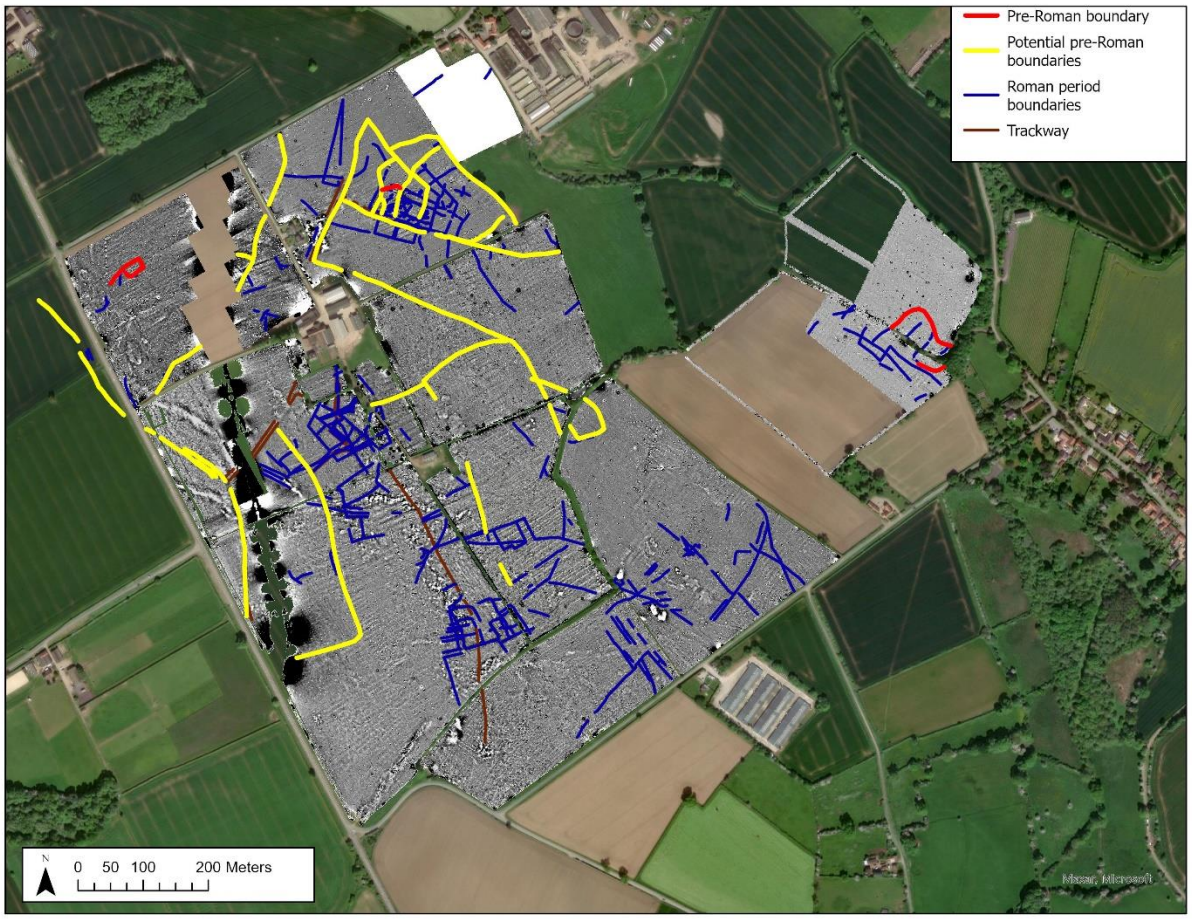

Figure 7.2 Pre-Roman, potential pre-Roman and Roman period boundaries. Trackways are also shown. The boundaries identified in the field at the north-west of the survey area indicate the location of Mid-Iron Age pottery recovered through a previous excavation.

The geophysical survey depicts the organisation of the Roman landscape. Covering 180 acres (73 ha), it provides a substantial data set of discrete and interconnected boundary enclosures. The evidence from the area excavated (Chapter 6, area A) shows that many of these features date to within the Roman period.

This dating evidence can be extrapolated across much of the survey area, where the characteristics of features are similar to those examined as part of the excavation strategy, suggesting that the wider landscape was also occupied during the Romano-British period.

Although the excavation provided evidence for some structural features being present on site (possible foundation trenches and post holes), a definitive settlement pattern regarding specific building types (and hence their inferred uses) has proved difficult to establish. However, the arrangements of enclosures and the changing nature of these demonstrate that the requirements of the community that lived and worked here also changed over time, with boundaries coming in and out of use (as identified through the dating of the pottery assemblage (6.11.1)). Understanding the

specific chronology of the excavated area is central to interpreting its relationship with the nearby *civitas*.

This discussion now considers the landscape organisation in relation to the Roman road, Dere Street, which runs along the site's western edge. The route of the road may reflect earlier prehistoric trackways, but this has not been tested at this location. However, it is possible that it was an overland routeway utilised within the early phases of the conquest of Britain, before it was engineered into a definitive part of the road network system around 120 AD (Bridgland *et al.* 2011).

The settlement at *Isurium was* established around 70 AD (Ferraby and Millett 2020) and, therefore, the road and the town are significant elements of the wider landscape as the site at Hundayfield Farm was being developed. To this we should add the major rivers – the Swale and more particularly the Ure – that before and throughout the Roman period, connected this landscape by water to the Pennines in the west, and the east coast lowlands and coastline to the east and south.

The construction of the road and the development of *Isurium* are wholly Roman and, therefore, provide the ideal opportunity to investigate whether the development of the surrounding landscape was also driven by a central Roman ideology (see Chapter 3, 3.3.1). If so, we might expect to see enclosure boundaries and access routes that are orientated to the road and display a regular grid formation. However, the geophysical survey and excavation evidence shows this was not the case.

A double-ditched trackway, which accesses the Hundayfield Farm site from the west, appears to join a curved trackway that has no alignment or obvious relationship to Dere Street (Figure 6.32). The palimpsest of Roman and pre-Roman enclosure features also have no organisational relationship to Dere Street, although it may be argued that their north-west/south-east bias may align with the main trackway running across the site.

Primarily, then, it seems that a central desire to organise the landscape along classical Roman lines, and associated with the orientation of the road, was not a feature of this part of the landscape whilst the reorganisation of enclosures in area A was taking place. Whether the enclosure boundaries within area A (and those within area G) are aligned off the main site trackway requires further research.

The lack of any obvious orientation relationship between the enclosure boundaries and Dere Street provides clear evidence that organisation of the landscape, in this part of the survey area, was independent of the road. The pottery data shows that Hundayfield Farm site was predominantly active between the mid-1st and the mid-2nd century AD, with changes of boundaries occurring within this period, none of which align with the route of the road. The road was, therefore, not a strong

driver of landscape re-organisation and realignment during the Roman period when area A was most active. Indeed, its significance was presumably greater as a means to convey goods and people than one by which to impose control on landscape organisation. So, from a functional perspective, Dere Street was likely central to the lived experience of the people who inhabited and worked at Hundayfield Farm, yet as a driver of boundary and hence landscape change, it was insignificant in this locality.

7.4 Landscape use

Landscape use in the pre-Roman period within the Vale of York was based around agricultural production, mostly mixed in nature, with a combination of livestock and arable production being the primary focus (Chapter 4, 4.4). The demands of a local community or economy determined whether this production was solely subsistence or whether there was demand for the trading of surplus goods (see Chapter 3). The Iron Age landscape was characterised by dispersed settlements and enclosed farmsteads, with large areas of land already cleared for agricultural production (Allen *et al.*2016). The changes that can be identified within the Romano-British period were not imposed upon an unimproved landscape but upon one that had already been subject to significant changes over several previous millennia.

How a rural landscape was used in the past can be difficult to determine. Ephemeral agricultural practices, such as grazing or crop production, will often leave no trace within the archaeological record, although environmental analysis of soil or production residues can provide evidence for local areas (e.g. Hey *et al.*2011), rather than specific field use within defined boundaries. For example, production processes relating to iron smelting or grain drying may be identified through survey and excavation programmes but cannot easily address the question of how specific areas were utilised.

It is likely that if grain or pollen residues are present within samples recovered from excavation, particularly in a rural location, that some of the raw materials contained within these samples may have been produced locally. The field patterning identified within the Hundayfield Farm geophysical survey indicates that this was a rural settlement that utilised the surrounding landscape for the production of agricultural goods rather than raw materials required for industrial processing. No evidence has been found which suggests that significant industrial activities were present on site. Further, no evidence has been recovered which suggests that pottery-making was a feature of the area under excavation. Of course, this position must be caveated by the knowledge that this is a very extensive survey area, and the excavation area is less than 2.5% of the total area surveyed meaning that activities which relate to production and/or processing may have occurred elsewhere within the wider Hundayfield Farm landscape.

The evidence that we do have for use on-site comes from the results of the excavations. Chapter 6 (6.7.1) considered the different characteristics of the ditches that were found, showing three types: boundary, agricultural and domestic. Those ditches, which were interpreted as boundaries, were the largest excavated. The width and depth of these suggested that part of their function was to make a physical statement and the subsequent bank which would have been thrown up as part of their construction, would provide a significant feature within this landscape. Consideration must be given to whether these banks featured a palisade, which would suggest either a defensive purpose or an enhancement of the visual impact of the boundary feature.

Enclosure B and Enclosure C (Figure 6.45) were identified as boundary ditches. Enclosure B was rectilinear c. 45 m x c. 22 m (approximately 893 m^2) and Enclosure C, trapezoidal in form, had an area of c. 670 m^2. The trapezoidal enclosure, which is the earlier of the two and is bounded by ditches considered to be boundary-scale features, was joined at its northern end by a double-ditched trackway. The origin of this trackway is unclear as visibility of its route is compromised by the present-day farm buildings, therefore, its association with the rest of the landscape cannot be determined. However, its connection to the trapezoidal enclosure suggests that this area may have functioned as a communal area or possibly the location of a structure that served a community purpose. A similar assessment can be made for Enclosure B. This was later than Enclosure C but was also linked to the trackway entering from the north. This enclosure contained the large rectilinear feature contained within Trench 5, within which a possible cairn feature was found (Chapter 6, 6.8.3.5). As with Enclosure C, no structural features were identified within this area. A full excavation here would be required to determine a possible use, but it is clear that its boundary treatment was different to other areas, which sets it apart in terms of its use or function. The different chronology of these two features indicates that the boundaries changed over time, possibly reflecting different ownership or community requirements or changes directed by external forces. Whatever the cause, the changes highlight the dynamic nature of the landscape over time.

The boundaries, which have been identified as agricultural in nature, indicate activities that may have formed the day-to-day life for some of the inhabitants of this area (Figure 6.34). The absence of manufacturing leads to the conclusion that this local population's main occupation was related to agricultural production. These agricultural enclosures may have been intensively managed for crop production or could have served as areas used for the control of livestock. The presence of possible trackways within the enclosures suggests strategies for movement within the site, and this would include livestock. The wider landscape could also provide areas for extensive grazing. The community here would require sufficient production for subsistence, but the demands of the new Roman administration likely required changes to provide a surplus for export or trade. Whether this

community responded by intensifying production on existing areas or by bringing new areas into production (as discussed by Allen *et al.* 2017) cannot be determined, but this area's proximity to the road and river network, along with the demands of the developing *civitas,* suggests that it is reasonable to conclude that methods for increasing production would have been employed.

The recovery of the large saddle quern (Chapter 6, 6.11.6) demonstrates that domestic food processing was taking place within the Hundayfield Farm study area. How this community reacted to this increased demand has not been determined through the results of the excavation, but Rohnbonger's (2018) comments regarding declining health and dietary metrics during the Roman period suggest that these new demands on food supply adversely impacted upon many rural communities (see also Bowes 2011).

The complete absence of coinage from the assemblage recovered from excavation demonstrates that this part of the survey area did not use currency as a method of trade or taxation (although coins have been recorded from the barrow of Duiel Cross. Chapter 2, 2.3.2.2). It is therefore reasonable to conclude that barter and exchange mechanisms formed a significant part of the transactional process and that any taxation levies would have been paid through the delivery of agricultural goods (see Aarts 2005, Wicher 2017). The impact of this would be to remove these products from the local area. Rohnbonger's study (2018) suggests that for many this resulted in a depletion of dietary resilience rather than a stimulus to production, certainly in the short term before strategies which increased agricultural production could be delivered.

Turning to the domestic use of this landscape, evidence from excavation indicated that smaller domestic boundaries were also a feature of the site. These have been interpreted as delineations between other boundary features and signify marking out enclosures where domestic occupation was likely to have taken place. The excavation strategy focussed on the potential ditch features, and not areas within enclosures that may have provided evidence of occupation. Although direct settlement evidence from excavation was limited, the material assemblage recovered primarily from ditch-fill sequences determine that this was a lived landscape, with a population interacting within a primarily agrarian landscape.

7.5 Social activity

Interpreting and understanding this site's social dynamics is critical to our understanding of how communities reacted to the presence of the Roman administration. Although no direct evidence of settlement has been found, the large assemblage of objects recovered through excavation demonstrates that a community were living on and fully engaged with this site throughout much of the Roman period.

7.5.1 Pottery

The pottery assemblage provides evidence of activity at Hundayfield Farm from around 500 BC, with a peak in the middle of the 2nd century AD, and residual activity evident in the mid-3rd century AD until the pottery record ends in the early 4th century AD.

The incidence of bowls/dishes indicate that there was a change from the Iron Age concentration of jars for storage and cooking towards a focus on food preparation and presentation during the Roman period. In the 1st century AD these forms appear on site to the exclusion of any others. This is a key period for the site as most of these early examples consist of Samian ware sherds, providing evidence for a change in how food was presented by some, perhaps many, of those who lived and worked in the Hundayfield Farm area. The Iron Age jars are abruptly replaced by high-quality, imported tableware, indicating a significant change over a short time frame. Does this provide evidence for a dramatic adaptation of practices by the contemporary inhabitants, or does it signify that a new population is moving onto the site during this period? Either explanation is a significant shift from the domestic activity present at the end of the Iron Age. This is not a gradual transition from established social and cultural norms, but one which changes at the same time as the Roman military forces were moving northwards. Occurring at a similar time to the establishment of the settlement at *Isurium,* this provides evidence that the inhabitants of the Hundayfield site were utilising materials and practices which were very characteristic of Roman practices at this earliest date of the Roman occupation in this part of northern England. Interestingly, these changes in materials and practices were not associated with large-scale changes in the landforms and landscape of the study area, suggesting a degree of continuation in agriculture practices whilst other areas of social behaviour changed rapidly.

The bowl/dish assemblage at Hundayfield Farm quickly started to dominate, in contrast to many other Roman period sites where jars remain the major typology (Roskams and Neal 2020, 93), and although its presence dips in the early 1st century it is the most frequent component throughout the 2nd century. Along with other pottery, the sherd count declines in the mid-2nd century AD, until a slight renaissance is visible in Trench 1 in the middle of the 3rd century AD. Although the excavation only provided limited physical evidence for settlement on site, the presence of these materials suggest that food preparation and delivery developed greater sophistication with time and indicates a marked shift in consumption practices. In addition to the bowls and dishes, the arrival of *mortaria* in the 1st century was also significant (see 7.5.1.2).

Coarse wares dominate the assemblage, but the number of Fine wares was slightly higher than would be expected for a rural settlement (Walker 2020). The range of vessel types is similar to those

recorded at other locations within the surrounding area, particularly *Isurium*, York, Scotch Corner and Healam Bridge. This provides evidence that the trade and movement of pottery through this region was significant, and that supply and demand requirements were met through commercial arrangements. How far this was satisfied by the availability of coinage is unknown but, as noted above, the lack of coins as part of the small finds assemblage on this site suggests that other forms of exchange operated.

The high proportion of table ware suggests strong links between this site and urban or military sites (Walker 2020). However, the lack of an obvious military presence at Hundayfield Farm suggests that this linkage is probably centred on goods which were available at *Isurium*, providing evidence that trade existed between the two sites.

Much of the pottery assemblage from the Hundayfield Farm site was made locally and regionally, but production from other areas of Britain was also available. Imported wares illustrate this point, demonstrating that links from further afield were well established. Whether goods were also sourced from itinerant sellers of goods who travelled along Dere Street cannot be determined, but the lack of coinage on site indicates that trading relationships did not rely on currency. Other examples which were recovered through excavation during this investigation include items which may be considered as personal in nature. For example, the colour-coated oil lamp, dating to the 2nd century, (Chapter 6, 6.10.1.6) originated from the Rhineland (Walker 2020, appendix C). The oil lamp is rare find in Britain (Eckardt 2000) and is mainly recorded from urban sites. The presence of this example at Hundayfield Farm suggests a personal connection and that it had been potentially brought onto site by an individual from outside this area.

7.5.1.1 Samian ware

Samian ware is widely distributed across the Roman Empire, found in different provinces and different sites, military, urban and rural (Willis 2011). In Britain, military sites have produced the greatest concentrations of Samian ware amongst pottery assemblages, with rural sites providing only a very small proportion of pottery groups (Willis 2011, 187). The Hundayfield site provided values of 3% by weight of the complete pottery assemblage and 9% of the number of sherds collected (Walker 2020), placing it amongst the highest concentrations for a rural site compared to those presented by Willis (2011). In contrast, the number of decorated sherds at 19.4% is close to the average for rural sites considered by Willis' (2011) (see Figure 7.3).

Figure 7.3 Decorated Samian sherds recovered during excavation. Left: Form 30, Right: Form 37. Form 30, Central Gaulish. The sherd is broken above the ovolo, with rectangular tongue to the left and beaded row below. A cupid (Oswald 381) stands in a double concentric festoon. The edge of a leaf is visible to its left. Date: A.D 90-200. Form 37, Central Gaulish. Body sherd with lower limits of decorative panel visible. The decoration shows concentric linear foliage, terminating at a large leaf. Date: A.D 120-150 (Hanks 2020).

The use of Samian ware may indicate that the inhabitants of this site chose to own such objects, perhaps to aspire to the higher social status implied by using such examples compared to native types. Essentially a Roman product, the possession and use of Samian ware may have demonstrated a wish to identify with the new administration as a cultural indicator or it could have been used to reflect status and wealth within an indigenous community. It was a particularly valued product and was the most frequently repaired pottery of any type (Willis 2011, 171). Indeed, a large sherd of Samian ware from the base of a shallow dish (Hanks 2020, HF020135) shows evidence of a drill hole associated with repair. Samian ware was also often marked with graffiti as a means to display ownership. One dish sherd recovered during the current excavation is marked in this way (Hanks 2020, HF02078).

The earliest sherds recorded at Hundayfield Farm are from 50-90 AD, most dating from the middle of the 2nd century. This demonstrates that the site's inhabitants were early adopters of a particular Roman type of material culture and that the choice to utilise this material continued for over a

hundred years, perhaps three or four generations. If these inhabitants were a related community, then we can see that the relationship with Roman cultural artefacts endured within this community. As an expensive item, it is also reasonable to infer that the same community could generate an economic surplus, some of which was used to procure high-value products.

7.5.1.2 Mortaria

Mortaria are important indicators of a significant change in how food was prepared during the Roman period (Cool 2003). As with the Samian ware finds discussed above, the presence of *mortaria* within site assemblages can be used to gauge the scale and nature of social change experienced by local communities. At Hundayfield Farm, the earliest finds of *mortaria* recorded in Trenches 1, 3 and 6 (Walker 2020) are from relatively early in the Roman period, around 100 AD. This suggests that a change to preparation and cooking practices was underway by this date and that new ways to prepare and present food in the Roman tradition became important elements within social activities. The *mortaria* sherds include fragments from the Mancetter-Hartshill (Warwickshire) production sites as well as others produced locally (Walker 2020) showing that production facilities were in place to supply a market which demanded these novel products. The presence of *mortaria* from this early date also show that distribution and procurement networks were changing within a short time following the arrival of Roman influence in the area. It is not only important that new and different products were available but also that culinary desires and choices were changing. The changing preparation styles created demand for new products; herbs, spices and olive oil were all novel ingredients which required their own specific distribution network. Procurement of these products signified that highly sophisticated trade strategies were a feature of Roman Britain from the very early days of the conquest.

7.5.1.3 Amphorae

Amphorae are one of the most frequently found container vessels on many excavation sites in Britain and were frequently used to store and transport olive oil. The initial impetus for olive oil consumption in Britain was driven by the requirements of the military forces, where demand for oil to support culinary consumption practices was high. Stamps identifying production sites have been found to reflect troop movements into Britain (Monfort 1998), demonstrating the close links between military movements and the trade routes which were utilised. At Hundayfield Farm, the presence of Dressel 20 (Figure 7.4) indicate a significant change in dietary habits (Chapter 6, 6.10.1.5). Moreover, the economic and distribution networks that facilitates movement of *amphorae* from their source of production is a complex one, requiring a well-developed infrastructure to transport a relatively bulky material, not only from the Iberian Peninsula itself but also through the internal transport networks within Britain (e.g. Orengo and Livarda 2016).

Figure 7.4 Dressel 20 sherd recovered from trench 5, showing marks from manufacturing.

The frequency with which Dressel 20 *amphorae* are found on both urban and rural sites signifies that demand for olive oil rapidly became a feature across the British province. As with the presence of *mortaria*, this indicates that changing dietary habits were a feature amongst the native population. How these changes manifested themselves across different socio-economic or cultural groupings is difficult to determine, as is the degree to which a change in social identities can be recognised through these changes (Meadows 1995, Van der Veen 2008). The presence of pottery indicating Roman forms of food preparation and presentation (e.g. Samian ware) do not specifically indicate that food was being prepared in a Roman way, as native food preferences could also utilise these forms of material culture (Hawkes 2001). However, although a few sherds of amphorae may not indicate that a site or household had converted to a wholly Roman form of utilising olive oil, the frequent presence of *amphorae* on rural sites in Britain, does suggest that the adoption of novel practices was widespread. At Hundayfield Farm, a specific deposit (Chapter 6, 6.10.1.6) was the location of 26 *amphorae* sherds. The analysis of these sherds suggests that these were from a single vessel, although it was not complete when it was deposited in this location.

7.6 Jewellery

7.6.1 Glass Bead

The most significant glass object within the assemblage is a large glass bead, recovered from ditch-fill within Trench 3 (Figure 6.51). This bead has been identified as a Guido Class 3 South Harting (West Sussex) type, dating to the Late Iron Age period (although the context of its find was below Roman period pottery, suggesting a redeposit of material within ditch [3015]). However, Foulds (*pers comm*) has observed that, due to the low occurrence of Iron Age glass beads found during excavation, it is difficult to verify the Class 3 type in terms of a definite production site and secure date (noting also that Smith (2020) considers that they are not of the Roman period).

The Hundayfield Farm example is a large annular bead, 30 mm across, with a 10 mm diameter hole in the centre. A dark blue, opaque colour, it has three eyes of honey colour set in white, placed around the circumference. Guido (1978) presents 14 examples of such beads, mainly from southern British locations but also with several sites in Scotland. However, all of these examples have different and varying numbers of eyes, and none are directly comparable to the Hundayfield find. The more recent work by Foulds (2017) provides information on eight more examples, with two, in particular, having a three-eyed decoration. One of these was found at Gussage Down, Dorset and has a similar description, the other is from Kettering, Northamptonshire, which Foulds (*pers comm*) believes to be very similar. Price (2022) has catalogued a similar but much smaller bead which was found under one of the bastions of the walled circuit at Aldborough in 1935.

The presence of the eye decoration may be related to a spiritual function, whereby this object was used to ward off the “evil eye”. Foulds (2017) comments that it is difficult to know how these particularly large examples were used or worn but states that, apart from the common perception that they would form a necklace, they may have been used as earrings, wrist or ankle straps or placed within the hair as decoration (2017, 20-21). The Iron Age date of the bead suggests that it served either as a carefully curated family object over several generations or that it had been redeposited from an earlier context. In terms of condition, the bead shows little sign of wear or abrasion, perhaps indicating that curation as an object was likely. The damage to one of the eye decorations may have been accidental, but it is possible that this was a deliberate act, where the eye had been gouged out and removed before its eventual deposit into the fill of the ditch.

The identification of the Hundayfield bead raises questions about trade, movement of goods and procurement structures. It is impossible to determine whether such an object formed part of an established trading network. However, the lack of similar finds recorded in Yorkshire, particularly the Vale of York, suggests that trade routes did not exist for this type of product. This suggests that it was

a personal adornment which had travelled with its owner, potentially from the south of Britain. If so, this object points to an important element of social mobility within the Late Iron Age to the early Romano-British period. Foulds (2017) provides a convincing argument for the varied uses of beads, from objects of personal adornment and funerary embellishments to questions of identity and display within social groups and communities.

7.6.2 Glass bangle

A fragment of glass bangle was recovered from the ditch-fill of [3033]. Made from a translucent, blue-green material, it has a single decoration of a darker blue spot on the external face. The blue-green colour of this bangle places it within the Kilbride-Jones (1938) typology as a Type 2, although the decoration differs slightly by having a bead decoration rather than cord. Traditional views that bangles of this type were a Roman phenomenon have been challenged, with evidence that the blue-green type belong in the Late Iron Age (Ivleva 2020), with production peaking within the late 1st to 2nd century AD. Type 2 bangles were the earliest glass bangles produced in Britain with a focus of this production within south-west Britain. Bangles were mass-produced and their use was not restricted to the native elite or higher ranks of Romano-British society, instead finding common use as arm decoration and possibly as ornaments for the hair. A noticeable concentration of these bangles exists in north-eastern England, occurring frequently on military, urban and rural sites in Yorkshire (Ivevla 2020).

Price *et al.* (2022) have catalogued four bangle fragments from Aldborough, with one having a similar decoration of an applied oval, dark blue glass spot. This suggests a possible source for the bangle found at the Hundayfield Farm site and indicates trading activity between the two locations. Relatively common on 1st and 2nd-century AD sites in the north of Britain, particularly on urban sites, this artefact demonstrates that decoration and display were a feature of the cultural signature of this site.

7.6.3 Dragonesque brooch

Amongst the items of jewellery which were recovered from Trench 1 (Figure 7.5), were two fragments of an enamelled Dragonesque brooch (Chapter 6, 6.11.4). This type of brooch is found mainly in the north of Britain and occurs in large numbers on sites including military, urban and rural areas during the Roman period (Jundi and Hill 1998, Hunter 2008).

Figure 7.5 Fragments from a Dragonesque brooch recovered from Trench 1.

The design of this brooch is recognised as a wholly British design of "[…] a broken back scroll motif from the repertoire of La Tene art" (Jundi and Hill 1998, 9). Thus, they represent a form of Celtic art with a strong Iron Age tradition, but they were not manufactured until between the late-1st to the end of the 2nd century AD. It was a completely new brooch design, with definite Celtic allegiance exhibited in its design, which was worn in the aftermath of the Roman conquest.

As brooches are considered an important form of decoration and display of personal identity (Foulds 2016, Ivleva 2017), their presence has been interpreted by Foulds (2016) as evidence for personal desires to preserve and display a native identity, even to the extent of showing resistance to the influences of Roman cultureand the expression of a non-Roman identity. This view has been challenged by Hunter (2008) who claims that the presence of the Dragonesque brooch on Roman military sites, particularly the enamelled versions, shows that it was not a symbol of "[…] non-military, non-Roman identity" (2008, 12). These military sites are focussed on frontier locations in the north of Britain where "[…] they represent the modified identity of the military and others on the frontier" (Hunter 2008, 13). However, this interpretation is not qualified by knowledge of who was

wearing these brooches on military sites as, if it was the indigenous population, then the military connection is merely one of location and not of use.

If the brooch design at Hundayfield is simply considered as the natural development of artistic styles which were familiar to an indigenous community, then its widespread use in the region and elsewhere, would explain its presence on many of the sites where they are found. If it is a retention of Iron Age identity, expressed through the utilisation of Celtic symbology, it may suggest that within a community at Hundayfield that utilised, even embraced Roman ideas, there was still space for the expression of personal identity amongst a native population.

7.7 Hobnail boot

Hobnail boots are an unusual find, particularly on a rural site. The organic leather construction rarely survives and the hobnails are often randomly distributed, save for where they have been placed within a funerary context. The boot recorded at Hundayfield appears to have been deliberately placed within a ditch excavated in Trench 4 (see Chapter 6, 6.11.5).

Hobnail boots are thought to present different messages in terms of the identity of individuals who used this footwear. The nailing patterns fulfil a functional role which denotes the situation where the boot was to be used; casual wear versus uses for physical work amongst populations and in particular, the role as military equipment. Nailing patterns are frequently consistent across the Roman empire and can be quite closely dated (van Driel-Murray 1999), also containing elements of symbology within the patterns. Although many patterns serve a practical use, they may also be considered a fashion accessory, for example, open strap designs are unsuitable for northern climes (van Driel-Murray 1985). Therefore, their presence can indicate an individual's desire to make a fashion statement. This may be a method whereby allegiance to a new culture is demonstrated, or perhaps possessing such items demonstrates both a financial and cultural ability to reflect new trends emerging in the post conquest period. Footprints can be highly visible and as such individuals can be identified by the prints which they leave behind (*ibid*). This may encourage the use of patterns as iconography and identify social or cultural affiliations. Symbols may also be seen as promoting good luck or safe travels. The fact that hobnail boots appear within burial features suggests that these symbolic representations carried significant weight for the social and cultural relationships which characterised certain groups. This symbology has also transferred to oil lamps, tiles and Samain ware with signatures from the pottery makers in the form of footprints (van Driel-Murray 1999). The relevance of footwear to people's perception of self and identity appears to be a common feature amongst the analysis of hobnail typologies.

The symbolic power of the foot and shoe has been recognised as a connection between humans and the earth (van Driel-Murray 1999), projecting a symbolic relationship between movement and travel, whilst the placing of shoes within burial locations can be interpreted as a link between the living and the journey of the dead (*ibid)*. The deposit of shoes can also be seen as a recognition of personal relationships where preservation of the imprint of the soul is considered important (*ibid*).

The Roman period in Britain has produced much evidence of burials containing complete shoes or deposits of hobnails. As noted above, the location of the Hundayfield find was not within a funerary context. The placing of a shoe (usually a left one) is often recorded as an act of structured deposition (Mould *pers comm*), with this example having an associated cobble feature within the ditch-fill.

Consideration must also be given as to whether this shoe formed part of the rural activities on site or whether it may have a military origin (noting the proximity to Dere Street and *Isurium*). By the end of the 1st century AD, military and urban/rural footwear is indistinguishable, and most people had access to nailed shoes (Mould *pers comm*). Therefore, associations with a military signature for this example are difficult to prove. However, its style suggests that it was suitable for physical work or perhaps walking longer distances. The nails along the outer edge are slightly larger than from the rest of the shoe, which is often a feature of heavy work shoes (van Driel-Murray *pers comm*) with this example being characteristic of a 2nd century AD date. Hobnail boots and shoes are seen as a wholly Roman characteristic (van Driel-Murray 1985) and are indicative of the spread of Roman clothing, and its associated technologies, to the rural population. The presence of this footwear signifies that the site's inhabitants were either a native population who were early adopters of Roman footwear styles or were a newly established cohort who brought Roman styles with them. If the latter of these, then some linkage may be constructed with the presence of a hobnail shoe and the appearance of Samian ware on the site in the second half of the 1st century.

7.8 Saddle quern

Quern stones, used for processing grain into flour, were first used in the Neolithic era and early examples of the saddle quern are known to date from this period. They indicate the progression from hunter-gatherer societies to ones where the specialised practice of growing grains for consumption was a feature of the first agricultural communities and were in use until the Roman period in Britain. As such, giving a definitive date for this object is difficult. The find location in Trench 1 (Chapter 6, 6.11.6) suggests that it may be from the Late Iron Age/Early Roman period, but as the beehive quern had come into use from around 200 BC, this late survival would be an unusual example from this period.

This Saddle quern is a very unusual example of its type. Most quern stones are removed from use by being broken or split, but as this example remains intact, it is a rare object. Often found in locations which suggest deliberate placement, this action can be associated with the abandonment of a site (Watts 2012). However, this example appeared to be within a mixed fill, suggesting a redeposition from its original location.

The presence of the Saddle quern demonstrates that hand grinding of cereal products was a feature of local processing strategies. Whether this was in the absence of other mechanised processing techniques, or a complimentary activity cannot be determined. The processing capacity of this quern determines that its use may have been associated with a singlefamily group or perhaps serviced a small community, and this may be indicative of the size of population inhabiting the site at this time. However, if its use was complimentary or expedient, other processing capabilities may have been present on site simultaneously. What it does show is that processing of agricultural products did take place on site, and from this we can determine that the production of these goods was also a feature at this location, as opposed to goods being simply imported from elsewhere.

7.9 The cobble component of ditch-fill

A characteristic feature of many of the ditches was the presence of cobble deposits as the final ditch fill material (Chapter 6, 6.9). The concentration of cobbles varied from inclusions within the upper layers of mixed fill to where it was the only product utilised. Investigating the sourcing of this material is an important component in understanding activity within the site.

The post-glacial history of material deposition in this area, reviewed in Chapters 2 and 3, determines that cobbles would be a frequent and widespread material across the surface of the Hundayfield landscape. When the landscape was initially cleared of tree and scrub vegetation, cobbles on or near the surface would have impeded agricultural and crop production activities. Therefore, human and perhaps animal energy would be required to remove them from the surface so that agricultural activities could occur. This raises the question as to whether this material was then disposed of, stored, or utilised for structural or building purposes.

Figure 7.6 Image showing the various sizes of cobbles removed during excavation. Small scale bar is 30 cm in length.

Although evidence for cobble-based structures is limited on the site, the presence of potential buildings cannot be discounted; the availability of cobbles would have provided appropriate material for the construction of structures for domestic and production activities. No evidence has been found to indicate that they were used as surfacing materials for tracks or roadways, indicating that movement between areas of activity was across bare soil surfaces, which, of course, would be vulnerable to weather events affecting stability and ease of movement.

Analysis of the dimensions of the cobbles indicates that there was no attempt to differentiate between the sizes of the cobbles collected (Figure 7.6). Some of the cobbles were large enough to require the coordinated efforts of more than one person to facilitate removal, whilst others were small enough to have been collected by the younger members of a community. This is an important distinction because the small cobbles would not impede agricultural or food production activities, yet it was still deemed necessary to remove them from the fields. The removal of cobbles is hard physical work and at a time when rural diets were compromised in terms of nutrient content (see Rohnbonger 2018), the effort required to collect and remove cobbles must have been justified by the utilisation of this material.

It is unclear whether utilisation of cobbles as a final deposit within the ditch fill was a significant and/or deliberate act of closure and whether this was a practice which endured over an extended

time frame. The area of Trench 4 was only in use in the early 2nd century AD, but its main ditch-fill contained cobble material. Other ditch features across the site, known to be active later, also have similar material as a final fill, which suggests that this may be a deliberate act that persisted over time (see Figure 7.7).

Figure 7.7 Showing cobble-fill deposit within ditch [3015]. Scale rods are 1 m in length.

A comparison can be made with the site at Healam Bridge (Chapter 4, 4.3.4) where several ditches were excavated, with none presenting a cobble sequence as part of the fill material. This location which would have a mix of superficial geology containing cobbles, similar to that at Hundayfield, but the utilisation of that material was different; at the Healam site, cobbles formed a common element of building construction and trackways (Ambrey *et al.* 2017). This is not to suggest that the Hundayfield site is unique, but it is unusual for the cobble material to feature so significantly as ditch-fill, where in other situations, the cobbles would make suitable material for either construction or road-building projects. At Hundayfield Farm, the disposal of the cobbles in the stratigraphic sequence may be related to a rapid clearance of the site as a means to reorganise this landscape where this took priority over the re-use of this material. Indeed, in several ditches, it marks the terminal deposit in the sequence, after which the archaeological record ends.

7.10 The wall within Trench 1

Although evidence of structural features on the site was limited, due partly to the excavation strategy concentrating on the boundary treatments across the site, a cobble wall had been constructed across the eastern end of ditch [1055] (Chapter 6, 6.8.3.2), near to its junction with ditch [1058]. Isolated as it was within the ditch, there was no evidence to suggest that it had formed any part of a larger structure, although deep medieval ploughing (see Figure 7.8) in this area may have truncated any related features.

Figure 7.8 Red line shows the curvature of medieval ploughing in the western section of Trench 1. The ploughing had caused truncation of some of the archaeological features within this trench. Scale rod is 1 m in length.

It was one of the latest features on the site and may have been present at the same time as the fire pit feature (see below). In terms of construction, the excavated evidence showed that the lower courses of cobbles had been placed into a ditch that already contained a primary sediment deposit. It is clear, therefore, that it was not constructed as part of the initial ditch but was a feature that was required to fulfil a later, separate, purpose and was an unusual feature with no known comparators (Roskams *pers comm*). Consideration that it formed part of a bridge, or access across the ditch, was discounted as this could have been achieved with a simple wooden platform. Also, a bridge feature would have allowed the ditch to continue its purpose of landscape demarcation, whereas the wall succeeded in the stopping up of the ditch itself. The boundary ditches across the site did not feature as drainage ditches (there was no evidence of a coordinated strategy amongst the ditch complexes

designed to move water away from the site) but they would certainly contain water after periods of wet weather. The conclusion is that this wall was designed to stop-up the ditch in order to retain water, potentially to facilitate an unidentified local processing practice. An associated feature was constructed against the eastern face of the wall that has been classified as a Drain (Figure 6.39), which supports the view that water use was associated with these features.

7.11 The fire pit within Trench 1

The fire pit feature had been constructed over the infill of two earlier ditches, but it could not be determined whether the ditch filling had been required in order to construct this feature, or that it had been built at a later date. The feature was evidently not a complete structure with only the lower course of cobbles surviving, therefore a full description of its structure and purpose is not possible. What can be determined is that its function was related to either burning or heating practices, as rich carbon deposits were recovered from the base of the feature. The excavation also revealed a possible stoke hole on the northern side of the feature.

In terms of use, this feature may have functioned as a grain dryer or a malting facility but, if so, its form of construction was particularly unusual (Roskams *pers comm*). The location of the possible stoke hole would influence its purpose. Located away from the prevailing south-westerly winds would potentially allow for control of the temperature within the structure which is required for actions involving the processing of grain. Too high a temperature would affect grain drying and be detrimental to any malting processes. The sampling of environmental residues recovered from excavation would provide evidence to determine the types of activities carried out within this feature.

7.12 The lead-lined coffin burial

Although this feature did not form part of the excavation project, its presence within the survey area is significant and demands that it forms an important part of the consideration of activities on the Hundayfield site. The details of the burial are covered within Chapter 2 (2.4.1), and here I consider the implications of this feature and its relationship with the landscape.

The nature of this burial, a lead-lined coffin within a stone chamber, is indicative of a well-resourced funerary practice, linked to the interment of a person of high social status (Pearce 1999, Struck 2000, Pearce 2015). This male individual was likely to be one who held a position of control and influence, able to support the finances necessary for such a burial rite. The isotopic analysis of tooth material demonstrated that this individual had a childhood origin centred on the Mediterranean area, likely from Sicily or the Italian mainland (Moore *et al*. 2014). We, therefore, need to consider how this

individual came to be interred within a rural location in northern Britain and what part they may have played within the local community. The possibility that they were involved with a role at *Isurium* is not unreasonable, given that he had himself likely originated near the centre of the Roman Empire and that the developing *civitas* would need individuals familiar with the administrative tasks required for it to function. The osteological analysis (Storm 2014) had identified that the individual was not involved with activities requiring physical strength and this reinforces the view that he was involved with an administrative role rather than a manual occupation.

How might this person have influenced the physical and social environment associated with the site under study? Toller (1977) asserts that 94% of lead coffins in rural areas within Britain are associated with a villa. Within the survey area of this thesis, no definitive evidence of such a feature has been identified, although future research may provide more information relating to this possibility. Despite the absence of direct evidence of settlement, it is likely that this person was familiar with this landscape and the choice of the location for the burial, overlooking Dere Street and on the site of a prominent prehistoric monument, reinforces the view that they lived within this area and had control over the land where his burial took place. The choice of location for this burial is significant. Burials which have a relationship with roads are considered to exhibit a particular interface between the living and the dead within a Roman context (Esmonde Cleary 2000, Pearce 2013), and its visibility, to and from the road, ensured that aspects of memorability (Pearce 2015), an important component of the expression of Roman funerary practice, were achieved.

Currently there is no absolute dating evidence for this burial, and this is something which should feature as future research towards a more complete understanding of the site. However, Whyman (2023) proposes a date around the 2nd half of the 3rd century AD based on a similar burial at Trentholme Drive, York (Figure 2.8). The similarities in the construction of these two stone-built cists are remarkable, and it is difficult not to suggest that the same hand may have been responsible for both of them, and that this rare form may signify a particular form of funerary ritual.

If the burial is dated to the mid-3rd century AD, then the landscape which this person would have recognised, particularly within the excavated parts of area A, would be one where boundary features had mainly been removed from the site and with only a limited degree of activity continuing around the area of Trench 1. However, if the lead coffin itself is dated to an earlier period relating to its source in the Mendips (Gough 1967), which would suggest a date before the end of the 2nd century AD, then it may be that this individual was actively involved in the changes in landscape organisation that happened around this date. If we also consider that they were involved with a role at *Isurium,* there may be a direct link between the *civitas* and this area as a result of this relationship.

7.13 The chronological relationship between *Isurium Brigantum* and Hundayfield Farm

The central thread of this research has been to establish the degree to which the developing *civitas* impacted landscape use and social change within the survey area of Hundayfield Farm. The results of the survey and excavations have shown that change was a feature of this landscape, as demonstrated by the remodelling of the boundary networks within the site, and that the social relations of those who inhabited this area responded to the availability of Roman-style products, some of which were likely from *Isurium.* A chronology for the development of *Isurium* has been established by the work of Ferraby and Millett (2020), therefore we can compare this development with the chronology of the Hundayfield site, as determined by the sequence of the pottery assemblage as retrieved from excavations. Although a chronological profile for the excavated area as a whole was achieved, there were few areas where a specific date range could be identified. Whilst in Trench 4 it was possible to recognise a unique period of activity in the early part of the 2nd century AD, due to the close dating of pottery sherds retrieved from this area, for much of the remaining part of the site, the ditch fills from which pottery material was retrieved exhibited a mixture of date ranges.

Very little evidence is available to indicate a pre-Roman precursor to the settlement of *Isurium.* The geophysical surveys carried out there and the analysis of artefact assemblages provide no secure evidence that there was anything other than piecemeal activity in this area (Ferraby and Millett 2020). By contrast, the area of Hundayfield Farm has evidence of a possible Neolithic barrow (Duiel Cross Chapter 2, 2.3.2.2), an Iron Age Hill fort at Grafton (Chapter 2, 2.3.5.1) and confirmed Mid-Iron Age pottery from previous excavations at Hundayfield Farm and from the excavations carried out as part of this research. This evidence suggests that the area around Hundayfield Farm was far more active during the pre-Roman period than the site which was to become *Isurium* noting, of course, that in the wider area of *Isurium* there was prehistoric activity, notably the Devil's Arrows.

A date around 70 AD for the establishment for *Isurium* has been proposed with coin evidence supporting this, along with housing in the northern part of the town dating to this period (Ferraby and Millett 2020). It is also mentioned in the *Vindolanda* tablets of this date. Further evidence that the emerging settlement was rapidly becoming a focal point is provided for the likely construction date of the town's amphitheatre during the late 1st century AD (*ibid)*. The significance of this cannot be underestimated; amphitheatres are considered one of the pre-eminent symbols of the Roman Empire (Wilmott 2008) and its construction here indicates the importance of the emerging settlement. The festivals and activities associated with amphitheatres would not only be a centre for

social interactions but the impact these would have upon the local population, unused to such theatres, would be significant. Indeed, such a regional attraction would, at certain times, have drawn significant populations to and from the site, with people travelling along roads including Dere Street that runs directly past Hundayfield Farm.

At the same time as the early development of *Isurium,* the Hundayfield site was also changing, in some cases quite dramatically. In terms of activity within the landscape, we have identified a potential set of pre-Roman enclosures (Figure 7.2) that appear to have been replaced with new enclosures with more regular boundaries than are usually found within pre-Roman examples. The excavation in area A provided evidence of transitional boundaries which, although the pottery dating evidence is specific to the deposit of ditch-fill material, does show that the construction of ditches was a feature of the site at this time. It is difficult to provide clear evidence as to why the nature of these enclosures changed to a more organised and focused lay-out, but this is a recognised characteristic of many early Romano-British field systems and this early landscape change seems likely to have been chronologically, if not functionally, linked to the initial establishment and expansion of *Isurium.*

The pottery assemblage also changed significantly at this time, with the traditional Iron Age jar typology being replaced by a switch to fine, Roman-style tableware (Figure 6.50). In particular, the arrival on site of Samian ware demonstrates that either the personal habits of a native population changed rapidly, with a choice to utilise these novel forms, or there was an influx onto site of a new population, already familiar with Roman pottery styles. The shift from practical storage vessels dominating the assemblage, to one where the presentation of food became paramount occurred both early and quickly after the arrival of Roman personnel in this area.

It should also be noted that, although there was a significant early shift in the pottery styles, remnants of Iron Age identity also persisted at this time. If we accept that the wearing of a dragonesque brooch (Chapter 6, 6.11.4) denotes an allegiance to native identities, then the presence of this, along with the Iron Age glass bead (Chapter 6, 6.11.1), may suggest that within the inhabitants utilising Roman wares there was also an incumbent population less willing to accept, or not required to accept, the emerging trends and styles.

In summary, looking for coherence between the growth of the new settlement at *Isurium* in the mid-late1st century, we can see that increasing activity there coincides with significant changes to the landscape and social practices at the Hundayfield farm site.

Turning to the 2nd century AD, *Isurium* saw much change. Its role as an administrative centre was strengthened by the construction of the *forum* around 120 AD. Other buildings including a *basillica* and public baths reinforce the very Roman nature of the settlement. The building of many town houses in the southern half of the town, along with numerous mosaics (including the Helicon mosaic) demonstrates that a wealthy population were now settled within the town. In addition, the construction of a walled circuit between 150-199 AD (Ferraby and Millett 2020) was a significant factor in expressing the social standing of the town. The walls do not appear to have a defensive purpose, particularly as the southern aspect is compromised by rising ground levels which would obscure people approaching from that direction. It can be considered, therefore, that their purpose was to display the wealth and social status of the settlement and they are indicative of the town's economic activity, where sufficient resources are available to finance such a construction project.

Regarding communication networks, the town's proximity to the river networks has been discussed (Chapter 4, 4.5.4) but the consolidation of Dere Street around 120 AD (Ferraby and Millett 2020) would have provided a further impetus to activity and development. Dere Street was the main overland route north from York to Hadrian's Wall and beyond, it would, therefore bring much traffic through the town. Military forces moving along the road would utilise it as a destination, particularly as the amphitheatre was already established, and it would also function as a network for the movement of raw materials and finished goods, bringing yet more economic strength to the town.

When the settlement became a *civitas* is uncertain, but the provision of public buildings and town houses with mosaics, would indicate that its status as a *civitas* was secured sometime before the middle of the 2nd century AD (Ferraby and Millett 2020, 106).

As for the site at Hundayfield Farm, the increase of pottery fragments from this period recovered from an increasing number of locations, shows that the boundary treatments on site were also evolving and changing. Some were only active for short periods (e.g. Chapter 6, Trench 4, 6.10.1), whilst others have material which is redeposited showing the cutting and re-cutting of ditches (e.g. Chapter 6, Trench 1, Trench 3, 6.10.1). Trench 4 was the location of the hobnail boot (Figure 6.54), and its brief period of activity may be related to the deposit of this item. Although we cannot define a period for when ditch [4001] (Chapter 6, 6.11.5) was in use, the ditch-fill material can be closely dated by pottery sherds to around the middle of the 2nd century AD (Walker 2020). The placing of the hobnail boot, possibly as a closing deposit, may be significant. Firstly, it shows that this type of footwear was in use on-site. Secondly, as it is particularly associated with Roman styles, it raises the question as to what this individual's relationship with the site was and why this item was selected as

appropriate to place within the fill of this ditch, alongside a possible cobble structure and numerous cattle bones and teeth which were also recovered from this area.

The pottery assemblage shows that activity at Hundayfield Farm increased in the first half of the 2nd century AD (Figure 6.47). The incidence of bowl and dish finds increased and reached a peak in the first half of the 2nd century AD and this was accompanied by the arrival of *mortaria* and *amphorae* at the same time. This continues the theme of developing dietary practices on site, where the preparation of food was changing from the practices of the Late-Iron Age. This period is when the site was at its most active, with more areas being in use than at any other time for the period under study.

During the 3rd century AD, *Isurium* underwent further expansion. In particular, large storage warehouses (60 m x 28 m) (Ferraby and Millett 2020) were constructed within the northern part of the town dated to 250-300 AD. In addition, external towers were added to the existing walled circuit around 275-320 AD (*ibid*). The warehouses signify that goods that need space for storage are coming into the town and are to be available for redistribution. Whether these locations also acted as storage for goods taken *in lieu* of taxation cannot be determined, but their size and presence indicate a high degree of economic activity.

By contrast, the site at Hundayfield Farm appears to be in decline by the early 3rd century AD. The pottery assemblage suggests that very little material is present on site which indicates that much of the previous activity has ceased. The only area which appears to continue in use is around the location of Trench 1 (with possible residual activity seen around Trenches 2 and 8), where jars appear to present a small renaissance in use, with bowls and dishes declining, all whilst the overall numbers of pottery sherds recovered is falling. The higher proportion of jars may suggest a return to pre-Roman activity in terms of the preparation and storage of food. Within Trench 1, we also see the construction of the wall and fire pit (Chapter 6, 6.8.3), these features may be associated with small scale processing activities, carried out by a population who have moved towards jars as their primary pottery items, potentially indicating a return to subsistence-based activities. However, it must also be considered that, in addition to changes in the intensity of activity within area A at Hundayfield Farm, there may have been contemporary changes elsewhere within this landscape. The geophysical survey indicated other parts of the landscape were being used and so a different organisation of the landscape at area A may have determined that the focus of activity moved elsewhere.

At the same time as a change in activity at Hundayfield may be recognised, a significant event occurred which may have some significance for the activities associated with the site. Within survey area H (Figure 6.25) an individual was interred within a lead-lined coffin (Chapter 2, 2.4.1). This is a

rare example of a Philpott Type 1 cist burial, constructed of coursed masonry with covering slabs, "[…] structurally the most sophisticated cist found in Britain" (Philpott 1991, 61). Whyman *et al.* (2023) note that only two other such structures are known, one from Conderton (Worcestershire) and a second from the Trentholme Drive cemetery in York. It is important to stress the rarity of the Philipott Type 1 inhumation within the NE of England and Britain as a whole. The construction complexity of the cist itself, the procurement of the lead sheeting and its construction into a coffin, and the making of a large and extremely heavy oak casket to contain the lead coffin all point to this burial being a "high status" individual with considerable physical and financial effort exerted in the process of internment.

Although the Hundayfield Farm burial has not been dated absolutely (via C-14), Whyman *et al.* (2023) note the very close similarities in design between this example and that at Trentholme Drive, leading these authors to conclude that the two examples may be of a similar date (see above). Placed within the coffin of the Trentholme Drive burial was a Nene Valley Colour Coated ware funnel necked beaker dating from 225-280 AD, and a coin of Gallienus (253-268 AD) was recovered from within the backfill. Therefore, a suggested date for the Hundayfield Farm example of the second half of the 3rd century AD has been proposed (Whyman *et al.* 2023). A date for the Hundayfield Farm burial within the 3rd century would not be unreasonable, given what is known about Roman mortuary practices at this time. The dominant funerary form up until the 2nd century AD was cremation, followed by burial in a cremation urn (McKinley 2000). After this period, inhumation became the dominant form, although cremations still feature in the archaeological record (e.g. Trentholme Drive). However, the isotopic analysis of the Hundayfield lead coffin (Moore 2014) showed that this lead had been sourced from the Mendips (Somerset), an area where it is known the Romans were producing lead from at least 49 AD (Gough 1967), which suggests that an earlier date may also be considered.

Although the Hundayfield Farm example is similar to that at Trentholme Drive, some obvious differences exist. Trentholme was an urban location, albeit outside the city walls of York, and was placed within a recognised cemetery location and contained grave goods. The Hundayfield example was in a wholly rural location and not within a cemetery enclosure and was without any grave goods. However, it was not a singular feature as a secondary burial had been placed alongside it at a later date (Antoni 2008). The second example is considered to be deliberately placed alongside the lead-lined coffin cist, suggesting that a family relationship existed between the two individuals. Moreover, the location of the Hundayfield example was also within a rural setting which contained the significant feature of the Duiel Cross barrow (Chapter 2, 2.3.2.2). The original description of archaeological material from this mound includes reference to considerable amounts of burnt

material, as well as to a variety of burial urns and Roman coins of Vespasian, Domitian and Trajan date (i.e. up until the early to mid-2nd century AD). That there is no more recent coinage or other dating evidence from the site is interesting, given the lack of coinage from the Hundayfield Farm excavations. Moreover, if the ashes and urns are part of early Roman cremation, on the site of a prominent prehistoric monument, this could suggest a pattern of early Roman burials on this site by an established Roman population that chose to bury their dead over a period of several generations.

Duiel Cross barrow was dug out around 1757, with the barrow material being used to raise the level of the adjoining turnpike road (Dere Street). The archaeological record has, therefore, being compromised by the nature of its removal. However, the practice of cremation, as evidenced by material from the barrow, appears to have ceased, possibly around the time of deposit of the latest coins, i.e. Trajan ((98-117 AD). This may be significant in demonstrating a shift to inhumation practices sometime in the 2nd century AD, as evidenced by the presence of the Hundayfield example.

What possible conclusions might we draw regarding the relationship between this burial and the local community at Hundayfield, and the adjacent *civitas*? There is little known regarding burial practice in *Isurium*, reflecting the limited excavation. The recent geophysical survey, and review of previous work in the town, suggests that burials were located beyond the town's walls, close to the amphitheatre and along the main York road to the south-east (Ferraby and Millet 2022). The geophysical survey suggests mausoleums may line the main approach road of Dere Street from the south, but excavation is required to confirm this. This or previous studies have reported no lead coffins or stone cists. It seems highly probable, though, that the individual buried at Hundayfield Farm had a connection to the civitas at *Isurium*, given his demonstrable link to the Roman empire and high status. What that might be, and why he chose to be buried in the countryside and not the town, is an interesting point for consideration. The burial site overlooked Dere Street, only c. 50 m away, lying on a crest east of the road. The excavation of the burial (Antoni 2008) did not uncover evidence of a mausoleum associated with it, but its location near the road suggests that some form of structure was possibly constructed, which ensured that the burial was prominent within the landscape and that the memory of the individual interred would be sustained. The evidence indicates that this was a local landowner, a Roman, likely born in Italy at the heart of the Roman Empire, and a migrant to this part of Yorkshire, choosing to be buried in style on a prominent setting, on his land, and adjacent to Dere Street along which many would have travelled to reach *Isurium,* York and beyond.

It is worth reflecting further on the similarity in burial type to that recorded at Trentholme Drive. Notwithstanding the differences in burial style, it is remarkable that two of the very small number of

such burials are located in such relative proximity. It is important to stress again the rarity of this type of burial; in York there is only one such example amongst many hundreds of burials, many of which were high status. This similarity in burial practice may, therefore, suggest a connection between both *Isurium* as a local *civitas* and perhaps some other connection to the community at York.

That this burial is presently unique within the corpus of Roman period burials in Britain (a lead coffin, within a wooden casket and within a stone chamber) indicates the likely importance of this individual. Of greater significance for this research is that we have evidence of an individual of Roman heritage living within this landscape. Roman-style pottery and evidence of material culture can go some way to suggesting a local community that is absorbing, for instance, new food preparation and presenting styles, but we know we have a person originating from the heart of the empire and it is likely that they, and their family, had a significant impact upon the physical and social landscape of the area covered by this research. If the date of the internment is within the first half of the 3rd century AD, as discussed above, then this individual was present at the same time as the Hundayfield site (as excavated) saw a decline in evidence of material culture, as expressed through the pottery assemblage (Figure 6.46). The geophysical survey (Chapter 6, 6.4) provides evidence of activity throughout the wider landscape, and further research may demonstrate a connection between the cessation of activity here and a shift of focus to a different part of the survey area. Whether this led to a reorganization of landscape boundaries would form part of this future research (see below).

The picture for *Isurium* in the 4th century AD becomes quite complicated. Town houses are still being constructed, which suggests that personal wealth is still evident within the town, but this contrasts with evidence indicating a sharp decline or change in economic activity. The warehouses in the northern part of the town are demolished in the late 4th century AD and the *forum* appears to no longer be used for its original purpose as hearths for iron working are present within the building. The hearths have been radiocarbon dated to 343-421 AD (Ferraby and Millett 2020). Also, on the town's northern and eastern approaches, two new annexes have been constructed behind significantly sized ditches, large enough to serve as defensive features (*ibid)*. Significantly, those on the eastern side also cut through a section of the amphitheatre, effectively putting it out of use. It would appear that the economic strength of the town, backed by funds raised from its administrative role, alongside the revenue-earning functions of manufacturing, storage and distribution, have ceased to operate. These have been replaced by a focus on two defensive annexes whose function is unclear.

Activity at the Hundayfield site appears to have slowed even more than that at *Isurium.* The site exhibits very little pottery showing domestic activity, and it can be concluded that its use has changed completely. The thriving site of the mid-2nd century AD and the residual activity which carried on into the 3rd century AD has ceased and all the ditches and boundary enclosures appear to have been removed from the landscape. The geophysical survey shows that there is activity all around this area and whether the focus has shifted to a different location cannot be determined, but this part of the site has been subject to significant modification with the removal of the old boundaries. The landscape was in use, but there were fewer ditches hence the archaeological record ends. Whether this is an indication of a remodelling of the wider landscape requires further research, but this may be a sign that sometime after the middle of the 2nd/early 3rd century AD, a new landscape, orientated off the road, which reflects the field boundaries which are visible in old maps and still on the ground now, may have been laid out across this landscape.

7.14 Conclusions

This chapter has discussed the results produced from the overall strategies of the research thesis. The methodological approach provided the data, which has been analysed thematically and which has been discussed in relation to the internal and external factors that influenced behaviour on the Hundayfield site. The micro- archaeological approach has allowed for an understanding of this unique site and placed it within the wider contexts of a *civitas* hinterland, providing for an enhanced understanding of the relationships which existed between them.

The micro-archaeological approach has led to a greater understanding of the excavation site at Hundayfield Farm. The evidence, as presented, indicates that the boundary and enclosure features were an integral component of how this landscape was used, at least within the first 100 years of the Roman period. The growth of smaller scale enclosures within the excavated area suggest that the agricultural focus became more intensive. Small scale enclosures may have been used for the management of animals, containing them at different times of the year or protecting them from predation. At the same time, more extensive grazing areas would be required, and these may be present amongst the wider landscape. The geophysical survey shows a concentration of smaller enclosures, and it may, therefore, be inferred that outside these boundaries were areas suitable for grazing livestock.

The presence of the quern stone demonstrates that grain processing was, at least at a small scale, carried out, suggesting that an agricultural community was present here. To what degree the scale of production of agricultural goods changed in this period may be seen within the alterations to the enclosures. The growing of cereals would be a feature of this landscape and some of this may have

taken place within the enclosures, along with the possibility of vegetable production, but there would also likely have been areas outside the enclosures where cereals featured as part of agricultural production, and which also provided post-harvest grazing for livestock.

However, within this description of a pastoral landscape and agricultural community, a possible dissonance emerges, and there is evidence of a distinct change in the character of the site, with a movement towards fine table wares and imported goods coming onto the site as early as the middle of the 1st century AD. Up to its peak in activity, around the middle of the 2nd century AD, the pottery assemblage indicates that social activities, particularly expressed through the presence of Samian ware, *mortaria* and*, amphorae,* changed, at least for some of the inhabitants here. We cannot determine the cultural mix on site, but a move towards Roman food preparation styles from early within the Roman period is noteworthy. The inclusion of Roman footwear, in the shape of a hobnail boot, further reinforces the likelihood that a strong Roman influence was present here. The picture is completed when we consider the choice of this area as the location for a high-status Roman burial, which strongly suggests that this person lived on this site.

The evidence is also clear that, around the middle of the 2nd century AD, this part of the landscape changes again. Apart from a continuation of activity within Trench 1 (Figures 6.38 and 6.39), the boundary features across the site are filled in and removed from the landscape. This may be the first indication that a different strategy for landscape organisation was being implemented. Figure 7.9 provides an indication of possible boundary divisions based on early Township boundaries, extant field boundaries and lanes recorded on the 1851 Ordnance Survey map. These boundaries can often reflect landscape divisions which mirror some of those laid out in the Roman period (Woodell 1985). The justification for highlighting these possible Roman period boundaries is that they are fundamentally different from many other field divisions as seen in Figure 7.9. This is an Enclosure landscape, with many boundaries laid out during a period within the 18th and 19th centuries. The orientation of these Enclosure field divisions often reflects local features present during the previous period of an unenclosed landscape. The boundaries highlighted in red stand out as unusual when compared to the rest of this landscape. They may form the basis of further research, focussing on the Hundayfield Farm site, as they could provide the first evidence that landscape organisation was subject to a strategy of division associated with the *cadastre* described previously (Chapter 4), sometime after the middle of the 2nd century AD.

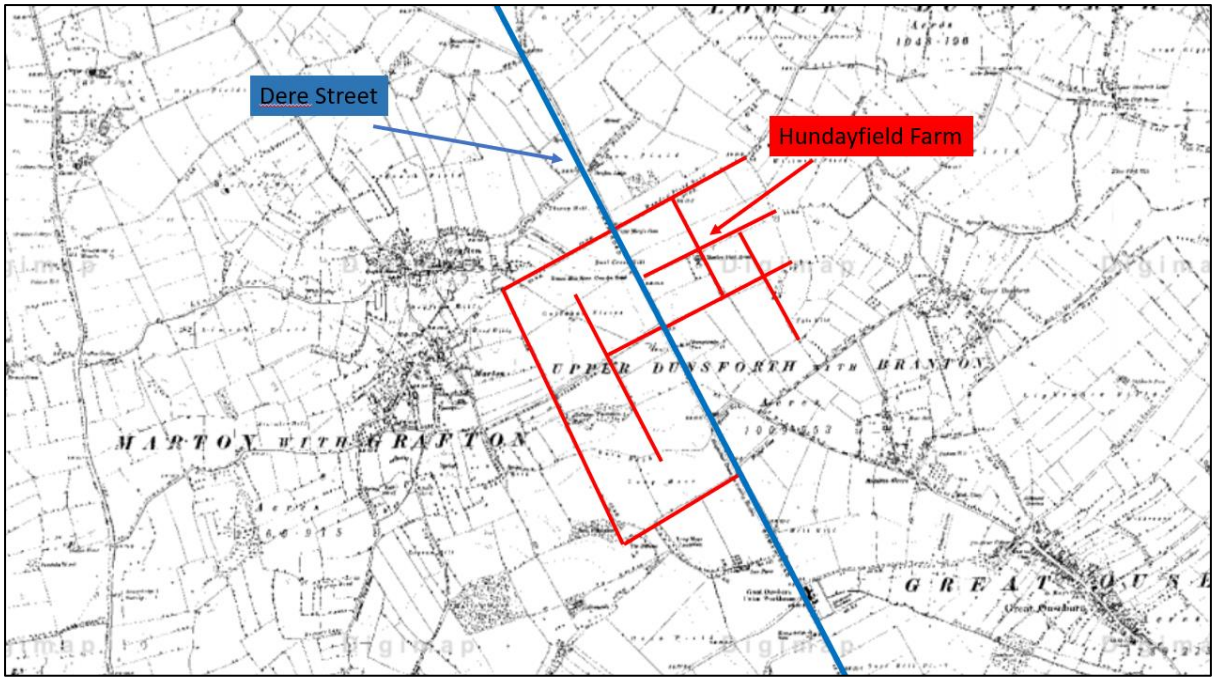

Figure 7.9 OS Map 1851 showing possible Roman period landscape division boundaries highlighted in red. Those at the north and west are Township boundaries which pre-date the Hundayfield Farm Enclosure award of 1760. The route of Dere Street is also shown.

8 Conclusions

This thesis sought to identify and investigate the relationships between a *civitas (Isurium Brigantum)* and its hinterland, as expressed through potential changes in landscape organisation and use, including relationships influenced by the presence of a major Roman road, and to investigate whether the social dynamics of a rural community could be interpreted through evidence recovered from a programme of excavation (Chapter 1.1).The survey area was focused on Hundayfield Farm, a rural site some 3 km south-east of *Isurium.*

This research has sought to address the limited current knowledge regarding the impact of the Roman administration on the rural periphery. The work is intentionally local in its focus, including a large-scale geophysical survey and subsequent excavation strategy. Thereafter utilising a micro-archaeological approach to interpret social activities within the survey area and then to place these within the wider context (as suggested by Ghobrial 2019, Ribeiro 2019 and Riva and Mira 2022). The study sought to develop an evidence-based interpretation of possible links, or absence of links, between the evidence from the archaeological record at Hundayfield Farm and *Isurium,* and to place these interpretations within the wider area of northern Britain and, by extension, elsewhere in the Roman Empire.

The results show that the *civitas* was a newly formed centre with origins dating to around 70 AD. It developed as an important centre for administration and economic activity and persisted until the end of the Roman period around 410 AD. In comparison, the survey area at Hundayfield Farm, provided evidence which showed that the area excavated was active in the pre-Roman period, with activity peaking in the early to mid-2nd century AD. From this information, we can see that the time at which the *civitas* was emerging and developing coincided with an increase in activity at the location under study.

The research considered whether the presence of the *civitas* influenced landscape organisation within its hinterland. The results suggest that the landscape did change, with an increase in enclosures and boundaries. It could be seen that the structure of these changed from the more open nature of pre-Roman boundaries to smaller examples more typical of those which developed within the Roman period, but the key element of an orientation with the Roman road was not present. From this we can conclude that the changing organisation of the landscape was driven by factors other than a centralised desire to structure the landscape, within a gridded pattern of *cadastre,* as can be seen within other Roman provinces in Europe.

Further to the evidence of changing landscape organisation, the research investigated how the use of this landscape may have changed. The evidence suggests that the primary function of the landscape in the pre-Roman period was based on agriculture, and although the intensity of use may have changed from subsistence-based in the earlier periods, its primary use remained. The change in the organisation of boundaries to a smaller, more organised and complex character, suggests that the use did respond to changing demands, likely associated with the needs of the Roman administration. The boundaries, as visible within the geophysical survey data, suggested the development of a focal point where enclosures for agriculture and settlement were present. The presence of livestock within these areas was suggested by trackways which would assist with the movement of both livestock and people, and the bone assemblage (not reported here) also indicated that cattle were a feature of the landscape. Settlement evidence was supported by the presence of pottery and material culture recovered as part of the excavation process. These factors indicate that although the use of the landscape may not have changed, an increase in productive capacity may have been a feature of this emerging landscape.

Turning to evidence of social activities, , the recovery of artefacts from excavation points to some dramatic change. Analysis of the pottery assemblage indicated a significant shift away from Iron Age pottery, particularly jars, to the arrival of Samian ware at an early date after the middle of the 1st century AD. This analysis also indicated a higher than average presence of this pottery for a rural site in northern Britain, suggesting that change here may be different to other comparable locations. The chronological sequence of the pottery demonstrates that the peak of activity for this site occurred between the early and mid-2ndcentury AD, after which its use appears to change significantly to one where signs of domestic activity retreat (potentially moving to other parts of the larger survey area). This not only suggests that the use changed but also, because the boundary features were removed at this time, the organisation of the landscape may also have altered.

Within the artefact assemblage, the presence of objects considered particularly Roman in character, e.g. an oil lamp, *mortaria*, *amphorae* and a hobnail boot, suggests a changing identity of the inhabitants on site. It could be argued that the native population were adapting rapidly, or that a group of people were joining the inhabitants who were bringing these new objects onto site.

The linkage of much of the artefact assemblage to *Isurium* seems likely. This was a centre of trade and commerce where many of these objects would have been available. This suggests that, at the very least, the people inhabiting this site interacted with the *civitas* as a supplier of goods. The presence of the *civitas,* therefore, had an impact on the social development of people and, by association, the rural population's demands potentially influenced some factors of economic activity.

The research has sought to identify the relationship of the site's inhabitants with *Isurium,* but this can be developed further when we look at the significance of the lead-lined coffin burial. Although the research has focused on a presumed native population, we have direct evidence of a (likely) Roman individual who chose to be buried at this location. It is highly probable that this person lived within this landscape, and the resource cost of the burial suggests that they probably accrued a degree of wealth from this landscape. A direct link cannot be made between this individual and the *civitas,* but the stone burial cist was constructed from red sandstone. The likely quarries for this were in and around *Isurium,* suggesting that a relationship between them was highly likely.

As noted above, the starting point of this thesis has been an analysis of local factors; the research is site-specific, and therefore, this is to be expected. We must now consider the effectiveness of the methodological approach. A desk-based analysis provided the overall background to the research, but applying a geophysical survey was critical to the identification of the survey area. Excepting the excavation and analysis of the lead-lined coffin burial, there was no archaeological evidence of activity within this area. The geophysical survey provided evidence of wide-scale landscape activity, particularly boundary and enclosure features, which led to selecting an area for excavation. It is important to note a distinction here between the research approach of this thesis and protocols involved in commercial archaeology. Whereas in the commercial sector, project design has a start and end point which are, mostly, rigidly adhered to, in this instance each stage of the evaluation process could respond to information provided by the previous analysis. There was, therefore, the ability to have a very flexible approach which benefitted the overall effectiveness of the project.

Although the data collection processes provided substantial information against which to test the overarching research questions, several limitations were identified within the strategy implemented. Primarily, although the survey area was extensive, the excavation area was limited at less than 2.5 % of the whole area. It was, therefore, a small sample of one within a wider landscape recognised to have an extensive distribution of complex boundary features. Further, the sample does not include sites closer or further away from the *civitas,* nor does it feature areas north of the town which may be relevant to links to sites further along Dere Street.

The geophysical survey was extensive, particularly for a research project. However, an extension of the survey to connect Hundayfield Farm to *Isurium,* particularly focussing on areas close to Dere Street, could prove invaluable in investigating whether connectivity exists between the two.

The excavation provided evidence from several trenches, but these trenches were not connected. Fewer but larger trenches would have provided a more complete picture of the relationship between features. However, this was not possible. A large excavation phase took place during the Covid

epidemic (2019), with government regulations stipulating rules on contact between people. During this time, only two people were allowed in contact at once, therefore, provision was made within the excavation for more trenches to be active than originally planned. However, this did have some benefits, as evidence was recovered from areas that may not have featured as part of the initial proposal.

A key aim of the excavation was to recover evidence which may be suitable for dating activity on the site. The complete absence of coins determined that only specific pot sherds could be used for this purpose, therefore dates are in ranges rather than specific. A reliable chronology could be established but the lack of specific dating for certain contexts is problematic, particularly where the very complex geological conditions made stratigraphic relationships difficult to determine.

The acidic and free-draining character of soil on site meant that preservation of organic material was poor. Bone fragments were recovered but were often fragile. Many soil samples, however, have been retained. Unfortunately, the bone assemblage remains unrecorded, and the soils have not been presented for environmental sampling. This leaves a void within the overall analysis as results from these samples could add considerably to our understanding of the site.

This research has provided original data, which has led to greater understanding of the relationship of a *civitas* to its hinterland. It has provided the first steps into an analysis of this part of the Vale of York during the Roman period, an area where little research has previously been carried out. Future work should consider, firstly, investigations into whether additional work within the survey area will provide more information to strengthen the conclusions of this study. Secondly, additional survey work between Hundayfield Farm and Aldborough could contribute significantly to characterising the wider landscape around the *civitas* itself and provide further evidence against which to challenge our understanding of the relationships examined as part of this thesis. This would provide data against which a similar hypothesis could be tested against other *civitas* within Roman Britain. This would improve our understanding of the degree to which indigenous populations interacted and changed as a result of the Roman administration, particularly as the *civitas* was such an important factor in provincial government.

Further work is required in relation to parts of the artefact assemblage recovered from the site. It has been mentioned that the collection of bone material requires analysis but also a full assessment of pollen, grain and charcoal recovered could provide critical information relating to activities on site. This information could give a clearer indication of changing agricultural practices and potentially demonstrate different processing activities which may have occurred on-site.

This thesis has provided data on the complex relationships present on the site at Hundayfield Farm and has set these within a spatial and chronological framework associated with the developing *civitas* of *Isurium.* It has shown that relationships did exist between the two. Critically, the research has shown that, at least up until the middle of the 2nd century, although landscape organisation was continually changing, there was no attempt by a central authority to impose a Roman ideology at this location. The use of the landscape also evolved, remaining agrarian but perhaps changing in intensity. However, it has also shown that social interaction did exist between the two, particularly as expressed in the pottery assemblage, fabrics and personal items which were found on site. Further, it is hard to imagine that the inhabitants of this site did not enjoy the social and economic activities of the town itself, including the amphitheatre and social spaces which existed there.

9 Bibliography

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