Making the invisible visible; New Survey and investigation of the Iron Age Hillforts of Bigbury and Oldbury in Kent

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Abstract

Bigbury and Oldbury are two significant monuments of the Iron Age, yet their dates, use and importance are not well understood. This Thesis has employed a series of methods and approaches, with the aim of addressing the shortfall in our knowledge. The results help to place these sites in a wider landscape and contextual setting.

Oldbury, at an area of 50ha, is one of the largest Hillforts in Britain; despite the scale of endeavour in constructing its massive earthwork circuit, it has been suggested by its excavators that it was probably not permanently occupied. This research, (in particular by the application of an extensive geophysics survey of over 50% of the interior), revealed that this suggestion requires further examination. The survey identified potential zones of activity within the interior and a possible indication that there may have been a smaller Hillfort or enclosure before the present ramparts were constructed. The research also brings together all of the available previous studies of the site for comparative analysis as well as relevant finds data from the Kent HER and other sources. Coupled with this data, the study investigates the location and visibility of Oldbury within the Iron Age landscape to understand the possible uses of the monument.

Famous for its multifarious ironwork hoard, the Hillfort at Bigbury is thought by some to have been a forerunner to present day Canterbury and there is a consensus amongst the modern commentators that Bigbury was the Hillfort attacked by Caesar during his 54BC campaign in Britain (though this remains unproven). In fact, beyond the ramparts, little detail is known of the pre-historic character of Bigbury or the hinterland of Bigbury and how the monument sits within the much wider Iron Age landscape. This research, using a combination of disciplines, shows that stratified and dateable archaeology exists around the immediate Hillfort environs, much of it at depth not easily detectable with standard geophysics equipment. The results of the present study also reveal a much longer chronology to the site than hitherto realized, showing that an area just outside of the ramparts was occupied probably during the Bronze Age and through to the early Iron Age. When this is coupled with the evidence of Middle and Late Iron Age activity previously discovered on the ridge (a probable ancient route way), which the ramparts straddle, it clearly demonstrates a continuity of settlement in and around the Hillfort for at least 1500 years before the Romans arrived.

This study also shows that the complex at Bigbury is not only the visible, spatially discrete, centred ramparts we see today but was probably part of a two tier complex of linear earthworks. One of these two is around 150m from the south eastern ramparts and could define the extent of the Hillfort overlooking the River Stour and the second is more extensive, stretching back west along the ridge several kilometres, putting Bigbury potentially in a similar category to that of the oppida at Chichester and Colchester with their associated dyke system.

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Chapter 1 - Introduction

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1.0 Introduction

The Iron Age, particularly in the south of Britain, is still visible in its earthworks, many of which are in the form of a loose classification termed Hillforts. Some, like Maiden Castle in Dorset, still stand proud in full view for all too readily discern; others have to be searched out amongst the wooded hill tops. The early antiquarians considered many of the early Iron Age earthworks to be of Roman origin, believing that the native British people at that time did not have the capability of constructing such sophisticated monuments. The county of Kent has few Hillforts compared to its neighbouring counties along the south coast of Britain; the majority of those positively acknowledged are located in the west of the county and only one, Bigbury, is identified for certain in East Kent (Cunliffe 2005; Ashbee 2005, p.157). Among the largest Hillforts in Kent are Oldbury, (by far the biggest at 50ha) between Ightham and Sevenoaks, Bigbury (10.7ha) near Canterbury (Hamilton, S. & Manley, J. 2001, pp.23-24) and Loose (12ha) near Maidstone (Cunliffe 2005), although there is some debate as to whether this enclosure complex should be categorized as a Hillfort. Further monuments identified are Castle Hill (1.2ha) near Tonbridge and Squerries (6ha) near Westerham (ibid).

Although Bigbury and Oldbury are two significant monuments of the Iron Age landscape in Kent, their use and importance are not well understood therefore they will be the primary focus of this research. The last significant investigation of these two sites occurred in the early 1980s and in the intervening 30 plus years, our knowledge and understanding of the Iron Age in Kent has grown enormously. This is in large part due to the introduction of planning laws, which have demanded an archaeological investigation be carried out before any construction can be commenced. There have also been several large scale projects such as the building of the Channel Tunnel terminus and its associated rail link from London, as well as the Thanet Earth site and East Kent access road near Sandwich. All of these have provided opportunities via the archaeology recovered, to rapidly increase our understanding of the complex pre-history of Britain's closest county to continental Europe. When these opportunities are coupled with the widespread adoption of improved and affordable technology and the more insightful and probing theories by amateurs and professionals alike, it is not difficult to see how archaeology has been revolutionised over the past 50 years.

2.0 Chronology

It is important when discussing the Iron Age in Britain, to understand how the period is divided up, so that comparisons can be made where appropriate. One of the pioneers in Britain of this task was Professor Christopher Hawkes, who in an article on Hillforts in 1931 first postulated dividing the Iron Age up into three elements- Iron Age A, B and C (Hawkes 1931, pp.60-97). Here he is careful to only attribute broad dates to each period, referring them to a change in culture influenced by traders or invaders from the continent. The inference is that culture boundaries are fluid both in time and geography, so that Iron Age A for example may occur at a different time in Kent when compared with Wales. Hawkes attempted to clarify and refine his system and in 1958 gave a lecture to the Conference of the Southern British Iron Age, which was later published in *Antiquity* in 1959 (Hawkes 1959, pp.170-182). He now added a map of the British Isles divided up into 5 Provinces, broadly according to geography and each of the provinces are subdivided giving 30 regions. He then changed the period descriptions from letters to numbers and added phases to give a more granular division of each period. This he also tried to relate to the continental system of classification of Hallstatt and La Tène and their various subdivisions (Hawkes 1959, p.176). This system was then applied to each province and region making a very detailed classification of the Iron Age in the British Isles. The result was a rather complex reference chart which was unwieldy in its use and was soon challenged by Hodson (in 1962 and 1964) who simplified the process, by having two main periods namely the Early Pre-Roman Iron Age and the Late Pre-Roman Iron Age, whilst pushing back the start of the Iron Age to 750BC (Hodson 1962; Hodson 1964). The transition into the Iron Age from the Bronze Age has been much discussed but the broad consensus now seems to be that it was around 800BC (Haselgrove and Pope 2007, p.4). With the growing availability and reliability of radiocarbon dating and the increasing usefulness of dating using dendrochronology, coupled with a better understanding of the ceramics of the period, the generally accepted period of the Iron Age in England is from 800BC to the Claudian invasion of AD43. The period is normally divided into three sections, Early, Middle and Late Iron Age, but the point at which the divisions change in the middle is to some extent fluid, with an acknowledgement that different parts of Britain may have a different chronology of for instance ceramic traditions. The three periods, are in some publications further sub-divided into earliest, early, later or latest, depending on the degree of granularity required. This can be confusing when trying to compare broad trends, as rarely are the boundaries uniform between different excavating units.

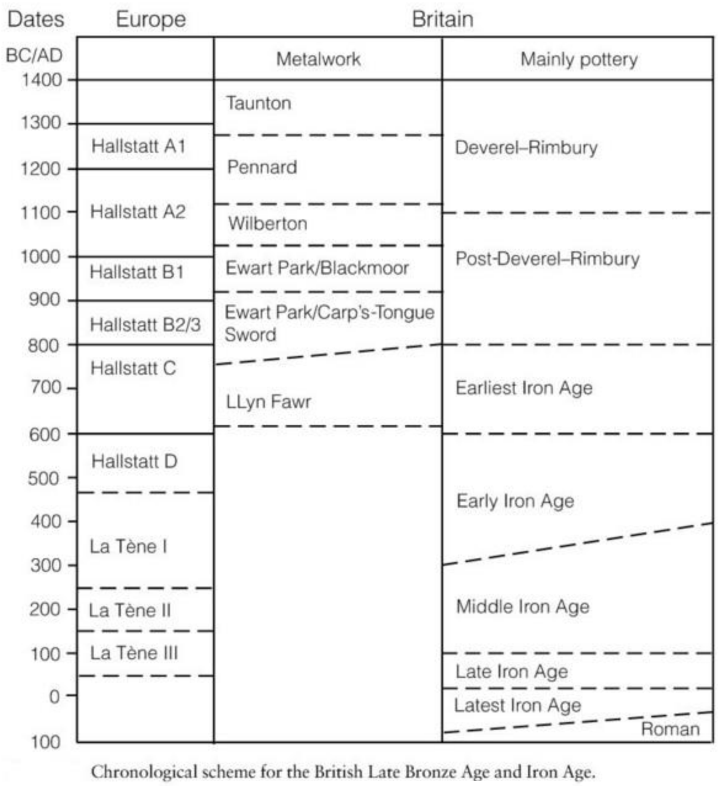

Fig. 1 (Cunliffe 2005, p.32)

Some publications have been given to ascribing periods in their report based on the chronology and dates of the findings (Bennett 2007, p.v; Cunliffe and Poole 1995, p.17). This avoids to some extent the requirement to classify which part of the Iron Age is being referred to such as early, middle or late and is much easier to compare between sites. This thesis when describing original data through excavations or survey will use the Cunliffe model (Fig. 1) of dating and will also use absolute dating where possible.

3.0 Hillforts in Kent

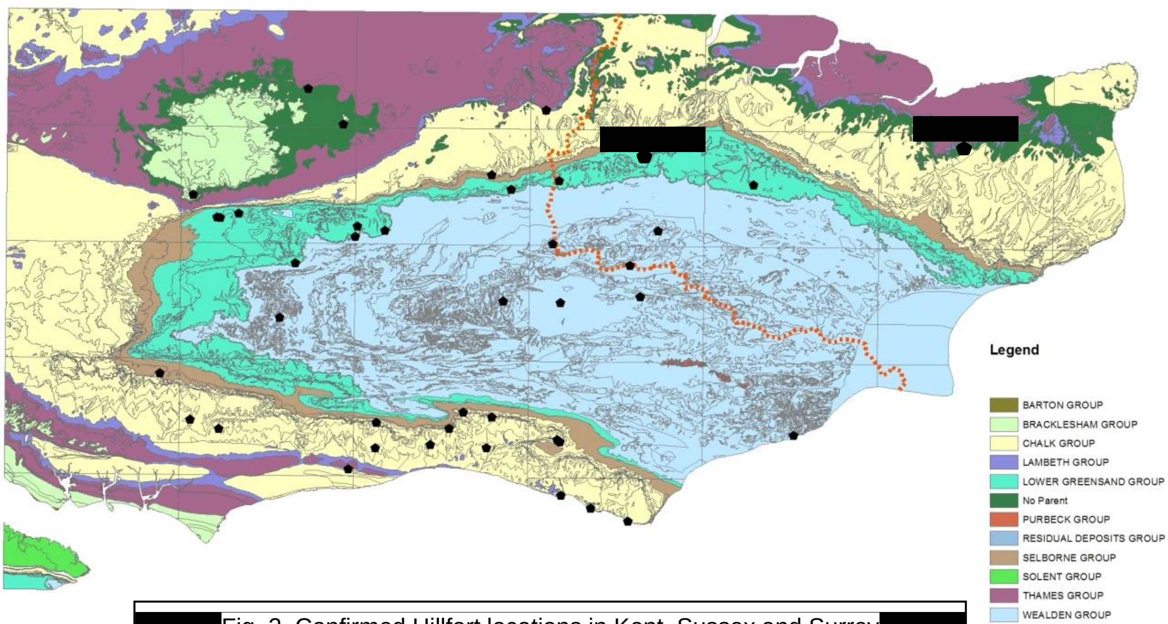

Fig. 2 Confirmed Hillfort locations in Kent, Sussex and Surrey

As can be seen from Fig. 2 above, East Kent is conspicuous by the absence of Hillforts when compared to the neighbouring county of Sussex but several candidates have been put forward to fill the gaps. Potential Hillfort sites have been postulated by several archaeologists at Margate, Dover and Folkestone (Ashbee 2005, pp. 156, 158, 162). Gerald Moody from the Trust for Thanet Archaeology is very clear in his belief that no Hillfort exists on Thanet. He recognises that there are nucleated settlements none of which could be traditionally referred to as Hillforts (Pers comms). The possibility that a Hillfort could be under the Castle at Dover was suggested by Colvin in 1959 (Colvin 1959, pp.125-127) but Keith Parfitt, from the Canterbury Archaeological Trust, states that there is no evidence for an Iron Age Hillfort at Dover and that the remains at Folkestone are medieval in origin (Pers Comms).

2008 Google Earth image of Peene quarry earthworks Fig. 3

Whilst Keith Parfitt does not agree with potential Hillforts at Dover or Folkestone, he is slightly more optimistic about the possibility of a promontory Hillfort at Peene quarry near Folkestone. This is based on Iron Age pottery recovered from the area and also striking aerial photographs showing cropmarks which look to be a double sub circular ditch feature, see Fig. 3 (Bradshaw 1973; Kent HER. a).

Flinders Petrie, in his work *“Notes on Kentish Earthworks”,* discussed the possibility of a British Camp at Perry Wood near Selling and he also mentions high ground to the east of Wye as being given the title of British Camp in contemporary Ordnance survey maps. He suggests that there is little evidence for the latter, stating that they are more likely to be flint mines (Flinders Petrie 1880, p.9). According to the Kent HER, excavations in 1955 by London University Summer School, recovered only a few Early Iron Age pottery sherds and they have suggested that the mines were more likely to be for iron rather than flint (Kent HER. b). Iron Age activity at Perry Wood has been revealed during recent excavations by Gerald Moody from the Trust for Thanet Archaeology, comprising a substantial hilltop ditch containing Iron Age pottery but as yet no suggestion of a Hillfort has been put forward (Pers Comms). The area requires further investigation to fully understand the nature of the archaeology.

The topography of Kent lends itself to natural land divisions with substantial rivers running approximately north-south and bands of different geology and elevation running east-west. The higher land belongs to the chalk ridge of the North Downs that runs along the north of the county; Kent's highest point is located on this ridge towards the west of the county being a little over 250m in elevation.

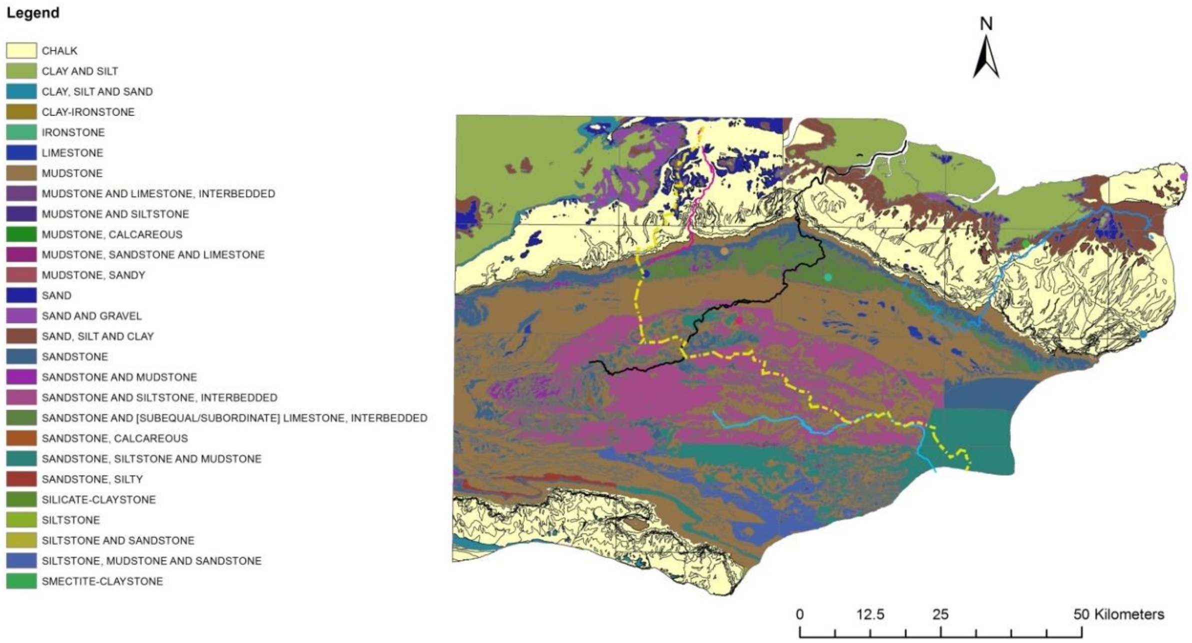

Fig. 4 Geology map of the South East of England
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The land to the south of the chalk Downs, steps down to a strip of Gault clay known as the Vale of Holmsdale and then rises again to a ridge of Lower Greensand. It is on this ridge of Lower Greensand that Oldbury Hillfort was constructed. This Greensand ridge then gives way to an expanse of lower land comprised mainly of clay and is termed the Low Weald. Moving further southwards, the land rises again as a result of the Tunbridge Wells sand formation which is made up of Sandstone and Siltstone; this is known as the High Weald. Further south into Sussex, this geological sequence is repeated and bounded by the chalk ridge of the South Downs. See Fig. 4.

The land to the north of the North Downs is a mixture of London Clay and Thanet Beds, the latter being a combination of sand, silt and clay. There are also occasional outcrops of sandy gravel and it is upon one of these outcrops that Bigbury is situated.

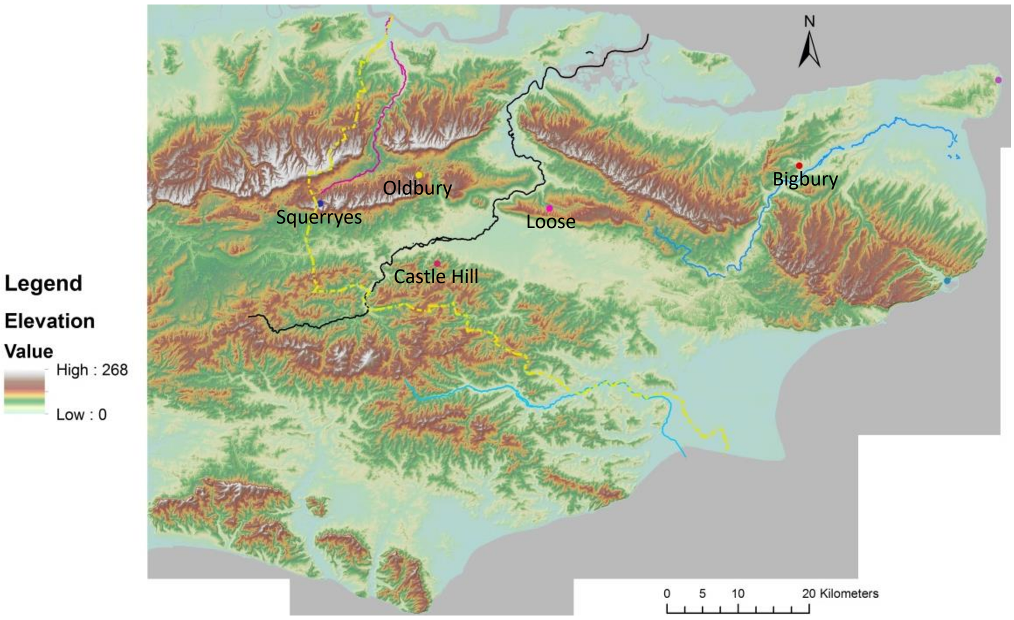

Fig. 5 Land elevation map of the South East of England

For the last 150 years, the geology at Bigbury has been a double edged sword for this site; much of the interior has been quarried away for its sand and gravel which has resulted in a loss of many archaeological layers, features and probably artefacts, as well as a large area of the southern ramparts. The only marginally positive outcome of this tragedy, was the discovery in the later Victorian period of the metalwork hoard which arguably brought the attention of Bigbury to the antiquarians of the time, its existence previously being unknown (Hussey 1874). The precise context of this important discovery is sadly lost but at least the artefacts were recovered and are now on display at Manchester, Maidstone and Canterbury museums.

Since its discovery in the late nineteenth century, Bigbury has been regularly linked in interpretative discussions with the second invasion by Caesar in 54BC. In his book on the Gallic Wars, Caesar writes the following passage:

> *We marched by night for about 12 miles before coming in sight of the enemy forces. They had moved with their cavalry and chariots down from the higher ground to a river and were trying to stop our progress and engage us in battle. When our cavalry drove them back they hid in the woods where they enjoyed a position of extremely good natural and manmade defences. It was clear that they had prepared it previously for some war amongst themselves, because many trees had been cut down and used to block all the entrances to it.*
>
> *(Caesar, Wiseman and Wiseman 1980)*

The account of moving down from higher ground to the river fits the position of Bigbury well, with its proximity to the surrounding higher ground to the south and north and the River Stour to the south-east. The combination of artificial and natural defences would also describe the Hillfort construction and location accurately. There are no other potential sites that match so many of the attributes mentioned in Caesar's description. The distance of 12 miles that he mentions in his text (equivalent to approximately 13 imperial miles or approximately 21km), suggests that the battleground was not on the coast but someway inland. As his landing point or how far from that point he may have started his overnight journey is not known for certain, the distance travelled inland from the coast cannot accurately be determined. Even when measured from the modern coastline, which is further away than the Roman coastline, the distance from Bigbury to anywhere on the coast from Folkestone to Sandwich, is around 23km-28km, which further reinforces the likelihood of Bigbury being the defensive stronghold mentioned.

4.0 Settlement patterns

There are many factors which influence the settlement patterns of an area and key ones are geography (including soils) and climate. In the last several hundred years, Kent has been known as the Garden of England and was famous for its orchards, hops and fertile land. Sadly many of the Hop plantations and orchards are now gone but Kent's fertility and beauty still remains and would not have changed significantly since the end of the last Ice Age. Whilst geology and the associated suitability for agriculture had doubtless influenced the settlement pattern of the Iron Age period, the location and number of identified Hillforts does not seem to correlate across the South East of England, with significantly more Hillforts acknowledged as one moves westwards away from Kent. Hence if one sees Hillforts as a typical or indeed normal expression of population and community in the Iron Age of southern Britain, as they have often been understood, the near absence of such sites in Kent requires special explanation. It has already been shown that the underlying geology in the South East of England has certain symmetry and as can be seen from Fig. 2, this does not seem to have influenced the frequency or location of Hillforts. Only one Hillfort has been identified on the North Downs but at least 14 have been identified on the South Downs. The symmetry in the underlying geology is not reflected in the superficial geology and it has been suggested that the more difficult capping of clay with flints on the North Downs, compared with the easier soils of the South Downs could be a factor in the paucity of Hillforts on the North Downs (Hamilton, S. & Manley, J. 2001, p.9). As illustrated by the siting of the Hillforts at Oldbury and Bigbury, there are alternative locations for the construction of Hillforts if the Downs were not suitable but this option does not appear to have been taken, so it is very possible that other factors could have had a major influence in the building of these monuments.

Reviewing the spatial distribution of potential Iron Age occupation sites in the Heritage and Environment Record (HER) of Kent, Surrey and Sussex, it clearly shows that the area of the High Weald displays a much reduced density of finds and settlement patterns. Although the nature of this area in the later prehistoric era poorly understood, Hasted described it as *"in former times nothing more than a waste desart and wilderness, not furnished with habitations",* (Hasted 1797). It is likely that there was more activity than he suggests but what activity was present, would probably be slight and quickly consumed by the surrounding woodland when it ceased. The records from each of the HER's are sometimes confusing in their date and categorisation and the analysis shown in Fig. 6 is an interpretation of these results. Where the category is clearly a settlement, this is labelled as such and an Iron Age ditch or feature has been categorised as Earthworks. The category of IA is a potential settlement but has not been described as such in the HER. In most instances this may have been referred to as a farmstead or roundhouse. There are several areas of a higher concentration and these will be discussed further in this thesis.

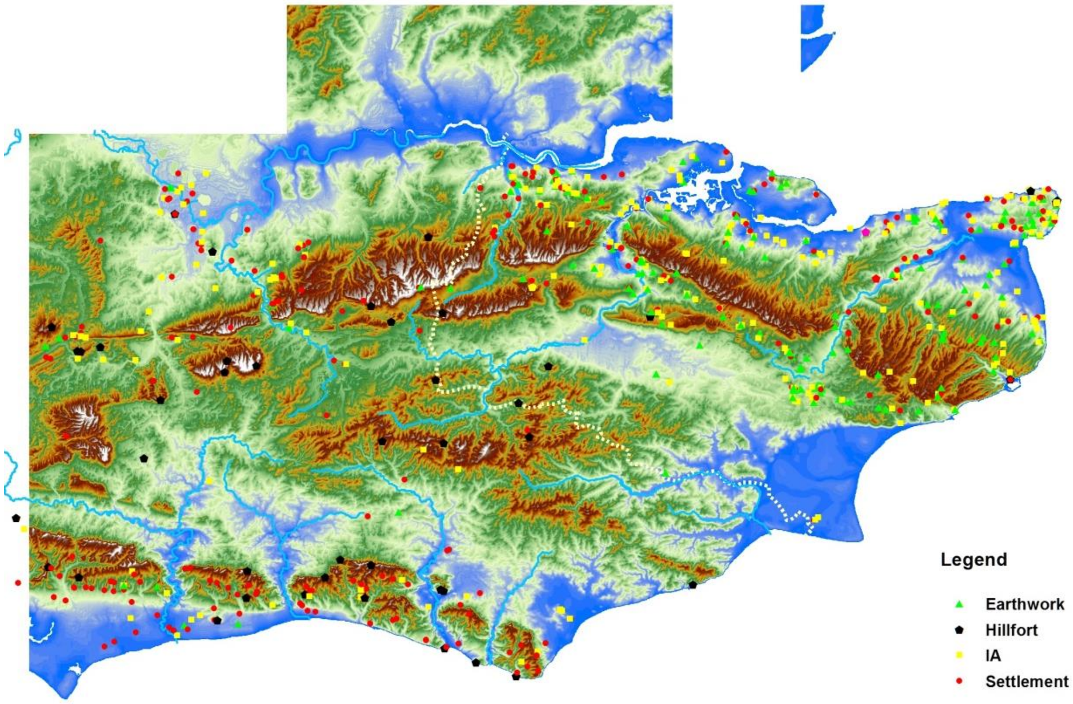

Fig. 6 Distribution of Iron Age occupation sites
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The current agriculture land classification shown in Fig. 7, shows that the settlement areas around the North Downs correspond broadly to the areas of land which are now considered either excellent or very good for agricultural use; the South Downs indicate a slightly lower category of agricultural capability. Romney Marsh shows either excellent or very good fertility now but during the Iron Age, this area was likely to have been under water or very marshy as the coastline of Kent has changed significantly at this point (Eddison 2000).

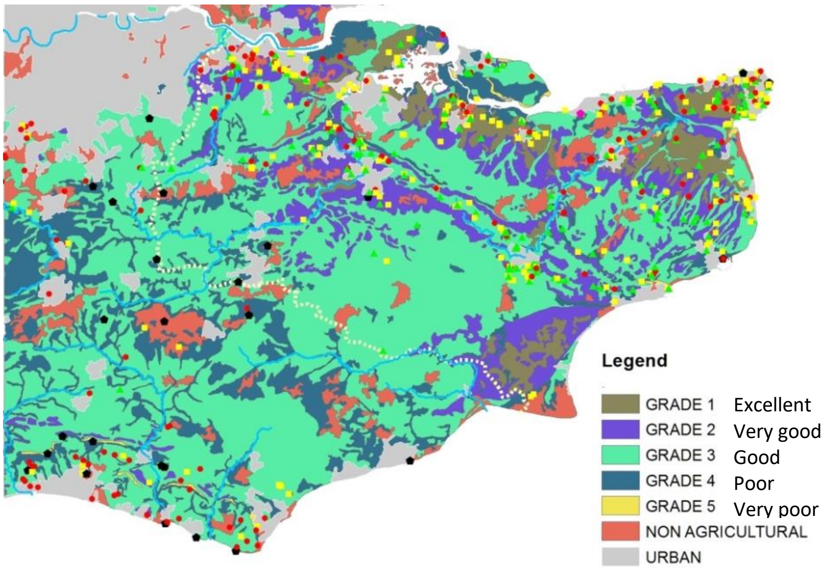

Fig. 7 Modern classification of agricultural land
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The area of Thanet and Wantsum channel through pollen analysis has shown that during the Iron Age there was an increase in grain production. This coupled with earlier woodland clearances would have increased the open land available and it is suggested that any timber remaining would have been carefully managed as a valuable resource (Moody 2010, p.118)

The results from the HER as previously mentioned are sometimes difficult to categorise, especially from the limited report available with each entry. Whilst the majority of Hillforts can be dated with some degree of accuracy (not all Hillforts have been investigated so dating may only be by similarity of morphology to investigated sites) it is not possible to produce a reliable analysis from the HER results in order to plot settlements which can be attributed to the Early Iron Age, Middle Iron Age or Late Iron Age.

5.0 Summary

The Iron Age studies in Kent have to some extent lagged behind many counties in the south of England and in 2001 a very experienced working party, brought together to discuss the future direction and priorities regarding the study of the Iron Age in Britain, concluded that the existing studies of the Iron Age in Kent had generated significant data, but was as yet, not sorted into a regional framework (Haselgrove et al. 2001). This was echoed again by Champion (2007) where he stated that the information on archaeological sites, particularly since the introduction of the archaeology planning guidelines, is transforming our understanding of the period in Kent, but more research needs to be conducted, particularly in the area of ceramics and radiocarbon dating (Champion 2007, p.303).

A Regional Research Framework initiative covering the South-East counties, was instigated by English Heritage beginning in 2006-7 led by Kent County Council, but has yet to be finalised. Hence the region seriously lags behind other regions in Britain in this respect, as most Regional Resource Assessments, Agenda and Research Strategies were developed for all major periods and published a decade or more ago, thereby fully identifying agreed research questions and priorities.

Hillforts must be an integral part of the Research Strategies of the Kentish Iron Age and it is the objective of this thesis to create a platform from which further research can be launched. The research produced by this PhD contains a great deal of new and significant data which will undoubtedly add to the existing knowledge of the two targeted monuments. Whilst it is possible with the resources available to the PhD student to present this data in a cohesive and comprehensive narrative, it is hoped that based on the evidence presented in this thesis, there would be an opportunity to take this research further, hopefully including large scale excavations at both Bigbury and Oldbury.

In order for archaeology to progress we have to submit our best theory which fits the available evidence at the time. These theories are then subject to criticism and debate and where necessary are modified or replaced and by a process of successive approximations, we hope to come towards general agreement. It is because of this changing perspective, particularly in the last 30 years, that literature published before this has to be viewed with some caution. We now have a greater understanding about bias in how theories are presented and what lens is being looked through when concepts are put forward. The British Isles is a diverse land but one aspect which is common to our understanding of the Iron Age, is the inter-regional variations and indeed the intra-regional variations seen in the archaeological record of that time.

It is for this reason that it is difficult and dangerous to extrapolate a local theory to other regions; one size does not fit all. Understanding what drives these variations be they geography, tribal culture, external influences or something else, is a key element of understanding our past.

Chapter 2 - Existing knowledge of the Iron Age in Kent

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1.0 Introduction

As stated in chapter 1 Introduction, the focus of this research is the Iron Age Hillforts of Bigbury and Oldbury; both are large in area, both have been categorised as Oppida and both surprisingly, have yet to benefit from systematic investigation since the early 1980s (Jessup and Cook 1936; Blockley 1989; Thompson 1983b; Ward Perkins 1939; Thompson 1986). This lack of recent investigations, coupled with the access to modern technology has meant that a reappraisal of these important sites is long overdue. Each of the two targeted Hillforts had different research approaches which are detailed in chapter 3.

This literature review chapter will focus on their past investigations and will also cover the latest findings on the Iron Age in Kent and other parts of Britain, as this helps to fully understand the context in which these monuments were constructed. It will also examine the nature of Hillforts as a category, as well as paying attention to several case studies of Hillforts and their environs.

2.0 Review of the Iron Age in the south and east of Britain.

As touched on in chapter 1, Kent is still some way behind with its efforts to implement the Regional Research Framework instigated by English Heritage but some progress is now being made particularly from the results of recent large civil engineering works and we are beginning to reveal more about the pre-history of Kent.

According to Champion, systematic ordering of the landscape in Kent in the form of land divisions and drove-ways began in the Middle and Late Bronze Age. The overwhelming occurrence was along the northern coastal margin of the county and in the Greensand zone from the Medway to the south-east coast (Champion 2007, p.298). He goes on to state that there is little evidence that these early field systems were used in the Iron Age until the very end of the period and into the Romano British era. This, he suggests, is not necessarily just a phenomenon seen in Kent, as similar patterns can be seen around London and Essex (Champion 2007, p.300). The high concentration of the Bronze Age sites at the coast and the low ground of the Greensand zone do have a parallel today, with these areas having a high modern population density. This results in a higher level of construction and land development, which with the advent of PPG16, means more archaeological interventions. The greater intensity of archaeological activity in these areas could skew the perceived concentration of prehistorical sites, so the data must be treated with caution; Champion recognised the potential influence of this bias (Champion 2007, p.296). Writing in 2007, he also suggests that as yet, there is little evidence for occupation in the Early and Middle Iron Age in Kent and he puts forward three possible scenarios as to why this may be the case. The first is that it could be poor identification of sites due to the lack of understanding of the ceramic chronology. Secondly, it could be that the sites are actually there but not yet detected (perhaps because the ‘imprint’ of the population was comparatively slight) and lastly and probably the most extreme reason, is that this is a reflection of reality and that large tracts of the landscape were not inhabited at this time (Champion 2007, p.300).

A later work by Champion, having the benefit of data from more recently published sites, as well as the massive input of archaeological information resulting from the HS1 project (the High Speed Rail link from the Thames estuary to the Channel Tunnel), gave him the opportunity to modify his thinking. On the issue of the paucity of Early Iron Age settlements, he dismisses his first scenario of a lack of understanding of the ceramic chronology, as the HS1 project did turn up pottery correctly identified previously as Early Iron Age. Evidence showed that the Early Iron Age occupation of Kent, is influenced by geography and geology. To the west of the Medway the population does not appear to be as intensive, but moving eastwards towards the coast, the population density seems to increase (Champion 2011, p.181). Champion states that the most likely explanation of the missing Early Iron Age evidence, is as a result of the Early Iron Age settlements having a light footprint, making it difficult for the archaeologist to determine these sites where excavation potential is limited (ibid). Champion also recognises that the HS1 discoveries showed that the Early Iron Age settlers preferred the high slopes of the foothills of the chalk Downs, where previously only limited archaeological investigations had occurred. This explained the perception of a lack of Early Iron Age sites, as the coastal plain of Kent had been more frequently investigated archaeologically (Champion 2011, p.182). Regarding the problems in finding sites from the Middle Iron Age, even with the HS1 project the difficulties seem to remain and he cites Bigbury as still the largest pottery assemblage of Mid Iron Age date (ibid). Even the more recent excavations at Turing College at the University of Kent failed to detect a middle Iron Age period. It showed Early Iron Age settlement activity as well as zoned industrial areas which hosted probable pottery production as well as weaving and cloth preparation (Lane 2014, p. 19). Settlement then appeared to recommence at the end of the Iron Age (around 100BC) evidenced by changes of boundaries and the introduction of more agricultural activities, rather than the previous industries(Lane 2014, p.21). The nearby excavation of St. Edmund’s school which took place in 2012 revealed occupation throughout the Iron Age, with three phases of occupation spanning the early Iron Age to the start of the Roman period (700BC to AD43) (Lane 2012). The settlement is described as “substantial” with earthworks and buildings revealed. The report published is only preliminary and further details are awaited.

This lack of visibility of the Middle Iron Age is seen in other parts of the eastern British Isles and has been explained partially, as a move away from earlier areas of settlement to a more peripatetic lifestyle. This is driven possibly by social, economic and perhaps religious reasons where groups of people are roaming the countryside following work (such as salt production or reed cutting) or animal grazing possibilities, (Hill c2007, p.22) tied into a sense of ‘rights of access’ or tradition and seasonality. Cunliffe (2005) has almost nothing to say regarding settlement in Kent at this time, which is possibly a reflection of the lack of published material at the time of writing. He does comment however that the population increased during the Middle Iron Age in areas such as the Upper Thames Valley and the west of East Anglia. The latter showed movement of population from the lighter to the more clay soils (Cunliffe 2005, pp.257 and 265).

Moving to the Late Iron Age, the HS1 project has revealed a large quantity of settlements from this period, many more than the previous era (Booth 2011, p.339). Neither Hill (c2007) nor Booth (2011) give an adequate explanation for the increased amount of settlement during the later Iron Age, although Hill does suggest, it was as a result of movement of people, rather than a sudden population growth. In the south and east of Britain, Hill suggests that this movement was not a vast migration of people, rather smaller groups of people like families or groups of families.

The regular transhumance of this period possibly saw groups settling in areas previously used only seasonally and it may also have seen people travelling much longer distances including travellers from Europe (Hill c2007, p.23). Hill also introduces the idea that a reaction to the expanding settlements, particularly in the east and south-east of Britain, is the rise of regionally distinct material culture, such as pottery styles and coinage, (stylistically) borrowed in parts from the near continent (Hill c2007, p.24). Hamilton (c2007) argues, that many of the settlements of what she refers to as the British Eastern Channel Area, are a continuation of Middle Iron Age sites, rather than expansion of the population to new areas (Hamilton c2007, p.83). It is highly likely that the variations from region to region and even from differing geographical areas within a region, will make it impossible to extrapolate local evidence and suggest that this is a common occurrence elsewhere.

An example of a Late Iron Age settlement which would be inhabited by a family group, can be found at Farningham in West Kent on the River Darent (see Fig. 1).

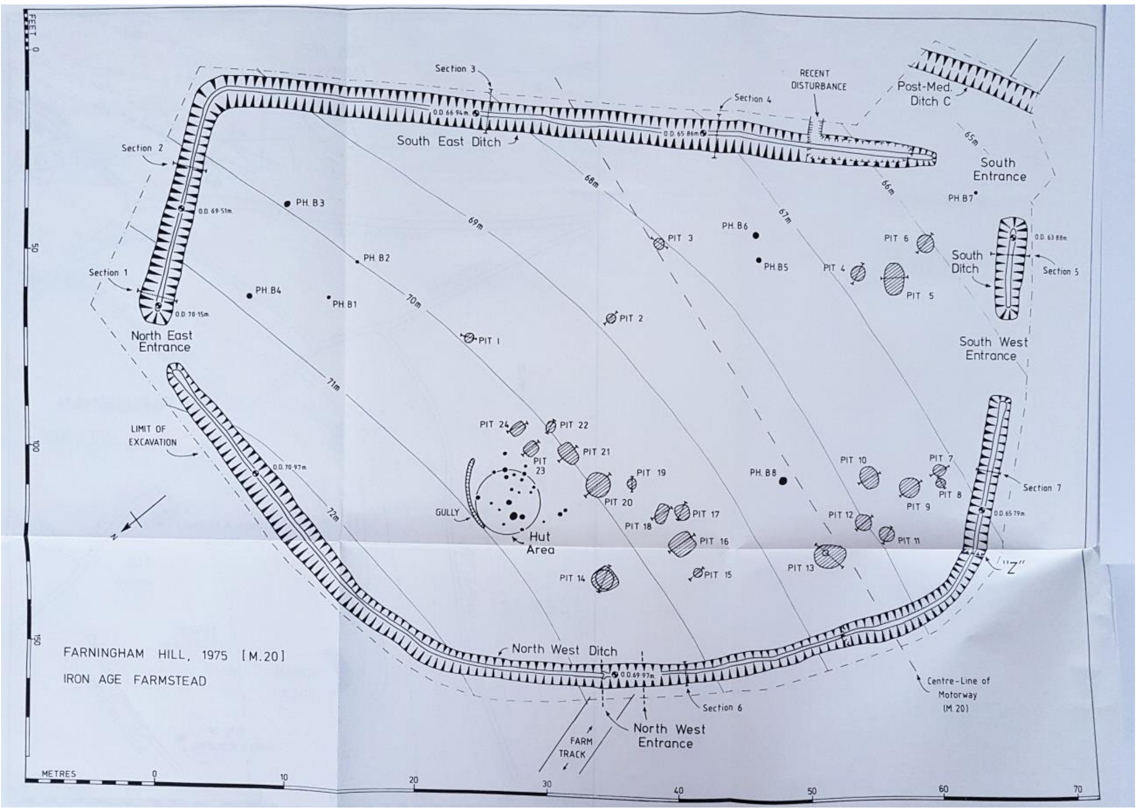


Fig.1 Plan of Iron Age settlement at Farningham (Philp 1984, fig .4)

This is a ditched enclosure of about 0.22ha containing several pits and evidence of at least one round house (Philp 1984, pp.7-71). A much larger site and one that is often referred to, is the multiphase site of Highstead near Chislet. This shows evidence from at least the end of the Bronze Age to the start of the Roman period. The Early Iron Age phase looks to be an open settlement with evidence of roundhouses in the form of penannular gullies and also, (rare for Kent) evidence of smaller four or six post structures commonly interpreted as grain storage features (Bennett 2007, p.289). Significantly there is also evidence of larger rectangular structures which were becoming more common in the late Iron Age but are highly unusual in Britain during the Early Iron Age. This layout of buildings is more usual on the continent and their presence in East Kent must be an indication of cross-Channel interaction (Bennett 2007, p.290). The recovery of rusticated pottery at the site, which is similar to that found on the near continent, demonstrates again the link between Kent and Europe. As already discussed, the evidence for the Middle Iron Age in Kent is slight and this site experiences the same phenomena. The occupation of the settlement at Highstead, is ephemeral during the Middle Iron Age and does not become more visible in an archaeological sense, until the Late Iron Age, from about the late second century BC. This visibility took the form of enclosures and field systems and ceramic remains. Unfortunately, although significant amounts of pottery were found, no evidence of settlement structures was recovered. It is likely that these were in areas not excavated or that the building technique was such that no archaeological indications remain (Bennett 2007, p.291).

There is no doubt that in the Late Iron Age, there was a change in many of the characteristics that previously defined the Middle Iron Age. There was an increase of imports from the continent, probably influencing changes of pottery styles and mortuary rites (Haselgrove 1989, p.12). Creighton (2000) devotes a chapter to this change and concludes that the Later Iron Age saw an increase in hierarchy, compared with the apparent egalitarian nature of the Middle Iron Age, in the form of chiefs with the backing of mounted war bands (Creighton 2000, p.17). The rise of these "war bands" he suggests, could be a defensive response to aggressive immigration from the continent, or a pursuit for slaves and other wealth. He goes on to attribute the arrival of gold, as one of the catalysts that drove this change; it was associated with the ability to obtain wealth and status, surrounded by an aura of mystery connected to distant lands, distant at least from South-East England (Creighton 2000, p.10).

When referring to the latter part of the Iron Age in East Kent, the term "Belgic" was often used to identify particular forms of ceramics and changes in burial practices, supposedly influenced by immigrants from the Belgic Gaul area. In his writings of "The Battle for Gaul" Caesar states:-

> *The interior of Britain is inhabited by people who claim, on the strength of their own tradition, to be indigenous. The coastal areas are inhabited by invaders who crossed from Belgium for the sake of plunder and then, when the fighting was over, settled there and began to work the land."*

(Caesar, Wiseman and Wiseman 1980, pp.92-93).

This idea of an invading people replacing the material culture and religious practices of the native Britons, has long since gone out of fashion and the term Aylesford-Swarling, named after the excavated cemetery sites in mid and east Kent where this change in material culture was first identified, is now a more accepted term (Hamilton c2007, p.83). The Late Iron Age, is also identified by the appearance of coinage, particularly in the south and east of Britain. Cunliffe clearly shows the coin distribution as being concentrated in the areas of Kent, the Thames basin and Essex, with a lesser distribution along the Sussex coast and into Hertfordshire (Cunliffe 2005, p.133). He points out, that this distribution is a result of a complex history of each coin. It starts with the coin's creation, its movement, its loss or deposition and ends with it becoming a part of the known archaeological record. It is undeniable however that there is a discernible pattern of a concentration in the areas mentioned. Cunliffe (2005) suggests that this could be as a result of diplomatic links with the continent, or indeed a movement of Belgic people into the Solent and the south coast (Cunliffe 2005, p.132). A similar distribution is shown by Hill (c2007) and he is determined to refute the core-periphery models, which suggest that there is a central area which influences and drives change into its surroundings. He suggests that this distribution pattern has no evidence in starting around the Thames estuary and the South coast and moving outwards. It could easily have been a product of simultaneous adoption across the region, or he even suggests that it could be the spread of coins that were used and possibly minted by communities in the south-east of England (Hill c2007, p.25).

From the latter part of the 1st century BC into the very early part of the 1st century AD the names of rulers and mints started to appear on coins (Creighton 2000, p.32; Cunliffe 2005, p.134). It is from this information, that to some extent a picture of kingship and tribal identification can be put together in Kent. This is well described by Detsicas (Detsicas 1983, pp.1-10).

3.0 Hillforts

In the south of Britain, it is difficult to discuss the Iron Age without the mention of Hillforts; in many regions these have left a lasting statement on the landscape and their function has been a constant source of debate. An overview of these structures can be found in the works of Cunliffe (2005). Here he gives an extensive introduction to the topic, starting with the difficulties of the term Hillfort. This has been a general term applied to settlements with surrounding earthworks, (typically seen in erstwhile parlance as fortifications), that are situated on higher ground. But it can be misleading, as the term invokes an idea of sole military use and it is now believed that these structures have a varied and complex purpose. The genesis of the Hillfort, particularly in Central Southern Britain, is in the Early Iron Age, with some sites dating back to the Late Bronze Age. It was around the 6th and 5th centuries B.C. that many of these monuments took on the now familiar topology of a contour earthwork. In the area of Central Southern Britain they were numerous and well distributed (Cunliffe 2005, p.384). As the early Iron Age was left behind, the Middle Iron Age saw a number of the earlier Hillforts abandoned, in favour of fewer and in many cases larger, refortified structures. This phenomenon did not apply across the whole of the south and indeed, areas like Surrey, East Sussex and Kent did not see Hillfort construction until the 3rd century onwards (Hill 1995b, p.68). It is for this reason, that the dating of these monuments in these counties must be calculated as accurately as possible, as their construction date will have an impact on our understanding of the Iron Age in these regions.

The function of Hillforts has been subject to much debate over the years and until many more monuments have been thoroughly investigated archaeologically, then it will probably continue. The idea that these places were purely a defensive construction to protect from marauding war bands is now largely replaced by more complex ideas. Cunliffe, based on his extensive excavations at Danebury, suggests that they were central places, as they had commanding positions and appear to have intensive internal development, as well as a large capability for storage of grain and other foodstuffs. He also suggests that an additional function might be that of a religious focus for the community (Cunliffe 2005, p.391). Hill, along with several other notable archaeologists is critical of the idea of the Hillfort being a central place. He suggests that the interior of a Hillfort, in terms of the differing aspects of activity and resources, is little different to the “lower” types of settlement (Hill 1995a, p.49). Creighton (2000) gives a good overview of the critiques of Cunliffe, in a precursor to his volume on coins and power (Creighton 2000, pp.1-11).

With many of the excavations of Hillforts concentrating on the ramparts, the Wessex Hillfort survey, describes in detail, the interiors of a large number of monuments in Central Southern Britain. The main vehicle of this survey is the use of comprehensive geophysics, which effectively unlocks the archaeology beneath the soil of the interior (Payne, Corney and Cunliffe 2006). The results are dependent on geology, colluviation and ground cover and of course damage by agricultural activity, but even so, they are able to illustrate in many cases, intensive use in the form of land divisions, circular features, ditches and pits. The project concluded that it is not possible to predict the internal character of a Hillfort by its size or form and it also states that the internal layout is highly variable, with some being well organised while others appear to have internal arrangements that were more random. However, many sites do have in common, a clustering of activity and in several cases, what appears to be zones of particular activity (Payne, Corney and Cunliffe 2006, pp.146-147). A word of caution is implied by Cunliffe in his summing up of the project. He states that the geophysics at Segsbury, showed relatively low activity internally but that the excavation, revealed a number of densely packed features, indicating perhaps a greater activity than the geophysical survey (Payne, Corney and Cunliffe 2006, p.161).

An overview of Hillforts cannot be complete without some discussion as to their military role. This, over the last few years, has swung like a pendulum. At one end, they are described as being the ultimate defensive weapon of pre-history (Avery 1986). At the other end, the views of Bowden & McOmish as described in Armit (2007) give an alternative view that the ramparts and complex entrances are an effort to distinguish a different space for the dominant elite residing in the interior (Armit 2007, p.30; Bowden and McOrmish 1987). The overview of this subject given by Armit is a well-rounded précis of the subject. It is his opinion, that any military role of the Hillfort does not exclude it from any other function, such as ritual, commercial, or indeed elite residences. The monuments are numerous and very different in their layout, construction and position. They can be substantial and impressive structures which he says would leave a lasting impression on the mental landscape (Armit 2007, p.36). The ramparts, particularly of one of the larger Hillforts like Maiden Castle and Oldbury, must have been a huge investment in manpower and would most likely be visible for miles around, clearly demonstrating to the world the elevated status of any community leader having command of such resources.

Chapter 1 of this thesis details the Hillfort locations in Kent, Sussex and Surrey and clearly demonstrates the lack of Hillforts in Kent and in particular East Kent. Only Bigbury has been positively identified to date and as the illustrations in chapter 1 show, there are sites on the coast namely Margate, Dover and Folkestone which have been suggested as potential Hillforts but the evidence is slight at best and has very clearly been refuted by eminent archaeologists of the region. It is entirely possible that we have not identified all of the sites which may be regarded as a Hillfort. A large earthwork was found in 2010 at Homestall Wood close to Bigbury and was only brought to the notice of archaeologists because of a LiDAR survey of the surrounding woodland. This earthwork had remained hidden for probably hundreds of years and could turn out to be a significant part of the Prehistoric/Roman era. How many other similar features are waiting to be discovered? The increasing availability of LiDAR images will no doubt reveal more hidden structures which could change our current view of Kent and Hillforts.

3.1 Hillforts in the west of Kent

The Hillforts and later Iron Age in the south-east of England have seen little in the way of synthetic studies aiming to explain the presence and role of Hillforts and associated centres for this period. Older work relies on what are now outdated models, as the following summary shows.

Oldbury has conventionally been seen as one of a group of Hillforts in the west of Kent, East Sussex and Surrey, which appear to have either a Late Iron Age construction date or extensive Late Iron Age modifications. All of the Hillforts shown in Table 1 and Fig.4, apart from Quarry Wood Camp – Loose complex, were investigated by varying degrees of excavation over 35 years ago; Quarry Wood Camp was more recently investigated by MoLAS in 2007(Howell 2014).

The proliferation of Hillforts in this area, was suggested by Cunliffe to arise as a result of increasing stress caused by several factors such as population increase, coupled with decreasing soil fertility. This, he says, could result in the expansion of land for agricultural use, resulting in the potential for conflict (Cunliffe 1982, p.43). This of course follows the thinking of the time that Hillforts were about power, resource-storage and central place and an expression of a world in potential conflict. Now Hillforts have been re-considered and elements of the older thinking revised, but this has hardly been applied to the Hillforts of Kent and Surrey.

Hillfort	Rampart date	Ref
Oldbury	LIA	Thompson 1986
Caesars Camp	LIA	Cunliffe1982
Squerryes	LIA	Hamilton and Manley
Dry Hill	No secure dating	
High Rocks	LIA	Hamilton and Manley
Loose	LIA	Kelly
Castle Hill	LIA	Thompson 1978

Table 1 – Dating of Hillforts (see Fig. 2) close to Oldbury

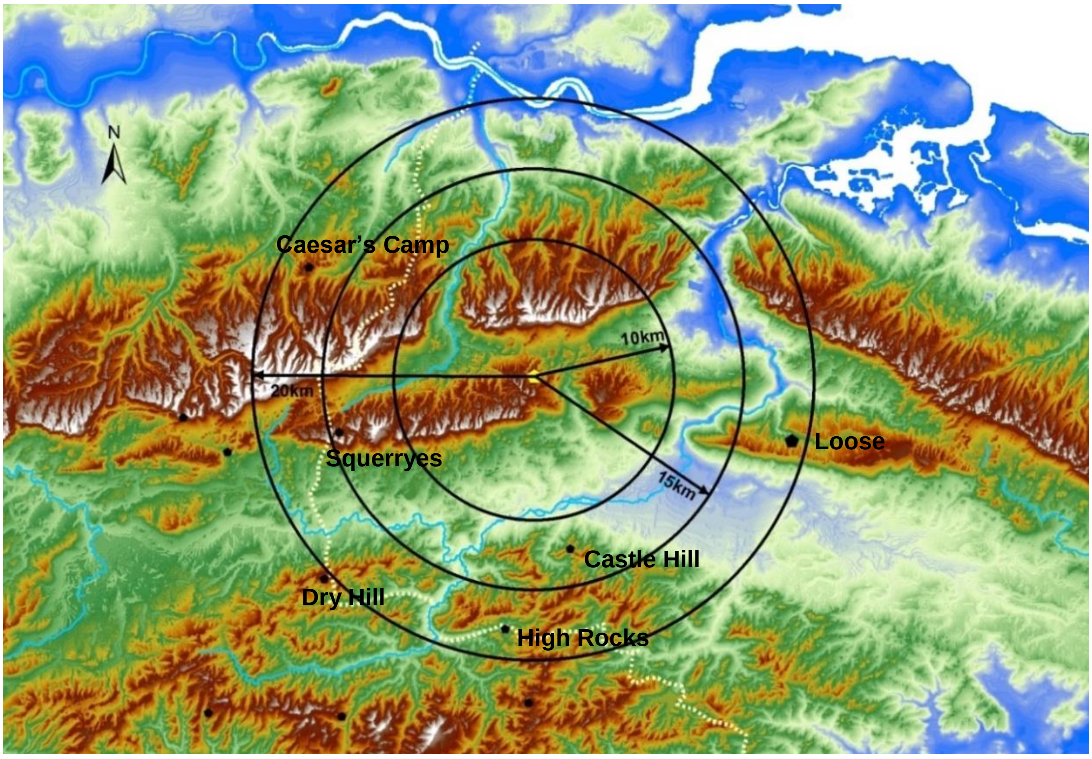


Fig.2 Hillforts within 20km of Oldbury

Thompson in his KAR article of 1978 reviews several of the Hillforts shown in the table and suggests that Castle Hill and Squerryes, echo Oldbury in their dates and sparseness of finds (Thompson 1978). At Castle Hill, he challenges Money in his interpretation of the sequence of rampart building and suggests that instead of fort 1 being constructed first followed by fort 2, that in fact the reverse is more likely (see Fig. 3).

The dating of the different fort construction from the investigation by Money, was based on a single radiocarbon date for each phase; this suggested that fort 1 was constructed 100 years earlier than fort 2. Thompson argues that this dating is inadequate and that it makes more sense to have the sequence reversed which would have resulted in a combination of the two forts, making a larger area. He also states that the finds are too sparse to enable more secure dating and probably means that any settlement was equally meagre. This coupled with the fact that pebble slingshots were found at the site, indicated to Thompson, that it was probably used as a temporary refuge (Thompson 1978). After Thompson's comments, Money wrote a note in *Archaeologia Cantiana* providing more evidence in the form of aerial photographs to press home his original theory (Money 1978, p.270). The dating evidence remains slight and the C14 dates by Money for Fort I was 2265± 50 B.P. (315B.C.) and Fort II 2178± 61 B.P. (Money 1975, p.63). This gives an approximate ± 50 years margin of error which is very low for this period as the calibration curve at this point, is very ambiguous (see section 5.2). More excavation and geophysical survey may provide an answer.

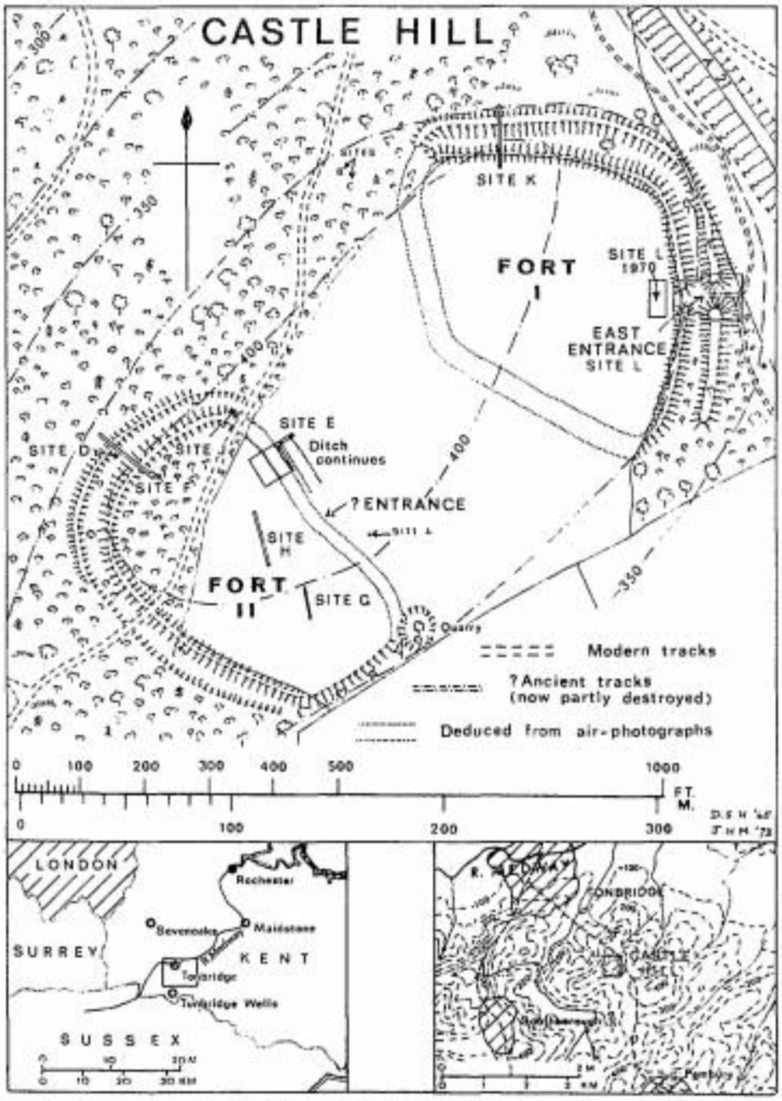


FIG. 1. Maps showing Position of Castle Hill, Kent, south-east of Tonbridge, and Plan of Hill-forts.
Based on the O.S. Maps with the Sanction of the Controller of H.M.S.O. Crown Copyright reserved.

Fig.3 Illustration of the two forts at Castle Hill (Money 1975, p.63)

Thompson also comments on High Rocks and Dry Hill Camp. The former, he suggests, based on the pottery found, was sparsely populated, with a date attributed to the Late Iron Age, with more fortification in the first half of the first century AD. Dry Hill Camp, he comments, also saw a paucity of finds, indicating that it was not permanently occupied; once again slingshots were found making it a similar situation to that of Castle Hill (ibid).

The largest Hillfort which Thompson comments on in his piece, is Caesar's Camp at Keston. He states, that it's dating is based on pottery finds and it is likely to be Middle Iron Age to Late Iron Age as no later pottery was found. He states, that this fort, because of its large defences and the evidence for modifications during its lifetime, probably belongs more to the Thames Valley context, rather than a Wealden context but it is likely that it suffered the same fate as its more southerly neighbours (ibid).

He concludes his piece, by putting forward a theory that it was the invasions by Caesar in 55BC and 54BC, which caused distress at the possibility of a large displacement of people, in response to the prospects of a greater more successful invasion. He suggests that the invasion came before many of the defences were ready and the defeat of Cassivellaunus caused the abandonment of the Wealden Hillforts as part of a peace agreement (ibid).

This does seem a neat solution but one that has no real archaeological evidence to back it up. Thompson's theory comes from a background of change being driven by invasion or mass immigration and so he uses this to explain events which are likely to have occurred, because of a multitude of reasons. There is no evidence to suggest that the abandonment of the Wealden Hillforts (or any other Hillfort) was as a direct result of a peace agreement between Caesar and Cassivellaunus. The abandonment of Hillforts is complex in nature and not well understood; it is just as likely to be driven by changing society, as a result of external invasion or indigenous attack.

Oldbury is situated near the Medway Gap, (a route into the Weald from the north) and is only ¾ mile south of the Pilgrims Way (Ward Perkins 1939, p.141). The location of Oldbury is suggested by Witney to be strategic in the control of iron from the Weald. This she suggests is via a network of connections to Hillforts closer to the production of iron like Castle Hill (Witney 1976, p.25). Although Thompson states that Oldbury had a similar timeline to the nearby Hillfort in the Weald, he does not explicitly link the forts together, nor does he mention the possibility of a link with the iron industry. The link, is made by Hamilton and Manley in their final discussions, where they also highlight the fact that structures relating to Iron working were found at Garden Hill and High Rocks (Hamilton, S. & Manley, J. 2001, pp.31-33).

To date no proof has been found, which shows that Oldbury is connected with the processing of iron but it could be a point from where the iron was traded, making it more of a commercial distribution centre with easy access to the important route ways of the Pilgrims Way to the north and the Rivers Medway to the east and Darent to the west. Previous to this Thesis, there was little evidence of any sustained settlement in the interior of Oldbury which would be an indictor as to its function and status.

Quarry Wood camp at Loose about 2.5 miles south of Maidstone, has a debatable classification of Oppidum but it is a large site of 30acres (12ha); according to Kelly it is enclosed (with not a significantly defensible position) and it is of a Late Iron Age date (Cunliffe 2005, p.402; Kelly 1971, p.550). The main excavation that took place at this site was by Kelly between 1963 and 1967. A nearby excavation at Furfield Quarry 1.35km to the west of Quarry Wood was undertaken by MoLAS in 2003 to 2007 (Howell 2014, p.37). Although this site is away from the main earthworks it is within an area of surrounding earthworks (Howell 2014, p.38). Both MoLAS and Kelly put the probable construction phase of the site as Late Iron Age with MoLAS suggesting a date between 10BC to AD25/50 with activity decreasing around the time of the Claudian invasion and Kelly suggesting dates of the very end of the Belgic period, to the 2nd quarter of the first century AD (Howell 2014, p.51; Kelly 1971, p.57). The feature at Quarry Wood has several linear earthworks associated with it which could reinforce its significance in the Iron Age and is an additional criterion when discussing the merits of its classification as an Oppidum. Discovered during the more recent excavation on their site by MoLAS, was a bloomery, which indicates that iron was being worked there; this activity looks to have ceased post the Roman invasion, possibly as a political act of control of Iron production. Settlement is suggested by the evidence of cremations but no suggestion of buildings from the Iron Age period was discovered (Howell 2014, p.63). Kelly suggests in his closing discussions, that Quarry Wood was constructed as a result of the impending Roman expansion and potential invasion. The fort he states was not built in a particularly natural defensive position nor was it close enough to police the river Medway. He states that an Oppidum, if built as part of a well thought out policy, would have incorporated all of those features, implying therefore that Quarry Wood was a rushed decision (Kelly 1971, p.75). If this was the case and it was indeed a reaction to impending Roman invasion, then surely defence and control of vital lines of communication would have been the sole thought behind its location? After the successful Roman invasion both excavators indicate that the Oppidum ceased to exist as an Iron Age place of importance and Kelly suggests that the main focus became Rochester (Kelly 1971, p.75; Cunliffe 1982, p.47). A similar view is widely held that Bigbury ceased to have importance during the last 50 years of the millennium BC and the focus was switched to the lower lying site which is now Canterbury (Cunliffe 1982, p.47; Blockley and Elder 1995, p.9). It is interesting to note that in the survey of Hillforts in the southeast of Britain by Manley and Hamilton, Quarry Wood Hill does not get a mention at all (possibly due to the lack of defined enclosed earthworks) indicating that there is some scepticism as to the classification of this monument even as a Hillfort (Hamilton, S. & Manley, J. 2001).

It is possible that an alternative theory to Cunliffe on the proliferation of the Wealden Hillforts, could be the development of the iron industry in the Weald. Iron making appears to have been introduced from the continent somewhere around the middle of the 1st millennium BC and from around the last century BC, the Weald saw the introduction of a domed slag-tapping furnace, with potential origins in the Rhineland (Cleere 1985, p.53). At this time, the iron making shown by the evidence to date, is concentrated in the High Weald, with two areas of concentration being in the northern and the southern fringes (ibid). The northern zone appears to be exploiting the iron rich ores found in the Wadhurst clay with the Hillforts of Garden Hill and Saxonbury being constructed at that time and could have had a connection to the iron making industry (Cleere 1985, p.54).

It is conceivable that as iron became more important and valuable, the control of the manufacturing processes, from mining to charcoal making, culminating in the smelting of the ore, was an area that could cause the stress to which Cunliffe alludes. This would lead to the necessity of protecting the production areas and also the transport links.

The evidence available to-date is insufficient to really understand the drivers of society and its subsequent actions. As stated previously, many of the theories put forward, particularly in the past, are too simplistic for what is undoubtedly a very complex issue for which we have hardly any evidence.

3.2 Previous Hillfort environs study

Although we will probably never fully understand Hillforts and their role in society and function in the landscape, it is clear, that just concentrating investigations on the ramparts, will only provide limited information. Some individual projects also focussed intensively on the interior of the Hillfort, like the investigations at Cadbury (Barrett, Freeman and Woodward 2000). Others have chosen to include the immediate Hillfort environs, in an effort to understand how the structures fit into their landscape (Sharples 1991a). Several large scale investigations involving the immediate environs of Hillforts have been undertaken in the last few years which have significantly increased our understanding of these structures.

One of the early environs surveys was the Maiden Castle Excavation and Field Survey 1985-6.The objectives for this survey were initially published by Wainwright and Cunliffe in *Antiquity* (1985) and they were to be achieved by landscape survey, a survey of the monument and excavation (Sharples 1991b, p.3). The broad aim was to try and understand the relationship between Maiden Castle and the surrounding settlements which were contemporary with its occupation. The methods used for this survey included soil analysis, field walking, phosphate and environmental analysis, geophysics and excavation. Also employed were artefact distribution and crop mark analysis (Sharples 1991b, pp.4-5). This survey was carried out in an area approximately 7km by 5km centred approximately 2km to the north east of Maiden Castle (Sharples 1991b, p.11). The data collected was able to show the growing importance of Maiden Castle and track its influence, on the development of the surrounding landscape settlement patterns through prehistory from at least the Neolithic times, with evidence of land partitioning in the Later Bronze Age (Sharples 1991b, p.36). The excavation and survey within the ramparts identified a previously unknown enclosure and other features which could indicate different phases of construction of the fort (Sharples 1991b, p.41). Maiden Castle itself was constructed in the Early Iron Age, at a location that commanded the river valleys and had control over the upland and lowland farming areas (Sharples 1991a, p.36).

The Danebury Environs Programme started in 1989 and ran for 7 years (Cunliffe 2000, p.13). The aims of this project were a mixture of conservation as well as archaeological study. They included the effect of modern land use on archaeological monuments and how past land use has influenced the way in which the landscape survives today. It was also aiming at the improvement of our understanding of the organisation and use of the landscape during the prehistoric period (Cunliffe 2000, p.14). The area chosen was large, around 20km by 25km and like other similar projects the tools employed included aerial photographs, geophysical surveys and excavation as well as specific studies in river valley bottoms, environmental analysis of excavations and studies in Iron Age farming techniques and processes(Cunliffe 2000, fig.5.2). This project produced large quantities of data which will be used for many years and the observation by Cunliffe, as a result of this project, is very relevant to prehistoric archaeology generally. He suggests that there are two overriding themes; one is the *longue durée* which is a broad generalization of human development over many centuries and the other is the events which can be specific to regions and even sub-regions that disrupt and influence the local way of life over a much shorter time span (Cunliffe 2000, p.193).

Using many of the tools and processes from the two projects above, the South Cadbury Environs project started in 1992 and in the early 2000s after a successful Leverhulme application by Bristol and Oxford Universities, the project was able to employ Dr Tabor the project founder, on a full time basis (*South Cadbury Environs Project* 2010). The aims of the project included an investigation into the understanding of Cadbury Castle as a central place from pre-history to Saxon times, understanding the changing access and movement in the landscape as a result of a change in central place and resource zones.

These investigations were undertaken using a wide range of techniques including extensive geophysics survey, map and land division analysis, plough soil analysis and spatial analysis of artefact distribution. In addition there was excavation (extensive test pitting of the study area) and ceramic chronology refinement. The environs study area was an 8km by 8km square area centred on the Hillfort (ibid).

The various environs projects produced a huge amount of data and by the early 2000s it was possible to detect broad themes during the prehistoric era. There were indications of land divisions from the Middle Bronze Age and during the Iron Age, route ways were established through an increasing arable landscape (University of Bristol 2004, p.104). The results also identified the growing importance of the Hillfort through time by analysis of the surrounding settlement patterns (Ibid).

The Trapain Law environs project had a different approach, with the main aim focussing less on the central fortification but more on the changes of the surrounding smaller enclosed settlements over time (Haselgrove 2009, p.7). As in previous surveys, the project employed extensive geophysical survey, but this time targeted sites of differing geology. The surveying was carried out by Archaeological Services University of Durham who also wrote the reports. The authors were positive over the outcome, for although only about a third of the surveyed sites showed potential archaeology, this was much more than they had hoped for with the type of geology that they had to contend with and demonstrated the usefulness of this technique in identifying and recording archaeological sites (Haselgrove 2009, p.21). The general conclusion of this project was that there was little evidence for Earlier Iron Age occupation in the environs zone, particularly when compared to what looked like a thriving Later Bronze Age landscape. This is seen, as a similar situation to that in other parts of Scotland and Central Britain (Haselgrove 2009, p.229). The Later Iron Age saw the landscape filling up again, accompanied by an increasing occurrence of enclosed, commonly rectangular sites. The last two centuries BC, saw the enclosure ditches becoming unattended until they were filled in and ignored (Haselgrove 2009, p.230).

The earthworks at Stanwick in North Yorkshire are worth mentioning at this point, as their form and morphology may have an implication on thoughts about Bigbury. Stanwick, simply put, has a central complex or citadel (called the Tofts), then a large outer earthwork which circuits the central structure. This was investigated by Wheeler in 1951-52, where he concluded that the monument had a phased construction. The first phase was the construction in the early 1st century AD of the Tofts. This was followed, probably sometime during the mid-1st century AD, by the completion of the outer earthworks in response to Roman sponsored aggression (Haselgrove, Turnbull and Fitts 1990, p.2). This view remained unchallenged until the 1980s. After investigations carried out by the project at Stanwick, they came to the conclusion that the reality of the growth of the complex, is probably the reverse of what Wheeler suggested and that the outer earthworks enclosed an earlier settlement, with the central complex constructed later. One of the striking details of the site is that the outer circuit of earthworks, skirts around a small hill on the east side of the complex (Henah Hill) to exclude it, meaning that this higher land immediately overlooks the interior of the enclosed site which would not make sense if the intention of the site was a defensive one (Haselgrove, Lowther and Turnbull 1990, p.87). A programme of radiocarbon dating and analysis by Derek Hamilton, employing Bayesian statistics and using material recovered during excavations of the 1980s, has brought forward a relatively secure understanding of the development of the site. The new dating indicates that the site was established around 100 BC and in receipt of exotic imports from the Augustan period through to the era of Nero, as befitting a centre of power associated with a leading individual; we know that by the AD 60s that was presumably Queen Cartimandua (Richmond 1954; Turnbull and Fitts 1988)

More recent similar comprehensive surveys have been undertaken at Bagendon in Gloucestershire by Tom Moore, and like the previous studies, produced vast amounts of data (Moore 2012). The information gathered from these activities was presented in different ways; what is now required is a common systematic approach to the analysis of the information such that specific comparisons can be made. Whilst the aims of all of the projects are generally similar, in order to understand the specific shorter term events that influenced the changes in society that Cunliffe suggests, it is vital that we have a common set of questions.

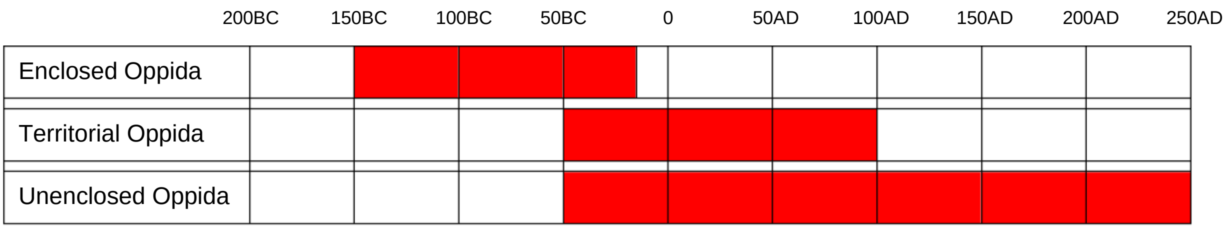
4.0 Oppida

As already mentioned, a term often used by archaeologists to describe larger, later Iron Age complexes with particular characteristics, is Oppida (Oppidum singular). Caesar, in *de bello Gallico,* uses this term mainly to describe settlements in Gaul which have an urban character but he does use it for smaller Hillforts, particularly in the north-west of the country. This classification appears to change when he speaks about Britain, with the term Oppida seemingly applied to any defensive site irrespective of having any urban features (Collis 1984, p.5).

In more recent archaeological use, Collis states that the term Oppida does not necessarily mean the same in different parts of Europe and in Britain. The term was generally applied to lower lying sites, larger in size and normally accompanied by linear earthworks but this has in more recent times, been applied to Hillforts which were captured during the campaign of Vespasian, as this is how he referred to them (Collis 1984, p.6). Collis goes on to say that he considers that Oppida should not only be of a larger size, but also have a defensive element. He suggests that anything below 20-25ha should be regarded as a Hillfort and anything greater could be considered as an Oppida if the other criteria of age and defence are fulfilled. He does say that there are exceptions; if the smaller hillforts can demonstrate some degree of urbanisation or the industrialisation then the term Oppidum could be applied (Collis 1984, pp.6-8). The subject of detecting urbanisation is discussed by Woolf in his article "*Rethinking the Oppida*". He proposed two criteria which may be detected archaeologically. The first is there must be some detectable difference between zones of different function and specialisation, for a site to be labelled urban. The second set of criteria, is that any site to be considered urban, must exhibit a different internal structure to that of other settlements in the area under examination (Woolf 1993, p.227). Woolf also states that whilst there is broad agreement that the term Oppida describes a type of site that is not an open settlement or a farm, there is less agreement as to their function (Woolf 1993, p.223). He goes on to say that the term Oppida is not a useful classification as they are so diverse in their scale, form, chronology and probable function (ibid).

The English Heritage article, Introduction to Heritage Assets Oppida gives three classifications of Oppida: Enclosed, Territorial and Open or Unenclosed. It states that the earliest Oppida in Britain originated in the early 2nd century BC with a peak at the start of the 1st century AD and that these monuments are indicators of political centralisation, settlement and industrial growth and also craft specialisation (McOmish 2011, p.2). The classification of Oppida was re-established more recently to include sites which had significant imports of goods dating from the latter part of the 1st century BC, up to and passing the Claudian invasion (Ibid). The vast majority of Oppida the article states, are to be found to the south of a line from the Bristol Avon to the Wash, with approximately 20 identified (Ibid).

The article states that all enclosed Oppida classified in Britain have an area of over 10ha (which is in contrast to the size of 20ha suggested by Collis) and have enclosure boundaries which are sometimes extensive. The figure of 10ha is also one that Cunliffe quotes in his article, The Origins of Urbanisation in Britain (Cunliffe 1976, p.136). The English Heritage paper also points out that this classification of monument often has incomplete ramparts and makes use of topographical features of the landscape, such as rivers or indeed re-use of the sites of earlier hillforts (McOmish 2011, p.3). The territorial Oppida includes many of the aspects of the enclosed category but introduces a new dimension of associated linear earthworks, thus making the complex much larger. There is sometimes a link with an older enclosed Oppidum like that of Bigbury and Canterbury (McOmish 2011, p.3). The third category is called open or unenclosed Oppida and as these are difficult to identify, the classification is subject to some debate (McOmish 2011, p.4).



Time line for different Oppida categories (McOmish 2011, p.5)

The article by Gotz concerning Oppida on the continent, suggests that the 150 known Oppida between France and Hungary can be categorised as either being an economic centre or a political and religious centre. He points out that the two categories can and would have existed together, but it is likely that in many cases one or the other category would be dominant (Fernández-Götz 2014, p.380).

Gotz attributes the development of Oppida in Europe to four processes. The first is the intensification of production and commerce (possibly influenced by the increasing Roman impact) the second is the growth of population and the rise of the elite. The third he states is the increasing communication and interaction between groups and individuals and the forth is the genesis or reinforcement of political-religious integration (Fernández-Götz 2014, p.384).

Gotz strongly suggests that the main driver of many of the Oppida in temperate Europe was the politico-religious component and that trade, manufacture and defence although important, was a secondary influence. He goes on to say that many Late Iron Age Oppida could have had their beginnings as spaces for ritual assembly (Fernández-Götz 2014, p.391).

During the late Iron Age the population was essentially rural with the large majority of the population living in scattered farmsteads and the construction of large earthworks associated with Oppida would have emphasised the feeling of belonging to a community. Together the community created building works on a great scale for all to see and once constructed, repairs and alterations would have maintained the cohesiveness of the group for many years (Fernández-Götz 2014, p.386). Haselgrove, from work he has performed in northern France, suggest that the rise of fortified Oppida particularly in his region of study may be as a result of rural instability due to intensified competition for land and resources, as many rural settlements were abandoned or showed little continuity of occupation at this time (Haselgrove 2007, p.508). The majority of Oppida in Picady occupy high ground but two, Condé-sur-Suippe and Villeneuve-Saint-Germain occupied the valley, these were relatively short lived and moved to higher ground after being occupied for around a generation (Haselgrove 2007, p.510). (Haselgrove also points out that other parts of Gaul during the 1st century B.C., also saw the movement of settlements from low lying areas to higher ground (ibid)). Both of the valley sites were laid out with a grid system implying some degree of planning rather than a settlement that had grown organically from a smaller one. The site at Villeneuve-Saint-Germaine showed evidence of zoning of activities and the site at Pommiers, which replaced it and is situated on the higher ground also showed a similar grid pattern implying some degree of continuity planning (Haselgrove 2007, p.509). In addition, both of the valley sites look to have been associated with sanctuaries which is in line with the theory suggested by Gotz (ibid).

An interesting point made by Haselgrove concerns three important Belgic “capitals” identified by Caesar in his Gallic Wars book (Haselgrove 2007, p.511). Archaeologically these places Reims, Amiens and Arras, show no real signs of substantial mid-1st century (apart from recent investigations at Reims) occupation which would have been expected if Caesar had written about them (ibid). One reason why they appeared important to Caesar but not significant archaeologically now, is that they formed part of a territorial Oppida, which are more common in Britain like Camulodunum or Verlamion and would have had several foci of activity. This could also explain the movement of Condé-sur-Suippe to the higher ground. The valley fort had a perimeter that was too long to defend adequately but the interior was well organised with zones and lots of space for various activities. This large enclosed area could have been part of a larger complex which included the forts on the higher ground (ibid).

It is clear that the reasons for the rise and the siting of Oppida are varied and complex. Gotz suggests that Oppida did not have the monopoly as centres of excellence for trade and/or manufacturing and the large open settlements of the time, show evidence of manufacturing and trade on a scale equal and sometimes exceeding that found within the boundaries of Oppida (Fernández-Götz 2014, p.381). His final thoughts are that with numerous Oppida we are able to rationalise the reason for their location by their proximity to ancient trade or communication routes but for others the rational for their siting is not that easy to understand. He suggests that where the reasons behind their location are not obvious today, they can only be explained with religious or ritual motives. These motives we are not able to determine now but would have been perfectly obvious at the time of construction (Fernández-Götz 2014, p.393).

Whilst not defined as an Oppidum, Ham Hill in Somerset is worthy of being included in this section as having an area of 88.1ha it is one of the few Hillforts in Britain larger than Oldbury (Brittain, Sharples and Evans 2014, p.1).

The investigations by Cambridge Archaeology Unit between 2009 and 2013 revealed that the Hillfort was occupied to some degree, from the Neolithic period through to the start of the Roman era (Brittain, Sharples and Evans 2014, p.195). The enclosure of the hill top saw four distinct phases of rampart building, starting in the Late Bronze Age through to the start of the Roman era (Brittain and Sharples 2017). A complete geophysics survey (Fig.4) of the interior showed a palimpsest of overlapping features indicating several phases of activity.

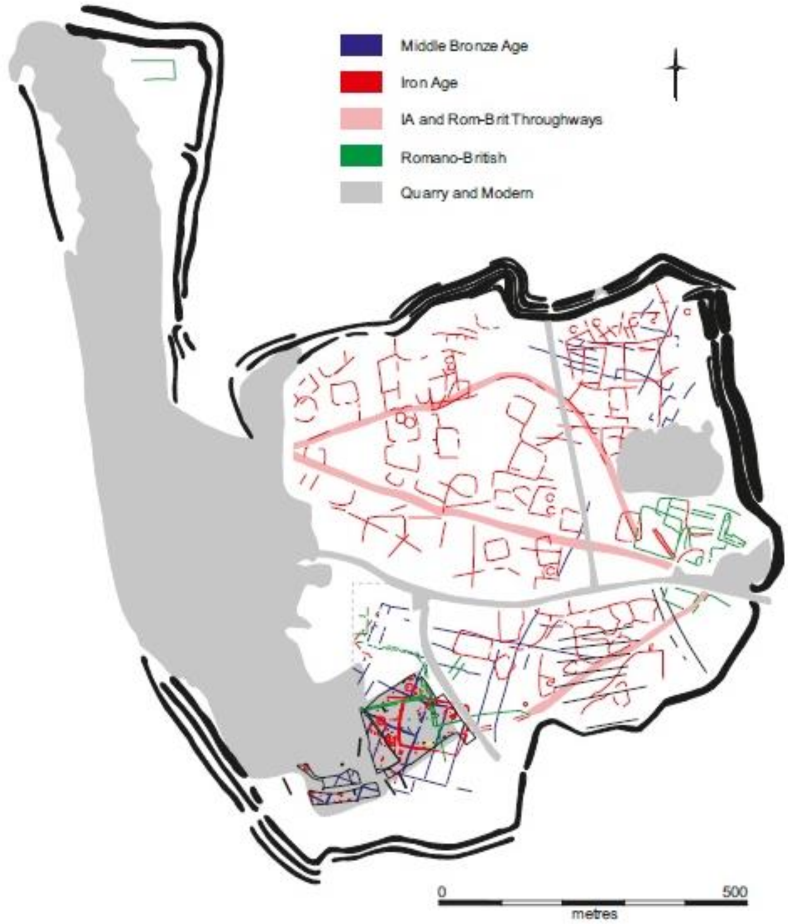


Fig. 4 Interpretive plan of geophysics survey of Ham Hill (Brittain, Sharples and Evans 2014, fig.52)

One of the features excavated was a rectangular enclosure situated at the southern end of the interior. Excavations revealed human bones including skulls as well as articulated and semi-articulated remains suggesting that this enclosure had a special role within Ham Hill possibly connected with ritual practices (Brittain and Sharples 2017).

Close to Ham Hill is Ilchester and recent investigations, as yet to be fully published, show a Late Iron Age ditch and bank enclosing an area of 20ha (Ilchester Mead) bounded on one side by the River Yao (Leach n.d., pp.1 & 32). The area appears to be on the floodplain and may have only been occupied seasonally as the water table allowed. The site has been called an Oppidum but to date further investigations are required to validate this classification (Leach n.d., p.32).

The three large Hillforts in Kent mentioned in chapter 1, have all been given the title of Oppida and are all classified as enclosed Oppida by some authors as they have a complete circuit of earthworks (McOmish 2011; Cunliffe 2005). The criteria for ascription really requires critical enquiry rather than assumption and that is accordingly pursued here.

4.1 Bigbury

The area of the Hillfort at Bigbury is 10.7ha which has already been shown to be at the lower limit suggested by the English Heritage article and it is well short of that stated by Collis. The classification of Bigbury as an Oppidum has been contested by Hamilton (c2007) where she describes the description as inappropriate. She states that the title of Oppidum was given to the monument because of the high status iron metalwork discovered in the late 1800s. She suggests that this was metal working scrap, or evidence of high status activities, which is not enough to bestow the title of Oppidum (Hamilton c2007, p.89). The apparent lack of intensive settlement within and around the monument, has made the classification of Bigbury as an Oppidum, difficult. This is a view shared by Champion where he doubts that Bigbury was a precursor to Canterbury as a regional capital (Champion 2007, p.303). That said, Dressel 1 amphora and at least one roundhouse are known to have been found from the interior, whilst the site has not received the type of area excavation seen at Stanwick, Camulodunum or Cadbury (Haselgrove, Turnbull and Fitts 1990; Hawkes and Crummy 1995; Barrett, Freeman and Woodward 2000). It does however have a potentially strategic position when it comes to the control of trade; it overlooks the River Stour to the south and straddles the ancient ridge way which today is now the Pilgrims way.

Aspects of the Hillfort which could make it an Oppidum are that it has a late construction (probably around 200BC) and did have some impressive defences. These are now much diminished with the south side nowhere near as impressive as the northern side. The poor state of the ramparts is in part due to erosion of the unstable soil and partly due to quarrying for the underlying sand and shingle. On the evidence above it is difficult to consider Bigbury as an Oppidum and more evidence needs to be gathered, especially in the area of associated earthworks and settlement in and around the site, before a definite categorisation can be made.

A recent LiDAR survey completed in 2010 on behalf of the Kent Wildlife Trust (see chapter 7) indicated that the Oppidum classification for Bigbury could be challenged. This survey was undertaken primarily to understand the landscape of Blean Woods adjacent to the Hillfort, but the inclusion of the Hillfort in the survey, revealed aspects of the landscape which were previously unknown. A series of linear earthworks were revealed which appeared to be associated with Bigbury. Some were close to the monument, indicating a potential of an outer perimeter similar to Stanwick; others were several kilometres away but showing a tendency to point towards the site (Bannister 2013, p.103). The discovery of these associated earthworks, challenges the categorisation of Bigbury, potentially placing it in the territorial Oppida category, impacting on our current understanding as to its significance. A further enhancement on this classification that needs to be considered is that of a polyfocal settlement. The characteristics of polyfocal settlements are discussed in Moore (2012), who illustrates several thought provoking ideas as to the potential meaning and use of these linear features, other than as just land boundaries. He suggests that the linear features associated with the enclosures are part of a process of controlling the landscape. This can be achieved by guiding the movement of people and /or animals with the earthworks either blocking or directing this movement (Moore 2012). The 'landscape' approach that he employed at his site in Bagendon, is certainly worth applying at Bigbury.

4.2 Oldbury

The most striking aspect about Oldbury is its size, having an area of 50ha which fulfils a key Oppidum qualifying criterion. This coupled with the early construction date, probably sometime in the 1st century BC, is what attracts the classification of Oppidum to Oldbury. The defences, which sadly are now damaged by quarrying on the east side, are impressive and there is a suggestion that they may have been incomplete or 'works in progress', which is an additional criterion for an Oppidum. Against its classification is the view that no evidence of settlement has been discovered at the site. This view of little or no settlement has been promulgated despite limited excavation or survey in the interior. Like Bigbury above, some important criteria of that required from an Oppidum is missing. This leads to the questioning of the whole process of classification of these important features. Do all criteria need to be fulfilled or is it sufficient to base classification only on a few of the qualifying attributes?

4.3 Quarry Wood Camp

Quarry Wood Camp is probably the most contested classification of Oppidum, as even its title as a Hillfort has been cast in some doubt. If the monument is accepted as a complete Iron Age enclosure, then it does fulfil several elements of the criteria of Oppidum definition. It has already been stated above, that although the enclosed area is lower than the value considered by Collis, it is of a large enough size for that suggested in the English Heritage article. It is of a late construction and also has several linear earthworks in association with the central enclosure. The monument does have an enclosure although some ramparts are now missing; the remaining ditches have a Fécamp style profile which is another indicator that points to the late construction date (Cunliffe 2005, p.402). Like the other two sites, the lack of an urban nature does count against it being classified as an Oppidum.

5.0 Oldbury and Bigbury excavations

5.1 Oldbury

Trench locations of excavations by Ward-Perkins and Thompson

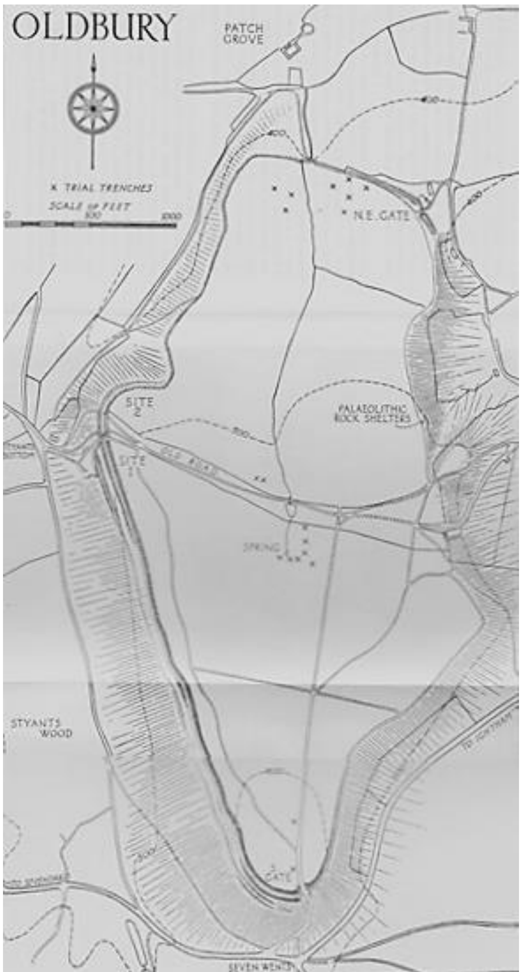


Fig. 5a Location of excavation trenches Ward-Perkins (Ward-Perkins1944)

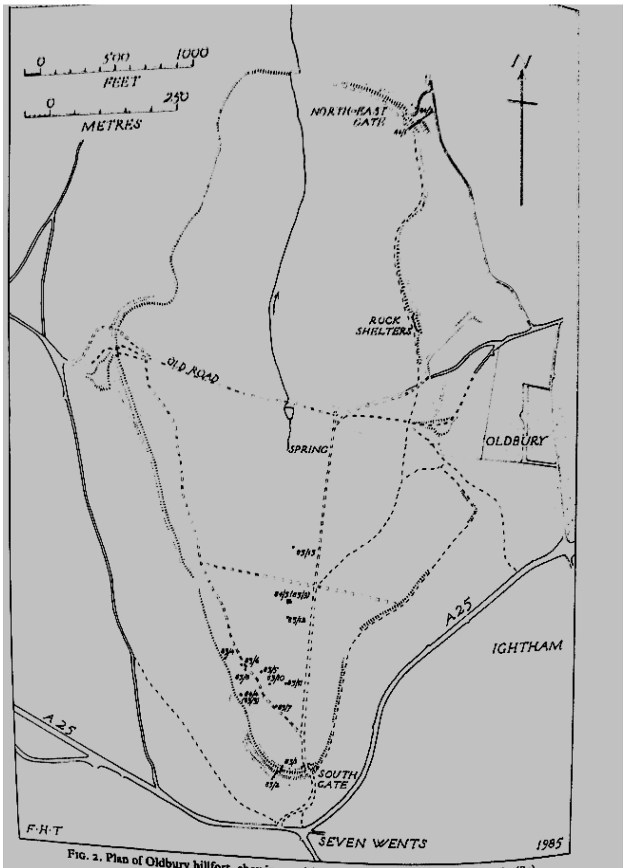


Fig. 5b Location of excavation trenches F.H.Thompson (Thompson 1986)

Oldbury has been the subject of two separate excavations in the last 80 years (see Fig. 5a & 5b above). The first excavation on the site was by the Kent Archaeological Society led by Ward-Perkins in 1938 and the second by F H Thompson in 1983 and 1984 (Thompson 1986; Ward Perkins 1939). Ward-Perkins in his report in Archaeologia, opens with a reference to Harrison's work, regarding the evidence of

Palaeolithic activity at Oldbury with the discovery of flint tools and rock shelters on the eastern flank of the site (Harrison 1933, p.128). Ward-Perkins then states that the hill was fortified towards the end of the Early Iron Age but makes no reference to substantiate this statement. It is possible that this is just an interpretation of Iron Age periods, as on the next page he states that the ramparts were built in the early 1st century AD (Ward Perkins 1939, p.139). He also states that his excavation at the site would be mainly concerned with the character of the defences and the dating of the ramparts, which seems to be a typical strategy of excavation at this time. At no point does he seem concerned with the internal structure and possible settlement features of the interior. In the report by Ward-Perkins, he sets out a detailed description of the location of Oldbury and its geology and then proceeds to characterise its ditch and ramparts.

Ward-Perkins' site 1 is an area on the best preserved western ramparts, just to the south of the medieval trackway and where, Ward- Perkins states, test pitting found evidence of settlement. Site 2, which is to the north of the medieval road and is on a kink in the rampart line, is an area which Ward Perkins thought would be suitable for settlement. The shape of the kinked ramparts he states, would have afforded better protection from the elements as it encloses an area of the interior (Ward Perkins 1944, p.133). Site 3, the south entrance and site 4 the north-east entrance would be obvious choices for investigation as they would be areas of high activity and therefore may give an indication of date.

Ward-Perkins suggests that there are similarities in the construction of Oldbury to other Hillforts such as Squerryes to the west. Here, perceived weak points in the ramparts have been given the additional protection of a doubling up of the defences. In Oldbury he states that the defences on the western side have been strengthened by the addition of an outer bank probably contemporary with the main rampart building. He goes on to make the observation that this is "curious", as it is this side which is the strongest defensively, due to the natural sloping topography of the land. His curiosity is satisfied when he argues that it is this western side which faced open habitable territory, hence there was for him more potential for an attack. This point was picked up by Thompson where he argued that due to the great size of Oldbury it was possible that the defences were never completed, so this was not selected reinforcement but just that the rest of the monument was never finished. Oldbury does have a large perimeter (close to 4km) but it seems doubtful that the defences were not finished due to time restraints, as there were potentially many years to complete the work and there was evidently a complete circuit, albeit of variable dimensions. This leaves several options. It may be that Ward-Perkins was correct and that the perceived threat was from the west. Or maybe the decision was taken not to reinforce further, as all potential aggressors had been eliminated. It is also possible that the ditch had another purpose which was not obvious to either excavator.

Thompson's strategy for his excavations in 1983/4 was to make comparisons with the excavations of Ward-Perkins by siting his trenches in similar locations at the south and the north-east entrances. He states that since the excavations by Ward-Perkins in the late 1930's, the early 1st century AD date which Ward-Perkins suggested for the creation of the fort, has been reassessed and put back 100 years into the 1st century BC (Thompson 1983a, p.287). At the south gate, Thompson revealed that the defences look to have been faced by a stone revetment; his assumption is based on a collection of large blocks in the bottom of the ditch. Ward-Perkins does comment on his finding of large stone blocks during his excavation, but considers them to be part of the general rampart material and not a determined effort to face the ramparts. Ward-Perkins' trenches in the west of the fort do not appear to show any similar stone construction, but both authors show that the north-east entrance was subject to some form of revetment. It is possible that the stones were used to embellish the entrances and were not used as facing for the general defences. It should also be noted that any stone revetment may well have been robbed away over the years as readymade building material, so it is difficult to tell what the real situation was when the monument was constructed.

Thompson found at the south gate, the remains of a small hearth sealed by the ramparts, which has been radiocarbon dated to 360BC±50 (Thompson 1986, p.273). He also found on the tail of the rampart several sling stones (and a few pottery sherds) from which he suggests that there may have been some altercation during or immediately after the rampart construction. At this location, little pottery was recovered from both excavations.

Since the publication of his report, Thompson has issued a revised radiocarbon date of the hearth under the ramparts. This, is as a result of an error made by the British Museum (Clark and Thompson 1989, p.303). The new dates suggest a much older dating of the hearth of 640BC to 550BC. As this hearth was beneath the ramparts, then Thompson suggests that it does little to change the rampart age but is does have a bearing on the TPQ of the rampart construction (ibid).

The north-east gate area was a focus of activity for both excavators and here there were also some differences of opinion. Thompson argues that the conclusion of Ward-Perkins stating that the fortifications were built in two phases, was misguided. His main argument is centred on the age of the stone revetment. Ward-Perkins suggests that it is a late addition to the defences in response to the Claudian invasion, but Thompson is emphatic that it is an original feature and not a later one. He argues that the slight revetment visible in his trench was originally a much larger feature but was robbed of the heavier stones during the later Roman period. This he confirms with a review of the pottery associated with the robber trench. He recovered later Roman pottery from the trench and states that the pottery originally found by Ward-Perkins and dated to around the time of the Roman invasion, has been re-dated as later Roman (Thompson 1986, p.275). Thompson does not mention any of the other features that Ward-Perkins writes about, like the remodelling of the outwork in front of the gate, as his excavation did not take in this part of the site. This leaves the potential that even if the defences in general were not added to at a later date, the north-east gate possibly did see some re-building and design change. This may be in response to a threat or could be driven by changing fashion or a statement of status. Cunliffe suggests that several Hillforts in the south of Britain underwent a change in gate design from the 1st century BC to the early 1st century AD and it is conceivable that Oldbury had a similar make over (Cunliffe 2005, p.373).

Quarrying and agricultural use have affected the monument structure especially in the area of the north-east gate, so it is understandable that the archaeology could be interpreted differently even when the excavations are in a similar location. Pottery identification and dating are always evolving, so any dates quoted due to pottery analysis do have potential for re assessment. From both of the excavations in the 20th century, the characterisation of the defences has been thorough and a late Iron Age construction date seems plausible, in the absence of more affirmative evidence.

Both excavators have strongly suggested that there is little evidence of any permanent settlement, with neither carrying out any meaningful investigations of the interior; Thompson did carry out "spot checks" based on magnetic anomalies in the densely wooded southern half of the camp. A few of these anomalies turned out to be hearths and charcoal was sampled for radiocarbon dating. As with the date of the hearth under the ramparts mentioned previously, the dates for these hearths had to be revised in a later report by Thompson. The final dates were given as 165BC to 35BC and 400BC to 100BC. Thompson in his comment is still confident that these features, (which he states are related to the construction of the ramparts), support his theory of rampart construction at the latter end of the first century BC (Clark and Thompson 1989, p.304). The investigations of the interior by Ward-Perkins were equally circumscribed. He excavated several test pits in the north of the site, around the central spring area and immediately behind the ramparts, where previous investigations in other Hillforts have found the highest density of settlement evidence (Sharples 1991a, p.42; Catling 2014, p.21). Tree and orchard cover will have profoundly restricted access to areas of the interior of Oldbury but we must bear in mind that both excavators were working within a methodological template that dominated Hillfort excavations for most of the 20th century (and is seen in Wheeler's work at Stanwick) – that of the prime focus on sections cut across earthworks to provide a sequence (preferably a dateable sequence) and attention to the morphology of entrances, as these might be ascribed to a typology. In other words, open excavations, in which finds and areas of activity and occupation might be properly recognised and explored, were not their main agenda. (Wheeler at least, had one area excavated by box-trenching, in The Tofts at Stanwick-his site F (Wheeler 1954).)

Additionally, a very limited geophysics survey was carried out in 2003 in the northern part of the interior. This was limited to a 20m by 350m strip between the trees of the existing orchard and no definite archaeology was identified (Bartlett 2003). Prehistoric archaeology is not always easy to find; it can be very ephemeral with many wooden structures reduced to stains in the soil. Undoubtedly both excavators approached their projects in a very professional manner, with Thompson having the benefit of a more modern approach, enabling him to apply forms of technology that were not available to Ward-Perkins. Additionally, he benefited from more accurate pottery identification and dating. It may however be hasty for them to propose that the interior of the Hillfort was not permanently occupied, as only a small area inside the ramparts was investigated. Hopefully, the application of further technology, in the form of geophysics, will show the settlement evidence that was lacking in the previous investigations.

5.2 Bigbury

Moving eastwards, Bigbury is the only confirmed Hillfort in East Kent and lies on a gravel strewn promontory of Thanet Sand, to the west of Canterbury, overlooking the river Stour (Thompson 1983b, p.238). It was first brought to the notice of antiquarians by Brent in 1861, when he wrote an account of various metal artefacts discovered in a gravel quarry within the boundary of the monument (Brent 1861). These included an iron fire dog, horse and chariot fittings, agricultural artefacts, possible currency bars and probably most evocatively, several metres of slave fetters. The remains of at least three swords have also been reported as being part of the hoard (Stead, Lang and Cartwright 2006). They are supposed to be held at Canterbury Museum, although no mention is made in the Bigbury inventory from the museum. The iron hoard is mentioned in Manning (1972), where he suggests that much of the material is late Iron Age, with the exception of a slave shackle that had a barb-spring padlock, which he suggests may be AD43 or possibly later (Manning 1972, p.230). Thompson (2003) suggests a date of about 50BC, however it is not clear if the same artefact is being referred to, as there were at least two examples of slave chain from Bigbury (Thompson 2003, p.225). Hingley's (2006) article on the deposition of iron objects does not refer to the Bigbury discoveries at all, but there are some interesting discussions on how the location and possible meaning of iron hoards has changed over the latter part of the last century BC (Hingley 2006). Although the exact context and location of the Bigbury find was never recorded, it may be possible to explore likely scenarios of deposition which could provide greater insight as to the use of the monuments. A full account of the early discoveries at Bigbury is well presented by Jessup in his article in The Archaeological Journal and excellent illustrations and photographs of the metalwork are available in Thompson's excavation report of 1983 (Jessup 1933, pp.87-115; Thompson 1983b, pp.265-274).

Hussey in 1873, identified Bigbury as a man-made structure and suspected that it was prehistoric (Hussey 1874, p.13). Hussey in his report also included the first detailed survey of the monument, showing the ploughed out southern portion of the ramparts still intact. He also commented on the fact that this portion was ploughed out several years before the publication of his article. The drawing at this point, does appear to be a bit hesitant and it is possible that Hussey or the surveyor, never actually saw the standing ramparts at this location before they were destroyed, in which case he is either making an assumption, or drawing from a third party memory. This is a point worthy of further consideration, as there is a potential for an entrance at this location. It is adjacent to the nearby track way, which has a direct alignment with the long-lived fording place on the river Stour to the east and could just conceivably be a way in to the centre of the Hillfort. Boyd Dawkins in 1895, first suggested that the structure belonged to the Iron Age and also surmised, that the track now labelled the Pilgrims Way, which runs through the monument, was at least contemporary with the Hillfort, strongly suggesting that the path was much older than its medieval name suggests (Boyd Dawkins 1902).

Bigbury like Oldbury, has been little investigated over the years. The first excavation campaign (see Fig. 6) was by Jessup and Cook in 1933/4, Thompson followed in 1978 to 1980 and then the Canterbury Archaeological Trust via the Blockley brothers in 1981(Blockley 1989; Blockley 1981). A small trench was dug in 1963 by Jenkins towards the eastern entrance, but to date the results have not been published (Jenkins 1963). Thompson's investigations at Bigbury, 44 years after the earlier excavations of Jessup and Cook, was like its predecessor, a well-planned campaign targeting the earthworks, plus in his case, points of geophysical anomaly thought to be metal readings in the interior. As at Oldbury, Thompson was not in agreement with several conclusions provided by the earlier investigator.

Fig. 6 plan of excavations at Bigbury (after Thompson 1983b)

The excavations by Jessup and Cook were concentrated on the ramparts, with the main spread of trenches being at the north-east end of the monument. A second much smaller investigation was undertaken in the south-west corner, close to the west entrance. This area had been subject to extensive quarrying during the Victorian era, but remnants of the ramparts were visible as they are today. Jessup states that at the western entrance, the normal single ditch had been doubled in an effort to beef up the security at this point; this location would be vulnerable as the fort is essentially a cut off promontory and this area opens on to the ridge, where no natural topography aids defence (Jessup and Cook 1936, p.158). Jessup describes the rampart as having a single ditch and notes that no finds were recovered from the trench; he also failed to find any signs of post holes which would have implied a palisade. In 1981, the Blockley brothers from the Canterbury Archaeological Trust undertook a rescue excavation on this south-west side of the monument. Much of this side of the Hillfort had been subject to quarrying in the Victorian period, but there were a few areas where the rampart and possibly an area immediately behind, was still relatively intact (Blockley 1989, p.239). A trench placed near the western entrance, about 50m south-east of Jessup's trench, also revealed a ditch and furthermore the authors suggest, a palisade trench, about 1.4m back from the inner face of the ditch (Blockley 1989, p.244). No post holes were found nor was this palisade feature seen in any of the other trenches, so it has to be viewed with some caution. If this palisade trench was a means of embellishment for the western entrance, why was it not seen in Jessup's trench, which is much closer to the suggested western entrance? A small feature which is described as "pre-rampart", was also discovered by the Blockleys, which the report only briefly refers to in the discussion. It is mentioned with reference to pottery sherds found in the feature, dated from 350BC to 50BC, providing a terminus post quem for the building of the ramparts (Blockley 1989, p.245).

Jessop and Cook's second trench on the south side of the monument was placed through the small remaining area of ramparts. It is interesting to note that the archaeology here was only 9 inches (23cm) below the surface and barely 6 inches (15cm) in depth (Jessup and Cook 1936, p.159). Once again, no evidence of a palisade was found at this vulnerable area of the monument. Pottery was found in this trench which Jessup states had features in common with Iron Age A traditions (in other words earlier Iron Age), as well as pottery belonging to the Belgic category. The dating of the Iron Age was in a state of flux at this time, with Hawkes taking the lead in defining a time line (Hawkes 1931, pp.60-97). What Jessup is implying is that there are two age horizons of pottery, one possibly starting as early as the 5th century BC (Iron Age A) and the other (Belgic), much later towards the end of the millennium.

The main excavation trench of the Blockley brothers in 1981, was aligned north-south and took in an area behind the rampart (see Fig. 7), including the low remains of the existing rampart (CDE); it also clipped the corner of Jessup's trench 15 of 1933/4.

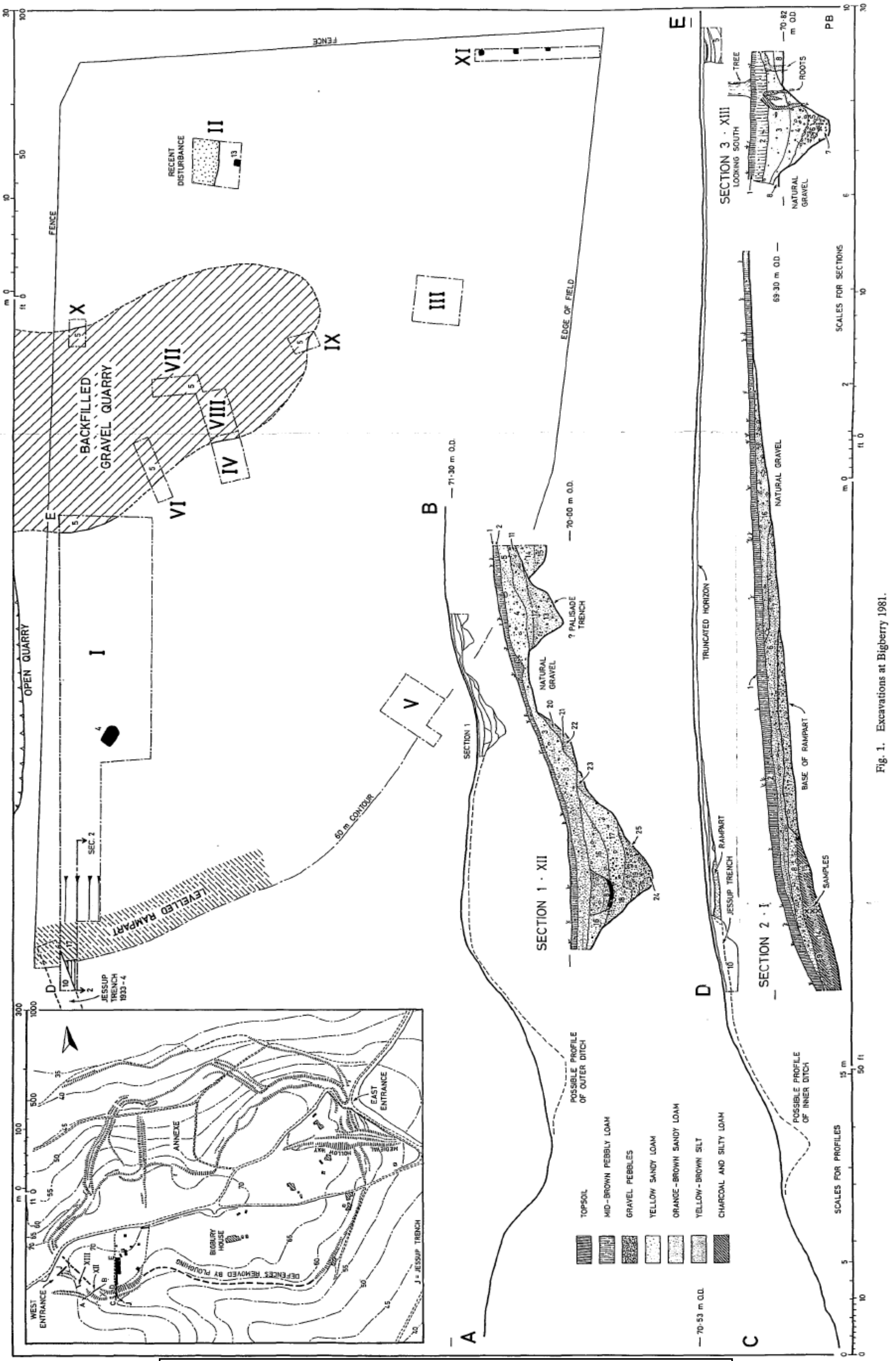


Fig. 7 Excavation Plan by Blockley (Blockley 1989, p.240)

The south end of the trench, revealed the remains of a wide but now low rampart and just in front, a layer of charcoal rich soil, covered by a deposit similar to the rampart material. This, the authors suggest, could have been the result of the aftermath of the attack by Caesar, the burning being covered by the weathering of the abandoned ramparts (Blockley 1989, p.241). A radiocarbon date was taken of the charcoal and the date, once calibrated using the latest calibration curve, show a date with 95% probability of between 101BC and AD244 (see Fig 8 below) (Bronk 2014). This is too coarse to provide definite proof of the Blockley theory, and all one can say is that the Caesar dates are well within the range given. The recovery of grog-flint tempered wares from the layer above the charcoal, was given a date of the 1st Century BC and the grog tempered pottery of the layer above the reduced ramparts, was given a date of the end of the 1st Century BC. The pottery was analysed by Dr. Isobel Thompson and is based on her previous work with prehistoric pottery in south eastern England (IM Thompson) (Blockley 1989, p.246).

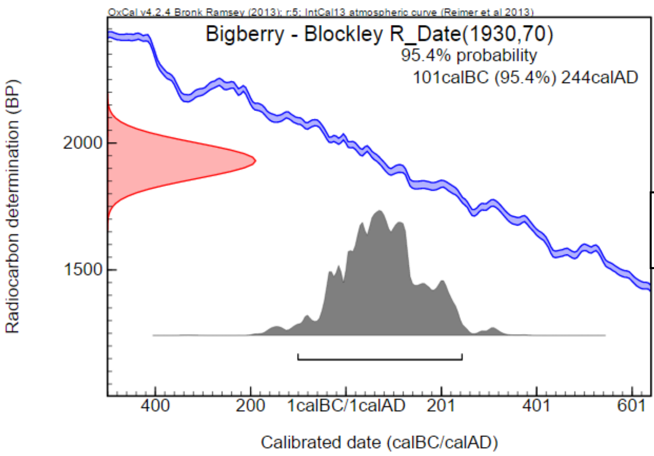


Fig 8

During the discussion part of the Blockley report, the authors lay out their thoughts for the western entrance, suggesting a construction of an outer “horn works” (ibid). This is a sometimes confusing summary, with references to outer, middle and inner ditches, which are not easy to follow on the plan provided. The entrance to the fort as it crosses the ridge, would at this point be a vulnerable part of the structure, so further strengthening would not be unreasonable. However, having visited the area many times, the layout of ditches and banks are not easy to untangle from the later disturbance of the Victorian quarrying activities, so a thorough re-examination of the layout is required.

Jessop’s investigations, of the ramparts at the north-east end of the camp, revealed a ditch and bank arrangement, but no evidence of a posthole palisade. However, there was evidence of settlement in the form of “much pottery” in the filling of the ditch and also an occupation layer which lay under the rampart and extended into the fort interior. It does appear that the pottery recovered posed a problem for Jessop, as he discovered again the mixture of early (Mid Iron Age) and late (Later Iron Age) forms and fabrics in close proximity. He explained this, by suggesting that the early forms of pottery did not change over the years and that they were still being made the same way into the last century of the millennium (Jessup and Cook 1936, p.166). This remains a reasonable deduction.

Thompson's excavation in 1978, also concentrated on the north ramparts, but at some distance to the west of Jessop's. Here, he confirmed that the rampart bank was very slight and he found no trace of a ditch. He likened this trench to one of Jessop's, just to the west of where the Annex joins the main ramparts, which showed a very shallow ditch. He also noted an occupation layer, containing charcoal and pottery, but his extended over the tail of the rampart and not under, as Jessop found (Thompson 1983b, p.245). Thompson did acknowledge that there was an old ground surface under the ramparts which produced a few sherds of pottery. This pottery he dated as earlier in the Iron Age and the pottery in the occupation layer over the ramparts, at a much later date (ibid). He cites this as an explanation for the nature of the mixed pottery finds by Jessop, stating that it was likely there was an earlier Iron Age occupation pre-dating the rampart construction (ibid).

Both Thompson and Jessup excavated the area to the north of the ramparts often called the Annex; Thompson to the west and Jessup at the east end. Jessop's opinion of the Annex was that it was likely built for cattle and was constructed probably at the same time as the ramparts. The depth of the Annex ditches was shallow being only about 30cm, while the extant banks were around 120cm; the width of the earthworks from bank to bank were around 12m (Jessup and Cook 1936, p.165). Thompson found that the inner bank of the Annex on the western side, was constructed as a dump of probably the ditch fill, whilst the outer bank and ditch, was a natural terrace. The resulting structure did have the appearance of a double banked feature and was similar to that of Jessup's investigation of the Annex; this showed a comparable form also in its slight defensive capability (Thompson 1983b, p.246). No evidence of palisading was described in either excavation.

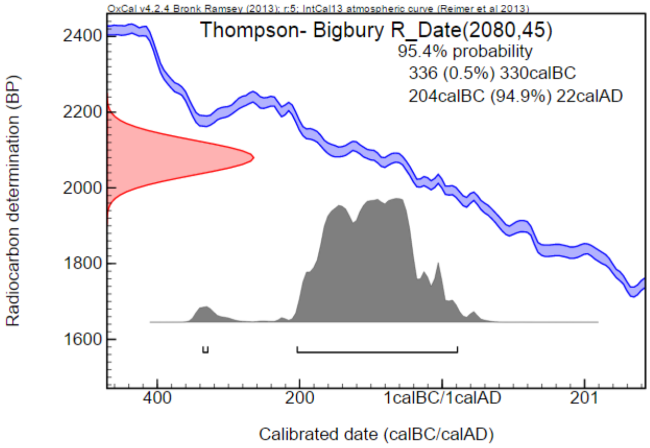
Thompson, assisted by Dr Clark, carried out a magnetic survey of the Annex and several anomalies were discovered which Thompson went on to investigate further (Thompson 1983b, p.242). During these investigations, Thompson concluded that the pottery found was of a similar date to that of the interior of the fort; the most interesting feature to be revealed, was an iron anvil embedded in the clay approximately 50cm below the current surface and a few metres to the east of the so-called Cross-Ridge Dyke (see below). This find was associated with charcoal and pottery, as well as a curving line of stake holes. Thompson suggests that this was the location of a temporary smithy protected by a light windbreak, which had at some point, caught fire and burnt (Thompson 1983b, p.252). An environmental sample would have been useful here to see if any hammer scale could be recovered, proving that metal was worked at this location; a 40m x 40m magnetic geophysical survey might also have been revealing. No details as to the technique of the magnetic survey carried out by Dr Clark were in the report, for if this was a smithy, then some sort of forge would have been expected in the same location and would have shown a very high magnetic response due to the high temperatures reached and the potential readings from slags.

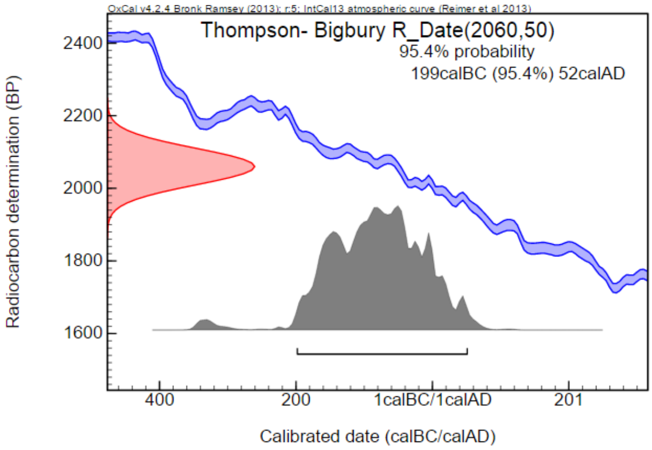
The so-called Cross-Ridge Dyke, which is clearly visible within the western end of the interior today, was not investigated or even commented on by Jessup, but was subjected to an investigation by Thompson. It is possible that with the dense tree covering which Jessup highlighted at the time, he either did not notice it or it was not accessible, or he thought it a modern boundary; otherwise his plan is exemplary, which makes the omission all the more conspicuous and curious. Cross-Ridge Dykes have been known to precede later Hillfort constructions particularly for promontory sites like Bigbury, effectively cutting off the ridge to form an isolated promontory (Bradley 1971, p.72). Some, such as Sullington Hill in Sussex, just remain as an isolated spur and do not morph into a Hillfort (Curwen 1960, p.106). Bigbury is not the best example of a "typical" promontory Hillfort where the land cut off by the ditch is steep, rather it is a hybrid between a promontory fort and a contour fort. The Cross-Ridge Dyke at Bigbury may be more of a device for controlling the movement of people rather than a defensive scheme.

The dyke does not appear on Hussey's initial survey of 1874 (Hussey 1874). Thompson implies, that the Cross-Ridge Dyke to the north of the main ramparts, was a discovery of Dr A. J. Clark, F.S.A. during a geophysical scan in 1978 following recent coppicing; he does however admit that the dyke within the interior of the fort was marked in an OS survey in 1964-5 (Thompson 1983b, p.240). Thompson states, that the ramparts cut the dyke, showing that the dyke is an earlier feature (ibid). This is an important observation and needs to be verified. Thompson placed a trench through the dyke to the north of the northern ramparts. Here he revealed a bank with an associated west facing ditch. At the lowest fill of the ditch, he discovered iron slag as well as pottery, dating the feature he says to between the 3rd to 2nd centuries B.C. (Thompson 1983b, p.246) although conceivably the finds could be either residual background noise in a later feature or later Iron Age sherds in an earlier feature. In 1981, the Blockley brothers, in an effort to trace the cross-ridge dyke on the southern side of the Hillfort, dug a trench over its expected position, but nothing was revealed. It is possible that the dyke either finishes before it reaches the southern half of the monument, or it takes a different route than the expected one (Blockley 1981, p.240). A review of early 20th century OS maps shows a boundary between the woodland and the pasture on the south side of the fort, which could reflect the alignment of the cross-ridge dyke at this point. The dyke at the south end is likely to be quarried away now but it is possible that a feature was being respected when the boundaries were established.

Moving to the interior of the Hillfort, the evidence for occupation is slight, but there are indications nevertheless. Unlike Thompson, Jessup did not find signs of actual structures within the interior, but he did find traces of burnt daub, which when taken with the pottery sherds, is an indicator of settlement, but its precise nature is difficult to establish (Jessup and Cook 1936, p.156). Thompson's findings were more definite. Being in the form of a circular drip gully having a projected diameter of just over 5m, it had an association with several post holes and an iron ploughshare (Thompson 1983b, p.246). There were also two other gullies, with no particular relationship to each other, 35m to the north east of the circular gully. The dating of these two features Thompson suggests, is 2nd to 1st century B.C. (Thompson 1983b, p.248). Thompson also recovered evidence of a probable hearth and a clay lined water reservoir with a suggested capacity of 20,500 litres (Thompson 1983b, p.250). The waterhole appeared to be deliberately back filled within a short space of time, with the primary layer having a mixture of ash with inclusions of charcoal, burnt daub and pottery, indicating that a nearby structure had burnt and the area had been deliberately cleaned. This layer was dated using the archaeomagnetic method and radiocarbon dating and Thompson puts the C14 date at 130BC±45 and AD30±35 (Thompson 1983b, p.251). These are un-calibrated dates, but using the corrected British Museum raw data values from a database hosted by the Council for British Archaeology, it is possible to apply the latest calibration curve (CBA 2012). The latest curve, IntCal13, is applied using the tool provided by the Oxford Radiocarbon Accelerator Unit and the following date ranges are given (Bronk 2014).

Revised radiocarbon dates for waterhole





Sample taken from ash layer in waterhole in 1978 Thompson original date = 130bc ±45

Fig 9

Sample taken from ash layer in waterhole in 1980 Thompson original date = ad 30 ±35

As can be shown by Fig 9 above, the dates are a similar range with a 95% probability of a date between 199BC to AD52. The archaeomagnetic date of 100-70BC is of a silt sample and Thompson now suggests that this is not secure and needs to be revised. A new date, which has a 95% confidence level is given as 300BC to 90BC (Thompson 1983b, p.275; Clark and Thompson 1989, p.304). This is problematic as he initially seemed to put a lot of faith in this date and now that it may not fit the theory, it gets substantially revised. When this date is combined with the revised radiocarbon dates, Thompson gets a date range of 190BC to 1BC which he says shows that the feature was backfilled around the turn of the 1st century BC and before the monument was abandoned (ibid). Pottery recovered from the filling of the water hole, correlated with the radiocarbon dating and a bronze horse fitting found in the same context, was dated from 100BC (Thompson 1983b, p.251). There is a high probability that this feature was back filled deliberately, sometime in the early 1st century BC.

Thompson in his discussion chapter writes in some detail on his thoughts of the genesis and final abandonment of the hill fort and also contrasts the findings between his excavations and those of Jessup and Cook in 1933/4. The three main conclusions of the Jessup and Cook excavations were that the main defences consisted of a bank and ditch and that the bank was not a substantial structure; the third conclusion was that the occupation layer ran under the rampart and had pottery evidence of Middle and Late Iron Age. Thompson agrees that the bank was slight, but insists that the defences only had a bank and that the main occupation layer ran over the rampart, not under (Thompson 1983b, p.253). It should be pointed out, that the section drawings from Jessup and Cook, do indeed show a ditch and a bank in the location of their trenches and also show a dark occupation layer under the ramparts. Clearly both excavators described what they saw, so it is conceivable that as the two locations of the excavations were some distance apart, there may have been modifications to the Hillfort structure in one of the areas. It is possible that at the location of the 1933/4 excavations, some re modelling of the defences resulted in the addition of a bank and the subsequent material dumped onto the bank, thus burying the occupation layer. This may also explain the mixture of early and late pottery in a similar context. It was suggested by Jessup, that the early looking pottery was a late manufacture of an unchanged pottery style from the Earlier Iron Age (Jessup and Cook 1936, p.167). Thompson states that the early pottery should be viewed as early and that it survives in the archaeological record as evidence of earlier occupation, 5th to 3rd century BC (Thompson 1983b, p.254).

Thompson's theory on occupation, which was not unreasonable given the evidence he recovered, was that there were several phases. The first phase was somewhere between the 5th and 3rd centuries B.C., when there was an undefined occupation of the hill top, possibly not defended, but this cannot be proved (Thompson 1983b, p.254). The second phase was the building of a west facing cross ridge dyke, which may have isolated the east end of the promontory. The ramparts appear to cut the dyke at their junction, indicating that the dyke came first; however, with the lack of reliable dating evidence, it is not possible to estimate when the dyke was established. It is conceivable that it was part of the earlier occupation structure, as other evidence of early Cross-Ridge Dykes does exist (Ralston 2006, p.28). The fact that the dyke is still visible now, could indicate that during the main occupation period, it was regularly maintained and cleaned out in deference to the original builders and could explain the lack of dating evidence. If this was the scenario then the open ditch would have been an encumbrance when moving about the interior of the fort, so it must have had a significant role, possibly marking a boundary of use of space.

The third phase is the construction of the ramparts and the Annex. The dating here is not straightforward, due to the mixture of late and early pottery in the same context. It is also complicated, by the differing location of the main occupation layer; under the ramparts according to Jessup and on top according to Thompson. Thompson does make a good case for the rampart construction being sometime between the 2nd and 1st centuries BC, but more secure dating is required to make a definite statement. The Annex dating is not clear and Thompson gives an unsure date of the 2nd century (Thompson 1983b, p.255). Jessup suggests that the building of the Annex is contemporary with the building of the ramparts (Jessup and Cook 1936, p.166). The extant junction points of the Annex ramparts and the main enclosure earthworks do show in the later ordnance survey maps (post 1960) that the Annex goes over the ramparts, indicating that the Annex is post ramparts but by how much is not known.

The final phase is that of abandonment. Here both authors are in broad agreement, of sometime in the later part of the 1st century BC and both point towards the invasion of Caesar as being the catalyst for this event. The lack of Roman-British pottery Jessup suggested, showed that the fort was abandoned early in the first millennium. His interpretation was that the Bigbury defences were slight and the defences were hurried in response to the Roman invasion (Jessup 1934, p.167). The Blockley summary, agrees with F.H. Thompson's dating of the construction of the defences, as being sometime during the 2nd century BC. It also agrees with Thompson and Jessup, that the fort was abandoned soon after the arrival of Caesar in 54BC; it goes further by suggesting it occurred as a direct result of an attack on the Hillfort (Blockley 1981, p.246).

6.0 Summary

The available literature directly related to the chosen research topic of Bigbury and Oldbury, is sparse and is generally limited to the excavation reports, the latest of which was over 30 years ago. This review has shown that with each of the sites there are several aspects which require further investigation. What is also clear is that over the last 30 years or so, our understanding and interpretation of the Iron Age in Britain, has changed dramatically. The reason for this has been a combination of several factors. One key factor as pointed out by Champion, is the introduction of archaeological survey as part of planning guidelines. This has exponentially increased the number of archaeological interventions and has given a greater understanding of settlement patterns and material culture through time. This does come at a price however. Due to the large number of excavations, the available data which is a product of these interventions is vast and the delay in publishing can be significantly extended, creating a growing backlog of grey material. Another reason for our improved understanding of prehistory is the introduction of technology into the archaeological process. This has shown to be particularly useful in the field of geophysics, where large areas of land can be accurately surveyed quickly and without disturbing the potential archaeology. As illustrated above, this has helped particularly in the deciphering of the interiors of Hillforts. Without this, the only way is large scale excavation, which is costly and time consuming. Lastly, much of what we now understand is down to the focus and critical thinking of the archaeologists in Universities, commercial units and amateurs alike. The understanding of prehistory, is by its very definition, only really possible through archaeology. Through the material culture and settlement patterns, we have to deduce reasons why people behaved in a particular manner and why certain things happened. What was the stimulus for the construction of Hillforts, why they were built in some regions and not others and why there was a movement from open to enclosed settlements and vice versa?

Chapter 3 - Research Aims and Methodologies

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1.1 Introduction

As detailed in chapter 1 East Kent, has very few identified sites that might be termed as Hillforts, this is in contrast to the adjacent counties of Sussex and Surrey where these monuments are more common, with many having their roots in the late Bronze Age (Cunliffe 2005; Hamilton, S. & Manley, J. 2001). Is this a product of geography/geology or is it a result of the prevailing culture?

Kent is a frontier zone with the continent and according to Cunliffe it has much more of an affiliation with East Anglia than its immediate neighbours of Sussex and Surrey. Has this influenced the attitude to the construction of these monuments or is Kent truly different (Cunliffe 1982)?

2.1 Research Aims

2.1 Bigbury

- To review existing literature and maps and develop a comprehensive synthesis of the available material.
- To carry out a geophysics and other survey of the immediate environs for indications of prehistoric activity outside of the ramparts.
- To establish whether there is evidence for a larger Bigbury complex other than that defined by the extant ramparts, given that several recent studies have shown other complexes of similar date to have outer works.
- To employ available landscape and LiDAR surveys of the area and spatial analysis of recovered artefacts, to ascertain whether there is evidence of a wider prehistoric settlement pattern in the area.
- To establish if possible, a stronger chronology/idea of sequence.

2.2 Oldbury

- To review existing literature and maps and develop a comprehensive synthesis of the available material.
- To carry out a geophysics survey of the interior of the Hillfort to investigate if there is evidence of prehistoric activity within the ramparts.
- To establish using available landscape and LiDAR surveys of the area and spatial analysis of recovered artefacts, whether it is possible to understand how Oldbury fits within its immediate landscape.

3.1 General approach

The research utilised many techniques of archaeological investigation and each was applied appropriately with special consideration for protected areas. This meant that non-intrusive techniques were employed where excavation was not permitted. Examples of these techniques include geophysics survey, both magnetic and resistance, mapping and LiDAR analysis where available.

The application particularly of geophysics, has made the invisible visible, and has enabled us to gather large quantities of data on buried archaeology in a less costly manner (both in time and money); it is now possible to plan a more efficient excavation strategy targeting only the areas of concern. It is probably true to say that geophysics has benefited the later history of Kent more, where archaeological remains tend to be more substantial and show a greater contrast with the natural geology and soils but even so, pre-historic settlements and structures can be identified if the conditions are suitable.

The primary source of maps was Digimap, a mapping service from Edina based at the University of Edinburgh. This service not only provided contemporary georeferenced mapping information to be used in ArcGIS but also georeferenced historical OS maps. Digimap also provided a comprehensive service for geological maps which included bedrock and superficial geology.

Complementing the maps where possible was the use of LiDAR images. The recent technological advance called LiDAR, (**Li**ght **D**etection **A**nd **R**anging) has proved beneficial to the archaeologist in many ways. This technology typically involves flying an aircraft over an area of interest and firing a pulsed laser at the ground many times per second then measuring the time it takes for the pulses to be reflected back to the source. With the position of the firing laser known exactly and the time taken for the laser pulses to return precisely measured, it is possible to very accurately determine the distance travelled by the laser pulse. When these streams of pulses are analysed and filtered, it is possible to map the surface of the ground with much of the vegetation digitally removed (Bluesky International Limited 2016). With the resultant digital terrain map (DTM), it is possible to determine earthworks previously hidden by vegetation which would have been almost impossible to identify using traditional aerial photography. LiDAR will also reveal smaller regular variations in open ground and these can be traced over the landscape with cm accuracy. LiDAR is currently very expensive for the individual but the library of surveys is growing as the application uses expand. There is now free access to LiDAR taken by several UK government organisations, but as it is mainly used in environmental activities like floodplain mapping, forestry activities and town planning and oil and gas exploration, the coverage is patchy (Bluesky International Limited 2016).

It was the commissioning of a LiDAR survey by Kent County Council in conjunction with the Kent Wildlife trust, of a wooded area to the west of Canterbury called The Blean in 2010, which uncovered several hitherto unknown earth works, some undoubtedly originating in Kent's prehistoric past and some with possible connections to the Iron Age monument at Bigbury. Some of the features identified could radically change our understanding of the pre-Roman landscape of this area but they do require further investigation.

Where excavation was possible, small test pits complemented the non-invasive techniques, particularly geophysics. Selected anomalies were investigated to reveal more of the underlying archaeology and to "calibrate" the survey results. Other tools employed were field walking and where it was permissible, metal detecting; both were dependent on location and suitability of the ground.

A landscape approach was also utilised as these monuments do not sit in isolation but interact with their surroundings and their position is a deliberate act. It was likely also that there will be associated Iron Age features in the landscape such as earthworks and iron working sites. Maps were analysed to provide an understanding of the changing road patterns and field boundaries and applications such as Google Earth, was also employed. Kent is particularly well covered as aerial photographs dating back to the 1940s have been uploaded to Google Earth and proved useful in understanding changes in the landscape and potentially identifying the cause of anomalies seen on the geophysics or LiDAR.

All spatial data collected was displayed using the geographical information system called ArcGis 10.1. ArcMap was used for plotting 2D data and creating the majority of maps but ArcScene which is a 3D application, was used occasionally where an analysis of some features benefited from a height dimension. The advantage of this system was that it was possible to rotate an image and view points of interest from different angles enabling a better understanding of its position in the landscape.

As well as the more traditional methods listed above, social media was occasionally used particularly when trying to find out specific local knowledge. There were several "interest groups" on social media where members publish historical images of the local area; these images are not always readily available and could make a useful supplement to maps and other written sources. In a similar vein, local knowledge was requested in the form of articles in newsletters like the one published by the Friends of Canterbury Archaeological Trust, which has an excellent circulation to many knowledgeable enthusiasts and direct approach will be made to individual local historians. When required, advice/training was sought from relevant experts; this was particularly important for pottery analysis as it takes many years to become competent in this skill and a PhD is not long enough to obtain this knowledge. The expertise built up in local archaeological groups such as Canterbury Archaeological Trust and the Trust for Thanet Archaeology was also sought when the need arose.

4.1 Training

As discussed above, one of the aims of this research was to apply aspects of the more recent technological advances to try and understand the possible function and extent of the two selected Hillforts. This application of technology was learnt through formal training courses and “on the job” training using the resources and personnel of the University of Kent. A key element of the application of technology, particularly geophysics, is the accuracy of measurement. It is important that the survey is located within the landscape to the highest degree of accuracy possible. The acceptable accuracy is dependent on the subsequent use of the survey but for the purposes of this research, the accuracy was the highest achievable regardless of how the data was be used.

The application of technology was one aspect that required training but equally important was the interpretation of the results. Poor interpretation is just as damaging to the results as poor application. The process of analysing and presenting data involves a certain amount of data filtering, interpolation and processing. Whilst great care was undertaken to present the most accurate information possible, any changes to the raw data can mask features and introduce errors. Initially the geophysics survey results were interpreted under the guidance of the Archaeology Technician at the University of Kent who was very experienced in this aspect. After this initial training, the author undertook the analysis but a second opinion was sought where possible to ensure that the most accurate representation was made. All raw data was archived for future analysis.

A key element of this thesis is the application of this new technology at the two targeted sites of Bigbury and Oldbury. At Bigbury, large areas of the hinterland to the south of the monument were subject to an extensive geophysics survey using both magnetometry and resistance methodology. An area within the interior of the monument was surveyed previously by the University of Kent and the results were included in the research framework. Since this was the first geophysics survey of the monument, the effect of geology on the results was unknown so it was important to verify this potential influence and the relationship between the survey results and potential buried anomalies was tested by targeted test pit excavations.

5.1 Bigbury activity

5.1 Field Walking

In order to characterise the nature of the archaeological evidence in the immediate hinterland of the Hillfort, field walking in a suitable field as close to the ramparts as possible was undertaken. A metal detecting survey was also carried out on the same field.

5.2 Survey

A geophysical survey of the area immediately external to the ramparts (outside of the protected area) was undertaken to look for evidence of prehistoric activity. The only available flat area of the interior of the Hillfort has already been surveyed using both magnetic and resistance survey techniques by the University of Kent so no further survey work took place within the protected area.

5.3 Excavation

Selected anomalies revealed by the geophysics were identified for excavation using appropriate sized test pits. The information recovered provided an understanding of the nature of other anomalies seen elsewhere on the survey.

5.4 Environs Survey

A review of the environs was carried out which revealed evidence of prehistoric earthworks and changing road/route way patterns. It was likely that there was more to Bigbury than the immediately visible ramparts and that it could be a much larger complex with associated earthworks in woodland nearby (Sparey-Green 2009). The landscape review made use of Historic and contemporary maps as well as LiDAR survey data where available.

5.5 Published literature

Literature connected to the Hillfort and the surrounding area particularly in the period of interest was reviewed, as was the Kent HER and the Portable Antiquities Scheme

Database. A spatial analysis of the latter two was also carried out to determine patterns of Iron Age activity in the area around Bigbury.

6.1 Oldbury

Oldbury is a very large Hillfort where almost no investigation of the interior has taken place. Based on this limited investigation, the general view was that there was little evidence for Iron Age activity within the ramparts (Ward Perkins 1939; Thompson 1986). A very recent clearance (2013) of long term orchards and crops within the interior of the northern end of the Hillfort, provided a unique opportunity for the first large scale geophysical survey of the area.

6.1 Field Walking

No field walking took place at Oldbury. The area of interest within the ramparts was not suitable for field walking as it was either pasture or orchards. There was a possibility that a field outside of the ramparts may be suitable if time permitted but this did not take place due to time constraints.

6.2 Survey

A small trial geophysical survey was carried out by English Heritage in 2003 but this was only a narrow strip in between the orchard trees (Bartlett 2003). The strategy was to complete the survey using magnetometry and then select particular areas of interest to be re surveyed using the resistance technique.

6.3 Excavation

As the geophysics will be within the protected area excavation was not possible.

6.4 Published Literature

Literature connected to the Hillfort and the surrounding area particularly in the period of interest was reviewed, as was the Kent HER and the Portable Antiquities Scheme Database. A spatial analysis of the latter two was also carried out to determine patterns of Iron Age activity in the area around Oldbury. Also reviewed, were other archaeological records to understand how Oldbury fitted in to the Iron Age settlement pattern of the area.

Chapter 4 - Field Walking

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1.0 Introduction

As part of the archaeological investigation process at Bigbury it was decided to find out if any evidence of prehistoric activity could be seen on the surface. The use of field walking should provide this data as well as identifying “hot spots” of activity which would be subject to further investigation.

2.0 Field Location and Collection Methodology

The key element when selecting a site suitable for field walking is to choose a field that has recently been ploughed, ideally tilled and allowed to weather for a few weeks so that the larger clumps of earth are broken down. The land in and around Bigbury Hillfort is either pasture, woodland or laid to orchard or hops. These types of surface cover meant that only a few areas were suitable for field walking and it quickly became apparent that the possibilities for this element of the research activity would be limited. Opportunities were available further away from the monument but a location as near to the ramparts as possible was preferred. Fortuitously, in the early stages of my PhD in early 2013, a significant area immediately to the south east of the ramparts (Fig 1), just outside of the English Heritage protected zone, was ploughed in preparation for planting fruit trees.

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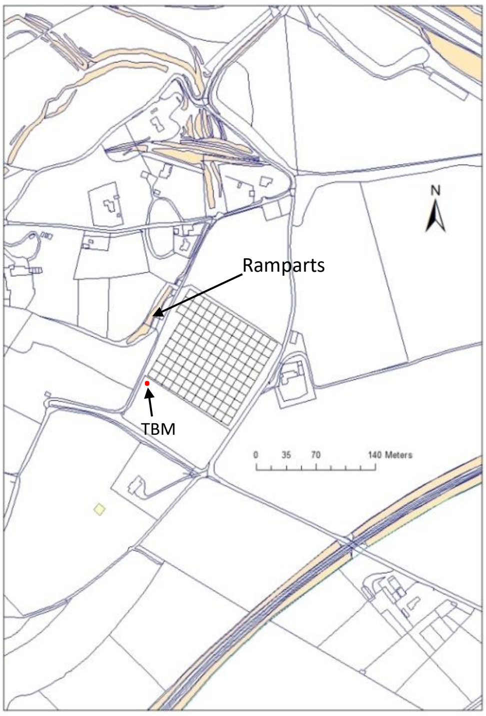


Fig 1. © Crown Copyright/database right 2013.
An Ordnance Survey/EDINA supplied service.

View of the field looking towards the ramparts

The field identified for survey was centred on TR119573 and forms part of Bigbury Cottage Farm which encompasses much of the land at the south side of the monument and is owned by Kathryn and Ronnie Knevell. Both were fully supportive of research being carried out on their land, granting permission initially for field walking and then a metal detector survey.

As this was a very rare opportunity to field walk a ploughed field so close to the ramparts, a thorough method of field survey was chosen. This enabled a near 100% intensive coverage by using a 10m x 10m grid square approach, in a manner that is quite standard and with which I was familiar after participation in similar field walking surveys in Lincolnshire (Willis 2013, chapter 8). The field had been freshly planted with staked apple trees in rows about 2.7m apart using wire for extra support. This made it very difficult to move between rows, so to avoid damage to the trees it was necessary to enter each row either by the top or bottom of the field. Since the trees were small saplings, it was however possible to lay out a grid without losing much survey coverage and an area containing 33 squares was located outside of the staked area. The photo of the field in Appendix 1 below shows that the new trees in their rows did not obscure the ground surface. Along the edge of the south-east boundary of the field there was an unploughed strip approximately 4m wide. This was not suitable for field walking as it had not been ploughed but surveying using a metal detector was still possible.

A temporary bench mark (TBM) was established in the western corner of the field (see Fig.2) and the 10m x 10m grid square was laid out using a Leica Total Station. In an effort to make the walking of the grid squares as straight forward as possible, the intention was to ensure that they were parallel to the staked orchard area. This proved to be more difficult than anticipated and the final result meant that the grids furthest from the TBM diverged from the tree rows but it did not affect the result. The resultant grid at this stage was plotted onto a local grid (not georeferenced) which meant that the field boundaries and other landmarks had to be surveyed to facilitate georeferencing on to a map in ArcGIS. This method naturally comes with an element of error as it is very difficult to measure the exact centre of the field boundary, especially if it is a hedge. The acceptability of this error will depend on the activity undertaken. When plotting field walking survey recovery results to show spatial distribution, larger errors (dependent for example on grid size and/or method used) are acceptable and will not distort the findings nor analysis greatly. The same cannot be said when matching for example a geophysics survey with an excavation strategy. Here the tolerances are much smaller and would be measured in centimetres. With the Bigbury field walking survey, towards the end of the activity, access to the University's GPS equipment became available which allowed the grid to be georeferenced with an error of less than 20mm, more than acceptable for any archaeological use.

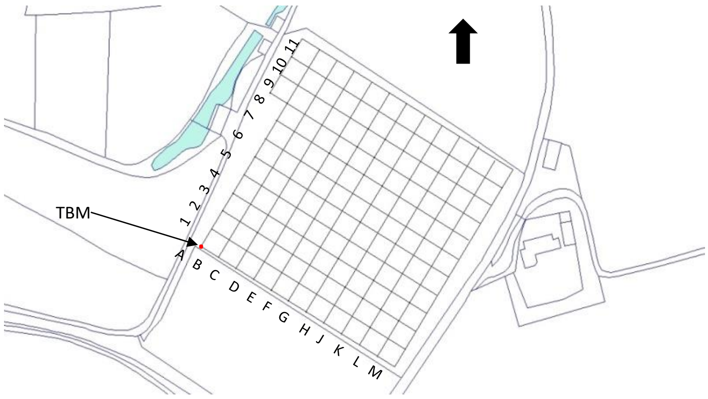


Fig 2. © Crown Copyright/database right 2013. An Ordnance Survey/EDINA supplied service.

With reference to Fig. 2 the grids were labelled 1 to 11 along the top of the field and A to M on the axis down the field. The letter I was not used as this could have been mistaken for the number 1. The 3 grids in row A were not walked as this coincided with a heavily trampled trackway and was not suitable for field walking.

The field walking survey was undertaken during an extended period of about 4 weeks; this was longer than anticipated as progress was adversely affected by the severe weather conditions at this time. The east-facing field was exposed to the elements coming from this direction and as the survey was undertaken in February and March of 2013, the temperature was frequently around the low single digits °C with occasional settled snow which obviously prohibited any field walking. Despite this, the surface remained damp but not too wet giving good visibility of items on the surface of the ground. There was one area on the field which proved to be slippery when very wet and that was an area of compacted track immediately above the orchard plantation. This must have been a problem in the past as a conversation with the previous land owner revealed that he had imported a large quantity of cockle shells from nearby Whitstable and distributed them on the trackway in an effort to improve the grip. This information was very important as sea shells this far inland would have been picked up as part of the field walking survey. It was decided that these types of shells would not be picked up if they occurred in any other grid; the likelihood being that they would have been moved around from the track area. This would not affect collection of other shells, for instance, oyster shell.

With 125 grids to walk and paying due attention to Health and Safety guidance, it was very important that more than one person should be part of the survey team at all times. It was also important but not critical, that any additional personnel should have experience in field walking. Volunteers included archaeology students studying at the University of Kent at the Canterbury campus and a very experienced local amateur archaeologist. A safety briefing was given by the author alongside highlighting the importance of correct recording and finds bag identification. Examples of material that might be expected on the surface were shown but a process of “if in doubt put it in the bag” was followed. A brief walk over by the author identified a background scatter of ceramic roof tile material probably from the roof of nearby field buildings unlikely to be older than the 19th century; this was particularly dense towards the north-west side of the field closest to existing buildings. These buildings now have a corrugated iron roof but it is highly likely that in former times they were tiled. If this scatter proved to be excessive and interfered with the field walking progress, the decision would be taken to pick up a sample and leave the rest on the ground. This decision would be made with consideration of the ability of the field walkers to comfortably recognise the material in question. After row 1 was walked, it quickly became apparent that there was a significant amount of evidently Modern Era ceramic roof tile and brick on the ground hindering the progress of the field walking and not adding to the usefulness of the exercise. The decision was taken not to pick up this material unless in the opinion of the walker, it was different from the expected norm.

Each grid was intensively walked with a total visual coverage of its 100m² by the field walker and any material (table 1) was bagged and identified with the grid square reference. Each square was calculated to take between 15 to 20 minutes to walk but this would be affected by weather and experience of personnel.

The categories in which the finds were classified were determined by what was recovered and are listed below in Table 1.

Complete Oyster shell	Struck flint
Oyster shell fragment	Glazed ceramic
All Oyster shells	Unglazed ceramic
Glass	Copper alloy
Clay pipe	Slag
Iron	Bone
Cracked flint (Pot boilers)	Stone

Table 1

For the purposes of distribution analysis, the oyster shell was divided into fragments and complete shells, as oyster tends to delaminate and can skew the frequency of occurrence.

The ceramic was divided by a hierarchic system into glazed and unglazed. The glazed category during the analysis of the finds was further divided into China type ceramic i.e. high glaze, white, blue and white and “older” glazed pottery which typically showed a brown or green glaze.

Although metalwork was included in the field walking list, it was expected that the metal detector survey would be the mechanism by which metal finds were recovered. However, some small metallic finds were picked up but consisted mainly of copper alloy buttons and rusty nails.

As the field had a long history of agriculture and cultivation, it was highly likely that at some point in the past, manure or similar fertilizer (such as Modern era 'night-soil' from the Canterbury urban area) would have been introduced to improve the soil which had the potential of bringing in material from other locations. This material had the possibility to affect the results and would not be straightforward to identify during the analysis of the finds but nevertheless should be considered in any conclusions.

3.0 The Collected Finds

After the completion of the survey, the finds were washed (except metal and fragile pieces) and entered into an Excel spreadsheet. From this database it was possible to produce a spatial distribution, mapping the incidence and quantity of the finds. These are reproduced below.

3.1 Oyster shell

As can be seen from the plot below, oyster shell was reasonably well distributed across the field with a slightly higher concentration in the lower right quadrant. This higher concentration was made up mainly of shell fragments as indicated below.

No other shellfish types were present, bar the aforementioned recently introduced cockles which were not collected.

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	0	0
C	0	1	0	0	0	0	0	0	0	1	0
D	0	0	1	0	0	0	0	0	0	0	0
E	0	1	1	0	0	0	0	1	1	1	0
F	0	0	0	0	0	0	1	2	1	0	0
G	0	0	0	0	0	0	0	0	0	1	0
H	1	0	0	0	0	1	0	1	0	0	1
J	1	1	0	0	0	2	0	0	3	0	0
K	1	0	0	0	0	1	2	1	1	0	0
L	0	0	0	0	0	1	1	0	4	1	1
M	0	0	1	0	0	2	1	0	1	0	1

Select Category
All oyster shell

Fig. 3 Count of all oyster shell

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	0	0
C	0	1	0	0	0	0	0	0	0	1	0
D	0	0	1	0	0	0	0	0	0	0	0
E	0	0	1	0	0	0	0	1	0	0	0
F	0	0	0	0	0	0	0	0	1	0	0
G	0	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	1	0	0	0
J	0	1	0	0	0	0	0	0	0	0	0
K	0	0	0	0	0	0	1	0	0	0	0
L	0	0	0	0	0	1	0	0	0	0	0
M	0	0	0	0	0	1	0	0	0	0	0

Select Category
Complete Oyster

Fig. 4 Count of complete oyster

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0	0
E	0	1	0	0	0	0	0	0	1	1	0
F	0	0	0	0	0	0	1	2	0	0	0
G	0	0	0	0	0	0	0	0	0	1	0
H	1	0	0	0	0	1	0	0	0	0	1
J	1	0	0	0	0	2	0	0	3	0	0
K	1	0	0	0	0	1	1	1	1	0	0
L	0	0	0	0	0	0	1	0	4	1	1
M	0	0	1	0	0	1	1	0	1	0	1

Select Category
Oyster Fragment

Fig. 5 Count of oyster shell fragments

3.2 Glass

There was a large distribution of different types of glass on the field indicating that the field has been in use for many years. Much of the glass was coloured and there appeared to be a concentration of large pieces from bottles and jars from the east corner of the field (lower right hand quadrant below) suggesting that there may have been a glass or rubbish dump near this location.

	1	2	3	4	5	6	7	8	9	10	11
B	0	2	0	0	1	0	3	1	1	3	0
C	2	1	0	0	1	1	1	0	2	0	0
D	1	1	0	1	1	0	2	0	2	2	3
E	1	0	1	1	1	1	0	0	1	3	2
F	3	2	0	1	2	1	1	0	3	1	0
G	1	3	1	1	1	0	0	1	2	0	1
H	2	1	0	0	1	3	2	0	0	1	0
J	2	0	0	3	0	2	0	1	3	1	1
K	1	1	1	0	2	2	3	5	2	1	0
L	4	1	0	2	0	0	2	0	2	2	2
M	1	0	1	0	0	5	0	0	0	0	6

Select Category
Glass

Fig. 6 Count of glass

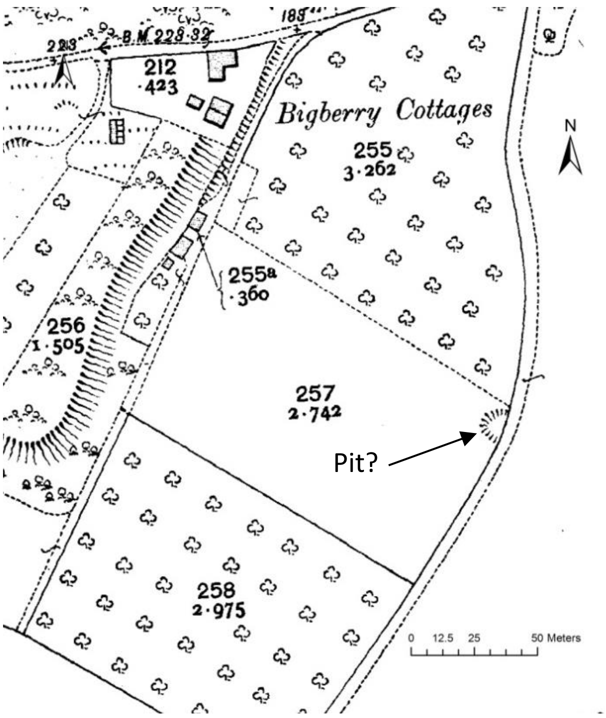


Fig. 7 1907 map showing feature in SE corner of the field

The possibility of a potential buried dump can be seen in the 1907 2nd revision map. Very close to the location of the higher glass count is an indication of a pit or similar. This feature (probably a small quarry conveniently placed by the track for access and transport and by a field boundary) appears to have been short lived as it seems to have disappeared by 1908. Such ad hoc farmland quarry pits, were often filled in the past as today, with heterogeneous rubbish.

3.3 Clay Smoking Pipe

Fragments of clay pipe were found across the site with no real pattern to the distribution. All the fragments were white-fired clay pipe stem and none were of a size that would aid dating.

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	2	1
C	1	1	0	0	0	0	0	0	0	0	0
D	0	1	0	0	0	0	0	0	3	2	0
E	1	1	1	0	0	1	0	0	1	0	0
F	1	1	0	2	0	0	0	0	2	0	0
G	1	0	0	0	0	1	0	0	1	0	0
H	3	0	1	0	0	1	0	0	0	0	0
J	0	0	0	2	0	0	0	0	2	1	0
K	1	1	0	0	0	2	0	2	1	0	0
L	3	1	1	0	1	0	1	0	0	0	0
M	0	2	0	2	1	0	0	0	0	1	1

Select Category
Clay pipe

Fig. 8 Count of clay pipe fragments

3.4 Struck flint

The surface of the field is predominantly clay with an even distribution of flint, many of which have been broken by the elements as well as being struck by farm equipment etc. This makes the identification of deliberately struck flint difficult. In grid E10, a musket flint (Staves 2007) was recovered which was made from black flint and was about 2cm square (see photo in Appendix 1).

	1	2	3	4	5	6	7	8	9	10	11
B	1	0	0	0	0	0	1	0	0	0	0
C	1	0	0	0	0	0	0	0	0	0	0
D	0	0	0	1	0	0	1	0	1	0	1
E	0	0	0	0	0	0	0	0	0	1	3
F	1	0	0	0	0	0	0	0	0	0	0
G	0	0	1	0	0	0	0	2	0	0	0
H	1	0	0	0	0	2	0	0	0	0	0
J	0	0	0	0	0	0	0	0	0	2	0
K	0	0	0	0	0	1	0	0	0	0	0
L	1	0	0	1	0	0	0	0	1	0	0
M	0	0	0	0	1	0	0	0	0	0	0

Select Category
Struck flint

Fig. 9 Count of struck flint

3.5 Pot boilers (cracked burnt flint)

Pot boilers or cracked burnt flint are often related to pre- Roman sites, where they were employed in the cooking process as well as being used as a temper in the manufacture of pottery. The pottery of the day was not always suitable to take direct heat, so in order to heat the contents, hot flints were placed inside the pot. The pot boiler distribution appears to be in two areas; to the left of the graph where there is a concentration in columns 1 and 2 and in the lower right quadrant. Whilst the presence of pot boilers can be a good indication of prehistoric activity, it is possible that these could be the result of flint accidently burnt in later bonfires. This gives a similar cracked patina and unless found in context it is very difficult to determine how old these are.

Select Category

Pot boilers

	1	2	3	4	5	6	7	8	9	10	11
B	4	1	0	0	0	2	0	1	0	1	0
C	9	0	0	0	0	0	0	0	0	0	0
D	3	0	0	0	0	0	0	0	1	0	1
E	3	0	1	0	0	0	0	0	4	2	3
F	6	0	1	0	0	0	0	0	0	0	0
G	2	1	0	0	0	0	3	1	3	0	5
H	3	1	0	0	0	3	4	3	1	0	1
J	0	0	0	0	0	0	5	0	4	2	1
K	2	2	0	0	0	0	1	3	0	1	1
L	2	0	0	0	0	3	4	1	1	1	0
M	3	2	1	0	0	1	0	0	2	1	1

Fig. 10 Count of cracked burnt flint

3.6 Glazed ceramics

Ceramic finds were divided into glazed and non-glazed, in order to distinguish between non-glazed ceramic items which could be related to the period of research interest. As mentioned in the introduction, the glazed category was further divided into China type ceramic i.e. high glaze, white, blue and white and “older” glazed pottery which typically showed a brown or green glaze.

Like the glass, glazed ceramics were very common across the field and no real pattern has been detected.

Select Category

China, high glaze

	1	2	3	4	5	6	7	8	9	10	11
B	2	0	0	0	0	2	3	1	0	0	0
C	4	2	0	0	0	0	0	0	0	0	0
D	2	1	3	0	0	0	1	1	0	0	0
E	0	0	0	0	0	1	0	0	1	0	1
F	3	1	0	0	2	0	0	2	1	1	1
G	0	0	1	0	0	0	0	0	2	0	1
H	2	0	0	0	0	1	0	1	2	1	1
J	4	0	0	2	1	0	1	2	0	1	0
K	3	2	0	0	0	0	0	0	0	1	1
L	4	2	2	0	0	0	0	0	0	0	2
M	1	1	1	2	2	1	1	0	4	1	3

Fig. 11 Count of high glaze China

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	4	2	0	0	1
C	0	1	1	0	0	0	0	1	1	1	0
D	2	1	0	0	0	0	1	1	6	4	1
E	1	1	0	0	0	1	0	0	0	1	1
F	1	1	0	1	0	0	1	1	1	1	0
G	0	2	0	0	0	0	0	1	1	0	1
H	1	1	2	0	0	0	2	0	1	1	0
J	0	2	0	0	0	3	0	1	1	2	1
K	0	0	0	1	0	0	2	1	1	0	0
L	1	0	0	1	0	1	0	0	0	1	0
M	1	0	1	0	0	0	2	1	1	0	0

Select Category
Glazed ceramic

Fig. 12 Count of glazed ceramic

3.7 Unglazed ceramics

Unglazed ceramics have the potential to belong to the period of research interest and thus have a separate classification. There are far fewer pieces of unglazed pottery with no real pattern detected. No pieces recovered could be attributed to the Iron Age or Roman era.

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	1	0	1	0	0	0
C	0	0	0	0	0	0	0	2	1	0	0
D	0	0	0	0	0	0	1	0	0	0	0
E	0	0	0	0	0	0	0	0	2	0	0
F	3	0	0	1	0	0	0	1	0	0	0
G	1	0	0	0	0	1	0	0	1	0	0
H	0	1	0	0	0	2	0	0	1	0	0
J	0	0	0	0	0	1	0	0	1	1	0
K	0	2	0	0	2	0	0	0	0	0	0
L	0	0	0	0	0	1	0	0	0	1	0
M	2	0	1	0	0	0	1	2	0	1	0

Select Category
Unglazed ceramic

Fig. 13 Count of unglazed ceramics

3.8 Slag

Very few pieces of slag were recovered but the majority was “cinder” slag and probably indicates that there were materials burnt on site at some time in the past. Other slag looked to be modern in form. The distribution is a low density but is concentrated in two areas as indicated below.

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	0	0
C	1	0	0	0	0	0	0	0	0	0	0
D	2	0	0	0	0	0	0	0	1	0	0
E	0	0	0	0	0	0	0	0	0	0	0
F	0	0	0	0	0	0	0	0	0	0	0
G	1	0	0	0	0	0	1	0	1	1	0
H	0	0	0	0	1	0	0	0	1	0	0
J	0	0	0	0	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0	0	0
L	0	0	0	0	0	0	0	0	0	0	0
M	0	0	0	0	0	0	1	0	0	0	0

Select Category
Slag

Fig. 14 Count of slag

3.9 Stone

As can be seen from the distribution below, much of the stone is concentrated on the north-east side of the field, the majority of which were fragments of granite, rectangular in form and approx. 2-3cm in width, probably used on the farm track. The granite is either black or grey pink and is not natural to this area so must have been brought in at some time. The history of the field, according to the previous owner, is of a hop plantation, an orchard and more recently a plant nursery. It is highly likely that this stone was brought into the area as a result of one of these activities and traces of granite can be seen embedded in the track adjacent to the buildings and may have been used as a form of metalling. No large pieces were found so their exact function remains unknown. A piece of stone which is probably a whetstone was recovered from grid H2.

Several other pieces of stone, not naturally occurring in the area were also picked up but not in a significant quantity and are probably connected with the field's agricultural use.

	1	2	3	4	5	6	7	8	9	10	11
B	1	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	1	0	1
E	0	0	0	0	0	0	0	0	2	2	0
F	0	0	0	0	1	0	0	1	0	0	0
G	0	0	0	0	0	0	1	1	4	0	0
H	0	1	0	0	0	0	0	0	0	0	0
J	0	0	0	0	0	1	0	0	1	1	0
K	0	0	0	0	0	0	1	0	0	0	0
L	0	0	0	0	0	0	0	0	0	1	1
M	0	0	1	0	0	1	1	1	0	0	0

Select Category
Stone

Fig. 15 Count of stone

3.10 Iron

The iron material recovered had no particular pattern, except a slight bias towards the top of the field. Most of the material recovered looks to have been related to the field's agricultural use.

	1	2	3	4	5	6	7	8	9	10	11
B	1	0	2	0	0	0	1	0	0	0	0
C	0	1	0	0	0	0	0	0	0	0	0
D	0	1	0	0	0	1	0	0	2	1	0
E	0	0	0	0	0	0	0	1	0	1	0
F	0	0	0	1	0	0	0	0	0	0	0
G	0	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0	0
J	0	0	1	0	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0	0	0
L	0	1	0	0	0	0	0	0	0	0	0
M	0	0	0	1	0	0	0	0	0	0	0

Select Category
Iron

Fig. 16 Count of iron

3.11 Non-ferrous Metalwork

Few copper alloy finds were recovered from the field walking; much more was recovered with the metal detector survey.

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	0	0	0	0	0	0	0
D	0	0	0	1	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0
F	0	1	0	0	0	0	0	0	0	0	0
G	0	0	0	0	0	0	0	0	0	0	0
H	0	0	0	0	0	0	0	0	0	0	0
J	0	0	0	0	0	0	0	0	0	0	0
K	0	0	0	0	0	1	0	0	0	0	0
L	0	0	0	1	0	1	0	0	0	0	0
M	0	0	0	0	1	0	0	0	0	1	0

Select Category
Copper alloy

Fig. 17 Count of copper alloy

3.12 Bone

Just 4 small pieces of bone were recovered; these were not identified.

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	0	0
C	0	0	0	0	1	0	0	0	0	0	0
D	0	0	0	0	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0	0	0	0	0
F	0	0	0	0	0	0	0	0	0	0	0
G	0	0	0	0	0	0	0	1	0	0	0
H	1	0	0	0	0	0	0	0	0	0	0
J	0	0	0	1	0	0	0	0	0	0	0
K	0	0	0	0	0	0	0	0	0	0	0
L	0	0	0	0	0	0	0	0	0	0	0
M	0	0	0	0	0	0	0	0	0	0	0

Select Category
Bone

Fig. 18 Count of bone

3.13 Total finds

If the total number of finds are plotted there seems to be a higher concentration towards the left of the sampled area and the lower right quadrant. To the left of the centre appears to be the lowest density recorded. There are three grids marked N/A and in green which indicate that no finds at all were recovered from these grids. There were also 2 grids C11 and E7 which were omitted in error from the survey. This was mainly due to confusion in the walked grids by a couple of the volunteers during very difficult heavy rain conditions. The survey was eventually abandoned on the day due to the weather. As the error was only discovered at the end of the survey the decision was taken not to survey these grids.

	1	2	3	4	5	6	7	8	9	10	11
B	9	3	2	N/A	1	5	12	6	1	6	2
C	18	7	1	N/A	2	1	1	3	4	2	0
D	10	5	4	3	1	1	6	2	17	9	7
E	6	3	4	1	1	4	0	2	12	11	10
F	18	6	1	6	5	1	3	7	8	3	1
G	6	6	3	1	1	2	5	7	15	2	8
H	14	5	3	N/A	2	13	8	5	6	3	3
J	7	3	1	8	1	9	6	4	15	11	3
K	8	8	1	1	4	7	9	12	5	3	2
L	15	5	3	5	1	7	8	1	8	7	6
M	8	5	7	5	5	10	7	4	8	5	12

Select Category
Total

Fig. 19 Count of total items recovered

4.0 Metal Detecting Finds

To complete the survey project a metal detection survey was undertaken. This was carried out by a very experienced metal detector user, David Holman, who is also a published coin specialist and the author assisted with the survey along a strip on the west side of the field. A small strip to the west of the centre of the field remained undetected due to equipment failure.

The method of survey was based on the grids for field walking but the exact location of significant finds were surveyed in using the Leica GPS.

As the field has had a long agricultural history there were many modern metal finds connected with this activity. This slowed the survey down due to the large number of targets requiring investigation. Finds from the metal detecting survey were numerous but consisted mostly of very large numbers of buttons of 19th and 20th century date and assorted rubbish and scrap bronze, lead and aluminium from the last century. Only 4 pre-18th century coins were recovered.

1. Hadrian *as* (134-138)
2. Constantinian AE4 copy (c.337-345)
3. Trade token farthing (c.1650-1670), details illegible
4. Short cross (cut) halfpenny (c.1175-1205)

Fig 20. Metal detector survey finds
© Crown Copyright/database right 2013. An Ordnance survey/EDINA supplied service.

The finds 1 to 3 above, were recovered and identified by David Holman and the short cross halfpenny, 4, was found by the author but identified by David Holman. He determined that it was early rather than late in the sequence, giving a date of c.1175-1205. There is the start of the mint name, which looks like N, so it could be Lincoln, Northampton or Norwich (Fig. 21).

The only other artefacts of any note were part of a late medieval buckle, a handle possibly of 17th century origin, and a possible badge in the shape of a rose of 16th -18th century date. A lead musket ball of diameter 16mm and weight 20g was also recovered. The size was measured using a bore gauge and looks to be a regulation size, implying that it may be of military origin. This had a flat area which could have been formed as a result of an impact (Fig. 22).

Fig. 21 Short cross penny

Musket ball

Flintlock flint

Fig. 22 Musket ball and Flintlock flint (size of latter suggests from a pistol)

5.0 Methodological limitations

With field walking, apart from analysing the type of material recovered it is important to look at the spatial distribution of each artefact recovered. Both the type and quantity of material recovered is subject to the variability of human action. This section of the report looks at the possible limitations with the field walking process.

As with any process which relies upon human decision making, the results of field walking will vary with the individuals performing the survey. These variations will be dependent upon:-

- The experience of the individual in spotting potential items of interest
- Interpretation of what should be picked up

These types of issues have been much considered and sometimes ‘tested’ in studies where fieldwalked collections and analysis are a central information recovery method (Haselgrove, Millett et al. 2007, Fasham, Schadla-Hall et al. 1980, Taylor 2013). The table below (table 2) shows the number of grids walked by each person and the total number of finds they picked up. The final entry in the table shows the average number of finds per grid, per person. The table shows that AB walked the most grids and also had the highest number of finds per grid. GG walked the least number of grids and TO picked up the fewest number of finds per grid.

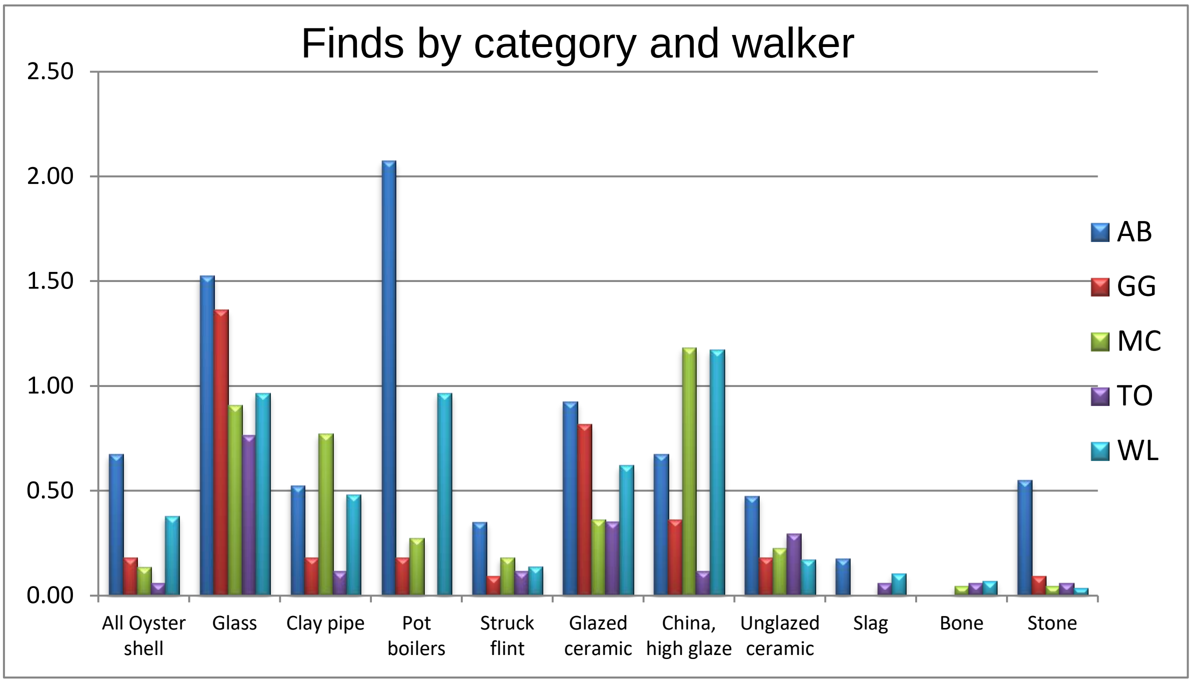
Names	AB	GG	MC	TO	WL	Total
Count of Grids	40	11	22	17	29	119*
Sum of total finds	326	38	100	37	150	651
Finds per grid per walker	8.2	3.8	4.5	2.2	5.2	5.5

Table 2

*It should be noted that during the analysis phase, 2 grids were omitted in the field walk. This was due to some confusion in the grids walked in heavy rain and several people walking at the same time in the staked area of the field.

The day that GG and TO were involved with the field walk was interrupted by rain which became so heavy that the day was finished early. This may have been a factor in the visibility of the finds and could account for some of the low finds count. On the same day, AB did not take part in the field walking as he was involved in setting out the grids.

Further analysis of the finds picked up by walker can be seen in the graph below.



Glass was the most common category to be recovered and bone the least.

Although all of the walkers had some experience in field walking, the individual experience did vary. In a random allocation of grids to walk, the finds per grid could be seen as an indicator of experience; table 2 shows that AB, MC and WL were the most experienced and TO and GG the least. This is also reflected in the graph above.

In the category of china, high glaze ceramics, TO picked up significantly less than anyone else. When the complete picture is analysed, the items belonging to this category are spread uniformly across the rest of the site so this requires comment. The lack of recovery of finds by TO in this category could reflect the genuine site conditions or it could be explained by TO making a conscious decision not to pick up this material as it clearly does not belong to the research area of interest. This theory can be seen again with glass, where once again, TO picks up the fewest number of finds in this common category. When the unglazed ceramic category is analysed, it can be seen that TO picks up the most after AB. As before, this could reinforce the theory as unglazed ceramic has a higher likelihood of belonging to the period of research interest.

From the two graphs below it can be seen that columns 3, 4 & 5 and rows B & C have the fewest finds picked up. Columns 4 & 5 have predominantly been walked by TO and GG who were the least experienced of the walkers and who picked up the fewest finds per grid.

	1	2	3	4	5	6	7	8	9	10	11	Total
B	9	3	2	N/A	1	5	12	6	1	6	2	47
C	18	7	1	N/A	2	1	1	3	4	2	0	39
D	10	5	4	3	1	1	6	2	17	9	7	65
E	6	3	4	1	1	4	0	2	12	11	10	54
F	18	6	1	6	5	1	3	7	8	3	1	59
G	6	6	3	1	1	2	5	7	15	2	8	56
H	14	5	3	N/A	2	13	8	5	6	3	3	62
J	7	3	1	8	1	9	6	4	15	11	3	68
K	8	8	1	1	4	7	9	12	5	3	2	60
L	15	5	3	5	1	7	8	1	8	7	6	66
M	8	5	7	5	5	10	7	4	8	5	12	76
Total	119	56	30	30	24	60	65	53	99	62	54	

All finds categories

	1	2	3	4	5	6	7	8	9	10	11
B	AB	WL	MC	TO	MC	MC	GG	GG	GG	GG	TO
C	AB	MC	WL	GG	TO	GG	TO	TO	TO	TO	0
D	WL	AB	MC	TO	GG	TO	MC	MC	AB	AB	AB
E	AB	WL	MC	GG	MC	MC	0	WL	AB	AB	AB
F	WL	MC	WL	MC	TO	TO	AB	AB	WL	WL	WL
G	AB	AB	MC	GG	GG	MC	AB	WL	AB	AB	AB
H	WL	MC	WL	TO	TO	AB	AB	AB	WL	WL	WL
J	WL	WL	MC	MC	AB	GG	AB	WL	AB	AB	AB
K	WL	AB	WL	TO	TO	AB	AB	AB	WL	WL	WL
L	MC	MC	MC	TO	TO	AB	AB	WL	AB	AB	AB
M	AB	WL	AB	MC	MC	AB	AB	AB	WL	WL	WL

Grids by field walker

Column 3 was picked by the more experienced walkers and returned the same number of finds as column 4. Rows B & C was also predominantly picked by TO and GG but row C did include one grid where nothing was found and one grid which was not walked.

5.1 Methodology: Discussion

The table and graphs above, clearly illustrate that there is an effect on artefact recovery associated with individual walkers. Even with experienced field walkers the potential for either conscious or unconscious “filtering” of what should be picked up, is always a possibility. This can be limited to some extent by giving clear instructions about what should be recovered. This guidance is particularly important when it comes to more modern artefacts as we have seen that this tends to be the area where the experienced walker will make a decision on what to pick up. To minimise the potential of “holes” in the data, it may be worthwhile distributing the least experienced walkers in a more random way so that large blocks of grids are not predominantly walked by individuals with less experience and a bias therefore not introduced over a concentrated spatial area within the sampling. If resources allow, doubling up of walkers in a grid square may offset bias in what is recovered (Fasham, Schadla-Hall et al. 1980, pp.8).

In the instance of this survey, the grouping of TO and GG potentially looks to have had an effect on the distribution of finds picked up. This may be true for the total number of finds but the effect on the categories of research interest appears to be less. The number of finds per grid picked up in columns 3, 4 & 5 even for the more experienced walkers, is also low. The variations in what could be considered indicators of earlier activity of this field, such as Pot Boilers, unglazed ceramics and oyster shell, looks likely to be real.

For the purposes of this survey the inconsistencies with walker pick up does not greatly affect the interpretation of the site. The distribution of glass and ceramic is widespread and a consequence of intensive use over the years and any variations in walker pick up is not significant to site interpretation. The recovery of the other categories such as pot boilers and oyster shell is likely to reflect their genuine distribution on the field.

6.0 Survey discussion

The field was selected for a field walk survey as it had been recently ploughed and its location was adjacent to the south-east section of the Bigbury monument rampart. The expectation of finding Iron Age or early Roman evidence was however low due to the following:

- Material evidence for this period is very rare on this site in general
- Continued agricultural use will have contaminated the area.

Nevertheless, it was felt that this would be a useful exercise to establish if any archaeological evidence does exist and if it does, in what condition it survives. The field may also be thought representative of others in the immediate area skirting the Bigbury monument on its northern and eastern sides. These are currently orchards (with grass surface coverage and hence not suitable for field walking) and they have had a similar history of cultivation and are of similar topographic character.

Examination of the distribution of the finds, indicates that there are no really strong correlations between categories, however the plots shown below indicate that there are three categories which have some similarity with their spatial distribution. These are, pot boilers, oyster shell and glazed pottery (this is pottery mainly with a green or brown glaze). They all show a higher density towards the left side of the plot and the bottom left hand quadrant. The correlation is perhaps greatest between the pot boiler categories and the oyster shell distribution.

The pot boilers or cracked flint, are as a result of heat being applied and it is difficult to say in this instance, if it is a result of deliberate stone heating for cooking, or accidental heating as a result of fires which will occur in areas of agricultural use, especially in orchards, as a consequence of periodic management and pickers camps. This is an area where experimental archaeology may provide the answer.

	1	2	3	4	5	6	7	8	9	10	11
B	4	1	0	0	0	2	0	1	0	1	0
C	9	0	0	0	0	0	0	0	0	0	0
D	3	0	0	0	0	0	0	0	1	0	1
E	3	0	1	0	0	0	0	0	4	2	3
F	6	0	1	0	0	0	0	0	0	0	0
G	2	1	0	0	0	0	3	1	3	0	5
H	3	1	0	0	0	3	4	3	1	0	1
J	0	0	0	0	0	0	5	0	4	2	1
K	2	2	0	0	0	0	1	3	0	1	1
L	2	0	0	0	0	3	4	1	1	1	0
M	3	2	1	0	0	1	0	0	2	1	1

Fig. 21 Count of cracked burnt flint

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	0	0	0	0	0
C	0	1	0	0	0	0	0	0	0	1	0
D	0	0	1	0	0	0	0	0	0	0	0
E	0	1	1	0	0	0	0	1	1	1	0
F	0	0	0	0	0	0	1	2	1	0	0
G	0	0	0	0	0	0	0	0	0	1	0
H	1	0	0	0	0	1	0	1	0	0	1
J	1	1	0	0	0	2	0	0	3	0	0
K	1	0	0	0	0	1	2	1	1	0	0
L	0	0	0	0	0	1	1	0	4	1	1
M	0	0	1	0	0	2	1	0	1	0	1

Fig. 22 Count of all oyster shell

	1	2	3	4	5	6	7	8	9	10	11
B	0	0	0	0	0	0	4	2	0	0	1
C	0	1	1	0	0	0	0	1	1	1	0
D	2	1	0	0	0	0	1	1	6	4	1
E	1	1	0	0	0	1	0	0	0	1	1
F	1	1	0	1	0	0	1	1	1	1	0
G	0	2	0	0	0	0	0	1	1	0	1
H	1	1	2	0	0	0	2	0	1	1	0
J	0	2	0	0	0	3	0	1	1	2	1
K	0	0	0	1	0	0	2	1	1	0	0
L	1	0	0	1	0	1	0	0	0	1	0
M	1	0	1	0	0	0	2	1	1	0	0

Fig. 23 Count of glazed ceramic

The link between glazed ceramic and oyster shell could be explained by both being connected to eating in some form. The oyster was a common cheap food in the 18th and 19th centuries not least in Kent, and this would correlate with the approximate date of the ceramic pottery with the brown or green glaze. It can well be imagined that the consumption of oysters and the use of the glazed pottery would be at a similar time, so the resultant shell debris and damaged pottery would therefore probably be discarded in the same place.

The closeness of the Pilgrims Way to the site is also significant, as this field provides an excellent view of Canterbury, especially as it may have afforded one of the first views of the cathedral as the crest of the hill was reached coming from the west. This may well have been a location where Pilgrims stopped for a break and took some refreshment. This may also account for the find of the silver short cross halfpenny.

The link between the oyster shells and the pot boiler distribution is more difficult to explain. Oysters were also a widespread foodstuff during the Roman period but many of the oyster shells recovered were not laminated (which could be an indication of age) suggesting that they may have been of a later period. Is the cracked flint in this case more associated with the later consumption and caused by agricultural fires?

The recovery of the Roman coins does little to link the site with any particular Roman activity as casual loss of coins during the Roman occupation is to be expected and the coins could be simply ‘background noise’. It does however reinforce the above scenario connecting the oyster shell to the Roman period.

What the survey does tell us is that this field has probably had some agricultural use for many hundreds of years. Although no Iron Age or certain prehistoric evidence was recovered, it is highly likely that during this period and possibly before, the field was cleared of any natural tree cover and was used for either cultivation or settlement.

Chapter 5 - Bigbury Environs Geophysics Survey

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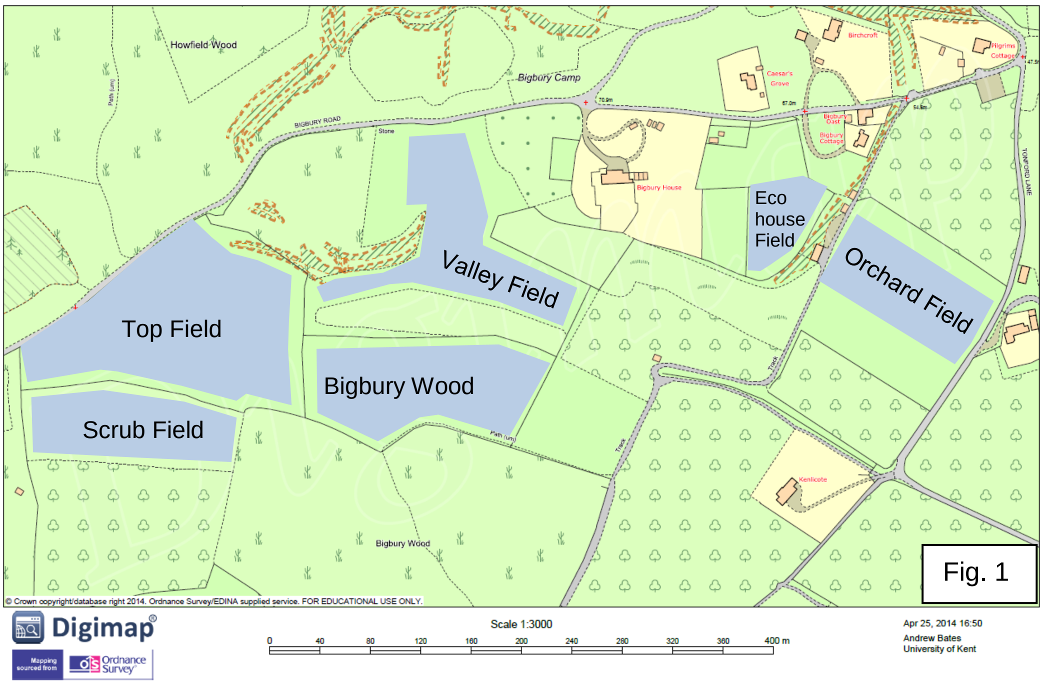
1.0 Introduction

The geophysics survey was concentrated on land close to the Hillfort ramparts with one area inside the ramparts on ground due for development. The six areas surveyed are shown in Fig. 1. The aim of the survey was to investigate whether the Hillfort has evidence of settlement or other use, beyond the visible ramparts. Potentially there are earthworks defining a larger boundary to the visible Hillfort forming a protected zone or “special” place between the open landscape and the interior of the fort. The area around the suspected west entrance was interesting as this would be the vulnerable side of the fort with it being connected to the ridge (on the end of which the Hillfort sits) and as such, may have required further protection in the form of additional banks and ditches. There were also practical reasons for the choice of survey area, as the land on the south side of the fort is relatively flat and mostly pasture and is owned by the Knevells who had given permission to operate on their property, whereas the north and western sides and the centre are largely wooded, or as in the interior, include several houses and associated gardens and grounds.

Bigbury field locations



The geology of the ridge is primarily Thanet Beds with gravel and clay and it was the gravel and sand that made Bigbury the focus of quarrying at the end of the 19th century. The interior has been subject to two previous geophysics surveys. The first one in 1978 by Dr Clark during the investigations by Thompson, was more of magnetic “spot” checks rather than a continuous survey of a large area (Thompson 1983, p.240). The other was of a large flat area within the ramparts just to the west of the cross-ridge dyke. This was carried out by Lloyd Bosworth on behalf of the University of Kent (Figs. 2a and 2b). The magnetic survey was carried out in 2012 and the resistance survey in 2013.

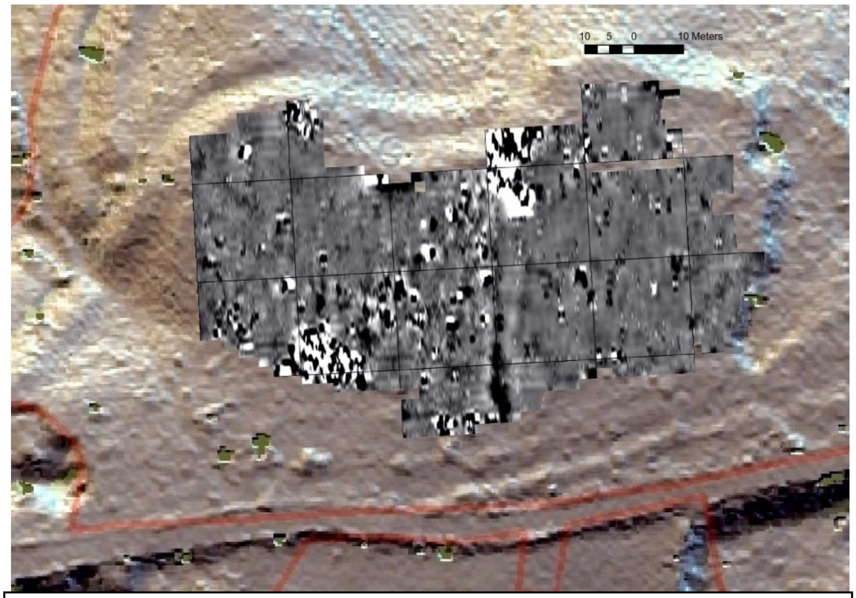


Fig. 2a magnetic survey of the interior of the Hillfort. Reproduced by kind permission of Lloyd Bosworth of the University of Kent. (±5nT)

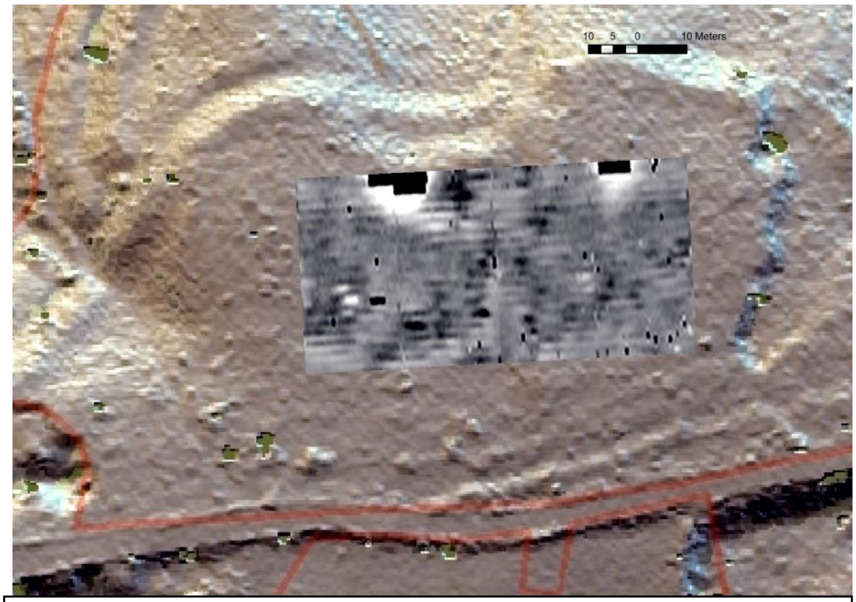


Fig. 2b Resistance survey of the interior of the Hillfort. Reproduced by kind permission of Lloyd Bosworth of the University of Kent.

The flat area selected for geophysics, had according to locals, been in the recent past subject to some levelling for use as a potential car park but this is difficult to substantiate. The magnetic survey (Fig. 2a) clearly shows the cross-ridge dyke and also areas of probable modern disturbance in the form of burning and possible ferrous material. The resistance survey shows several high resistance areas (in black). Some are clearly errors of probe insertion and others could be of potential interest and may be archaeological in nature.

Apart from the survey discussed above, no other geophysical survey has been carried out in either the interior of the Hillfort or the immediate environs. This research project aims to bring new data and information to the archaeological record to improve our understanding of this important Iron Age monument.

Arguments against surveying this area mainly centre around the intensive agricultural activity over the last 100 years or more. The consequences of this activity (like orchard removal or ploughing) is that it is likely to have disturbed particularly the shallower archaeology, either destroying it altogether or severely damaging it, such that it is no longer detectable by geophysics. From the old OS maps (Appendix 1 - Map 2) of the 1900s, the Top Field, Bigbury Wood Field and some of the Valley Field show woodland, whilst the other surveyed fields were planted with orchards.

Aerial photographs taken in 1960 (Fig. 3) show the fields were planted with large fruit trees. Pers comms with a previous land owner confirmed that the Top Field and Bigbury Wood Field were planted with large apple trees, a method of orchard plantation common at that time but since replaced with much smaller trees making it easier for harvesting.

Fig. 3 1960 Photo on Google earth showing extensive orchards around the Hillfort

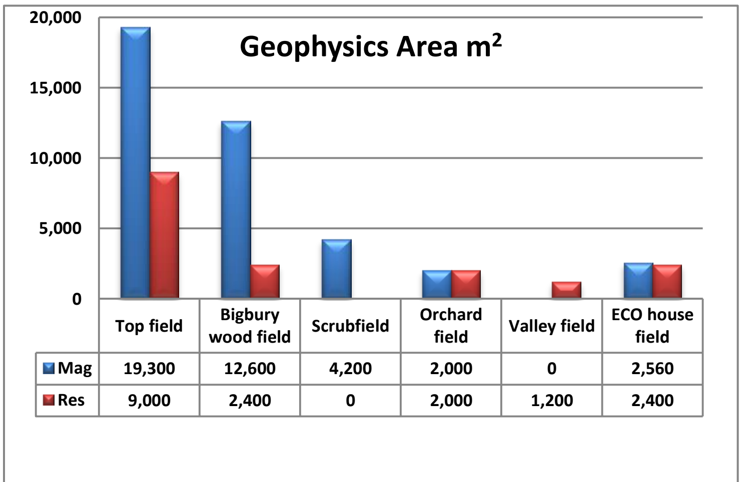
View of “No Mans Orchard” near Bigbury, which is a living example of a traditional orchard

Fig. 4 Example of metal tubing used as a buried spraying system

An additional, but vital piece of information supplied by the previous owner concerned the Bigbury Wood Field. It appears that at some point in the recent past, the field had had installed an orchard spraying system which was buried in the ground. This consisted of a grid of metal tubing connected back to a central pump house. Various chemicals for pest control could then be pumped around the grid and long hoses connected to different points on the grid, allowed spraying of the trees which obviated the need for a tractor. The system was supposed to have been removed and there was evidence of this, visible, as rusty metal tubes dumped at the edges of the field (Fig. 4).

It was also revealed, that the Bigbury Wood Field and possibly the Top Field had been subjected to a sub soil rotation. This involved effectively ploughing down 12 to 18 inches and would have had a devastating effect on any archaeology within that range.

The initial approach to the geophysics was first to perform a magnetic survey as this is the quickest survey method. Any anomalies would then be resurveyed using the resistance method and the results compared.



	Top field	Bigbury wood field	Scrubfield	Orchard field	Valley field	ECO house field
Mag	19,300	12,600	4,200	2,000	0	2,560
Res	9,000	2,400	0	2,000	1,200	2,400

Fig. 5 Area of geophysics surveyed by method

Fig. 5 left shows the areas surveyed by method. As can be seen, the only field to have had the same survey coverage using both methods is the Orchard Field. This is a relatively small area with no hindrance (free from trees and dense undergrowth) to survey.

The Scrub Field was only surveyed using Magnetometry as this was a very difficult field to cover due to the slope, occasional trees and the dense coverage of brambles.

The Valley Field was only surveyed using the resistance method, as this was the last area to be surveyed and it was decided that from previous experience of geophysics on the geology at this site, the best results came from resistivity.

2.0 Equipment

2.1 Resistance

The equipment used for the resistance survey was a Geoscan RMX85. This was configured to have two pairs of inline mobile probes spaced at 0.5m apart with the traverse measurements taken at 2 samples per metre. This configuration allows two measurements to be taken at once and is a good compromise for speed of survey and target discrimination.

2.2 Magnetometry

For the magnetic survey, a Bartington Grad 601 twin array with sensor separation at 1m was used. The majority of the survey was carried out at 1 sample per metre but a selected area in the Top Field was surveyed using 2 samples per metre. The traverse sampling rate was 4 per metre.

2.3 Common Technical Data

There are several grid sizes that could be used for survey and the chosen size for this survey was 20m x 20m. This was in some part dictated by the size of the existing ropes used to mark out the grid but it was also a comfortable size to walk accurately. When using the magnetic survey equipment to get an accurate survey, the surveyor must be able to walk at a constant speed for the duration of the traverse.

The survey method for both types of survey was “Zigzag” which gives optimum speed of survey. The exception to this was when some of the irregular size grids were surveyed which is inevitable at the edges of the survey.

For most of the survey the software used to download the raw data and to analyse the resultant image was TerraSurveyor which was the property of the University. For the magnetic survey in the Orchard Field, Snuffler a freely available software, commonly used by smaller archaeological units and many amateur groups, was employed.

3.0 Method

3.1 Grid layout

The grid squares were surveyed in using a Leica Viva GPS staff. The GPS staff uses a combination of satellites and a 3G telephone network to get an accuracy better than 20mm. Without the 3G signal and relying only on the satellites, the accuracy will drop to at best 2m; this error is unacceptable so it was crucial that the 3G signal was available. The advantage of using the GPS staff apart from its portability, is that the grid points surveyed use a co-ordinate system, in this case British National Grid, which is then directly transferable into ArcGIS the mapping software.

Two methods were used to create the grid points. The first method was to generate the grid coordinates in ArcGIS using a large scale map; these were then uploaded directly to the GPS staff. The GPS staff was then used to plot the points in the field. The advantage of this method is that it is possible to align the grids to cover the most efficient area. A disadvantage is that even large scale maps do not show trees or hedges precisely and if the points are close to a boundary, then they may be obscured. The second method uses a feature of the Leica GPS staff which creates a local co-ordinate system when in the field; the 20m x 20m grid is plotted relative to the local system. This local grid can then be converted to the British National Grid coordinate system and inputted into ArcGIS. The disadvantage of this method is that the local grid takes a few extra steps to create and the user must remember to make sure that the local grid relates to the coordinate system of choice. This latter method works well in combination with the first method if pre-loaded points are obscured or if there is a need to extend the downloaded grid by using a local grid.

As previously mentioned, the accuracy of the GPS staff depends on the availability of a suitable 3G telephone signal. This signal was not always available at Bigbury but there were enough points surveyed in with the acceptable accuracy, to make it possible to measure in the missing points using tapes. The overall accuracy of the survey was not affected.

4.0 Orchard Field

The Orchard Field was surveyed using a magnetometer during the field walking activity in 2013. The area surveyed was a strip 100m long and 20m wide running along the SW edge of the field. The field sloped towards Tonford Lane with a height difference of approximately 9m over the 100m, so to ensure a constant walking pace the survey was walked across the slope. Two thirds of the field had been staked out for new fruit trees but the survey area had not been planted and thus would be free from magnetic interference caused by the metal wires supporting the trees. The field had been subject to much cultivation over many (probably hundreds of) years including a hop plantation and fruit tree orchard. The likelihood that this had disturbed the archaeology and/or introduced “false anomalies” was high and needed to be considered as part of the final analysis. The area was also contaminated with metallic debris connected to its agricultural use such as wire and broken pieces of farm machinery. Even so, the knowledge of what a response would look like from a well cultivated piece of land, would aid the interpretation of future geophysical surveys on similar land adjacent to the monument.

The survey was conducted in the spring of 2013 and the results are displayed below in Figs.5a and 5b. The areas indicated as potential archaeology are only labelled as such because they are anomalies which do not fit into the other categories. They could equally be caused by agricultural activity such as tree planting.

Anomaly observations

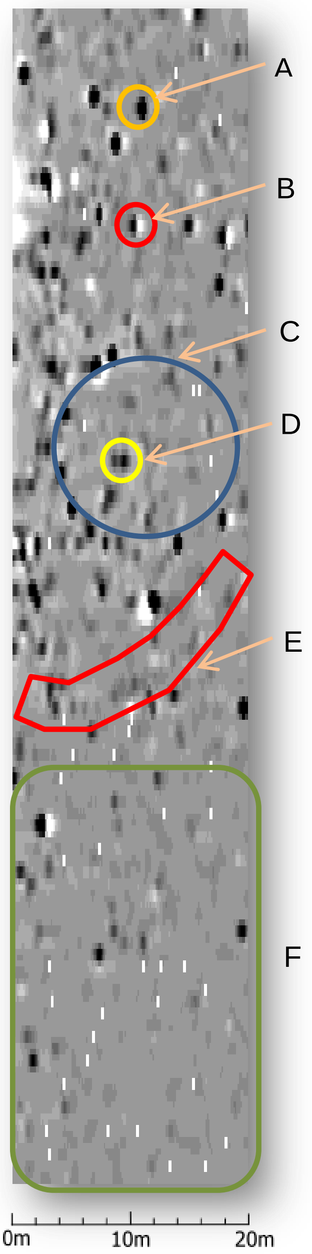


Fig. 6 – Orchard Field magnetic survey results (±10nT)

A. An example of a solid black feature which is not a typical ferrous response. This could be archaeological in nature e.g. a pit or it could also be the result of tree root removal or hop poles.

B. The black and white response is typical of modern ferrous contamination.(Gaffney and Gater 2003)

C. A possible circular feature defined largely by the "A" type anomalies. This could be archaeological or a coincidence of land use.

D. There are several of these double response anomalies and they all appear to be on a similar alignment.

E. Faint curvilinear response, possible ditch or remains of irrigation system from agricultural use.

F. The lower portion of the survey seems to have very few responses. This is the bottom of the slope and may be as a result of soil moving down the field masking archaeological features.

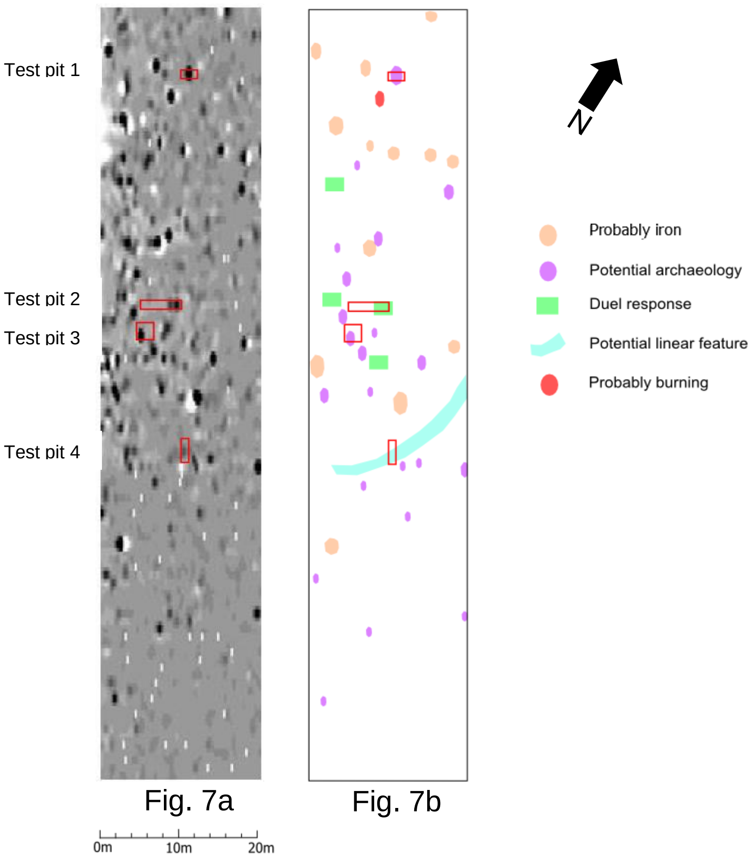


Fig. 7a Fig. 7b

With reference to Fig. 7a, the red boxes indicate the position of the test pits numbered 1 to 4 starting at the top of the diagram. Each of the test pits was located to explore the different anomaly. Fig. 7b is a graphical interpretation of the Magnetometry survey data indicating the areas of interest.

There is a strong response towards the top of the survey marked as potential burning; this has a black inner with a white halo. It is similar to the ferrous response which shows black and white side by side (Gaffney and Gater 2003) but different enough to allow differentiation. The presence of burning in this field is not unexpected with its long agricultural use.

The dark anomaly at Test Pit 1 was excavated and no archaeological feature was seen once the topsoil was removed and the assumed natural was reached.

The unusual double response anomalies were also investigated by excavation (Test Pit 2) and the result was inconclusive as to what was the cause. A cut flint surface (see excavation chapter for more detailed discussion) was identified and this could have been the reason for the reading but it would be unsafe to extrapolate this explanation to the other similar double responses as the correlation was not conclusive.

Test Pit 3 was placed over one of the dark responses forming the sub-circular shape and although archaeology was found, the correlation to the survey image was not clear.

The anomaly labelled as a potential linear feature, could not be identified during excavation (Test Pit 4) so it is possible that this is a response to the natural geology or even a collection of lesser responses forming this shape.

4.1 Resistance survey

The resistance survey was conducted approximately 5 months after the test pits were backfilled and about a year after the magnetic survey was conducted. The survey covered the same area as the magnetometry survey making it possible to directly compare the results. Fig. 8 below shows the resistance survey processed using a high pass filter and using a low pass filter. This was used to filter out either the low frequency or high frequency components of the data in an effort to get an image that best shows the anomalies detected. There are three areas that particularly stand out as being of interest archaeologically. Two are higher resistance responses and one is a lower resistance linear response which could trace the line of the ditch discovered during the Test Pit excavations. Of the high resistance responses one is the curvilinear feature at the top of the field and the other is the rectangular feature approximately at the 60m mark on Fig. 8.

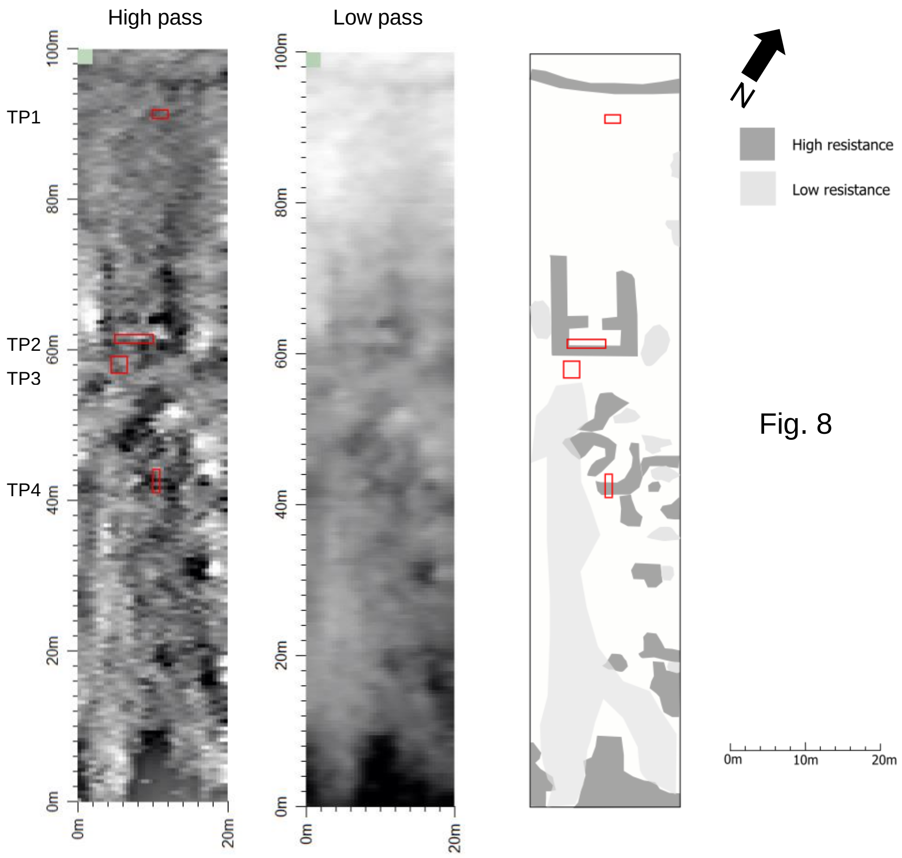


Fig. 8

(Clip 16Ω to 39Ω)

The high resistance curvilinear response which runs SW - NE, is more visible when looking at the survey with the high pass filter applied. The survey shows it to be approximately 2m wide at its widest point. As previously stated, this is a high resistance feature which is normally associated with a solid structure such as a wall however there are circumstances where a ditch can appear to be a higher resistance than the surrounding soil. This is normally associated with a trench much wider than the probe array (Gaffney and Gater 2003). With a wide ditch, it is possible for water to collect at the bottom of the ditch, effectively drying out the upper levels and making it a higher resistance than the surrounding soil. Since the feature in question is not significantly wider than the probe width (probe width is 0.5m) then it is unlikely that it is this phenomenon causing the higher resistance. The weather conditions for the resistance survey were wet and it had been raining for some days previously. The soil conditions are predominantly sand/gravel with areas of clay and it may be that if this feature is a ditch, it has drained faster than the area around it causing a higher resistance. The likelihood of it being a solid structure is slim so a ditch is the highest probability.

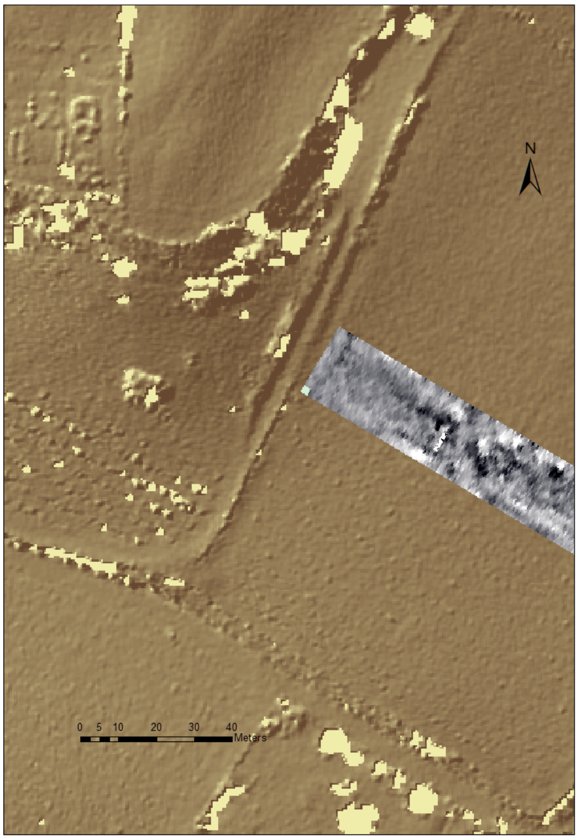


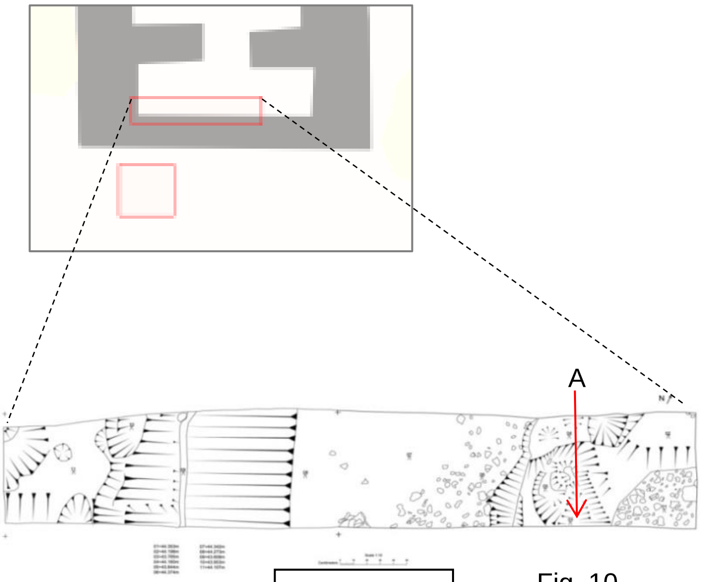
Fig. 9

With reference to Fig. 9 left, the suspected ditch can just be seen at the top of the resistance survey. The background picture is a LiDAR scan which shows the ramparts of the south-east corner of the Hillfort. Although the feature visible in the scan is only 20m in length, it is sufficient to determine that it does have a similar alignment with the Hillfort ramparts (more so than with the lane immediately above the scan). It is therefore not unreasonable to suggest that it has an association with the monument. Further geophysics to the west may be possible, to understand if the feature continues. This feature does not appear in the magnetometry survey.

The second feature appears to be a rectangular structure open at the north-west end. Like the suspected ditch, this is a higher resistance but this time because of its geometric form, there is a higher likelihood that this is a more solid structure such as walls or foundations. Also, like the ditch, this feature does not appear on the magnetometry survey. By chance, Test Pit 2 which was initially located to investigate the double response seen on the magnetometry survey comes very close to the bottom of this rectangular feature. Test Pit 2 was initially a 2m x 1m trench but was extended to intercept a ditch uncovered in Test Pit 3 (see excavation report chapter). The rectangular feature is between 11.5m and 12m long and 10.5m at its widest point which is the closed end, narrowing to 9.2m at the open end. 3.5m up from the closed end is a partition with an opening of 1.5m wide in the middle. Leading from the right hand side of the open end of the feature, a strip of higher resistance is just discernible. It has a slight curve bending towards the north as it heads away from the open end and it looks to have an association with the feature. The rectangular form with the open end and internal partition, resembles some sort of barn or garage and the strip of higher resistance running north could be some boundary to an entrance way. Having spoken to the past landowners and having reviewed maps going back to the middle of the 19th century, no structure is known in this position. This presents two possible scenarios. The first and probably the most obvious, is that the structure is older than the available maps. During the field walking survey in 2013, broken tile and brick was prevalent at the top end of the field but it was assumed that these were a consequence of the extant buildings nearby which are visible on maps from the 1890s and the assumption was that they were originally tiled. It must be considered that this debris was from an older building. The alignment of the feature appears to reflect the contemporary field boundaries and could be related to the time when the boundaries were established. Equally it could also have been constructed after these boundaries had been implemented.

The second scenario is that the resistance survey is picking up unconnected features which appear to make a structure. Although this is a possibility, it does seem unlikely, with the higher probability being that it is the remains, either standing walls or foundations, of an older structure. Excavation is the only way to verify which scenario is actually the truth.

The location of Test Pit 2 appears to just clip the inside of the closed end of the rectangular feature but there is a margin of error with the placement of the survey in relation to the test pit locations. Both the survey grid and the test pit locations were surveyed using the GPS staff with an accuracy of ± 20mm, so an assumed error between the two of less than ± 100mm is not unreasonable. In this instance, the resistance survey equipment measures the ground resistance at one traverse sample per 1m every 0.5m. The resistance is averaged over this $0.5m^2$ area so an error greater than the grid accuracy can be expected. This effectively means that the location of test pit 2 to the edge of the rectangular feature does have an unknown error but probably less than 0.5m.



Scale 10:1

Fig. 10

A magnified picture of the location of Test Pit 2 in relation to the rectangular feature can be seen in Fig. 10 left. The width of the test pit is 1m making the overlap around 0.5m. This shows that the edge of the feature should be seen in the section of Test Pit 2.

As can be seen from the plan of the excavated trench, no sign of the feature was present either in the section or plan.

The only area which could be responsible for the high resistance response is towards the north-east end. Here were the remains of a compacted flint surface which could give a high resistance response but this was not seen across all of the excavated area. Photographs taken of the section at point A (see Fig. 11) show that there is a very stony infill which is likely to cause a higher resistance to that of the surrounding soil. This stony infill is not seen in the opposite section and the test pit has probably only just caught the edge of it. The infill does appear to be just a narrow section but without further excavation it is not possible to know if this extends in the direction which will give the response seen on the survey.

Fig. 11

The other anomalies seen are much less distinct in their interpretation and it is likely that they are due to the geology and/or agricultural use.

5.0 Combining the survey results

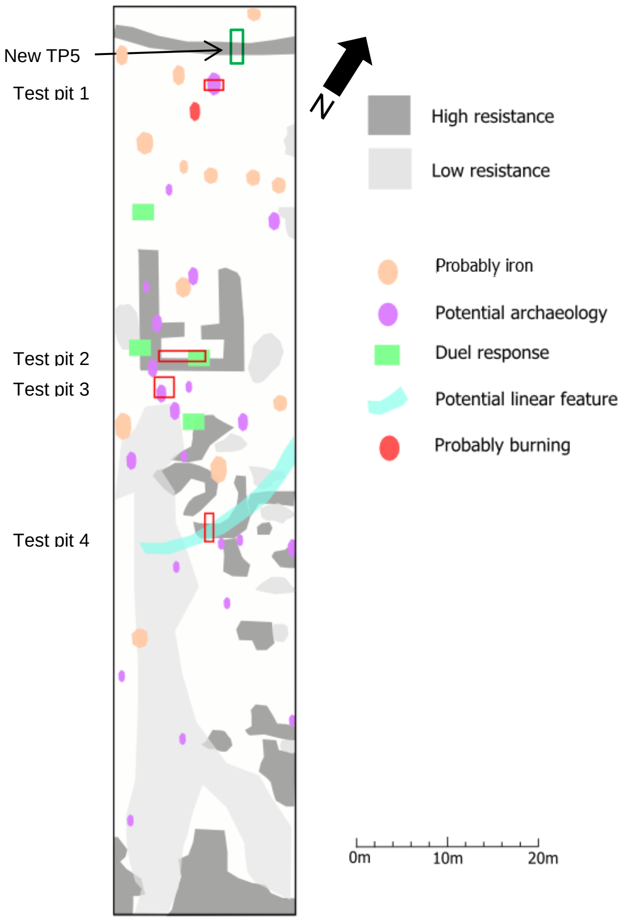


Fig. 12

By overlaying the graphic interpretation of anomalies from both the magnetic and resistance survey, it should be possible to identify common features. From Fig. 12 left, it can be seen that any common features are limited. The only area where there are some similarities is the area of Test Pit 4 where there appears to be some correlation between the faint curvilinear feature found on the magnetic survey and a curved area of higher resistance on the resistance survey. A part of this area was investigated with Test Pit 4. After the topsoil was removed it revealed a hard, stony layer which appeared to be natural and no archaeology could be determined. To fully understand the nature of the similar responses a further Test Pit more towards the north would be a potentially instructive location. This would also take in the higher resistance anomaly which appears at the centre of the high resistance arc.

6.0 Top Field

6.1 Magnetometry survey

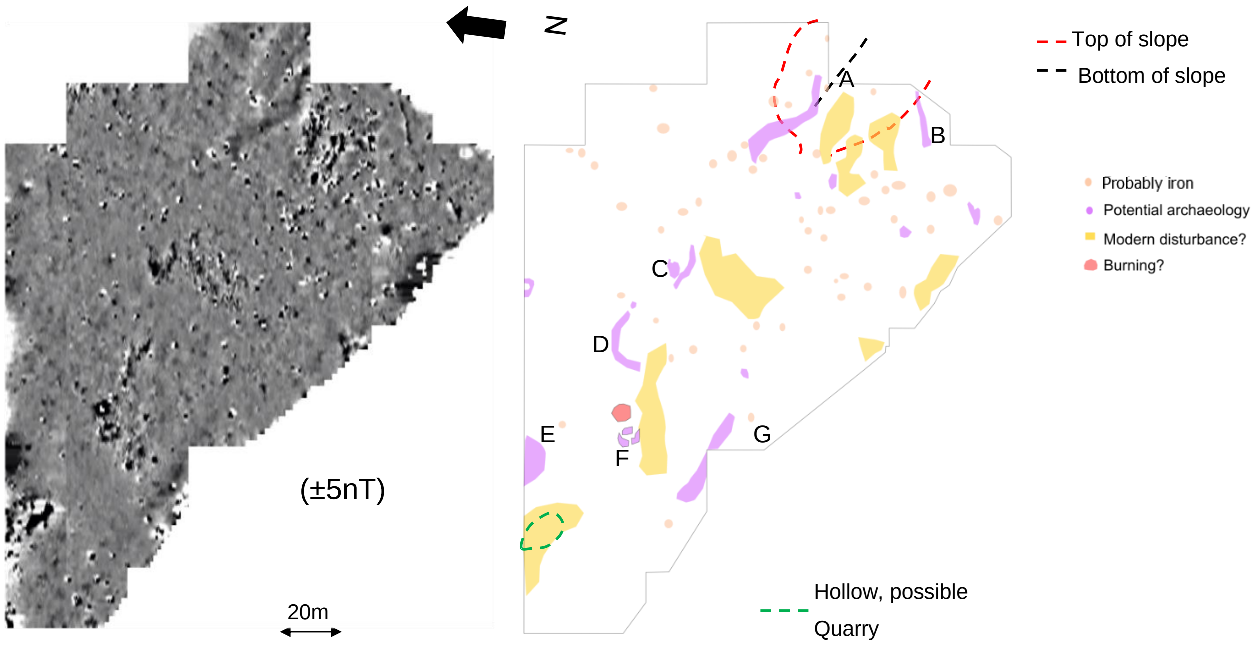


Fig. 13

This field is the large field adjacent to the west entrance of the Hillfort. The magnetic survey was undertaken in the early part of 2014 over three weeks in mainly wet conditions, where 49 20m x 20m grid squares were surveyed. The field was pasture and mostly level but it dips down into the Valley Field on the eastern side. The top and bottom of the slope is marked on the illustration above (Fig. 13).

Analysis of the survey response shows that there are no anomalies that form a clear picture of potential archaeology however there are some responses that are of interest.

A) This is a vague linear type response which runs from the bottom of the slope of the dip leading into the Valley Field, to the top. It is listed as being potential archaeology but equally it could be as a result of a build-up of colluvium washed down from the slope.

B) This is a linear response about 2m wide and approx. 18m long on the survey but could potentially extend off the scan. It could be in response to the geology but the feature is too uniform so therefore unlikely. There appears to be no relationship with any other feature and without excavation it can only be categorised as an anomaly of unknown origin.

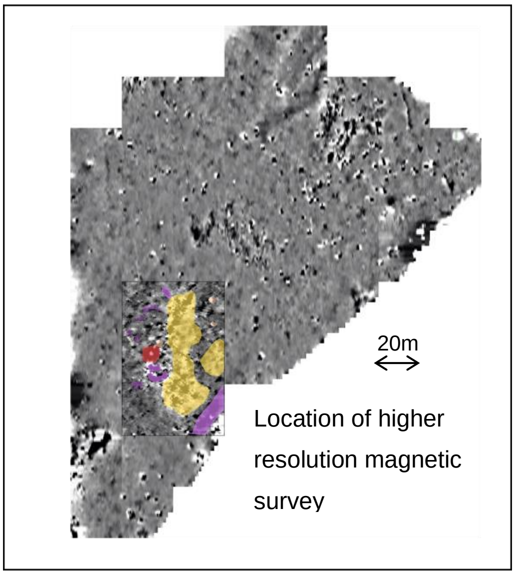
C) This looks to be two anomalies. One is a sub-circular response 4m by 5m at its widest point and very dark, indicating a significant magnetic disturbance. Next to it is also a dark response but which is more linear. Neither anomalies can be identified from their shape but the sub-circular feature could be a pit or similar. Until a positive identification is made, they will have to be categorised as anomalies of unknown origin.

D) This is a faint curvilinear response forming an arc of approximately 18m diameter and it is probably the most likely of all the anomalies found to be archaeological and of the period of interest (Iron Age). The circular form was common in the Iron Age for buildings but at 18m diameter this would be considered very large; the majority would be from 6m to 12m but a stock corral cannot be ruled out (Bennett 2007; Cunliffe 2005). There is also a suggestion of a disturbed area at the centre of the arc but this is faint and could just be a background anomaly and not connected.

E) This is a semi-circular dark response at the edge of the field approx. 15 m long extending nearly 6m from the edge of the field. This is not a typical response to a metal wire fence so it is probably a pit or similar of unknown origin.

F) This appears to be an arrangement of three dark sub-circular areas about 1.5m to 2.0m across, located 6m below an area of suspected burning. As before, this response is of unknown origin and could either be archaeology or as a result of the agricultural activity in the past. It is unlikely to be as a result of geology, due to the regular and relatively compact shape.

G) This is a linear shaped disturbance of about 36m in length, by around 4m to 5m in width. It has a similar signature to (A) but this is in a more level part of the field, so hill wash is probably not the cause but it could still be a response to the underlying geology



Due to the complexity of the responses found in the area of D, E, and F, it was decided to carry out a more detailed magnetic survey at 2 samples per metre rather than 1 sample per metre. The results are shown below in Fig. 14.

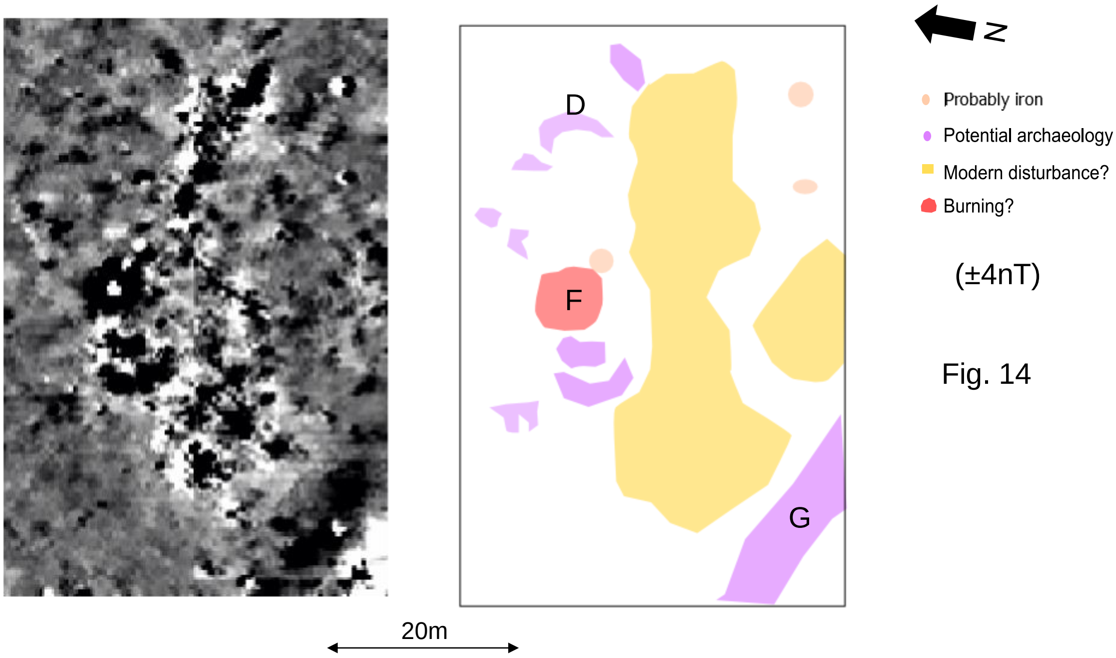
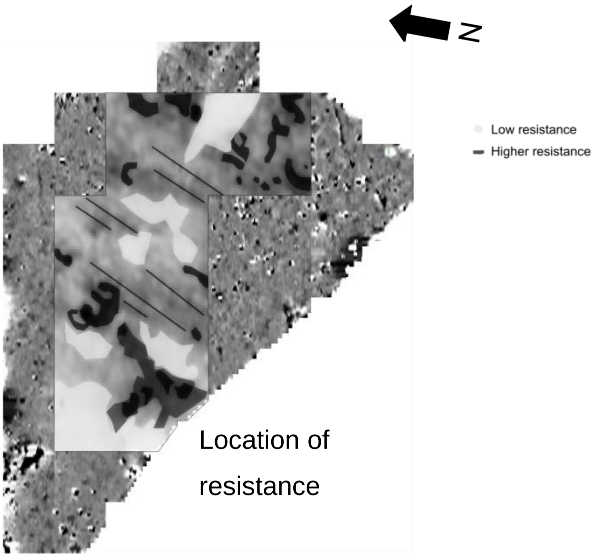


Fig. 14

With reference to the more detailed magnetic scan above, this illustrates very well the amount of disturbance in the area. The anomaly D which appears faint on the less detailed scan in Fig. 14 is not visible. There is another much smaller curvilinear response in this area but it does not look to have any connection. The area of probable burning above anomaly F is still very clear and well defined and anomaly F is still visible but the two lower responses appear to be merging into one. The anomaly G, is strong and defined in both sets of scans and is probably the strongest candidate to have an archaeological potential.

6.2 Resistance survey



The area selected for the resistance survey was the same as for the more detailed magnetic survey, with an additional area to the east to take in the dip of feature A. The survey was undertaken over a period of 3 weeks with varying weather conditions but was generally dry after a very wet period.

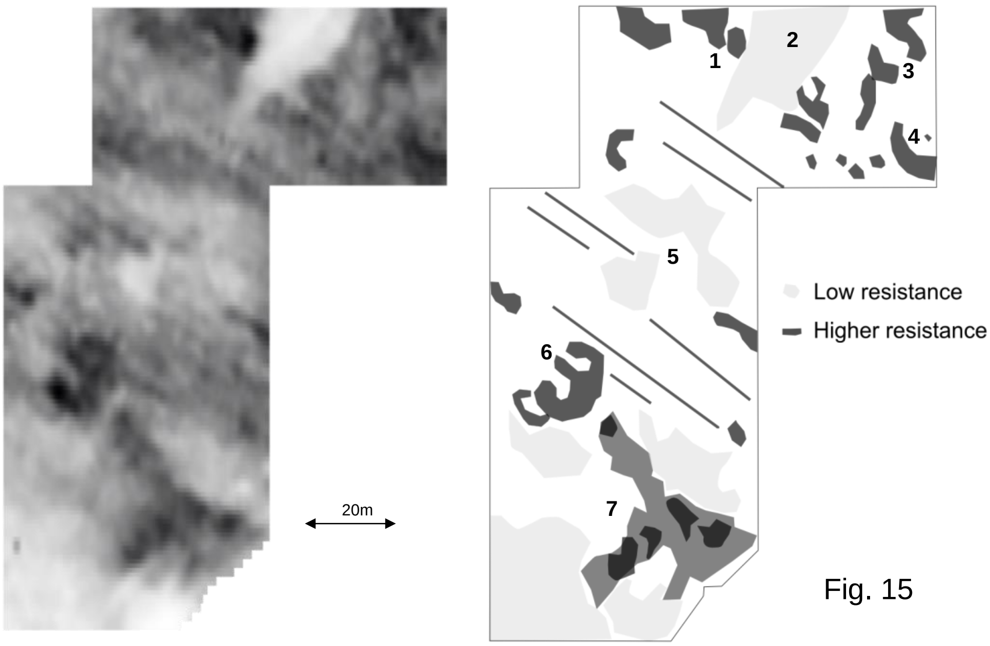


Fig. 15

Reviewing the resistance survey (Fig. 15) the first aspect that is very obvious, are the strips running approximately north-south. These are very regular and straight, spaced at around 5m apart and cover a large area of the resistance survey.

It is fortunate that Google Earth now carries old aerial photographs of this part of Kent so by aligning the image from 1990 with the resistance survey in ArcGIS it is possible to determine the cause of the striping.

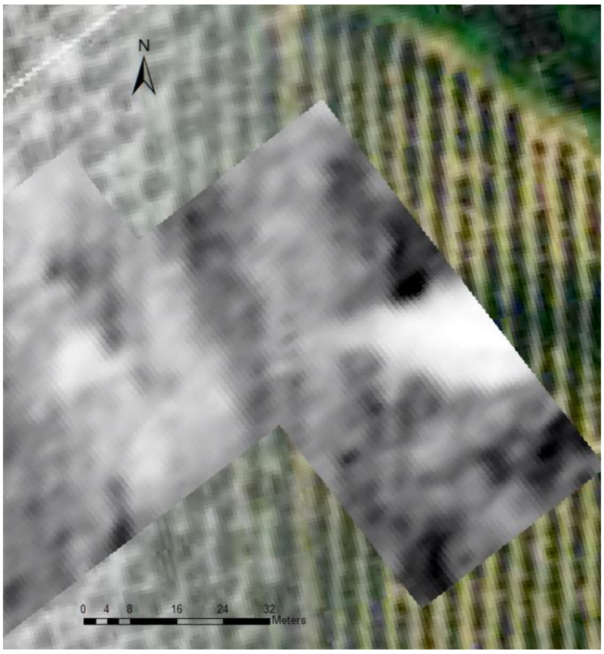


Fig. 16

Fig. 16 left, clearly illustrates that the alignment and spacing of the tree rows in the 1990 photograph, matches the striping in the resistivity survey. It should be pointed, out that the colour element of the photograph is the later 1990 picture and the black and white portion is of an earlier date. It is probable that the 1990 image does not fully extend across the area so it merges with an earlier picture.

Even so the extent of the later photograph is sufficient to prove that it is the tree rows which are causing the anomalies. The slightly wider path in the middle is also visible in the survey (the slight offset is an alignment issue with the referencing of the photograph).

Whilst the stripes are evidence of reasonably recent human activity, it does demonstrate that the geophysics is capable of determining artefacts which are not natural, so much of the data collected cannot be classified as random.

It is also interesting to note that to the east, the trees appear to be greener in a position coinciding with the area of low resistance (white area) on the survey.

1) A large sub-circular high resistance area about 3m wide and 7m long situated at the top of the dip in the field, is in contrast to the low resistance lighter area, which forms the sides and bottom of the dip. This could be a geological anomaly but has to be labelled as a response of unknown origin.

2) This area of low resistance has already been mentioned in relation to the 1990 photograph and also coincides with the dip in the land. This low resistance is probably due to the colluvium settling in the dip. The

underlying geology is a sandy gravel with some clay which would be a higher resistance than a finer soil produced as a result of hill wash.

3&4) A collection of high resistance responses in this area form several sub-circular anomalies about 7m across. Feature 4) appears to have an associated high resistance response at what would be the centre of the circle formed by the high resistance arc.

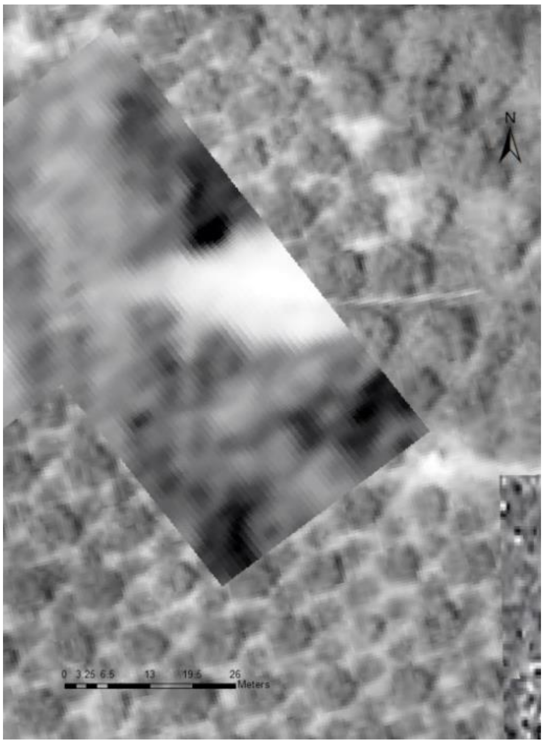


Fig. 17

Fig. 17 left is an aerial photograph of the area from 1960 with the resistance survey overlaid. The photograph shows pictures of fruit trees measuring between 6m to 7m across, with a similar plan profile to that of the circular anomalies on the survey. This could be a coincidence or there could be a relationship between the anomalies on the survey and the trees. The mechanism how this may happen is not clear but it could be related to the root structure, or could be as a consequence of removing the trees.

5) This is a large amorphous area of low resistance of unknown origin but the size and irregular shape suggest that it could be geology.

6) This high resistance response is around 18m long at is largest length and 12m wide at its widest. It appears to be two sub-circular features with an opening on each towards the north-east. There is an additional much fainter, sub-circular feature 9m by 5m, which seems to be attached to the other anomalies. The darker features look to be similar in form to that of 3 & 4 and may be caused by the same activity. The fainter anomaly does look to be different in form and appears unrelated. This area does have a potential for archaeology although the reason for the anomalies has to remain unknown.

7) This is a large, somewhat irregular area of high resistance, with discreet areas of higher resistance. There is no clue from the shape of the feature what it may

be, so it has to remain a response of unknown origin but is likely to be geology. Fig. 18 below shows the results of the analysis part way through the complete survey.

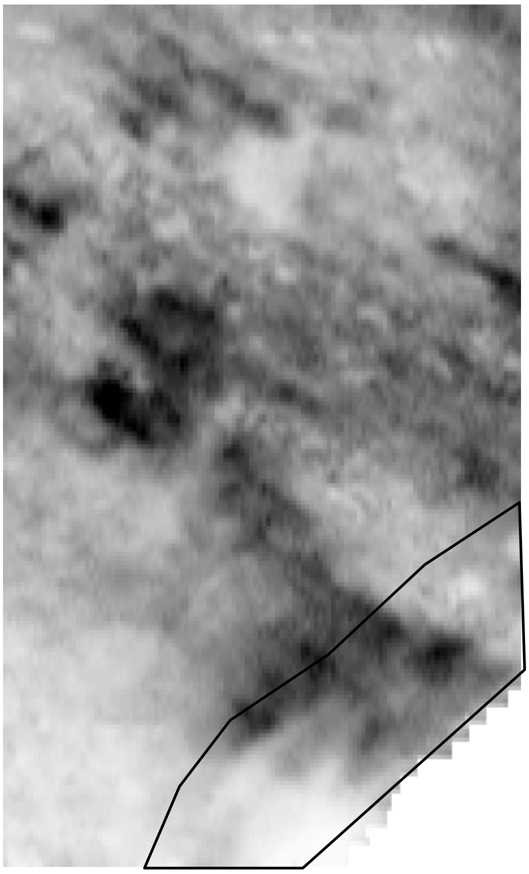


Fig. 18

This has been subjected to a slightly different image adjustment and a faint lower resistance response at the bottom of the survey indicated by the outline, can just be made out. This response looks to be two faint parallel lines approximately 6m apart with an alignment to the edge of the field indicated by the jagged edge of the survey. A linear lower resistance response could be the line of a ditch or could be as a result of agricultural activity. The edge of the field at this point is at a break of slope between the adjoining fields, so it could be an early field boundary, as the short shown section does have an alignment with the modern field boundary. It is doubtful that with such a regular response it is due to geology.

6.3 Combining the survey results

Overlaying the graphic interpretations of all surveys it is possible to see areas that have anomalies which coincide. There are three main areas which look to have similar results and may be of interest.

The first area is marked 1 on figure 19. At this location the ground surface shows a pronounced dip and the responses from both the resistance and magnetic surveys indicate that this area has a build-up of colluvium accumulating in the bottom and sides of the dip. It is difficult to understand for how long this build up has been accumulating but it is possible that at some point there may have been a steeper slope associated with this dip.

The next location of interest is area 2 where both surveys show probably the most promising location for archaeology related to the Hillfort. The resistance results are very strong here and overlay the magnetic survey which shows the sub-circular feature. There is some prospect that both surveys are showing the ghost of a round house with a compacted floor and possible eastern entrance.

The final location is at 3 with the specific area of interest being the coincidence of a linear feature which appears to run with a similar alignment, albeit 10m away, to the field boundary. The resistance survey results do suggest a possibility of two parallel ditches which could, like area 2, be in some way associated with the Hillfort.

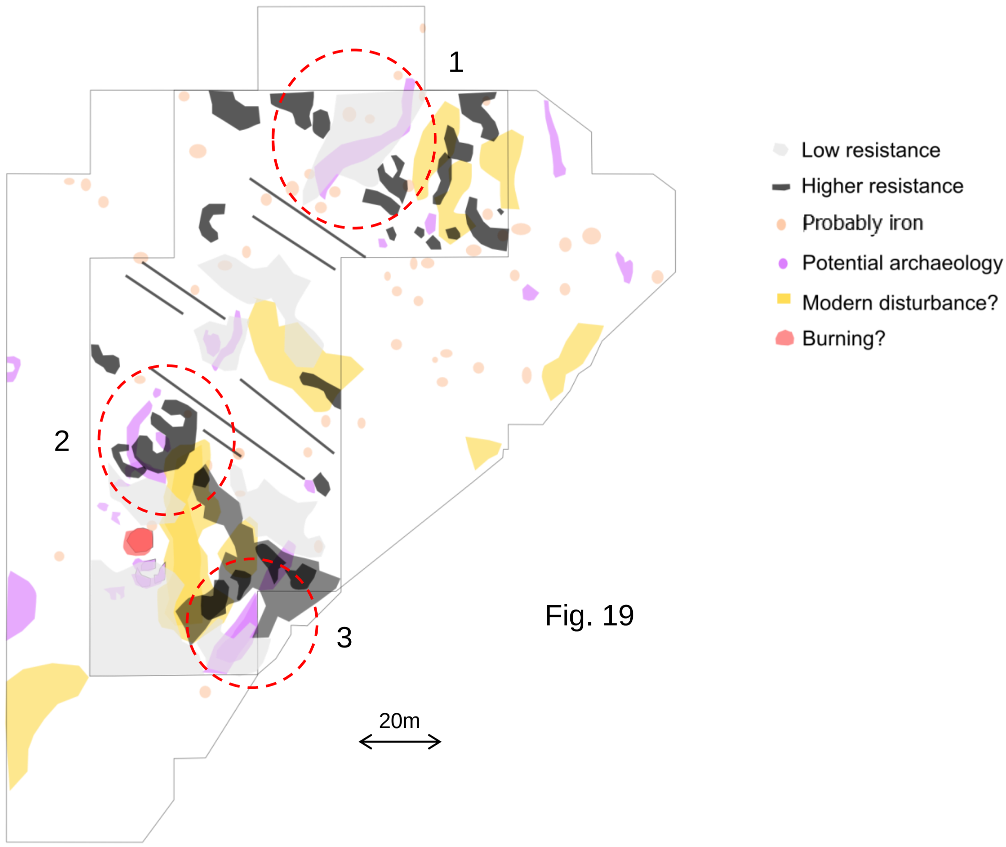


Fig. 19

7.0 Scrub Field

7.1 Magnetometry survey

The area called the Scrub Field was selected for further investigation as it is an area immediately to the south of the Top Field at the start of a slope into the valley below. It is south facing and commands good views over the countryside in that direction. Additionally, there are flat areas which could have the potential for building plateaus.

Unfortunately, the field had a multitude of “natural” obstacles in the form of brambles, trees and dense undergrowth, hence the name Scrub Field. This made it very difficult to walk over as can be seen from the patchy survey which was the end result. A magnetic survey was initially carried out and due to the difficulty in its execution the decision was made not to proceed with the resistance survey.

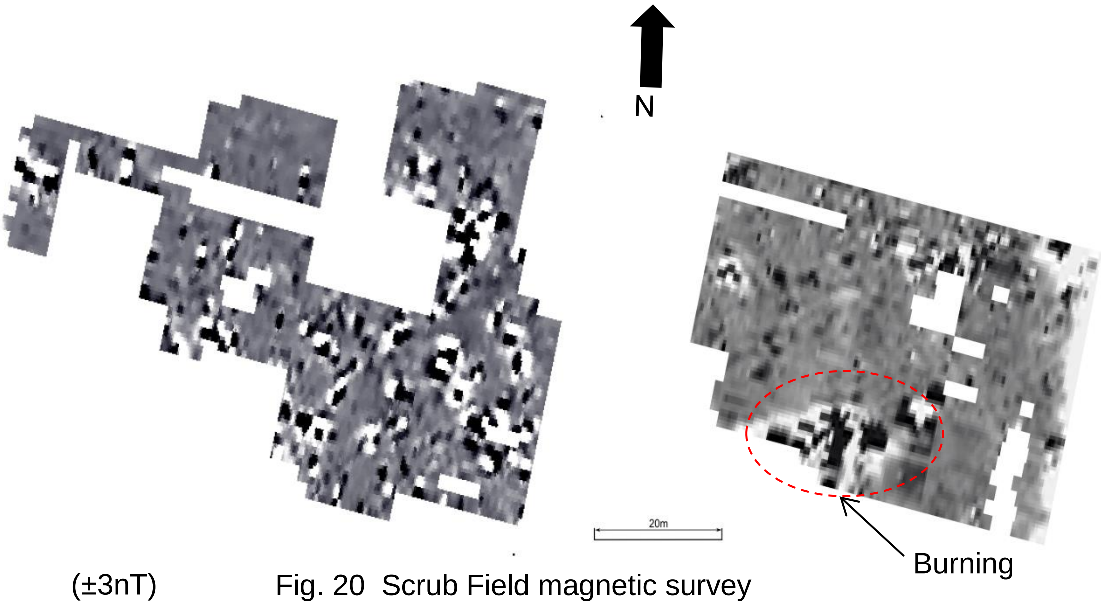


Fig. 20 Scrub Field magnetic survey

As can be seen from Fig. 20, the survey did not produce any clear results that could be coherent archaeology. The evidence seems to suggest that there are many responses due to ferrous material, resulting in the classic black and white bipolar response as previously described. There were many animal burrows across the complete survey area and several of these, produced waste that contained burnt material. In particular, the area marked with the red circle appeared to be heavily burnt.

It appears that this piece of land, over time, has been used for dumping agricultural paraphernalia associated with running and maintaining an orchard, like wire, nails etc. It was also likely to be used for burning old or diseased trees for which there is widespread evidence across the field. The conclusion must be that whilst this field has the potential for Iron Age settlement, it is not possible to confirm this with geophysics.

8.0 Bigbury Wood Field

8.1 Magnetometry survey

This field is mainly a large flat area which slopes downwards at its eastern end. It lies between Bigbury Wood to the south and the small valley in front of the Hillfort ramparts to the north and is now pasture. This field was surveyed in early spring of 2014 in dry conditions but it had been very wet the previous few weeks.

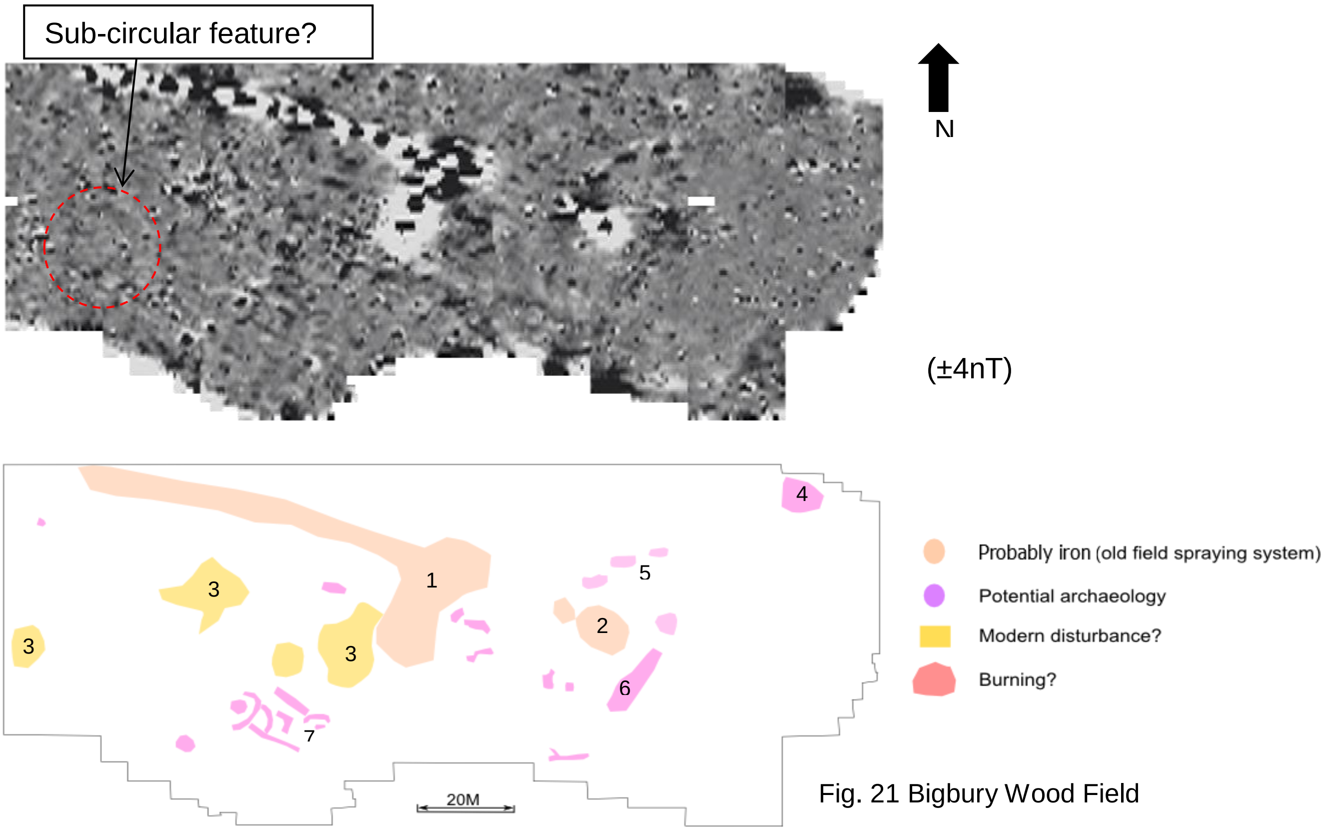


Fig. 21 Bigbury Wood Field

The survey area is approximately 180m long and 80m wide at the widest point and the field was mainly grass with one area (the area on the survey (Fig. 21) with the white rectangle due to dummy readings) being thick brambles.

1. The obvious anomaly is the linear feature running approximately east-west and it is almost certainly the remains of an old spraying system. This was described by the previous landowner as a system of buried metal tubing through which chemicals are pumped from a central pumping station. Remnants of the system can be seen occasionally at the edge of the fields. The system was supposedly removed several years ago, when the sub soil was rotated but from

the survey results above, it looks like a part of the system was missed and is still buried.

2. This response looks to have the same explanation as in 1) as it is similar in its character and on the same alignment.

3. These are areas of very random responses, probably as a result of modern disturbance.

4. This is a high magnetic response about 7m north-south and 9m east-west and could have archaeological potential like a rubbish pit.

5. These are three similar high magnetic anomalies forming a curving row. They measure approximately 4m long and 2m wide although there is some variation which may be due to the sample rate (1 per m). It is difficult to say what the cause of these anomalies is. With their similar size and regular spacing it is probably not geology but could be connected to the agricultural activity of the field. Archaeology cannot be ruled out but without excavation they have to remain anomalies of unknown origin.

6. This is a linear anomaly running in a NE – SW direction being approximately 11m long and 1.5m wide. The alignment is similar to the east end of 1) and although it does not have the black and white metal response, it is likely to be the remains of the spraying system, perhaps the trench into which it was laid. It is unlikely to be geology due to its regular shape.

7. This is an area of anomalies, some curved and some linear and they have been highlighted, as they do not appear to be geology or part of the spraying system. The various shapes are not easy to identify and there does appear to be a concentration of them in this area. The most likely explanation is that they are connected to the agricultural use of the field but archaeology cannot be ruled out.

8.2 Resistance survey

With reference to Fig. 21 above, the area marked with the red dashed circle has been highlighted in this manner, as initially it was considered to be an anomaly, 14m to 15m in diameter, with a resemblance to the footprint of a large roundhouse. It is a very faint anomaly and could easily be a collection of unrelated responses which take the form of a circle. It was with this in mind, that the decision was made to sample the western end of the field with a resistance survey of 40m x 60m, to see if this anomaly is visible using a different technique (Fig. 22).

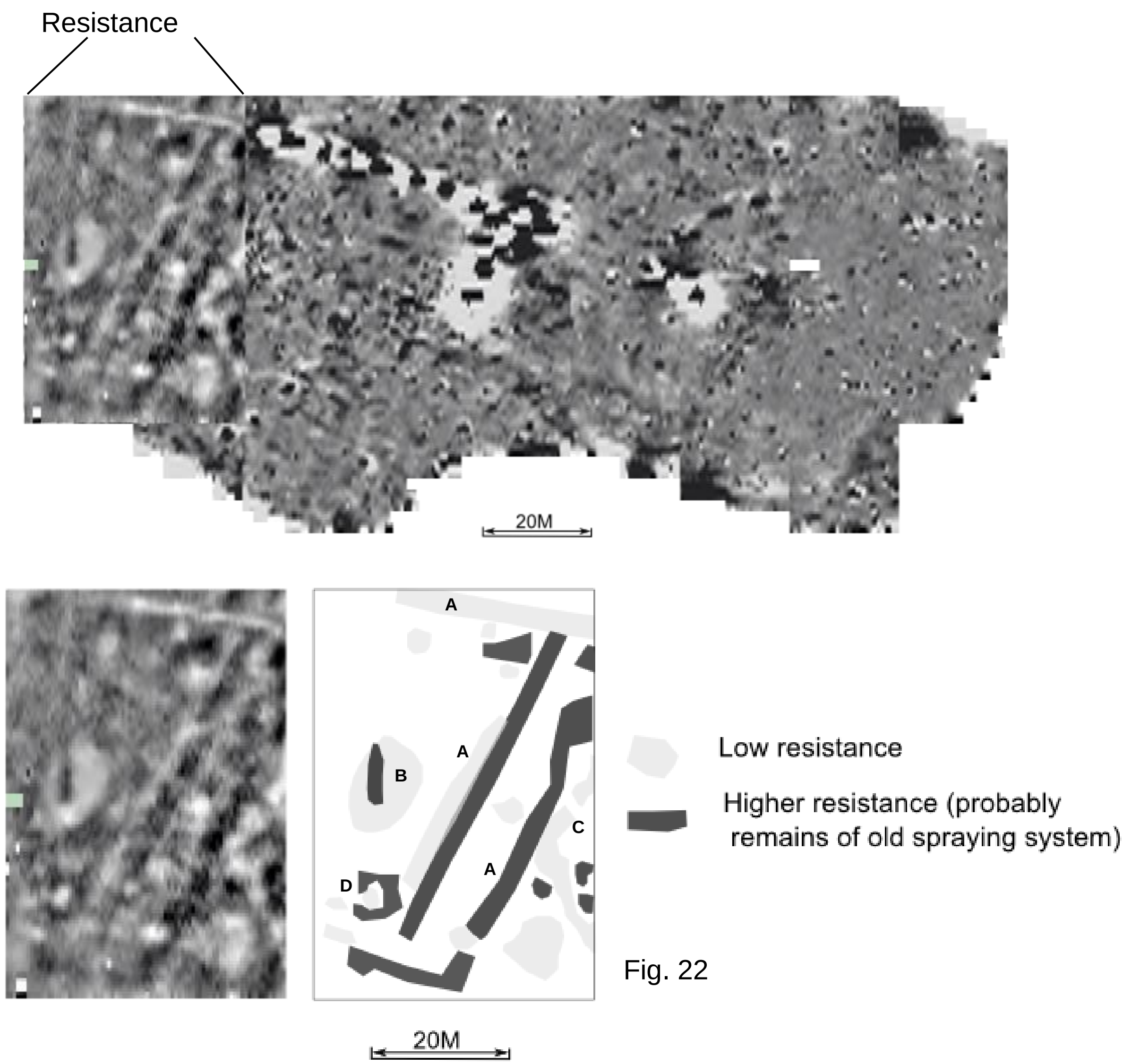


Fig. 22

A. The obvious features on the resistance scan are the linear anomalies, appearing as both high and lower resistance on the survey. The low resistance feature at the top of the figure is on the same line as the metallic response on the magnetic survey. As there is probably a metal tube still in situ, it is understandable that this will cause a low resistance response. The dark linear responses do not appear on the magnetic survey, so no metal tubing is present. The dark responses on the resistance survey, indicate the trenches where the tubes were buried, which have now been backfilled and likely compacted, resulting in a higher resistance.

B. This is a sub-circular area of low resistance 9m east-west and 12m north-south, with a very rectangular high resistance feature 7m by 2m situated near the centre.

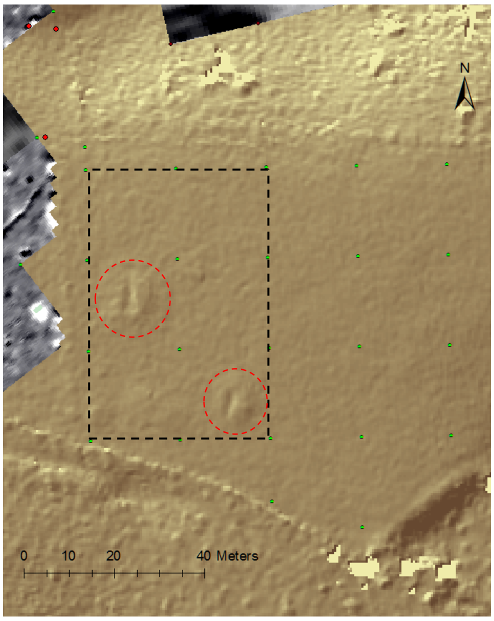


Fig. 23

This response is difficult to characterize, but if the LiDAR image of this area is examined (see Fig. 23 right) a feature is seen in the same position as B. This looks to be a circular depression, with a further indent in the middle corresponding to the high resistance rectangular response. It does not appear to have an alignment or relationship with any other feature so its origin must remain unknown. A similar feature seen on the LiDAR in the bottom right hand corner of the scan appears as a low resistance area on the resistance scan. No high resistance feature is seen in this particular instance.

C. This low resistance anomaly looks to have a regular shape forming a near right angle, with a break in the linear portion on the SW- NE alignment.

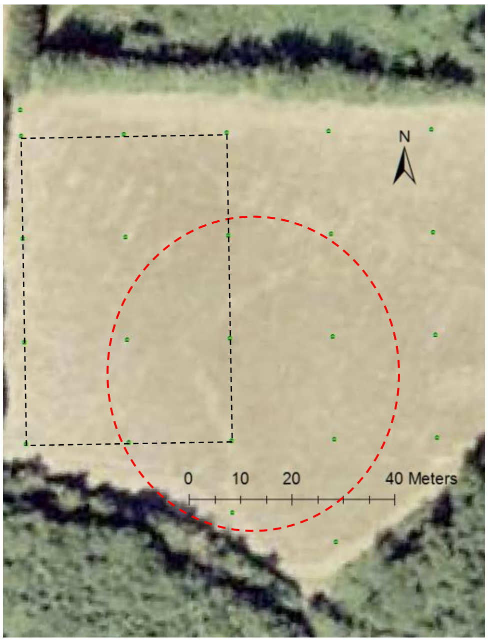


Fig. 24

It does not have the same alignment as the buried spraying system nor does it appear to have an alignment with any other feature. With reference to the Google Earth image of the field taken in 2003, Fig. 24 left, within the red circle can be seen a faint shape which is similar in form and alignment to the anomaly seen on the resistance scan. This is not seen in any other Google Image or aerial photograph taken either before or after.

This is probably due to the fact that the conditions were just right to obtain this image and have never been replicated before or since.

It is possible that it could be two sides of a building but this is doubtful as it would have been a large building (28m x 23m visible) and some other evidence would have been seen. The form of the anomaly suggests that it is not geology but more likely to be connected to the agricultural use of the field.

D. This is a horseshoe shaped high resistance with the opening to the west. This feature is a band of high resistance 1.5 m wide and approximately 6m across at its widest. This feature encloses a sub-circular low resistance anomaly of around 3m in diameter. Unlike anomaly C), there are no correlations of this feature with the LiDAR or aerial photographs nor does there look to be any other relationship with any other anomaly. Geology looks doubtful so it may be as a result of agricultural use or could be of an archaeological nature.

8.3 Combining the survey results

When the magnetic and resistance surveys are combined, it is clear to see that the outline of the buried spraying system appears to some degree in both, illustrating the responses with pipe buried and with pipe removed. There are no other anomalies that appear in both surveys and the potential sub circular feature outlined in Fig. 21 was not visible in the resistance survey, so the likelihood is that it is not a genuine response.

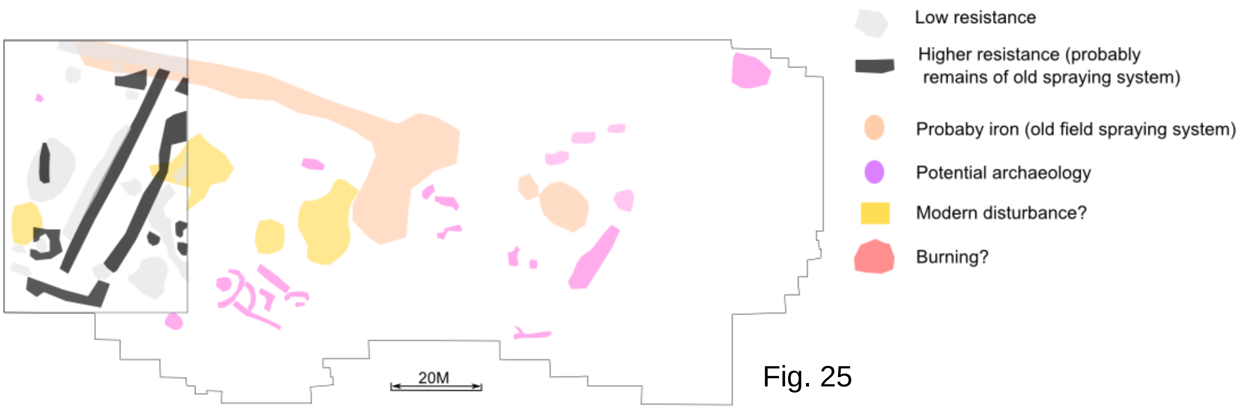


Fig. 25

9.0 Valley Field

9.1 Resistance survey

As previously stated, the Valley Field was only surveyed using resistance as this proved to be the most effective on the geology. This field dips down from the Top Field with the ramparts of the Hillfort to the north and the valley side rising steeply to the south.

Valley Field looking west

Valley Field looking east

Fig. 26 Views looking east and west adjacent to the southern ramparts

At the west end of the field, the valley floor is approximately 20m wide broadening out to around 40m at its eastern end. The southern ramparts have at this point been largely destroyed by ploughing and quarrying, as can be seen by the LiDAR picture (Fig. 27).

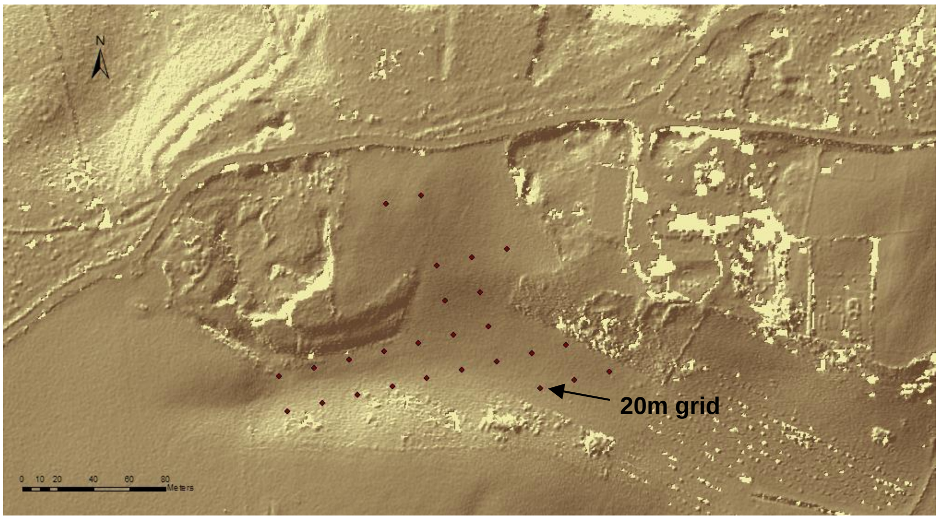
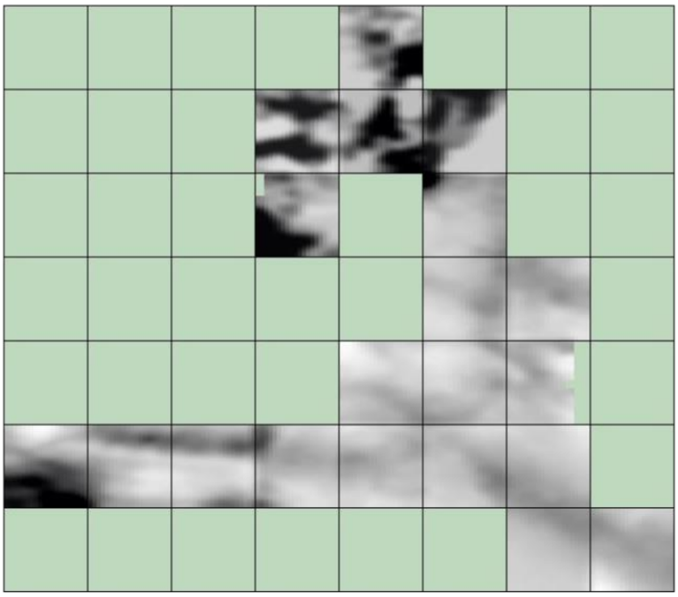


Fig. 27

It was hoped that some remnants of the demolished ramparts may be visible in the geophysics scan and there was also a slim chance that some of the area behind the ramparts may reveal archaeology even though it too had been damaged. This was the area that was excavated by the Blockleys in 1981 so it is possible that some of their trenches may be revealed (Blockley 1989).



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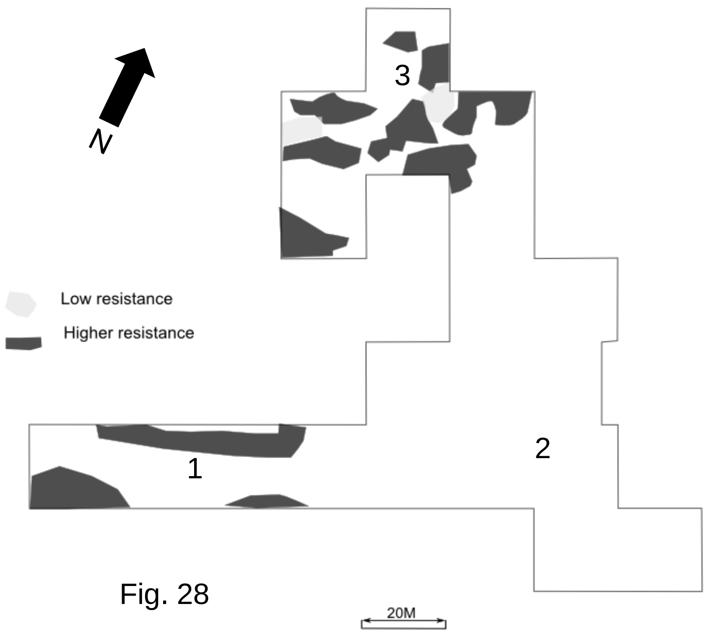


Fig. 28

The survey of the Valley Field was completed over a period of three weeks in the spring of 2014 and consisted of three separate surveys. The weather although previously wet, had dried up and for most of the period it was dry and sunny. As the surveys were carried out at different times, there was an issue with how the equipment needed to be set up. It meant that three different range settings had to be set on the equipment in order to get a sensible reading. This was probably due to the different geology in the different parts of the valley and to some extent the drying of the soil must have had an influence. This resulted in some difficulty when matching the grids to each other as the contrast between the light and dark shades was not consistent. This was particularly challenging in the area of the dark responses towards the north of the survey.

This is a problem often encountered with resistivity surveys if they are conducted in the same area at different times, as the results have to be harmonized if a different gain setting is used due to the conditions.

The resultant composite of the grids is not as clear as previously experienced but does show the important features which the survey revealed. In the survey, three main areas of interest have been identified (see Fig. 28): the linear feature at (1) parallel to the remaining ramparts, the area of vague grey linear responses at (2) and the collection of very dark responses at (3) which are within the fort interior.

1. This is a high resistance feature which is approximately 5m in width and runs parallel with the existing ramparts of the fort at a distance of between 7m - 9m from the bottom of the outer bank. The high resistance feature appears to turn a corner at its eastern end, mirroring the line of the truncated rampart. As this feature has a high resistance it is likely that it is a compacted surface possibly a track way. This idea is reinforced as it does appear to follow the ramparts even turning a corner where the ramparts have been destroyed.

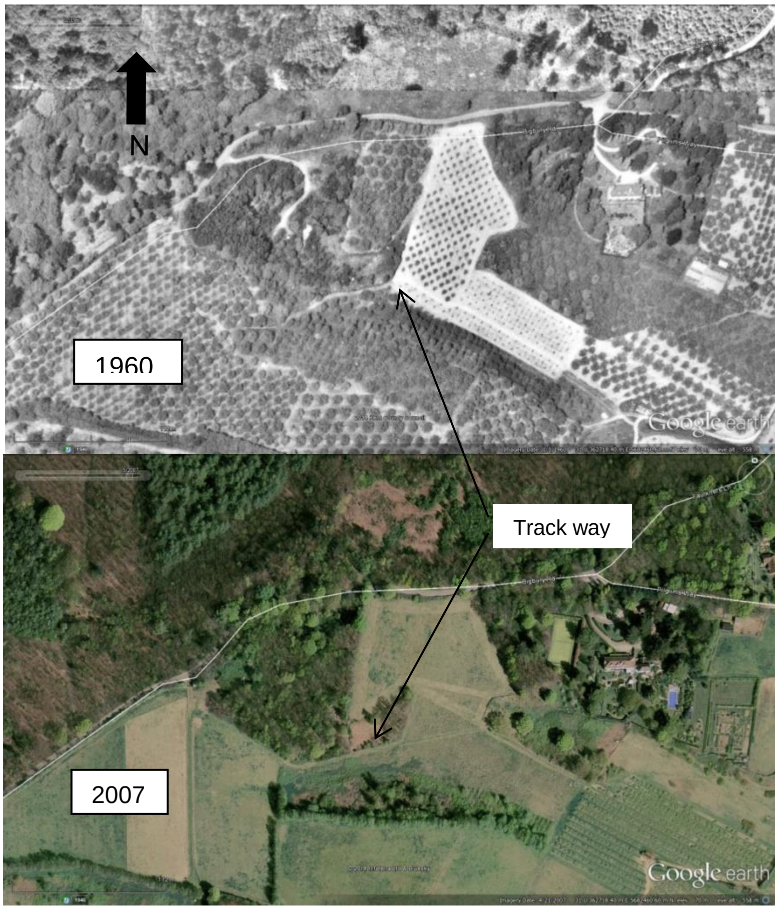


Fig. 29

The aerial photographs of this area (Fig. 29) all show some sort of track here, with the 1960 image clearly showing a path turning northwards between the two fields, joining the Bigbury Road at the top of the orchard. The other areas of high resistance below the linear, do not correlate with any other feature visible in either maps or photographs.

It is probable that only some of the features have been surveyed so without seeing the complete picture, it is difficult to say what these features represent, so they will have to remain anomalies of unknown origin.

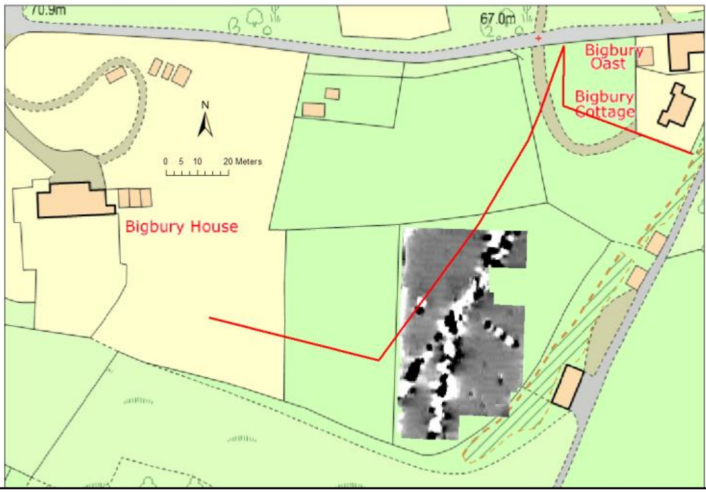
2. In this area can be seen several irregular shapes, some of which have a linear element to them, predominantly in an east-west direction. The most likely reason for this type of response is geological, probably beds of more sand and/or gravel showing as a higher resistance than the surrounding soil. This area of the Hillfort is much altered so this also may be the result of quarrying.

3. This area shows several distinct very high resistance anomalies. It is suspected that this area has been subjected to quarrying in the past but how much material was extracted is not known. As stated above, this area was the main location for the Blockley brothers' excavation of 1981 so it was also possible that their trenches would be revealed in the geophysics at this point (Blockley 1989). Whilst plotting their trenches on ArcGIS from the plan they published in *Archaeologia Cantiana*, it was discovered that the accuracy of the drawn plans is questionable when comparing the large scale map with the smaller scale one. This meant that the ArcGIS locations may not be entirely accurate but nonetheless sufficiently well-located for the purposes of this exercise. Only three of their trenches seemed to overlay the area surveyed and none of these look to be responsible for the dark anomalies seen. Part of this area, according to the plan by Blockley, was an area that they determined to be a back filled gravel quarry. They also stated that the stratigraphy in this field was shallow, the over burden being about 20cm of pebbly clayey loam overlaying natural clay and gravel (Blockley 1989, p.240). They also stated that significant damage had been done to the stratigraphy by agriculture and quarrying (ibid). Without further investigation of these features, it is impossible to say what the cause of the high resistance is but it is likely to be of a geological nature.

10.0 Eco House Field

10.1 Background

Although this field is completely within the boundaries of the ramparts, only part of it is within the protected area. As there has been extensive quarrying in the past at this location, the protected area only includes the presumed undisturbed area at the lower part of the field adjacent to the ramparts (see Fig. 30). The upper part of the field closest to the Pilgrims Way Road, which is not in the protected zone, has planning permission for a partly buried "Eco House", hence the name given to the field.



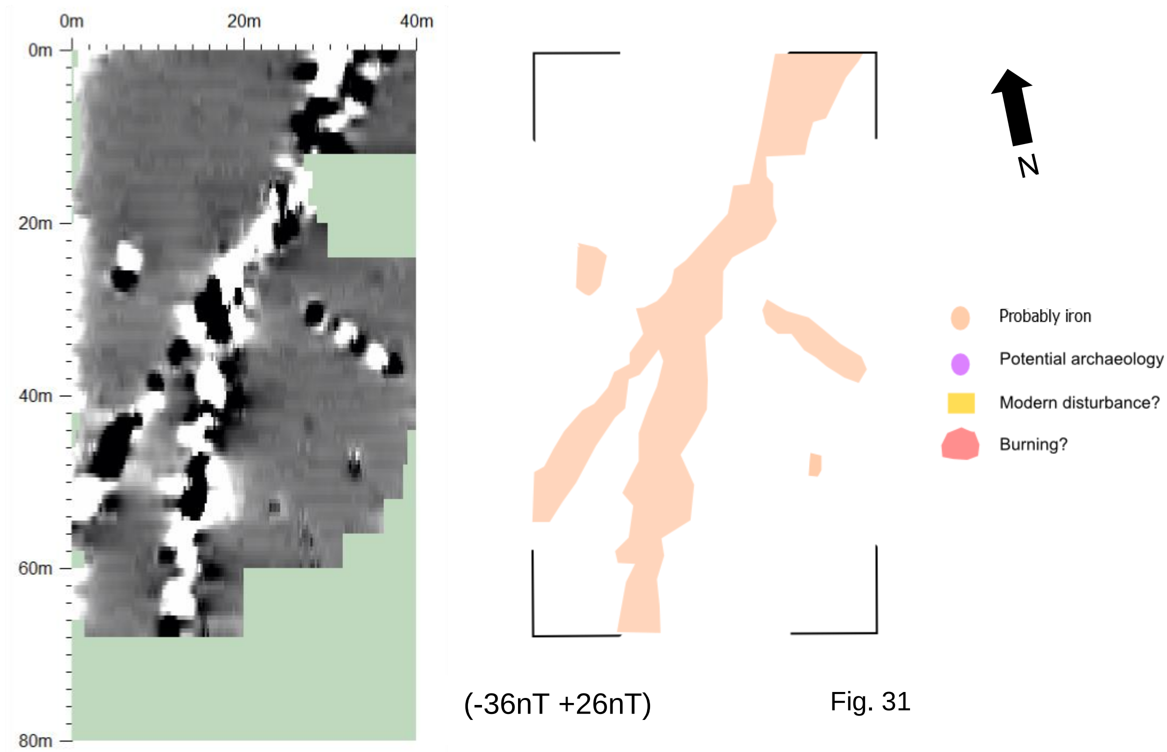
Boundary of the protected area

Fig. 30

Permission from English Heritage was required to carry out geophysics on the lower part of the field and this was granted on the 30th June 2014 case number: SL00082430.

10.2 Magnetometry survey

Before any survey could be carried out it was necessary to reduce the height of the undergrowth in certain areas. This was completed with the kind assistance of Kathryn Barton and Lloyd Bosworth. A large area of brambles towards the north-east of the field was not cleared, as this would have been very difficult to complete in the time available. The terrain was difficult as it had a slope from the centre of the field towards the ramparts and in places the grass was very long. The two days of the survey were very hot with reasonably dry conditions for the previous two weeks.



(-36nT +26nT)

Fig. 31

The results of the magnetometry survey above in Fig. 31, are dominated by several linear metallic responses. They appear to fork around the centre of the survey area with a truncated response running perpendicular to the main feature just above the junction.

Similar responses have been seen in Bigbury Wood Field (see Fig. 21) which were as a result of the remains of a buried metal spraying system. In the case of the Eco Field, the responses although similar, differ in the fact that they appear to have this forked junction. The most likely explanation is that they are buried services like water, gas or electricity.

10.3 Resistance survey

The resistance survey area was slightly reduced compared to the magnetometry survey. This was due to the fact, that as the resistance survey takes longer, time restraints became a factor.

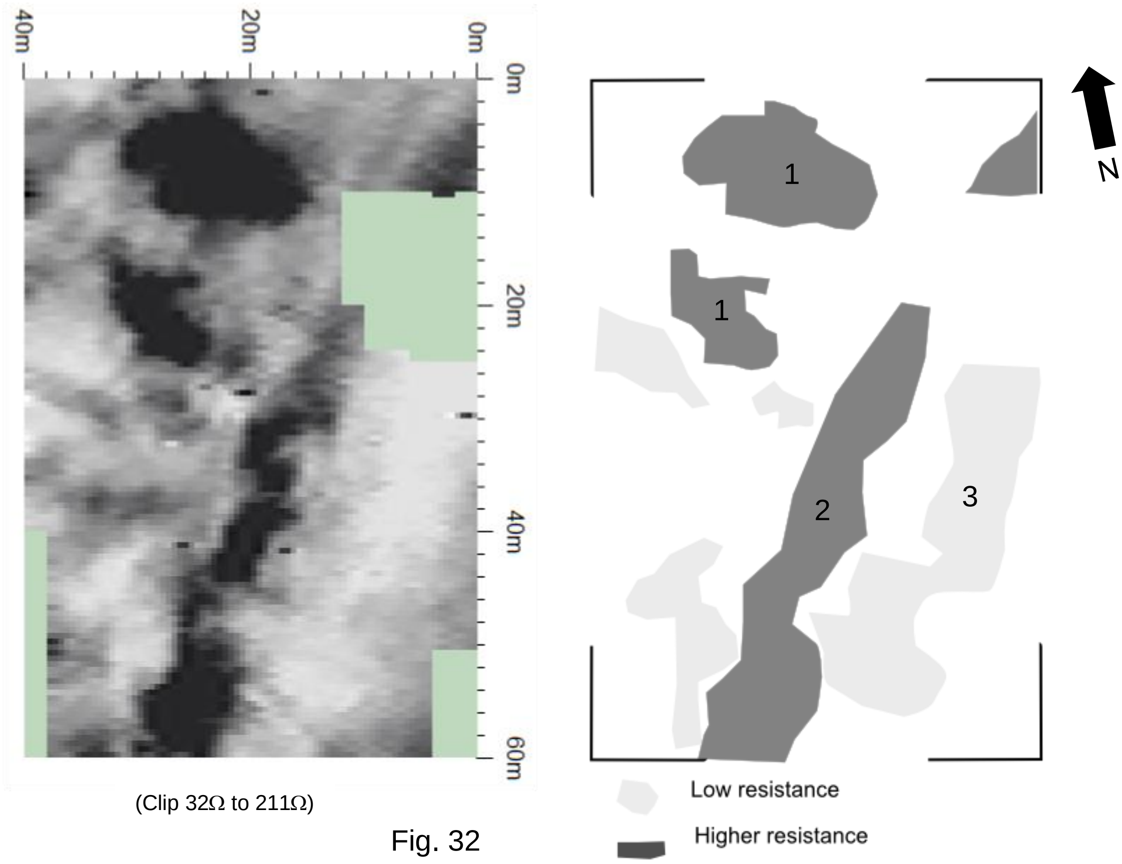


Fig. 32

1. The two areas of high resistance have a similar form and are likely to be caused by the underlying geology i.e. area of sand and/or gravel. The larger response is approximately 16m long by 9m wide whilst the smaller is approximately 11m x 5m and neither has any regular form making it more likely that they represent natural phenomena.

2. This area shows a high resistance linear feature running approximately NNE to SSW over the surveyed area. The widest part is towards the SSW end and is approximately 7m across at its widest. The regular linear form of the feature makes it unlikely to be geology and more likely to be man-made.

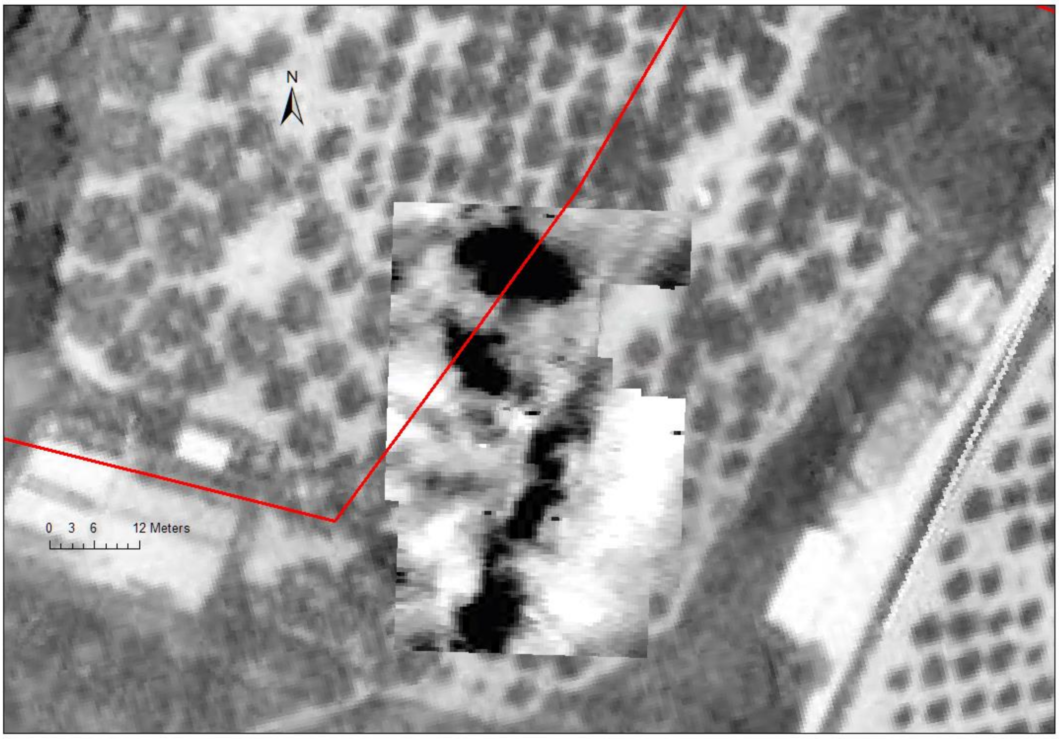


Fig. 33

As can be seen from Fig. 33 above, a Google maps aerial photograph from 1960 shows what looks to be a track running on the same alignment as the high resistance feature (2). It is probable that the high resistance response is a result of a compacted surface formed by the track way which follows the alignment of the ramparts.

3. This is a low resistance area and is on a part of the field which slopes reasonably steeply towards the ramparts. It is likely that this area has a layer of

hill wash and may hold the water better than the sand and gravel found elsewhere in the field. This is a similar response to that seen with the resistance survey on the slope of the Top Field (see Fig. 14) where it enters the Valley Field.

10.4 Combining the survey results

When the two surveys are combined (Fig. 35) the different alignments of the linear features are clearly demonstrated, reinforcing the hypothesis that they are as a result of different sub-surface features.

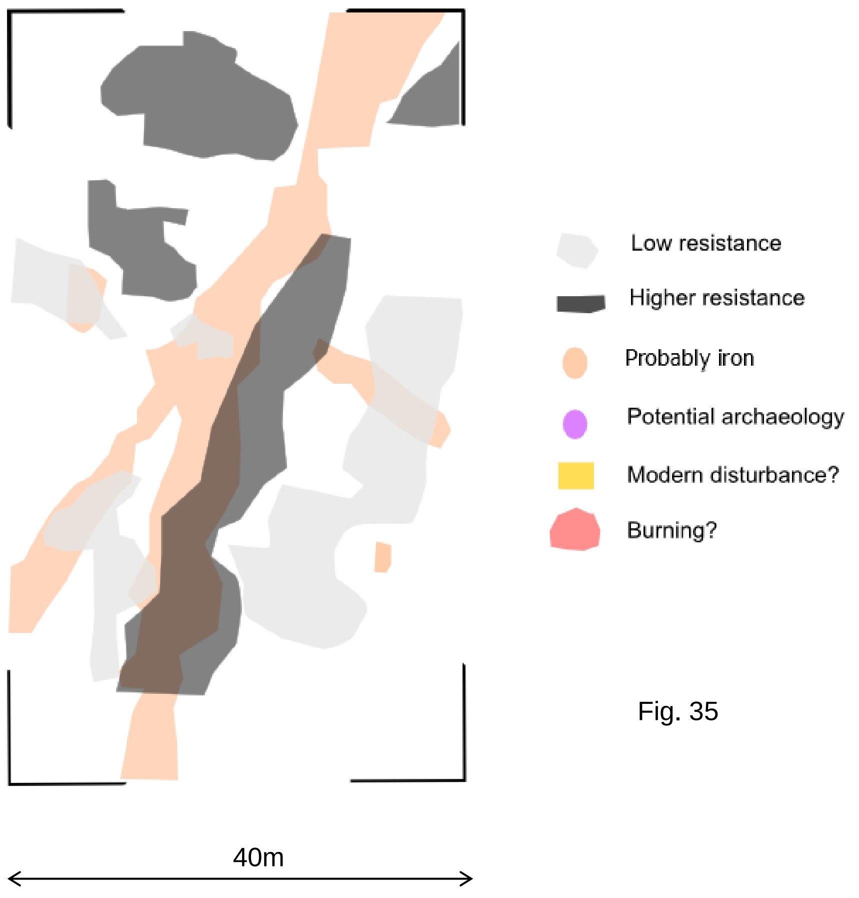


Fig. 35

11.0 Experiment with GPR

There was little that could have been done to remedy the geology, the land's agricultural history or the nature of the archaeological features, but the survey depth could be adjusted. Ground Penetrating Radar (GPR) was an obvious technique that could be employed to view deeper into the ground although this also has issues with geology. This technique is an expensive technology so several companies were approached and offered an "opportunity" for them to test any new equipment. One company, Geomatrix, gave a positive response as they were looking to bring to the market a new product that had the ability to scan using 3 bistatic antennas with different central frequencies. This gave the potential ability to look at differing depths depending on the frequency used. As this was a new product test, one day was all that was allowed for the use of the equipment (6th June 2015) and it was limited to an area of 50m by 50m. Several areas were selected for this survey and prioritised, in case time was an issue. Unfortunately, on the day of the survey, although the hardware seemed to perform well, the software had some “opportunities for improvement” which resulted in the cancellation of the survey. This is disappointing from a research point of view but the company went away with a much greater understanding of the equipment issues, all of which will require rectification before product launch. This exercise very much highlighted the need for thorough field testing before a new product is introduced to the market.

12.0 Recycled fertilizer contamination

The advent of green, recycled fertilizer has proved to be a growing problem. All recycled green waste should be sorted at source so that only bio degradable organic waste is scattered over the ground. It is becoming more apparent that in some cases, this sorting is not as comprehensive as it should be and ferrous elements like foil, cans, batteries etc. are being incorporated into the surface of the soil causing background noise and having a severely detrimental effect to the survey results (Gerrard, Caldwell and Kennedy 2015). This does not appear to have been an issue at Bigbury as most of the land surveyed was pasture and the most likely candidate for this problem, Orchard Field, although contaminated with modern ferrous material, was not as a result of green fertilizer contamination.

13.0 Conclusion

Prehistoric archaeology is often characteristically ephemeral in nature and consequently difficult to detect with geophysics. If this is coupled with the geology that is found at Bigbury, then the chances of detecting any archaeological features of the Iron Age is slim.

The test pits did reveal archaeology but at a depth in some places of over 1m. The correlation of the geophysics to the excavation features was in some cases predicted, but in many instances it was not obvious and it was assumed that this was primarily due to the depth of the archaeology, coupled with the fact that ditches filled with similar material to the surrounding soil, give little discrimination with geophysics.

The anomalies seen elsewhere like at Bigbury Wood Field and the Top Field, showed potential archaeology but none can be identified for certain from the survey alone and would need to be complemented by excavation. This would need to be on a larger scale than that which test pits provide, as it would be important to reach the depth to which archaeology has been found during the test pitting exercise, conducted in Orchard Field and Valley Field.

The geophysical survey results in isolation did not show for definite indications of Iron Age activity outside of the ramparts defined zone. The test pit excavations in the Orchard Field however, did demonstrate that Iron Age activity (and probably Bronze Age) was present. The low resistance linear response seen on the resistance survey of the Orchard Field (see Fig. 5) is potentially the Early Iron Age ditch excavated in 2013 and shows that this ditch is of some substance. If this is taken with the quantity and freshness of the pottery recovered, it indicates that there was a substantial settlement close by.

It is very likely that pre-historic archaeology does exist in the other areas surveyed but it is either at a depth or of a nature which does not show well on geophysics. It is also likely that the intensive agricultural activity throughout the years, has destroyed or at best heavily disturbed the archaeology so that anomalies appear random and unconnected.

The metal-piping system for dispensing liquid [nutrients, water, chemicals, chemical feeds, whatever] to the trees of the orchards hereabouts, is testimony to the level of investment in fruit growing in Kent in the mid-20th century and of the economic importance of this industry. Such systems must have existed at other farms at that time and so their installation will likewise have impacted on any existing archaeology, while geophysical surveys may encounter their remains elsewhere in Kent. The evidence from Bigbury can assist in identifying the character and purpose when similar anomalies are encountered.

A general conclusion from the surveys in this case, is that geophysical examination shows either an absence of archaeological features or likely features, over much of the area surveyed, or is not conducive to identifying their existence in this instance, for the reasons outlined.

Chapter 6 - Bigbury Survey Test Pit Excavation Report

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1.0 Introduction

In 2013 four test pits were opened in Orchard Field as a follow up to the previous field walking and geophysics survey work. The locations of the test pits were dictated by the anomalies revealed on the magnetic geophysical survey. In 2014, two further test pits were dug, (one in the Valley Field and one in Orchard Field) to investigate anomalies seen on the resistance geophysics survey.

2.0 Geology

A key element of a successful excavation is to understand and be able to recognise the "natural" soil of the area. The underlying geology (see Fig 1. below) at the location of the excavations, is Thanet Sand formation, with the higher ground being the Lambeth group. This results in a very stony natural sub-soil with areas of sandy-gravel and clay. These base soil types formed the matrix of palaeo and archaeological soils and the outcome was to make it very difficult to see archaeological interfaces especially when the conditions were dry; this proved to be a challenge throughout the excavation and recording periods. The pH of the soil below the plough soil was tested using a proprietary garden soil tester and was found to be very alkaline, so bone may have survived (Renfrew 2004, p.63).

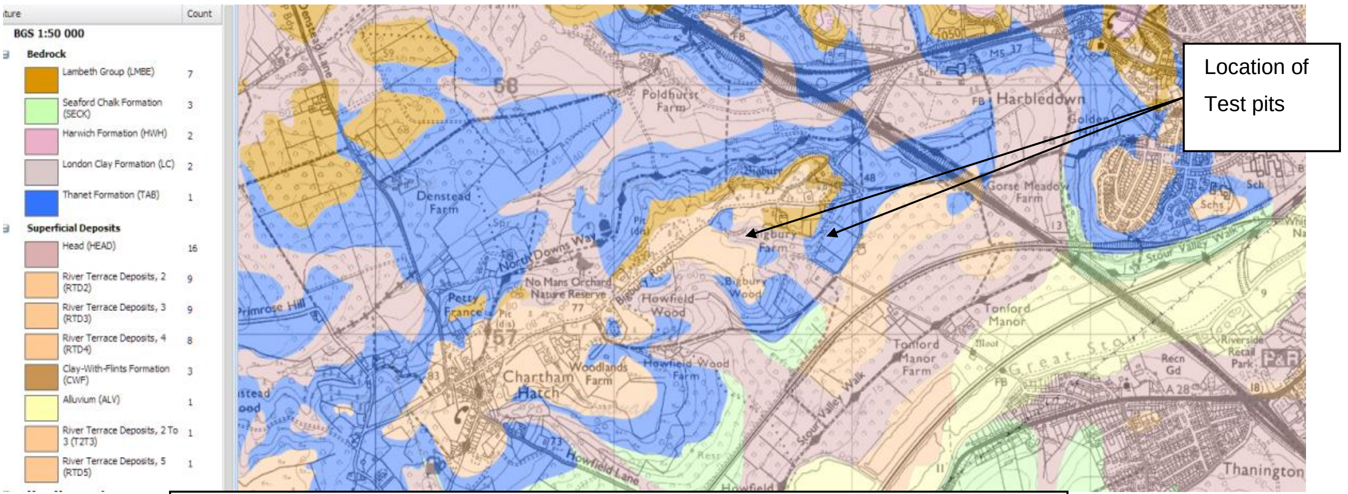


Fig. 1 Geology map of Bigbury - Geological Map Data © NERC 2014

3.0 2013 Excavation Trench Location

Four anomalies were selected for excavation and the selection criteria are described below. The size of the test pits was designed to investigate each feature with the minimum of disruption to the archaeology, whilst at the same time ensuring the highest standard of excavation which would provide the best information to “ground truth”- the survey results. It was hoped that this “ground truth” information would be useful in analysing the geophysical survey results performed elsewhere in the vicinity. The initial size of the test pits was set at 1m x 2m, however, three of the four trenches dug were extended beyond this size to further explore features revealed. In each case an extension was necessary, in order to get a full understanding of the nature of the features uncovered.

The details of the geophysics survey are described in chapter 5 but Fig. 2 left, shows the closeness of the survey to the south-eastern ramparts.

Prior to the excavations in 2013 and due to the non-availability of the resistance equipment, only the magnetic survey had been carried out and it was not until 2014 that the resistance survey was undertaken.

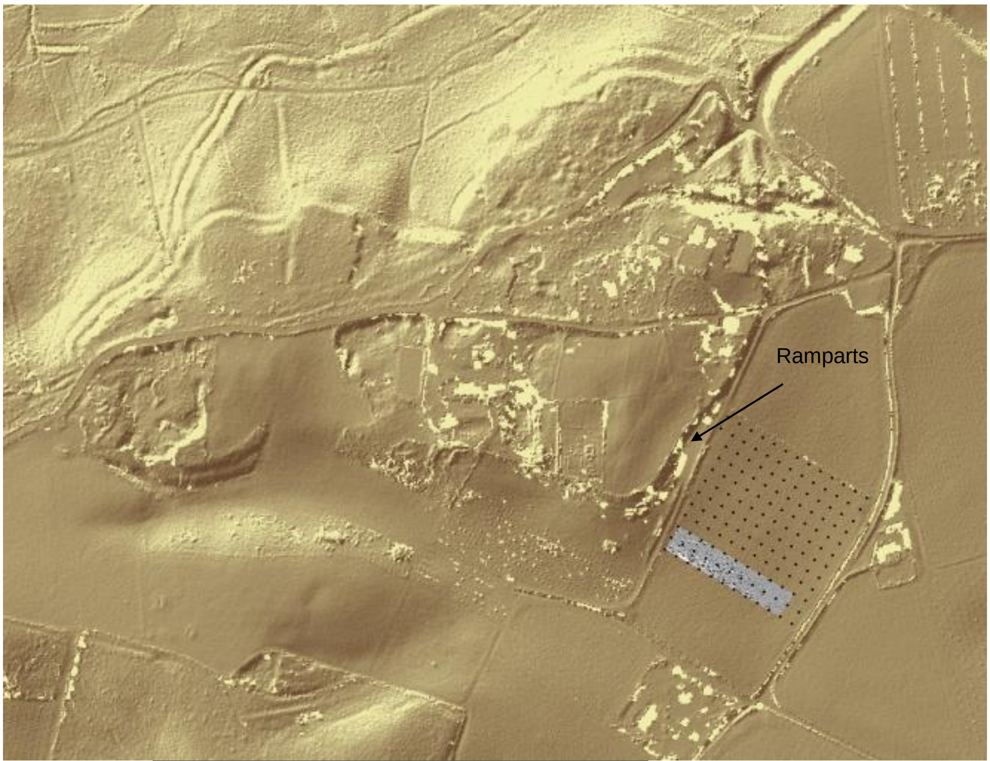


Fig. 2 Location of geophysics survey

The excavations revealed significant prehistoric evidence pushing back the settlement of the Bigbury environs to the very early Iron Age and most likely to the Bronze Age. The following will first describe the excavations, then the findings will be interpreted and discussed.

3.1 Test Pit 1

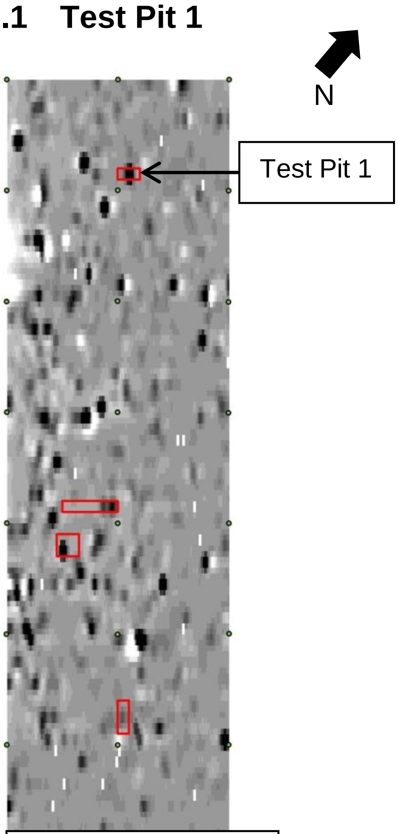


Fig. 3 Test Pit 1 location

Test pit 1 was a 2m x 1m trench positioned over a feature which had a strong dark response and did not show the typical black and white response associated with a ferrous anomaly. There were several of these dark responses and this one was chosen to ensure good sample spacing across the field to better understand the underlying geology. The feature measured approximately 2m by 1m and could be potential archaeology such as a pit.

3.2 Test Pit 2

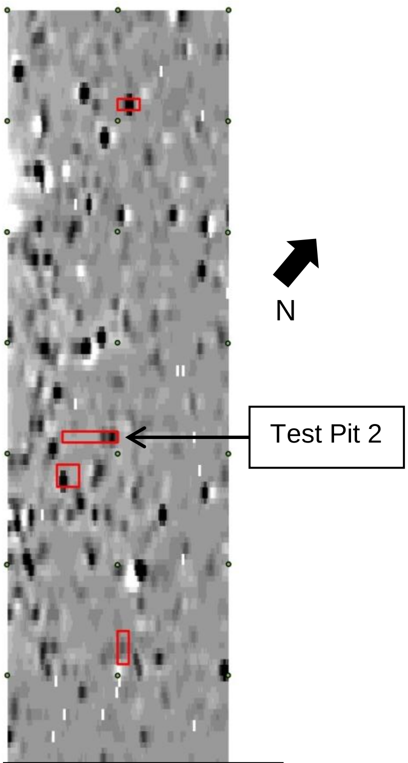


Fig. 4 Test Pit 2 location

Test pit 2 was initially 2m by 1m in size laid over a dark double response on the geophysics survey. There were several instances of this type of response, so it was necessary to investigate the possible cause. Both of the responses measured 1m in length, with one response measuring 0.65m wide and one 0.4m wide.

3.3 Test Pit 3

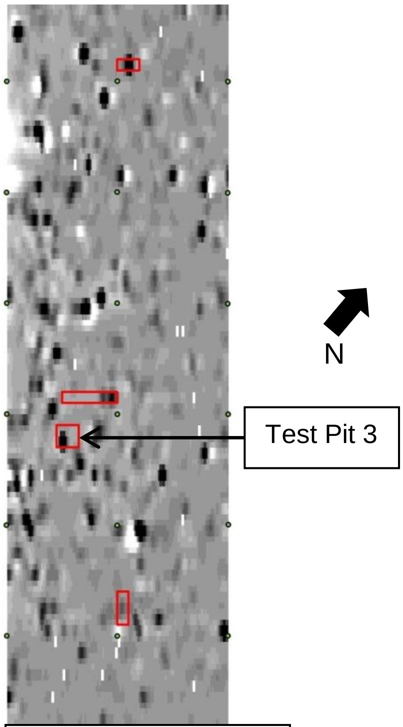


Fig. 5 Test Pit 3 location

Test pit 3 was designed to be a 1m x 1m size trench laid over the north-west portion of the dark sub circular response on the geophysics survey. This looked to be one of a series of similar responses forming part of a sub-circular feature. The features varied in size from the largest which was approximately 2m by 1m, to the smallest of 0.50m by 0.50m. The one chosen was 1.8m by 0.8m.

3.4 Test Pit 4

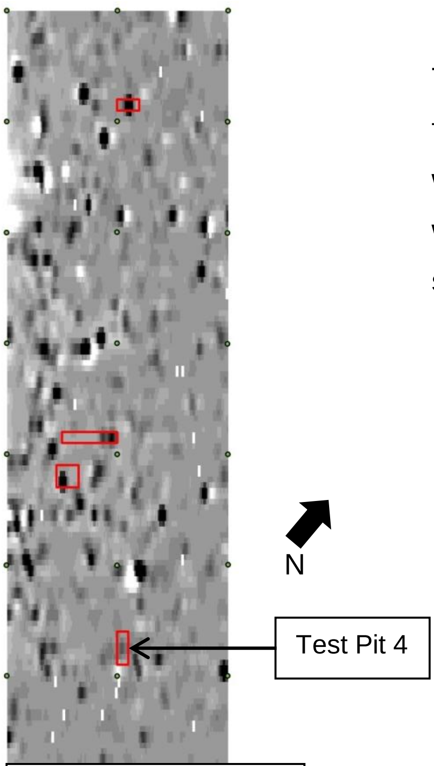


Fig. 6 Test Pit 4 location

Test pit 4 was opened over a faint curvilinear feature suggested on the geophysics scan. This weak response which measured on average 1m wide seems to be the divide between the “busy” top section of the survey and the quieter lower third.

4.0 The 2013 Excavation Results

4.1 Test pit 1

The dark brown topsoil, which varied in depth from 20cm to about 30cm, was removed and as expected for this layer, contained humic material and was reasonably easy to dig. It contained tile, charcoal flecks, orange ceramic smears and flecks of chalk- a reflection of the busy agricultural use. The layer below the plough soil was lighter in colour and had an appearance of silty clay and contained some angular flints. Chalk was also present and more common than in the plough soil above. A small triangular deposit at the north-east end of the trench was a very soft, sandy-clay, orange-brown in colour. This was a very clean layer with very few inclusions of any kind and appeared to be a natural deposit.

The trench was excavated until the charcoal and ceramic flecks disappeared and this coincided with a colour change in the soil which was considered to be the natural sub-soil. This surface was mainly soft, sandy-clay with areas of harder clay- more compact with inclusions of stone and gravel. Figs 7 and 8 below, show the base and section of test pit 1.

It was difficult to reconcile the excavated trench with the results of the magnetic geophysics and as no feature of archaeological interest was found, the trench was back-filled.

Fig. 7 Test Pit 1

Fig.8 Test Pit 1 section

4.2 Test pit 2

Test pit 2 was originally excavated as a 2m x 1m trench to a similar depth as TP1. It was decided that the natural had been reached and the trench did not contain any archaeological features. The double response may be put down to two areas of packed flint as shown in Fig. 9 below. The trench was recorded and then backfilled.

Fig. 9 Test Pit 2

It became apparent during the excavation of TP 3, that it was probable that TP 2 did actually contain archaeological features and it was almost certainly backfilled prematurely, before the natural was fully characterised in this area of the field. Additionally, features found in TP 3 should have been visible in TP 2 if it were extended. The decision was then taken to re-excavate TP2 and extend it a further 2m towards the south-west and shortly after, a further 1m in the same direction.


Fig. 10 Test Pit 2 showing edge of ditch

Once the 3m extension was excavated to a depth of approximately 40-50cm, archaeological features started to be revealed. The main feature uncovered was a ditch running approximately north-south (initially revealed in TP 3). Figure 10 left, shows the north-east edge of the ditch just below the north arrow; to the right of the north arrow, is a large pottery sherd in the upper fill of the ditch. The ditch is discussed further below.

The original 2m part of TP 2 was excavated further to reveal a feature which looked to have cut a compacted flint surface. This can be seen in Fig 11.

Fig. 11 Test Pit 2 showing post hole

A post hole [203] shown in Fig 8 and measuring approximately 25cm in diameter, was discernible once the upper layers had been removed. The fill (204), was slightly darker in colour than the surrounding soil and when half sectioned, flints were revealed at each side which could have been used for packing around a post. A sample of the fill was taken for analysis.

Fig. 12 Test Pit 2 post hole and flint packing

4.2.1 NE- SW Section of ditch

It is clear that the ditch feature in Test pit 2 [205], was a continuation of the ditch [303] in Test pit 3. Apart from the close proximity to each other, the form of the ditches was very similar and showed the same alignment. See photograph of ditch section Fig. 13.

Fig. 13 Test pit 2 NE-SW Section

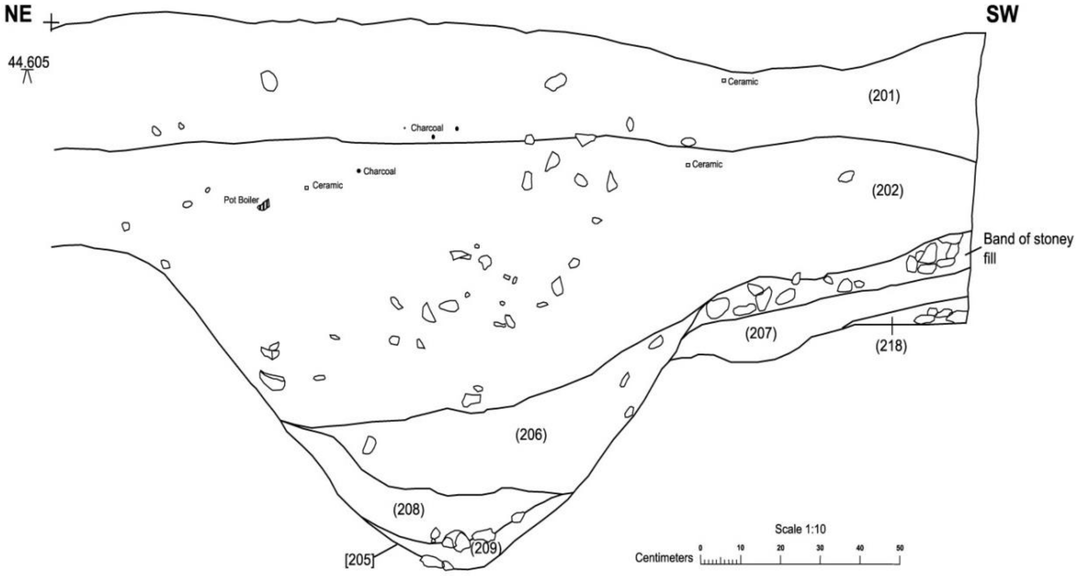


Fig. 14 Test pit 2 NE- SW Section

With reference to Fig. 14 above, the probable earliest context of the section was (218) and above this was context (207). These deposits were cut by the ditch [205] whose primary fill was context (209) which was probably formed as a result of weathering of the ditch sides.

Context (206) was a clean fill with few inclusions (only small flints). The profile of the fill indicated that it may have entered the ditch from the south-west side, possibly as a result of erosion of a bank. No pottery was found in this context.

Fig. 15 Two flint scrapers found in upper layers of the ditch in TP2 and TP3. Test pit 2 NE SW Section

The layer immediately below the top soil (201) was (202) which was a mid-brown friable clayey-silt with rare chalk and charcoal flecks and orange ceramic smears, as well as occasional angular flints. As can be seen from Fig. 14, (the drawing of the section), this layer comprised the main (upper) fill of the ditch and it was also the layer from which all of the stratified pottery from this test pit came.

This context additionally revealed a flint scraper and a similar one was found in (302) of test pit 3 (see Fig. 15). These scrapers are very alike and similar to one illustrated from

Iwade which has been dated to the Late Neolithic/Early Bronze Age (Bishop and Bagwell 2005).

4.2.2 SE- NW Section of trench

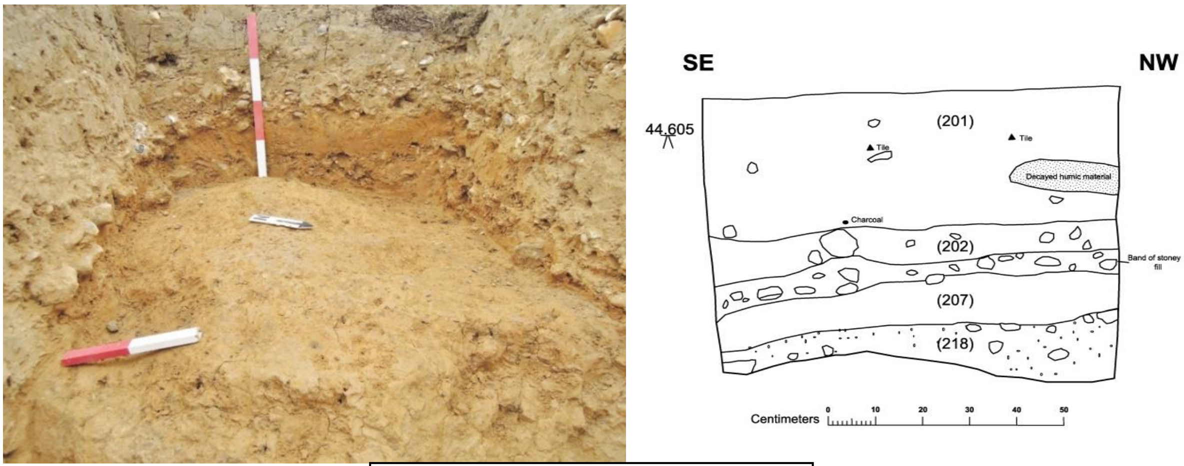


Fig. 16 Test pit 2 SE-NW Section

4.2.3 SW- NE Section of ditch

As expected, the profile and contexts of the SW-NE section of ditch [205] were very similar to the NE-SW section. There is one observation which requires highlighting and that is that the bands of gritty and stony deposits seen at this south-west end of the trench (207) and (218), appear to be truncated. This created a flat spot before the slope of the ditch, making the ditch profile at this point asymmetric. See Fig. 17 below. It is possible that this had been excavated at some point after the ditch was cut, although no cut was visible in the section. Referring to the drawn plan Fig 25, this shows a sub-circular feature in this position. The field with the test pits had a history of intensive agricultural use such as fruit orchards, hop fields and more recently a plant nursery; this feature may have been as a result of one of these activities. The fill at this point could not be differentiated from the ditch fill, so it is also very possible that this feature was associated with the ditch construction.

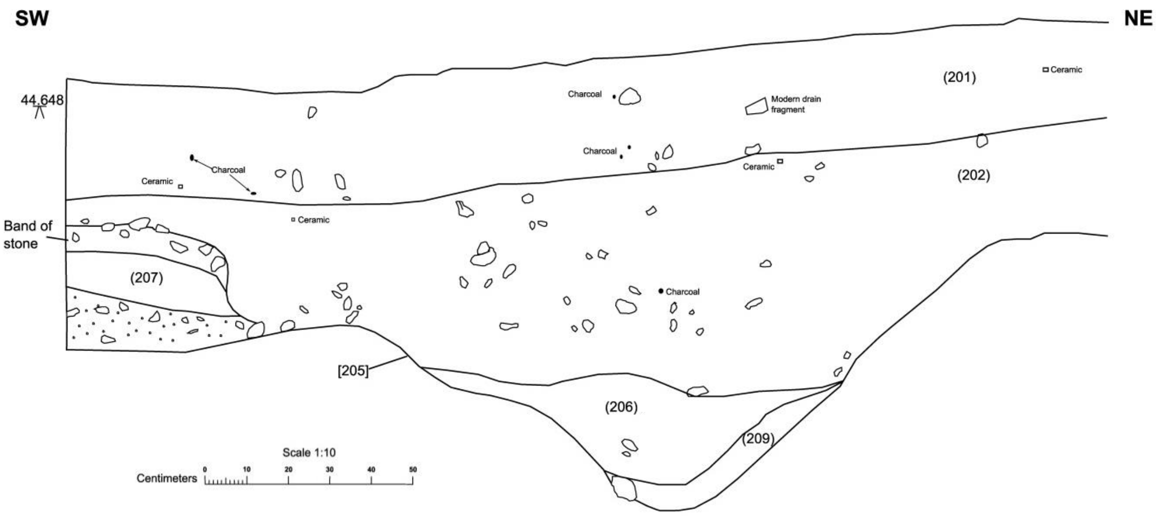


Fig. 17 Test pit 2 SW-NE

Fig. 18 Test pit 2 SW-NE section of ditch

4.2.4 TP2 flint surface

Moving towards the north-east end of TP 2, adjacent to the ditch, there was a clean area of natural deposit which was interrupted by a compacted flint surface that ran diagonally across the test pit. This is illustrated in Fig. 25, the drawn plan of the test pit.

Fig. 19 Test pit 2 Flint surface at the NE end of trench

The flint surface was cut by a feature which contained evidence of at least one post hole (Fig. 11). As can be seen from Fig. 19 of the north-east end of the test pit, the flint surface did not completely cover the bottom of the trench, but there was an area of what looks like natural, which seemed to define the limit of the flint surface.

4.2.5 SW - NE section of post hole feature

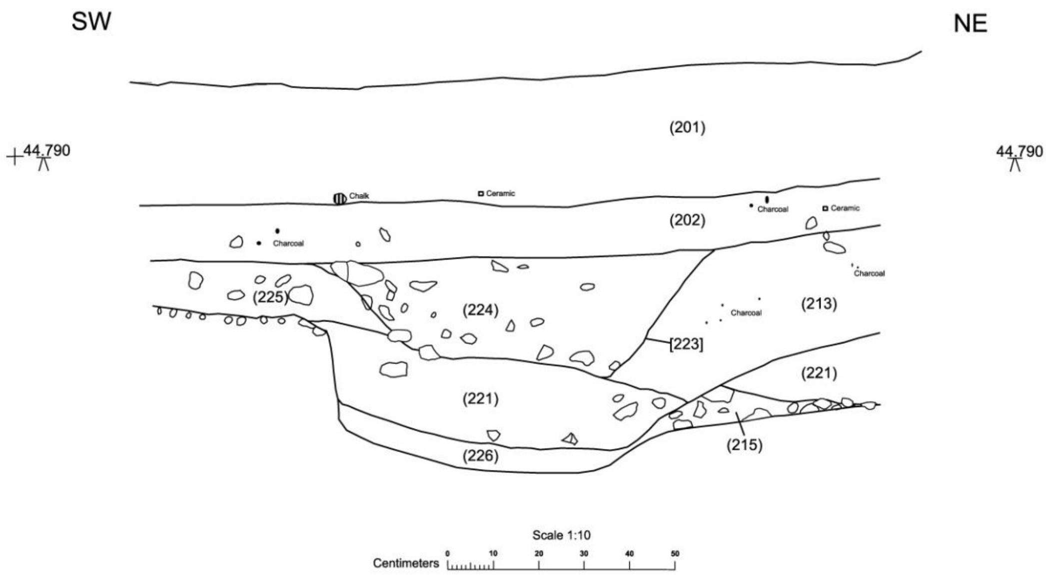


Fig. 20 Test pit 2 SW-NE Section of post hole

This section shows that there is a clear cut [223] which may just have been deep enough to have cut the flint surface.

Contexts (225) and (213) were cut by [223] which could have been a pit or a ditch. If it were a ditch then there was no corresponding cut in the opposite section.

Fig. 21 Test pit 2 SW-NE Section of post hole

4.2.6 NE - SW section of post hole feature

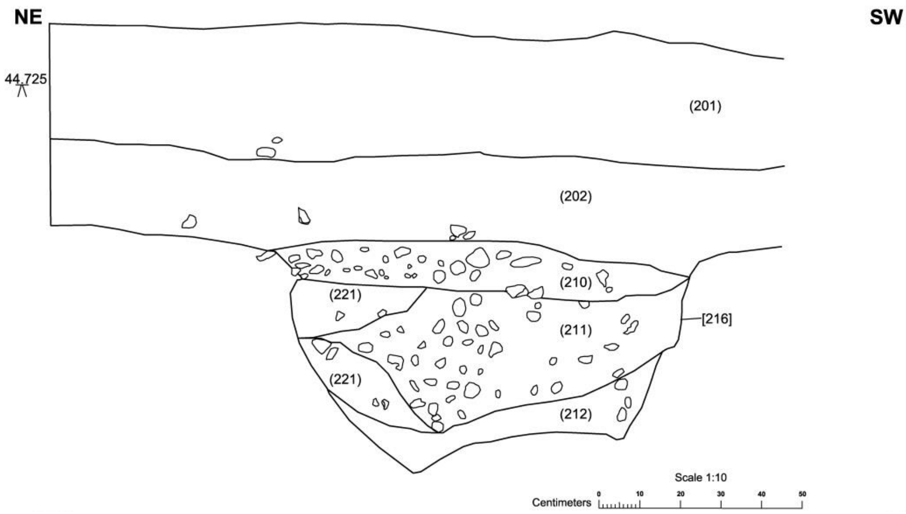


Fig. 22 Test pit 2 NE-SW Section of post hole feature

At this point there is a very clear cut [216] which cuts the flint surface. The cut is filled with many angular flints which have probably been re-deposited after cutting the flint surface. There are many more flints here than the section opposite, so it is probable that at this point, the flint surface was either deeper or had more closely compacted flint.

The main fill of [216] is context (211) and is immediately above (212), which was a brownish-yellow friable clayey-sand with rare ceramic smears and medium angular flints with occasional small pebbles and gravel. This is a compacted stony fill which tends to get less stony towards the south-west end of the section. This is better illustrated by Fig. 23 B which shows the same section but trowelled back further after the initial photographs were taken. This shows a very stony disturbed core which is slightly lighter in colour. The flints are probably redistributed as a result of breaking the cobbled flint surface and this stony core may be the remains of a post hole.

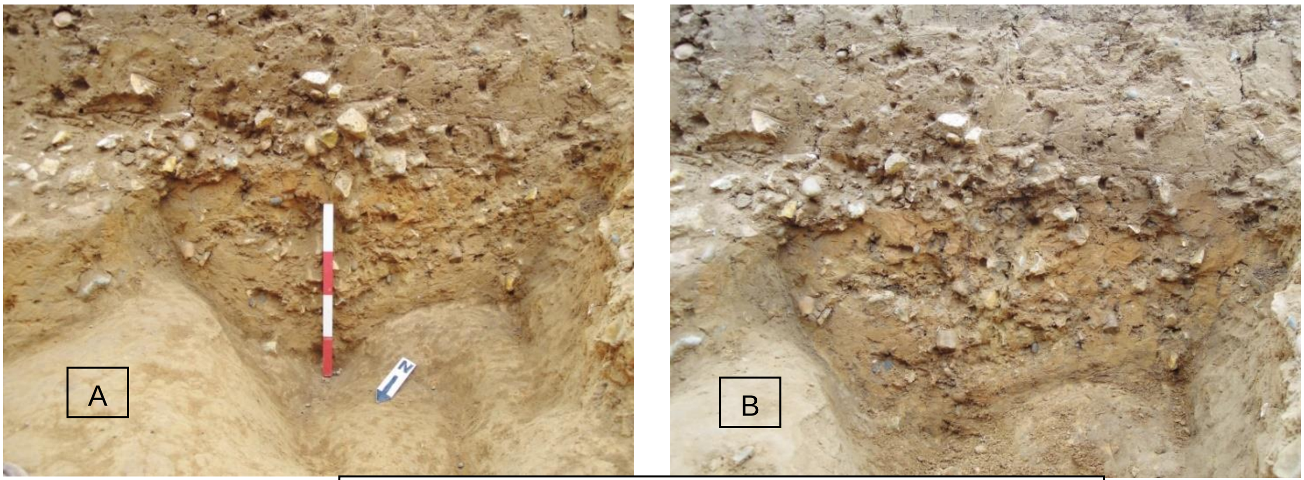


Fig. 23 Test pit 2 NE-SW Section of post hole feature

4.2.7 North-east end of test pit 2

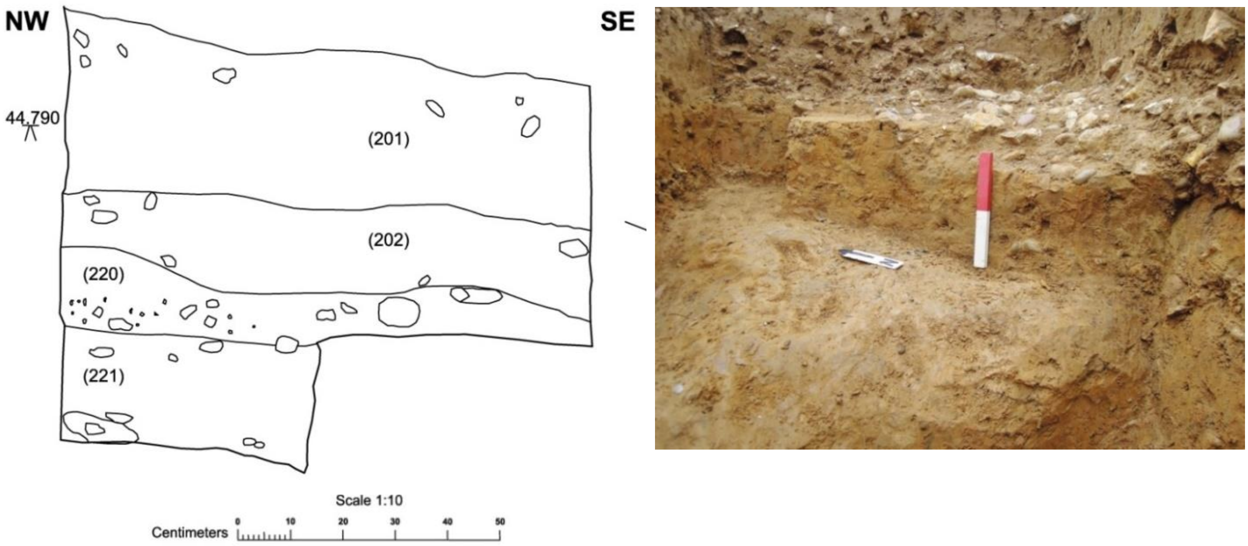


Fig. 24 Section of NE end of test pit 2

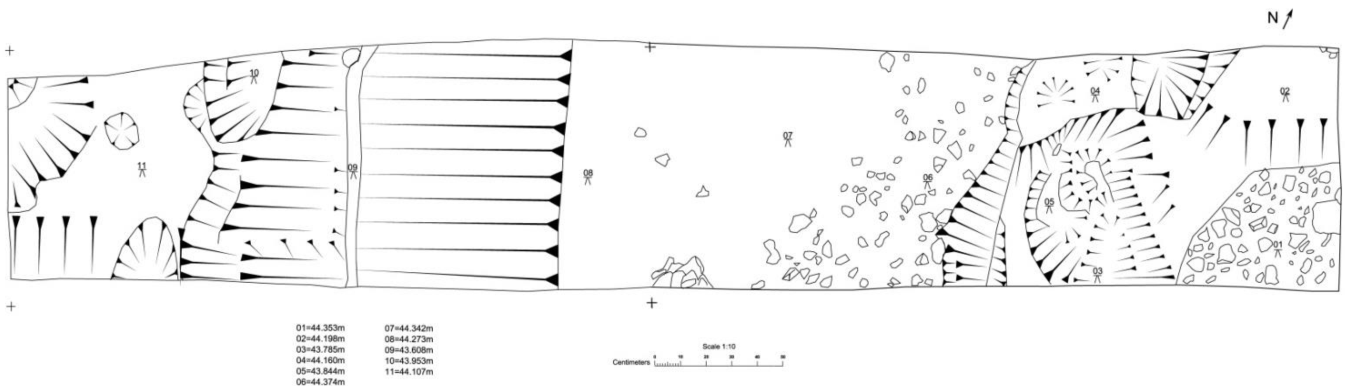


Fig. 25 Plan of Test Pit 2

Fig. 26 Final photograph of Test Pit 2 looking NE

4.3 Test Pit 3

This test pit started as a 1m x 1m trench but was extended as archaeological artefacts (pottery sherds) and potential features were revealed. It was initially extended by 1m to the north-east, where the faint trace of a flint surface was revealed; this showed as a lighter colour than the surrounding soil. See figure 27 below.

Fig. 27 Test Pit 3 showing colour change

The test pit was extended again by 2m x 1m to the north to double the size of the trench, making a final size of 2m by 2m. See Fig. 28.

Fig. 28 Test Pit 3 after extension

A section of the flint surface was excavated and showed that it rested on natural but at this stage it was still not conclusive whether the flint surface was constructed by humans. As can be seen from Fig. 28, at this depth, there were dark bands of possible occupation evidence, alternating with bands of large flints.

As the excavation progressed, it was clear that there were two or possibly three distinct archaeological features: a compacted flint surface; a feature adjacent to this surface which contained 2 post holes; and a ditch (north-south) next to the post hole feature. This is illustrated in Fig 29 below.

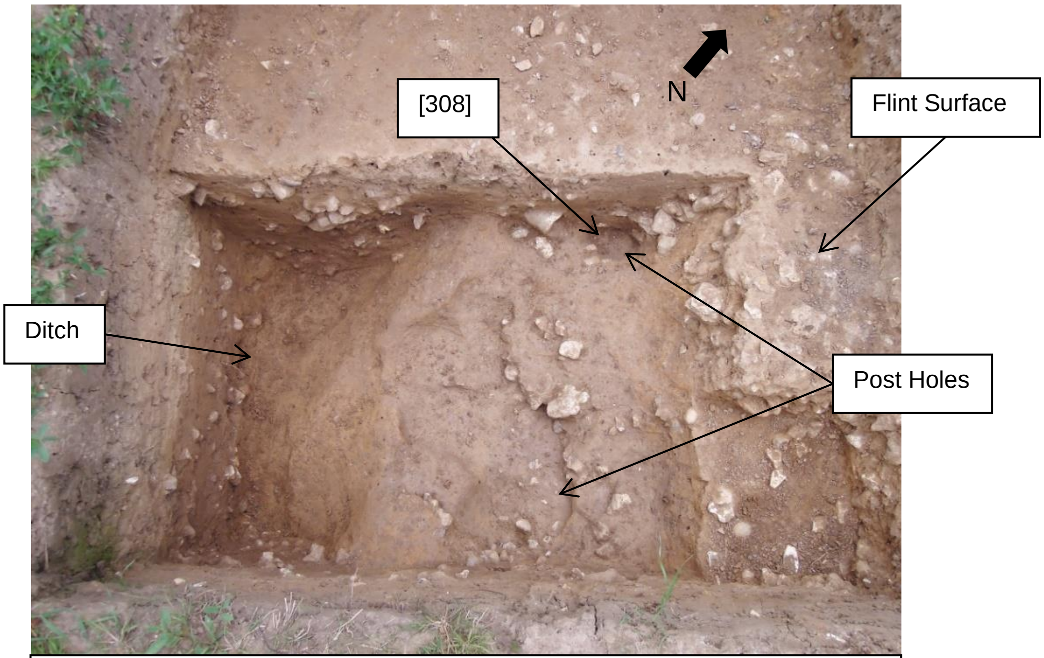


Fig. 29 Test Pit 3 showing the ditch, suspected post holes & flint surface

The northern post hole [308] was excavated, recorded and then removed as part of the excavation of the linear feature and a photo record (Fig. 30 below) was kept of its excavation. The fill contained probable packing flints and also two Early Iron Age pottery sherds. A sample of the fill was taken for future analysis.

During the final recording of TP 3, it was necessary to cut back part of the SW-NE section, to be sure of the relationship between the post hole feature and the ditch. This revealed at the base of the section, the possibility of the start of another post hole. There was no time to investigate further but if the spacing of the post holes previously identified is maintained, then this would be a logical location for the next post hole. This is illustrated in the excavation plan Fig. 39 below.

The continued excavation of TP3 recovered more pottery sherds from the ditch. Two of the pottery "groups" contained several good size pieces of the same pot (Fig. 31). Also recovered were struck flint and numerous burnt flint "pot boilers".

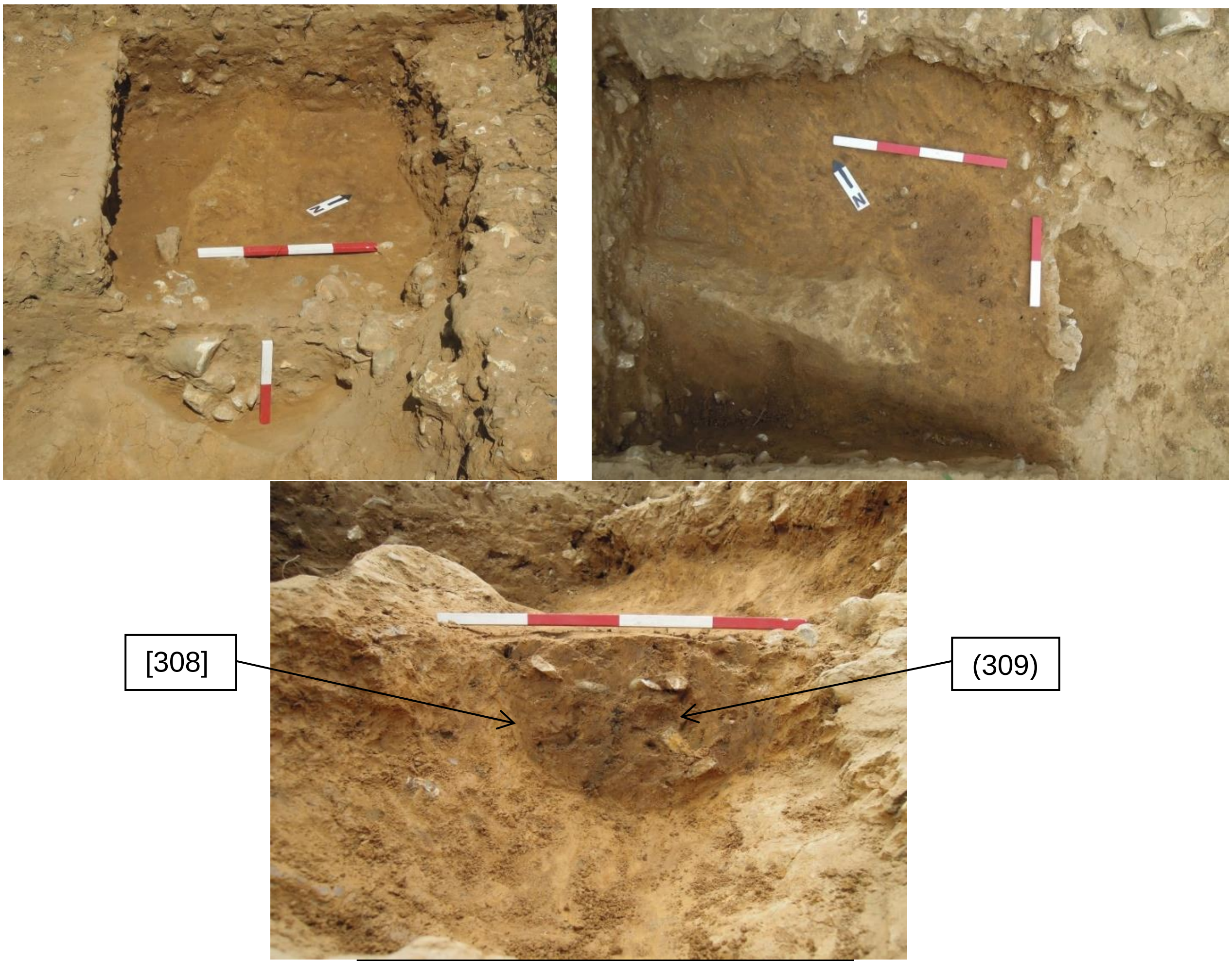


Fig. 30 Test Pit 3 excavated post hole [308]

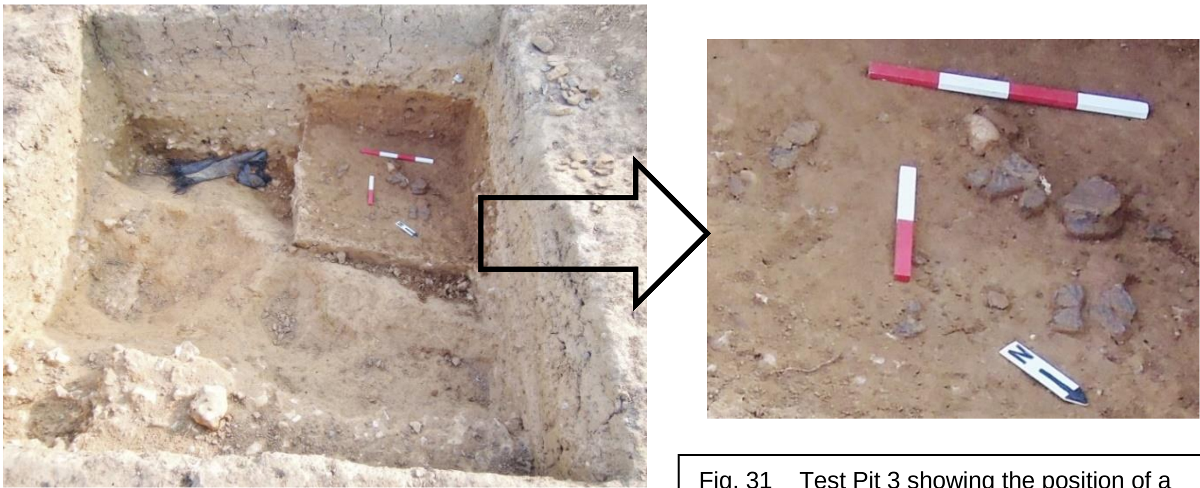


Fig. 31 Test Pit 3 showing the position of a significant pottery group with a nearly complete base.

In the south-west corner of the trench, the ditch cut a pit (see Fig. 32). The main fill of the pit was a dark brown, friable, sandy-silt, with a pottery sherd well stratified and therefore assumed to be helpful for dating.

Fig. 32 Test Pit 3 showing a pit which has been cut by the ditch

4.3.1 SW-NE section

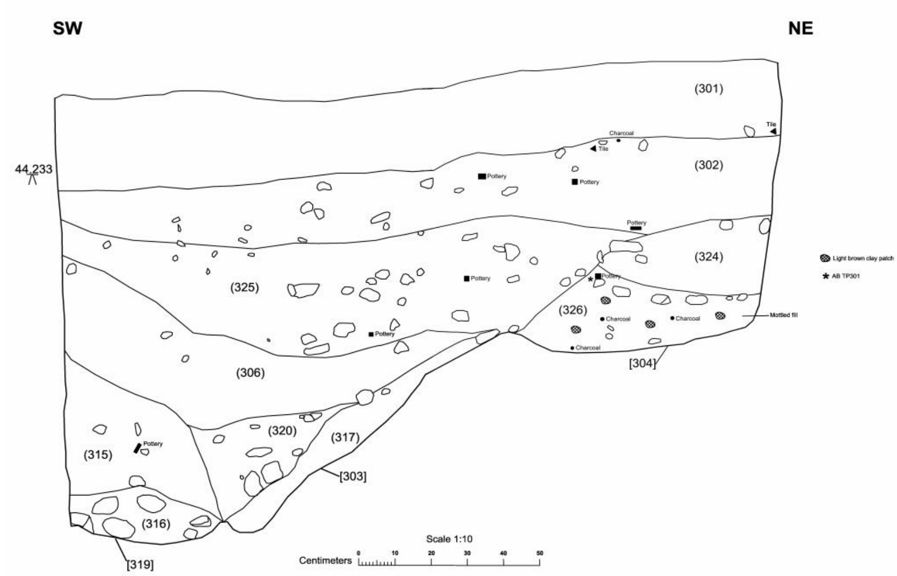


Fig. 33 Test pit 3 SW-NE

The SW – NE section above provides a good illustration of the relative phases of activity in this test pit. The dominant feature was [303], the ditch running approximately north-south which continued into TP 2. The ditch cuts a pit [319] (bottom left of Fig. 33) and also the feature [304], which contained the remains of two, possibly three post holes.

The natural sub-soil in this pit is a reddish-brown clay with almost no stones, making it obvious when this level was reached.

The truncated pit [319] contained two contexts; the primary fill (316) was a light reddish-brown(10YR-5/8), firm, silty-clay, possibly as a result of initial weathering. The fill contained occasional large flints which appeared to be more concentrated towards the south-west side. Above this fill was (315) which was a dark brown (10R-3/4), friable, sandy-silt. This context had been truncated by (306), the mid fill of ditch [303]. There were few flint inclusions and it contained one sherd of orangey, coarse flint tempered pottery, dated as probable Bronze Age.

Context [304] was the cut of the trench in front of the flint surface and which contained post holes. The primary fill was context (326) and had been cut by (325). (326) was a mottled, light to medium brown; this appeared to be quite a soft, clayey-silt with occasional flecks of charcoal. As can be seen from Fig. 33, some angular flints were prevalent towards the top of the context, forming a boundary between (325) and (326) and (326) and (324). With reference to the drawing of the section Fig 33, the location of a pottery sherd (AB TP301) at the top of (326) is significant, as this sherd has been identified as a very early sherd, probably Bronze Age. With pottery from the ditch identified as early Iron Age, the dating of the finds reinforces the stratigraphic relationship seen in the section.

Context (324) was immediately above (326) and was a firm clayey-silt being medium to dark brown in colour. There were few rounded flint inclusions otherwise it was rather a clean layer. It is possible that this is part of a feature that cuts (326) and in turn is cut by the ditch [303]. As the excavation was coming to a close, it was not possible to pursue this further but it is likely that there are more phases to this feature.

Fig. 34 Flint awl found in (306)

The middle fill of the ditch was context (306) and was a mid-brown (10R-5/8), friable, sandy-silt. This fill layer contained most of the Early Iron Age pottery sherds, several of which were reasonably large. A flint awl probably of a Bronze Age date (Fig. 34) was also recovered, as well as some traces of charcoal and small angular flints.

The probable final fill of ditch [303] was context (325) and was immediately above (306). This was a friable, medium-dark brown, clayey-silt, containing occasional charcoal flecks, struck flint flakes and several sherds of Early Iron Age pottery. This was a crucial context as it demonstrated the stratigraphic relationship between the ditch and the feature [304].

The layer immediately below the plough soil was context (302) and was a lighter brown (10YR -5/6), compact, sandy-silt. This also contained charcoal flecks as well as occasional angular flint and rounded stones; the second largest quantity of Early Iron Age pottery sherds was also found at this level. In the early days of the test pit excavation, the context changes were not easy to identify, so many of the early finds were put into this context when several probably belonged to the context below. This error was corrected before the ditch was uncovered, so the finds from the highest layers of the ditch (40cm-50cm deep) and below are accurately attributed.

4.3.2 NE-SW section

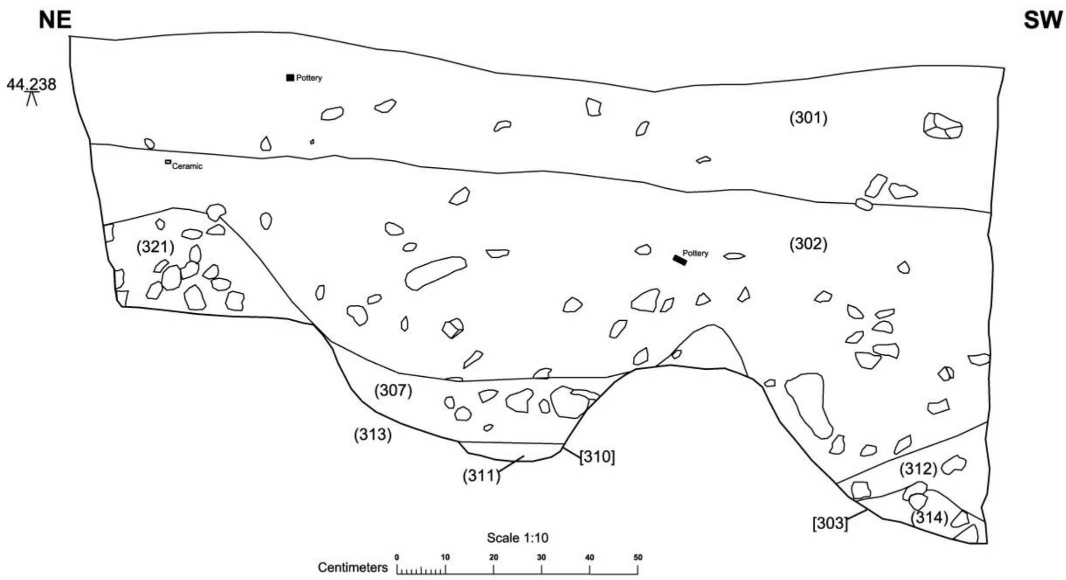


Fig. 35 Test pit 3 NE - SW

The section drawing above, Fig. 31, is the opposite section to Fig. 33 and demonstrates the depth of the post hole feature and illustrates the start of one of the post holes [310].

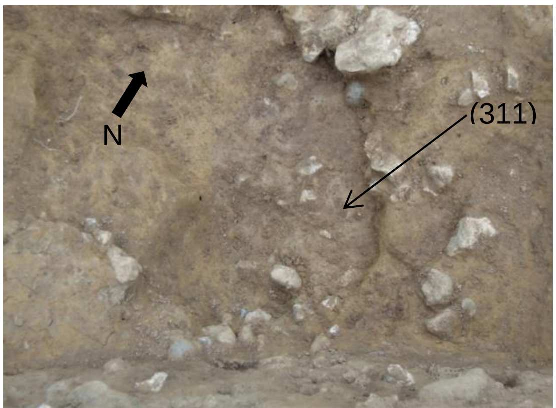


Fig. 36 Post hole showing mottled greenish fill

Context (311) was the primary fill of post hole [310] and was an unusual fill being a friable, sandy-clay and having a mottled green colour (see Fig. 36). There were rare charcoal flecks and one very small sherd of pottery which was abraded. This sherd had a fine crushed burnt flint temper and has been identified as probably Early Iron Age.

Context (307) was a mid-brown, firm, clayey-silt and appeared to be the fill around the post hole. There were medium angular flints in this context but they were concentrated behind the post hole [310] and could possibly be the remains of packing.

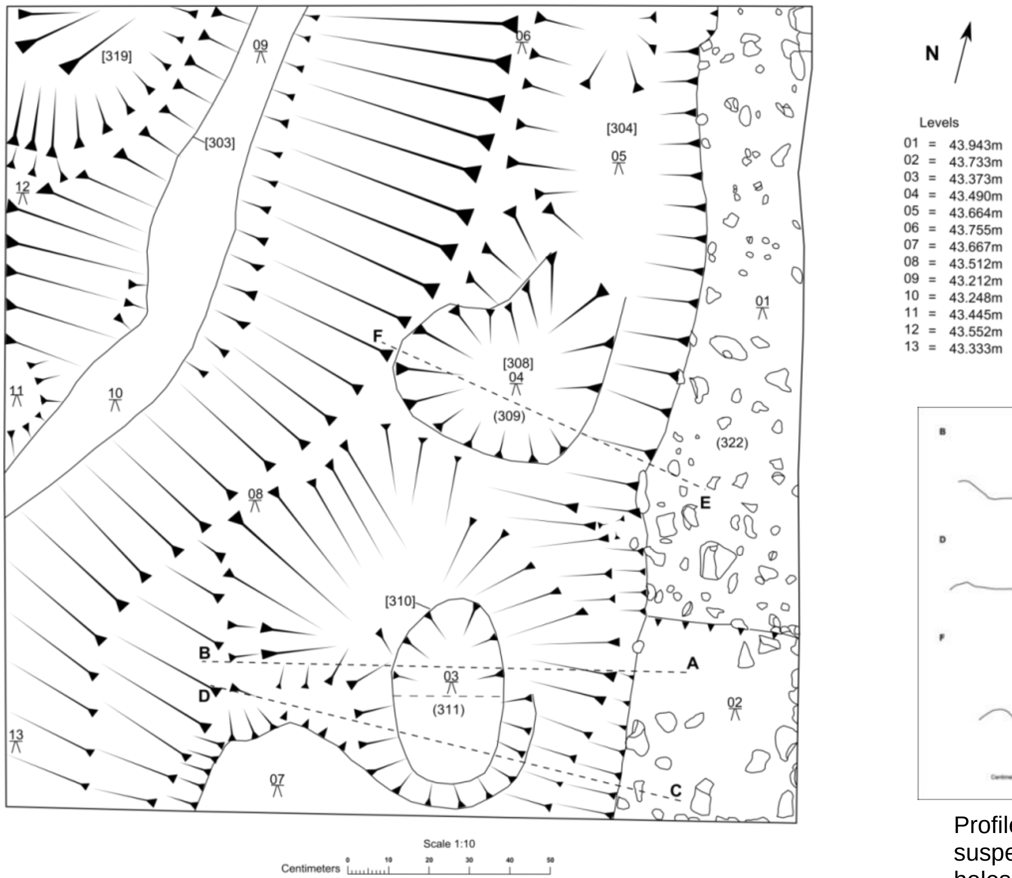
When excavating this area, a further context (313), was identified as being below (307) and contained one of the Bronze Age pottery sherds. This layer did not seem to appear in the section so it is possible that it was a deposit in the bottom of the post hole feature [304], which was subsequently fully excavated.

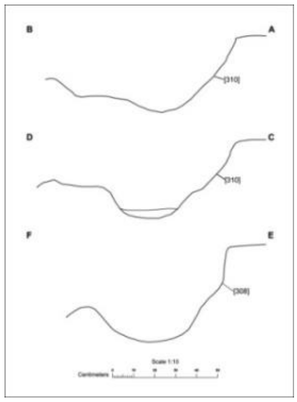
Fig. 37 Test pit 3 showing post holes

Context (321), showed the flint surface in section where it was removed in order to understand its construction. The context was very compact with frequent angular flints and rounded pebbles. This is well illustrated in Fig. 38, showing that the flint surface rested on the reddish clay natural.

Fig. 38 Section through flint surface

Context (312) was directly above the primary fill (314) and was a mid-brown, very soft, sandy-silt, with very few angular flints. It also contained a base sherd of Early Iron Age pottery. As the soil was of a soft nature, it may have formed as a result of being washed down from the ditch sides, or may possibly represent erosion from a bank.





Profiles of suspected post holes

Fig. 39 Scale 10:1 Plan of Test Pit 3

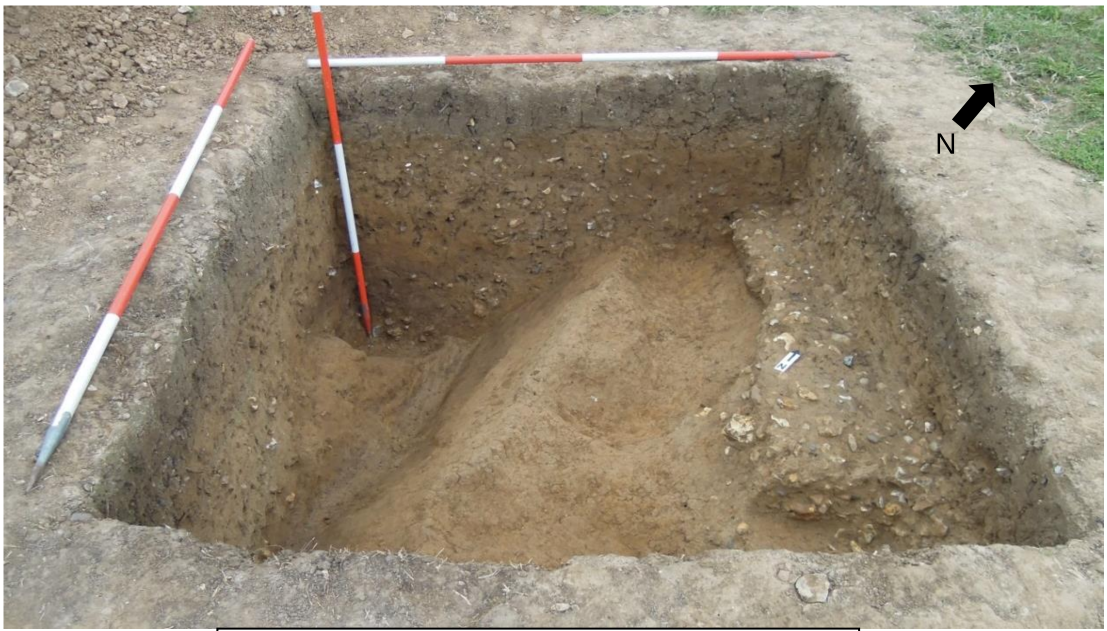


Fig. 40 Final photograph of test Pit 3 looking NW

4.4 Test Pit 4

Fig. 41 Test Pit 4

The trench initially was 2m x 1m but was extended south-east by 1m to make a final dimension of 3m x 1m. The plough soil was removed and the underlying deposit was a very hard, stony, surface, with only one very shallow scrape. No finds were found at this level.

A small sondage was excavated in the east corner where the surface felt less stony. At about 30cm the soil colour changed similar to the natural seen in TP2 and 3. No archaeology was revealed in this test pit and as the surface under the plough soil was so compacted and stony, the decision was made to record and backfill.

5.0 2013 Test Pit Excavations Discussions

The location of the test pits was very much guided by the magnetic geophysics survey results, with several possible archaeological anomalies identified. It was anticipated that although there were possible archaeological features shown in the survey, the likelihood would be that the anomalies were formed as a result of the intensive agricultural use of the land over the years. What the test pits actually showed, was evidence of well preserved and substantial pre-historic remains with much potential.

The dominant feature of both test pits was the “V” shaped ditch running approximately north-south. At its widest, it measured around 150cm, with a depth from the base to the top of the current plough soil level, of around 110cm and a depth from the base to top of the natural between 80cm to 90cm. The majority of the pottery recovered from TP3, came from this ditch and in TP2 all of the pottery came from this feature.

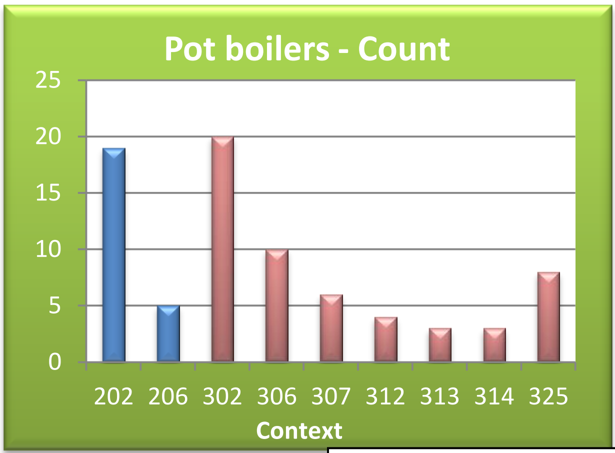
All of the pottery recovered, was examined by the acknowledged experts in the prehistoric ceramics of Kent. It was initially ascribed from Late Neolithic/Early Bronze Age through to the Early Iron Age (pers comms Dr. Elaine Morris and Prof. Tim Champion). This analysis was reinforced by Nigel Macpherson-Grant who firmly dated the pottery from the ditch as being from the earliest Iron Age (900BC – 700BC). Later examination suggested that the older sherds from the post hole feature in Test Pit 3 were likely to be fragments of Beaker pottery, so a date spanning 2,500BC to 1,700BC could be attributed (Needham 2005). The pottery was dated on typological grounds, with the Iron Age sherds having a crushed burnt flint temper, with a variation from fine to a coarser ware. Initial analysis suggests that the forms represented are bowls and straight sided jars. The earlier sherds were grog tempered but were too small to identify a definite form. The pottery will be discussed in greater depth in the pottery chapter.

No other pottery was recovered from the lower fills of the features but in the plough soil a mixture of glazed china as well as unglazed ceramics were recovered. All these were post medieval with much of it being modern.

The Bronze Age flint scrapers were recovered from the upper fills of the ditch in Test Pit 3 and 2 so were likely to be a secondary deposit. The flint tool shown in Fig. 34 was also found in the mid fill of the ditch so is also probably a secondary deposit.

Burnt flints or “pot boilers” were recovered from several contexts in both Test Pit 2 and Test Pit 3, with Test Pit 3 producing the majority. With reference to the pot boiler count graph below, the highest incidence of burnt flints were found in the layer immediately below the plough soil over the ditch feature. In Test Pit 3, context (306) and context (325) which were the upper fills of the ditch, also produced a high proportion of pot boilers. Burnt flint was found throughout the ditch including the primary fill but the frequency became less the deeper the layer. The largest pot boilers by average weight in test pit 2, were found in context (206), a mid-layer of the ditch feature. In Test Pit 3, burnt flints were found in the primary and lower fills of the ditch and the burnt flint recovered from the post hole feature was generally in smaller pieces.

Whilst the highest quantities of pot boilers were found in the upper levels of the ditch, the larger pieces were found in the lower fills. This indicates that those at the bottom of the ditch were probably deposited whilst the ditch was in use or at least very shortly after. As the ditch filled up, the larger pot boiler fragments which may have been deposited in the surrounding area would have weathered into smaller pieces thus increasing the count but decreasing the average weight.



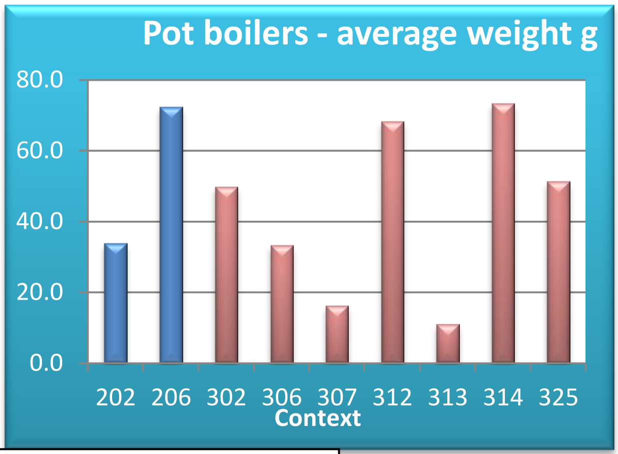


Fig. 42 Graphs showing count and weight of pot boilers

The depth and size of the ditch suggests that it is likely to be a boundary marker or stock corral rather than a defensive feature. Reviewing the depth of fill (206) in the ditch in TP2, it appears to be deeper towards the south-west side indicating the possibility of a bank on this side eroding into the ditch. Analysis of the ditch fills in TP3 is not so clear but context (306) does appear to be deeper on the south-west side. If the bank is on the south-west side of the ditch and this is a boundary ditch, then the "inside" of the area which is being demarcated, would likely be towards the south-west. This means that the majority of the excavation is outside of the boundary area. If it were used as stock control, then the opposite would be true.

The geophysics is not clear in identifying the course of the ditch and the excavated portion is too small to say with any certainty whether the ditch is linear or curved. The amount of pottery retrieved from the ditch, coupled with the fact that the majority of it was un-abraded and therefore had not moved very far, must indicate that some form of settlement existed close by.

An alternative interpretation of the ditch is that it is marking a route or entrance to the Hillfort from the river, possibly taking advantage of the crossing point at Tonford (Jessup 1933, p89). This interpretation of a trackside ditch, is an exciting prospect and if it were the case, then there could well be a partner ditch located further towards the south-west.

Fig. 43 Area of clean natural adjacent to the ditch

Moving towards the north-east of TP2 away from the ditch, there is an area of very clean natural of between 1m to 1.5m wide. This gives way to scattered cobbles of flint, see Fig. 43 which appears to be the remains of the flint surface similar to the one seen in TP3. The scattered flints are probably as a result of a cut which contained at least one post hole.

Fig. 44 Showing the corner of the flint surface

In the north-east corner of TP2, the flint surface appeared to finish and did not appear to be cut (Fig. 44). A small sondage was dug at this point to try and understand the underlying soil and it revealed a similar layer to the one which the flint surface was resting on but there were no signs of the flint on the surface.

It is likely therefore that the flint surface was deliberately not laid at this point and could have been an edge. Looking at the shape of the spread of the flints and noting that the flints are more common in the fill of the feature in the southern section of the trench, it seems likely that the flint surface finished somewhere between the northern and southern area of TP2.

The post hole in TP2 (Fig.8) was approximately 20cm in diameter and a similar size to the post holes found in TP3. The relationship of the post holes to the flint surface in both test pits does suggest that the posthole feature cuts the flint surface. If this is the case then this would make the flint surface the first of these two features, with the postholes dug at a later time, but roughly following the line of flints.

Two post holes were very visible in TP3 and there was a hint of a third towards the north of the feature, disappearing into the section. Small sherds of pottery were found at the bottom of the fill of each of the two post holes and appeared to be of a similar date to the large ditch, which is 900BC-700BC. The two visible post holes were around 20cm in diameter and approximately 70cm to 80cm apart. Although the diameter of the third potential post hole was not visible, the distance from the closest posthole was a similar distance to the separation of the two other visible post holes, making it likely that they were regularly spaced and could have formed some sort of palisade or fence.

Although the post holes in TP3 appear to run along the line of the main north-south ditch they do not appear to follow the same association in TP2. If the post hole found in the east end of TP2 is part of the same post hole feature in TP3, then this confirms the association with the flint surface and not the ditch.

6.0 2013 Conclusions

The test pits were dug over suspected anomalies revealed by the magnetometry geophysics survey and although archaeology was detected in Test Pit 2 and 3, it did not correlate with the survey results. The archaeology found therefore, was due in a great part to serendipity rather than an outcome guided by the geophysics.

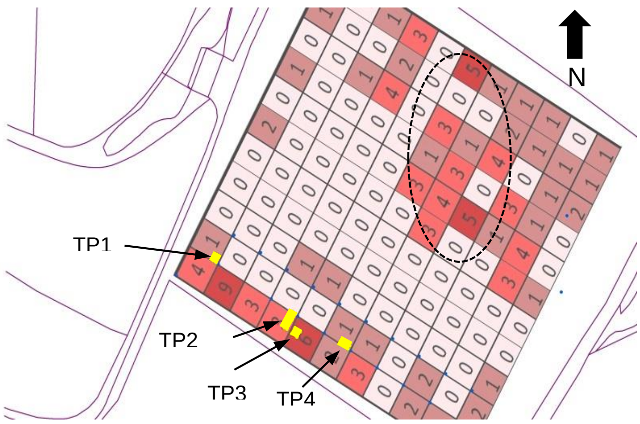


Fig. 45 Field walking results of “pot boilers” distribution

Of interest is the correlation of the pot boiler count found during the field walking and the archaeology revealed during the excavation of the test pits. If this correlation is extended to the rest of the field walking survey, then the area ringed in Fig. 45 left, could indicate the presence of prehistoric archaeology and would be worthy of excavation given the opportunity.

The archaeology that was revealed during the test pit excavation was multi phased with evidence from the Bronze Age through to the Early Iron Age. The amount and condition of the pottery recovered, suggest that there was a settlement not far away, so it was probable that the ditch was a boundary, marking the north-eastern extent of a settlement, rather than as a marker for an entrance or route way into the higher ground. The well-preserved in situ features and deposits containing datable material, hold much potential data, to the extent that one could confidently associate them with later prehistoric use of the Bigbury landscape.

7.0 2014 Excavation

The excavation of the test pits in the summer of 2014 was a continuation of the research into the Bigbury Hill Fort environs, started in 2013. The locations for the 2014 test pits were dictated by the anomalies revealed using the resistance survey carried out in the early part of 2014 (see chapter 5). Several anomalies were identified in the survey and two were selected for excavation; one in the Valley Field (VT001) close to the south ramparts and one in the Orchard Field (TP05) where the 2013 excavations took place (see Fig. 46). The selection criteria are described further on in this chapter. The initial size of the test pits was designed to be 1m x 3m, however the test pit in the Valley Field was extended beyond this size as features were revealed.

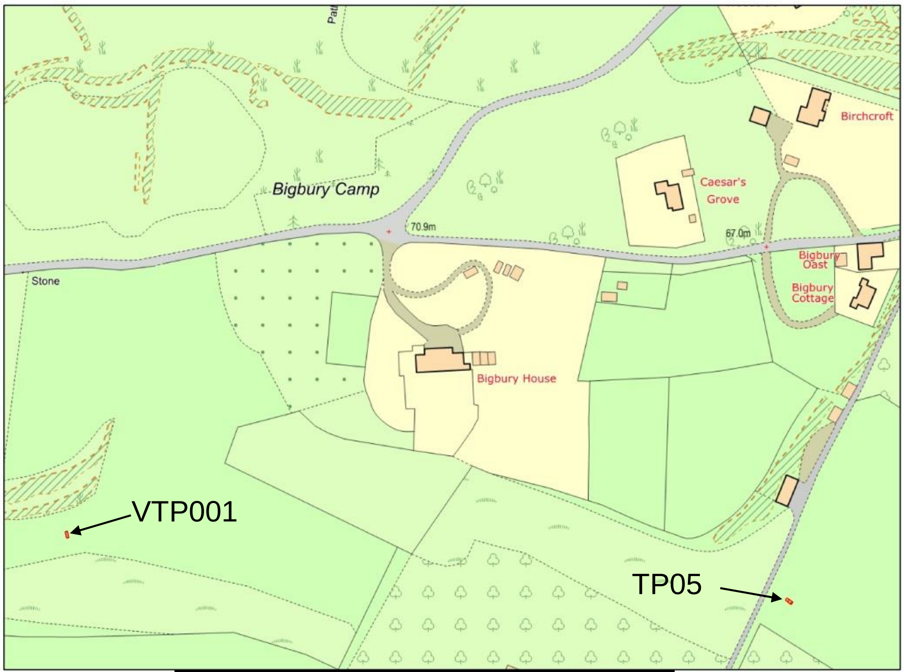


Fig. 46 Location of 2014 excavations

7.1 Test Pit 5

Test Pit 5 was a 3m x 1m trench placed over a feature which appeared to be a high resistance curvilinear response.

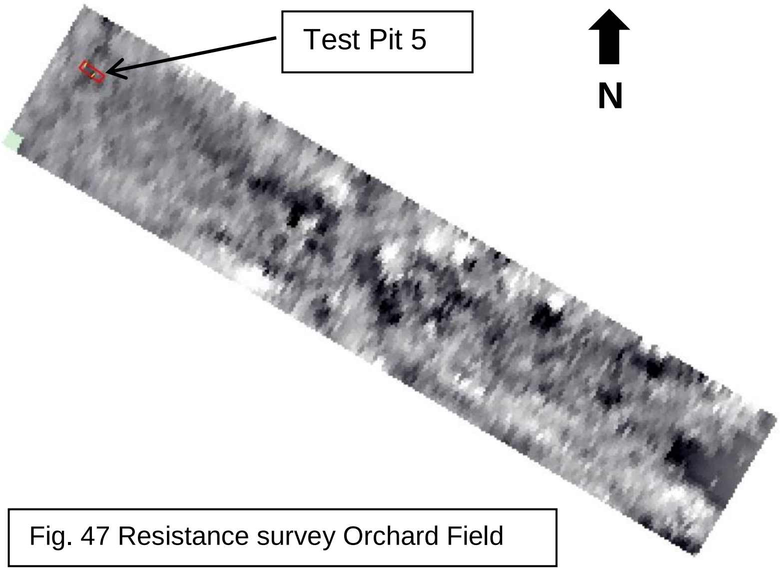


Fig. 47 Resistance survey Orchard Field

The dark features on the resistance survey indicate a higher resistance than the paler colour and are a typical response of a buried wall or compacted surface. The location and orientation of the dark curvilinear feature is intriguing, as it had a similar alignment to that of the Hillfort ramparts and therefore could have had a connection.

Also seen on the geophysics survey, was a rectangular high resistance response (see Fig. 47) which could be walls or a building foundation. Whilst this was an anomaly that deserved further investigation, it was decided not to excavate as this was likely not to be Iron Age in origin and therefore outside of the project design.

7.2 Valley Field Test Pit

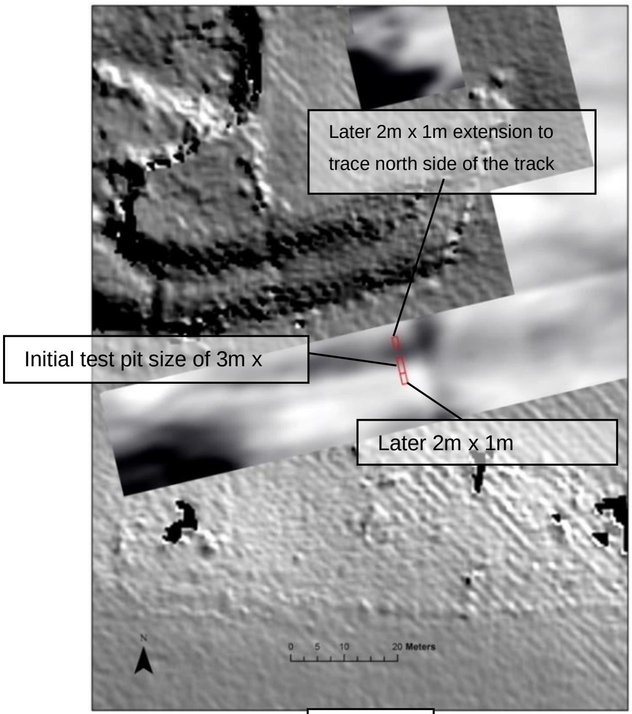


Fig. 48

The location of the test pit in the Valley Field just south of the ramparts, was determined by the high resistance linear anomaly that appears to run parallel with the extant defences on the south side of the Hillfort, see Fig. 48. This was suspected to be a compacted track-way and possibly associated with the quarrying in that area. In addition, during the excavation, a small 2m x 1m trench was dug to trace the northern side of the high resistance feature and the main trench was extended by a further 3m south, to trace a ditch not identified by the geophysics survey.

8.0 The 2014 Excavations

8.1 Test Pit 5

The 3m x 1m test pit was positioned (see Fig. 47) across a point in the curvilinear response where the feature looks the darkest, with the hope that whatever was causing the anomaly, would be most obvious. The top soil was removed and contained some burnt flint, high glazed china and bits of brick and tile.

At a depth of between 30cm to 40cm, the central area of the trench became more difficult to dig as the soil appeared to be very compacted. This is outlined in Fig. 49 below and it is very probable that this could have been responsible for the higher resistance reading and is indicative of a trackway. The compacted area was approximately 1.5m wide and 30cm deep.

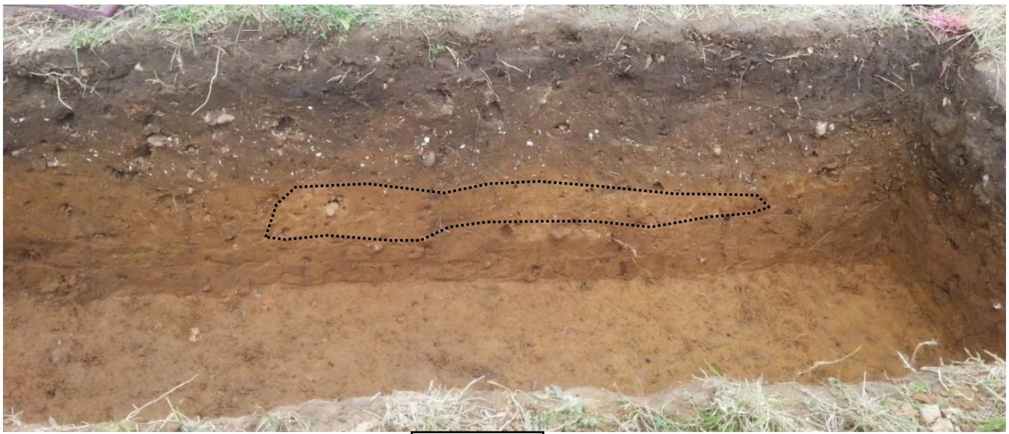


Fig. 49

Fig. 50

Continuing the excavation and at approximately 55cm deep, there appeared to be a darker area of soil, roughly 20cm in diameter and 170cm from the north end, which looked to be an outline of a potential post hole (Fig. 50). This was excavated to around 15cm in depth and several fragments of grey brick and a fragment of orange brick were recovered. The outline was very faint and as the weather was very sunny and dry, this made the soil colour changes difficult to determine. This field had been used for agricultural purposes including orchards and probably hop plantations, so traces of post holes were to be expected.

The trench was excavated further, to a depth at the north end of around 60cm and at the south end of closer to 70cm. As can be seen from Fig. 51 below, towards the ends of the trench, the soil started to become lighter in colour compared to the central portion, revealing the possibility of a linear feature running through the central portion of the trench.

Apart from the compacted layer, the stratigraphy was difficult to determine as the soil colour and inclusions were similar at all levels. The darker central part of the trench was half sectioned and revealed a “U” shaped ditch, 120cm below the current ground level. Close to the bottom of this sondage was a half of a frog-less brick. This brick appeared grey in colour and looked to be misshapen and probably over fired. Fragments of similar bricks were recovered at various depths during the excavation.

Fig. 51

Fig. 52

Fig. 53

The rectangular cut in Fig. 52 to the left of the north arrow, was carried out to ensure that the natural had been reached. From the recovery of the part of a brick towards the bottom of the ditch, it was clear that this feature was probably not Iron Age in date and the dating of the brick by Canterbury Archaeological Trust, suggested it was most likely only 200 to 250 years old. The remaining fill of the ditch was removed to obtain a clearer picture and revealed part of an orange/red frog-less brick (Fig. 53) which reinforced the probable date of the ditch.

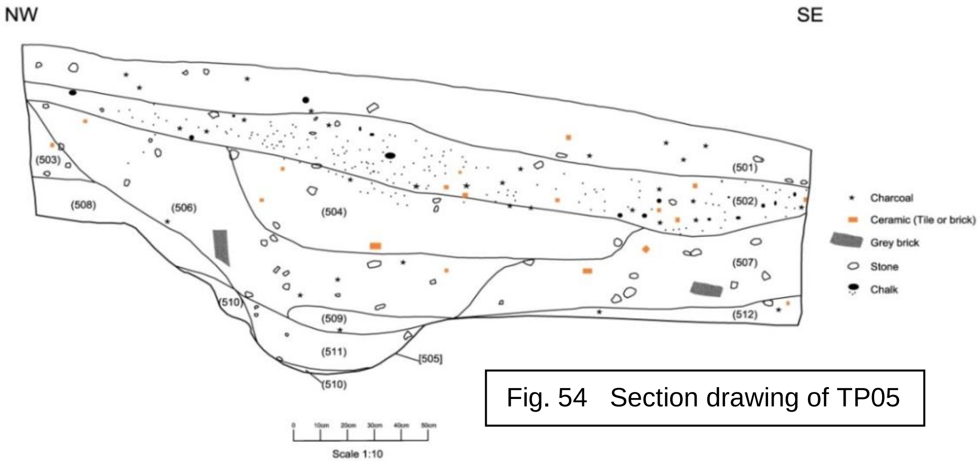


Fig. 54 Section drawing of TP05

As previously stated, the stratigraphy was difficult to determine, especially as the section dried out. In order to improve the visibility, during the recording phase, the sections were cut back a few cm to aid the differentiation of the layers (Fig. 54). The most striking layer was (502), the densely chalk flecked deposit which was just below the top soil.

At the bottom of the ditch was context (510), which was a mottled, light mid-brown, soft, silty-clay. It is possible that this was the weathered natural and that the ditch has been slightly overcut by the excavator. It is also worth noting that at this point, on the north-west side of the ditch, there appears to be a slight depression which could be the result of a post or stake hole.

Fig. 55

At the lowest level of the ditch, two brick halves were recovered (see Fig. 55). One was the traditional orange red brick and the other a grey possibly vitrified brick. Both look hand-made and both appeared to be frog-less. An initial examination by the Canterbury Archaeological Trust suggested that these could be estate bricks dating from around the late 18th to early 19th century. The vitrified brick is likely to have been a waster.

Context (506) and (507) looked very similar. Both were a medium brown, friable to firm, silty-clay with inclusions of medium sized, angular stone, rare charcoal flecks and rare ceramic smears. They both included a large fragment of the over fired grey brick. Context (506) appeared to be stonier than (507), with the majority of the stones concentrated over the ditch area. There was a subtle colour change at the interface of the two contexts as can be seen in Fig.49. This is possibly the result of the compacted surface above it, or as a result of the ditch cut.

Fig. 56 Iron stone smooth on one side

Also recovered were cracked flint and more pieces of brick of both colours. Also at this level (507), a fragment of iron stone which looked to have been smoothed on one side was found. This may have been used as some sort of whet stone. See Fig. 56.

Context (504) was the compacted layer which was probably responsible for the higher resistance in the geophysical survey. It was a mid yellow-brown, consisting of firm to compacted silty-clay. It contained very few chalk flecks which had probably migrated down due to worm action or burrowing animals from the layer above. A few fragments of tile or brick were also present

The layer directly below the top soil (502), was a mid to light brown, firm to friable clayey-silt. This was the most striking layer as it contained abundant chalk flecks as well as some larger lumps. This layer also contained glazed china and modern glass and also several pieces of burnt flint, the origin of which could be prehistoric or as a result of frequent burning from local agricultural bonfires. There were also occasional charcoal flecks and ceramic smears as well as small angular stones and small fragments of oyster.

The completed test pit can be seen in Figs. 57 and 58. They show a linear feature running approximately NE-SW, the base of which is approximately 1.35m below the current ground surface. The sides were initially shallow but at the centre they became steeper with a flattened “U” shaped base.

Fig. 57 Finished photographs of TP 5 Fig. 58

Fig.59

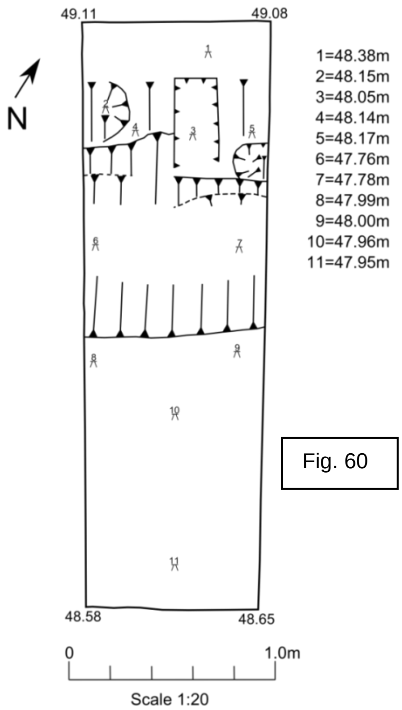


Fig. 60

8.2 Valley Field

The Valley Field is grass pasture adjacent to the southern ramparts and slopes steeply towards the south. During the excavation period a herd of cows were in residence which normally were no real distraction once their curiosity had been satisfied, but because of the potential danger of them falling down the trench, a cap of sturdy shuttering ply with 4inch supporting cross members had to be constructed and put in place at the end of each day. This was initially complemented with temporary fencing but this proved very ineffective as it was trampled each morning.

Fig. 61

Once the top layer of turf had been removed, the northern end of the trench was revealed to be a hard, dry surface. The lower southern two thirds of the test pit was a much looser soil with many large angular flints. Burnt cracked flint was also recovered from this area. Once the surface was cleaned back, a darker circular feature about 30cm in diameter was revealed just to the south of the firm surface. See Fig. 61. This circular feature was half sectioned but proved to be shallow with no finds.

Fig. 62

The trench was excavated deeper and the compacted surface half sectioned, in order to determine if it was constructed on any foundations (Fig. 62). The compacted layer was approximately 20cm thick with no evidence for any foundation; it was assumed that the compaction was as a result of constant use over the years. On excavating further, a light brown layer was reached (see Fig. 63) which looked at first to be heavily flecked with charcoal, but on closer inspection, it was discovered to be a clay layer with many traces of oxidised, iron or manganese particles.

Fig. 63

Fig. 64

A section of this layer was removed at the south end of the trench and at about 20cm down, what looked to be the natural surface was revealed. This was a stone less reddish clay, similar to that discovered in the previous excavations in the Orchard Field a few hundred metres to the east. See Fig. 64.

Fig. 65

To locate the other side of the high resistance anomaly, now known to be the compacted surface, a 2m x 1m test pit was excavated 2m to the north of the main test pit, Fig. 65. This proved successful as when just a few cm down, a similar surface to that found in the main trench was discovered. This completely validated the geophysics anomaly revealing a track-way around 4m in total width. Some pieces of burnt cracked flint were found and a piece of green glazed pottery was recovered near the surface. This was dated by Canterbury Archaeological Trust to be Tyler Hill sandy ware around 13th to 14th century.

Fig. 66

Fig. 67

The main test pit was cleaned for recording and it was noticed that at the very south end of the trench, there looked to be a colour change together with a softer soil over the final 10cm (see Fig. 66). This could be a potential feature so the trench was extended by 0.5m and the lighter oxidised layer was found to dip down. This layer had evidence of chalk flecks and much larger lumps, together with some charcoal flecks. A layer of burning and ash (Fig. 67) was revealed and just above this, a small piece of abraded pottery was discovered; subsequent analysis by CAT suggested that it was of the same type and date as that found in the small test pit described above. Just below the ash layer, heavily corroded twisted wire fragments were recovered along with a piece of thick clear modern glass. The narrow extension was now over 1m deep so it was decided to make it full width and extend the trench southwards to an overall length of 6m.

The feature continued to deepen with the layers at the lower levels being well sorted, soft and with few inclusions. More metal finds were recovered including the remains of a bucket handle, a much corroded Bakelite handled knife and several pieces of unidentified and heavily corroded iron.

At the bottom of the feature there was a layer of iron pan sitting on a very mottled yellow-brown clay-silt (Fig. 64). Just above this level, a small tube like canister was discovered which appeared to have a screw cap and close by, were the remnants of a wick or a fuse.

Fig. 68

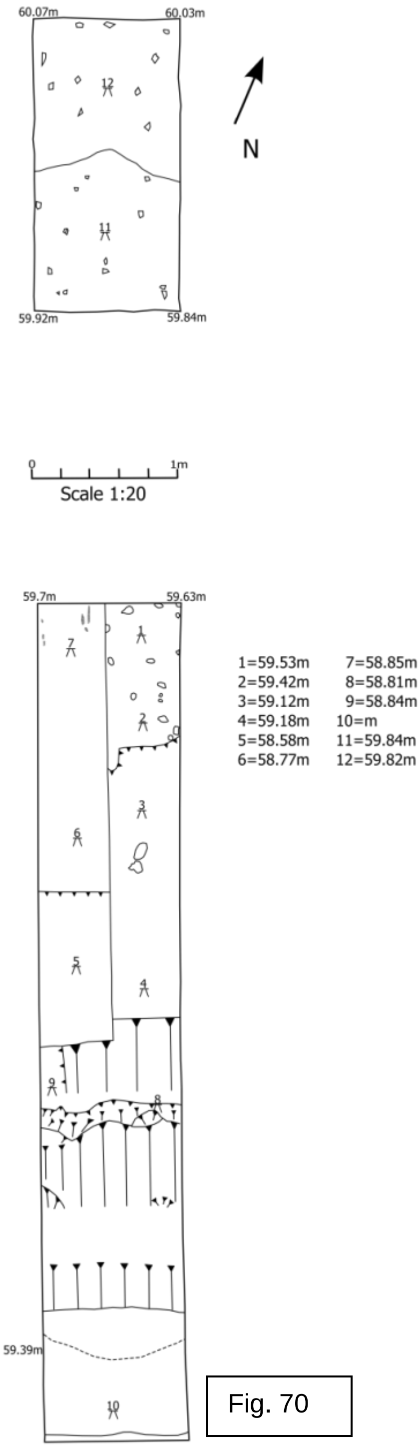


Fig. 70

Plan of VT001 showing separate extension to the north

Fig. 69

The fully excavated test pit, revealed what looked to be a probable linear feature (ditch) with an uneven sloping side (Fig. 69). The unevenness of the linear edge looks almost like it has been stepped but that may be due to the softness of the sides. The bottom of the feature was approximately 140cm below the current ground surface level and had a flat profile of the exposed area which had a width of approximately 65cm across. The excavation did not reveal any indication that the feature was starting to slope back up towards the surface, but with the land to the south of the test pit rising sharply, it is reasonably safe to assume that a rising southern side was present but not revealed, making this feature a ditch of which the use and origin, was not clear.

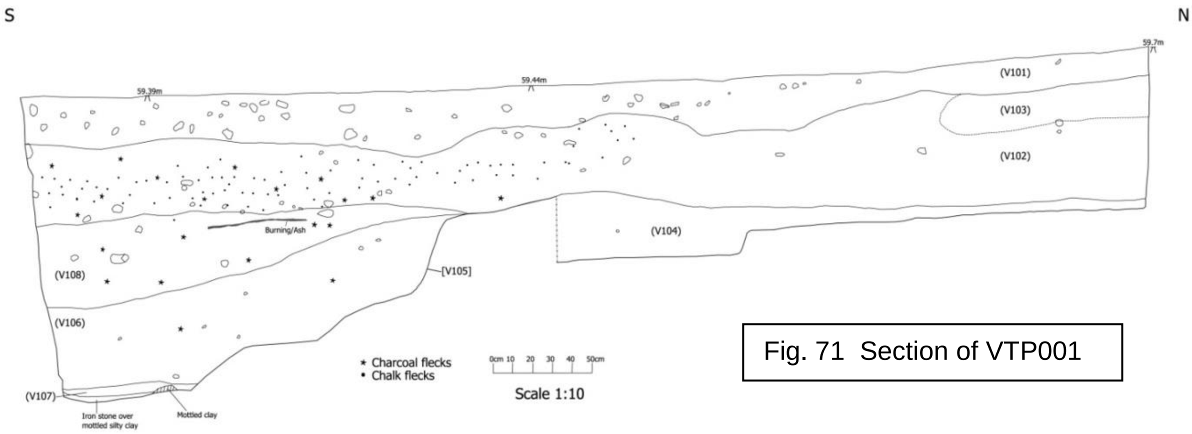


Fig. 71 Section of VTP001

The stratigraphy for this test pit was not too complex; some layers were readily defined while others were more difficult to determine.

At the very bottom of the ditch was context (V107) which was a very mottled yellow-brown (10YR 5/6) clay-silt possibly with some sand. It was a shallow clean layer directly above the iron pan which in turn seemed to be on a similar mottled surface. This was probably a natural layer but there is a small possibility that this is a constructed surface and may be associated with the quarrying from many years ago.

The primary fill of the ditch was (V106) and was a very soft mid reddish brown (10YR 5/4) silty-clay. It was a very clean layer with rare small stones and very rare charcoal flecks. The layer was so soft and uniform, that it has probably accumulated as a result of material washing down from the slopes above. At the bottom of this layer, a small aluminium screw top canister was found.

Fig. 72

Fig. 73 Courtesy of the Isonzo Front Society

As can be seen from Fig. 72, this canister was around 8cm in length and just under 4cm in diameter. The screw top lid had a hole in the centre and with the assembly there was also a fragment of a fuse or wick which looked to have at one time, been placed in the hole in the lid. The writing on the lid said Vinolia Co Ltd, which is a company that made cosmetics and soap and seems to have started in the late 1800's (PI Team.) and as the inscription on the lid says "Soapmakers to HM the King", this particular product was made after the death of Queen Victoria in 1901. A similar canister, this time in good condition was found in Slovenia in a World War 1 context (Fig. 73), which was reported to have still had some soap inside, which the finders suggest as being shaving soap (Fronta 2002). A date of the first quarter of the 20th century is not unreasonable for the Bigbury find. What is interesting about this find is that it has clearly been modified from the original form. It appears that a hole has been made in the lid for a fuse or wick, in order to make some sort of explosive.

It seems to have worked as the body was split open although it does not appear to be a powerful explosion as the tube was intact just split. This could possibly have been a smoke bomb or more likely a bird scarer, considering this valley was planted previously as an Orchard.

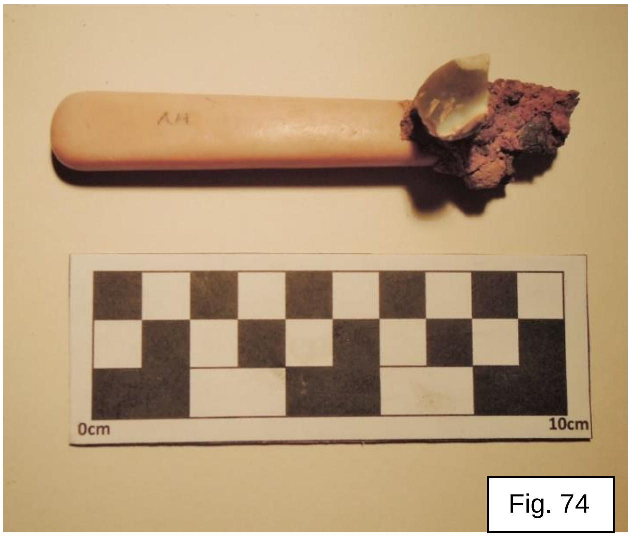


Fig. 74

Context V108 produced some relatively modern metal finds in the form of corroded braided wire, a bucket handle and a corroded knife with a Bakelite handle. The corroded knife (Fig. 74) had the initials AH engraved crudely onto the handle.

Just above the ash layer in the same context, a small piece of abraded pottery identified by CAT as Tyler Hill sandy wear dated 13th to 14th century. This is likely to be a much later secondary deposit, as a result of many years of disturbance to the soil in the area.

Context (V102) the layer below the top soil, can be divided more or less in half, with one section to the north and one to the south. The common feature was that the soil was a medium brown (10YR 4/4) clay-silt. In the northern half of the layer the soil was reasonably homogenous, clean with few small stones. The southern section had abundant chalk and charcoal flecks, with occasional small stones in the lower half of the layer.

Protruding into context (V102) at the north end, was the compacted surface of the track way [V103] as suggested by the geophysics survey. This was an orangey brown, friable to firm, silty-clay with the surface being particularly firm. There were occasional small stones and rare cracked burnt flint which occurred more on the compacted surface. The layer had a uniform thickness of approximately 20cm with a rounded south end.

9.0 2014 Test Pit Excavations Discussions

Fig. 75

The location of TP05 was placed over a curvilinear high resistance anomaly. Excavation revealed a compacted surface about 30cm to 40cm below the current land surface which was probably the cause of the high resistance measurement. With reference to Fig. 75 left, a 1960 Google Earth image of the field, shows a curving path which starts to the south west of the picture, crosses the main track way and curves into the field heading north.

At the point where the path enters the field, the height difference between the track way and the field is minimal. As the track way is followed northwards, the height difference between it and the field increases, making it more difficult for vehicles to enter the field. With reference to Fig. 75, the path on the image does not exactly follow the anomaly, but this is likely to be a combination of the distortion of the original photograph and the distortion by georeferencing the image into ArcGIS. This pathway is no longer in evidence but it seems a likely candidate for the creation of the anomaly seen by the geophysics. This then leaves the question about the ditch. In most cases this should give a low resistance response, as ditches tend to hold moisture, however no such response was seen. The resistance survey was carried out with a parallel twin probe arrangement, with a mobile probe separation of 0.5m. This gives the best discrimination for smaller buried features but as the depth of the signal is proportionate to the probe width, then the compromise is a shallower depth of survey, in this case around 75cm (Gaffney and Gater 2003, p.32). The bottom of the ditch was about 120cm below the ground surface, so it is possible that this feature was too deep to be seen. There are two other possibilities that also need to be considered. The first is that the compacted surface which is almost directly above the ditch at this point, is somehow masking the ditch. If this were the case, then the compacted surface and the ditch would have to be nearly coincident across the length of the surveyed section, as nowhere did the ditch appear as a low resistance signal. The only way to really find out if this is the case, is to excavate across the high resistance anomaly but in one or two different sections along its length. This would determine if the ditch and the trackway had the same course. The second scenario is that the ditch fill is so similar to the surrounding soil, that it does not register using the resistance survey. The lower ditch fill did appear much damper than the surrounding soil so this scenario although difficult to prove either way, is unlikely.

An approximate dating of the compacted surface can be determined using the aerial images found on Google Earth. There is a small hint of the track way on the 1940 image but by 1990 it had gone. The only other image is from 1960 which clearly shows the track way. The dating of the ditch is by the two brick remnants found at the bottom giving a TPQ of the fill to around the late 18th to the early 19th century. The cut of the ditch is difficult to determine and was about 25cm to 40cm below the surface with the complete feature buried by the heavily chalk flecked sub soil. The chalk was probably introduced to affect the PH balance of the soil during the field's agricultural use.

The ditch is not present on early OS maps from the late 19th century so it is probable that it may have been filled in before this time. The likelihood is that this feature was a land division of some sort connected to the agricultural use of the farm.

With a striking similarity to Test pit 05, the Valley Field test pit was placed over a linear high resistance anomaly, with both appearing to be a compacted surface. Also discovered close by, was a ditch which had not appeared on the geophysics survey. Trying to match up historical photographs of track ways in Google Earth, with the position of the test pit, was difficult, due to the various picture distortions already mentioned above, but taking measurements directly on Google Earth of the track way using the 1960 image, then comparing them with the georeferenced test pit coordinates on ArcGIS, the result looks to be a reasonable match. With the lack of absolute proof, doubt has to remain, but there is a high likelihood that the track way in Fig. 72 is the same as the high resistance anomaly in the geophysics and thus the compacted surface found in the test pit excavation.

The primary fill of the ditch, because of the aluminium soap canister found at the bottom, would most likely have a TPQ date of the early 20th century. The various finds in the subsequent ditch fill, corroborates this date. The function of the ditch is unknown but may be connected to the quarrying activities at the end of the Victorian period. The primary fill of the ditch was very clean and soft and does not look to have been deliberately backfilled, rather it appears to have been an accumulation of hill wash. The test pit was too small to really gauge the direction of the ditch but the small section revealed, did suggest an alignment along the valley.

At the surface of the test pits, both in the main trench and the separate extension, small quantities of cracked flint were found. It cannot be deduced if these are a prehistoric creation or much later, as a result of fires, (probably in an agricultural context), over the years. Given the strong correlation with burnt flint and pre-historic features found in the Orchard field in 2013, the presence of Iron Age archaeology being nearby cannot be ignored.

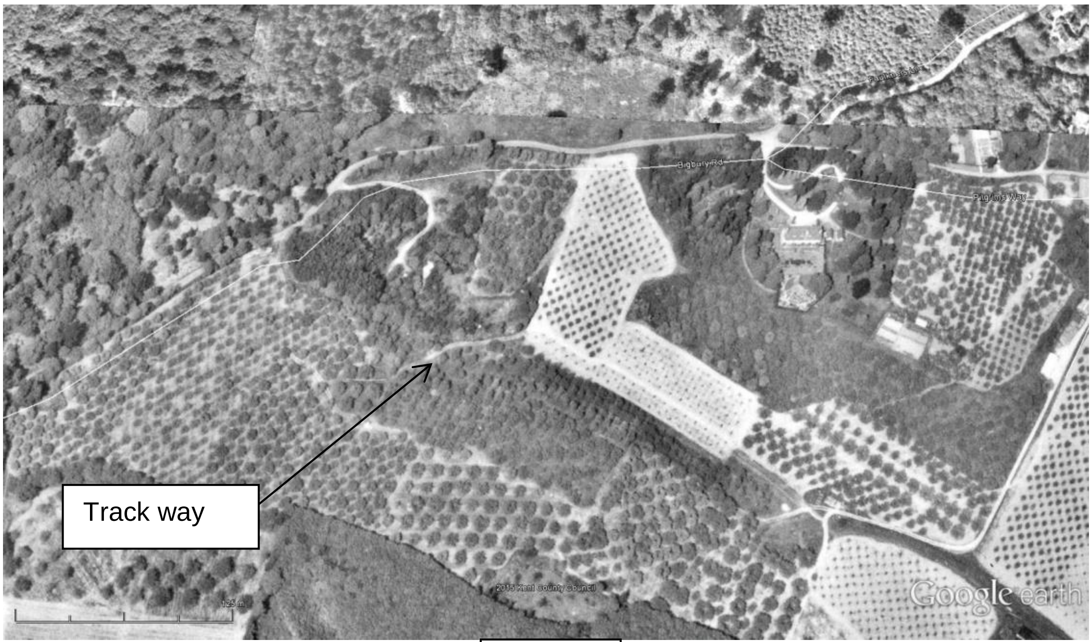


Fig. 76

10.0 2014 Conclusions

Both of the high resistance features in the resistance survey, were validated following the discovery of the compact surface. It is a high probability that these compact surfaces are track ways as seen on the aerial photographs. This demonstrates that the resistance survey is picking up the shallower archaeology with some accuracy. The discovery of the ditches only through excavation, does demonstrate the weakness of relying on geophysics alone in determining the presence of archaeology. Both ditches were well over 1m deep, before substantially different soil moisture content to that of the surrounding soil was seen. Neither of the ditches appeared to be Iron Age but with such a surgical incision which test pits provide, it was difficult to be certain if they were in any way related to older features. The main conclusion that can be drawn from these test pits is that at Bigbury there is a buried archaeological landscape which is varied in age and function. This landscape needs to be unlocked by the use of different geophysics techniques, such as Ground Penetrating Radar and a deeper resistance survey, before we can get a clearer picture as to its significance to the history of the Hillfort.

Chapter 7 - Bigbury and its Environs

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1.0 Introduction

In common with so many Iron Age Hillforts, Bigbury is not sitting in isolation but is an integral part of the prehistoric landscape. The extent to which Bigbury was an expression of the wider cultural milieu and is related to its environs (social and physical) will never be known, but there are indicators that may provide us with some clues. It is not possible within the bounds of this research to conduct a very detailed environs survey like that carried out at Cadbury and Silchester but the recent LiDAR survey does provide a good basis for this investigation (*South Cadbury Environs Project* 2010; *The Silchester Environs Iron Age Project* n.d.). The use of maps, as well as data from the Kent HER, will be complemented using observations made by walking across the landscape.

2.0 Bigbury Annex and Cross-Ridge Dyke

2.1 The Annex

The Hillfort at Bigbury would have been an important feature of the prehistoric landscape and it has been well described in previous publications (Jessup and Cook 1936b; Jessup 1933; Thompson 1983). The monument straddles the end of an east-west ridge making it effectively a promontory enclosure, with its upper ramparts hugging the 70m contour. These (apparently main) ramparts, enclose an area of 10.7ha (Hamilton, S. & Manley, J. 2001, p.24). Immediately north of the Hillfort, there is a looping earthwork joining the contour ramparts at both ends, that encloses sloping ground descending to a tributary of Cranbourne beck. The so-called "Annex", approximately 3.3ha is enclosed by a further ditch and bank complex (Thompson 1983, p.238).

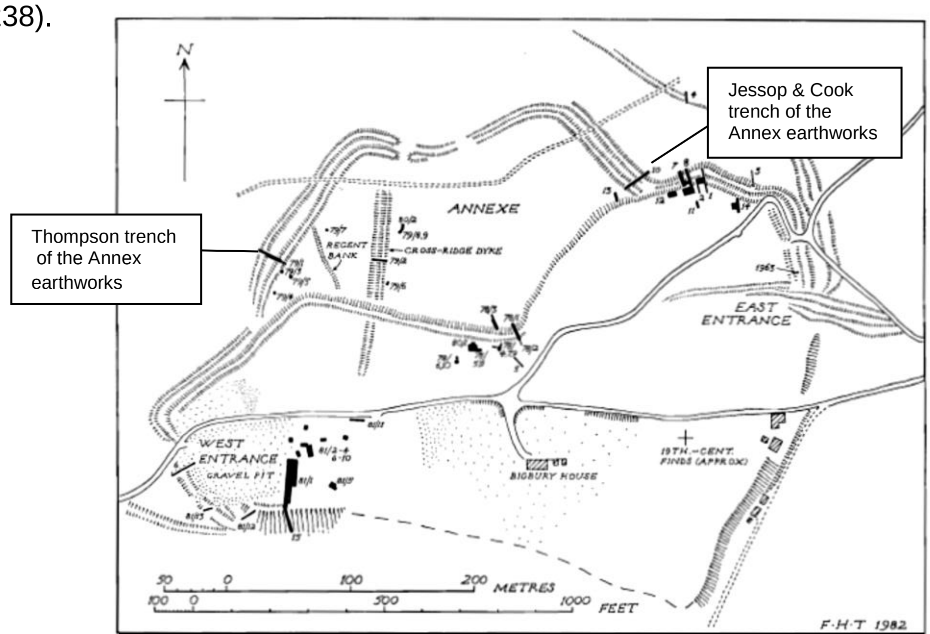


Fig. 1 Positions of Annex excavation trenches (Thompson 1983, fig.2)

According to Jessup and Cook, the width of the ditches and banks at its widest (which is on the west side), was 65 feet (approx. 20m) and measured 40 feet (approx. 12m) from crest to crest(Jessup 1934, p.165). Thompson in his report in 1983 stated that the banks were 9.14m apart but did not declare an overall width. His trench, located at the widest part of the Annex earthworks to the west, was nearly 25.5m in order to section the earthworks. This suggests that the width of the earthworks would be slightly less (Thompson 1983, p.245). A discussion with Alastair Oswald who surveyed this area as part of the "Finding Caesar" project, confirmed that his measurements were slightly larger, with the total width at the widest point being 25m-30m (the inner bank being 10m wide and the outer 8m). He also stated that the height of the banks was approximately 0.6m where the preservation is best. Jessop and Cook gave the height as 4 feet (1.2m) and Thompson's measurement was lower at his excavation site, giving a figure of 0.46m (ibid).


Fig. 2 Boggy land north of the Bigbury Annex

The boundary of the Annex is defined mainly by a bi-vallate earthwork, although Thompson has suggested that where he excavated towards the east of the Annex defences, the builders exploited the natural land contours to achieve the bi-vallate profile (Thompson 1983, p.245). Much of the bi-vallate features at the north of the Annex have been eroded, possibly by land cultivation, as just visible is a lynchet, which appears to have levelled out the outer bank. There are two breaks in the Annex earthworks one of which must have been an entrance. On inspection and with the assistance of Alastair Oswald from the Finding Caesar Project, the entrance is most likely the most easterly break in the ramparts, as the terminals of the banks either side show a very rounded profile.

The break towards the west is more angular, suggesting a more recent incursion. There are two other indicators which make the easterly break in the bank more likely to be an entrance. The first one is that it is in a good alignment with a probable entrance in the main Hillfort ramparts at the top of the hill and the second indicator is that there looks to be a wide causeway of firmer ground leading from the entrance to the fields to the north.

The area adjoining the north Annex bank and ditch is very boggy in places (see Fig.2) and it is possible that the placing of the ditch and bank marked the extent of dry usable land.

Both Jessop and Cook and Thompson indicated that the main ramparts and the Annex were constructed at the same time. (Thompson 1983, p.254; Jessup and Cook 1936a, p.166). This was not the conclusion of the earthworks survey by the OS Archaeology Division in 1963 published in the OS map of 1971 (see Fig. 4a) (pers comm Alastair Oswald). This survey showed that the Annex earthworks post-dated the main ramparts. The LiDAR of 2010 whilst not clear at the east junction of the Annex to the main ramparts, at the western junction does back up the survey results showing that the Annex earthworks looks to be over the main ramparts.

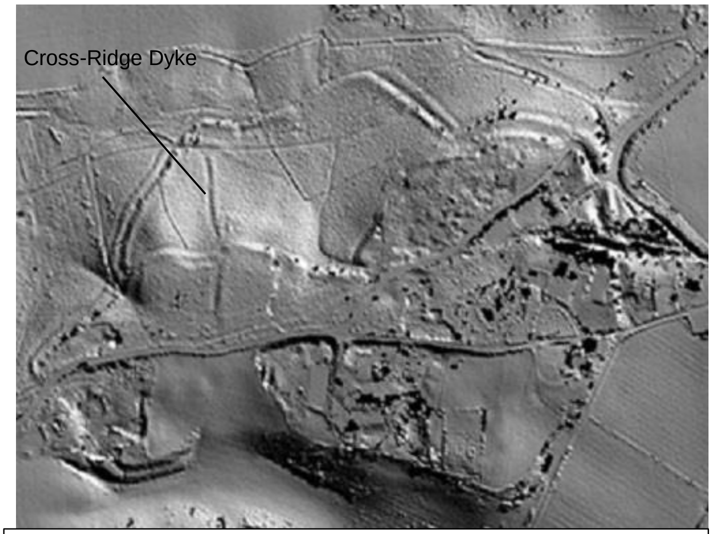


Fig. 3 LiDAR image of Annex showing the alignment with the Cross-Ridge Dyke

There does appear to be some symmetry to the Annex with two areas that appear to protrude from the northern boundary. It is possible that the western protuberance (which is the more discernible) was somehow respecting the terminus of the Cross-Ridge Dyke which could suggest that the Annex was post the Dyke construction.

There has been no evidence recovered which will help us to understand the use of the Annex. It is commonly thought that there was a connection with livestock, possibly a cattle compound (Gould 1908, p.395; Jessup 1933, p.95). If this was the case then the soft sandy soil that is prevalent on this ridge, would have been badly cut up especially in wet weather and would have made the area very difficult to use in any other way. Phosphate sampling of the area would test this theory. Thompson did find what he calls a temporary Smithy in the area and it is possible that this space was used for a particular function connected with metalworking, like the maintenance and repair of horse fittings and chariot paraphernalia (Thompson 1983, p.252). Thompson only found one piece of metalwork possibly connected to horses, in the backfill of the waterhole located in the interior of the camp, but several pieces of horse and chariot metalwork was found as part of the earlier metalwork finds in the late 19th century (Thompson 1983, p.259 & 274).

There was significant effort to construct the Annex and its bi-vallate formation does seem excessive if it were just for stock control. It is possible that the earthworks were constructed as an additional protection for the north side of the fort, possibly providing extra security for the entrance to the interior of the fort at the top of the slope.

2.2 The so-called Cross-Ridge Dyke

Just visible towards the western end of the Hillfort is a linear depression which has been termed a Cross-Ridge Dyke; this runs north-south and is discernible on the ground for about 150m. It starts from below the northern ramparts (see Fig.3) and appears to run under the main ramparts, over the high ground of the interior and finishes now, at the main Chartham Hatch Road. The Dyke does not appear on the early representations of the Hillfort by Hussey and Jessup and Cook and the segment that is in the Annex was missed from the 1963 survey (see Fig. 4a).

The segment of the Dyke in the Annex was identified in 1978 by Dr Clark whilst carrying out a magnetic survey in the area. The Annex had recently been cleared of trees so the feature became visible (Thompson 1983, p.240). In 1979 Thompson placed a trench across the Dyke in the Annex thinking that it was a natural feature.

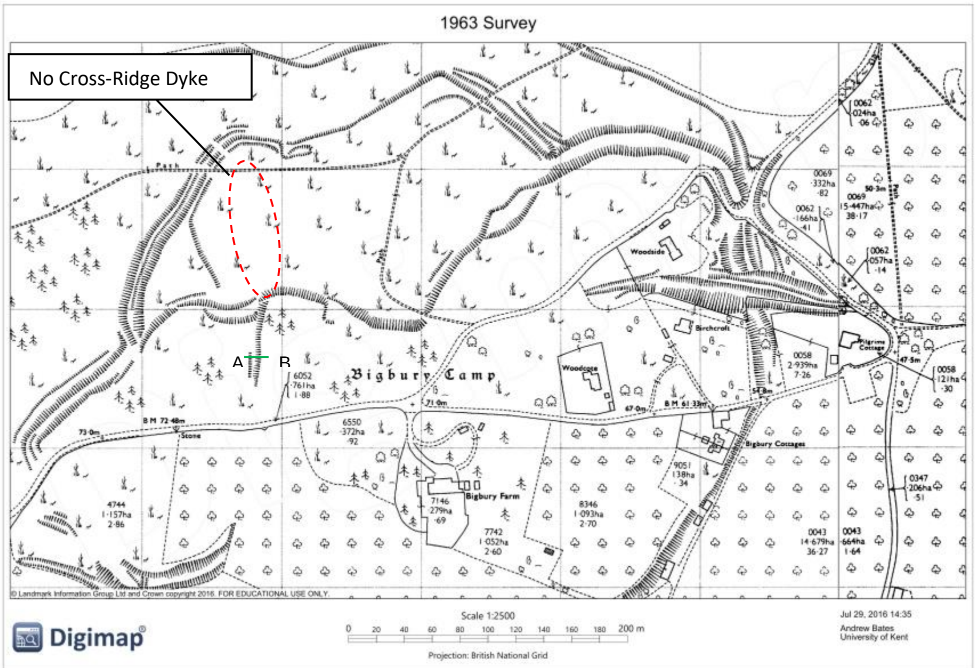


Fig. 4a 1963 survey illustrating the missing Cross-Ridge Dyke in the Annex

He soon realised that it was in fact man made when he recovered pottery sherds from the lower levels; these sherds he dated to the 3rd to 2nd century BC (Thompson 1983, p.246). From his excavation, Thompson determined that at this point the Dyke was 3m wide and 0.61m deep and the bank which was on the eastern side was 6m wide and 0.61m high (ibid). A 2016 profile (for location see Fig 4a line A-B) was taken of the Dyke in the interior of the Hillfort (Fig 4b) and it shows that the top of the bank to the bottom of the ditch to be approximately 1m, with the ditch and bank measuring together approximately 12m in width.

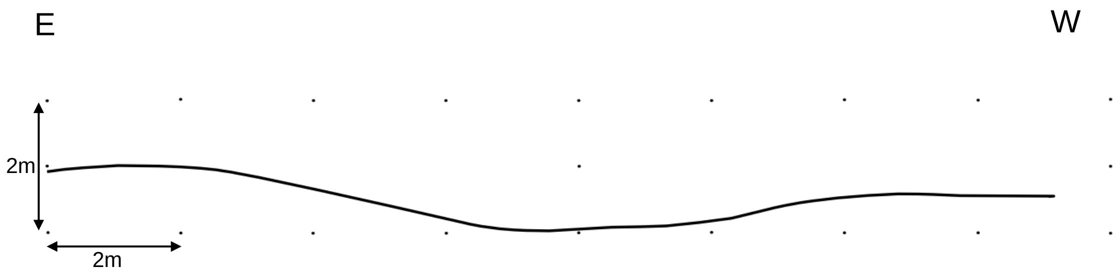


Fig. 4b 2016 profile of Cross-Ridge Dyke (for location see Fig. 4a line A-B)

Crucially, Thompson stated that the main Hillfort ramparts cut the Dyke, suggesting that the Dyke was earlier. A general plan of Bigbury by Thompson in his excavation reports clearly shows the ramparts running over the Dyke (Thompson 1983, p.239). A visual inspection of this important junction does confirm what Thompson showed on his plan and Pers comms with Alastair Oswald who surveyed the Hillfort in 2015, also confirms this sequence.

Cross-ridge dykes have been known to precede later Hillfort constructions particularly for promontory sites like Bigbury and it is likely that this feature is the remnant of a structure earlier than the ramparts, effectively cutting off the ridge to form an isolated promontory (Bradley 1971, p.72). The excavations by Thompson did not adequately date the ditch as it is likely that the ditch was kept cleared during the occupation phase of the Hillfort for it to survive today. The ditch even now is prominent in the interior of the Hillfort so at the time of its main occupation, it must have been kept clean and somehow integrated into the day to day workings of Hillfort life. Any dating in the form of pottery or metalwork could therefore come from that period.

As the current form of the ditch is well defined, its lack of inclusion in early maps of the monument is puzzling. Was it just not seen because of the tree coverage or was it omitted because it was thought to be a modern feature? Jessop and Cook appeared to make a thorough investigation of the Hillfort and it is surprising that they missed what looks to be an important feature. Is it possible that some of it may be a more modern feature like a property or land boundary? If however, the Dyke at one time did continue completely across the ridge, then it is no longer visible on the south side. This is likely to be due to historic quarrying. The rescue excavation carried out by the Blockley brothers placed a trench on the south side of the Chartham Hatch Road in an effort to try and locate the Dyke but they were unable to locate its path (Blockley 1989, p.240). A geophysical survey (see chapter 5) of this area also did not reveal any feature that could be a continuation of the ditch. It is possible however, that the ghost of the ditch can still be seen in the alignment of the field boundaries shown on past maps (see Fig. 5).

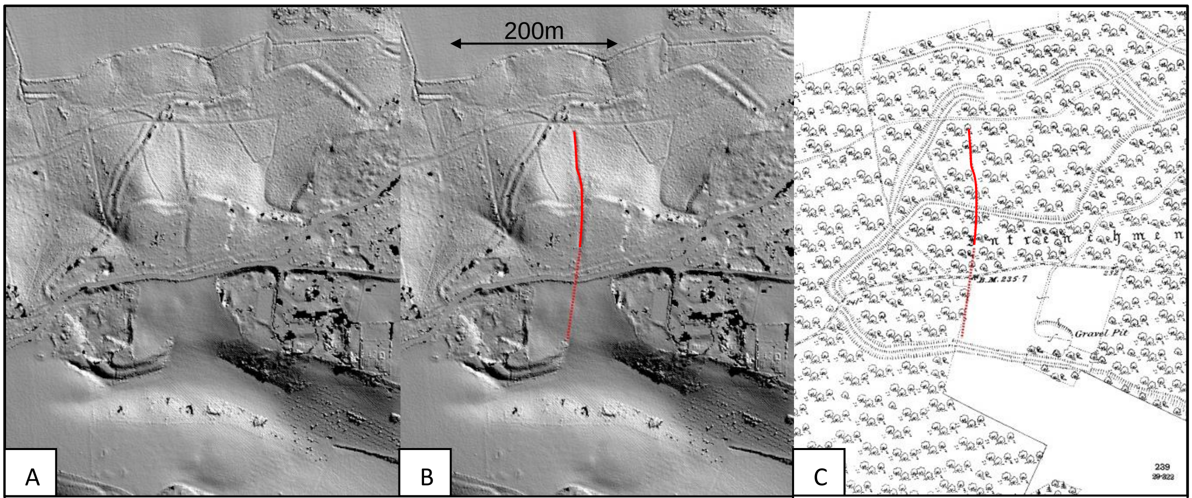


Fig. 5 Potential influence of Cross-Ridge Dyke on field boundaries

A. LiDAR image of Cross-Ridge Dyke
B. Projected alignment of Cross-Ridge Dyke
C. 1873 OS map showing the field boundary respecting the projected alignment of the Cross-Ridge Dyke

3.0 Entrances

3.1 Introduction

When identifying the entrances to Hillforts the obvious place to start is by examining any breaches in the ramparts, whether they line up with existing roads and footpaths and if there are any distinguishing characteristics of the banks such as rounded terminals, traces of multivallating or changes in bank alignment. At Bigbury there are several breaches of the ramparts, some of which are likely to be original entrances and others of a more modern creation. The main road that bisects the interior of the monument is the Bigbury Road which runs from Chartham Hatch and enters at the west of the fort; it then leaves from the east via a sharp “zig zag” through the ramparts and finally emerges as Faulkners Lane heading off towards the main A2 in to Canterbury. A lesser road that divides south of the main road approximately halfway through the fort, is called The Pilgrims Way. This continues over the line of the ramparts to join Tonford Lane towards the east of the monument. An additional but very significant interruption to the route of the ramparts is also on the eastern side of the fort and is a few metres south of the "zig zag" road. This has the form of parallel hollow ways and has an alignment with the current Pilgrims Way footpath coming from Canterbury from the east.

It has always been proposed that the monument had an entrance at the west and an entrance at the east; the former is universally accepted to be where the Bigbury to Chartham Hatch Road enters the Hillfort but the eastern entrance has been subject to some debate. Opinion is split between where Faulkner's Lane snakes through the ramparts and the area of the Pilgrims Way intrusion to the south of this point. Other possibilities that need to be considered are the area of the paved road now called The Pilgrims Way which appears to go over the ramparts.

There are two other possibilities: one is that there may not have been an eastern entrance at all and that the two breaks in the ramparts are of a more modern construction; the other possibility is that there may have been an entrance to the south somewhere where the ramparts have supposedly been ploughed away. The land formation at this point provides a natural funnel in the form of a small valley or coomb which heads towards the old River Stour crossing at Tonford. This in medieval times was an important crossing point possibly the first fordable point of the river (Jessup 1933, p.89). It is not difficult to imagine that during the later Iron Age this too was a significant crossing place and could have marked a limit of navigation. So, an entrance to the south would have been impressive, on arrival to the monument from the river. There are also two potential smaller entrances; one which would allow access to the Annex from the interior of the Hillfort and a break in the ramparts which is close to the western end of where the Annex joins the main ramparts which would allow access to the northern slopes of the ridge.

3.2 The Faulkners Lane entrance to the East

This location for an entrance is appealing as the ramparts appear to show a degree of potential misalignment which has the feel of an embellished entrance seen in other Hillforts (Cunliffe 2005, pp.365-374).

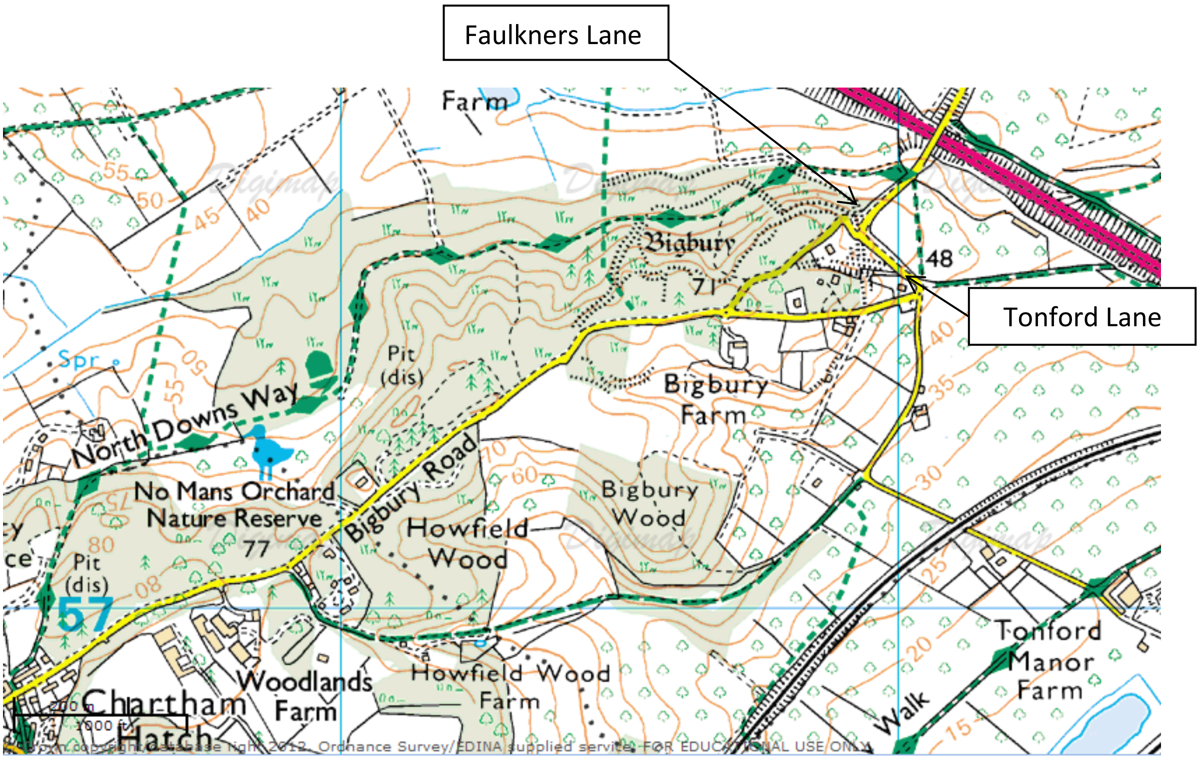


Fig.6 Modern map of road system at Bigbury

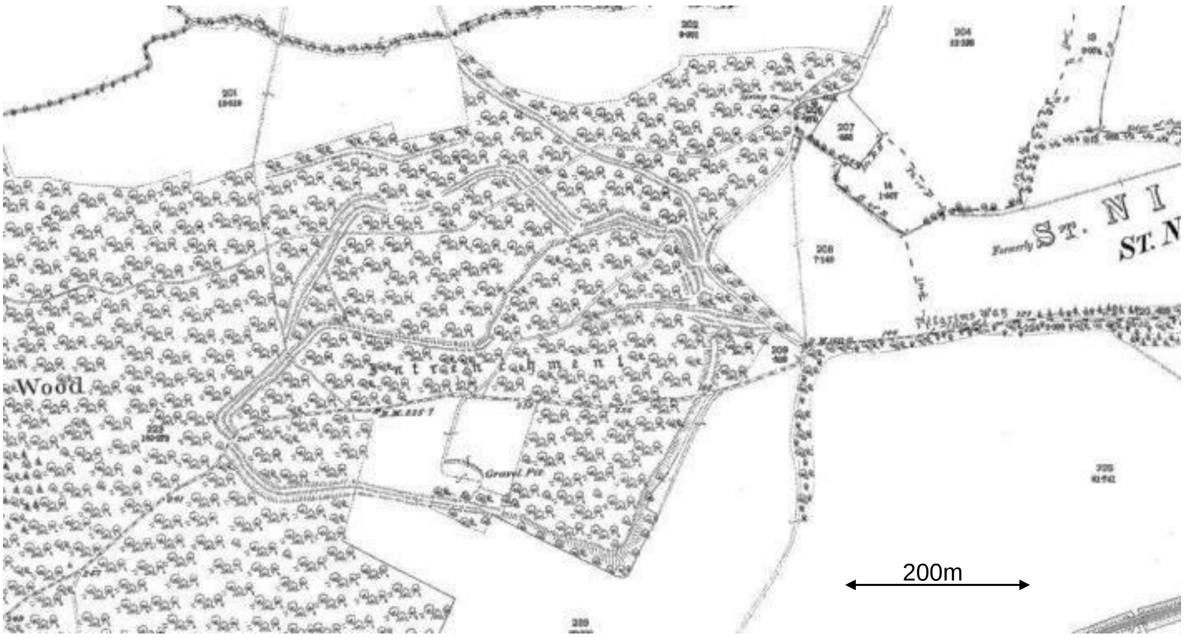


Fig 7 1870s map of Bigbury showing Faulkners Lane going through the zig zag towards the quarry area.

Fig. 8 Tithe map

The current road (Fig.6) weaves its way between the ramparts which tower above as you drive through but on reviewing older maps, this road configuration appears to have been constructed sometime in the middle of the 19th century. This was very likely in response to the quarrying where a more convenient way out of the fort interior towards Canterbury was required to convey the extracted sand and gravel.

This is illustrated by the 1870's map Fig. 7 which clearly shows the "new" road from the zig zag at the ramparts, heading across the interior of the Hillfort and ending at the quarry site indicated on the map.

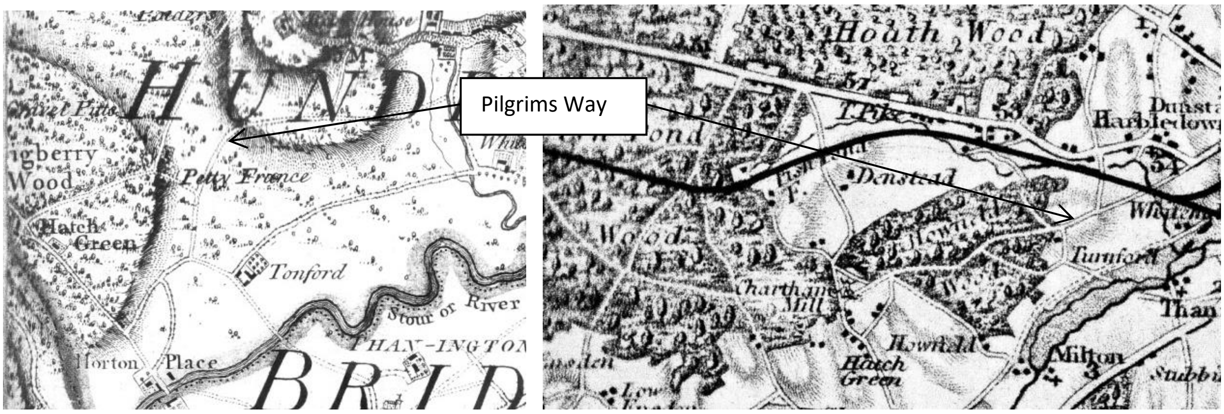
The Tithe map of the area (Fig. 8) clearly shows that there is no road through the ramparts towards the interior of the Hillfort but it does show that the current 90^0 junction between Tonford Lane and Faulkners Lane was in existence, making the main entrance into the interior of the Hillfort via the now minor road called the Pilgrims Way.

The sharp turn at the junction possibly indicates that there was an obstacle to be negotiated which was easier to avoid than to go through.

Maps from 1769 and 1843 (Fig. 9) both show a similar road pattern and both show that the Pilgrims Way trackway from Canterbury was a significant east-west route way, much more so than the footpath that we can see today.

From the details shown in the maps described, this zig zag road would have been created sometime between the mid-1840s and the 1870s. The selection of a road at this point is interesting. Was there an original breach in the ramparts that made it a natural choice to locate a road or did it follow the line of the ditch? If there was an original breech, why was this not exploited previously or is it an issue of gradient? Without the zig zag, the gradient would probably be too steep (from the bottom to the top which is a distance of around 50m, the level changes by nearly 7.5m) to traverse with heavy loads. This would make the lesser gradient (14m height change in 150m) of the paved Pilgrims Way a more obvious route in and out of the fort. The question still remains as to why the zig zag road was constructed and what advantage there would be over the Pilgrims Way Road. Could it have been part of a one-way system for the quarry vehicles?

If this was to be an original entrance it is useful to review what would be the likely external routes connected with the Hillfort. With older maps, although adequate for looking at the major routes, sometimes interpretation is required to be made when looking at the smaller details. The 1843 map does not seem to show the road which is now Faulkners Lane; however, this looks to be present on the 1769 map as well as the Tithe map which probably dates around 1841 (ref national archives). What both the 1843 map and the Tithe map do show, is a track leading north-west towards China Farm near Harbledown and this trackway is still identified on modern maps. An entrance at this position opens out the valley where the A2 now runs and it also provides a route to the Iron Age settlements identified recently at St Edmunds School and the University of Kent campus about 2.5km away. Travellers using The Pilgrims Way which now breaches the ramparts about 90m south of this entrance, could easily have been directed towards the zig zag entrance in antiquity, either using a direct route which has now been lost or by using strategically placed earthworks which have now been replaced by Tonford Lane. The route to the River Stour is less obvious; there is no map that shows a direct route to the river from this point nor is there any indication in the LiDAR image of any linear depression that may be the remnants of an ancient trackway.



1769 1843

Fig. 9 1769 and 1843 map of Bigbury showing Tonford

3.3 Hollow Ways in the East

Moving south from Faulkners Lane, there is an area of disruption around the existing ramparts opposite the track now known as the Pilgrims Way; this ancient route way is the likely cause of this disturbance. Here, the ramparts are breached with at least 2 hollow ways, the largest of which has steep sides and is approximately 9m deep at its deepest point and approximately 16m wide (Fig 10a).

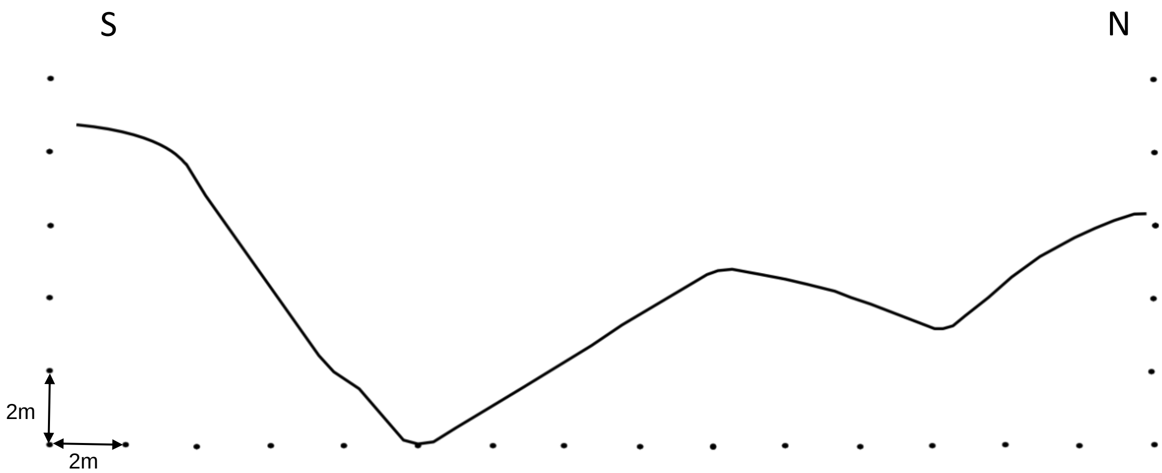


Fig. 10a (for location see Fig. 10b line A-B)

The main hollow way extends for at least 50m either side of the ramparts suggesting that a lot of soil has been displaced in its formation. The animal activity at this location now, has thrown up very sandy soil in places, indicating that this would have been a very soft surface and easily worn away by constant traffic, especially hoofed animals like horses, together with run-off following heavy precipitation. The main hollow way at this point is very wide and deep and if there was an original entrance here, then was there already a well-worn track in existence that pre-dated the ramparts? Reviewing the LiDAR image as shown in Fig. 10b, the line of the Pilgrims Way can be traced from east to west as worn trackways, made before the current Bigbury Road was established.

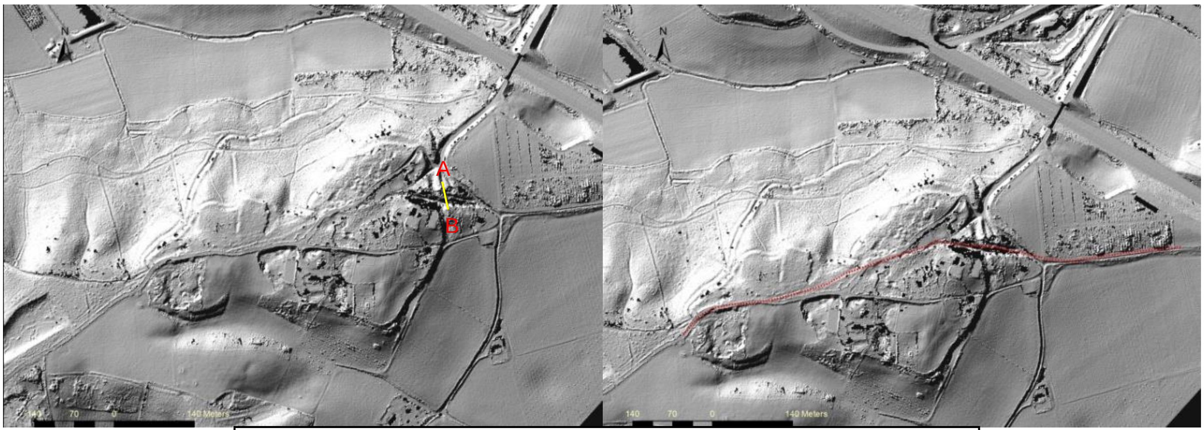


Fig. 10b Line of the Pilgrims Way traced through the Hillfort

If the Pilgrims Way is as many think, on the line of a prehistoric route way, then an entrance here would exercise control of the movement of people and goods using the track. If the Pilgrims Way alignment is the same now as it was in prehistoric times, then this would be a more favourable position for an entrance to the Hillfort. It would be expected therefore that the ramparts may have been embellished in some way at this point. The 1963 survey (Fig. 4) does suggest a slight in-turn of the ramparts to the north of the hollow ways but no other significant embellishment is visible.

3.4 Modern Pilgrims Way

The modern tarmac road called The Pilgrims Way, is the location (according to the earliest maps available), of one of the older routes through the interior of the Hillfort. It is a narrow road which appears to go over the ramparts, rather than through it; this suggests that this is not an original entrance. The ease to which the area around Bigbury can be accessed via this route is very similar to the two previous entrance descriptions but out of the three described, it is probably the third place candidate for the eastern entrance, due to the fact that it looks to be a road placed over the ramparts rather than through them.

3.5 South side entrance

The location of an entrance at the south side of the Hillfort where the ramparts have now been ploughed away has not been suggested before but it is worth exploring the possibilities. As touched on in chapter 2, the line of the ramparts was published by Hussey in 1873, as the first detailed survey of the monument (Hussey 1874, p.13). This early survey showed the now missing section of the ramparts still intact. He commented that this portion was ploughed out several years before and it is not clear if the surveyor actually saw them. The drawing at this point, does appear to be different in character to the rest of the ramparts, so there are several options that can be considered.

1. The surveyor never saw the intact ramparts so the drawing is from a third party description.
2. The surveyor never saw the intact ramparts so he is making an assumption as to its form.
3. The surveyor did see the ramparts intact and he drew it from his notes or memory.

Fig. 11 Adjacent to the south side ramparts looking south-east

If option 3) was to be correct then it is safe to say that the ramparts are continuous and no break for a possible entrance can be considered.

If option 1) or 2) were to be correct then there is a possibility that the ramparts were not continuous and that there could have been an entrance at this point. The ramparts here run parallel to a small valley or combe which travels west and terminates short of the western entrance. Geophysics results at the terminus of this combe suggest that there is a depth of colluvium and it is possible that in the past the ramparts may have continued on and turned towards the west entrance.

Looking south-east from the ploughed out ramparts down the valley (Fig. 11), there is a direct line of sight to the Stour River and also a panoramic view of the surrounding landscape.

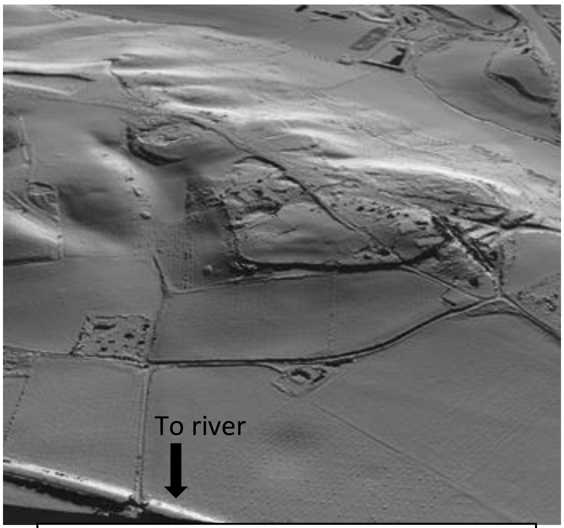


Fig. 12 LiDAR showing the direct route to the river Stour

The location of an entrance at this point is not an obvious one as not only is it close to the western entrance, it is not a natural through way for the Hillfort. If however, it can be shown that Bigbury was not built primarily for its defensive capabilities but rather for its role in controlling movement through the landscape, then an entrance at this location does have some merit. Visibility both from and to the Hillfort is a critical factor for control of goods and people and this position satisfies those points very well.

An entrance in this position would not be an ideal access to the known Iron Age settlements to the north of the Hillfort or for access to The Pilgrims Way. If this were to be an entrance, then it is likely that an additional entrance to the east would have had to be constructed to facilitate ease of movement to the north. However, it would have provided access to the river valley and if Canterbury was already extant then this would be a flat line of communication. The ford at Tonford is also close by and it too would have been an important crossing point for Canterbury and beyond.

A further explanation for the denuded ramparts here could be that it was at this point that the Hillfort was attacked following the invasion by Caesar. There is no evidence recovered to date to back up this idea, but this part of the Hillfort is probably the weakest defensibly due to the topology of the land. No evidence has been seen from the geophysics survey, carried out as part of this research, for an outer works around this point but as already stated in the geophysics chapter, the archaeology is deep and may not have been visible with the type of equipment employed.

3.6 North Entrance

As already suggested in the description of the Annex in section 2.0 above, there is a likely entrance in the northern ramparts which would allow access to the Annex and beyond.

As can be seen from the LiDAR image in Fig. 13 there appears to be a slight in-turn to the rampart on the east side of the entrance. The rampart on the west side is damaged either by erosion or quarrying and it is not clear if this shows the same characteristic. It is also the location of Thompson's trenches in 1978 (see Fig. 1).

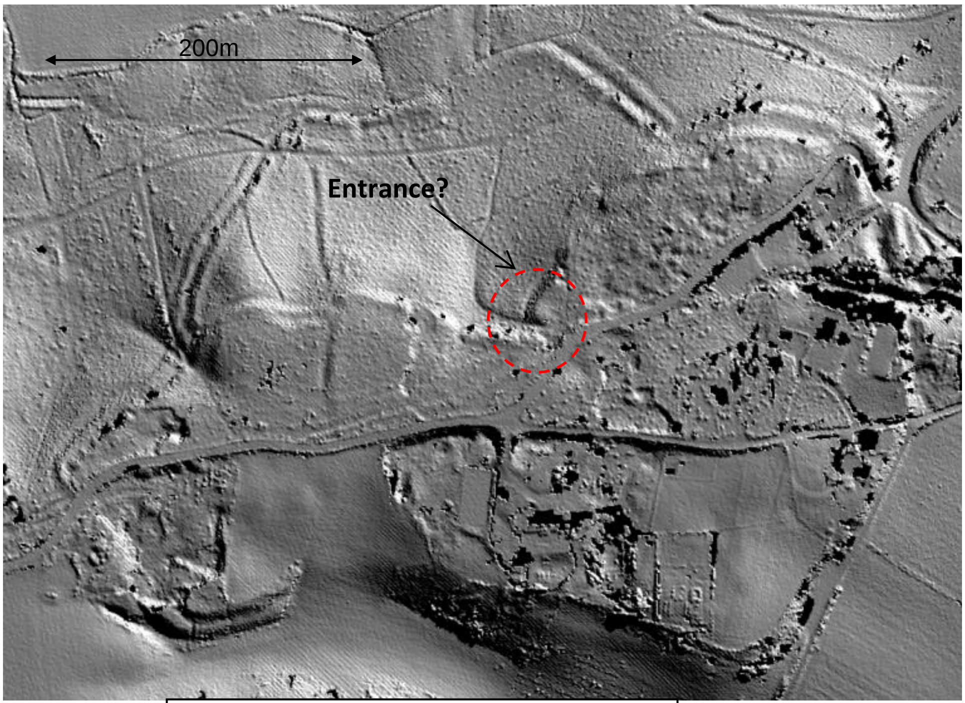


Fig. 13 Site of possible northern entrance

3.7 Only one entrance to the west

If only one entrance was constructed for the Hillfort then the obvious place would be in the west. This is not a very workable scenario as this would severely restrict access to the environs outside of the ramparts as well as movement of goods and people along the ridgeway. Unless this was a design feature of the Hillfort then this limited access would make day to day life unnecessarily difficult. Bigbury is really a hybrid of a promontory Hillfort and a contour Hillfort. Most promontory Hillforts only require one entrance as there is nowhere else to go once inside the ramparts as all other sides are steep, like High Rocks near Tonbridge Wells in Kent (Cunliffe 2005, p.381). With Bigbury, the promontory slopes down to the east and becomes level with the rest of the surrounding countryside making access at this point a likely scenario.

4.0 Visibility

Bigbury is likely to have been multi-functional but it is not unreasonable to consider that one of its uses could be that of shelter during times of conflict. A review of the general characteristics of Bigbury including its potential defensive capabilities, reveals both positive and negative attributes. As previously described, the Hillfort lies at the end of a ridge so there will be limitations as to its defensive suitability because there is no elevation change where the fort connects to the ridge and it is an obvious vulnerable point. Another issue of being at the end of a ridge is that there are consequential sight restrictions. Figure 14 gives an illustration of the visibility both to and from the Hillfort. This is called a Viewshed and has been generated in ArcGis based on the land elevation and assumes no view interruptions by buildings or trees. What can be seen from the map, is that Bigbury has a commanding view of the surrounding countryside especially to the south-east, meaning that it too, would be very visible and potentially impressive from a distance. It is very likely that much of the present day wooded area around Bigbury would have been cleared to ensure that these views were uninterrupted and that there were no “blind” spots also making it highly visible from a distance.

Blue shading indicates the visibility from Bigbury

Pink shading indicates the visibility from the IA settlement at university of Kent

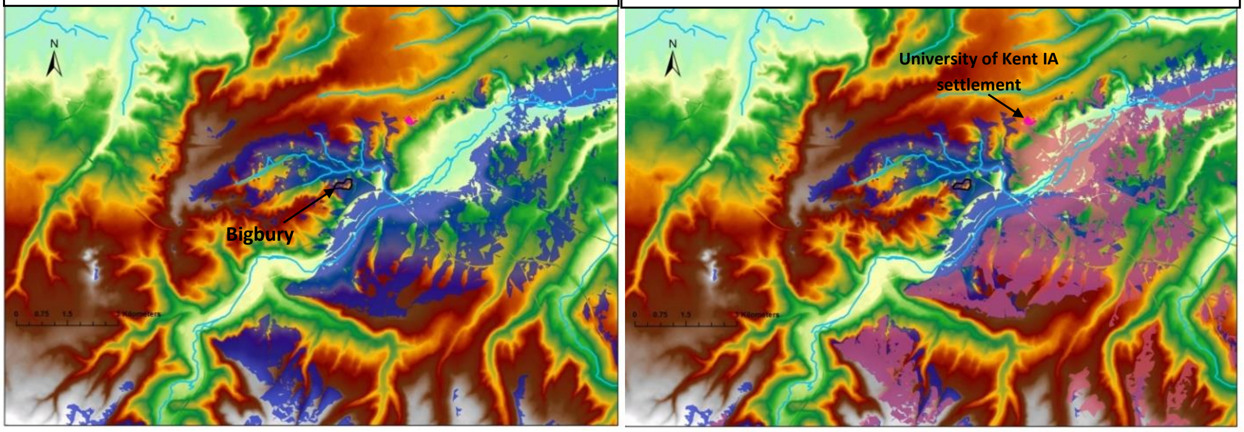


Fig. 14 Map showing the views from Bigbury and the IA settlement at the University of Canterbury
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Significantly, there is excellent visibility of the River Stour which would have been an important communication and transport route during this period; additionally, this would also mean sight of the ancient river crossing point at the ford at Tonford which is approximately 1 km away and would have been a strategic key point to control.

According to the generated Viewshed, the river cannot be seen to the east as it is obstructed by what is now called Golden Hill but if a similar Viewshed is generated from the point of view of the settlement at the University, then this blind spot is now fully visible.

The northern side of the fort takes advantage of the steep gradient of the ridge and the natural slope, in combination with a ditch, a bank and probably a palisade on top of the bank, would have made a formidable obstacle to any possible attacker. The southern side however, would have had some issues from a defensive aspect. Unfortunately, this side of the monument has experienced extensive damage by old gravel extraction and agricultural activity. Traces of the ramparts can still be seen although the central portion has been completely destroyed. Towards the eastern end of the Hillfort, the ramparts are still visible and if the assumption is made that the same rampart bank and ditch characteristics are maintained throughout the complete circuit of the fort, there are no traces of an accompanying ditch. It is possible that the ditch has been filled in over time to make the land more agriculturally useful. Running parallel with the southern ramparts is a small valley or combe only 30m wide at its narrowest point. The southern side of this combe is steeply sloped and quickly reaches the same height as the top of the ramparts opposite. This land formation would have made this side of the fort vulnerable against potential attackers, necessitating the ramparts at this point to have been given additional protection, (possibly a palisade on top of the bank or additional earthworks in the valley floor). As with all promontory forts, the entrance adjoining the ridge, (in this case the west entrance), would always be a weak point, so again additional protection would have been required.

5.0 Location and Evidence of Larger Complex

As previously stated, the ramparts roughly follow the 70m contour of a ridge of high ground. This is by no means the highest land in the area or the best defendable, as the land to the south is not particularly steep. Areas like Perry Wood near Selling, or Godmersham, situated to the west and south-west respectively from Bigbury, are higher and could be a better selection if purely defensive capabilities were the construction criteria. The River Stour would probably have been a major navigation and communication route so its use and access would likely have been important to monitor and probably control. The ridge which terminates at Bigbury does flank the river Stour to the south and the Cranbourne to the north effectively making Bigbury at the confluence of two waterways and although the probable better locations from a defensive point of view (except Selling which is more inland), Bigbury has some critical advantages; it overlooks, the ford at Tonford, any activity that might have been at Canterbury at that time and also the valley to the north in which the A2 now runs.

The modern road layout gives us clues as to the important association of the ford at Tonford to Bigbury. Tonford Lane is a narrow road which runs from Faulkner Lane and curves around the south-east area of Bigbury and then does a sharp left turn down towards the river. This route with its sudden change of direction raises questions. Could this have been the original “planned” route or, did it come about as a change of access, as alternative routes became more popular? Figure 6 is a map of the area dated 1769 and 1843, which shows that Tonford Lane runs in a similar direction as it does today but where it now does a sharp left turn towards the river, the lane seems to continue on around the southern end of Bigbury Wood. A similar road pattern is shown in the Tithe map of the area.

The continuation of Tonford Lane around the south of Bigbury Wood is now a designated footpath. This footpath runs through Howfield Wood and joins the Bigbury Road about 0.5km east of Chartham Hatch, (a similar route to that which is shown on the old maps).

Tonford Lane mirrors the line of the ramparts, in the section just before the left turn towards the river and in places there is a height differential of between 1.5m and 2.0m between the surface of the road and the field which adjoins the rampart to the north. There is a further drop of 1.0m to 1.5m from the road surface to the orchard on the opposite side.

It is difficult to accept that this steep profile is as a result of the constant use which typically forms a hollow way but rather it looks like a trackway, that at some stage had followed the line of an earthwork, (consisting of a ditch and bank), and would have run along the line of a silted-up ditch. The LiDAR survey indicates that as the road turns into the footpath, the first 300 metres are clearly earthworks which have the appearance of a double bank and ditch following the line of the woods. There can also be seen, worn paths and possible boundary ditches but these are on a much smaller scale than the potential earthworks.

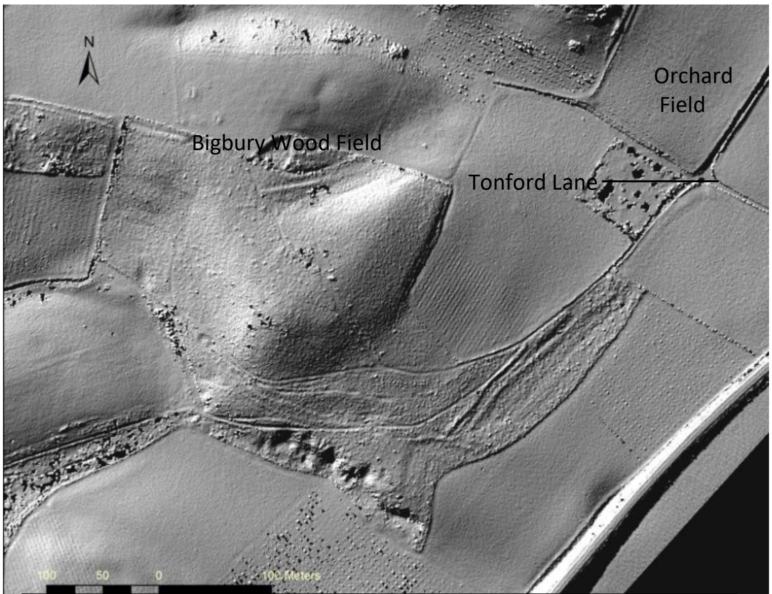


Fig. 15 showing the earthworks to the south of Bigbury Wood

Following the earthworks west around the bottom of Bigbury Wood (Fig. 15), they appear to stop and further study of the LiDAR image, indicates that they are interrupted by a linear feature. Inspection of the area revealed that the ground is very steep, particularly at the boundary of the wood and the field.

This is indicative of quarrying and is backed up in the OS maps of the 1890s, where this area is marked as chalk pits.

This notification only appears on this decade of maps so the quarry seems to be relatively short lived. The linear feature that interrupts the earthworks is also likely to be connected to the quarrying in the area. Moving west, there are no definite further signs of the earthworks continuing, although there are many tracks that criss-cross the area and much of this part of Bigbury has suffered from later disturbance, including building, possibly erasing signs of any ancient earthworks.

There is an alternative explanation to the incomplete visibility of the earthworks and that is, it is possible that they were only ever intended to flank an entrance fronting the river crossing at Tonford and they were never meant to continue around the south side of the complex. As already discussed, the river crossing would have been a major communication route through East Kent and an impressive entrance, in the form of a ditch and bank with probably a palisade on top, would be required. This would not only signal the way into the complex and probably emphasise that behaviour needs to be altered, but it would also signify that this is a point of control with an associated high status, to impress would be merchants and travellers.

Moving further anti clockwise, away from the Pilgrims Way, there is a suggestion in the LiDAR image that the outer earthworks which follow the Tonford Lane, continue round the zig zag in the road at the junction of Faulkner Lane and curve around and join up with the Annex to the north of the monument (Fig. 16). This area has been disturbed over the years and old maps show that there was a trackway from the junction of Tonford Lane and Faulkner Lane which travelled towards China Farm near Harbledown. The earthworks that are seen in the LiDAR image look to be as a result of this trackway.

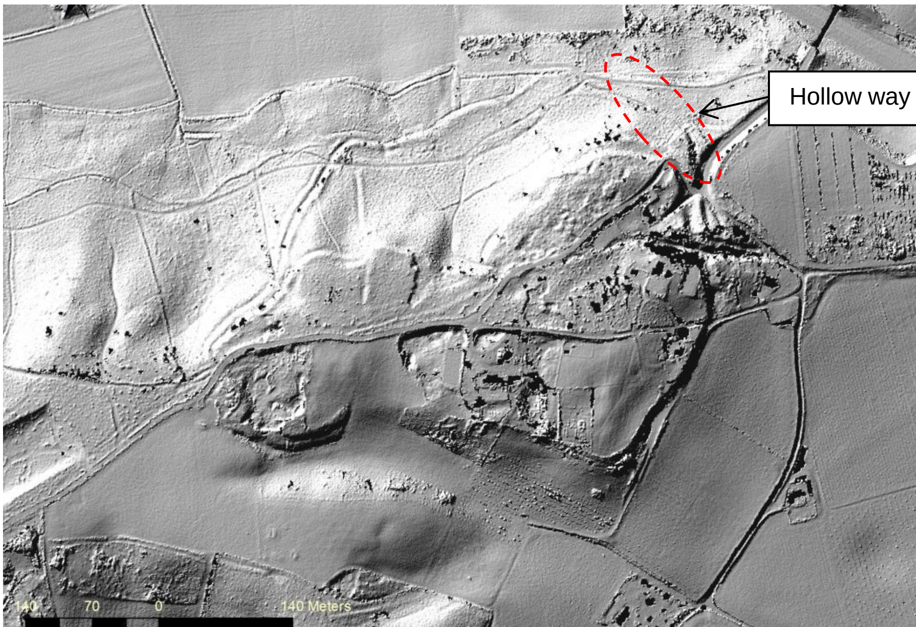


Fig. 16 showing the earthworks to China Farm

The question is, did this trackway follow an existing ditch which was part of the outer earthworks, or is it just the shortest way from A to B? The alternative route for the outer earthworks is one where at the zig zag point in the ramparts, the ramparts and the outer earthworks converge then separate and form the bank and ditch of the Annex. With either scenario, if we accept that there is an outer earthworks, then the Annex is also part of that complex and is more than just a cattle compound, as has been suggested.

Moving further anti clockwise, any visible sign of prehistoric earthworks cannot be discerned. The LiDAR image shows several field boundaries mainly running north-south but there is nothing on the scale that would lend itself to an ancient earthwork. If the Hillfort constructors were trying to demonstrate status by embellishment and visibility of the ramparts, why then would the south-east side have this embellishment and the rest of the monument not? The north facing side of Bigbury is arguably the most naturally impressive, due to the steepness of the ridge and the ramparts topped with a palisade would have been visible from a distance. This may have been a sufficient display as it is possible that the valley to the north of the Hillfort where the old Roman Road, (Watling Street) ran, was not a major route way through the landscape (this was probably the drier ridge way that became the Pilgrims Way) and as a consequence, with possibly only “local” footfall, no further elaboration other than the natural land formation (which is nevertheless impressive) would be required.

6.0 Environs earthworks

The idea that the valley was not a major communication route at this time, is to some extent reinforced by once again looking at the earthworks revealed in the LiDAR survey.

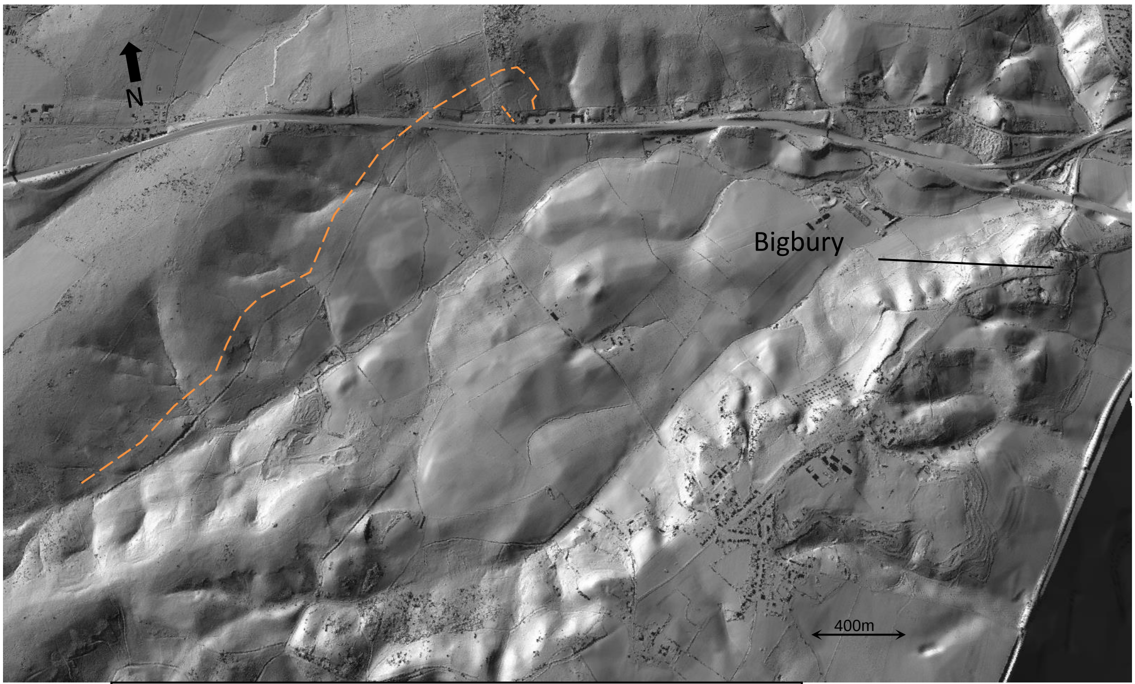


Fig. 17 Earthwork across the route of (A2) Watling Street

Figure 16 shows that there appears to be a ditch which runs across the west end of the valley which is cut by the current A2. If we accept that the A2 now runs along the same line as the Roman Watling Street, then this suggests that this feature, even during the construction of the Roman road would have been present, meaning that the ditch was made before the Roman road. The ditch to the north of the A2 appears to terminate in some form of enclosure but it looks to have been truncated towards the south-east by modern activity. The earthwork continues in a south-east direction with a break caused by modern construction and as already described, the modern A2 and likely the original Watling Street. The ditch appears to then run across the valley floor for approximately 2km and finishes close to the source of a small stream. This stream is called the Cranbourne and is mentioned by Hasted.

> *About a mile west from Densted, in the northwest part of this parish, is a stream of water, called the Cranburne, which is a strong chalybeate. It rises among the woods on the south side of the high London road, running through the fifth-ponds (sic) beforementioned, and thence into the river Stour, near Whitehall, a little below Tonford.(Hasted 1797)*

The course of this stream runs close to the northern edge of Bigbury and the scar that it leaves on the terrain during its journey, does suggest that at one time it may have been more dominant in the landscape and potentially important to the people at Bigbury. To emphasise this, for around 2km of its course, the stream defines the Chartham and Dunkirk parish boundaries.

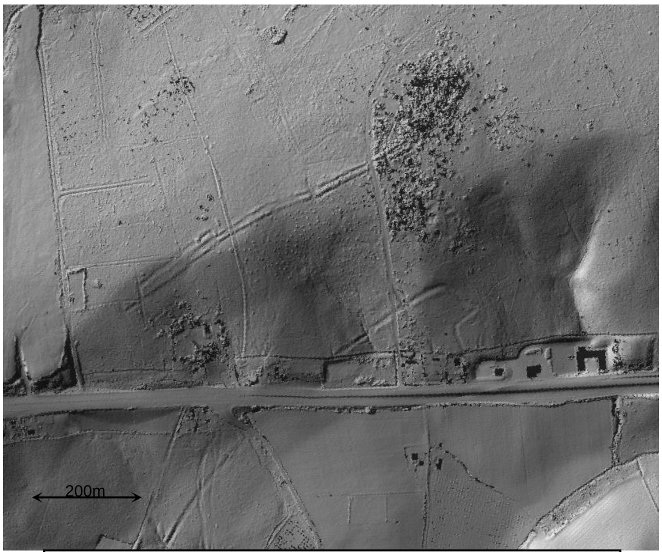


Fig. 18 Double ditch and bank feature

Just to the north of the ditch, across the A2, is an earthwork which is a double ditch and bank feature (see Fig. 18), with the now visible part being just over 1,200m long. This feature runs along the edge of a ridge and appears to finish at a known prehistoric bloomery site to the east (Kent HER no TR 05 NE 8).

To the west, the feature appears to fade out, with the north-most ditch and bank, terminated by a more modern ditch and the more southerly bank, carrying on for another 30m.

Moving east from the northern end of this feature, there looks to be further linear earthworks, running along the southern edge of the ridge (Fig.19). These earthworks are fragmented and not continuous, which looks to be as a result of later activity. At the eastern end, the ditch ends abruptly in a small valley. This valley could be a natural boundary where the ditch does not need to cross or it is possible that the ditch on the other side of the valley has simply been destroyed through later activity.

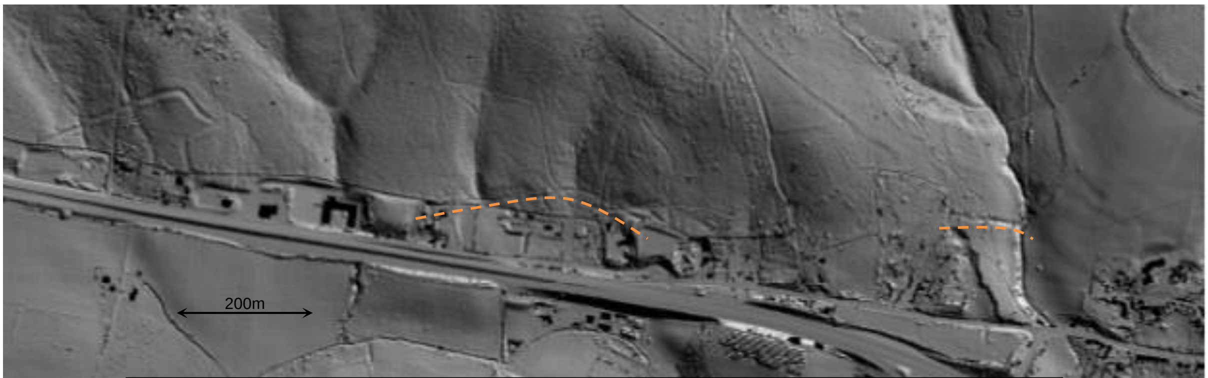


Fig. 19 Fragmented ditch running along the bottom of the south edge of the ridge

Staying north of the A2, there is one, possibly two, important features visible in the LiDAR image. Perhaps the most important, is the large, sub-circular earthwork at Homestall Wood (see Fig. 24) (Sparey-Green 2014, pp. 393-394). This is an impressive feature which is approximately 2.3km in circumference for the main feature, enclosing an area of just over 36ha. There is an out works or Annex to the south of the main feature, which gives an additional 9.6ha, making a total area of nearly 46ha. Within the sub-circular feature is a rectangular ditched enclosure, with a ditch on three sides and partly on the fourth side. There is a break in the east ditch, suggesting an entrance but this could be as a result of a track way, which can be seen on the LiDAR survey. This rectangular feature is approximately 618m in perimeter and has an area of 2.7ha. There is also what appears to be an embellished entrance way to the south-east of the feature. This is a double ditch linear feature which runs out from the perimeter towards the valley of the Cranbourne and the east end of Bigbury.

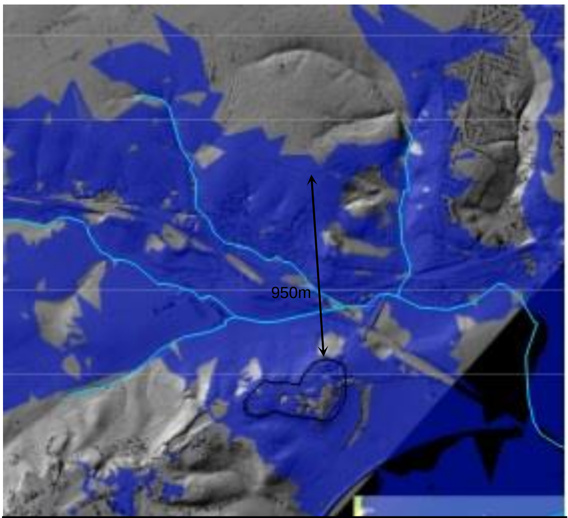


Fig. 20 Visibility between Bigbury and Homestall

The date and function of the main feature is under investigation by Christopher Sparey-Green and a preliminary investigation has recovered imported ceramics dating to the late BC early AD. This is a potentially significant recovery as it points to a date that would sit well with the invasion by Caesar in 54BC and could be the point where he attacked Bigbury. The shape of the earthworks, at least in the north and north-east, is dictated by the terrain, as it is bordered by a deeply cut stream.

Looking at the sight lines between the earthworks at Homestall and at Bigbury, as can be seen from figure 20, the visibility at ground level (shown in blue) is limited to the southern edge of the fort only. A tower at Homestall would obviously increase the visibility but it is likely that the extent of the southern edge of the feature was positioned, so that Bigbury was visible from head height. This may have been a design feature even if the earthworks were a contemporary feature with Bigbury.

It is also possible that the potential Roman earthworks at Homestall, occupy a position that may have originally had some Iron Age activity. The sub-rectangular feature may be of an Iron Age origin; excavation may reveal the answer. An alternative theory is that if this were to be of an Iron Age date, then it could have been added post Caesar, after the Romans vacated the fort. This also applies to the entrance way to the south-east of the fort. This seems to be over elaborate for a temporary fort but would not be out of place in an Iron Age environment and equally could be post Caesar.

On the high ground, about 300m to the west of the Homestall feature in Willows Woods, is another collection of earthworks, which from the LiDAR image, appears to form another potential enclosure (see Fig. 21). This feature is not as defined as the Homestall Wood feature and the south end appears to be open but there is a suggestion from one of the images, that there may be a ghost of a ditch, which partly closes the feature.

Fig. 21 Possible enclosure in Willows woods

This feature is smaller than Homestall, being 6.6ha in area with a perimeter of 975m. A similarity with Homestall is that the perimeter ditch at the north and east follows a natural valley probably formed by water action. In the north-east end of the feature within the enclosure ditch, there is a cluster of pits which could be as a result of local quarrying. Similar pits can be seen in the interior of the feature at Homestall. The age and function of this feature so far remains unknown.

Moving to the south of Bigbury Hillfort, more earthworks are revealed by the LiDAR survey about 200m to the south-west of the potential outer earthworks in Bigbury Wood (see Fig. 22). These earthworks look to be part of a terraced feature with a well-defined opening in the centre.

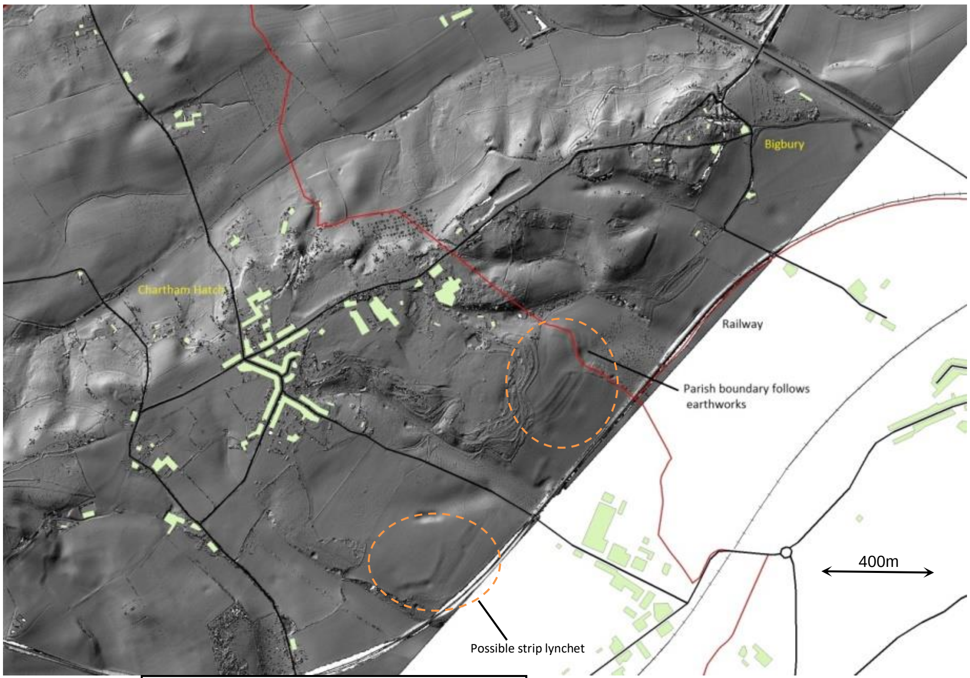
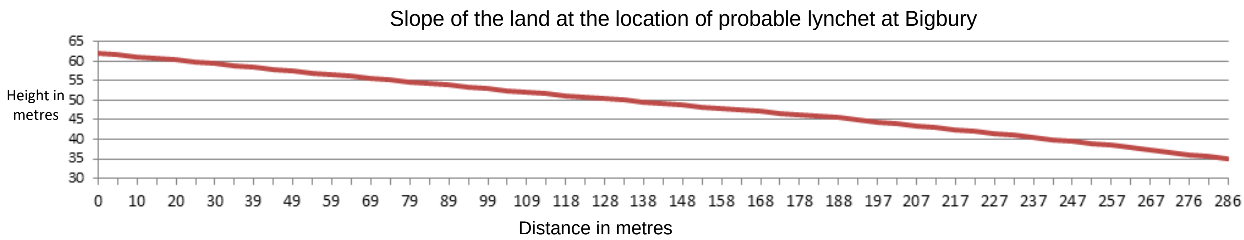


Fig. 22 Possible strip lynchets

The visible length of the feature today is around 380m and the width of the terracing is approximately 70m. There are two aspects of this feature which make it worthy of more consideration than if it were just a terrace or strip lynchet. The first is that there appears to be a well-defined entrance or opening, roughly in the middle of the feature, which effectively bisects the earthwork. The second element is that the parish boundary changes direction slightly at this point and appears to respect the feature. The date when parish boundaries were established is not precise, but in the Diocese of Canterbury many were set either in or by the 11th century (Blair 1988).

To deflect a boundary in this manner means it is likely that this feature was a significant landmark when the boundaries were laid out. The function of this feature is not clear but it is highly likely that it is a deliberate terracing of the slope or a strip lynchet which has been ploughed out over the years. There is a similar LiDAR image of strip lynchets in Dorset near the village of Uploder. Several examples of this medieval feature can be identified at this location in Dorset and the one illustrated in figure 23 shows a similar feature to the one found at Bigbury but more defined, (probably as a result of not experiencing heavy ploughing), with a similar opening to its centre. The slope of the land at the Bigbury lynchet is not great but cultivation would have been made easier by terracing.



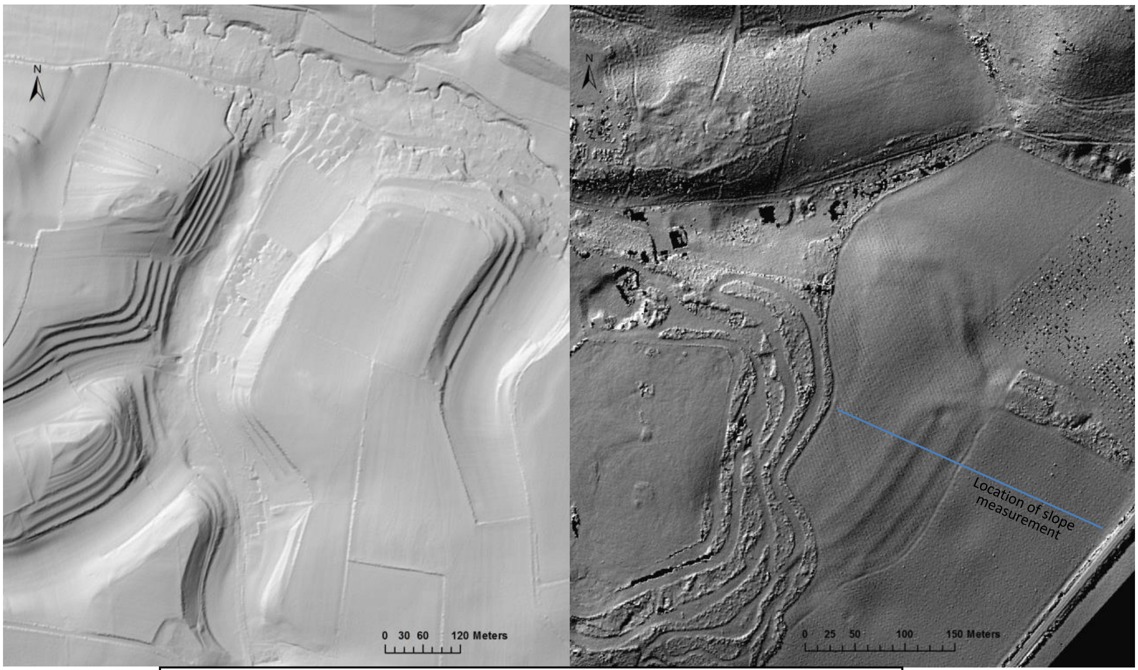


Fig. 23 Strip lynchets near Uploder Dorset left and Bigbury right

It is difficult to connect the lynchet feature at Bigbury with the Hillfort, just approximately 700m to the northeast. It is unlikely to be linked with the outer earthworks nor does it have the look of a fortified feature, even when taking into account the action of the plough. There are faint indications of similar lynchets to the southwest and it is highly likely that these features are part of the process of cultivation of the south-east slopes of the fields adjoining the river Stour.

Between 2010 and 2013, the South Blean Woods Landscape History Project, was commissioned by the Kent Wildlife Trust, with one aspect of the project to investigate the earthworks features seen on the LiDAR survey. This part of the project was conducted by a team of trained volunteers under the guidance of Dr Nicola Bannister. The report produced, attempted to characterise the nature and age of certain features but no detailed archaeological investigations were undertaken, so the age of some features remained unknown and others were estimated, based on form and location (Fig.24).

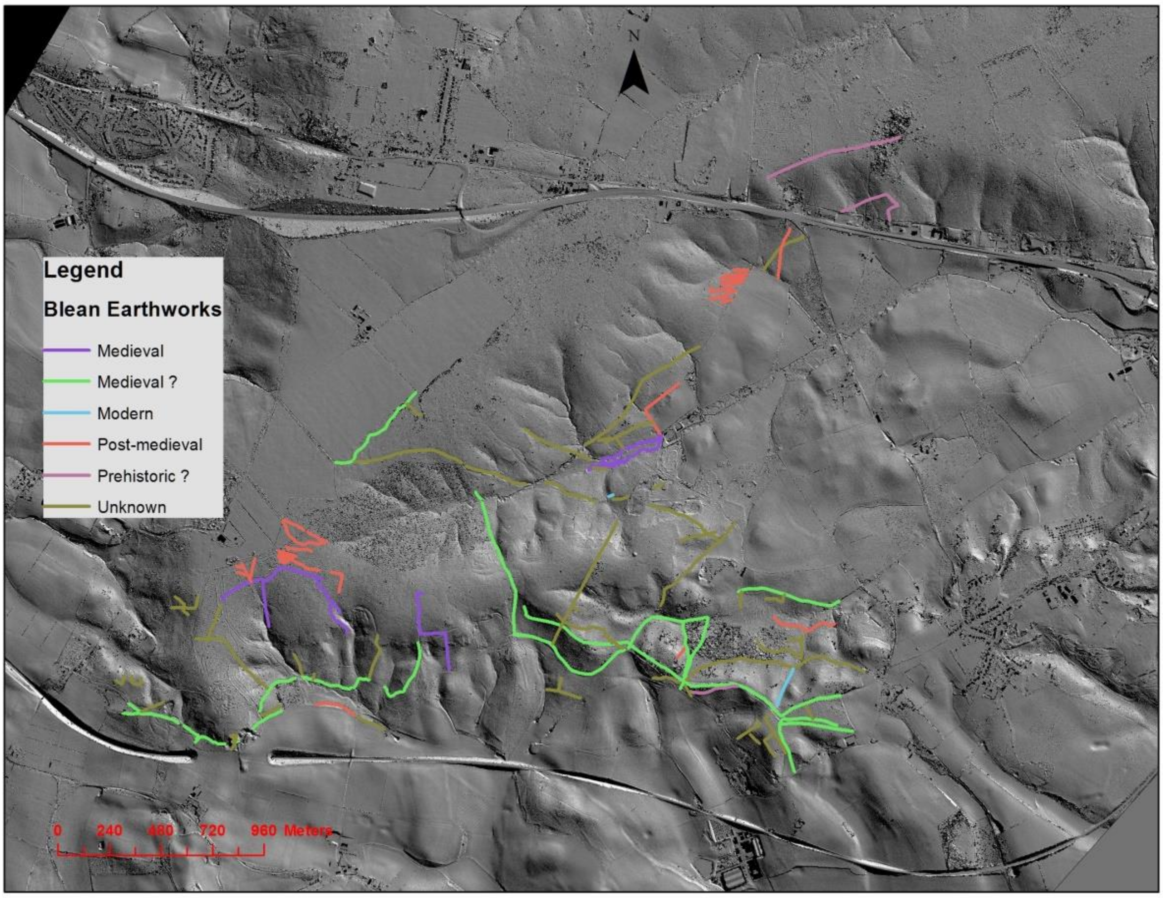


Fig. 24 Earthworks identified as part of the South Blean Woods Landscape History Project (Bannister 2013)

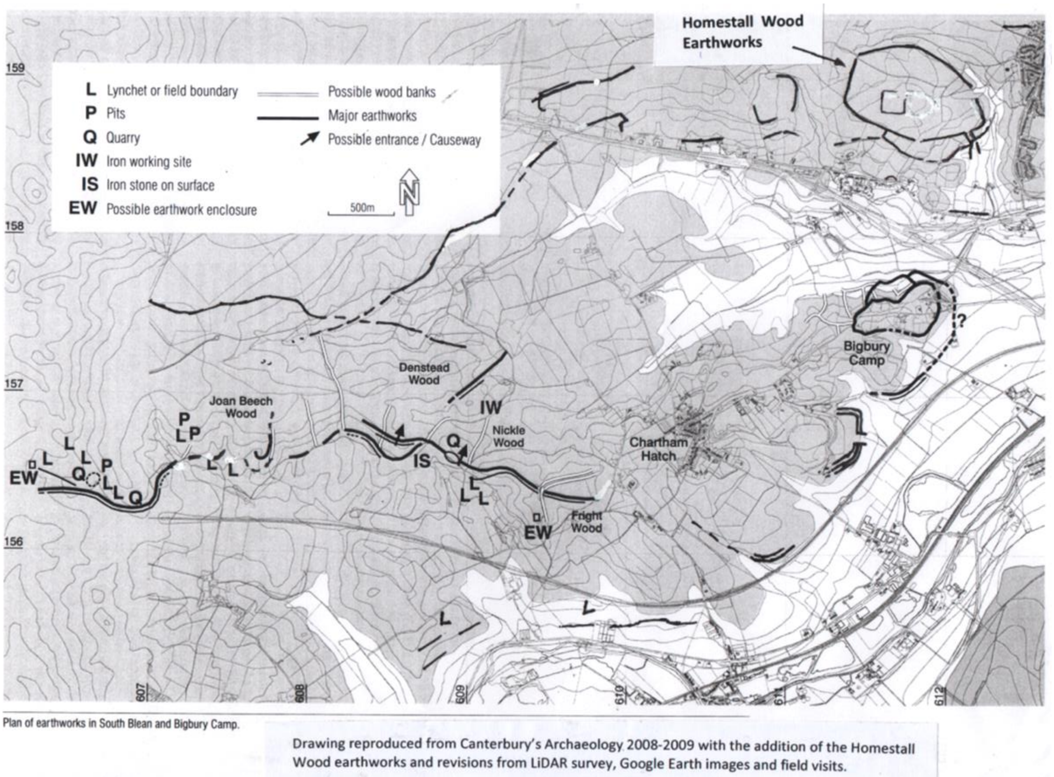


Fig. 25 Bigbury environs earthworks by Christopher Sparey-Green

The ridge of land which terminates at Bigbury Hillfort, shows several lengths of earthworks in the form of ditches and banks. Some of these had previously been identified by Christopher Sparey-Green in his walkover survey in 2008 (Fig.25). Others were revealed for the first time with the advent of the LiDAR survey. The settlement called Chartham Hatch, which is located on the ridge between Bigbury Camp and Fright Woods, appears to have been established in the 12th century, possibly as a result of woodland clearance due to population growth in the nearby village of Chartham (Langridge 1984, p.221).

One of the most prominent earthworks seen was the ditch and bank feature which runs along the ridge in Fright Woods (Fig.26). This feature was identified in the 2008 survey, also in the report produced by Dr Bannister, where they have been labelled as potentially medieval but with a question mark. The uncertainty is understandable without definite dating evidence, as the differences between a hollow way, a coppice or field boundary and prehistoric earthwork, are sometimes very difficult to distinguish, often lacking diagnostic morphological characteristics. As an added complication, the ridge is criss-crossed with many earthworks from many different eras, with some features being re-used and others having been damaged by agricultural activity.

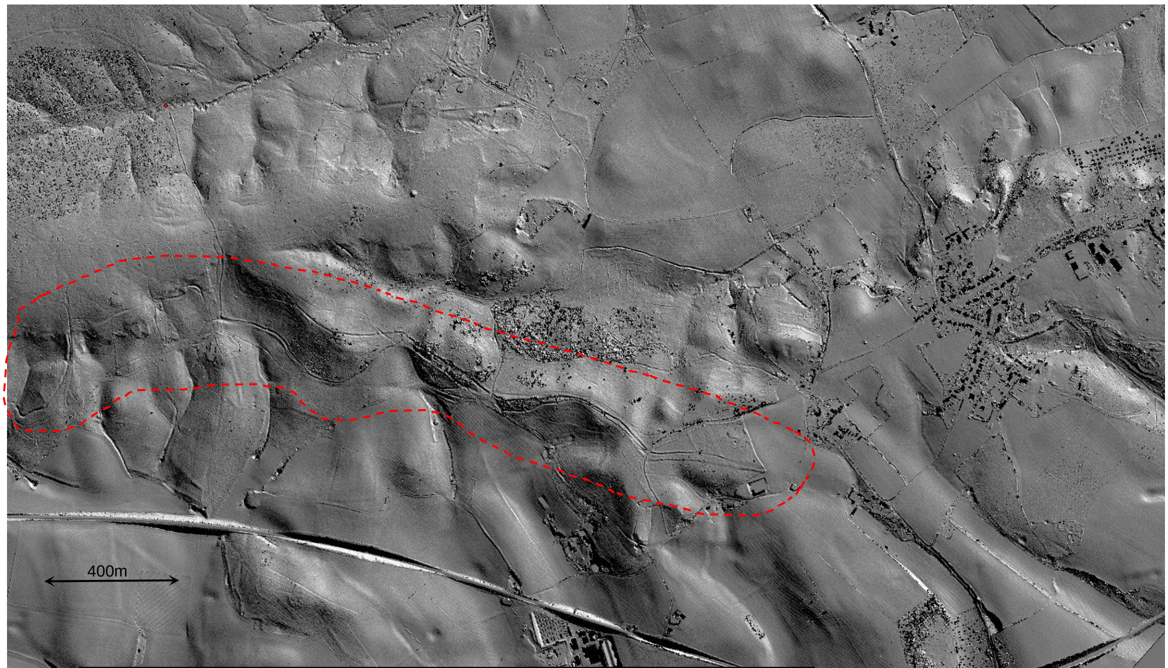


Fig. 26 Linear earthworks seen on ridge of Fright Woods

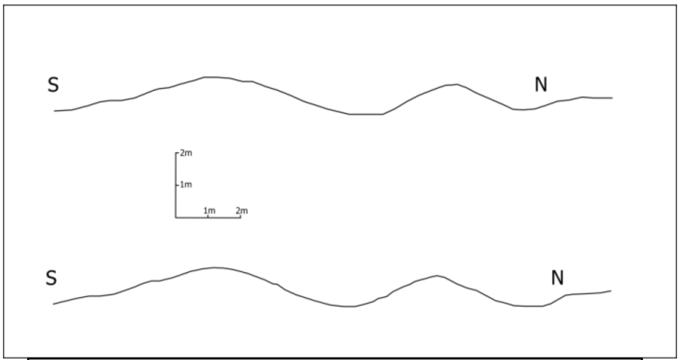


Fig. 27 Profiles of the earthworks in Fright Woods

The ditch and bank in Fright Woods by the scale of the construction, suggests something more than a coppice or field boundary and has the potential of being pre-historic. During the investigations by Dr Bannister, profiles of the ditch were taken but the ditch does vary in depth along its length, so spot profiles like Fig. 27 only serve as an indication (Bannister 2013).

The earthworks for much of their length, run consistently on the south side of the ridge and this position on the ridge may be significant as it seems to suggest that there could be an “inside” and “outside” of the boundary marked by the ditch, with the outside towards the south. If the ditch’s purpose was a form of barrier when approaching from the south, (the direction of the River Stour), the ditch would present more of an obstacle as it would have to be approached from the lower to the higher ground.

Apart from the physical properties of the ditch as a potential barrier, the ditch would also be easily visible from the river, leaving no doubt that there is a boundary which should be complied with. If this earthwork were a boundary, then the question is, what is it marking? To the north of the ridge at Fright Woods and down the slope on the other side, there is an area of marshy ground known as Hunstead Bog. This is a rare peat bog in Kent and may have been a special place in pre-history (Allen and Scaife 2013, p.8). Kent Wildlife Trust as part of their Blean project, commissioned an investigation into the bog by Dr Mike Allen, with the primary objective of identifying the landscape conditions from the earliest times of the bog’s creation. The bog was subject to several core samples to understand its depth at various points and to get an analysis of the bog formation. The core samples were taken in May 2013 and it was found that the depth (0.8-1.4m) was reasonably uniform with layers of peat over fine-grained minerogenic stratigraphy (Allen and Scaife 2013, p.2). The northern side was slightly deeper at 2.2m.

Radiocarbon dating of the samples, indicates that in the earlier Neolithic (4000-3700 cal BC) it was likely to be an area of standing water fringed by grasses, sedges and ferns (Allen and Scaife 2013, p.9). Conditions changed during the later Neolithic period (2570-2310 cal BC) with the basin becoming drier and gradually silting up, which heralded the start of the peat formation (Allen and Scaife 2013, p.5). Further analysis of the core samples, show that during the latter part of the Bronze Age, more cereal pollen appeared, suggesting local areas of cultivation continuing through the Iron Age. Throughout history, the immediate landscape appears to remain as elements of woodland, interspersed with pasture and some cereal cultivation. This is similar to today's landscape, indicating that things have not changed too much since the Iron Age (Allen and Scaife 2013, p.10).

There is an additional section of earthworks close to the bog at Hunstead Wood marked as unknown, which could easily be prehistoric. It runs for approximately 500m in a SW-NE direction with the possibility of a causeway halfway along its length (Blean project GIS ID no 92). It is likely that the northerly end of this feature, has been truncated by later agricultural activity, with the modern field boundaries reflecting the ancient ditch. The earthworks would probably have terminated at the natural boundary which is the Cranbourne.
As can be seen in figs 21 and 22, there are numerous earthworks shown on the LiDAR and although the majority have been labelled as not prehistoric, there are several which are uncertain in date and the possibility of their origination in prehistory cannot be ignored.

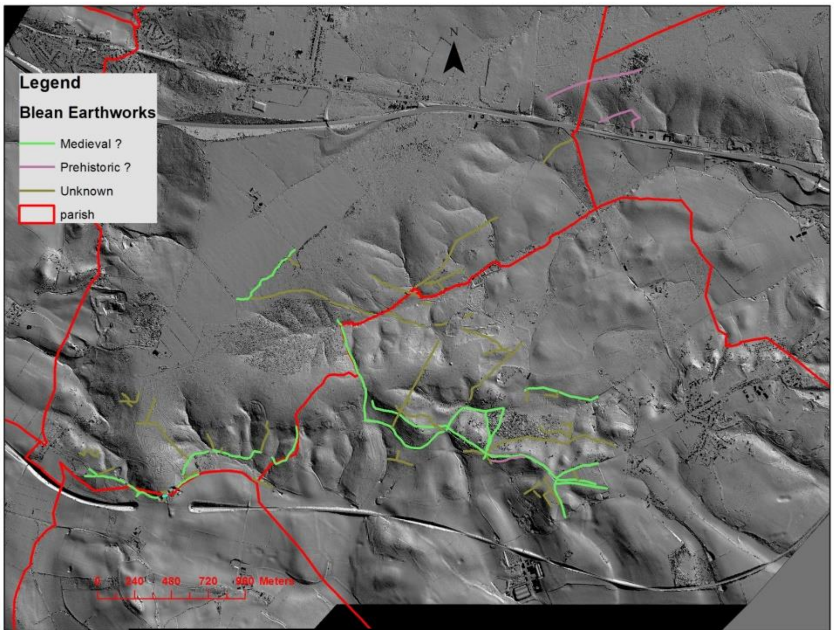


Fig. 28 Earthworks and parish boundaries

If the parish boundaries are compared with the earthwork features, then there is some correlation particularly towards the south-west of the image (Fig.28). If we apply the same logic to the parish boundary creation as to the earthworks close to Bigbury, then it is likely that these features are at least 1000 years old and may have also been property boundaries.

Other than linear earthworks seen on the LiDAR, there are additional features that are revealed which are worthy of comment. One is the rectangular earthwork enclosure which can be seen on the southern edge of the ridge at Fright Woods (Fig. 29).

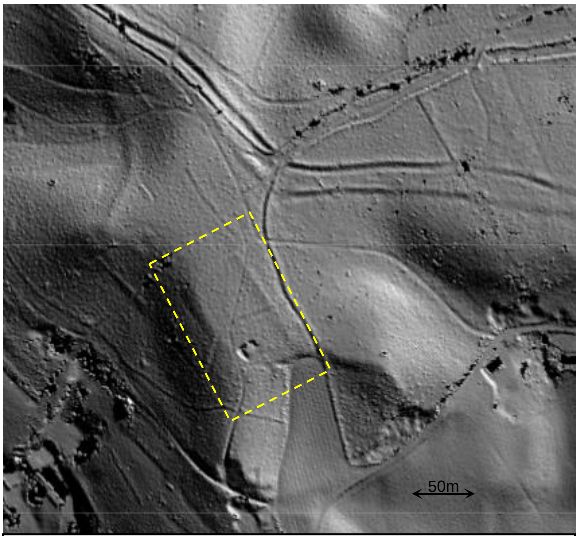


Fig. 29 Rectangular earthwork at Fright Woods

The enclosure sits on a plateau and is constructed so that the south-west side is on the crest of the ridge. The most visible element of the enclosure measures approximately 50m square. There is a possibility that it is at least 40m longer but this shows only as a very feint outline. The age and function of this feature cannot be deduced by its form alone; its position will ensure that it has a good view of the river which is 850m to the south and it sits on a spur of high ground at 100m elevation. It is hard to think of this having any other use but that connected with the observation of the river.

A second feature identified on the LiDAR image but not picked up in the survey commissioned by the South Blean Woods History Project, is a possible earthwork to the north of Hunstead Wood (Fig. 30). It occupies an area which is a semi-oval shape and is respected by the road that runs past it. It covers an area of 14.2 ha and measures approximately 500m at its widest and approximately 400m at its longest point.

This is an unusual shape in the field system and its form has not changed since the ordnance survey maps of the late 1800s. The image shows, that there is a raised portion of the feature towards the rounded end and close to the footpath, (that forms the straight edge), there are 9 small circular features. These are around 5m to 8m in diameter and on average 35m apart. These features are not visible on Google Earth even when going back as far as the 1940s aerial photographs. Older maps also do not show any features that could be responsible for these effects.

Figure 31 is a rotated image with a small adjustment to the brightness and contrast; this shows that the small circular features appear to follow a slight curve but don't really respect the small ridge just below them. This could indicate that the two are not connected and they could be two separate unknown features.

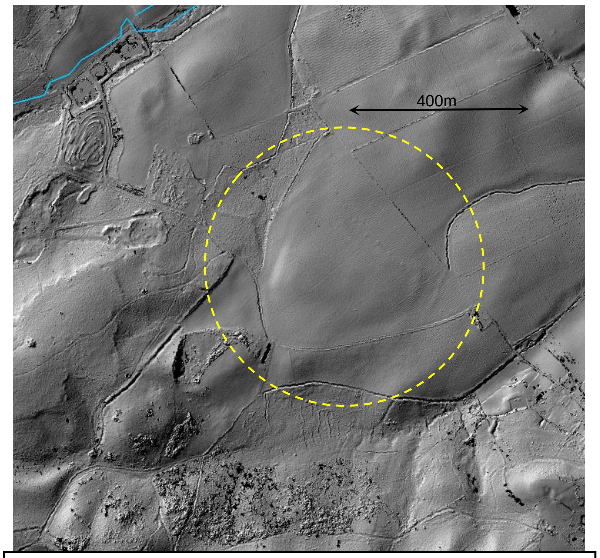


Fig. 30 Earthworks to the north of Hunstead Wood

Fig. 31 Earthworks to the north of Hunstead Wood

7.0 Earthworks beyond Bigbury

The availability of LiDAR information from the Environmental Agency has provided an opportunity to look at potential pre-historic earthworks beyond the immediate Bigbury environs. Figure 32 shows the location of two examples that have been selected which show potential pre-historic earthworks.

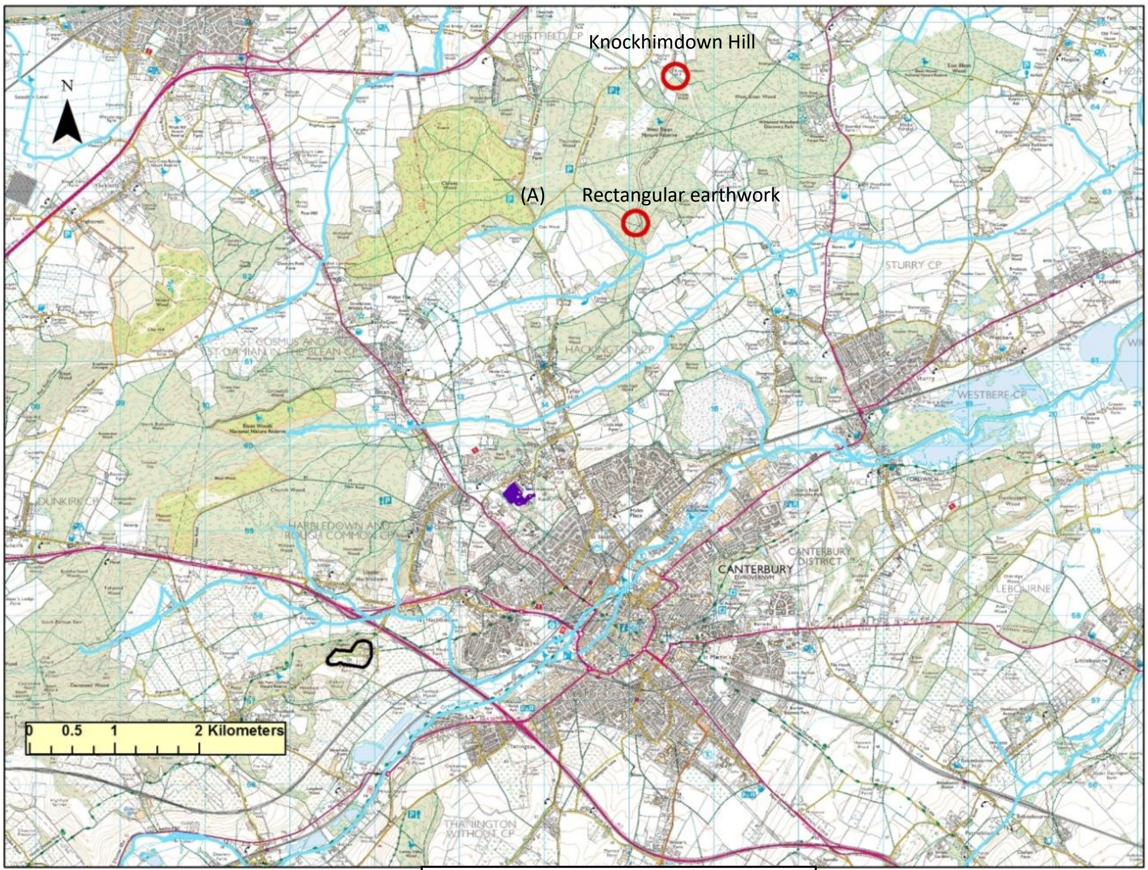


Fig. 32 Possible IA earthworks

Although neither of the sites has definitely been identified as Iron Age, one site (marked as rectangular earthworks on Fig. 32) has had Iron Age pottery recovered and both have a morphology indicating an Iron Age construction (pers comms Chris Blair-Myers). The locations of these features have recently been added to the Kent HER with an HER number of TR 16 SE 258 for the rectangular feature and TR 16 SE 259 for the feature at Knockhimdown Hill.

The site at Knockhimdown Hill is a "D" shaped enclosure which has had most of the north-west quadrant quarried away. The LiDAR shows that on the east side, the ditch appears to be wide, at approximately 18m. On this side there does appear to be a causeway but this could also be as a result of later disturbance by a more modern field boundary. The size of the feature is 200m at its longest length and 150m wide at its narrowest. The ditch encloses an area of approximately 2.6ha and follows reasonably closely the 50m contour.

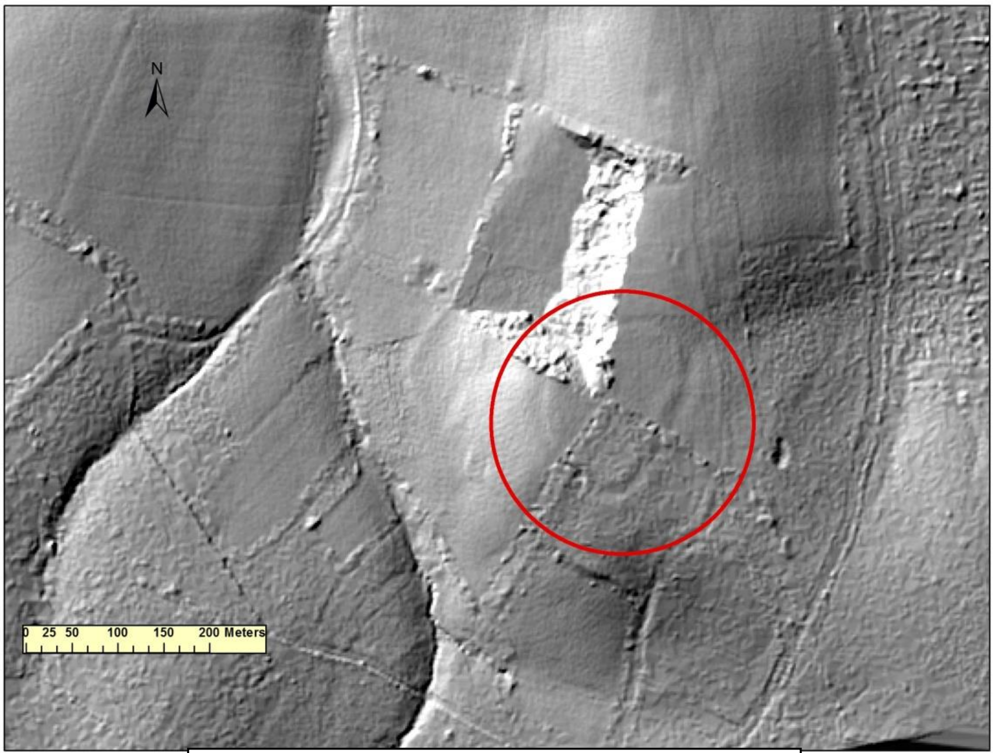


Fig. 33 D shaped earthwork at Knockhimdown Hill

Draping the LiDAR over the height contours (Fig. 34) clearly shows that the earthwork is at the end of a promontory, with the steeper side to the west and being flatter towards the east. Running along the bottom of the western slope is a small stream which runs for 3.75km, to the current coastline.

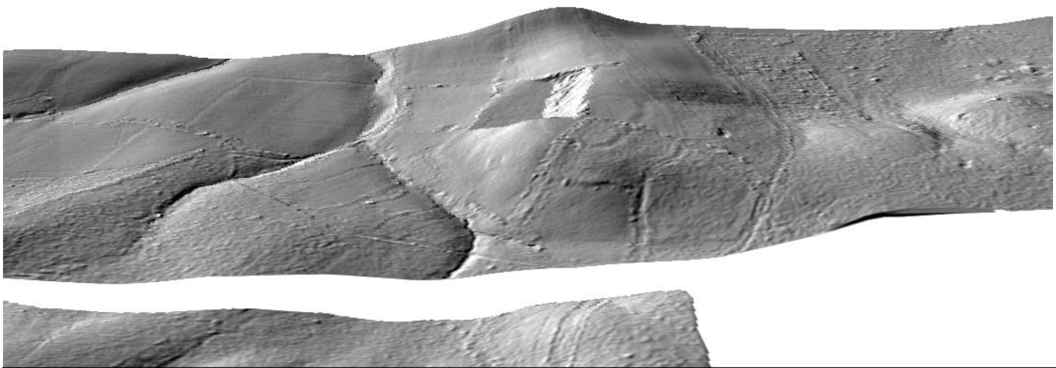


Fig. 34 Shows earthwork on the end of a promontory (height axis x3 to emphasise position)

The rectangular earthwork (marked (A) on Fig.32) where the Iron Age pottery has been found, has a more unusual shape. As can be seen from figure 35, it is a smaller feature but shows that there is a double ditch towards the northern edge. The size from north to south is around 80m and from east to west it is similar but with the uncertainty, that the form looks to have been badly affected by later trackways, which make the edges difficult to detect.

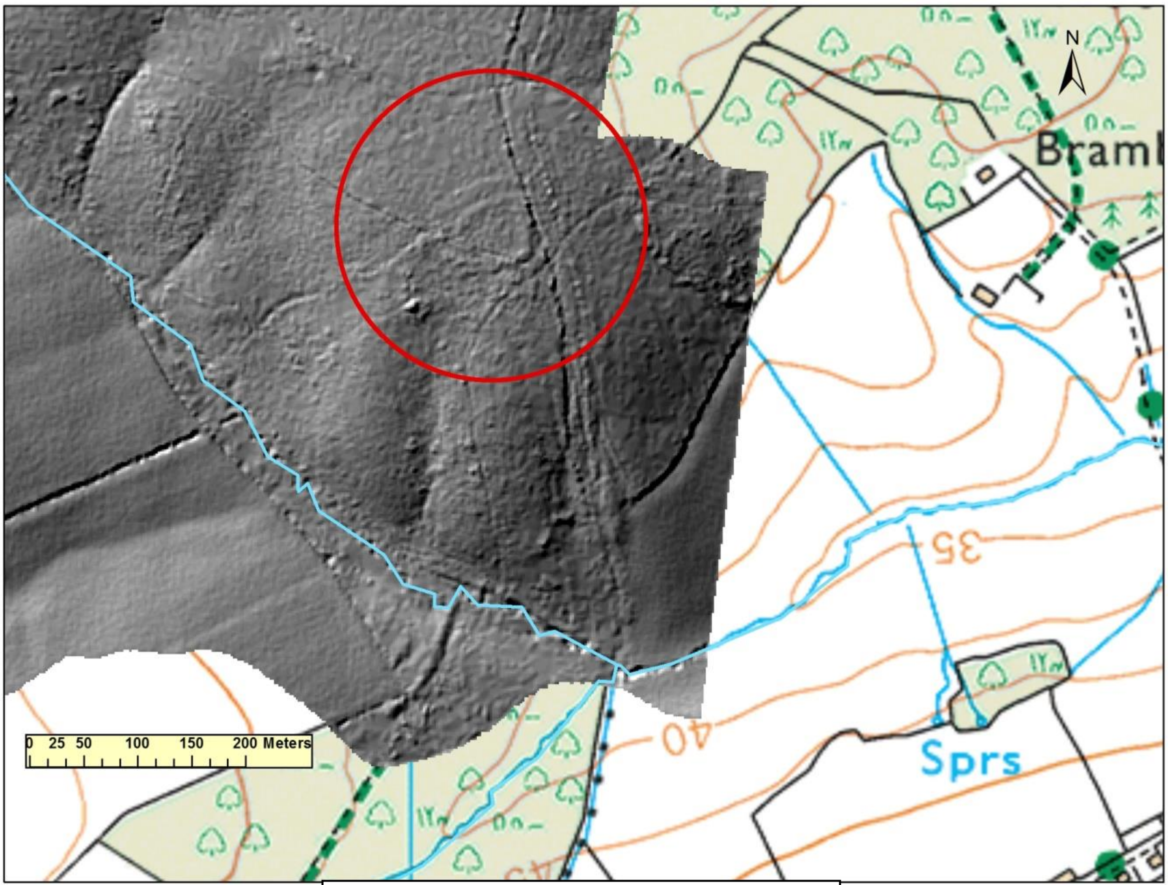


Fig. 35 Shows the double ditch enclosure

Like the feature at Knockhimdown Hill, this feature is also on the edge of a promontory but at a slightly higher elevation of 60m. It is possible that this feature may have extended across the promontory, as its position is similar to that at Peen (see chapter1) and there is a possibility, that the LiDAR shows a suggestion, of the remnants of the continuation of the double ditch to the east of the feature and a single ditch to the west. It is also possible that these features are as a result of track ways but a geophysics survey is required to fully understand the extent of these earthworks. The visibility to and from the earthwork, is a large arc extending from almost due west to due east, which covers the stream that runs along the base of the scarp. The land to the south is very undulating and it would be unlikely, that the Iron Age complex around the University of Kent to the south, would be visible from the rectangular feature.

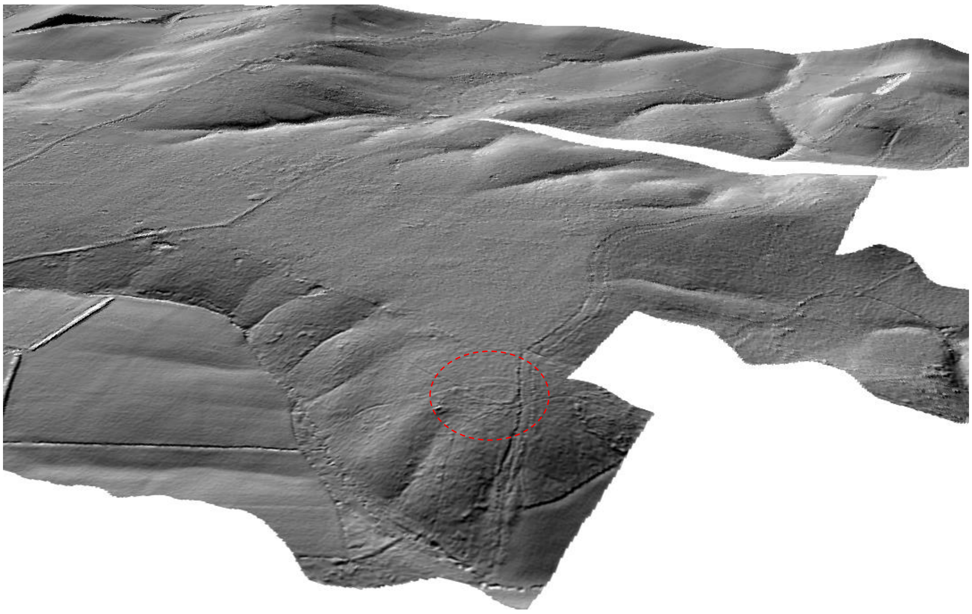


Fig. 36 Shows the rectangular earthwork on the end of a promontory (height axis x3 to emphasise position)

8.0 Historic & Environmental Record & the Portable Antiquities Scheme Data

To get an understanding of the Iron Age activity in the location of the Bigbury environs, the Kent HER was interrogated for Iron Age entries and using ArcGIS, the results were displayed spatially. Before the result could be plotted, it was necessary to review each of the 6,700+ entries; this was required for several reasons. The information provided in the HER output is of a minimal description and some interpretation is needed in order to associate a key word that would best describe the entry. It was also necessary to categorise each entry in an effort to establish to which era the entry should be attributed. Many of the entries were pre or post Iron Age and many had a description of prehistoric, so an age of “unknown” had to be allocated. Many of the entries were coins and these needed to be separated into their various types. In particular, it was felt important to differentiate between coins containing a precious metal and those made of copper alloy.

Figure 37, shows a spatial plot of the HER results in the area around Bigbury. What stands out, is that there are two main clusters of finds and they are to the east of Bigbury at Canterbury and to the north-west at Faversham. This is to be expected as these are built up areas which would have had many opportunities for archaeological excavations, as a result of the planning laws. There is also a concentration near Iffin

Lane, (which is on the line of the Old Roman Road) and close to Iffin Lane there is another concentration, just to the north of Swarling, where there are known earthworks. There is also a concentration of finds on the ridge to the south of Chilham. These last three areas are not built up, so their concentrations are less predictable than the concentrations found in the more urban areas. An interesting observation is that the number of recorded finds in and around Bigbury (apart from Canterbury) is very limited.

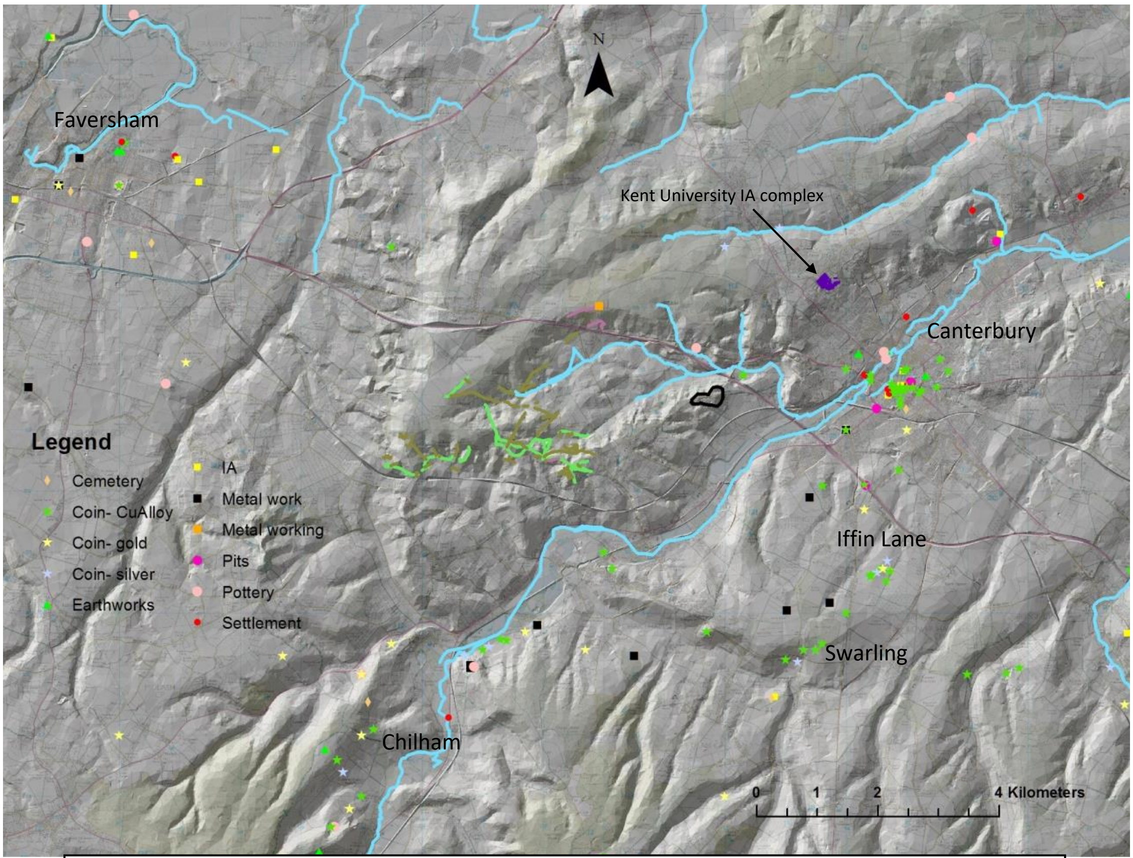


Fig. 37 Distribution of IA finds based on data from the Kent HER and the PAS database

The finds from Bigbury, including the metal hoard found in the late 19th century, are not listed, nor is any pottery found during the various excavations. The finds discovered by my recent research, are also not available in the HER at the time of writing. The overwhelming majority of the finds recovered were coins, which are probably related to their survivability and possibly their availability; most of the coins are made from copper alloy. There is one coin located close to Bigbury and Belgic pottery has been recovered from Harbledown, just across the A2 from the Hillfort. The HER mentions the metalworking site at the termination of the triple bank feature already discussed. It calls it a Bloomery site, but the date is labelled as unknown. However, it is widely thought to be of Iron Age date (pers comms Christopher Sparey-Green).

9.0 Summary

The only previous investigations at Bigbury have been within the confines of the ramparts. There have been no systematic investigations of the immediate environs like those seen at Cadbury and Danebury (*South Cadbury Environs Project* 2010; Cunliffe 2000). The LiDAR survey carried out in 2010 has shown that there are a series of earthworks to the west and north of Bigbury, some of which are likely to have pre-historic origins and may have been connected to the Hillfort at Bigbury or possibly Iron Age Canterbury. This places Bigbury in a similar context to Cadbury, Danebury and others, indicating that it is not just a “stand alone” earthwork but part of a much wider landscape, which is likely to have had influence over the movement of people and goods within its environs.

One of the most interesting earthworks revealed by the LiDAR survey, is that of the enclosure at Homestall Woods to the north of Bigbury. This is subject to ongoing investigation by Christopher Sparey-Green and early results are encouraging in identifying it as contemporary with Bigbury (Pers Comms Sparey-Green). If proved, this would have a significant impact on the history of Bigbury and Canterbury.

Chapter 8 - Oldbury Hillfort Geophysics Survey

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1.0 Introduction

The geophysics survey was concentrated on three fields in the northern half of the interior of the monument with permission being granted by the owner Mr Andrew Chesson. It was most fortuitous that this thesis study coincided with a phase of removal of old orchards and temporary clearance by Mr Chesson enabling the survey to occur. The local names for these three accessible fields are Kiln, Gibbet and Upper Toll. A fourth field, occupying the north-western corner of the interior called Lower Toll, was not available for survey (see Fig. 1) as it still contained an old orchard where undergrowth was advanced, thereby fully inhibiting access.

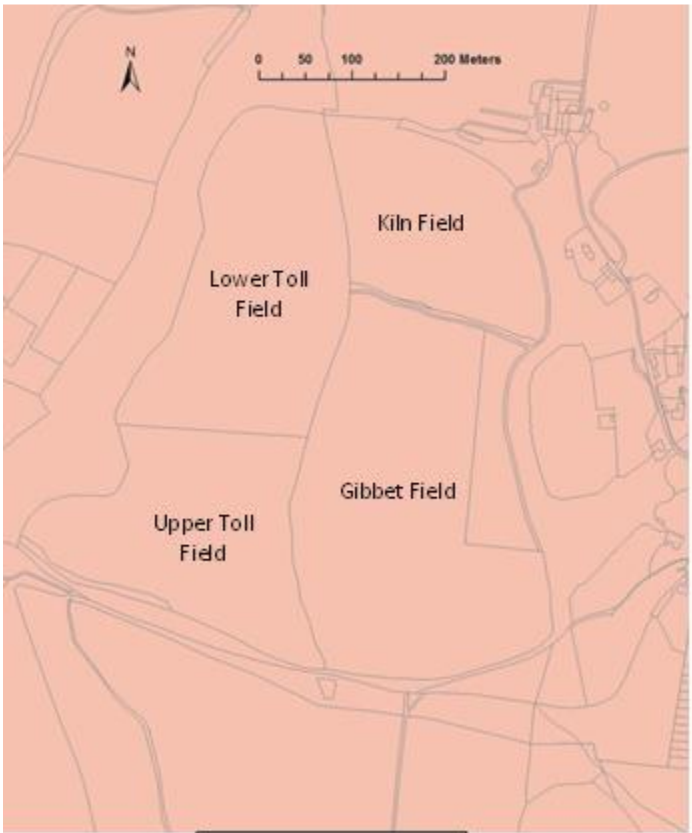


Fig 1 Field names

All of these fields have at some time in their past been planted with orchards and the trees subsequently removed. Gibbet Field, which is the largest of the surveyed fields, has only recently (early 2014) had the trees removed as part of a Stewardship scheme in conjunction with Natural England. The trees had been sawn down at around ground level leaving stumps, which in some cases, had sprouted new growth. The field was also in several areas, very rutted due to vehicle movement, presumably connected with the removal of the trees.

All of these factors, plus the addition of significant bramble growth, made it a difficult field for geophysical survey, especially the rapid walking involved with the magnetic survey.

The other two fields were easier, being grass, but in each case, only two thirds of the field was cut significantly short to allow a satisfactory survey in October 2014 (the time of my initial survey). This was a consequence of the stewardship requirements, where the field is cut on a one third rotation basis, which effectively leaves one third of the field with long grass. This situation resulted in the remaining third of the field being surveyed one year later.

The Hillfort sits upon a Greensand Ridge so the soil is quite sandy with a scatter of sandstone and ironstone visible on the surface. The farmer, Mr Chesson, stated that the soil is quite shallow (40cm) in places over the sandstone bedrock. The fields had been orchards for many years so there must have been sufficient soil for the larger trees to thrive in the past.

Limited geophysical prospection was undertaken at Oldbury by Tony Clark in 1983, as an element of Thompson's study (Thompson 1986, p.271). Clark used a magnetometer, in what was evidently an attempt to locate ancient buried metalwork, similar to the targeting undertaken by the same team at Bigbury; this was undertaken in the wooded southern half of the interior with potential find-spots located in the woods then subject to targeted test pit exploration. There is no plot of Clark's results per se, with only the location of the test pits shown on Thompson plan (Thompson 1986, fig.2).

That work apart, the Hillfort has only been subject to one minimal systematic geophysics survey in the past. This comprised a small scale investigation (0.7 hectares) in Gibbet Field on behalf of English Heritage in 2003, with no confirmed archaeological anomalies recorded (Bartlett 2003). This survey had to be squeezed in between the rows of the planted orchard at the time, so it was only a very limited window (see Fig. 2). The noisy result, probably as a result of modern burning and metal waste connected with agriculture, is similar to the results recorded by the author.

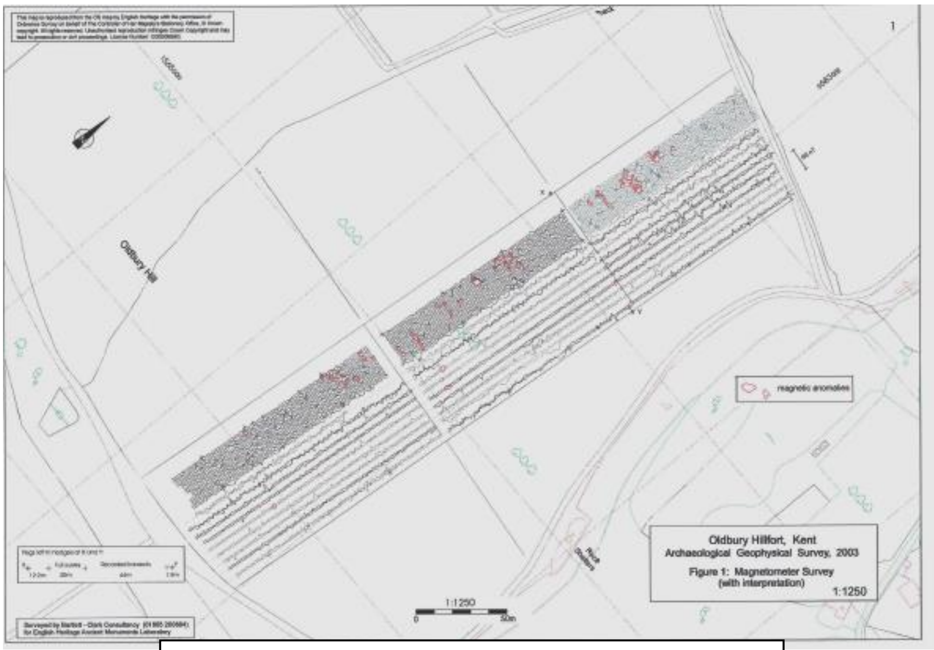


Fig. 2 Geophysics result by Bartlett of Gibbet Field

With all of the trees now removed, it was possible to survey the complete area. It must be pointed out that the extensive previous agricultural use, coupled with the earlier episodes of tree removal which may have been more brutal than the current practice, have to be taken into consideration when assessing results from the geophysical survey.

The initial approach to the geophysics was first to use the magnetometer as this is the quickest survey method. Any areas of interest would then be resurveyed using the resistance method and the results compared.

The graph in Fig. 3 below shows the areas surveyed by method. The total area for magnetometry was over 155,000m^2 with the largest area being Gibbet Field, with the resistance survey over the selected anomalies covering 22,000m$^{2.}$ The main magnetic survey was carried out from the middle of October 2014 to early December 2014, with the remaining area covered in early January 2016. The weather for the initial magnetic survey was reasonably dry with only a few days postponed due to rain. The resistance survey was carried out from mid-February 2015 to mid-March 2015. This is a much slower technique with only limited availability of assistance. The ground was damp but not water logged and the weather unusually dry for the time of year. The weather for the final magnetic survey in January 2016 was very wet but no evidence of this interfering with the survey was detected.

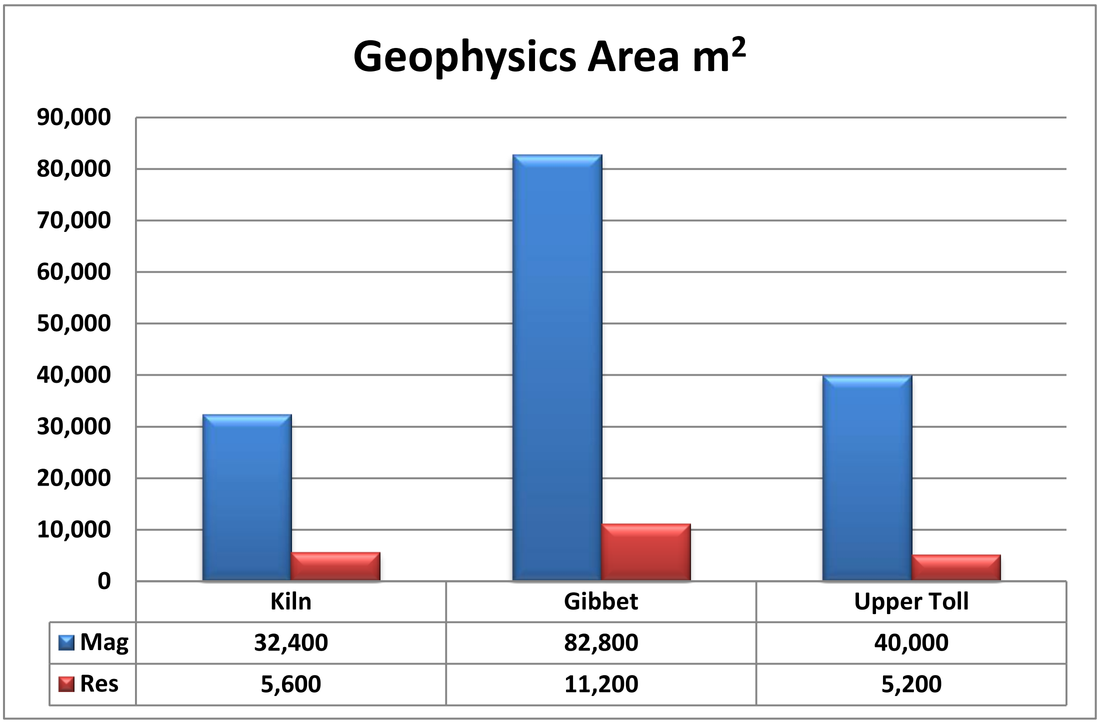


Fig. 3 graph showing area of geophysics survey

2.0 Equipment

2.1 Magnetometry

The equipment used was a Bartington Grad 601 twin array with sensor separation at 1m. The survey was carried out at 1 sample per metre with a traverse sampling rate of 4 measurements per metre.

2.2 Resistance

This used a Geoscan RMX85 with a multiplexed probe array of 0.5m separation and 1.0m separation. This allowed the possibility of comparing the reading at different probe separations which is proportional to depth of survey. The depth of survey is roughly 1.5 x the probe separation. Initially the probes were set at 3 different widths of 0.5m, 1.0m and 1.5m but after reviewing the results of the first few grids in Kiln Field, it was decided that the 1.5m separation configuration did not produce any additional information when compared to the other two configurations, as it was likely that the survey depth was greater than the underlying sandstone layer. Using the 3 probe width configuration also took additional time to complete each grid as a delay was introduced whilst the resistance of each probe configuration was read in turn. For Kiln Field the traverse measurements were taken at 2 samples per m at every metre. This was very time consuming and each grid took nearly 1 hour to complete. The resistance survey for Gibbet Field and Upper Toll was taken at a traverse sample of 1 per metre and this greatly reduced the time to survey one grid.

The Upper Toll Field result, using the twin multiplex array produced several image artefacts which made interpretation difficult, so the more standard parallel twin probe array with 0.5m probe spacing with a sample of 1 per metre was employed.

2.3 Common Technical Data

Grid Size = 20m x 20m
Method of collection = Zigzag (the exception being some irregular size areas at the edge of the main survey).
Image and download software = TerraSurveyor and Snuffler

3.0 Method

3.1 Grid layout

For both types of survey, grids of 20m x 20m were used and surveyed using a Leica Viva GPS staff. The GPS staff uses a combination of satellites and a 3G telephone network to get an accuracy better than 20mm. Without the 3G signal and relying only on the satellites, the accuracy will drop to at best 2m; this error is unacceptable so it was crucial that the 3G signal was available. The advantage of using the GPS staff apart from its portability is that the grid points are surveyed, use a co-ordinate system, in this case British National Grid, which are directly transferable into ArcGIS.

The grid coordinates were created in ArcGIS using a large scale map and then uploaded to the GPS staff. The GPS staff was then used to layout the points in the field.

3.2 Personnel

The majority of the survey activity including the grid lay out was carried out by the author but several volunteers were used when available which greatly speeded up the activity.

4.0 Kiln Field

4.1 Magnetometry survey

Kiln Field covers the north-eastern corner of the Hillfort interior (Fig. 1) and was one of the fields where the survey had to be completed a year apart due to the rotation of grass cutting. Around the northern edge of the field was an access track capable of taking vehicles and across the southern end of the field was a footpath. The northern and eastern perimeter of the field had some remnants of farm machinery and this is reflected in the geophysics survey below which indicates a very disturbed response high in metallic content (Fig. 4a). As can be seen from the legend (Fig. 4b) several categories have been used to analyse the results. As this was a large surveyed area, for the sake of clarity, not every feature has been categorized but the main representatives of each category have been identified. The areas marked as probably modern disturbance, show a combination of metallic and burnt responses with a generally random pattern. The most striking of these is in the north-west corner where there is probably a dump of old agricultural equipment.

Photo of Kiln Field showing slope towards the stream to the west

Also indicated on the survey, are the positions of the top and bottom of a slope in the field. The western edge of the field is bounded by a small stream which runs from the spring at the mid-point of the Hillfort and now also carries the drained water from the adjacent fields.

The east side of the slope (on the western side of Kiln Field) does show some disturbed features on the survey scan and this could be due to the geology under the slope.

The potential archaeological responses can be divided into two sub-categories, linear and curvilinear and pits or similar features. A good example of the curvilinear features can be seen in Fig. 4a marked A. This shows a response running north-south for about 50m and is crossed at its lower end by two diverging linear responses, while at the north end there appears to be two parallel linear responses which look to be the termination of the curvilinear feature. There are several other linear features (other than the obvious modern land drains) just discernible in the image but they do seem to be random in nature and could be connected to the agricultural use of the land.

A second area of interest is marked B and shows a curious response which is a + in shape with radiating responses forming a corner above. The size of the + is 5m north-south and 3.5m east-west, with the radiating responses about 2m in length. There is nothing obvious which can be seen on the ground at this point, although some animal disturbance was seen which could possibly contribute to this peculiar shaped response. Perhaps the most striking response is marked C which was revealed during the 2016 survey. This is a wide disturbed feature, linear in nature and looks to be made up of two parallel responses. It also shows that the survey appears to be “quieter” on the southern side of this feature when compared to the northern side. Although the width of the response is variable along its length, it is generally around 18m wide.

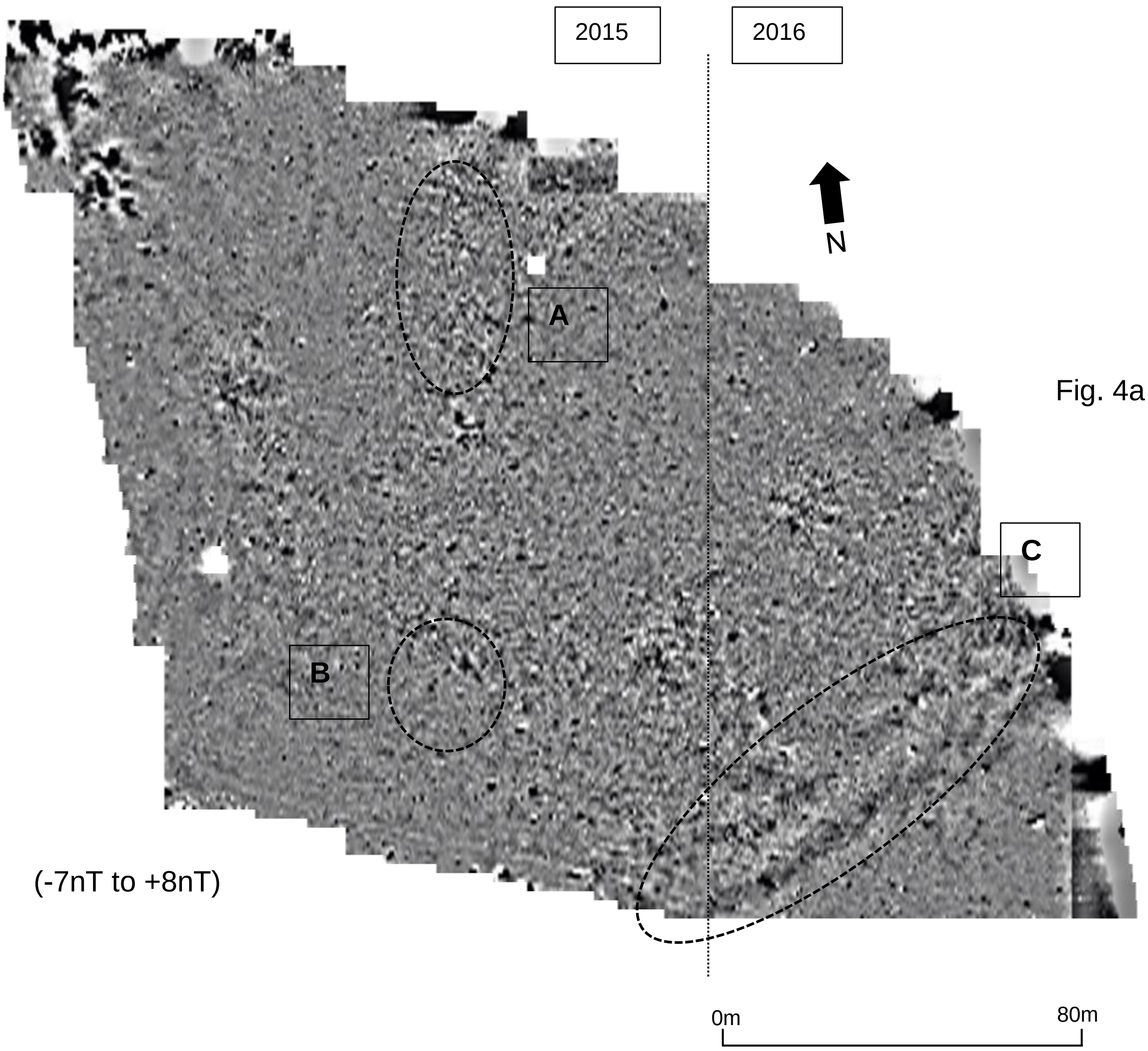


Fig. 4a

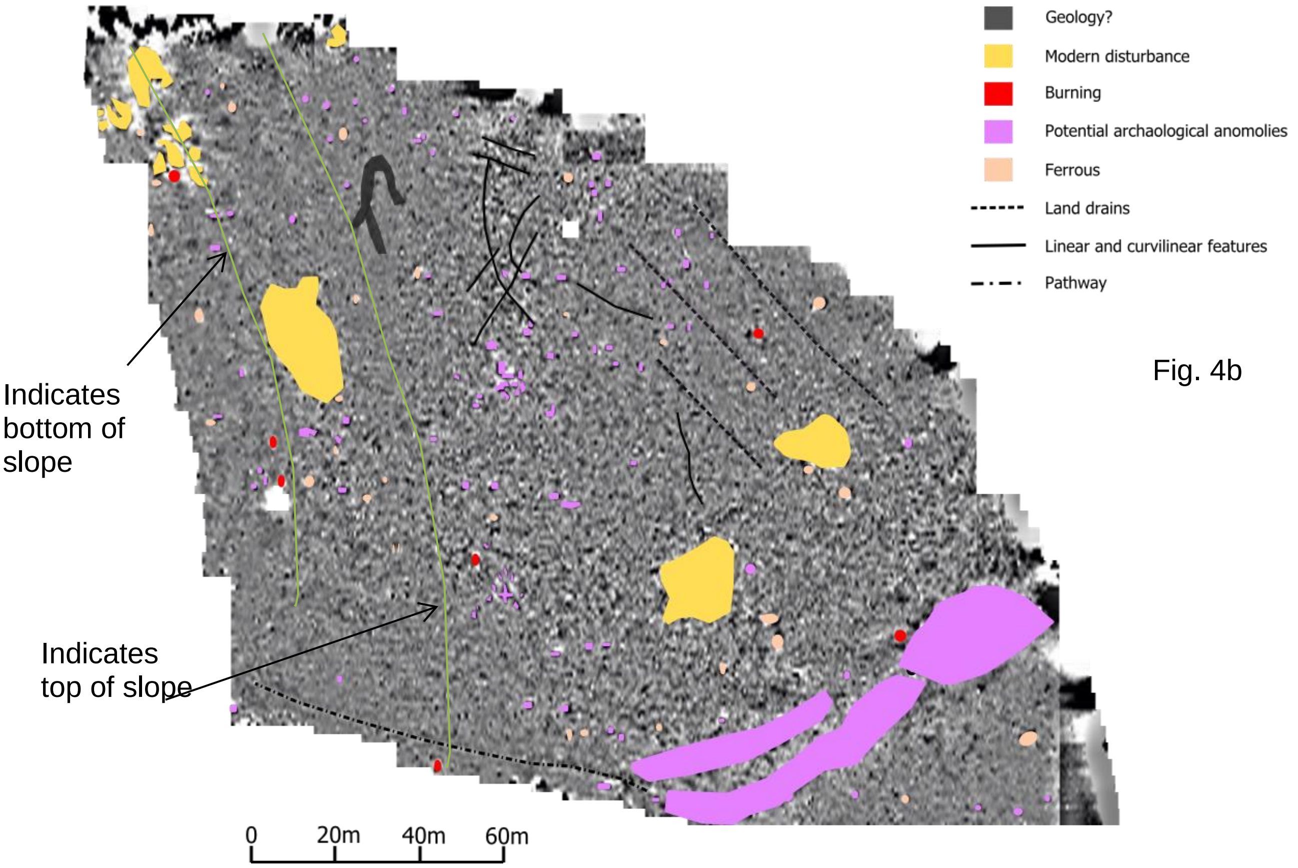

Geology?
Modern disturbance
Burning
Potential archaeological anomolies
Ferrous
Land drains
Linear and curvilinear features
Pathway
Indicates bottom of slope
Indicates top of slope
0
20m
40m
60m

Fig. 4b

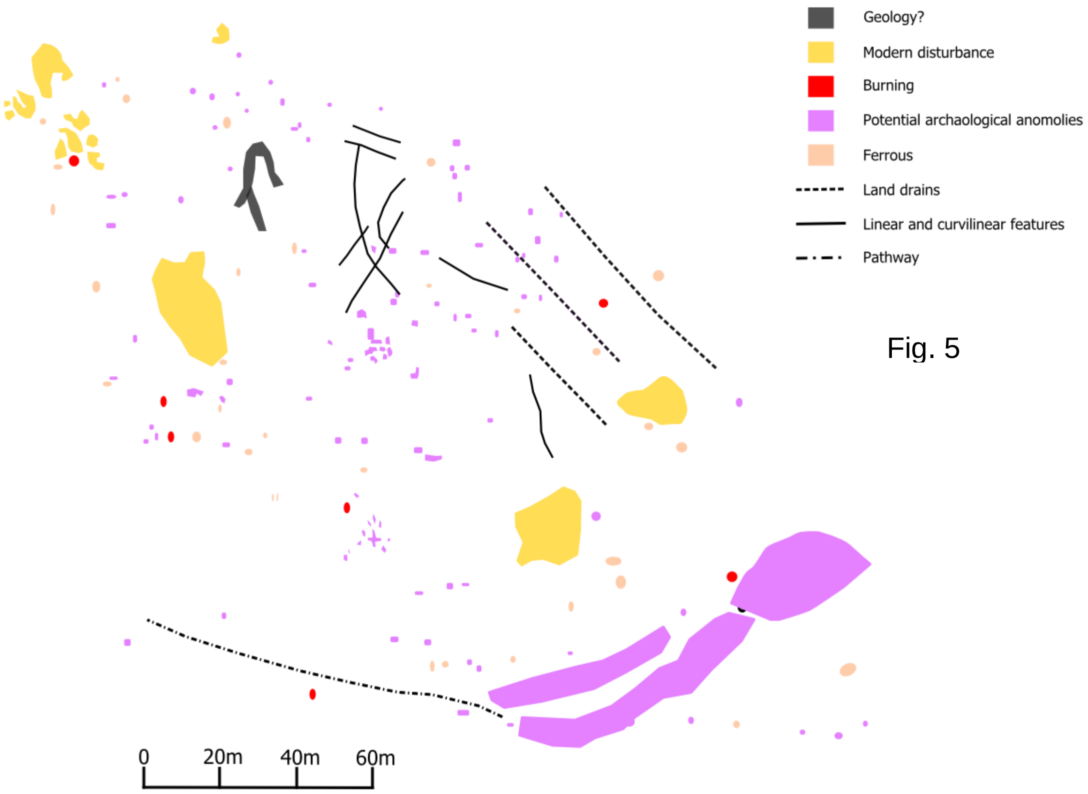

Geology?
Modern disturbance
Burning
Potential archaeological anomolies
Ferrous
Land drains
Linear and curvilinear features
Pathway
0
20m
40m
60m

Fig. 5

4.2 Resistance survey

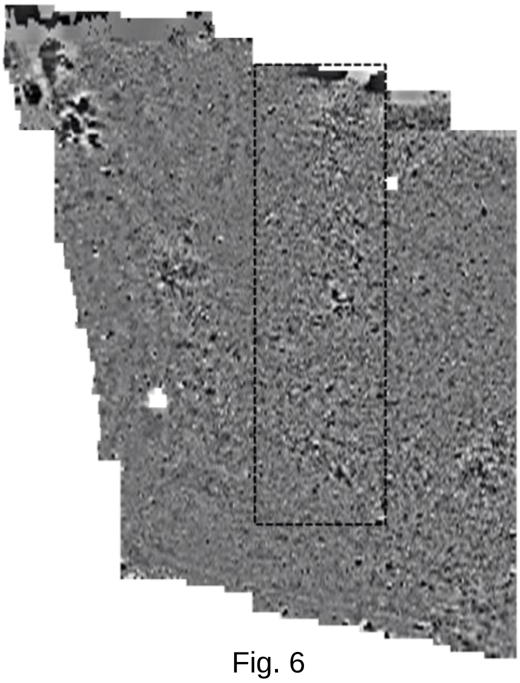


Fig. 6

The resistance survey was targeted over anomalies seen in the magnetic survey. These were in particular, the linear and curvilinear features towards the top of the survey and the feature highlighted as B in Fig. 4a. This covered an area of 40m by 140m (2 grids wide and 7 grids long) as illustrated in Fig. 6. As previously stated, the final probe separation configuration was set at 0.5m and 1.0m, with the traverse sampling at 2 per metre every metre.

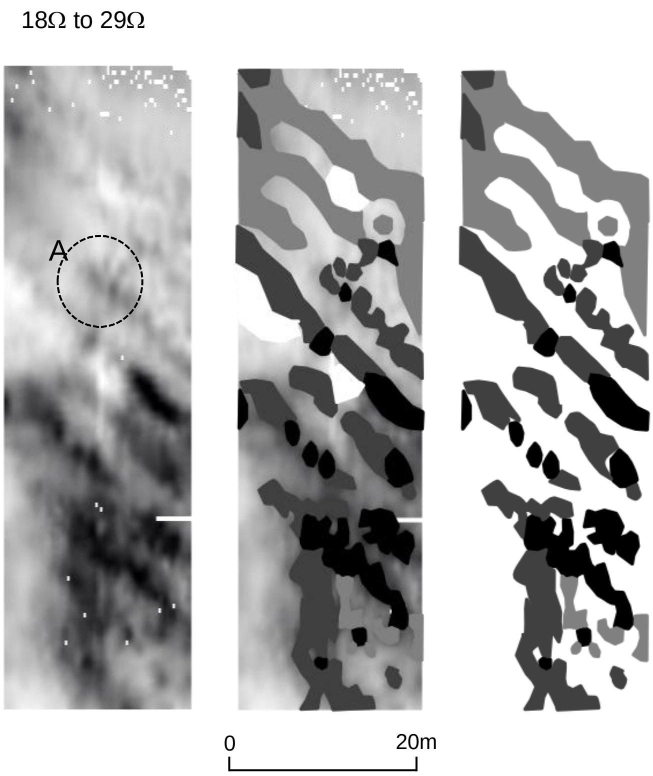


Fig. 7 Resistance survey results using 0.5m probe

Fig. 7 shows the results of the resistance survey with the probes set at 50cm separation; the higher the resistance is, the darker the shade. The clearest feature is the diagonal striping predominantly of a higher resistance (the white dots are errors in the probe contact). This is likely to be caused by the field's past agricultural use as demonstrated by overlaying a Google Earth picture from 1990 (Fig.8). This clearly shows that the field patterns have the same alignment as the anomalies in the resistance survey.

The feature marked “A” could be interpreted as a higher resistance curvilinear response approximately 10m in length but it could also be a coincidental alignment of three higher resistance anomalies.

Slightly above and right of feature “A” is a very faint sub-circular response with a potential opening towards the south. This anomaly is approximately 6m in diameter and is predominantly a low resistance.

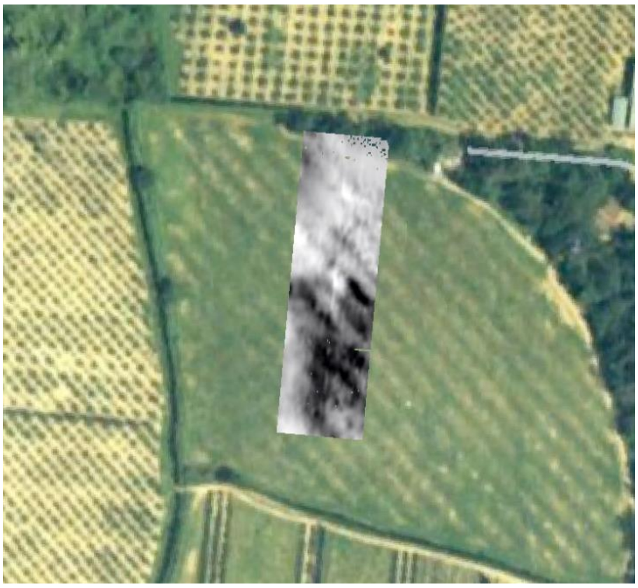


Fig. 8

Towards the bottom of the survey there are several high resistance sub-circular responses between 2.2m and 2.5m in diameter. It is not clear what the causes are of these anomalies. The area generally towards the bottom of the survey tends to be higher resistance so it is not possible to be sure if they are archaeological in nature.

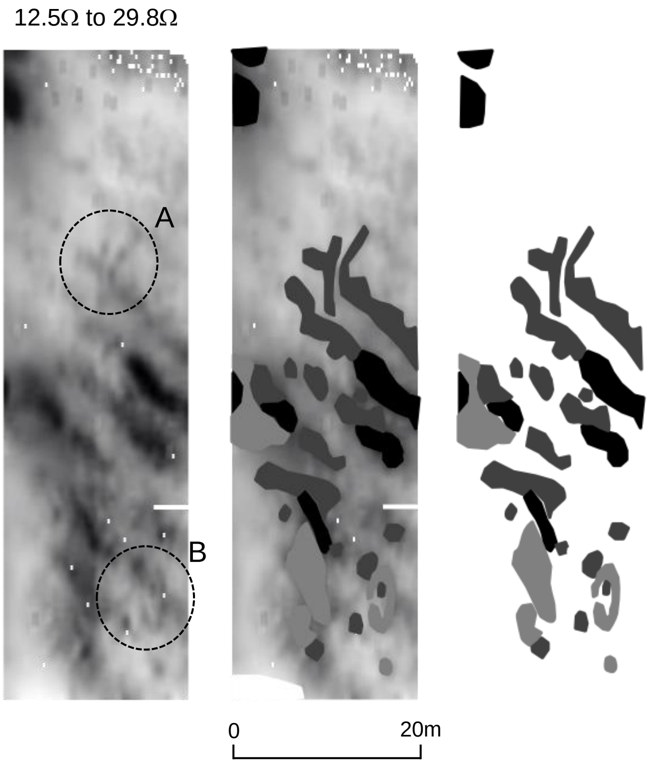


Fig. 9 Resistance survey results using 1.0m probe

With the probes separated by 1m, the resulting survey (Fig. 9) still shows the diagonal higher resistance anomalies associated with the previous agricultural use. Like the 0.5m scan above, the area marked as “A” shows a higher resistance curvilinear response. The wider probe separation seems to show two similar linear responses close together with a separation varying between 2.5m to 3.7m.

There is also a vague higher resistance sub-circular response marked B. This is approximately 12m long by 4m wide. This is partially seen on the 0.5m probe scan but it is obscured, by the much higher resistance diagonal anomaly. The cause of the feature is not clear and must remain unknown and possibly of archaeological origin.

As in the 0.5m probe survey, there are several sub-circular high resistance features towards the bottom of the survey image, of unknown origin.

4.3 Combining the survey results

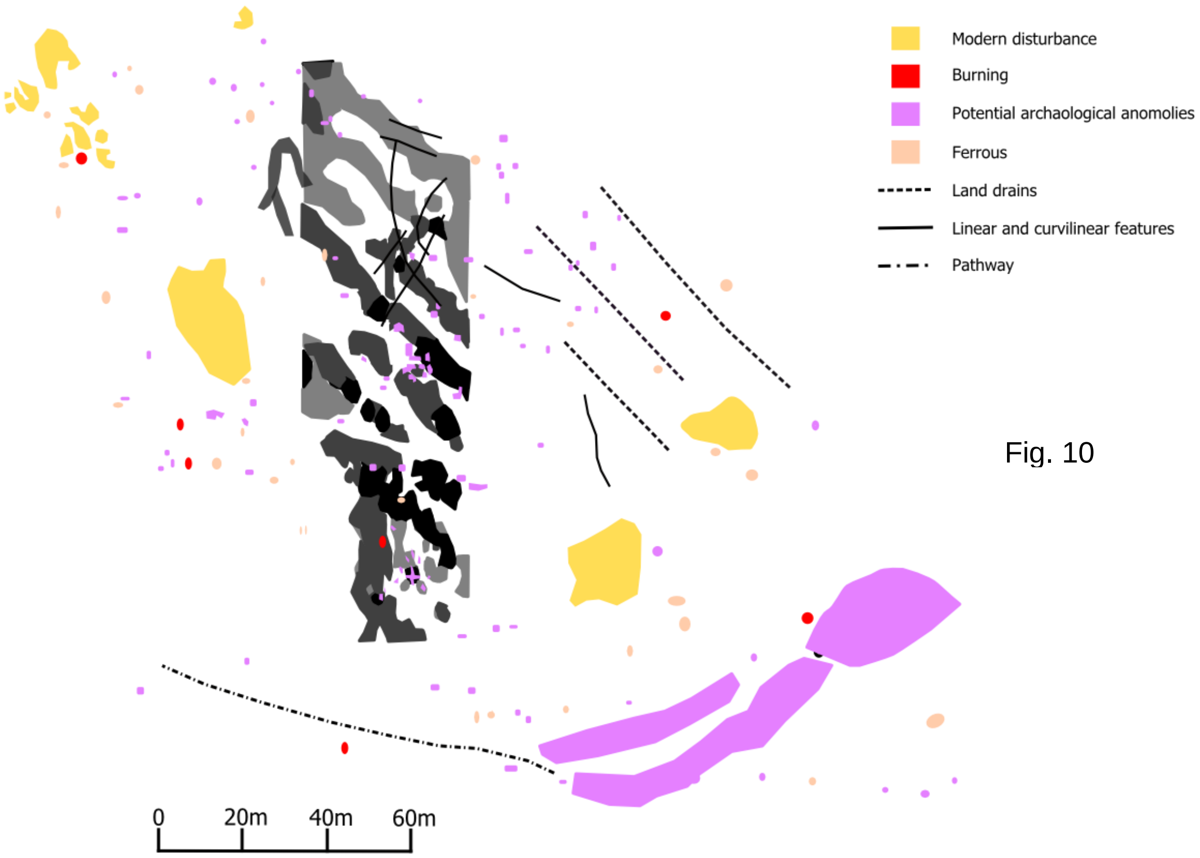


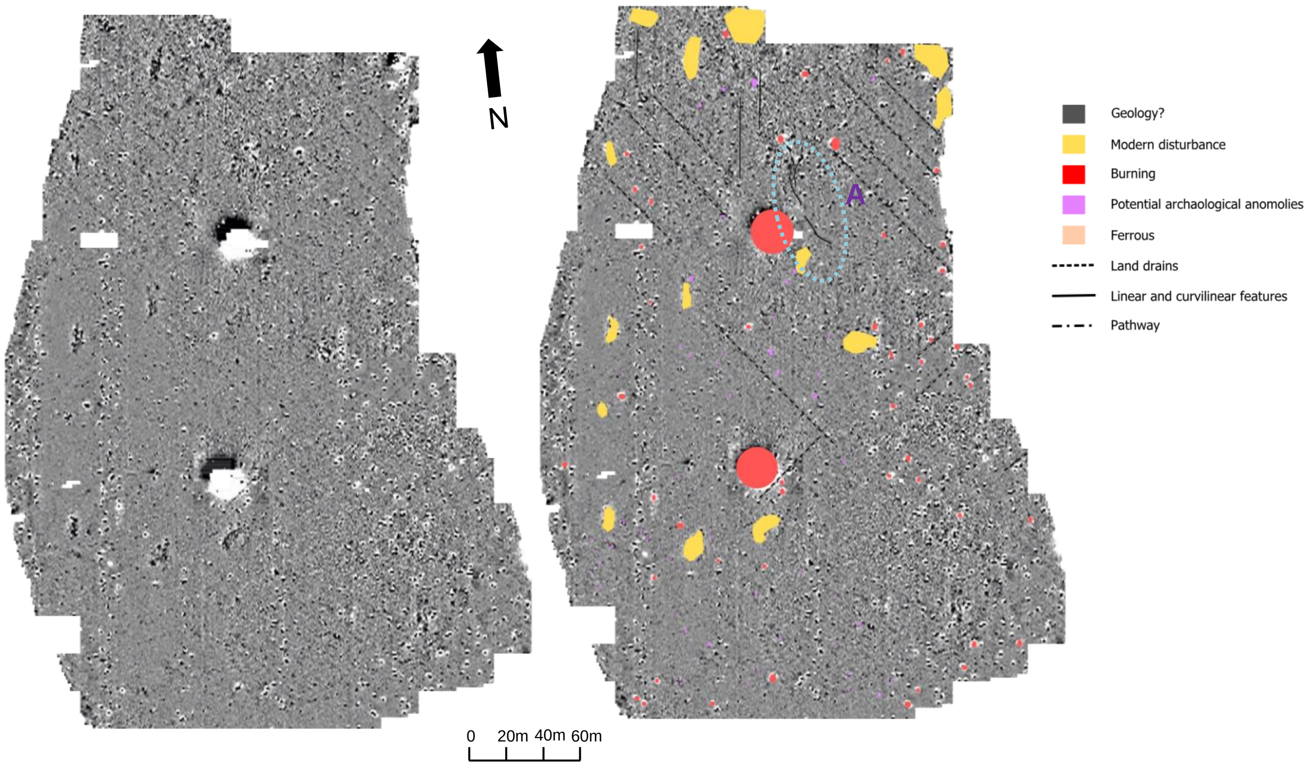
Fig. 10

Overlaying the graphical interpretation of all of the surveys, shows that there is some coincidence between the anomolies, particularly the feature marked as “A” in figs. 5 & 7. Although the alignment is not precise, it does indicate that there are similar anomolies in the same place, with only a minor displacement. The + feature seen towards the bottom of the magnetic survey is exactly coincident with a similar sized very high resistance feature on the resistance survey. Even with this direct relationship between the two survey types, the origin of the anomaly remains impossible to determine but it could be an anchor point possibly for a wartime Barrage Balloon.

5.0 Gibbet Field

5.1 Magnetometry survey

Gibbet Field lies immediately south of Kiln Field; it occupies the south-eastern quadrant of the cultivated northern half of the Hillfort interior. This field was by far the largest and also the most difficult field to survey due to the presence of many brambles, tree remnants and large ruts in the ground. It was also dominated by two, large, still smouldering bonfires, as a result of the orchard clearance; these are very visible in the survey results Fig. 11, as the two circular white features.



(-5nT to +6.3nT)

Fig. 11

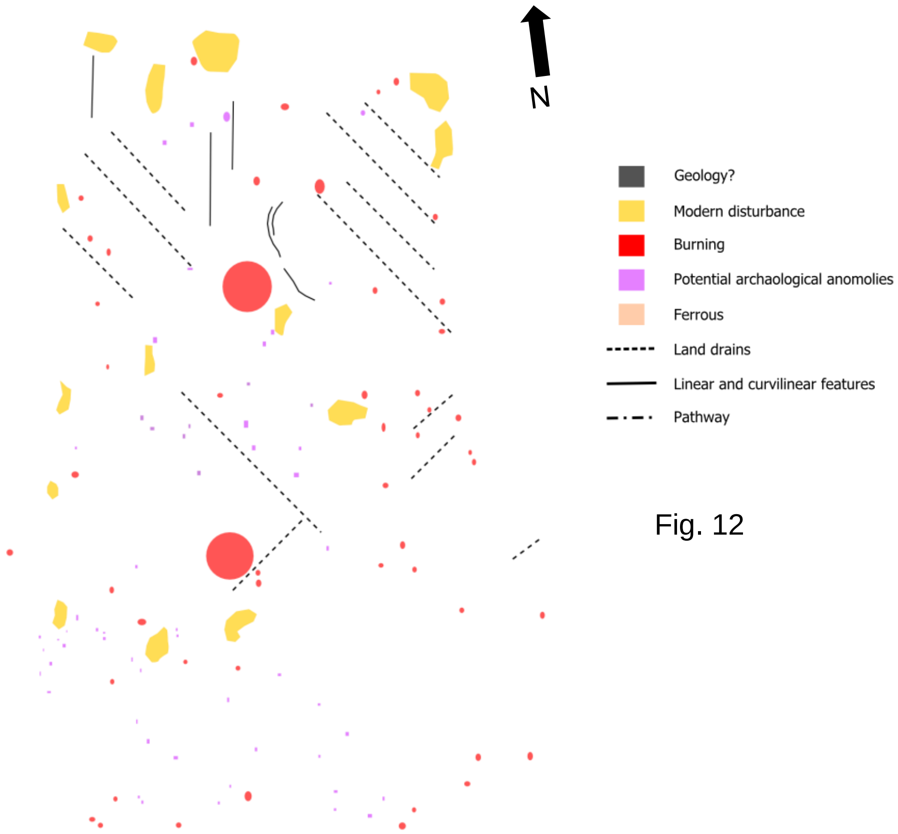


Fig. 12

Fig. 13

As with the Kiln Field, the diagonal drainage pipes are a dominant feature. The land slopes down from east to west and the drains empty into the small stream that defines the western boundary of this field. The drains are of concrete construction and the landowner thinks that they were put in during the early 1960s. With reference to Fig. 13, the depth of the drain at the stream is approximately 1m. How uniform this depth is over the entire field is not possible to say.

Google Earth image of 1990

The survey also revealed several areas of disturbance in a straight line running north-south. These match very well with the lines of the orchard, as can be seen from the Google Earth picture of 1990 left. This disturbance was made up of metal, particularly in the form of chicken wire which is clearly visible on the surface and is probably as a result of protecting the bark of the trees from rabbits etc. There were also the remains of burning as a result of the recent tree clearance. This made a very confusing picture possibly masking any underlying archaeology.

There were several dark sub-circular features which did not fall either into the ferrous or burning category and these must be considered as potential archaeology until proved otherwise.

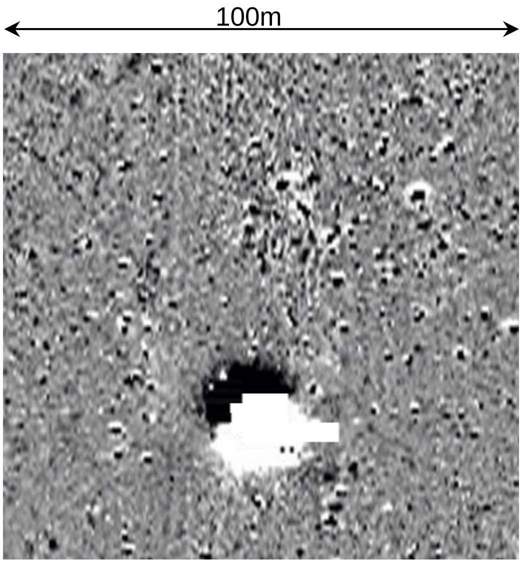


Fig.14

The other feature revealed in the scan is the curvilinear feature highlighted as “A” in Fig. 10. This shows two parallel white responses curving approximately north-south and can just be seen to extend to the east of the bonfire (see expanded image in Fig. 14). The separation of the two curving parallel lines is approximately 2.3m, with a total visible length of 57m if the fainter responses are included.

This area of the field showed deep rutting probably caused by large vehicles extracting the cleared orchard, so the potential for this being the cause of the features revealed by the magnetic scan has to be considered. Even if they are the cause, there remains the question as to why would the ruts be larger at this point than at any other place in the field? Is it as a result of some underlying disturbance that makes the ground softer? The ruts in the field were surveyed in with the GPS staff and then laid over the geophysics scan.

This showed that there was some coincidence between the ruts and the geophysics result but they cannot be responsible for the entire anomaly. It is likely that there is a feature at this point making the ground softer and that it has been caught by the vehicle causing it to sink into the ground.

Fig. 15 – Photograph of ruts probably made by vehicles

5.2 Resistance survey

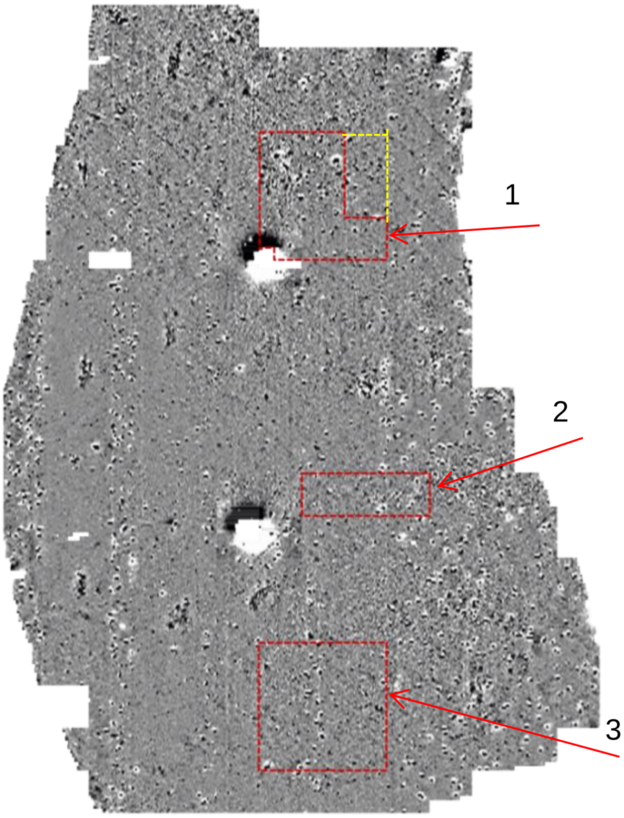
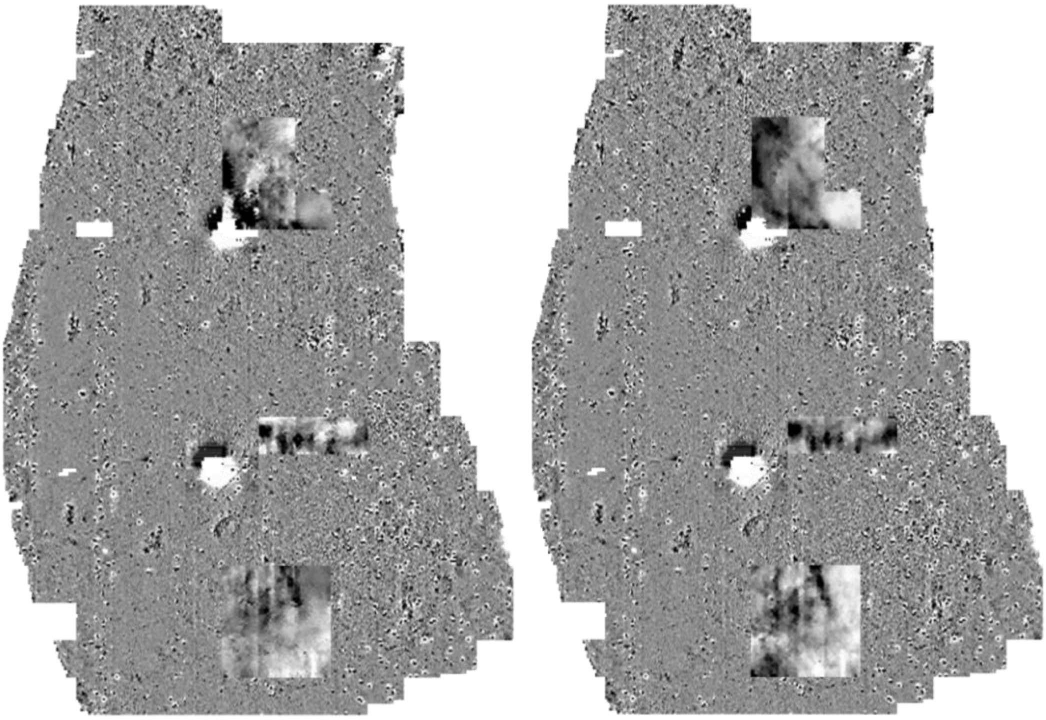


Fig. 16a Location of resistance surveys

As seen with the previous Magnetometry survey, there were disappointingly few areas that stood out as being potential archaeology. There were however 3 areas identified (see Fig.16a and b) which would benefit from a further examination using the resistance survey method. One of the areas identified was area “1” which covered the curvilinear feature to the north of the field. An area of seven 20m x 20m grids was accordingly surveyed using the twin probe configuration of 1m and 0.5m separation (the additional area marked in yellow was included in the November 2015 survey).

In order to reduce the length of time required for survey, the traverse sample was reduced to 1 per metre. Although this would reduce the discrimination of the survey, especially in detecting smaller features, it was decided that this would not greatly affect the survey outcome.

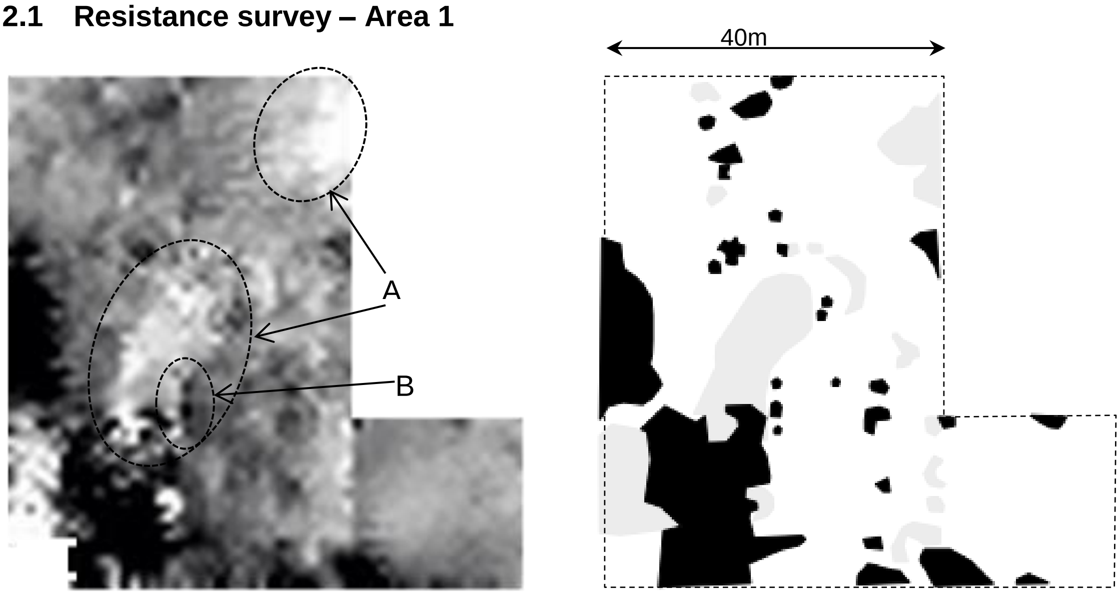
Area “2” (three 20m x 20m grids) was selected as this coincided with a sharp change of gradient in the field (possibly a lynchet) and area “3” (nine 20m x 20m grids) was selected as there was a faint suggestion of a circular feature on the Magnetometry scan.



Resistance survey probe separation = 0.5m Resistance survey probe separation = 1.0m

Fig. 16b Results of resistance surveys

5.2.1 Resistance survey – Area 1

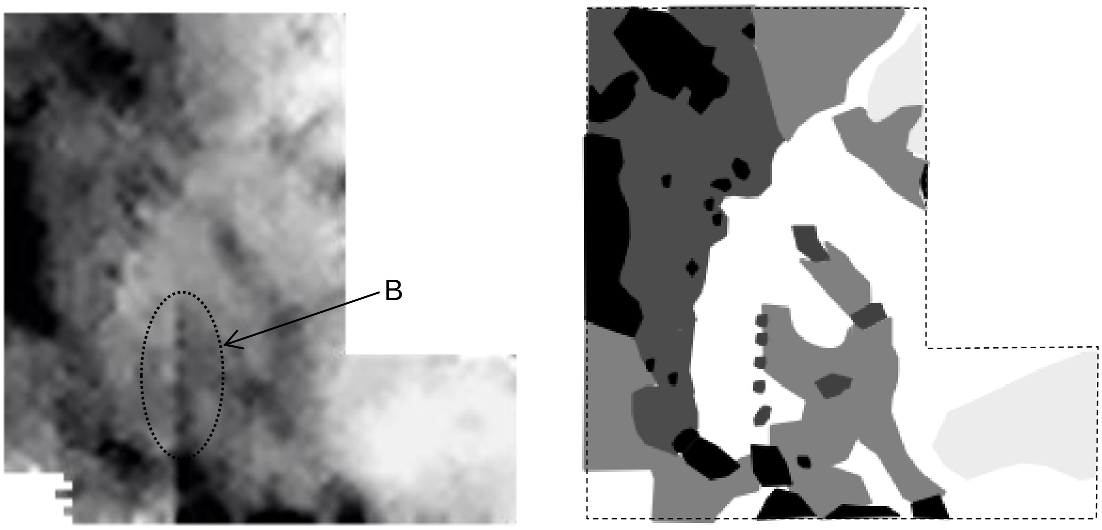


34Ω to 50Ω

Fig.17 Resistance survey probe separation = 0.5m

Fig.17 shows the resistance survey results for the probe separation of 0.50 m and reveals several areas of very high resistance. They have no particular form and there is a high likelihood that these are as a result of the local geology. There are two particular areas of lower resistance indicated by “A”, the lower one, being curvilinear and the upper one having a more amorphous shape. This potentially is archaeology and could be a ditch with a possible causeway.

There are three high resistance anomalies indicated by B; they are approximately 1m wide with the larger response in the middle, being 2m in length. The separation is around 2.5m. There are several similar responses which are probably as a result of a high resistance contact on the probes when inserted into the ground. As long as a resistance is recorded within the range of the equipment, it is logged and occasionally, due to the uneven nature of the field and the amount of debris from the removed orchard, the probes do not make proper contact. This will result in a high resistance reading. The three high resistance responses indicated are however worth investigation as they are in alignment and they also appear in the wider 1.0m probe separation survey; it would be unusual if the probes misread at the same place. There are several other high and low resistance anomalies seen in the survey but their origins are unclear and have to remain undefined.

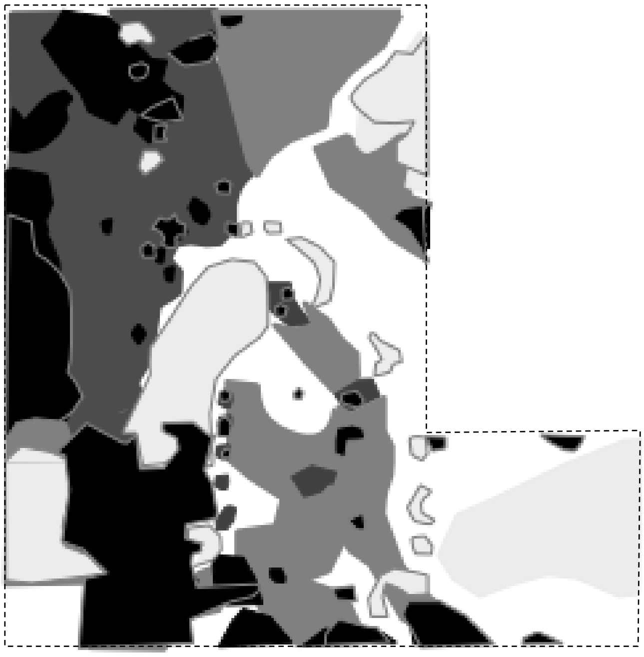


18Ω to 29.8Ω Fig.18 Resistance survey probe separation = 1.0m

As with the 0.5m survey a lower resistance curvilinear response can be seen but is not as distinct and would be difficult to pick up if only this survey was carried out. There is also no indication of a possible causeway.

The three high resistance responses highlighted (B) in Fig.18, can be clearly seen along with two and possibly three more, in a linear alignment and Fig.19 shows the coincidence of these with the 0.5m survey. It is likely that these are real anomalies but their origin is unclear.

All other responses suggest that these are as a result of the geology of the area.



When the features are overlaid as in Fig.19, the coincidence of the high and low resistance features can clearly be seen. This illustration also shows the difference in responses due to the wider probe separation, with some features becoming less distinct as the depth of the survey increases.

Fig.19 Features overlaid (0.5m setting outlined in grey)

As this area of the field had deep ruts, it could not be concluded with certainty whether the geophysics results seen in both the survey types, were as a result of surveying over the deep ruts, or a reflection of a feature under the ground. The decision was made to resurvey the area with resistance equipment using the typical configuration of parallel twin array with a probe separation at 0.5m. The sample was 2 per m at 1 m intervals. Also, in order to try and eliminate any anomalies that may be as a result of survey technique, the survey was conducted at 90^0 to the previous survey. Two additional grid squares were added to the survey, in an effort to obtain further data.

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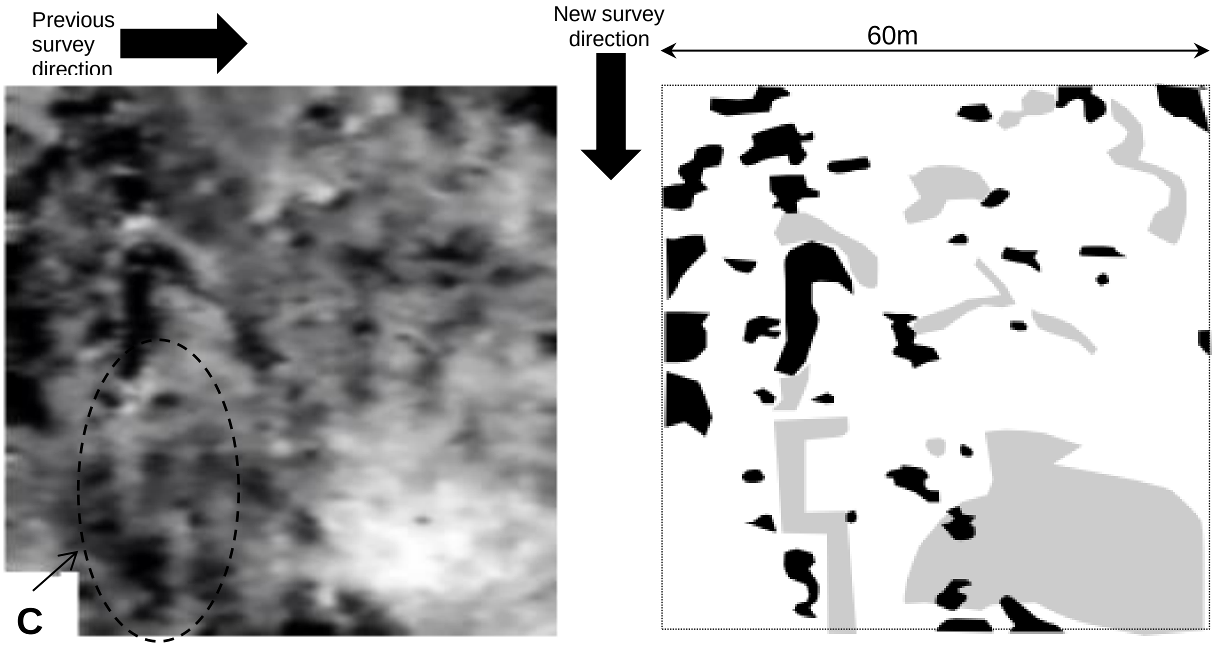


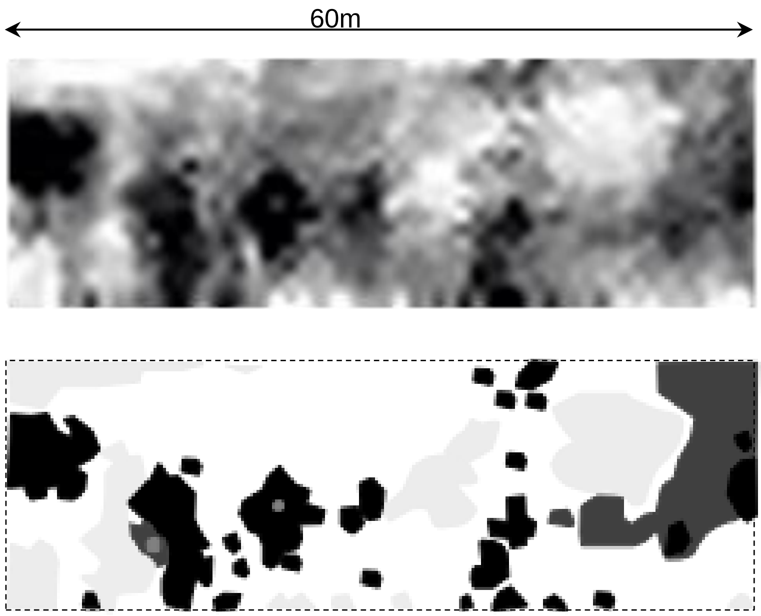
33Ω to 58Ω

Fig. 20 Resistance survey with new survey

When compared with the two previous resistance surveys, there are some similarities but there are many differences. The low resistance area to the bottom right of the image is common to all of the survey results and may indicate a pit or hollow. There is no indication of the row of high resistances responses as highlighted in B in Fig. 18, although there is one high resistance response in this area which is common to all survey results. It is difficult to know if this is a real response or a coincidence, as there are several high resistance responses, some of which would have been created by poor probe insertion causing a high resistance. The high resistance linear responses seen in the top left of Fig. 20 are almost certainly created as a result of the poor probe insertion. The survey was undertaken along the line of the ruts in the ground and consequently it was very difficult to get all probes to make a suitable reading. Often there was a large gap between the probe and the ground and due to the length of the array it was very difficult to get a good contact. There is a vague suggestion of a low resistance response which correlates to A in Fig. 17 and even a suggestion of a causeway in a similar position, but only excavation will reveal what is below the ground.

One feature seen on the 2015 survey is shown as C in Fig. 20 and that is a low resistance linear response which shows the anomaly changing direction by 90^0 several times. This is unlikely to be as a result of geology and is highly likely to be man-made. It is difficult to put this feature into the Iron Age as no parallels for this feature shape are recorded; the most likely explanation is that of a 20th century military connection such as a local shelter trench.

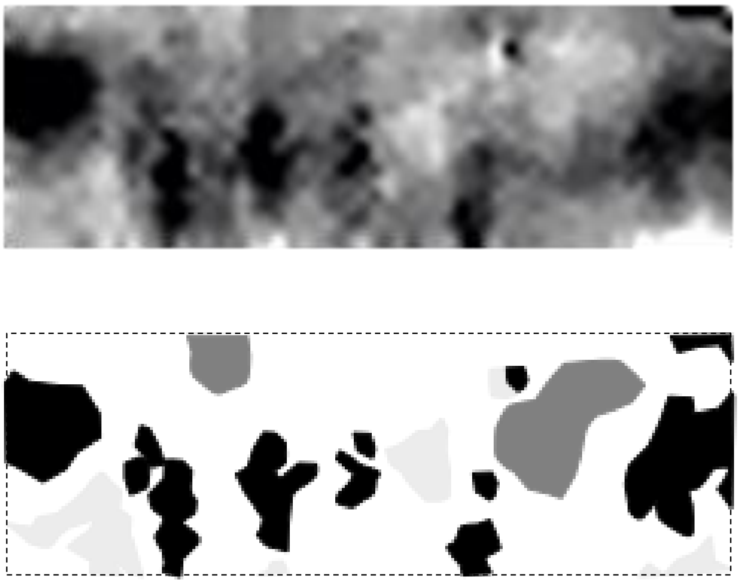
5.2.2 Resistance survey – Area 2



37Ω to 55Ω

Fig.21 Resistance survey probe separation = 0.5m

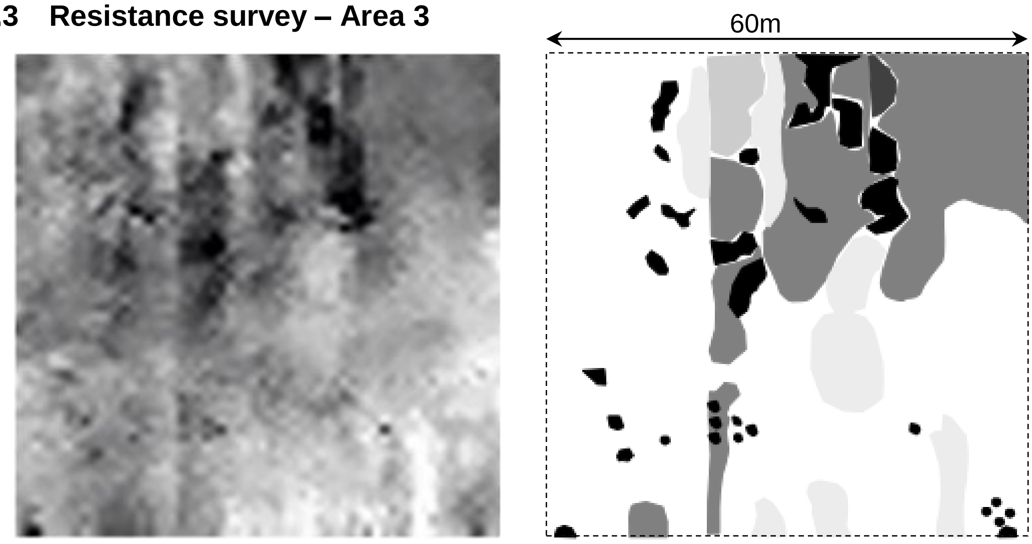
This survey was conducted over an area of the field which had a steep change of slope, possibly a lynchet, or maybe as the result of an earlier field boundary. Examination of the survey results does not appear to show any anomaly which could account for this change of slope. There does not seem to be any recognisable archaeological responses except possibly the two low resistance areas on the right of the survey (Fig. 21 & 22), which measure approximately 7m in diameter.



16Ω to 26Ω Fig. 22 Resistance survey probe separation = 1.0m

With the probe separation at 1.0m the resistance results are broadly similar to that obtained using the 0.5m separation. The higher resistance areas correspond, as do the two areas of low resistance mentioned above.
Whilst the responses may be as a result of archaeology, without excavation their origin has to remain unknown.

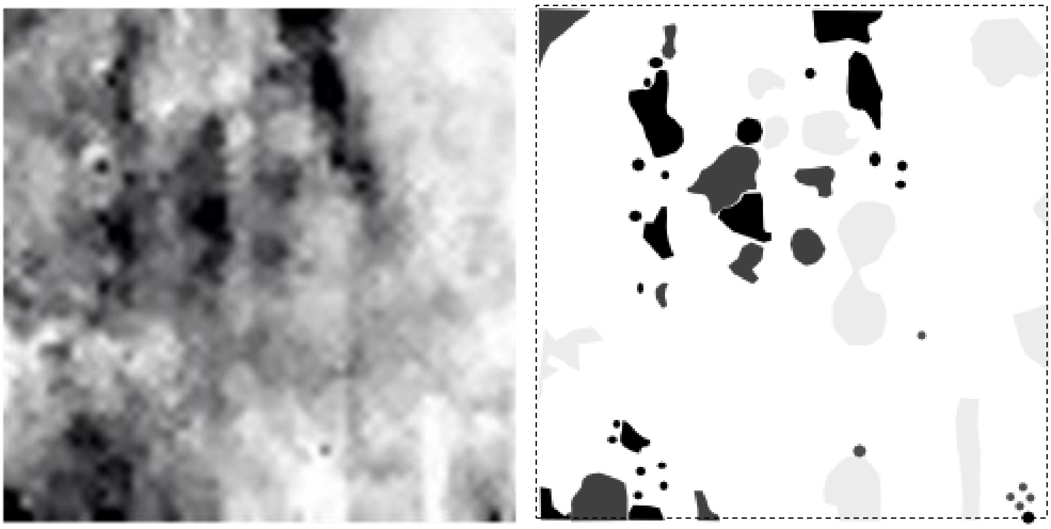
5.2.3 Resistance survey – Area 3



35Ω to 81Ω Fig. 23 Resistance survey probe separation = 0.5m

Area C was surveyed as there was a possibility of a circular feature detected by the Magnetometry survey. The feature was very vague but it was decided that it did warrant further investigation.

The resistance survey showed some striping running north-south and this was interpreted as being as a result of the agriculture in the field and broadly coincided with similar features in the Magnetometry scan. In the bottom right-hand corner of the survey, there is what looks like a half of a circular high resistance response very close to four smaller high resistance responses, forming very nearly a square. The sides of the square are approximately 2m in length with each response being less than 1m in diameter. This also appears on the 1.0m survey, so is a genuine response and not a failure as a result of an erroneous probe contact. The interpretation of this response is difficult, as it could be agricultural in nature so it has to remain as origin unknown. The results did not show any other recognisable archaeological responses save two areas of low resistance to the right of centre of Fig. 22. These measure approximately 6m wide and 7m long and as they are a lower resistance could potentially be pits.



18Ω to 29Ω

Fig. 24 Resistance survey probe separation = 1.0m

The resistance survey with the probe separation at 1.0m (Fig. 24) showed very similar results to the 0.5m survey. It showed the 4 circular high resistance features in the bottom right of the image and also the two low resistance features, although they appeared slightly smaller in diameter.

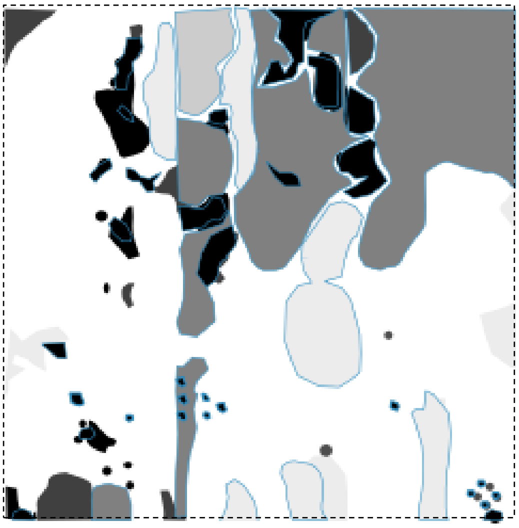


Fig. 25 Features overlaid (0.5m setting outlined in blue)

When the graphical interpretation of the two survey results are laid on top of each other (Fig. 25), many of the areas of high and low resistance are coincident as expected but there is variation in shape and density which reflects the different survey depth. There is a slight shift between the position of the four high resistance anomalies in the bottom right hand corner and this can be explained by the different depth of the signal and also because the sampling is only in 1m steps and there is a margin of error in the placement of the probes.

5.3 Combining the survey results

The only area benefiting from a comparison between the different survey techniques, is that of area “1” which had the curvilinear response. Areas “2” and “3” had no discernible features that were visible in both survey methods.

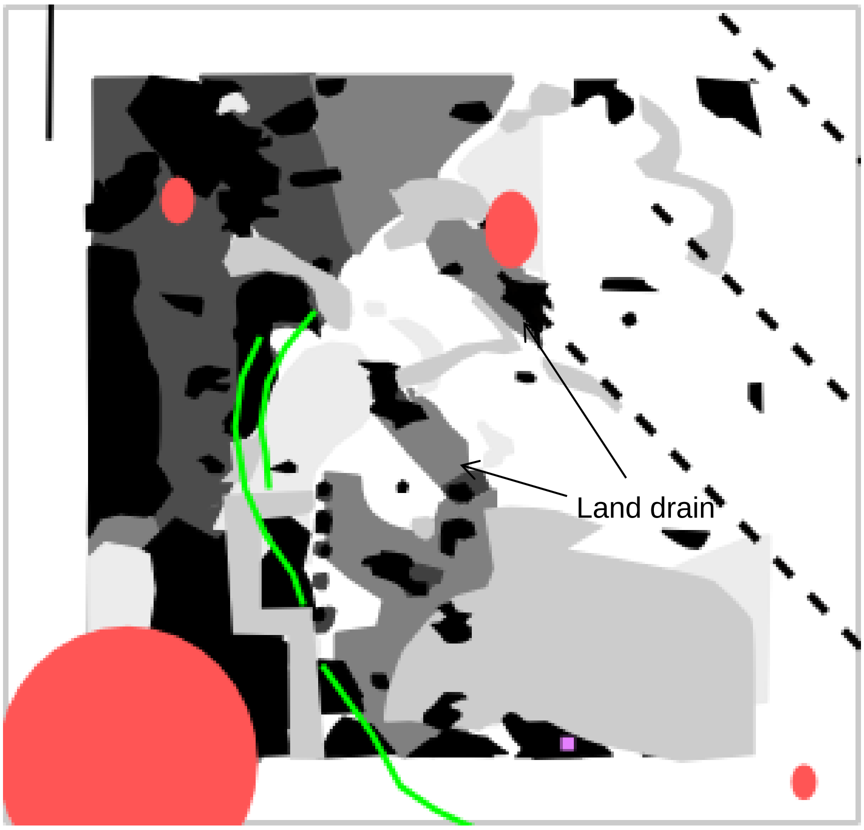


Fig. 26 All survey graphical features

As can be seen from Fig. 26 above, the green curvilinear feature of the magnetic survey, corresponds well to the boundary between the high and low resistance and this curving feature continues northwards. The gap in the magnetic feature also corresponds to a lower resistance but the southern projection of the magnetic anomaly is not so clearly reflected in the resistance survey. This magnetic survey feature also has some correlation with the low resistance angular response but it does not exactly overlay so it may not be as a result of the same feature. The separation of the two curvilinear features is around 2m, too narrow for the ditches of a trackway but possible for a double ditched feature.

The only other feature that shows correspondence between the two survey techniques are the land drains; these show as a higher resistance.

6.0 Upper Toll Field

6.1 Magnetometry survey

Upper Toll Field is to the west of Gibbet Field and like Kiln Field it still had one third of the long grass to be cut, so only two thirds was surveyed in October 2015 and the remainder finished in 2016. For both years the ground was in good condition and not difficult to walk over, making the survey quicker than with the previous two fields.

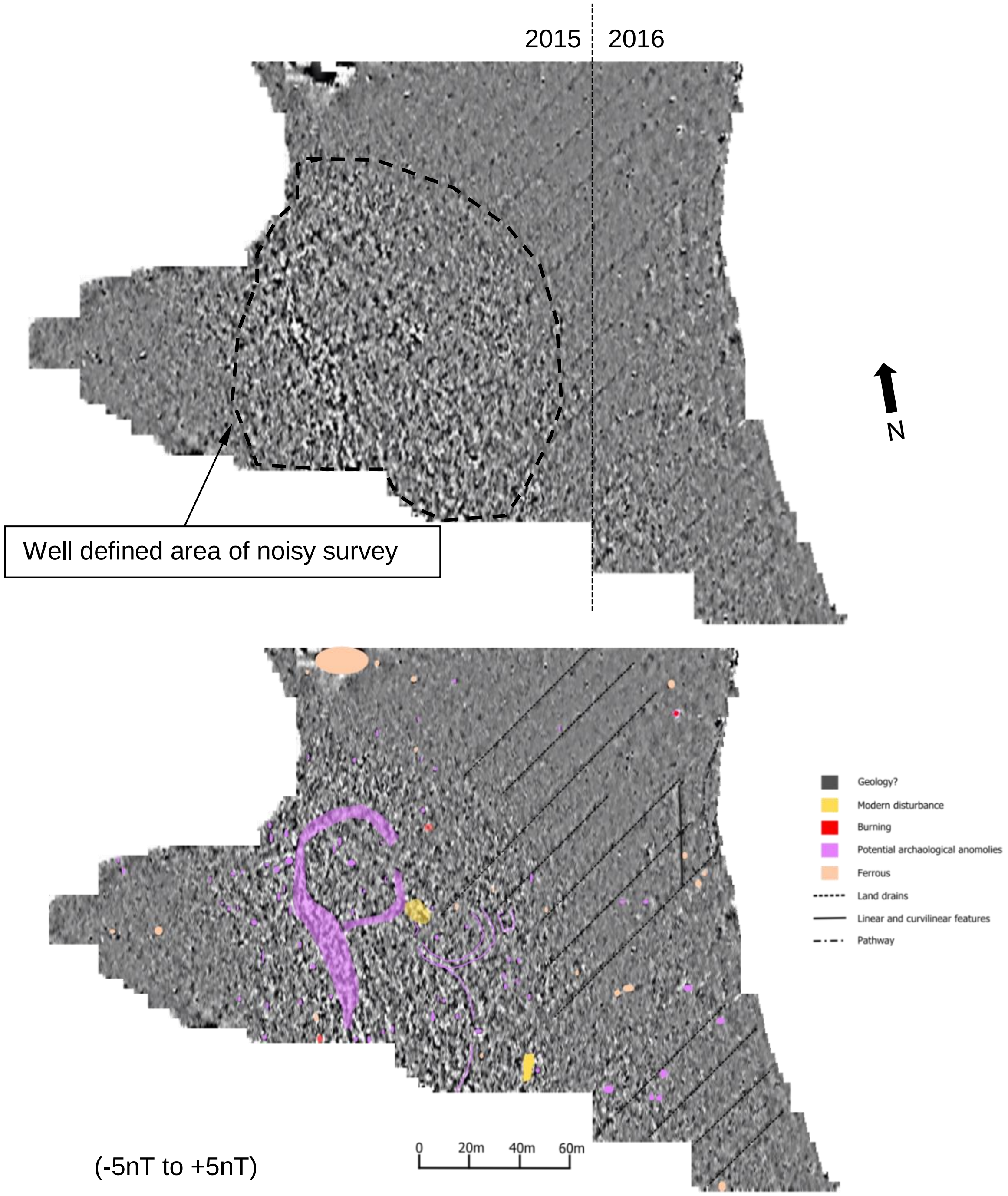


Fig 27 Magnetometry survey with features identified

As in the previous two fields surveyed, the presence of land drains can be seen running diagonally NE-SW but in this field they seem to be confined to the eastern side. Another known feature is the large ferrous response at the top left of the image. This was as a result of having to perform the survey close to a parked tractor causing this “blooming” on the image.

Consistent with the long agricultural use of the field, there are several responses attributed to burning and ferrous objects but there are also several features that do not fit into these categories. There are also several anomalies revealed by the survey that could be of an archaeological nature.

With reference to Fig. 27, there appears to be an area of disturbed ground, middle left of the survey image, forming a sub-circular feature with what looks to be a dark response at the centre and an opening facing east. The feature is approximately 45m long by 35m wide.

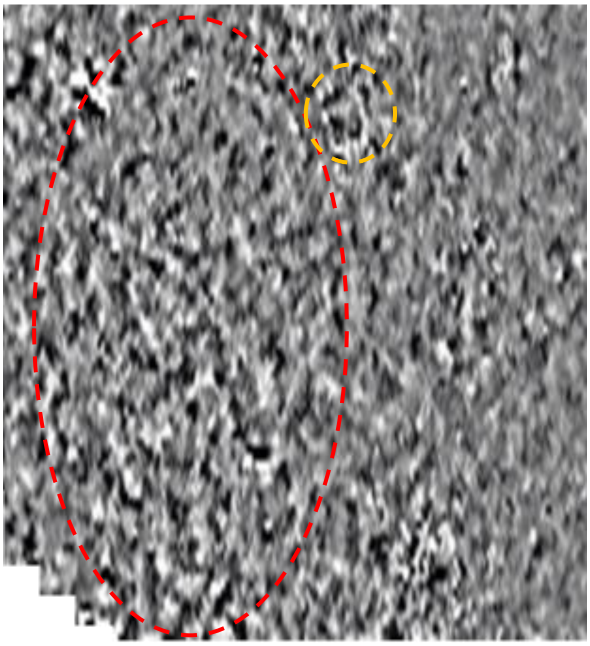


Fig 28 Sub-circular features

A little to the south-east of this sub-rectangular feature are a cluster of anomalies that could well be archaeological in nature. The first is not easy to make out, but a sub-circular feature can be seen (see Fig. 28 left marked in red), with a curved line from the western edge running southwards for about 20m, which then looks to have a break for about 8m, then carries on for a further 20m but is a much fainter response. The semi-circular feature measures around 30m from outside edge to outside edge. In the interior of the feature there are several dark responses measuring between 1.5 to 2m across.

A few metres to the east of the semi-circular feature, is a light response which looks like an open-ended rectangle (circled in yellow above), with the closed end showing a possible break defined by a pair of linear responses. The anomaly is 5m wide at the open end and approximately 6m in length and the gap defined by the parallel linear responses is approximately 1m.

When looking at the complete image as in Fig. 28, it is clear to see that two features stand out. They are the buried land drains which are evenly spaced and run in straight lines in a roughly NE-SW direction. The other feature is not so well defined but there is a clear disturbed area which contains several interesting and potentially archaeological anomalies. The disturbed area is readily discernible in an approximate east-west direction measuring about 115m across. The north-south direction is limited by the survey area but the north end is close to the rampart edge so cannot extend much further. The southern end is close to the old trackway that runs through the middle of the Hillfort, which may limit the extent depending on the age of the track.

This disturbed area (containing possible features and much “noise”) is located on the flatter part of the field. The field otherwise slopes quite steeply towards the east where the stream bisects the interior of the Hillfort. This roughly corresponds to the area of the land drains visible on the survey.

Running along the edge of the field parallel to the stream there is a well-trodden pathway and this can be seen at various points in the survey results. There is also a linear feature which is highlighted in Fig. 29 and this is visible as a depression in the field. It is not immediately obvious what the cause of this depression is but it could be associated with a vehicle and is assumed to be more modern.

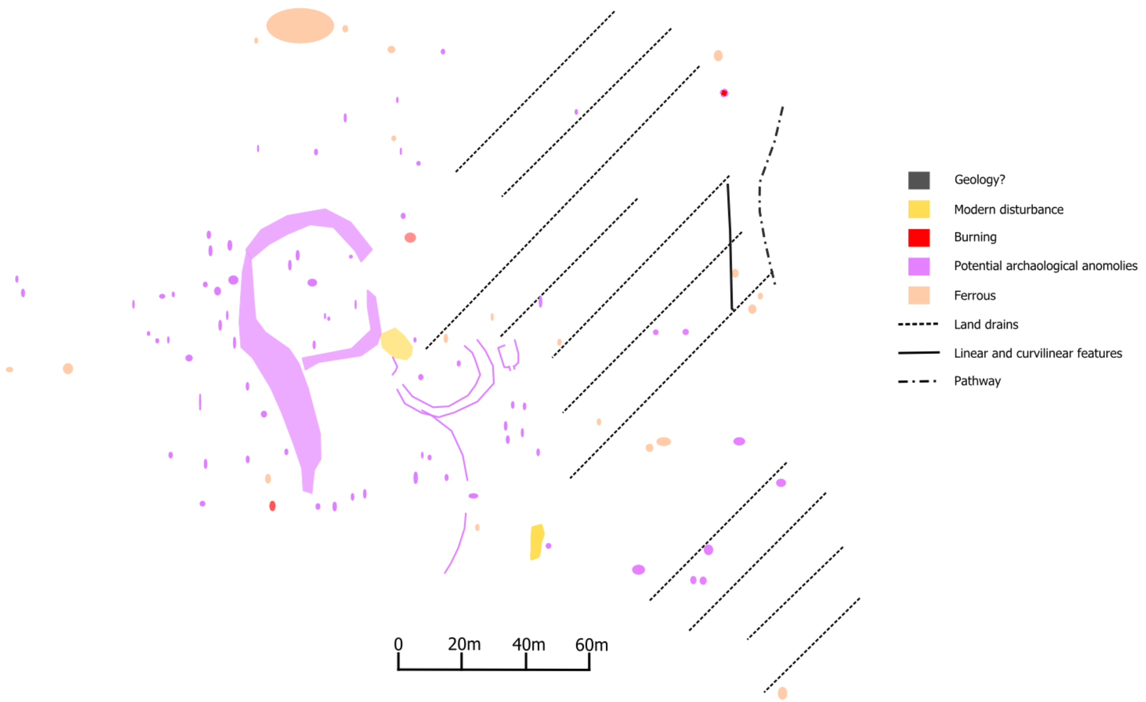


Fig 29 Magnetometry survey graphical representation

6.2 Resistance survey

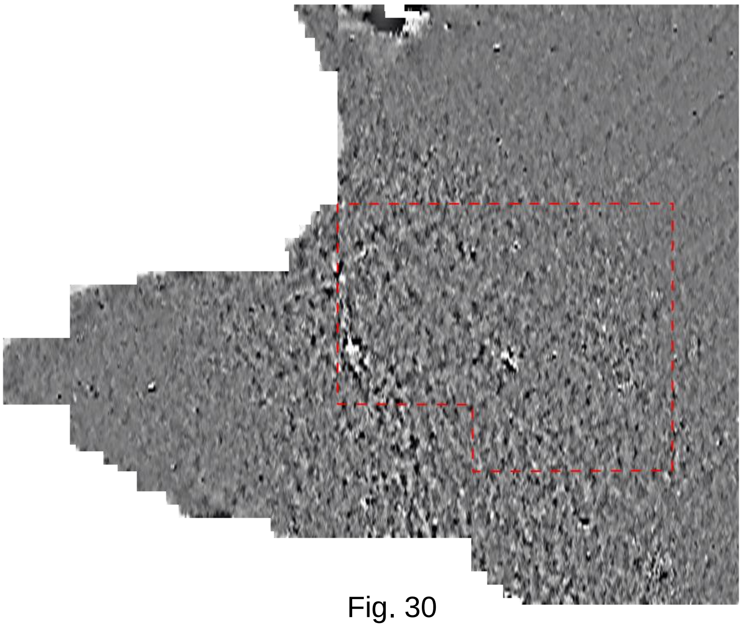


Fig. 30

60m

The resistance survey in the Upper Toll Field was targeted over anomalies (see Fig. 30) found using the Magnetometry survey. These included the large circular disturbance, the smaller sub-circular feature and the rectangular feature (reference Fig. 29 above).

A slightly reduced area than that illustrated, was initially surveyed, using the twin probe array but the survey area was subsequently enlarged to that shown, as a result of the findings of the first resistance survey. The idea of using the twin probe configuration with a separation of 0.5m and 1.0m was to identify features at different depths. This had produced reasonable results at Kiln Field and Gibbet Field, but the results, particularly using the 0.5m probes in this field were disappointing, as there were problems matching each grid to its neighbour and there were several artefacts on the image in the form of random wiggly lines. This can be seen in Fig. 31 below. The survey results for the probe separation of 1.0m did not seem to have the same problem and produced acceptable results. The explanation for the problems with the narrower probe separation was not clear and it was decided to redo the survey using a parallel twin probe array which is more typical. Due to logistical reasons it was not possible to analyse the parallel twin survey results immediately with TerraSurveyer so they were analysed using “Snuffler”. This is freeware available on the internet and is commonly used by smaller archaeological units as well as amateur groups. The results were eventually analysed by TerraSurveyor so it was possible to compare the two different software packages.

Comparisons of the resistance surveys using both the twin probe and parallel twin probe arrangements showed broadly similar areas of high and low resistance. No graphic interpretation of the twin probe at 0.5m probe separation was made due to the inconsistences with the grid matching.

All of the 0.5m survey results, produced three distinct areas of interest, A, B and C as detailed in Fig. 31.

Feature A is a low resistance sub-circular response of diameter approximately 30m at the maximum although it is difficult to be exact as the responses are wide. This anomaly was coincident with the similar feature identified in the Magnetometry survey. The clearest image of this feature is in Fig. 32a which uses the parallel twin probe configuration analysed using the Snuffler software. A clear sub-circular low resistance response can be seen measuring approximately 2m in width. All images show a high resistance anomaly in the centre of the sub circular feature.

Feature B seems to be a rectangular high resistance response which is clearest in Fig. 31, the twin probe survey. It is 16m in the long direction and 10m wide with a break in the eastern long side which could be a door or opening. This is a very regular response, visible to differing extents in the other survey configurations except the 1.0m probe separation, where the anomaly is very faint and would be difficult to determine if viewed in isolation. A higher resistance indicates that this is a more solid structure and could be the remains of a wall or similar. Nothing is visible on the surface and the current land owner has no knowledge of any structure in this field.

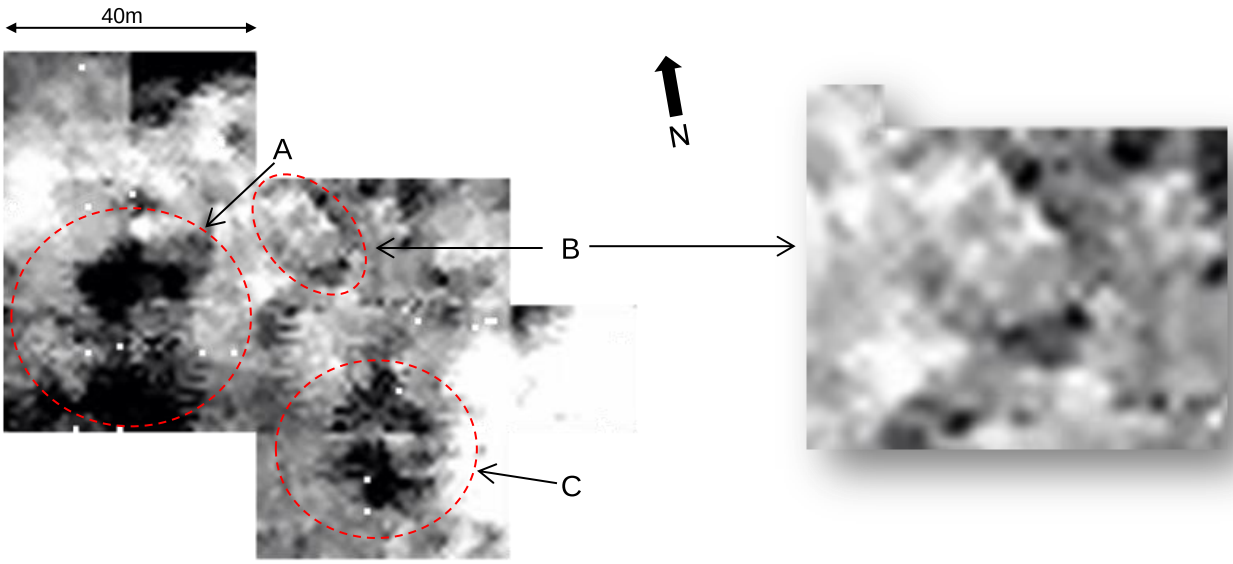
Feature C is a higher resistance sub-circular response which is clearest in Fig. 32a, the parallel twin survey analysed using the TerraSurveyor. This shows a feature approximately 11.5m in diameter with an approximate width of 1.0m, with an open side facing the south-east. This feature is associated with a general higher resistance area which is likely to be as a result of disturbed geology.

All of the 0.5m survey configurations show various anomalies of either high or lower resistance; some could be archaeological but none, apart from the three features specifically mentioned show a potentially identifiable target.

The survey result of the 1.0m twin probe configuration is shown in Fig. 34. This shows similar areas of low and high resistance as the survey previously described, including a sub-circular area of low resistance coinciding with feature A. The image is much more amorphous in nature but nevertheless it is consistent with the other images.

The results also show a rectangular anomaly marked as feature D aligned NW-SE. The long direction is approximately 40m in length although the south-east end is not particularly clear. The width is approximately 40m and shows a higher resistance demarking the south-west long side and a lower resistance on the opposite side. The sub-circular feature C sits within the south-west corner of the rectangle.

Referring back to the previous survey results using the parallel twin probe configuration, elements of feature D can be discerned but without the benefit of the wider probe survey it would not have been so clear.



29Ω to 45Ω Fig 31 Twin probe 0.5m

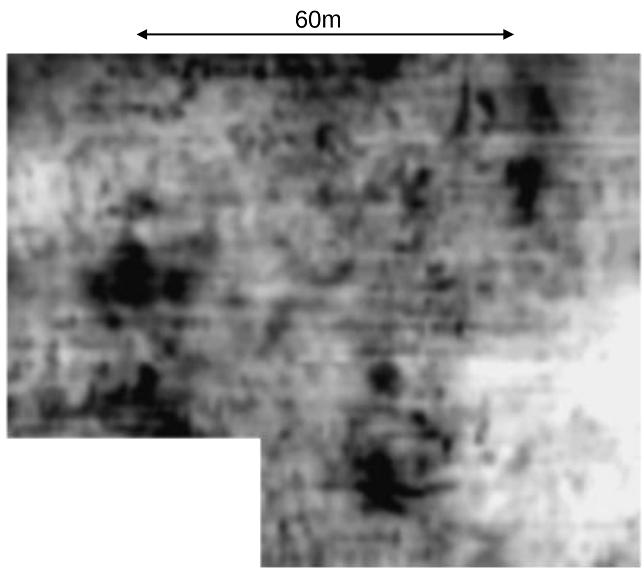


Fig 32a Parallel twin probe 0.5m using Snuffller

14Ω to 64Ω

Fig 32b Parallel twin probe Snuffller features

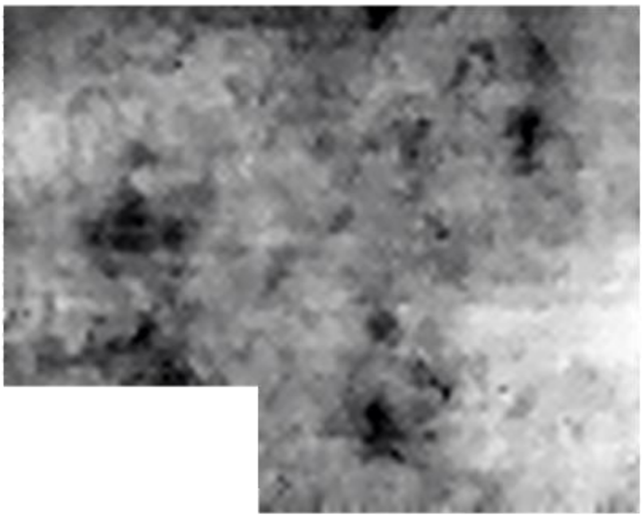


Fig 33a Parallel twin probe 0.5m using TerraSurveyor

Fig 33b Parallel twin probe TerraSurveyor features

0 20m 40m 60m

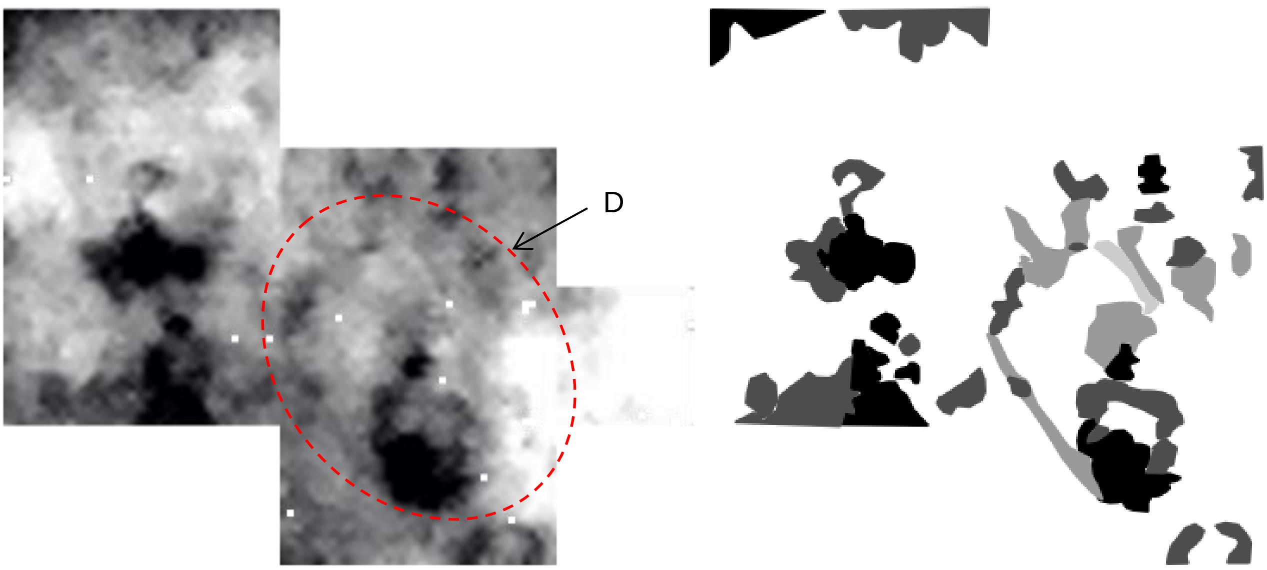


Fig. 34 Twin probe 1.0m

0 20m 40m 60m

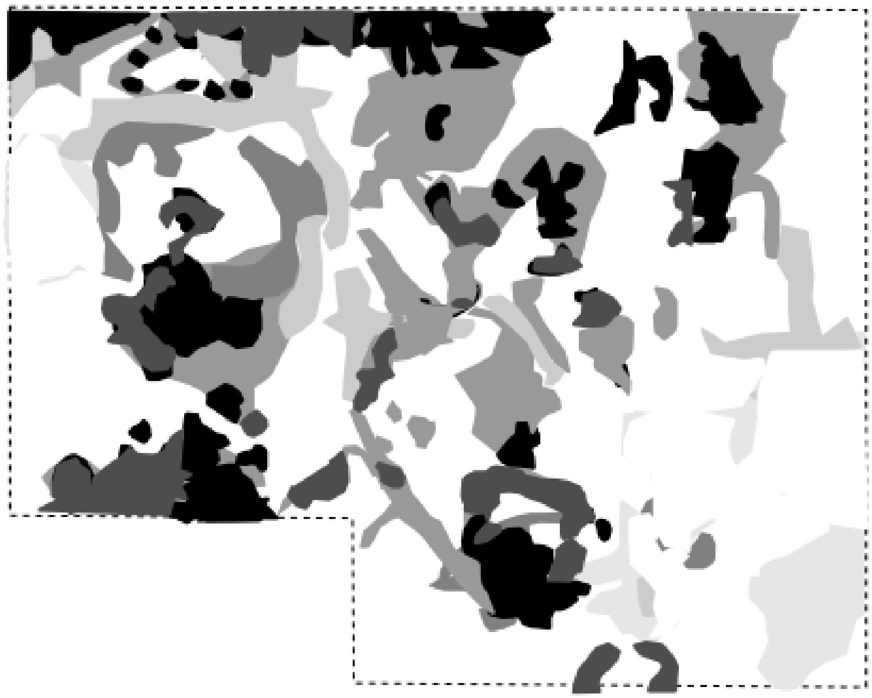


Fig. 35 Combination of all res. features

Combining the graphical representation of all of the anomalies in the resistance surveys, (see Fig. 35) shows that all of the features described become clear with the possible exception of the rectangular feature B. As stated above, the graphical interpretation of the survey where this was most visible was not carried out due to the mismatch of some adjacent grids.

6.3 Combining the survey results

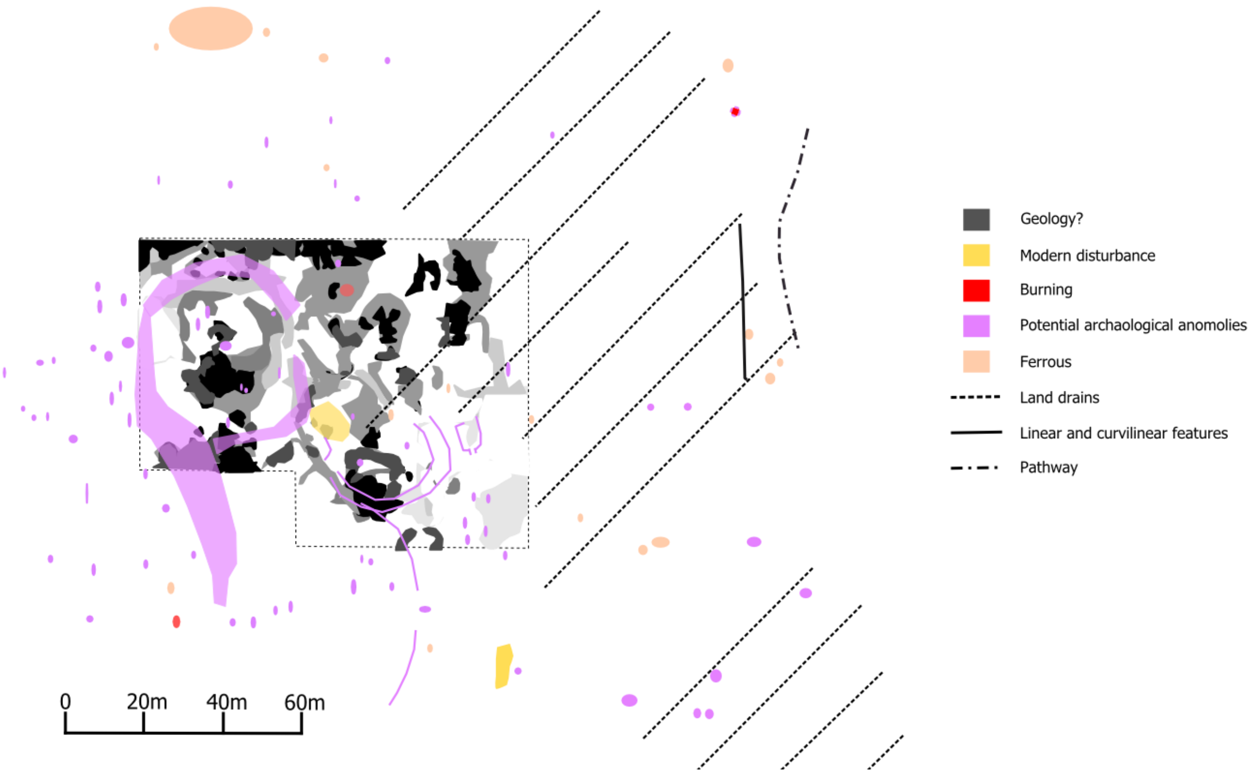


Fig. 36 All Upper Toll Field survey

Overlaying the graphical representations of all of the surveys, shows that there is a clear relationship between at least two of the features previously described. The magnetic survey clearly shows similar shaped features as that of A and D. The magnetic survey results for the sub-circular feature A, follow the line of low resistance seen on the resistance surveys. This reinforces the probability that this is a region of disturbed ground resulting in a variation in the magnetic field and a lower resistance to that of the surrounding area. Both survey techniques show a break in a similar position on the east-facing side which could be an entrance. The magnetic survey seems to have revealed the lower boundary of feature D; it has a similar alignment to the south-west side of the feature and the alignment of the north-east side is also similar if projected.

7.0 Discussion

The results of the geophysical survey are perhaps not as clear cut, as surveys that have been carried out in Hillforts in other parts of the country. Whilst there are several potential archaeological targets, there are few definite responses that can be clearly identified. This is due to several factors, probably one of the most important being the geology of the site. It is a relatively shallow depth of sandy soil, (the current farmer indicating as little as 18 inches depth in some areas), over sandstone. In addition, the agricultural use of the area coupled with the shallowness of the soil would have undoubtedly affected any archaeology not cut into the underlying sandstone. The agricultural use of the field has particularly affected the magnetic survey in Gibbet Field, as it was covered with modern metal litter such as fencing wire and metal tree protection sleeves. The numerous bonfires from burning during its time as an orchard were also very common. When this is combined with the fact that prehistoric archaeology is generally ephemeral in nature, lacking levels of detritus often seen in deposits of later eras that can generate strong signals, the likelihood of the survey producing distinct results carried an attendant uncertainty.

If the archaeology was deeper and resulted in cutting the sandstone bedrock, then it was possible that this could be picked up using resistance geophysics; ditches or pits would show as a lower resistance, particularly if the fill was wetter than the surrounding soil. As resistance survey is very time consuming to perform, it was decided to only use it on selected areas showing possible features using the magnetic scan. If more time and resources were available a complete resistance survey of the area may prove more productive.

When looking for Iron Age features using geophysics, we are particularly looking for curvilinear features which could be boundary ditches or livestock corrals and circular features which would be indicative of roundhouses, either foundation trenches or drip gullies. Large pits should also be looked for but it would be unlikely that smaller pits and post holes would be identified as their footprint would be so small.

The Wessex Hillfort project surveyed many Hillfort interiors, so can be used as a good comparison of what to expect within a Hillfort. Many of these Hillforts are located on chalk but Castle Ditches in Wiltshire (Fig, 37), is one of the few that is on different geology, in this case Upper Greensand. This monument is 9.7ha in area and is a good example of a typical survey (Payne 2006, p103.). This survey is reasonably clean and even though the area had been under the plough, it is clear that archaeology is still preserved, although how much has been lost is not possible to determine.

This survey has little of the surface interference of long term orchard plantations like that found at Oldbury and this has undoubtedly helped in the visibility of archaeological features. The anomalies seen in Castle Ditches are a mixture of circular features, which are probable roundhouses and bigger enclosures, likely to be connected with livestock. These enclosures range in form from reasonably circular to more rectangular. Several of the features overlap, demonstrating several phases of activity. There is also evidence of internal trackways as well as pits.

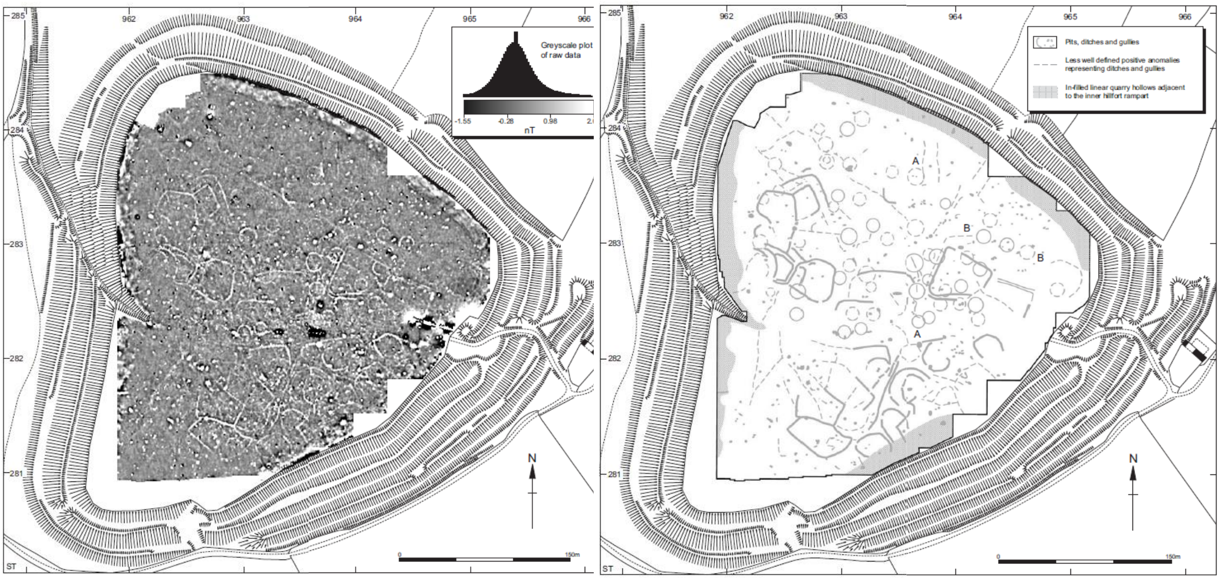


Fig. 37 Wessex Hillforts Project magnetic survey of Castle Ditches, Wilshire

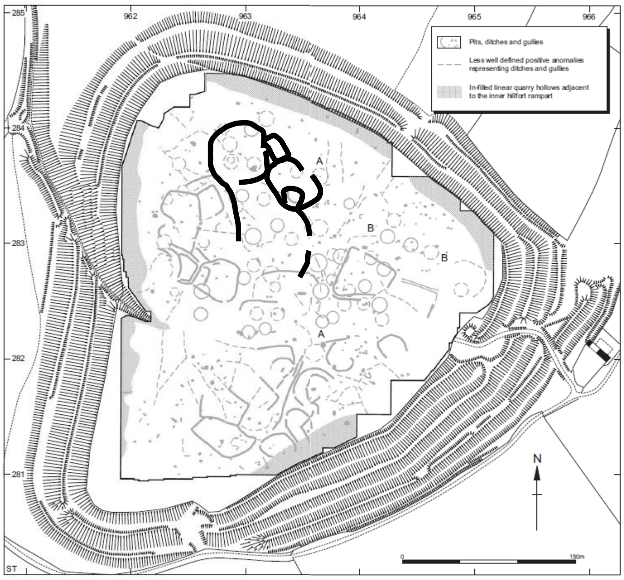


Fig. 38 Features found in Upper Toll Field superimposed on the interior of Castle Ditches, Wilshire

Fig 38 shows that if two of the most visible features in the Upper Toll Field found on the magnetic survey are superimposed into the interior of Castle Ditches, the scale and form of the features look very similar. The geophysical surveys in the Wessex Hillfort project returned very similar features, so the possibility of the anomalies seen in the Upper Toll Field in Oldbury being of an Iron Age origin is high.

Upper Toll Field is probably the most productive field in terms of geophysics anomalies and these are all concentrated in what looks to be a well-defined sub-circular noisy area towards the west of the field (ref Fig. 27 above).

Fig. 39 OS drawing 1798 showing Field divisions of the interior at Oldbury

Although no distinct boundary can be seen, there is a clear divide between the noisy area with features and the quiet area where only the modern land drains can be seen. In addition, the area of noise is on a flatter part of the field with the remaining area sloping towards the stream to the east of the field. The 1798 map (Fig 39) indicates that the Upper Toll Field was divided into several smaller fields; is this a reflection of an earlier boundary system which is now only visible in the magnetic survey?

The smaller sub-circular feature in this area could be a ploughed-out barrow and at 23m in diameter, it is well within the size limitations, but a connection with general settlement features is more likely (Field 2011, p.3).

Kiln Field is closest to the north-west entrance and it was hoped that a trackway from the entrance to the interior of the fort would have been revealed (as seen at Danebury) but this was not seen in any of the surveys (Cunliffe 2005, p.394). A vague curvilinear feature was seen towards the north end of the field (Fig. 4a & b) which looks to be interrupted by two linear features. This curvilinear feature does run along an area of greater noise on the magnetic survey but a subsequent survey of the area using the resistance techniques did not reveal any similar response. Several smaller responses that could potentially be archaeological could be determined but there was nothing that could be positively identified.

To the south of the curvilinear feature on the magnetic survey, was a very peculiar feature identified as “B” on Fig. 4a. The shape of the anomaly is unlikely to be as a result of nature and is probably man made but how or why this was created is impossible to tell without excavation. There is a large high resistance response on the resistance survey which coincides with the + shape on the magnetic survey, with only a vague suggestion of a lower resistance response overlaying the radiating features.

The most striking feature in Kiln Field was found during the magnetic survey undertaken in 2016 and this was a strong linear anomaly running NE-SW in the south-east corner of the field. Over most of the length of this feature there is a double response which could represent a ploughed-out ditch and bank or possibly a trackway. The response also seems to separate an area of noise to the north from a less noisy area to the south. Does this make it more likely that this feature is a boundary rather than a trackway?

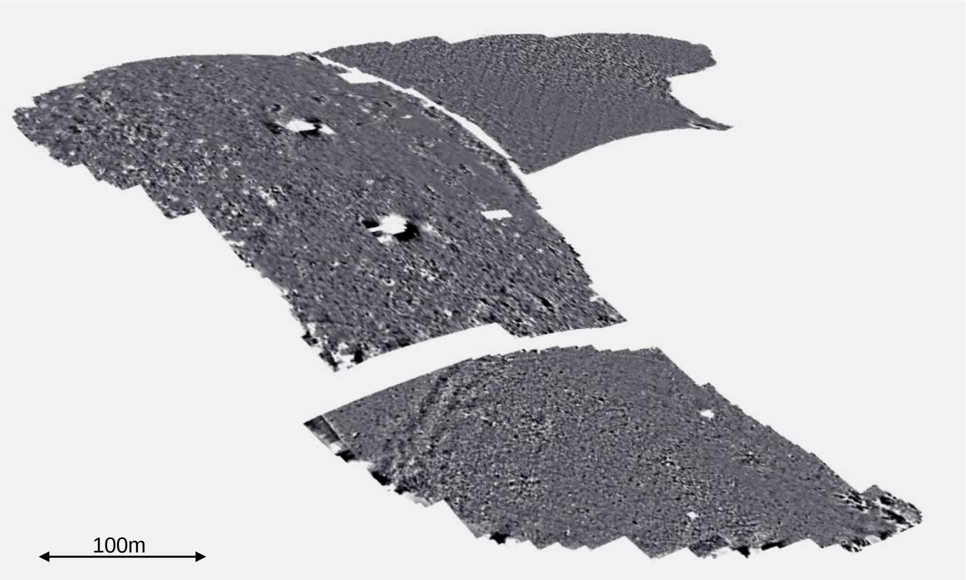


Fig. 40 3D view of geophysics survey (Z axis magnified x 3 for clarity)

To aid visibility of the survey results, a 3D map of the combined results was constructed in ArcScene (Fig. 40). A matrix was made of the grid square points surveyed in at the time when the 20m x 20m grids squares were established. As the height was recorded for each point, it was possible to create a height profile of the fields, which was then used to create a baseline which the survey image could be draped over. This then allowed the total geophysics survey to be rotated and tilted which made it easier to view alignments.

When this survey of Kiln Field was mapped with the other surveys, it was seen that the linear feature in the south-east looked to extend into Gibbet Field; the response is much less defined here and appears to fade after about 70m. The important aspect of this feature is that because it does appear in both fields, it must be older than the ditch which now separates them.

The ground height either side of the ditch is quite marked in places (Fig.41) and demonstrates the antiquity of the boundary, as soil has built up on one side over time. The later field boundary is marked on maps as early as the late 18th century reinforcing its age.

Fig. 41 OS Bank between Kiln Field and Gibbet Field

If this feature was an old trackway, then its alignment to the north-east gate is puzzling, as it looks to intersect the ramparts approximately 80m to the south of the gateway. As it was not possible to survey the modern perimeter road due to the accumulation of large modern farm debris, it cannot be determined if the feature stops at the ramparts (which would suggest a boundary), or if it turns sharply north to join the entrance which would lean towards it being a trackway.

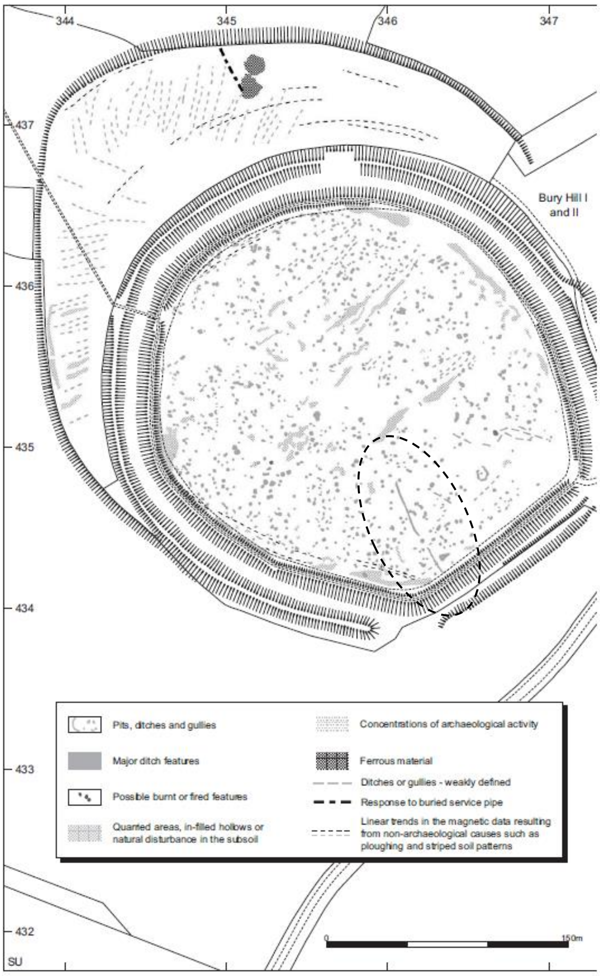


Fig. 42 Magnetic survey features Bury Hill,

A similar feature was discovered at Bury Hill near Andover in Hampshire, (highlighted in Fig. 42) which had the form of a ditch abruptly ending at the ramparts, with no apparent relationship with any entrance way (Payne 2006, p.54). This has been interpreted as a possible internal boundary or the remains of a feature older than the ramparts, possibly a continuation of a linear feature observed in the immediate area. At Oldbury, there are no obvious linear features immediately outside of the ramparts which could be related to the linear anomaly seen on the geophysics, but this area has been subject to major agricultural activity over the years so any older earthwork could easily have been ploughed out.

The magnetic response at Oldbury, does suggest some form of double ditch or bank feature and in its ploughed out form now, it is approximately 20m wide.

Being this width, whatever the feature is, it would have been very visible in the landscape and probably of some significance. When viewing the image from a different angle, it is possible that there is an associated sub-circular anomaly on the north side of the linear feature. The survey results are subject to some interpretation but it is possible that the sub-circular feature has an entrance towards the east which is marked by two lines of dark, pit-like responses.

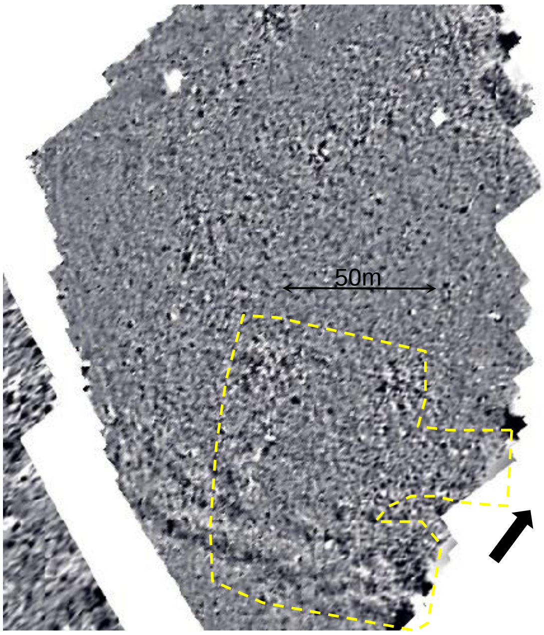


Fig. 43 Kiln Field linear anomaly from a rotated view

The western side of this feature is visible as a noisy response which has a hint of a curvilinear feature. Within the feature highlighted in Fig. 43 there are suggestions of circular responses measuring between 7m to 11m; some are overlapping indicating different phases. Whilst it is possible that these responses are not due to archaeology of the period of interest, they are an encouraging indication of habitation within the ramparts. Considering the difficulties of geology, agriculture and the slight responses expected of prehistoric activity, this area must be a strong candidate for further examination.

The final and largest field that was surveyed was Gibbet Field. This field was cleared of trees early in 2014 and was the most difficult to survey due to the copious brambles, sprouting tree stumps and general trip hazards. The survey was carried out sometimes in wet conditions and even though the field was subject to modern drainage techniques, there were several areas of standing water. In antiquity this probably would have been an issue and may have played a role in the use of the monument. Estate maps of the 1800s give the names of Upper and Lower Water Place to this field, which suggests that waterlogging was an issue before the modern field drains were installed. As already mentioned, halfway along the field there is a change of level suggesting some sort of boundary. A field division is shown in Fig. 39 and looks to be the likely candidate for this level change. The magnetic survey does not show anything unusual at this point, nor does the resistance survey, which was placed over the area to try and pick up anything that the magnetic survey missed. There is an outside chance that this may be a more substantial boundary then a hedge, possibly a ditch and bank, which could have implications as an earlier boundary. To check this, the resistance survey should have been extended slightly north to pick up any ditch at the bottom of the slope. The magnetic survey however should have been sufficient to pick up any ploughed out substantial ditch so the likelihood of this being anything more than a field boundary is doubtful.

There is only one area of the Gibbet Field survey that strongly suggests that there is archaeological activity and that is the area shown in Fig. 14. At this point it is very obvious that there are several deep ruts in the ground, which were not seen elsewhere in the field. This suggested that at this point, there was something below the ground other than the sandstone bedrock, possibly archaeological. The magnetic survey showed a curvilinear feature at this point but it is possible this could have been as a result of the ruts, which, because of their depth, cause a large air gap between the ends of the probe and the ground which affects the magnetic response.

The resistance survey readings seen in Figs. 17 and 18 were taken moving west to east and as the ruts were predominantly north-south, it was possible to insert the instrument probes correctly into the soil giving an accurate reading. The resistance survey shown in Fig. 20 was taken walking from north to south and as the width of the probe array was 1.5m, it meant that at many points along the ruts the central probes did not make a good contact thus giving a high resistance reading. This is illustrated well in Fig. 20 and gives a good indication of the position of the ruts in relation to the surveys. So when the results are overlaid, it is easier to show which anomalies were caused by survey errors due to the influence of the ruts and which ones could be genuine.

Fig. 17 and to some extent Fig. 18, show that there is a low resistance curvilinear response just to the east of the deep ruts. Being a low resistance, this could be caused by a ditch possibly cut into the bedrock, but at 7m wide it would be a substantial ditch and a significant feature that should register via various geophysical techniques, while being of a scale that is consistent with the emphatic character of the outer works of this Hillfort. The image shows that the low resistance response is interrupted, which could indicate a causeway, however, when the magnetic image is superimposed, the break looks to at least in part, have been caused by the course of a modern land drain. There is no indication of this feature in the magnetic survey and with a potential feature of this size it is strange that no trace at all is visible. It could be that the fill of the ditch, as a result of the intensive agriculture, has been churned to an extent that is similar to the surrounding soil, so no magnetic differentiation is visible. This seems to be unlikely over the complete length of the feature and only a more extensive resistance survey or excavation, will prove if it is a purely local response or a larger archaeological feature.

An alternative explanation could be connected to the anomaly revealed in the resistance survey, which was carried out in a north-south direction (Fig. 20). This survey does show a faint low resistance response which matches that seen in Fig. 17 and 18 but the most prominent feature is the very regular low resistance anomaly visible below the ruts. This response has a very similar form to that of WW1 trenches (either practice or genuine, in response to a possible invasion) and similar shapes have been identified in East Kent near Barham and are clearly visible using Google Earth (Fig. 44). The approximate size of the trenches on the Google earth image is around 4m between the two opposite sides and the size of the trenches seen on the resistance survey image are 10m which is much larger. WW1 trenches were constructed to a regular size and shape so it is probable that these are not practice trenches. Pers coms with local historians Victor Smith and Alan Anstee confirmed that the features found could be part of WW1 defences. Similar features have been seen at Old Oswestry Hill Fort and the images show that the zig zag features are not as regular as those seen at Barham, with at least one of the visible zig zags measuring 10m between the opposite sides (Rothwell 2014).

Fig.44 Google Earth picture of WW1 trench practise near Barham,

The two remaining areas that were subject to a targeted resistance survey, were the change in ground level which was a probable field boundary and an area to the south of Gibbet field where a very faint circular feature was seen on the magnetic survey. Apart from a suggestion of a four post structure (see Fig. 24), none of these two surveys produced anything conclusive that could be archaeological. On both results, there were several areas of high and low resistance, which could be geology or formed as a result of agriculture.

8.0 Conclusion

As shown above, there were very few standout responses suggesting archaeology within the interior of the Hillfort, certainly nothing as definite as that seen by the Wessex Hillfort Project at Bury Hill, Hampshire, Castle Ditches, Wiltshire and Segsbury Camp, Oxfordshire. Where results were not obvious, then they have to be searched out and in some instances they are "in the eye of the beholder" and subject to some interpretation. The cleaning of the raw data is critical to this process, as anomalies can be lost and just as equally created, so great care was taken to produce the most accurate reflection of what lies beneath the ground. As the results were difficult to interpret, it was crucial that they were examined from every angle and the creation of a 3D model greatly aided in this process and revealed anomalies that were not easy to identify using a traditional 2D image.

Plotting all of the features on one map (Fig.45), shows that there are discrete areas of potential archaeological activity and this activity, by the size and form of the anomalies seen, is likely to be from the Iron Age period. The one exception is the high resistance rectangular feature seen in Upper Toll Field which is likely to be later in date.

Dominating the results of many Hillforts surveys are the images of roundhouses, sub-circular enclosures and pits. At Oldbury, the visibility of pits is almost impossible due to the contamination of the soil by agricultural activity; enclosure-like responses are seen and parts of potential roundhouses. The latter may not be as visible as on chalk geology, as the building material for the walls could have been stone, which subsequently has been robbed away, leaving only a faint shadow of a drip gulley that is easily removed by ploughing.

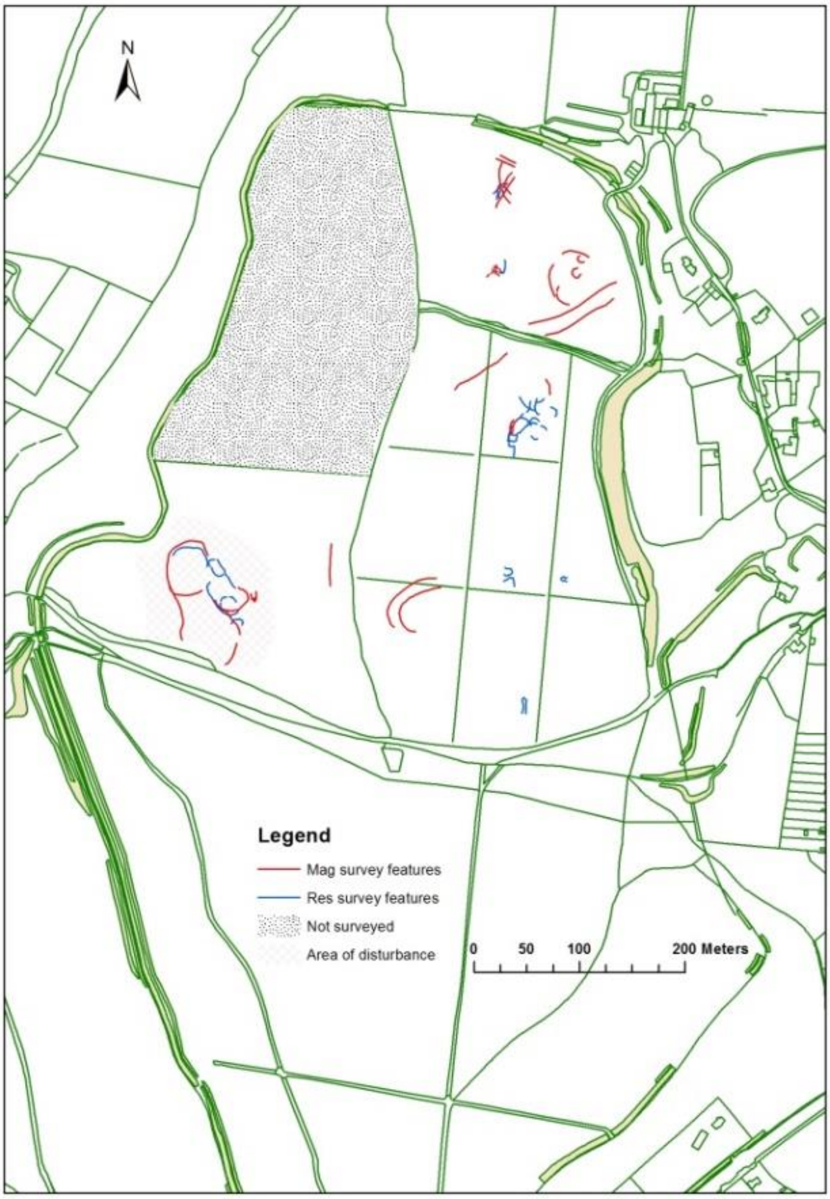


Fig. 45 All geophysics features

The excavations that occurred in the late 1930s and early 1980s, both concentrated on the ramparts and entrances, as was the normal practice through much of the 20th century and the conclusion, based on only miniscule investigation of the interior, from both of the excavators, was that the Hillfort was sparsely inhabited, if at all. What this geophysical survey suggests, is that there is sufficient evidence to show that there is a good potential for Iron Age activity within the fort interior. The nature of that activity is unknown as yet, but now that good targets have been identified, potential future excavation should be able to reveal dates and probable use of this important monument.

Chapter 9 - Oldbury Hillfort Morphology and History

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1.0 Location

The Iron Age Hillfort at Oldbury lies on the eastern edge of a Greensand ridge around 5km east of Sevenoaks in north-west Kent (NGR TQ 581 563). With an area of 50Ha it is amongst the largest enclosed Iron Age earthworks in Britain. A north-south elevation profile of the Hillfort is shown in Fig.1 and illustrates the distinct wedge profile; the northern edge starts at an elevation of approximately 120m and rises to a height of around 185m before sloping down to the south entrance at 175m.

North –South profile of Oldbury Hillfort

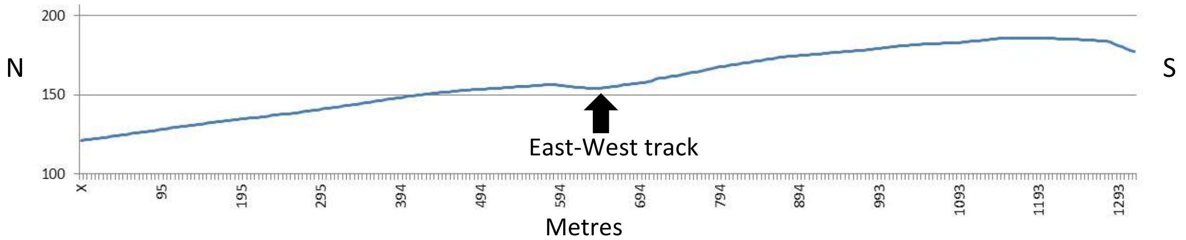


Fig. 1 North – South profile

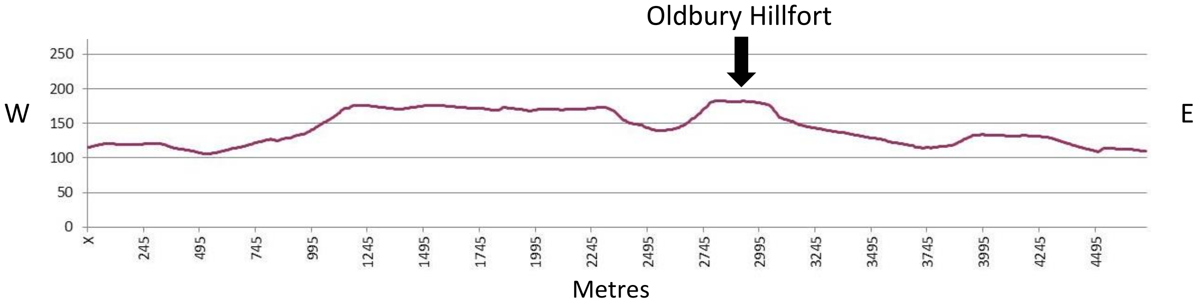


Fig. 2 West - East profile Oldbury

The fort sits on the eastern end of a promontory of high ground, 1800m wide and around 180m in elevation (Fig. 2). This plateau is interrupted by a valley, 475 m wide to a depth of approximately 40m below the plateau height. It is this valley which defines the western side of the Hillfort. To the eastern side of the monument the land dips away for a little over 2km before rising slightly again to approximately 160m. The land then gradually slopes down to the River Medway some 17km to the east of the Hillfort. The River Darent to the west of Oldbury is a little less than 6km away at its closest point and the ancient trackway now called the Pilgrims Way is about 2.5km to the north.

Oldbury is by no means the highest ground in the immediate area; 850m to the south is Raspit Hill at 203m (though with a much more restricted apex compared to the plateau enclosed by the Oldbury Hillfort) and just over 3km to the north is the chalk ridge of the North Downs which rises to 230m.

The agricultural viability of the land in this area is patchy. The chalk downs to the north are topped with heavy clay and flints and their agricultural use is limited, therefore before the introduction of mechanical agricultural equipment, it would have taken considerable effort to cultivate, so most likely would have been limited to pasture at best or used for woodland/pannage (Stirk and Williams 2015, p.7). Oldbury Hill itself is said to have had poor agricultural soil (ibid) and is now only useful with the help of artificial drainage and fertilizers. Bennet in his book *Ightham the story of a Kentish village*, suggests that the land to the west and north of Oldbury was a favourite grazing spot up until the Norman times and it was probably livestock that was the prime agricultural use of the land around the fort (Bennett 1907, p.53). The modern classification of agricultural soils around Oldbury (Fig.3) shows a mixed picture but they are generally not the best.

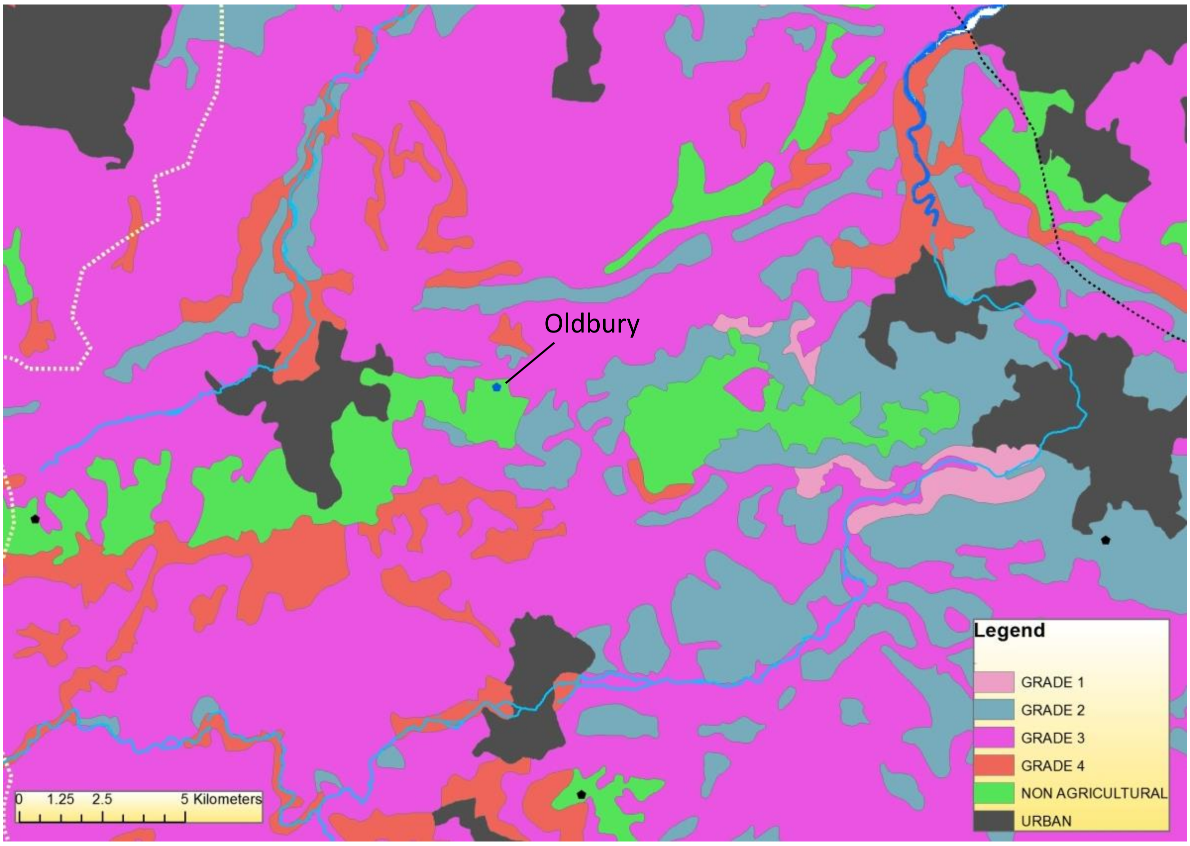


Fig.3 Modern classification of soils (magic.defra.gov.uk)

2.0 Oldbury Early History

Before the excavations by Ward-Perkins in 1938 and Thompson in 1983-4, the site was particularly known for its Palaeolithic rock shelters and associated flint artefacts, made famous by Benjamin Harrison after excavations in 1890 (Harrison 1933, p.149). An article in *Archaeologia Cantiana* 1859 by Major Luard, refers to the site as a camp used by the Romans after their successful invasion in 43 AD but he does acknowledge that its origins were probably British. Maps were still referring to Oldbury as the remains of a Roman Camp in 1870 but by the 1890s this reference had been removed, labelled as Oldbury Camp (Luard 1859, p.2).

A key figure in the early documented history of Kent is Edward Hasted, with his work entitled *The History and Topographical Survey of the County of Kent*. He gives a detailed account of the "Roman Camp at Oldberry" describing its situation on the top of a hill being heavily overgrown by woodland. He describes the shape of the earthworks and its area which he calculates at 137 acres, which is equivalent to 55 hectares; the modern figure quoted is closer to 50 hectares (Hasted 1801, vol.5, p.34).

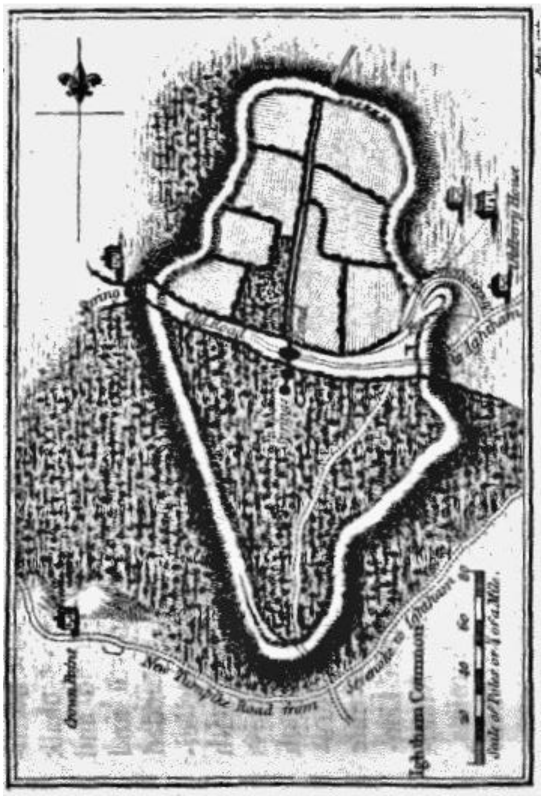


Fig. 4 1798 map of Oldbury Hillfort by Hasted

Accompanying his text is a remarkably accurate drawing (Fig. 4) of the monument, which shows the wooded cover to the south and agricultural use in the northern half. This also usefully shows field boundaries in the cultivated north half which are partially different to today's field layout and this will be relevant when assessing the geophysics response of these fields (Hasted 1801, vol.5, p.1). The drawing also shows what is known as a medieval road which pushes straight through the centre of the monument in an east-west direction. In the centre of the fort by the road, Hasted also shows three, dark, sub-circular features which are probably representations of ponds, one of which exists today.

The agreed original entrances to the Hillfort are to the south and the north-east and the drawing in Hasted does not show these, (only possibly a vague indication of an entrance at the south but no break in the rampart line). But rather it shows very clearly the old medieval pack road that runs east-west through the centre of the Hillfort (Ward Perkins 1939; Thompson 1986). The southern entrance as already stated is suggested, but the entrance at the north-east is not visible. This is curious given the other aspects of accuracy with this map but then possibly these features were not seen as his main priority, and maybe the north-east entrance was not so apparent at the time of Hasted's record.

Reviewing the estate maps of 1800, (Fig. 5) they usefully indicate the names of the field divisions within the northern interior. What is now lower Toll Field was originally named 5 Acre Field and Upper Toll Field was split into 4 separate fields. These were 7 Acre Field, 3 Acre Field, Wood Field and Furze Field Wood. Kiln Field retains its original name and was most likely named after a lime kiln built very close to the north-east entrance see Fig 6. Gibbet Field was split into 3 fields- Lower and Upper Water Place and Gallows Field, which probably explains the modern name of Gibbet Field.

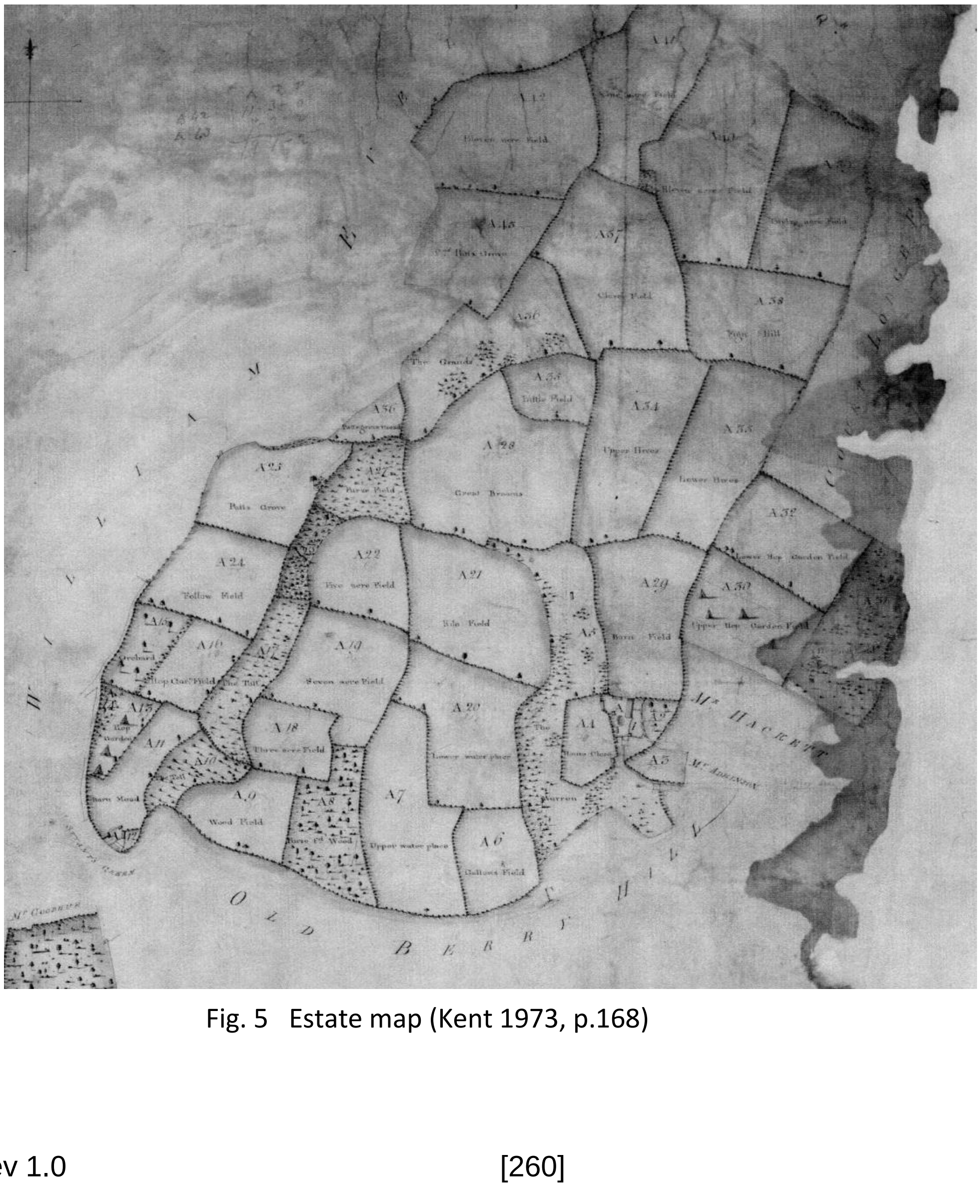


Fig. 5 Estate map (Kent 1973, p.168)

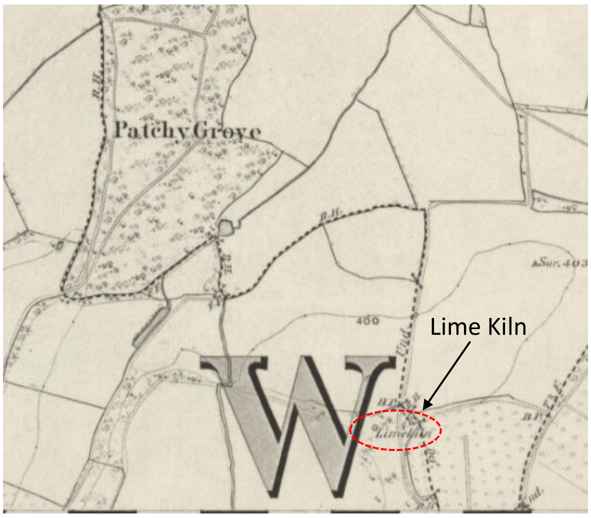


Fig. 6 1871 OS map of Oldbury Hillfort showing position of Limekiln

The names of Upper and Lower Water Place are interesting and may reflect the fact that these areas of the interior were boggy or prone to flooding. Whilst performing the geophysical survey during the winter and autumn, it was noticeable that there were areas of standing water after rainfall, even with the installation of modern land drainage systems. The name could refer to this soil condition or could be related to the spring and stream which runs along the centre of the fort.

2.1 Morphology

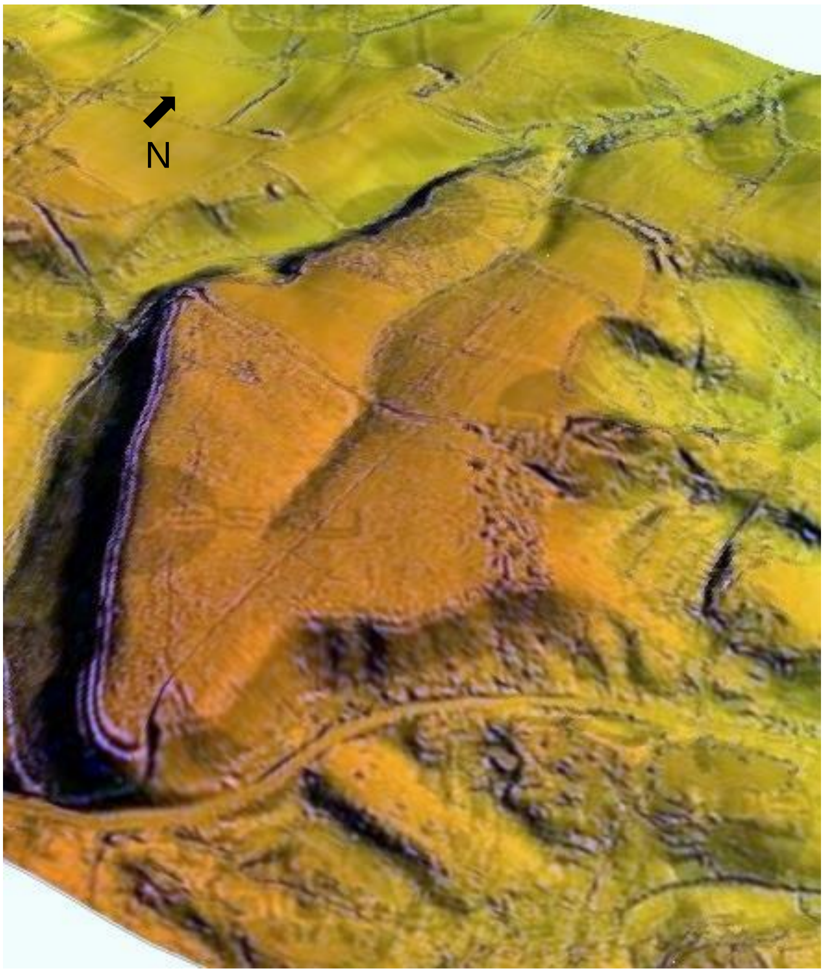
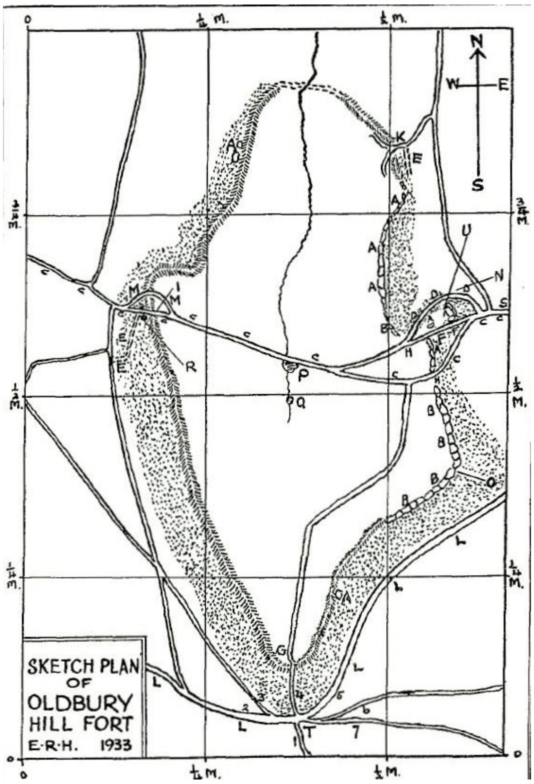


Fig 7. LiDAR Image of Oldbury draped over height contours (Height magnification x3 for clarity). Sample LiDAR from Bluesky (Bluesky International Limited 2016)

As can be seen by Figs. 1, 2 and 7 the morphology of the Hillfort that is visible today is dictated to some extent by the natural shape of the sandstone ridge and this was highlighted by Ward-Perkins (Ward Perkins 1944, p.128). The possibility however of a smaller complex pre-dating the later fort cannot be ruled out. Apart from the now slight form of the ramparts at its northern end, the rest of the defences are generally impressive in their scale and take full advantage of what nature created. The eastern side of the fort would have been protected in part by a rock outcrop likely to have been a cliff of over 45° slope creating a formidable barrier but unfortunately much of the rock has been quarried away during the early part of the 19th century (Harrison 1933, p.160). The target material was a particularly hard sandstone known as Oldbury stone, it being confined to a very specific area at Oldbury, Raspit Hill and Seal Chart (Harrison 1933, p.147). The stone was taken to London for road construction and records show that it was used in the building of the Edgware Road (Harrison 1933, p.147). There are several quarries particularly concentrated on the south-eastern side of the monument. Some have targeted the sandstone and others probably the loose sand of the Folkestone Beds below (Oswald 2016, p.17).

The Hillfort now has five breaches in the line of the ramparts: one in the north-east, one in the south, one to the west and two to the east. The openings at the north-east and the south are the agreed original Iron Age entrances. About halfway along the length of the fort (see profile see Fig. 1) there is a slight levelling; this is the line of a route way which bisects the interior of the Hillfort. It is thought that the entrance to the west and one of the entrances to the east were as a result of this track which was thought to have been constructed between 900AD and 1100AD, pushing through the centre of the monument.



EXPLANATION OF PLAN, AND NOTES.

Not all the roads and tracks shown are public ways.
Earth-works shown by hatching.
Steep slopes shown by stippling.
A : Line of existing rocks.
B : Line of destroyed rocks.
C : Old highway, probably Roman.
D : Prehistoric way.
E : Tracks, possibly pre-historic.
F : Footpath.
G, H, I, K : Entrances to Fort.
L : New (18th century) road, which displaced C.
M : Farm Road.
N : Approximate site of excavation, 1890 (Rock shelter tools found).
O : Site of destroyed cave.
P : Waterflash.
Q : Pool behind Waterflash.
R : "Cæsar's Well."
S : Oldbury hamlet.
T : Seven Wents. The seven ways are numbered.
U : Mount Pleasant.

Buckwell, the swimming pool, Rose Wood, etc., are outside the limits of the plan.

The plan is divided into quarter-mile squares.

Fig. 8 Map by E. Harrison 1933 of points of interest at Oldbury

This construction, resulted in the ramparts (particularly in the west), being damaged, as it was required to level out the line of the ditch and banks for ease of access (Stirk and Williams 2015, p.32). Edward Harrison thought that the east-west breaches in the rampart were Roman in origin with perhaps the route marked D in Fig. 8 being of a prehistoric phase, possibly before the creation of the ramparts (Harrison 1933, p.156).

The OS drawing of 1798 (Fig. 10) does not show the rampart outline of the southern half of the fort, only the northern half and shows only the entrances at each end of the east-west road. As stated in section 3.0, Hasted only indicates one actual gap in the ramparts which is to the east but it also indicates route ways which are drawn as lines over the ramparts, in the east, (south of the rampart gap) to the south, as well as to the west but nothing to the north-east.

The road to the east looks to exit the ramparts in two places, one which appears to be the continuation of the main track way and heads off towards Ightham and the other, is an additional loop of road to the north of this exit. This appears to go through a clear break in the ramparts. Hasted's map suggests that the original entrance way goes around the north of the promontory Mount Pleasant, as does that of the map by Harrison (Fig. 8).

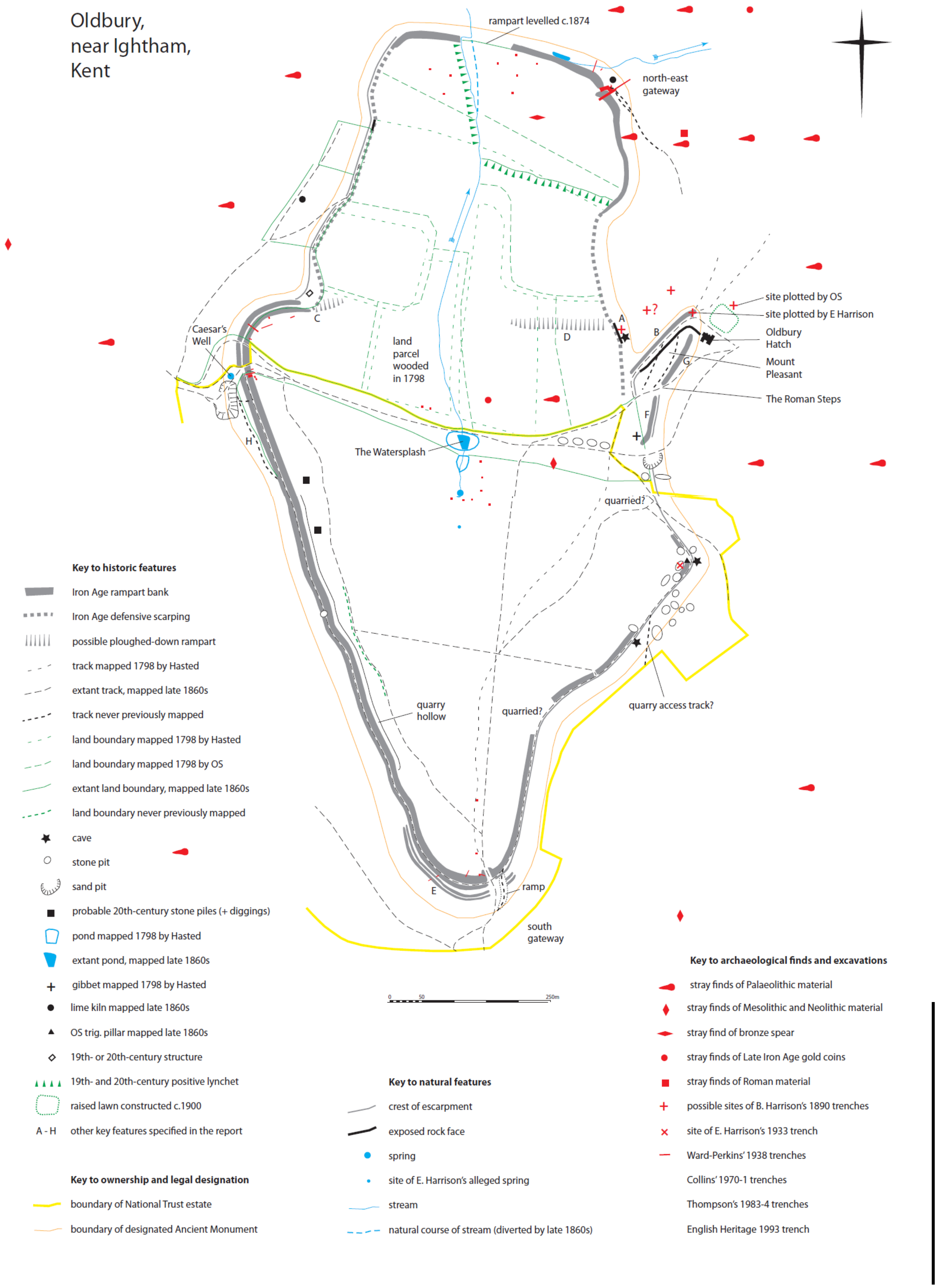


Fig. 9 2016 survey of Oldbury by A. Oswald

Fig. 10 OS Drawing of Oldbury dated 1798

The OS Drawing of 1798 (Fig. 10), appears to indicate that the main marked C in Harrison's map (Fig. 8) and is the more southerly of the two easterly entrances. This also seems to be the case in Hasted's map, with the main Ightham Road being marked as the lower entrance. Although steep, this could be an original entrance and the steepness is likely to have evolved with time, hastened by the more recent quarrying activities. The nearby promontory of high ground to the north, known as Mount Pleasant, could potentially form a natural outworks exploited by the Hillfort builders.

The rampart at this point is slightly in-turned according to the 1961 survey by Philips but the opposite rampart has been quarried away, so it is not possible to tell if the rampart took a similar trajectory.

Examination of the rampart breach at the west end of the trackway does not show any indication that the earthworks have been added to or modified, suggesting an original entrance. The survey of the area in 2016 by Alastair Oswald concludes that it is likely that the west breach is a later feature and at the east, there is a possibility of an original entrance but it is not possible to say for certain with the evidence seen so far (Oswald 2016, p.16).

A profile (approximately in line with the existing ramparts) was drawn, of the two hollow ways at the east rampart breach. The shallower profile A) in Fig. 11 was of the more northern hollow way and is what is referred to as the Roman Steps. Profile B) is of the more southerly breach. It is clear that the lower profile is much wider and deeper, and if this occurred with just the normal erosion due to through traffic it could suggest an earlier date, although the possibility of it being widened for the ease of moving quarry materials cannot be ignored.

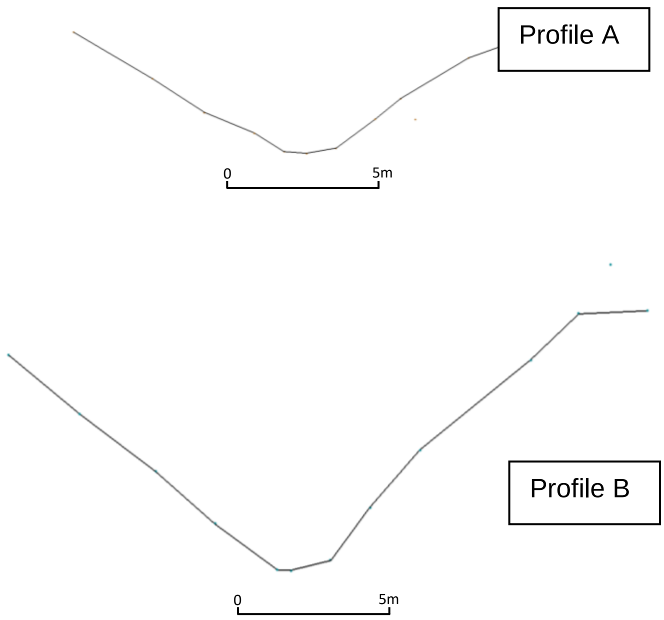


Fig. 11 Profiles of the hollow ways at the east of the Camp

The southern entrance, like several areas around the fort's perimeter, suffered from modifications in the recent past and was deepened sometime in the early 20th century to decrease the gradient (Harrison 1933, p.156). This would have greatly affected the archaeology in this area. Entrances and their associated ditches are generally an important and abundant location for archaeological artefacts. Ward-Perkins shows that the terminals on either side of the entrance are in a reasonable state, with the western bank showing more of the in-turn expected of an entrance terminal; this was confirmed by Oswald in his 2016 survey (Ward Perkins 1944, p.134).

Both Thompson and Ward-Perkins in their plans, show an additional ditch and bank outside of the main ramparts, just to the east of the south entrance and they both investigated it as part of their excavation strategy. Oswald in his survey of 2016, found signs of the ditch and bank continuing past the entrance opening for a few metres. He concludes that this could have been an effort to strengthen or embellish the south entrance (Oswald 2016, p.15). It is probably more likely to be the latter as he states that the earthworks are slight.

The north-eastern entrance is flanked still by impressive ramparts and is now the main entrance used by Manor farm, to access the land in the interior of the Hillfort. Consequently, it has been modified and damaged over the years but its form remains;

it was also in this area that the Lime Kiln was situated giving its name to Kiln Field, the field to which the entrance provides immediate access.

Ward-Perkins initially suggested that the fort was built sometime in the early part of the 1st century BC, with a remodelling of the north-east gate sometime in the early part of the 1st century AD, in response to the Claudian invasion (Ward Perkins 1939, p.142). It is very likely that he got the idea of the fort's potential history, from the article by Sir Edward Harrison in the 1933 edition of *Archaeologia Cantina,* which suggested that the fort had a Belgic origin based on finds of coins and a glass bead (Harrison 1933, p.158). After excavation, Ward-Perkins revised the date of the initial construction to the start of the first century AD but kept the remodelling phase the same, at around the Claudian invasion (Ward Perkins 1939, p.169). He suggests that the refortification of the north-east gate, consisted of a rebuild of the existing bank and ditch and the construction of an additional outwork in the front of the entrance, with a change to the original alignment of the gateway (Ward Perkins 1939, p.153). He also suggested that a flat-bottomed ditch was part of the later remodelling but its wide shallow construction had little defensive value (Ward Perkins 1939, p.149). He linked this ditch to recent work in France by Wheeler excavations at Fécamp in Normandy, where he also identified a flat bottomed ditch in a pre-Caesarean context which does contradict the Ward-Perkins view that it was closer to a mid-1st Century AD construction (Wheeler and Richardson 1957, p.62). Ward-Perkins recovered Roman mortarium pottery (not drawn or described in the report) from the body of the rampart, as well as a fragment of quern from which he deduced that this must have been around the date of construction, citing that Roman pottery of this type did not reach this part of Kent until around the time of the Caludian invasion. He also discovered two cremation urns inserted into the rampart which he describes were in cordoned Belgic vessels; he states that they were inserted after the bank was constructed (Ward Perkins 1939, p.152). He also describes finding numerous slingshot stones and evidence of burning of the north-east gate (Ward Perkins 1939, p.148).

Thompson, in his 1984 excavation report, disagreed with the interpretation by Ward–Perkins suggesting that the Roman pottery was as a result of later Roman activity, in association with the robbing of stones, which made up the rampart revetment and general quarrying. He recovered Samian Ware and other pieces of Roman pottery from a similar context (Thompson 1986, p.275). Thompson states, that later examination by Mr David Kelly F.S.A. of the pottery recovered by Ward-Perkins, places it at a later date (mortarium late 1st century AD), well after the invasion by Claudius. Thompson also indicates, other mortarium pottery, recovered behind the stone revetment described in the archives of Ward-Perkins but not published, identified by Mrs. Hartley, as dating from AD240-400 (Thompson 1986, p.276). Thompson also found what he termed as sandstone quarrying on the north-west side of the outer bank, from which he recovered sherds of pottery from the mid-1st century AD to the 3rd century AD (ibid).

Thompson is also dismissive of the suggestion that the flat-bottomed ditch is in any way similar to the defences that Wheeler found at Fécamp, stating that the defences at the latter were part of a structure flanked by large ramparts (Thompson 1986, p.276). He also states that Wheeler's work at this time, exercised a "mesmeric influence" on excavators in the south-east, implying that Ward-Perkins' thinking was heavily influenced by him.

Subsequent excavators rarely agree with their predecessors – if they did it may make their campaign seem irrelevant. Thompson also opposed Jessup and Cook at Bigbury and so one has to be very careful to take the evidence available at first principles and not follow any interpretation, unless it is founded on an evidence base. In truth neither Ward-Perkins nor Thompson had sufficient evidence for a firm dated interpretation of the sequences they recorded.

The perimeter of the Hillfort is a little over 3.5km, enclosing an area around 50ha. The majority of the encircling ramparts are substantial earthworks and there is an area along the eastern flank where the natural steepness of the land and probably exposed rock was utilised. Approaching the fort from an easterly direction, this area of the ramparts is very visible and a steep rocky face would have been very impressive.

The south-west side of the fort has the best preserved ramparts and according to Oswald there are two banks and associated ditches, with the outer ditch reduced now to a very narrow shelf. He further states that the external face of the rampart is 1.8m to 2.5m high, which would have made an impressive perimeter to the Hillfort (Oswald 2016, p.13). If this was topped with a palisade, or the bank was stone revetted, then this would have been a formidable sight.

The ramparts continue northwards and are interrupted by the breach for the east-west track way. There is a sharp in turn, just to the north of this point and then the rampart bank continues northwards but the ditch has been utilized as a trackway and appears to have been levelled. Oswald notes that there are the remains of a rectangular building close to this point. During the geophysics survey, one of the local dog walkers suggested that it may relate to WW2 but no evidence has been found. Further along, the area to the west of the ramparts is called The Toll and the OS map of 1872 shows the site of a Lime kiln; the flattening of the ditch may have been connected to the access of this facility.

Towards the north of the monument, the ramparts turn east to meet the gate in the north-east. The ramparts at this point are much degraded but the large ramparts around the north-east gate which exist today, suggest a much greater defensive feature at the time of construction. In antiquity, the area was known locally as Wallehacch (wall-hatch) (Harrison 1936, p.191). This is consistent with the 19th century records which seem to provide confirmation that the ramparts were formerly more impressive. Scott-Robinson in his article on Oldbury in the 1874 volume of *Archaeologia Cantiana,* when describing the north end of the Hillfort states, "*here we find a huge wall like mound which extends along the northern boundary and turns someway down the eastern side*" (Scott Robinson 1874, p.liv). Harrison says these were ploughed away, being reduced by a tenant farmer in 1865, although not enough to obliterate the original line (Harrison 1933, p.155).

The stream that runs from the ponds in the centre of the Fort and which is also fed by the run off from the northern fields, exits the monument through the north ramparts. Modern and old maps show that the stream takes a sharp east turn before continuing north as it passes through what was the line of ramparts. It is entirely possible that this follows the line of an external ditch and a linear shaped pond, 80m to the west of the north-east entrance, could also make use of the same feature.

3.0 Interior

The present day interior, is heavily wooded at the southern half and until very recently, covered in orchards at the northern half. This combination of agriculture and woodland, appears not to have changed in at least 200 years, according to old maps depicting the fort (Fig.8) and pers comms with the National Trust warden Richard Young, who suggests that there are very few trees of significant age at the southern half. This could mean that the area was used for timber or coppice wood, where trees were harvested when a suitable age had been reached. The removal of large quantities of wood that this implies, is likely to have occurred through the southern entrance and this may be the explanation for its widening in the earlier 20th century (cf. above). Along the northern edge of the east-west track there is a ditch and evidence of pollarded trees, indicating a boundary of some age.

A striking feature of the interior at Oldbury, is a major spring at the centre of the monument, which flows into an area of standing water. About halfway along the east-west track that runs through the centre of the fort, is a spring fed pool called the Waterflash (Harrison 1936, p.195). It could also have been termed the Watersplash with the "s" being confused with an "f" as it is depicted in earlier times (Oswald 2016, p.18). Watersplash would make a more appropriate term if Hasted's depiction of the pond is accurate and it overlays the east-west track.

Hasted shows three areas which could be standing water; the more southerly is very likely to be the actual spring with two ponds to the north. The OS maps of 1872 only show the larger more northerly pond and that is the configuration of the pond today. Edward Harrison refers to the standing water at this location, stating that the main pond is fed by "feeble" springs and a small stream from the south (see Fig. 6) (Harrison 1933, p.143). The small stream seems to have as its source the feature that Harrison refers to as a "little circular pool". This looks to be the spring source which Harrison says was hollowed out sometime in the early 20th century (ibid). Harrison also states that the pond may be of any age but suggests that it was specifically created to water horses, when the nearby trackway was used as a thoroughfare through the fort. There are several springs in the vicinity of Oldbury and the small road that runs along the side of the eastern ramparts is called Spring Lane.

A spring of this nature within the interior of a Hillfort would have been significant during the Iron Age, not only as a practical element for providing water for people, livestock and industry, but because water had a special meaning during this era. It is likely that this may have been a factor in the choice of location for the construction of the monument. Ward-Perkins was likely to have had this in mind when he placed several test pits around the springhead (Ward Perkins 1944, plate xxiii). Unfortunately, Ward-Perkins does not reveal his purpose for these test pits, nor any finds that he may have made.

The standing water from the pond is drained by a stream which runs north through the centre of the monument and out through the northern ramparts. The depth of the land formation which the stream runs through, suggests that this is an ancient stream. Its flow in recent times, is now supplemented by the emptying of the modern land drains.

4.0 Archaeological finds

At the southern end of the hillfort, there is a junction of several paths which is called Severn Wents, the term Went meaning track or roadway in old English (Skeat 1874, p.110). The southern entrance of the Hillfort opens onto Ightham Common and in 1857, Bennet suggested that this contained several burials which were disturbed when work was being undertaken on the common. He does not indicate the age of the burials nor if there were any grave goods recovered but he states that this information was from Benjamin Harrison, who described the burials as “stone cists” (Bennett 1907, p.53). It is likely that the confluence of these routes at this point is not accidental and it is probable that the construction of the Hillfort was in some way connected to the control of these lines of communication. Whitney believes that these are Iron Age iron roads, bringing iron out of the Weald with Oldbury, which was then in a position to control the trade (Witney 1976). There is no doubt that the southern end of Oldbury seems to be a junction of several roads and it is very possible that this is a result of geography, it being the most convenient passing place around the Greensand Ridge in which Oldbury sits. The possibility that it is a focus of ancient route ways needs more evidence.

As well as detailing the graves at the south entrance, Bennet also lists several finds that were recovered in and around the Hillfort. He says that three gold coins with a chariot pattern were recovered and in the northern slope of the hill at Kiln Field one bronze spear head and pottery sherds were recovered. No dating of the latter was suggested (Bennett 1907, p.54).

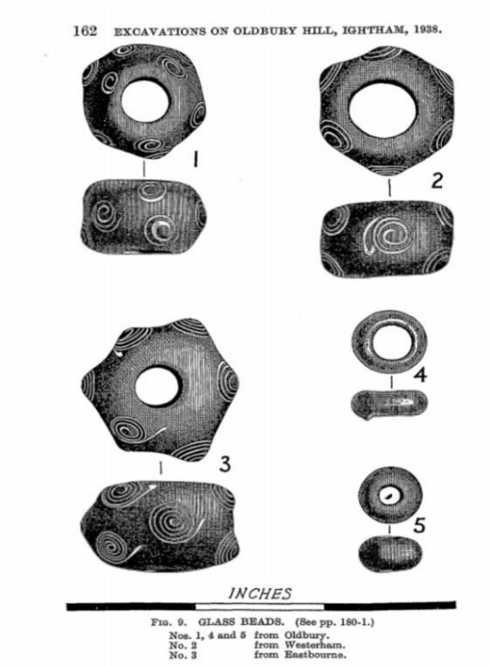


Fig. 11 Glass beads (Ward Perkins 1939, fig.17)

Apart from the pottery recovered from the two excavations, very few finds were reported. Thompson reported a few flint finds and some sling stones and Ward-Perkins reported the recovery of three glass beads, a fragment of quern stone, a whetstone (probably medieval) and several sling stones (water rounded pebbles) (Thompson 1986, p.284; Ward Perkins 1939, p.181).

Bead no. 1 is a blue glass bead with whorls of white, which was found in a fox earth below Styant’s Bottom, to the west of the Hillfort. Bead 4 is an amber bead unstratified in the section by the north-east entrance. Bead 5 was is a small bead of dark blue glass but its location was “unassociated” (ibid)

Fig. 11 found in the Ward-Perkins excavation report, illustrates the beads found at Oldbury compared with similar beads recovered from elsewhere. There are several similar beads on the Portable Antiquities Scheme database and the example in Fig. 12 is taken from the Later Prehistoric Finds Group newsletter issue 4 (Foulds 2014, pp.7-8). The Article by Dr. Elizabeth Foulds discusses the recent (2014) find of the bead in London. The article states that this type of decorated bead has been classified in Margaret Guido’s (1978) catalogue, as class 6 “Oldbury” type (Guido 1978). The article states that several similar beads have been found in England, many being chance finds and a few by excavation. This makes dating difficult; she does suggest that a later Iron Age date is appropriate but this is not secure (Foulds 2014, p.8).

Fig. 12 Glass beads Oldbury type 6 example from London (Foulds 2014, p.7)

Plotting the Kent HER finds (Fig. 13) shows that in the immediate area of the Hillfort the majority of the coins are gold. This is backed up with data from the Portable Antiquities Scheme but it is clear (as expected) that the majority of the PAS finds have been incorporated into the HER database. As can be seen from Fig. 13 there is a large concentration of coins in the field to the north-east of Manor Farmhouse. In December 2015, a further 16 Iron Age Gold coins were discovered in a field close to Ightham with a further similar coin found in April 2016 (Elvin 2016). The exact find location is not yet published but the detectorist who found them is known to detect the fields to the north of Oldbury (pers comm David Holman).

Fig. 13 Distribution of IA coins, pottery and settlements close to Oldbury

An expert in the coinage of Kent is David Holman and table 2 below is an extract from his database of the Iron Age coinage found in and around the Hillfort at Oldbury. There is a relatively large concentration of single coin finds, possibly indicating that the footfall was great. The highest concentration appears to be close to the north-east gate. Does this indicate that this was a main thoroughfare into the interior of the fort or is it simply that this is an area more suitable for metal detecting (outside the Scheduled Monument where detecting would be permissible, as opposed to the interior)? The reporting of coins that were not made from precious materials was poor in the past but even with that in mind, many of the coins recovered were gold which could indicate that the site was an area of some importance and status.

Provenance	Tribe	Reign	Metal	Hoard?	Location if known	Dates (+/- 10yrs)
IGHTHAM, KENT	AMBIANI	-	Gold			c.58-54 BC
IGHTHAM, KENT	CANTIACI	UNINSCRIBED	Gold			c.45-25 BC
IGHTHAM, KENT	CANTIACI	DUBNOVELLAUNOS	Gold			c.25-5 BC
IGHTHAM, KENT	CANTIACI	DUBNOVELLAUNOS	Gold			c.25-5 BC
IGHTHAM, KENT	CANTIACI	DUBNOVELLAUNOS	Gold		North of hillfort, nr railway line	c.25-5 BC
IGHTHAM, KENT	CANTIACI	UNINSCRIBED	Gold			c.45-25 BC
IGHTHAM, KENT	TRINOVANTES	DUBNOVELLAUNOS	Gold			c.25-5 BC
IGHTHAM, KENT	CANTIACI	UNINSCRIBED	Gold			c.45-25 BC
IGHTHAM, KENT	CANTIACI	UNINSCRIBED	Struck Bronze		NE of hillfort	c.45-25 BC
IGHTHAM, KENT	CANTIACI	UNINSCRIBED	Gold			c.45-25 BC
IGHTHAM, KENT	TRINOVANTES	TASCIOVANUS	Gold			c.20 BC - c.AD 10
IGHTHAM, KENT	CANTIACI	UNINSCRIBED	Gold			c.45-25 BC
IGHTHAM, KENT (MAINFIELD)	AMBIANI	-	Gold			c.58-54 BC
IGHTHAM, KENT (IVES FIELD)	AMBIANI	-	Gold			Mid 2nd century BC
IGHTHAM, KENT (near Oldbury)	MORINI	-	Gold			c.65-55 BC
IGHTHAM, KENT (OLDBURY)	MORINI	-	Gold		Below east side of hillfort	c.65-55 BC
IGHTHAM, KENT (OLDBURY)	AMBIANI	-	Gold	H		Mid 2nd century BC
IGHTHAM, KENT (OLDBURY)	AMBIANI	-	Gold			Mid 2nd century BC
IGHTHAM/OLDBURY, KENT	TRINOVANTES	ANDOCO	Silver		NE side of hillfort?	c.10 - 1 BC
OLDBURY, KENT	AMBIANI	-	Gold			c.58-54 BC
IGHTHAM	CANTIACI	UNINSCRIBED	Gold		Listed as TQ558570, possibly should be 588570?	c.45-25 BC

Table 2 List of IA coins found at Oldbury reproduced by kind permission of David Holman

Three of the coins are from the mid 2nd century BC but the vast majority are from the latter half of the 1st century BC. Although little can be inferred from the dates, as the date of loss is unknown, a fort construction date before the end of the millennium is likely and so favours Thompson's view of the construction of the monument.

5.0 Discussion

An Iron Age Hillfort the size of Oldbury demands a much more thorough investigation than has previously taken place. Investigations by Thompson and Ward-Perkins both suggested that there is little evidence for any activity within the interior and both came up with different dates for its construction. Ward-Perkins on the evidence he recovered mainly from the north-east gate, has suggested an initial construction date of the start of the 1st century AD with a reconstruction in response to the Claudian invasion in 43AD (Ward Perkins 1944, p.153). Thompson, with perhaps the benefit of more accurate dating techniques but generally on a reinterpretation of the morphology of the north-east gate and his assertion that the Roman pottery recovered was as a result of Roman stone robbing and quarrying activities, suggested a construction date in the early 1st century BC (Thompson 1986, p.277).

As well as the construction date being debateable, the purpose of such a vast monument is equally unknown. Its label as an Oppidum is based generally on its late Iron Age date and its scale, but to date, evidence for some proto-urban or administrative function has only been hinted at with the discovery of the Iron Age gold coins.

The ramparts around most of the Hillfort would have been impressive, especially on the east side where exposed rock would have defined stretches of the rampart. It is possible that sections of the ramparts were faced with stone blocks, maybe in an effort to continue the effect of the exposed rock face, which would have enhanced the eastern façade and was probably quarried out in creating the circuit ditches. The very disturbed line of the ramparts on the south-east side and their almost total removal at some points, Oswald suggests, could indicate that it was a ready source of stone, robbed in subsequent eras (Oswald 2016, p.19). There are also several readily identifiable quarry pits in this area and Oswald also suggests that where there are no quarries, the natural land surface does not appear to be altered, giving the possibility of a purely stone rampart at this point.

The suggestion by Thompson that the ramparts may have been unfinished is also discussed in Oswald's report (Thompson 1986, p.271). He points out that the morphology of various stretches of the ramparts is different. The ramparts on the south-western side are very regular, as are the ramparts straddling the north-east gateway. Elsewhere the ramparts do not show the same precision or regularity which he states could be due to differential damage by ploughing and quarrying, or could be as a result of a phased construction. He also suggests the land height differential in Gibbet Field as a potential ploughed out rampart (possibly of a smaller enclosure). The geophysics evidence (see chapter 8) does not show any underlying feature that could be taken as a ploughed rampart. The height change extends from close to the eastern ramparts until about the middle of Gibbet Field, which is a similar course of the field boundary recorded by Hasted. There is an issue of position, as Hasted's map shows the field boundary in a slightly different position, approximately 40m north of the height difference but this may be a reflection of his accuracy of the field boundaries. His position of the central stream is also about 35m away from its actual position, in places indicating that possibly he concentrated his accuracy on the fort perimeter which follows the more accurate modern maps well.

The ramparts at the north of the monument, as already discussed, are now much slighter than anywhere else on the perimeter and in some places completely ploughed away. The route of the central stream is through these ramparts and would make an already vulnerable area even more exposed, if indeed protection was a reason for the construction of the Hillfort. It is possible that the area immediately north of these ramparts, was protected by other means. The ramparts were probably complemented by a palisade or hedge but the defences could have been supplemented by maintaining a marshy area fed by the stream. Additionally, as already discussed in Section 4.0, there is a high potential for a flooded ditch in front of the bank and thus this would have made an effective barrier.

The core of the northern ramparts produced a potentially important piece of dating evidence, which is the recovery of a piece of quern stone reportedly made from a 'pebbly conglomerate' (Scott Robinson 1874, p.liv). Additionally, Harrison also discovered several other fragments of the same material at various points in the area (Bennett 1907, p.53). Curwen in his article *"More about Querns"* in Antiquity, refers to a Puddingstone quern from Oldbury and suggests that it is a rotary quern probably manufactured in Hertfordshire (Curwen 1941, p.20). It is not clear if he actually saw the fragment and he gives no indication, if he did, of where he saw it. Although the accurate dating of querns appears to be problematic, as many are not closely provenanced (Pers Comms Dr. E. Blanning), the perception seems to be that puddingstone querns date from the start of the 1st century AD (Major 2004, pp.2-4). This would not be inconsistent with Ingle's assessment in discussing the important corpus of quernstones from Hunsbury Hillfort (Ingle 1994, pp.31-32). Green in his forthcoming article, states that French puddingstone, which is an earlier product than the British stone, was imported into the south-east in the LIA and he further suggests that puddingstone querns found south of the North Downs are likely to be French (Green In preparation). It is also possible that the material could have come from Worms Heath in Surrey and Kent has several such (apparent) examples. The possible dates of manufacture are again not precise but look to be earlier than that produced in Hertfordshire. The advice from the experts is that without a confirmation of the material, the fragment should not be used to date the rampart, not least as it may be part of a later repair. A later date, if eventually confirmed, would tend to bear out Ward-Perkins' conclusion of an early AD construction and slightly later modification.

The possibility of an original entrance at the east side is an intriguing one. As previously discussed, the breach in the west is probably a later feature but the breach in the east, can potentially be argued to be original. The size and shape of Oldbury, is dictated by the physical character of the land, with the builders making the best use of the natural features available. The outcrop of land to the east which is called Mount Pleasant, from Oswald's survey, is incorporated within the ramparts and potentially forms a natural protection overlooking the entrance to its south. The ramparts at this point, have been damaged by the ravages of quarrying but the survey in 1960 managed to pick out the line of the ramparts (see Fig. 14) and the survey by Oswald, detected a further portion of the ramparts in the area missed by the 1960 survey (see Fig. 10). The 1960 survey shows that a portion of the ramparts just to the north of the hollow way has a slight in-turn; the opposite rampart has been destroyed by quarrying so it is impossible to know if a similar feature was present.

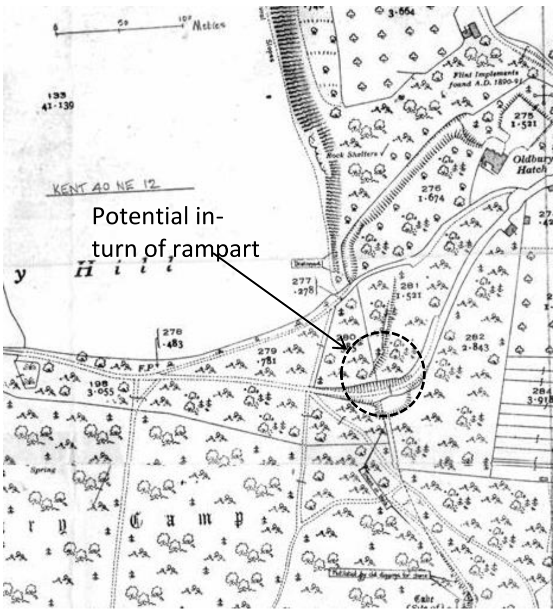


Fig. 14 1960 survey of Hillfort showing slight in-turn of ramparts at a possible eastern entrance

This in-turn could be an indication of a gateway (it should be noted that Oswald was not able to detect this in- turn on his survey but he acknowledges that the surface had thick undergrowth at the time of survey) and would have been in an ideal position to be protected by the outcrop Mount Pleasant. Although this may not be a common configuration for a Hillfort entrance, if we accept that the shape of Oldbury is defined by nature, then it is not unreasonable to suggest that the builders took advantage of this natural feature to embellish the fort's entrance.

The views from the Hillfort ramparts are far reaching from the north end and also, partway along the eastern side. A picture taken from the M26 today (Fig.15), shows that the monument would have had a very visible presence in the landscape of the Iron Age. The Pilgrims Way which has its roots as an ancient Ridge Way, is on the chalk scarp just to the north of the M26 and travellers on this route would have been very aware of the presence of the Hillfort at Oldbury.

Fig. 15 Oldbury Hillfort from the M26
(reproduced by kind permission of Dr. S. Willis)

Whilst the visibility to and from the Hillfort is excellent over approximately ⅔ of the perimeter, as the viewshed map in Fig.16 illustrates, there are "blind spots" due to the location of the fort at the end of the Greensand outcrop. This area of poor visibility extends in an arc from roughly due west anticlockwise to just past due south. For the sake of simplicity, the visibility of the viewshed map has been capped at a distance of 15km but this is enough to take in the potential communication routes. It is probable that the trees in the interior of the fort and at a reasonable radius around, would have been removed to enhance visibility. As can be seen, the Pilgrims Way is well within the visibility from the north end of the monument and depending on tree cover, the further one gets from the monument, it may be possible to see the River Darent to the west but the Medway to the east would not have been visible. The Coldrum Stones, a megalithic Longbarrow, which potentially could have had an alignment with the north-east entrance, is nearly 9km away but does not appear to have been visible from the Hillfort, as it nestles in an area of lower ground but its presence would certainly have been known.

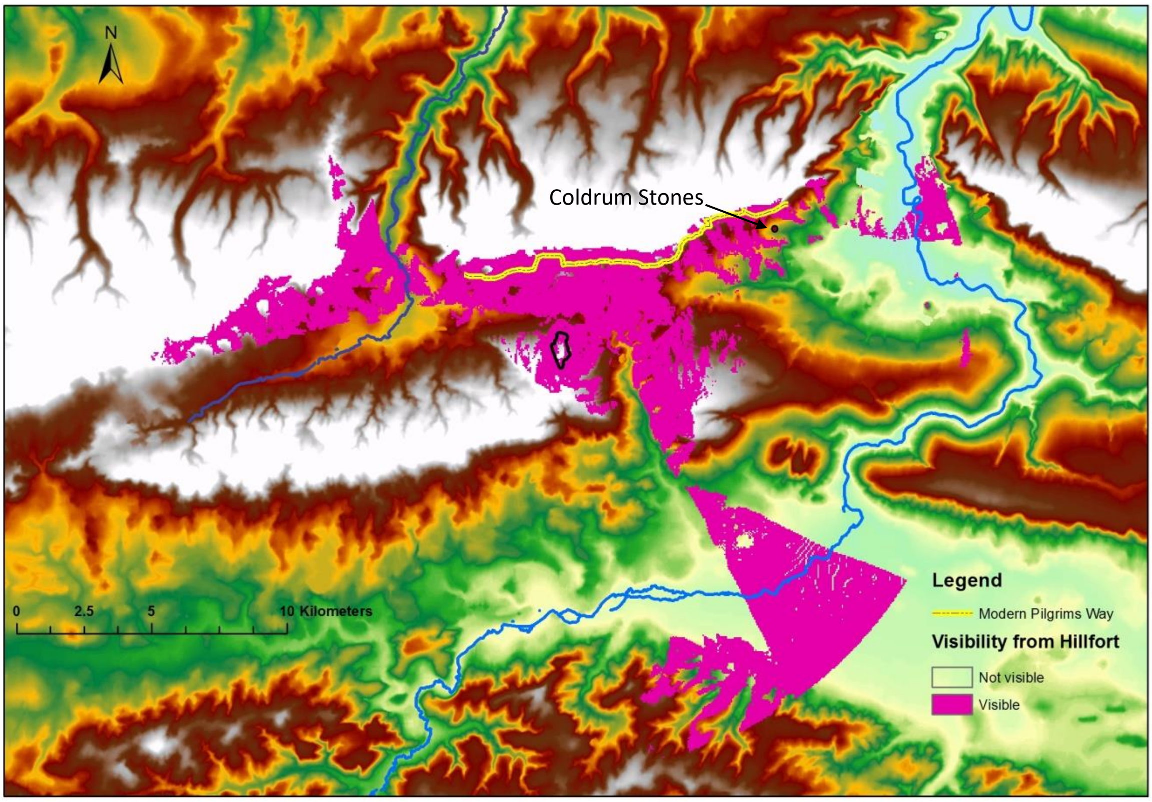


Fig. 16 Visibility from the Hillfort at Oldbury

The impressive size of Oldbury could be seen as its main strength but it is possible that it enclosed too large an area to be defended effectively. Although it can be said, that the opposite is true, as any would be attackers would have to be spread thinly to attack at several places, in order to take advantage of the extended circumference of the perimeter. The remodelling of the accepted entrances in the north-east and south could have been in response to the invasion by Claudius (if one wishes to link the monument to historical events) although the scale of the changes particularly at the south entrance, hardly adds significantly to the strength of the fort (Ward Perkins 1944, p.153). It is more likely that the modifications should be considered as an embellishment, to underline the status of the (presumed) elite, that may be speculated, controlled the Hillfort and the surrounding area.

Chapter 10 - Ceramic and Flint Finds

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1.0 Introduction

This chapter will primarily discuss the prehistoric pottery and flint tools recovered as a result of this research at Bigbury Hillfort. It will also outline the pottery from previous excavations at both Bigbury and at Oldbury. During the research period of 2013 to 2015, pottery was found in two locations at Bigbury; one was in the Orchard Field during the test pit excavations of 2013 and the other was a chance find in an old quarry on the south side of the Hillfort. The location of the latter was inside the protected area so the necessary permissions from English Heritage were sought and granted before any investigations were undertaken.

The pottery fabric was analysed by the author using the Prehistoric Ceramics Research Group 3rd edition dated 2010. This was under the guidance of Dr Elaine Morris of the University of Southampton.

2.0 Bigbury Quarry Pottery

2.1 Location

Locations of excavations based on data from FH Thompson. (Thompson 1983)

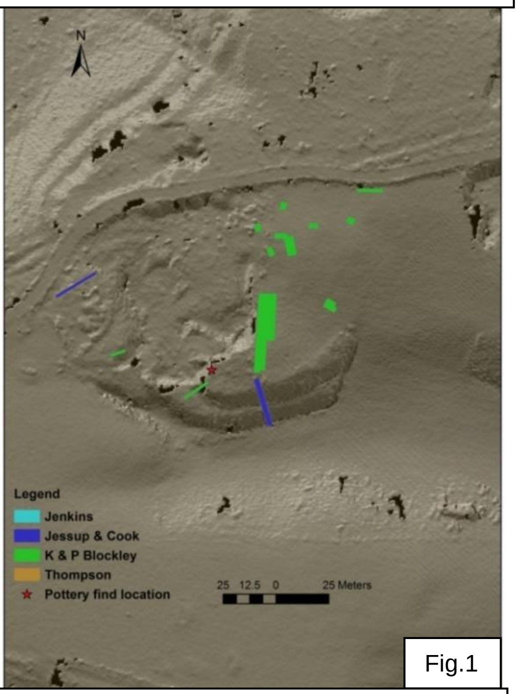


Fig.1

LiDAR image – Copyright Forest Research based on the Unit for Landscape Modelling and the Blean Partnership data.

During a visual survey of an old gravel quarry area near the west entrance of Bigbury Hillfort (Fig. 1), several large sherds of pottery were noticed exposed in an eroded bank. The workings of the quarry were covered by old coppice, mainly Sweet Chestnut, with the undergrowth comprising mainly of brambles and ferns. Where the quarry sides had been exposed, there was much erosion caused by general weathering, gravity, burrowing animals and tree roots. This left an overhang of topsoil and presumably archaeological soils (evidently thin if indeed present), only held by the mat of tree roots. It was under one of these overhangs that the pottery was discovered (see Fig.2), approximately 50cm down from the current land surface and approximately 10m from the closest remaining rampart to the south.

The photograph in Fig. 3 shows the position of a large pot sherd base, resting on the ledge of the eroded quarry bank. This large sherd had a greenish tinge on the pot surface facing the quarry which indicated that this surface of the pot had been exposed to the elements for some time before it dropped from the overhang. The dark soil surrounding the sherd was newly disturbed which demonstrated that the pot had only recently fallen down.

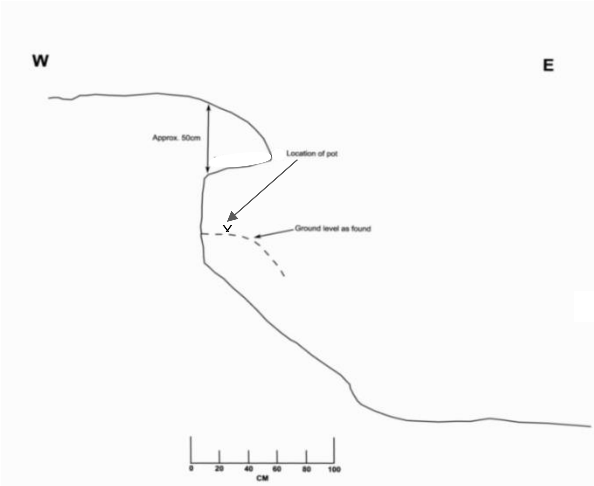


Fig. 2 drawing of position of pottery find in relation to the quarry edge

Fig. 3 Photograph showing the position of the large fallen base sherd

On further investigation of the area, several more sherds were discovered close by, including a few sherds that were very loose, still in situ in the overhang. Initial examination showed that the sherds were handmade with flint temper, strongly suggesting that they were of an Iron Age date.

The original recovered sherds, were represented by two complete bases (one medium-large, one medium-small) and a rim/shoulder of a third vessel, all in good condition and un-abraded. A rim sherd was found about 1m to the right of the main pot find which could indicate the possibility of a separate deposit or it could have been moved along the ledge by animal action.

The old quarry bank was soft and in places very sandy with evidence of a build-up of material at the bottom of the slope; it was likely that the considerable wedge of eroded material built up at the bottom and by the side of the workings, contained more pottery. With this in mind, permissions were sought to investigate this area further.

2.2 Pottery recovery

Once permission from English Heritage was granted, the loose material on the bank immediately below the pottery discovery, was carefully trowelled and sieved. As anticipated, more sherds were discovered with many differing from the form and fabric of the initial find, indicating that there were several vessels represented, with the possibility of evidence of a rubbish pit or a deliberate deposit.

Fig. 4 Photograph showing the cleared bank and illustrating the sandy subsoil and evidence of burning

Fig. 5 Photograph showing the dark humic layer over the sandy sub-soil and the depth of soil removed.

After a depth of approximately 20cm, the soil became very sandy with areas of sandy gravel containing small to medium size stones and interspersed with areas of clean soft sand; this was probably the natural and the target material for the quarrying activity (see Fig. 4). Patches of burning were also seen at this level and it was not possible to ascertain if this was as a result of an ancient archaeological layer, or as a result of burning occurring during the quarrying era.

Along with the pottery sherds, several "pot boilers" were discovered although it was not possible to determine if these were as a result of more recent fires or as a result of prehistoric activity. The soil at the bottom of the slope was very stony and loose and contained dark humic soil consistent with a woodland environment.

Even though pottery sherds were still occasionally revealed, it was decided not to dig any deeper as sufficient sherds had been recovered for dating purposes and there was a small risk of making the bank unstable. In total, 145 buckets of over burden were sieved which equates to approximately 1740L of soil with many large flints removed by hand.

In the spring of 2014, permission was given by English Heritage to clean down the face of the overhanging areas, above the ledge where the pot was found. It was hoped that a light cleaning would reveal a cut of a pit or similar, explaining the deposit of the pottery on the ledge below.

As can be seen from the section drawing Fig. 6, there was a notable depression immediately above where the large piece of pot was recovered. It is possible that this depression was the remains of a pit where the pottery had either been deliberately deposited or simply used for rubbish disposal; no sign of a cut was seen. Although the depression was only cleaned down and not excavated in the conventional sense, no charcoal or other evidence that this may have been a general rubbish pit was seen.

The soil immediately below the depression seemed to show a greater accumulation of larger stones then the surrounding area. It is not possible to tell if this is as a result of a deliberate act or just part of the natural distribution of stones within the soil.

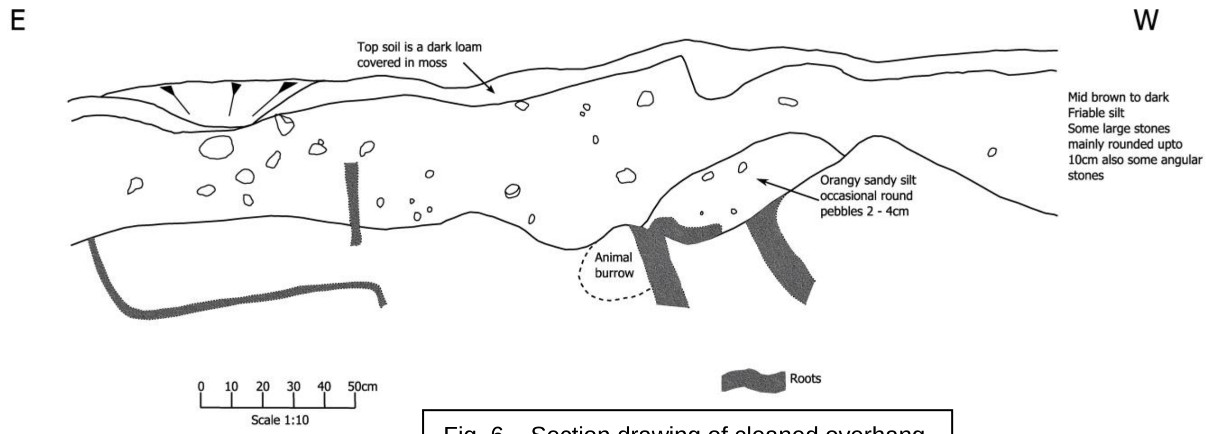


Fig. 6 Section drawing of cleaned overhang

Fig. 7 Photograph showing the cleaned overhang

2.3 Sherd Type and Quantity

The pottery was dated by two independent experts, Dr. Elaine Morris from the University of Southampton and Nigel Macpherson-Grant an acknowledged expert in the pottery of Kent. Both gave dates of the pottery as 150BC to 75BC which ties in well with the pottery found by Thompson (Thompson 1983). None of the previous excavations at Bigbury has produced significant amounts of pottery so any find is a useful addition to the archive.

The total number of sherds recovered was 94. These were a mixture of rims, bases and body sherds and the breakdown of these categories can be seen in Fig. 8.

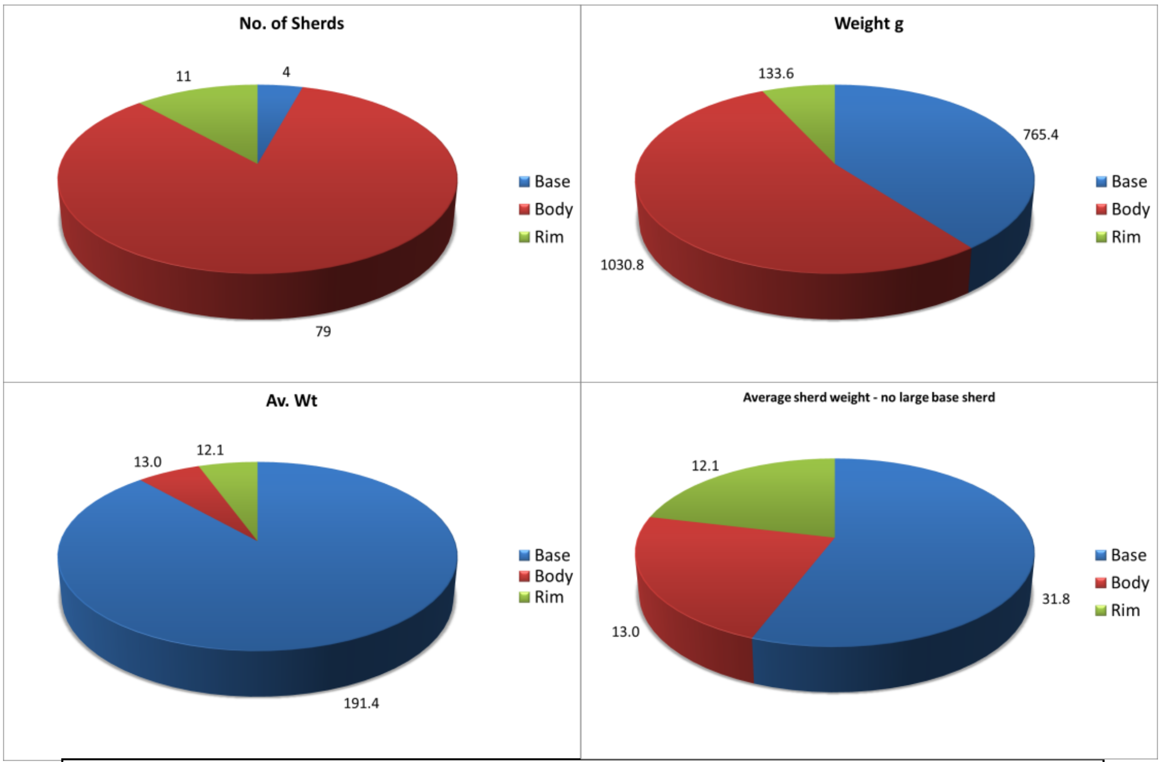


Fig. 8 Graph of number of sherds recovered and average sherd weight

The large base sherd, which was the original find that led to the discovery of the pottery deposit, is 670g and by far the heaviest sherd. Whilst it is correct to include this piece in the calculation of the average sherd weight, it does have a large effect on the result, so a graph of the average sherd weights without this sherd is included in Fig.8. Even with this large sherd removed the base sherds still command the largest average weight (nearly x 2) which demonstrates that base sherds, because of their robust nature, tend to survive in larger pieces. Body and rim sherds appear to be very similar in average sherd weight. The average sherd weight for all sherds recovered was 20.5g and with the large sherd removed it was13.5g.

2.4 Fabrics

The majority of the pottery fabrics were tempered with crushed burnt flint. This is consistent with both the Thompson and Jessup and Cook reports and is in line with the findings of Isobel Thompson (Thompson 2015). She shows that the temper most common in East Kent until the last century BC was crushed burnt flint (see Fig. 9), with Greensand becoming more prevalent towards the west of Kent.

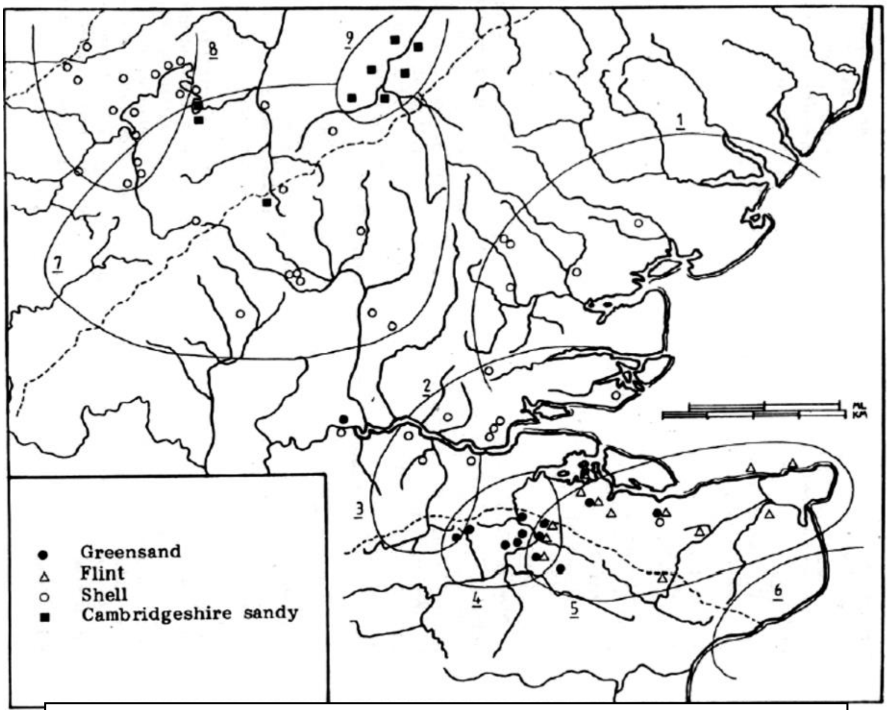


Fig. 9 From Isobel Thompson (Thompson 2015, map.1)

As the Iron Age moved towards the Roman period in Britain, grog temper started to become more common, the majority of which is sometimes termed as “Belgic” pottery (Bennett 2007, p.176). Only one sherd of grog tempered ware was found in the quarry site, with a sandy fabric being the second most common.

The fabrics of the pottery sherds recovered from the quarry were analysed (see Fig 10) and found to show similar distributions between the fabric types of the pottery recovered during previous excavations (Blockley 1989, pp.246-250; Thompson 1983, p.251). No wheel thrown sherds were recovered from the quarry.

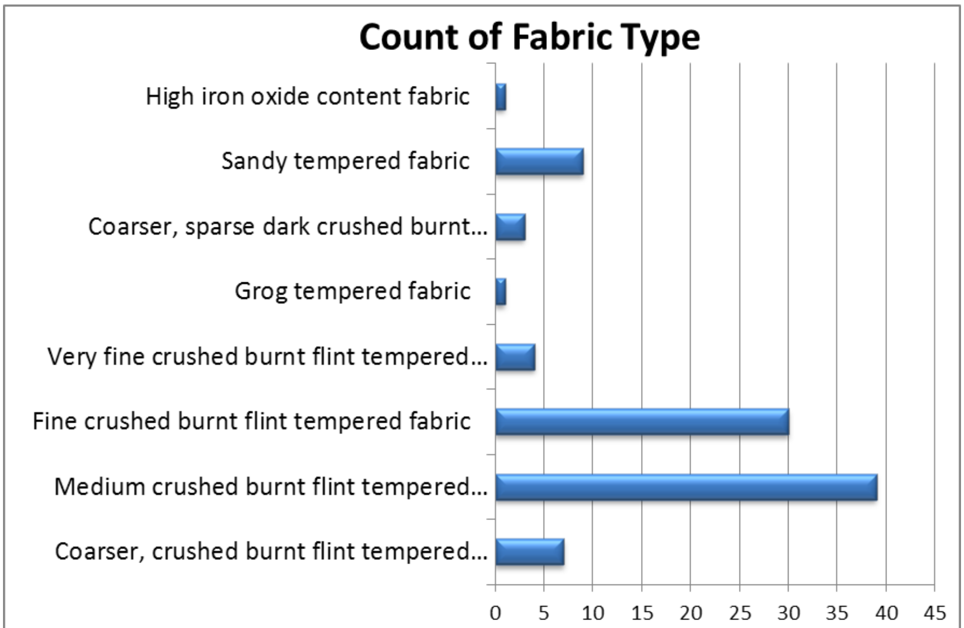


Fig. 10 Graph showing quantity of sherds with fabric types

To understand if there was a relationship between fabric type and wall thickness, each of the sherds was measured and the graph below (Fig.11) shows the sherd wall thickness with fabric type. Analysis of the graph shows that it is difficult to make any firm relationships between fabric type and wall thickness, probably due to the relatively few sherds recovered. The most common fabric was the medium crushed burnt flint; this dominated the thicker vessels and was the fabric of the thickest vessel recovered. The finer temper does seem to favour the thinner sherds and so does the sandy fabric, with the exception of one sherd, which is possibly a base sherd but it is too damaged to make an accurate classification.

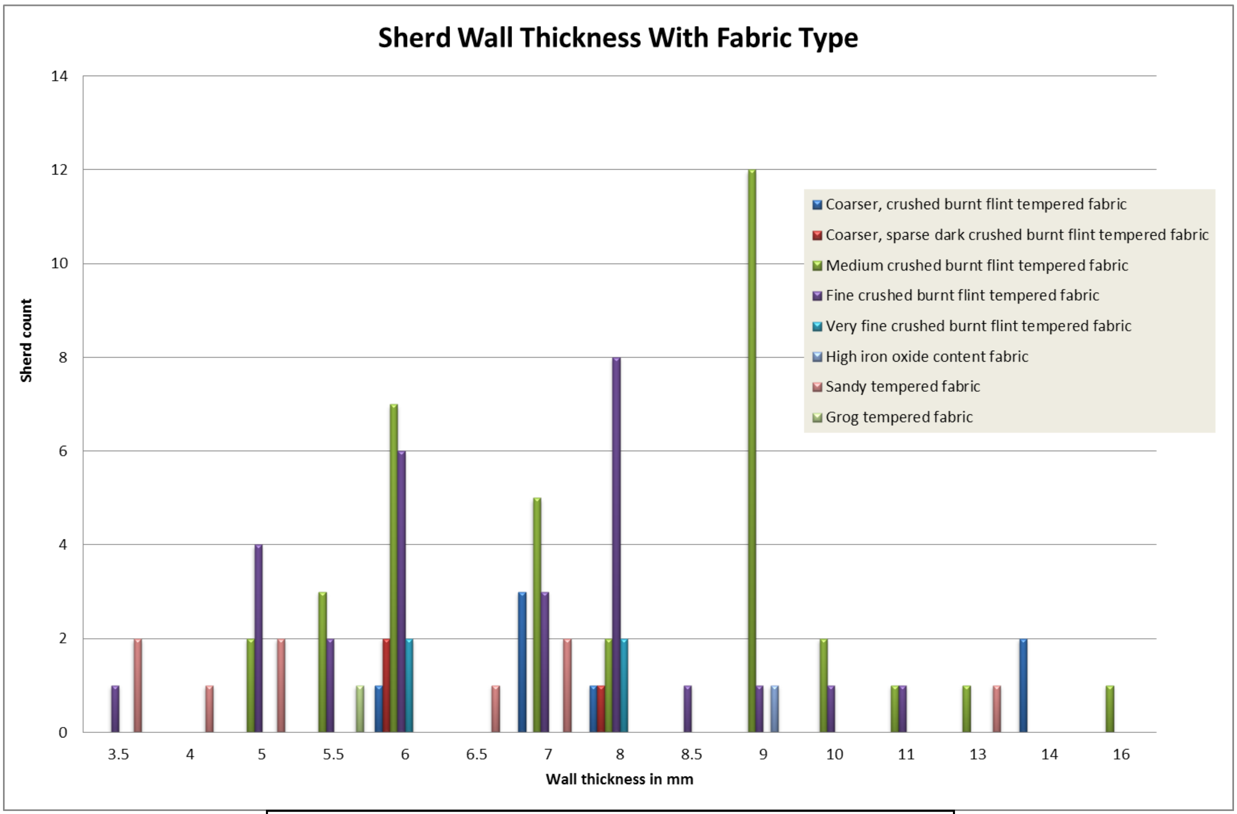


Fig. 11 Graph showing sherd wall thickness with fabric type

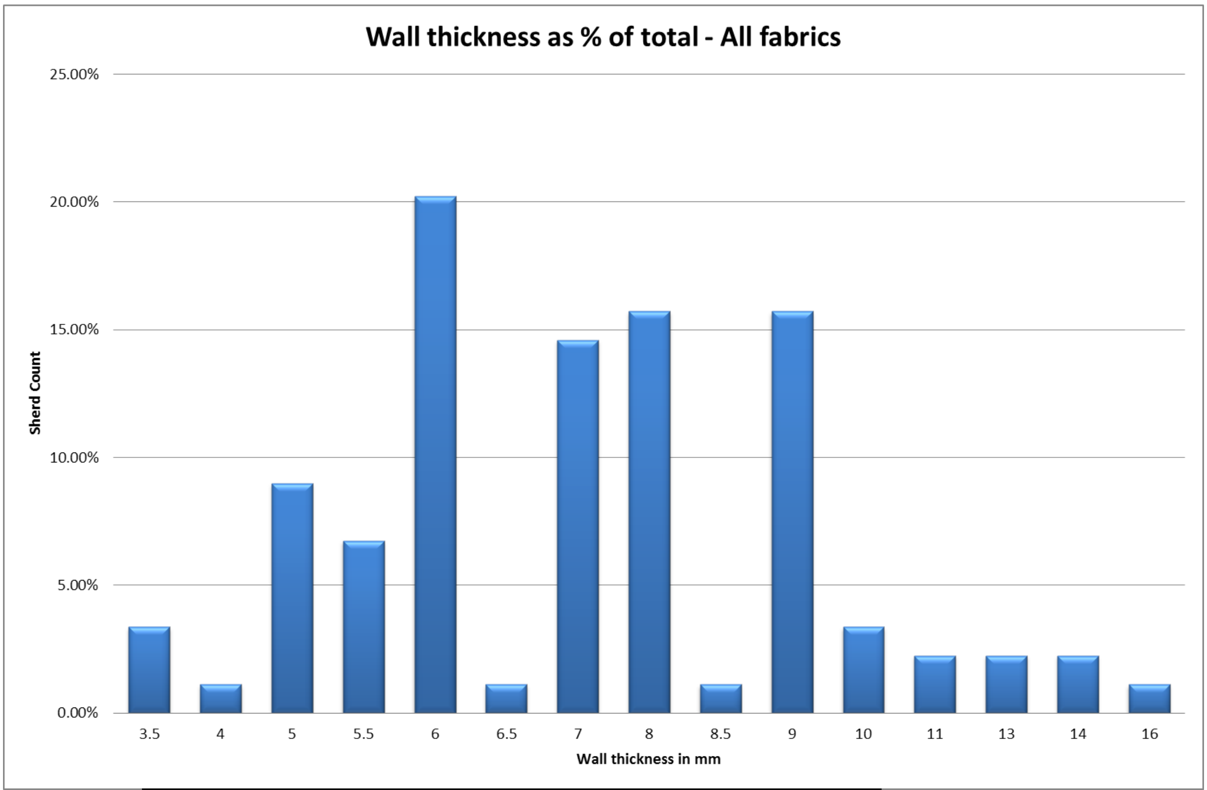


Fig. 12 Graph showing sherd wall thickness as a % of fabric type

When analysing the thickness, of all of the fabric types (Fig. 12), it can be seen that the most common wall thickness was 6mm, with the majority of sherds falling into the 6mm to 9mm size. There were few thinner sherds indicating perhaps more delicate vessels and this may be as a result of the recovery method, whereby only the upmost layers of the bank were sieved and the smaller, lighter sherds could have moved further to the base of the bank and subsequently been covered with a greater depth of soil. The general poor survivability of thinner and more delicate sherds may also be a factor.

2.5 Rim and Base analysis

Out of the 94 sherds recovered during this exercise, 11 were rim fragments and 4 were from bases. Four of the rim fragments were too small to determine the vessel size and hence the potential diameter of the vessel. The largest piece of rim was 17% of the vessel and the largest base was 100%, as a complete base was recovered. As can be seen in Fig.13, the size of the base sherds indicated base diameters of between 80mm to 160mm; this larger base should be treated with some caution as only 5% of the base was recovered, which introduces some potential for error when trying to extrapolate the measurement of the complete circumference.

The vessel circumference from the rim analysis (Fig.14), ranged from 120mm to 320mm, with two the same at 200mm and two at 150mm. Similar to the analysis of the base sherds above, a low percentage of the complete rim (<10%), will make it difficult to determine the vessel size accurately, especially the smaller the vessel.

The extent and number of the rims and bases recovered was not sufficient to make a detailed report on the form of the vessels but as can be seen from the illustrations below (Appendix 1), it does show that there was a selection of bowls and jars. There was no evidence on the recovered sherds of any intricate surface decoration other than the evidence of burnishing which occurred both on the exterior and interior of the sherd. The evidence of burnishing on the interior can indicate that the interior was meant to be visible, thus making it more likely to be an open form like a bowl. It is also possible that burnishing could give some degree of waterproofing to the vessel.

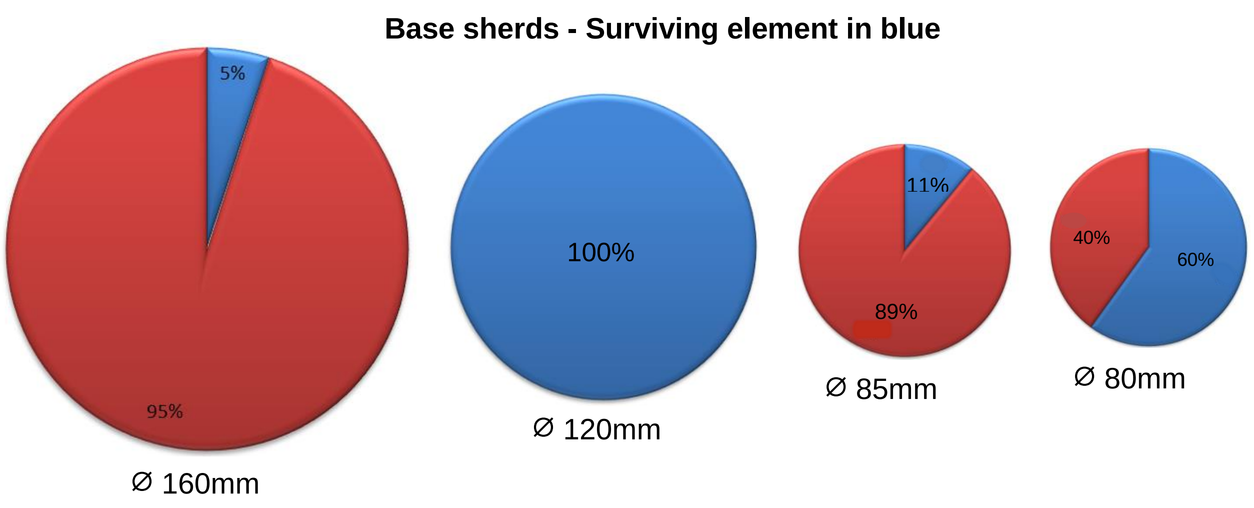


Fig. 13 Base diameters

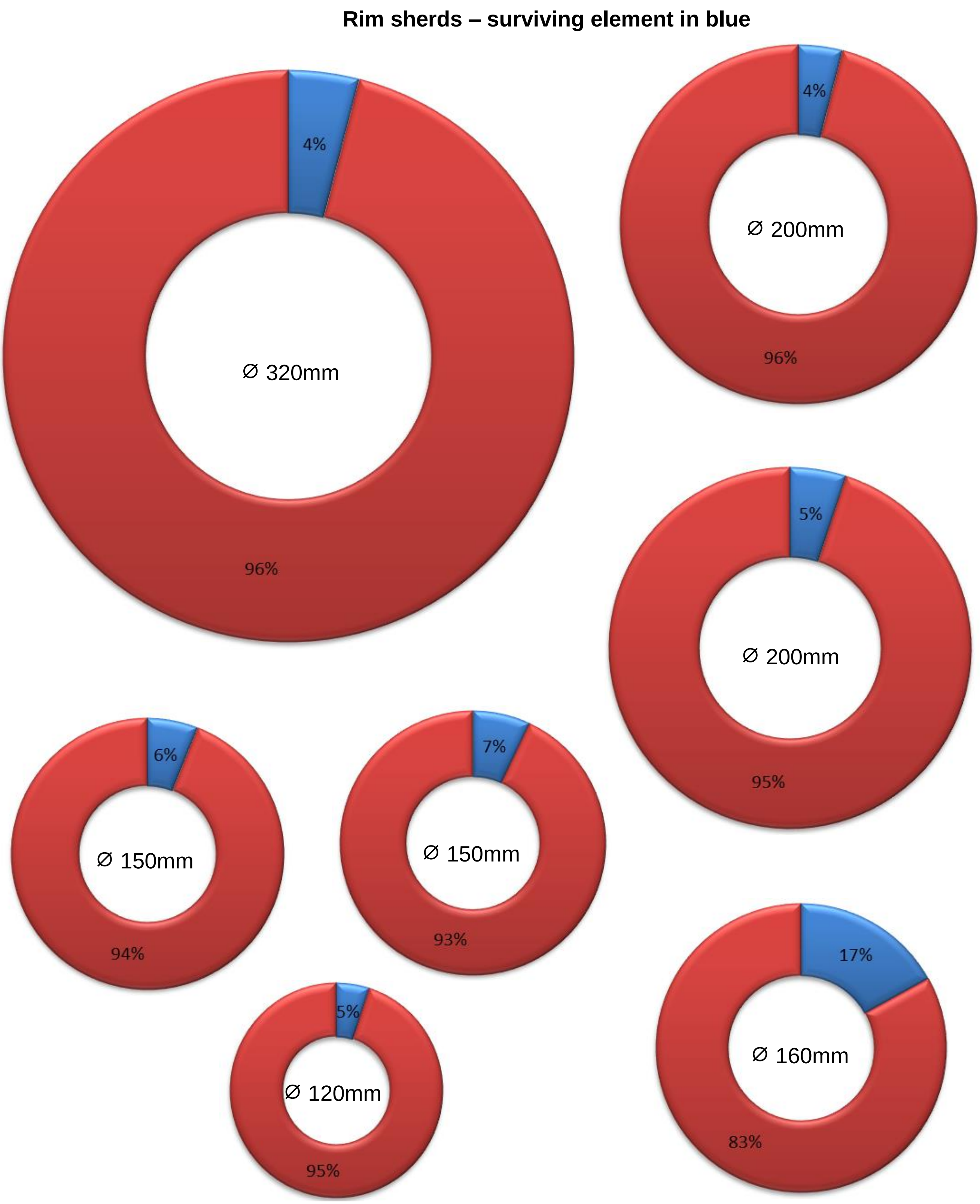


Fig. 14 Rim diameters

2.6 Forms

Apart from the large base sherd, there were no complete or near complete vessels which would readily show the form of a vessel. The rim sherds recovered indicated that there was a selection of open and closed forms (Table 1).

Sherd id	Form	Fabric	Diameter
Q100184	Open – probably a bowl	F2*	160mm
Q100183	Jar (probable mid IA form)	F2*	150mm
Q101003	Closed	F3**	200mm
Q101002	Open	F2*	150mm
Q100187	Closed or jar	F3**	120mm
Q100185	Closed or ovoid	F2*	200mm
Q101005	Large cooking or storage jar	F2*	320mm

Table 1

*F2 Medium crushed burnt flint tempered fabric
**F3 Fine crushed burnt flint tempered fabric

The flat profile of the rim sherd Q100183 suggests that this could be, if not an earlier sherd (Middle Iron Age), then at least made in the style of an earlier sherd.

2.7 Quarry Pottery Discussions

Counting the various fabric types and the different vessels identified by the rims, the number of different vessels recovered was at least thirteen and it is very possible that more vessels lie undiscovered at the base of the bank.

This issue of earlier sherds was covered in both the excavation reports of Jessop and Cook and F. H. Thompson. Cook and Jessup suggested that a mixture of early (mid Iron Age) and late (later Iron Age) forms and fabrics in close proximity, was because the early forms of pottery did not change over the years and that they were still being made the same way into the last century of the millennium (Jessup 1934, p.166). Thompson was of the opinion, that this older pottery should be considered as early and was a residue of earlier pre- rampart occupation of the site. A similar observation of earlier pottery forms in a later context was discussed in the excavations at the Marlowe carpark in Canterbury, where handmade flint tempered pottery found in a late 1st

century BC context, was said to derive from earlier forms. (Blockley and Elder 1995, p.8). As already noted above, sherd Q100183 could be a later sherd made in an earlier form.

The pottery found in the quarry was largely un-abraded (Fig 15), suggesting that it had not moved very far and must have all originated from the area above the large pot find, possibly as already stated, from a pit. The residue found on several sherds, strongly suggests that the pots were well used but unless a good proportion of the surviving sherds are retrieved, it is not possible to determine if they were placed in the pit as complete vessels or as already broken pots.

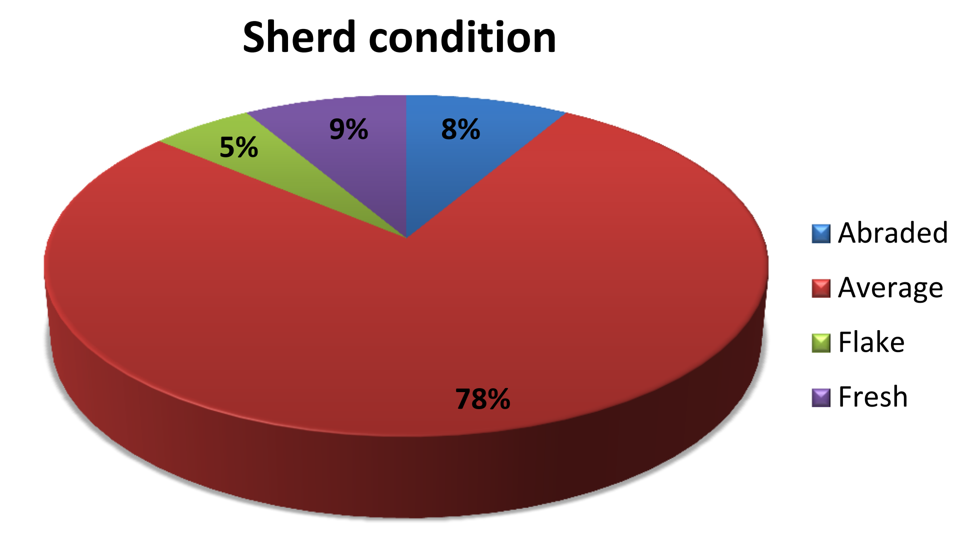


Fig. 15 Condition of sherds found at the quarry site

The lack of Late Iron Age grog tempered ware (sometimes referred to as “Belgic”) in the quarry find, could suggest that this pottery was buried (for whatever reason) before this style of pottery was in more common distribution. Isobel Thompson suggests that this may be sometime in the last century BC but the exact dates are still uncertain (Bennett 2007, p.191).

3.0 Test Pit Pottery

3.1 Location

The Iron Age pottery was recovered from only two of the six test pits excavated. Five were dug in the Orchard Field just outside of the ramparts on the south-east side of the fort and one in the valley immediately to the south of the ramparts. The test pits that contained the pottery were test pit two and test pit three in the Orchard Field and came predominantly from the ditch feature (see Bigbury excavation chapter). Test pit three also produced sherds of pottery from the Bronze Age, possibly Beaker; one sherd was found in the pit cut by the Iron Age ditch and the rest were found in the post-hole feature.

3.2 Sherd type and quantity

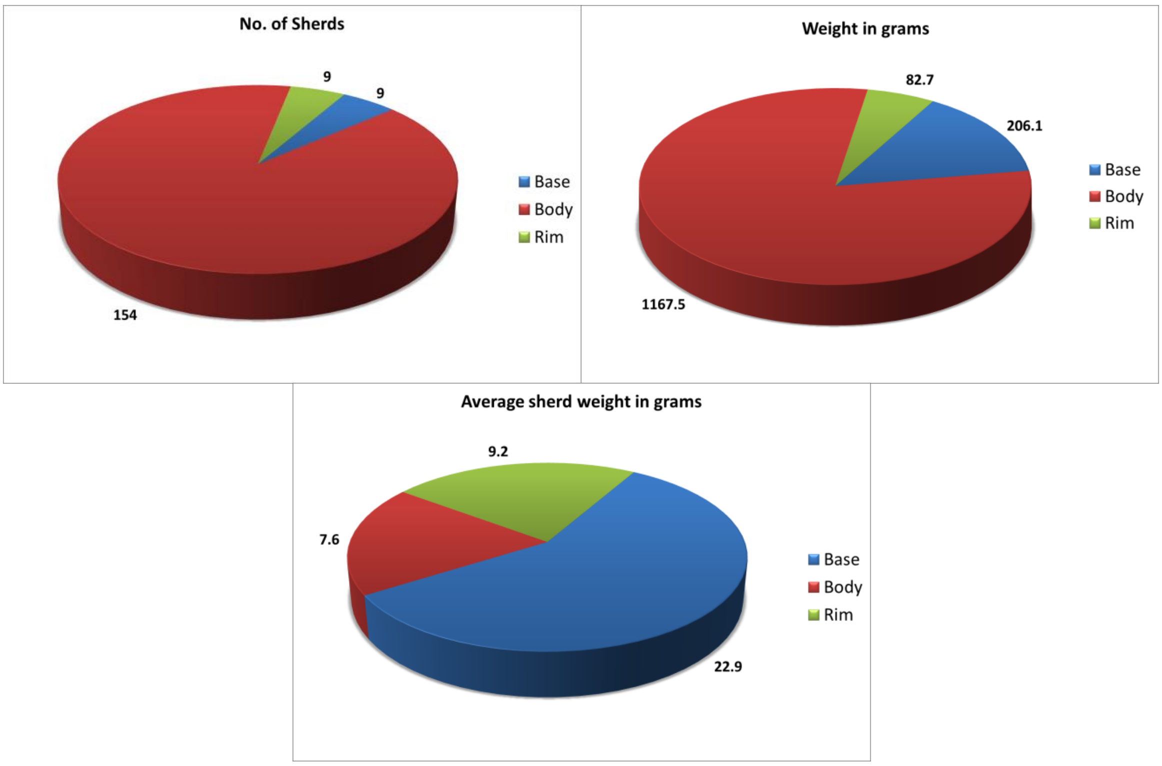


Fig. 16 Graph showing number of sherds and average sherd weight

In all, 172 prehistoric pottery sherds were recovered from test pits two and three (Fig. 16). Like the pottery found at the quarry site, the base sherds had the heaviest average weight, with the rim sherds being slightly heavier than the body sherds. Overall the average sherd weight was 8.5g which is less than that of the quarry site find. Although there was a reasonable quantity of base and rim sherds, the quality of the recovered sherds was not sufficient in many cases to really get a good understanding of the various forms.

Fig. 17 Example of pot assemblage recovered in test pit

There were several incidences during the excavation where numerous pieces of the same broken pot were found together (Fig. 17), indicating that the vessel had been placed or thrown into the ditch either complete or with a good portion surviving. Although a limited attempt has been made to try and reconstruct a vessel no complete pot has yet been constructed.

3.3 Fabrics

All of the sherds were handmade and the Iron Age sherds all had a fabric that included crushed burnt flint (Fig.18). All but one of the Bronze Age sherds were grog tempered and had a very soapy feel. The one sherd that was identified as "very likely" to be Bronze Age, had crushed flint temper and had a rough texture; this sherd was recovered from the pit that was cut by the Iron Age ditch.

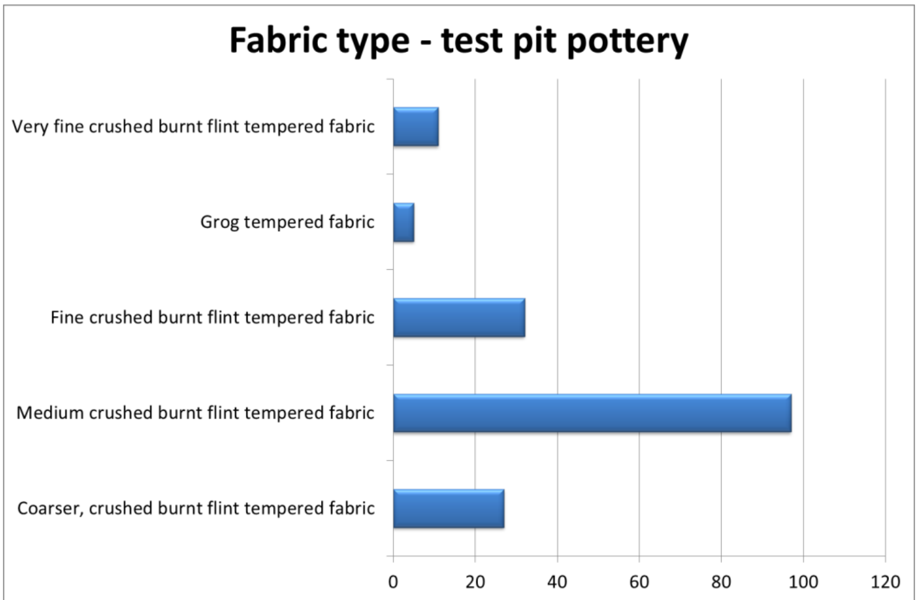


Fig. 18 Fabric types from the test pit excavations

The crushed burnt flint temper, ranged from very fine to a much coarser fabric, with the flint size up to 9mm in size as a maximum but generally around 2mm. The finer fabric had inclusions of a maximum of 2mm with the majority around 0.5mm. All of the fabrics contained very small flecks of mica or silt which may be useful when identifying the clay source. This was similar to many sherds in the quarry find which could suggest a common source of clay.

When analysing the wall thickness and fabric (Fig.18), it is seen that the fine crushed flint fabric is spread reasonably evenly from the thinner end of the spectrum to the thicker, whilst the thicker vessels seem to be associated more with the medium crushed flint fabric. The coarser crushed flint fabric, is not unreasonably, restricted to the thicker vessels, as the finer walled vessels would have a very rough finish due to the size of flint. The grog tempered fabric is evenly spread across the range but due to the small number of sherds recovered this is not statistically significant.

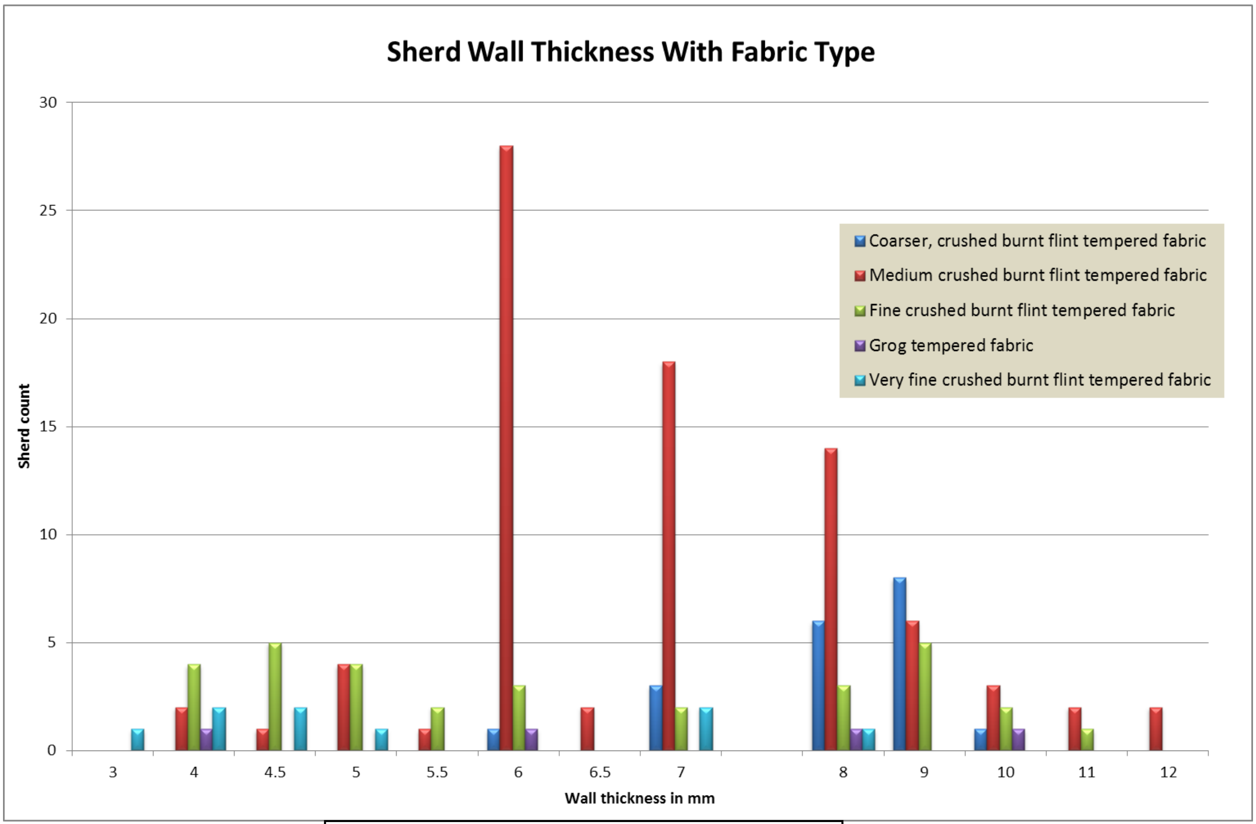


Fig. 18 Wall thickness with sherd fabric

If a graph of wall thickness is plotted with all fabric types (Fig. 19), the vast majority of the sherds are between 6mm to 9mm but there are a significant proportion of sherds that are between 4mm to 5.5mm thick.

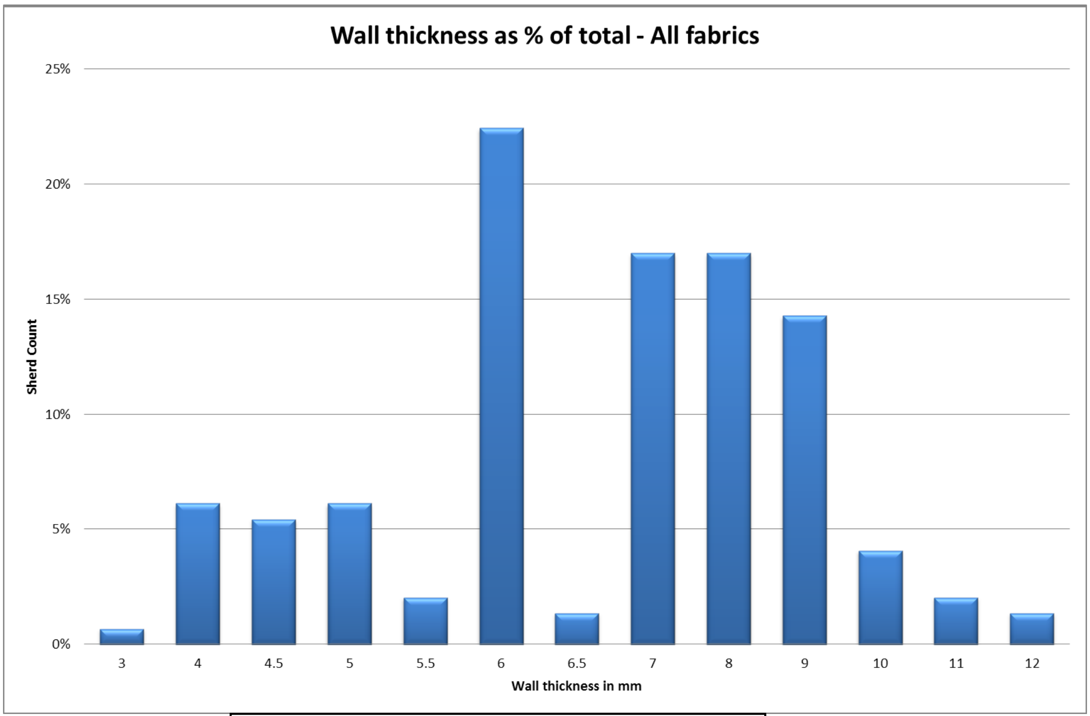


Fig. 19 Wall thickness all fabric types

3.4 Rim and Base analysis

There were only two rims recovered (Fig.20) suitable for drawing because sufficient rim was available. One was a complete sherd which made up 7% of the rim and the other was a conjoining set of three sherds also making up 7% in total. The single sherd 202029 came from a vessel 300mm in diameter and this rim sherd was distinctive as it demonstrated decoration in the form of finger impressions on the rim surface and also on the inside of the rim. The other rim showed that it belonged to a vessel of 260mm diameter. There were two other small rims which came from a relatively thick walled vessel but there was insufficient material surviving to obtain a reliable diameter.

Rim sherds - Surviving element in

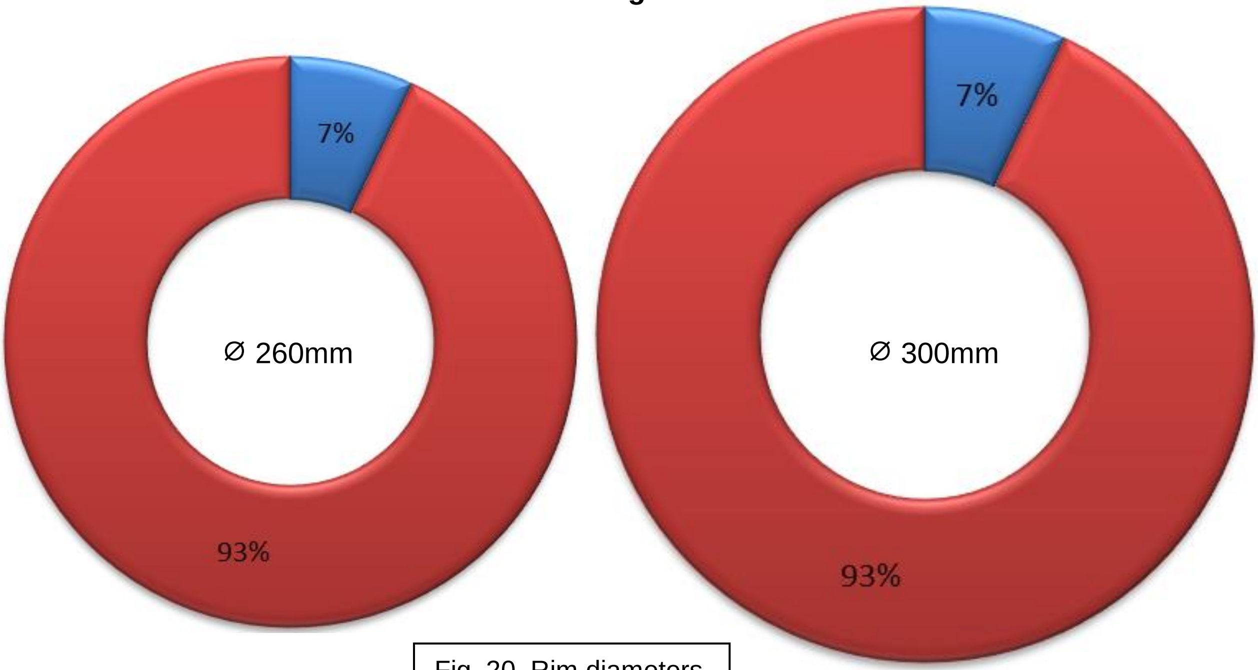


Fig. 20 Rim diameters

The surviving bases were more numerous and it was possible to illustrate four that gave reliable diameter information (Fig. 21). There were two sizes recovered, one of 90mm and three of 80mm. All had flat bottomed profiles which follows the pottery recovered at Highstead and attributed to period (2) 900BC to 600BC (Bennett 2007, p.v). Sherd 302001 has what appears to be a X on the underside of the base; it is possible that this is a coincidental pattern from natural marks on the pot surface or it could be a deliberate marking, possibly a potter's mark or a mark indicating ownership (see Appendix 1).

Base sherds - Surviving element in blue

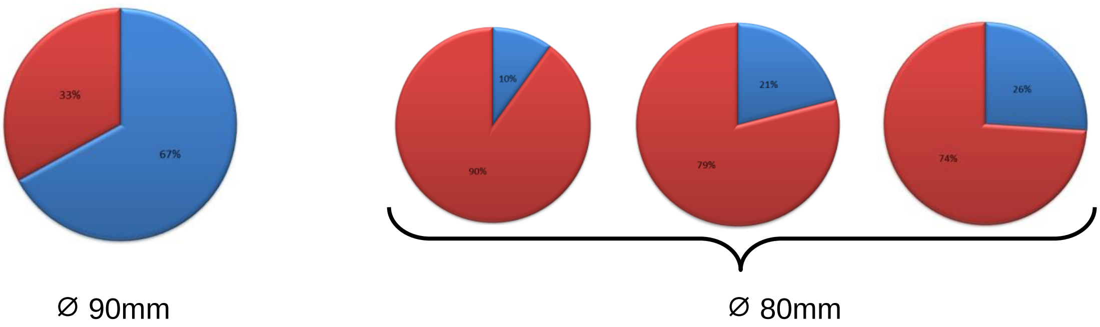


Fig. 21 Base diameters

3.5 Forms

Only two surviving rims were available to identify with some confidence the form of the vessel; this is shown in table 2 below. The sherds of the Bronze Age pottery were too small to get any definite forms. Dr. Morris has suggested that one (grog tempered) could be part of a Beaker but without more of the pot it is not possible to tell for definite.

Sherd id	Form	Fabric	Diameter
202034,36,37	Open – probably a bowl	TPF2*	260mm
202029	Probable Jar or storage vessel	TPF2*	300mm
325012	Probably straight sided vessel	TPF1**	unknown
302014	Likely to be an open form	TPF1**	unknown

Table 2

*TPF2 Medium crushed burnt flint tempered fabric
**TPF1 Coarser, crushed burnt flint tempered fabric

3.6 Test Pit Pottery Discussion

The pottery found during the excavation of the Test Pits had a large proportion that was un-abraded, indicating that it had not moved far from the location where it had been discarded.

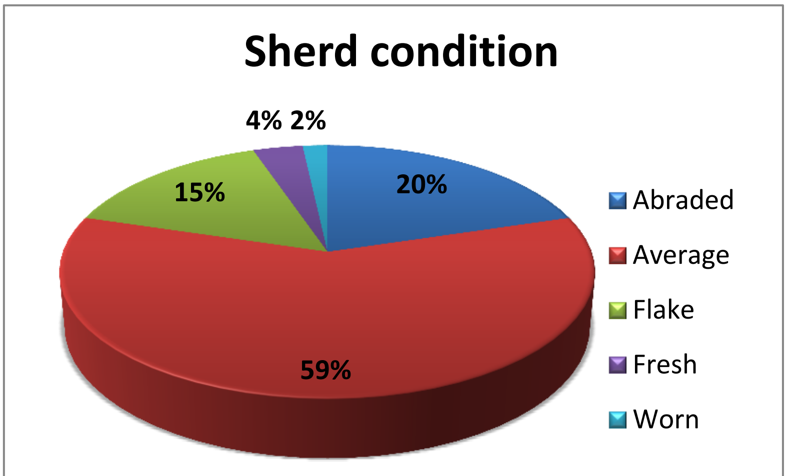


Fig. 22 Sherd condition

About a quarter were either abraded or worn with 15% classified as a flake. This suggested that some of the collection could have found its way into the features as rubbish, possibly from a nearby settlement.

The majority of the pottery came from three contexts; these were the upper levels of the Iron Age ditch in both Test Pit two and three (Fig.23). The early pottery (Bronze

Age) was found in context (315), the pit cut by the ditch and also in context (326), which is cut by the same ditch. Context (313) which is a context completely removed during the excavation, in the area in front of the compacted flint surface, had one sherd, with one other sherd recovered from context (306), one of the lower fills of the ditch (Fig 24).

The fills of the post holes (309) and (311) contained small Early Iron Age sherds (based on the similar fabric as the other sherds dated) consistent with the date of the ditch. This suggests that the post holes were not of the earlier Bronze Age date.

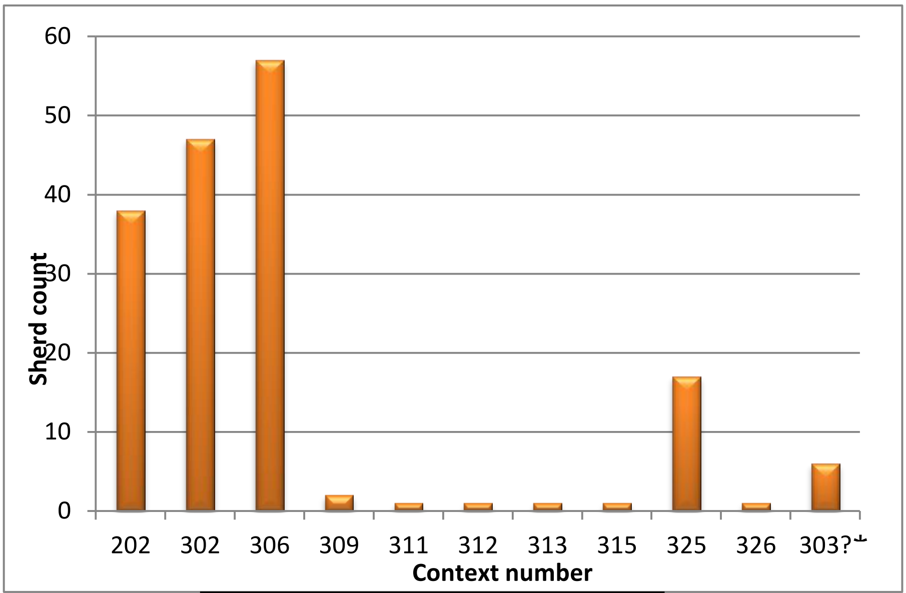


Fig. 23 Count of sherd by context

*The context (303) is in fact the cut of the ditch so cannot be attributed finds. This context was allocated to the pottery sherds in error and as this was only spotted after the excavation had finished therefore they cannot be used for dating of features.

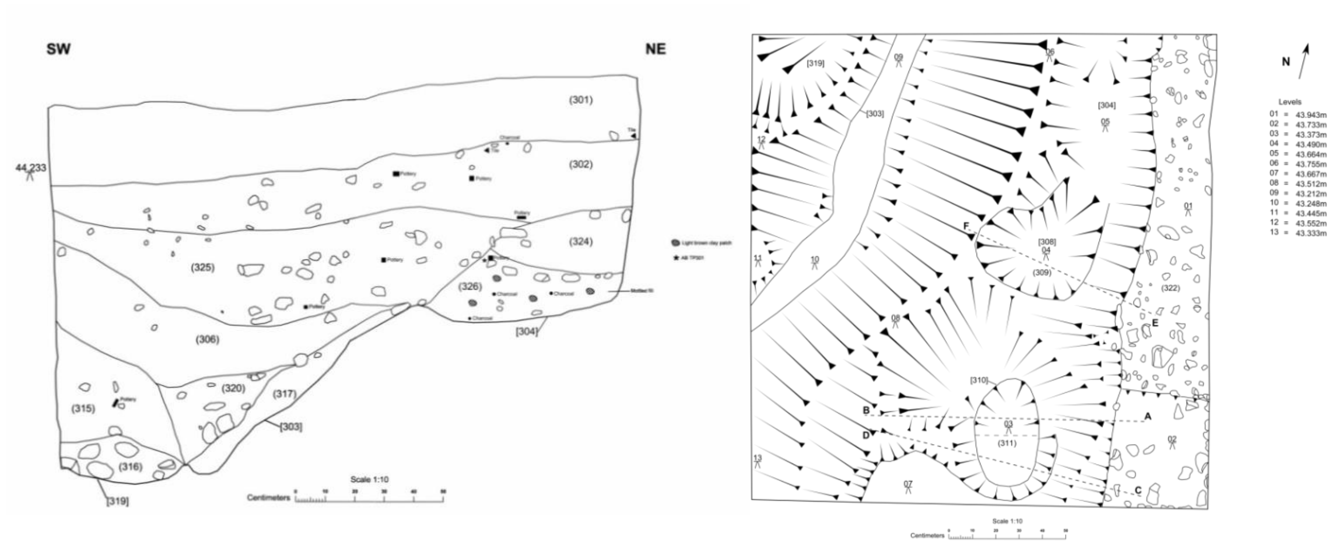


Fig. 24 Section and Plan of TP3

4.0 Petrology

4.1 Preparation

Several sherds from both locations where pottery was recovered, were selected for investigation using thin section analysis. The choice was made based on several factors: a cross section taken of the most common fabrics, as well as anything that may have looked different or rare, see Table 3 below.

Fabric Code and Description	Sherd ID								
	305003	306001	Q100104	Q100112	Q100123	Q100130	Q100132	Q100151	Q100172
F2 - Medium crushed burnt flint tempered fabric			1	1					
F3 - Fine crushed burnt flint tempered fabric									1
F4 - Very fine crushed burnt flint tempered fabric					1			1	
FeO - High iron oxide content fabric							1		
S1 - Sandy tempered fabric						1			
TPF2 - Medium crushed burnt flint tempered fabric	1								
TPF4 - Very fine crushed burnt flint tempered fabric		1							

Table 3

The fabrics not analysed are listed below. It would have been ideal to sample the grog tempered fabric but the sample was not suitable as it was small and not stable.

- F1 Coarser, crushed burnt flint tempered fabric
- F1sparse Coarser, sparse dark crushed burnt flint tempered fabric
- TPF3 Fine crushed burnt flint tempered fabric
- TPG1 Grog tempered fabric

The thin sectioning of the pottery was carried out at the University of Southampton after training by the lab technician, Jill Philips. The analysis was carried out under the guidance of Dr. Elaine Morris using the facilities of the University of Southampton.

The process of making a thin section, required that the selected sherd was first consolidated with a resin to make the sherd stable enough for shaping. This is particularly required for the less well fired sherds from pre-history which are generally softer. The sherd is then ground down to form a flat surface and attached to a glass microscope slide with a special resin. The sherd is then further ground down to approximately 30microns. This allows examination of the clay matrix and any inclusions it may contain.

The slides are examined using a polarising microscope which polarises the light in one direction so that the mineral matrix can be examined. Using a magnification of x40 it is possible to determine and measure each of the inclusions. For the larger inclusions like crushed burnt flint and iron oxide, the results are very similar to the previous analysis of the sherds using a non-polarising microscope. The thin section analysis is particularly useful in determining the smaller sand and silt components which require a higher magnification and the polarising light. If the clay matrix can be identified it may be possible to get an indication of the clay source used for the pot manufacture.

4.2 Thin section analysis

Two of the quarry sherds which had the same fabric classification of F2, a medium crushed burnt flint fabric, are shown below (FIG. 25) in sherds Q100104 and Q100112 .

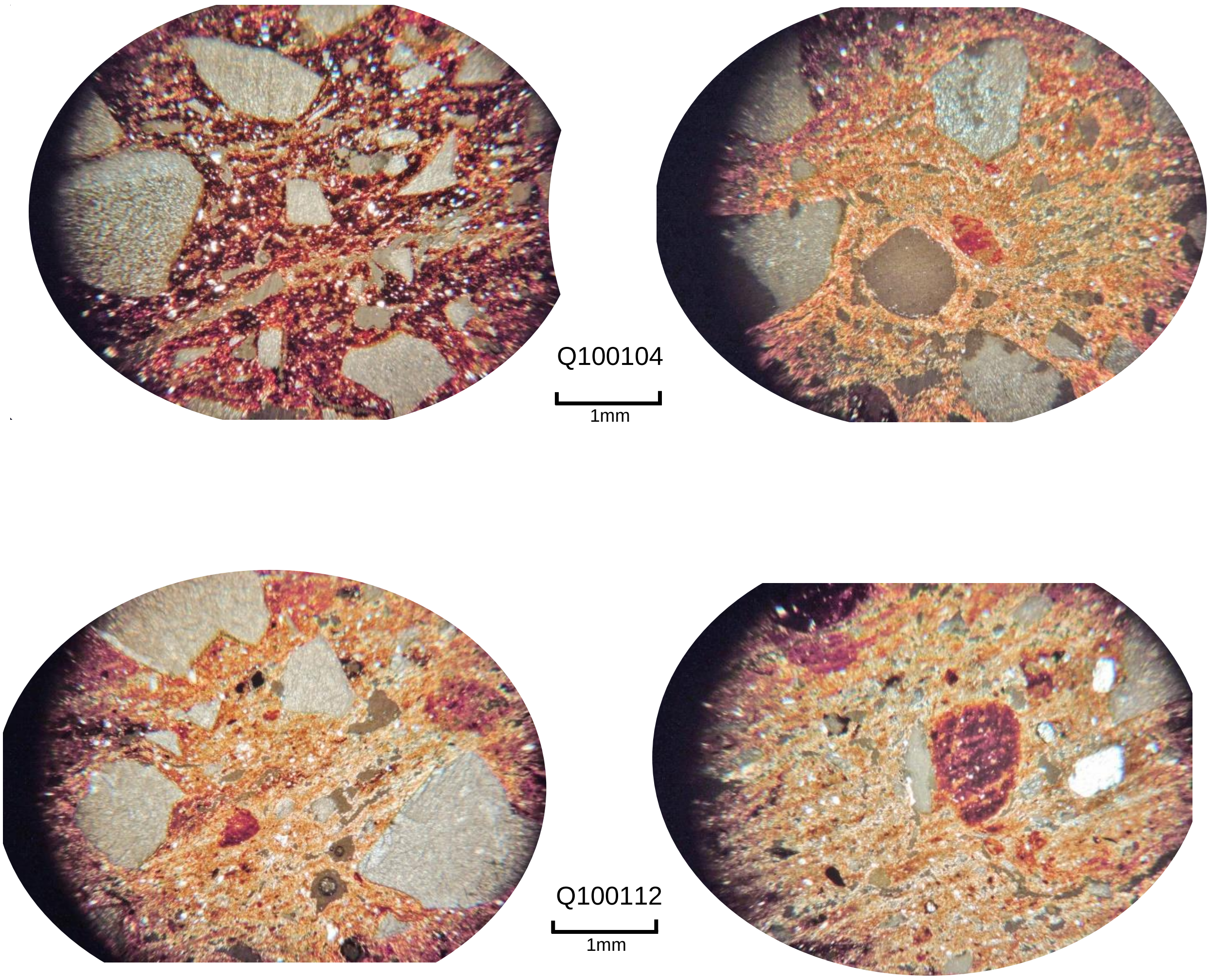


Fig. 25 Thin section image x40 magnification

Each sherd has two images on the same slide, in an effort to demonstrate the different areas of the image, some of which are due to the uneven grinding of the sherd. The large angular light grey inclusions in the slides are flint and the more rounded red inclusions are iron oxide. The white elements which are very small, (less than 0.05mm), are probably silt. The large white inclusion in the right hand image of Q100112 is medium sand. The darker irregular inclusions are gaps in the side, as occasionally inclusions get rubbed away leaving a void behind. Both of these sherds have moderate (10% to 15%) silt inclusions, with very rare medium sand grains.

Sherds Q100123 and Q100151 (Fig. 26) were both classified with a fabric of F4 which is a very fine crushed burnt flint temper. As can be seen from the images below, apart from one 1mm piece of flint in the right hand image of Q100151, the flint inclusions are rare and the iron oxide which is much smaller is also rare. The most obvious characteristic of these sherds is the abundant inclusions of silt with rare inclusions of medium sand.

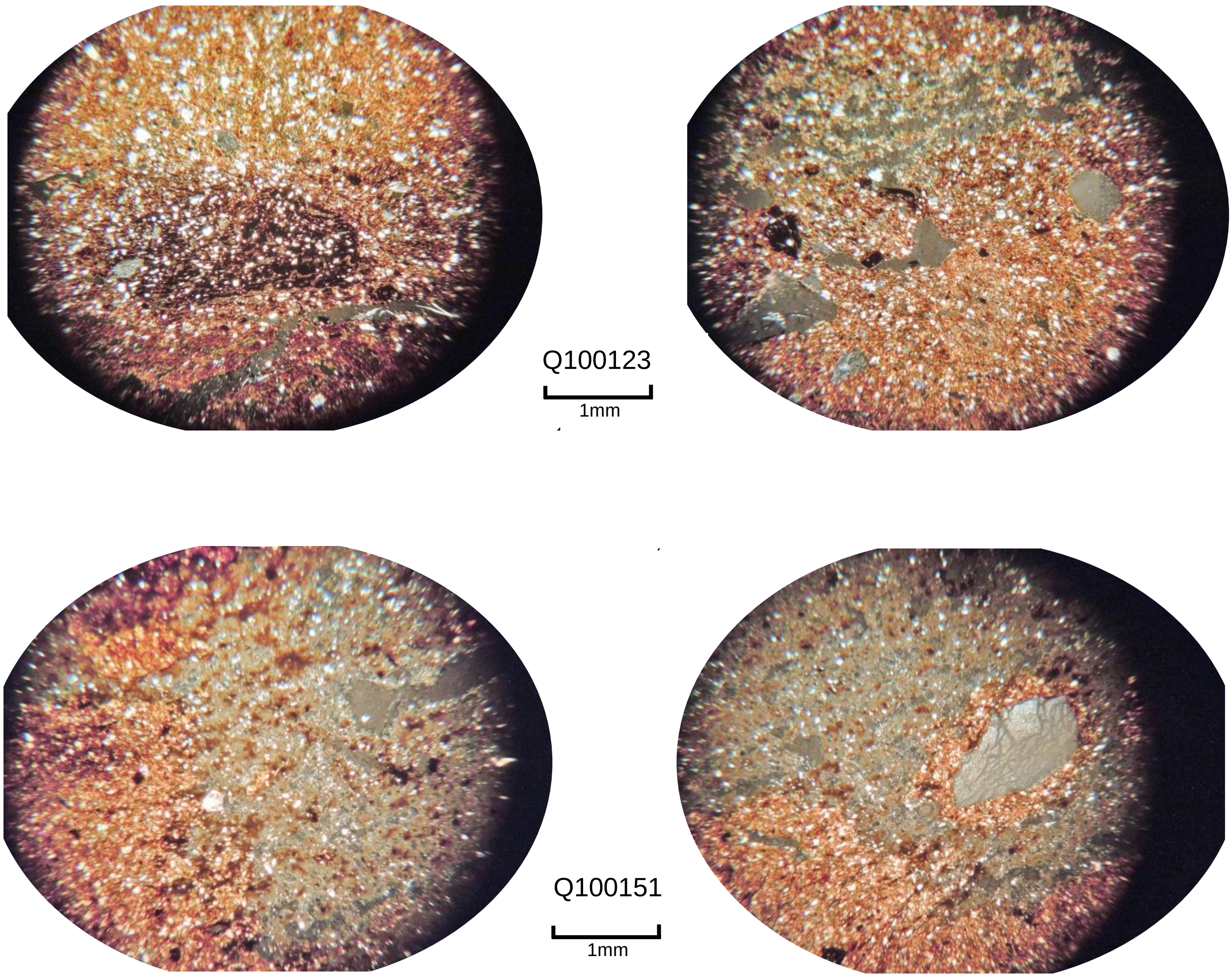


Fig. 26 Thin section image x40

Sherd Q100172 (Fig. 27) was originally classified as F3, a fine crushed flint temper, as it generally fell between the fabric F2, a medium crushed flint temper and F4 which appeared to be a much finer crushed flint fabric.

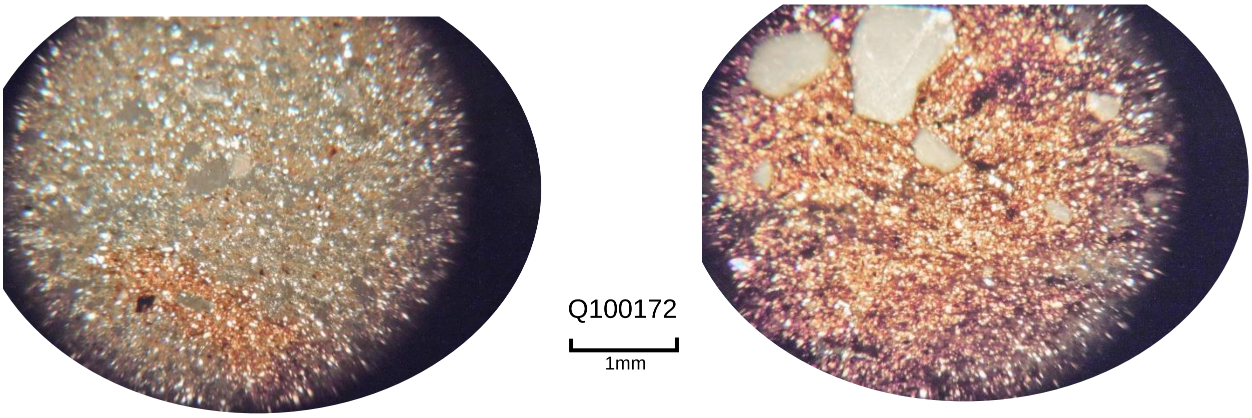


Fig. 27 Thin section image x40

No iron oxide inclusions were seen either in the original analysis or the thin section analysis. Like Q100123 and Q100151, there was an abundant inclusion of silt and very rare medium sand.

Sherd Q100132 (Fig. 28) was classified as having a fabric named FeO which appeared to have a moderate to common inclusion of largish iron oxide nodules, which had not been seen in previous fabrics. It also contained crushed burnt flint. The thin section below illustrates one of the iron oxide nodules, as well as the crushed burnt flint in grey. The sherd also contains abundant silt with rare larger sand grains.

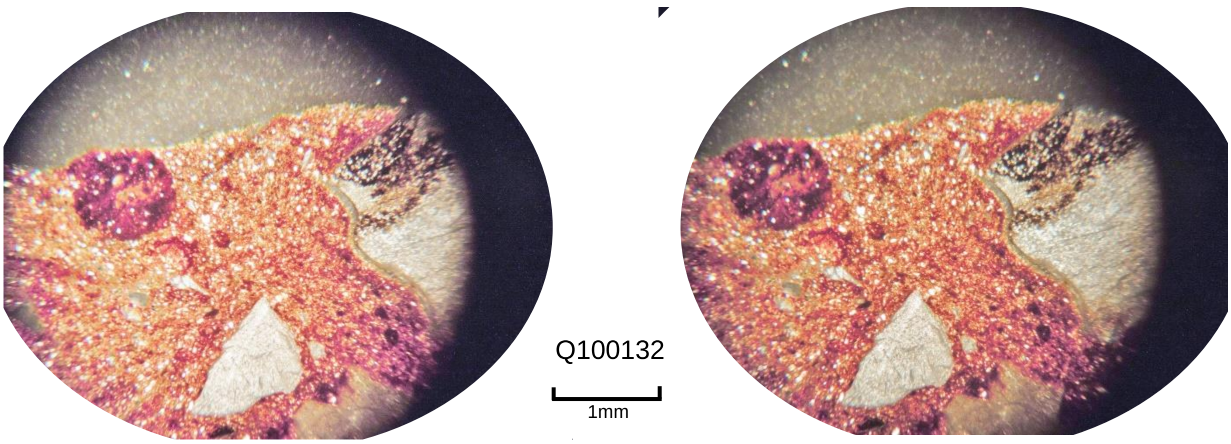


Fig. 28 Thin section image x40

Sherds 306001 and 305003 (Figs. 29 and 30) were from the 2013 excavation in the Orchard Field, just to the south east of the ramparts. These have been dated possibly 600 years earlier than the quarry sherds. 306001 was classified as TPF4 a very fine crushed flint temper. The original analysis failed to detect any iron oxide nodules but they are clearly visible as the red sub-rounded inclusions in the thin section.

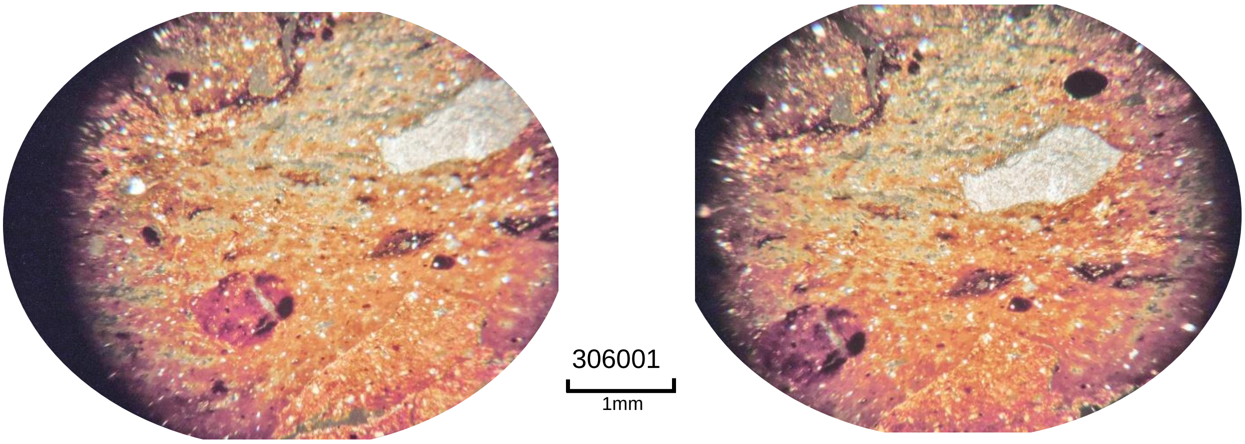


Fig. 29 Thin section image x40

The silt inclusions are only moderate and not as common as in previous slides. The crushed flint is rare although one large (1.5mm) inclusion can be seen in the slide above.

Sherd 305003 below, was classified as TPF2, a medium crushed burnt flint temper. The slide shows a common inclusion of medium flints with rare larger pieces. It also shows the sub-rounded iron oxide nodules. The silt frequency is similar to 306001 with rare larger fine sand grains.

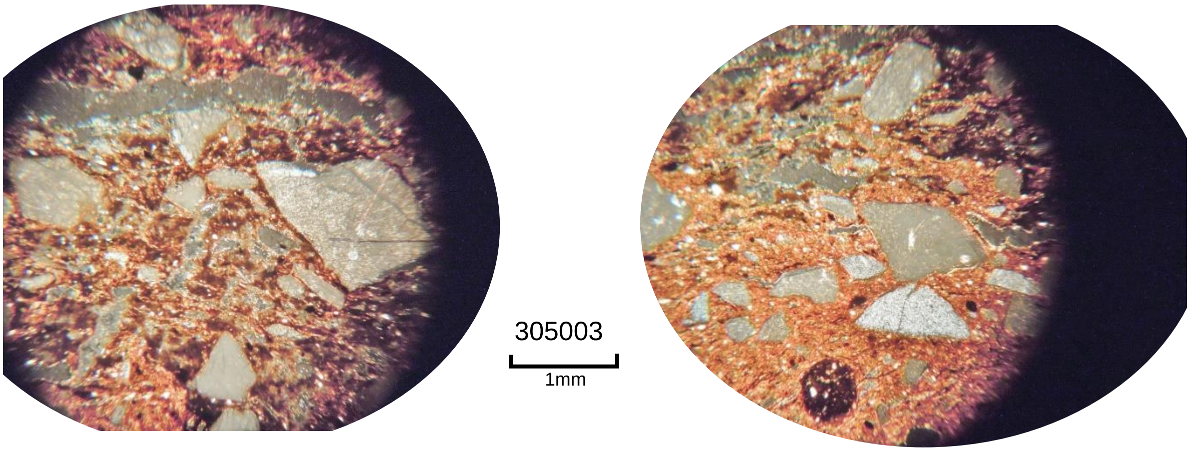
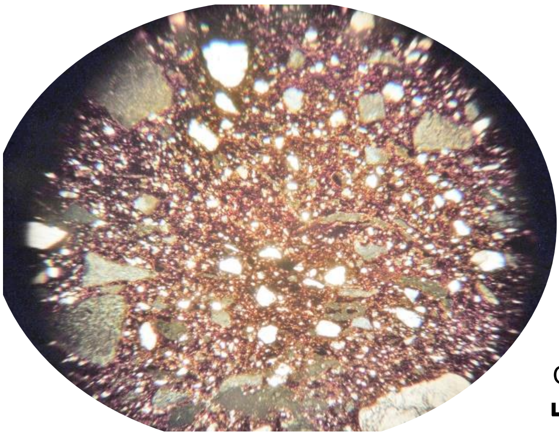


Fig. 30 Thin section image x40

Sherd Q100130 (Fig. 31) is one of the more interesting sherds, as it had been classified as S1, a sandy tempered fabric. This type of fabric is very rare in the recent finds at Bigbury and possibly could have originated in the west of the county according to Isobel Thompson see (Fig 9).

The thin section analysis clearly demonstrates that this is a very different fabric to all of the other specimens illustrated in this chapter. There is a very common frequency of fine sand with a moderate frequency of larger medium sand. Sparse to moderate inclusions of small burnt crushed flint is also part of the fabric and there are rare small (0.3mm) iron oxide nodules.



Q100130

1mm

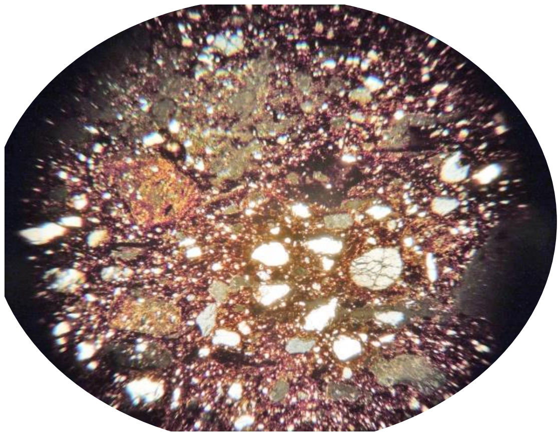


Fig. 31 Thin section image x40

From the analysis of the thin sections it is possible to place the sherds into 3 distinct groups based on the silt inclusions (Table 4). The inclusions of burnt flint are added, whereas the silt and sand is likely to be natural.

Location	Sherd ID	Group	Fabric	Iron Oxide
Quarry	Q100104	Moderately silty	F2	Rare .25
Quarry	Q100112	Moderately silty	F2	Sparse 0.75
Test Pit	306001	Moderately silty	F4	Sparse 0.3 (rare 0.75)
Test Pit	305003	Moderately silty	F2	Rare 0.25 (rare 2.0)
Quarry	Q100132	Common to abundant silt	FeO	Sparse 0.4 (v rare 2mm)
Quarry	Q100172	Common to abundant silt	F3	none
Quarry	Q100151	Common to abundant silt	F4	Rare 0.08
Quarry	Q100123	Common to abundant silt	F4	Rare 0.25
Quarry	Q100130	Moderate large sand grains	S1	Rare 0.3

Table 4

This potentially illustrates that there were three different sources of clay used to manufacture the pots. It also shows that there is a possibility that there was a similar clay source for pottery from the Early Iron Age (sherds recovered from the Test Pit excavations) and the later Iron Age pottery found at the quarry site. The sandy fabric of Q100130 (Fig. 31) is clearly different from the other clays and is very likely to have been from a very different location possibly the west of Kent.

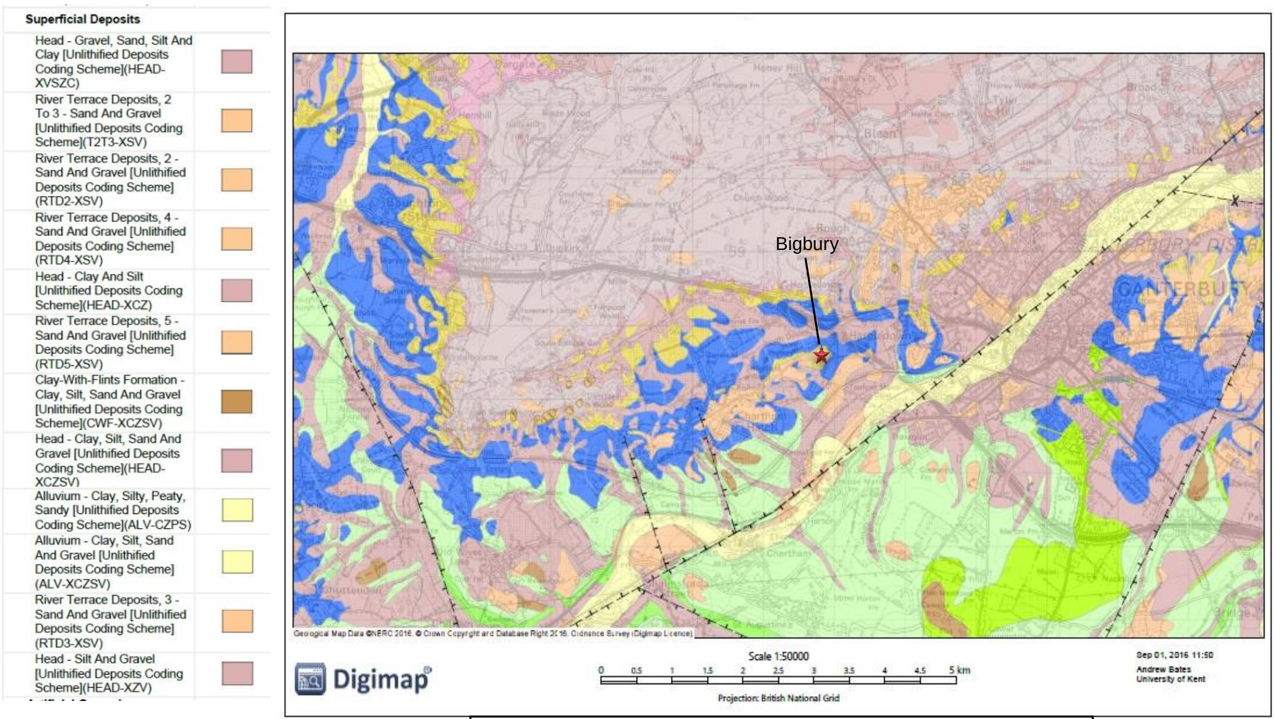


Fig. 32 Superficial geology around Bigbury

As can be seen from Fig. 32 there are several locations close to Bigbury where clay with silt can be found. The report of the Iron Age pottery from Downlands near Walmer, quoting Arnold, states that the preferred range for collection of raw materials for making pottery vessels is 7km for clay and 6-9km for temper (Jarman 2010, p.45). This is well within the range of possible sources of clay around Bigbury.

5.0 Pottery from Previous Excavations

The pottery recovered from the previous excavations is described in the appropriate excavation report and this research did not conduct any additional investigation. It is advised however, that the pottery (of which there is not a great deal), should be analysed against today's standards and protocols, as these have changed significantly over the intervening years. In addition, our knowledge of pottery dating has improved and it is very likely that better dating could be achieved.

5.1 Bigbury Archive

The pottery archive for Jessop and Cook and Thompson, is held at Maidstone Museum and an examination by the author of this thesis confirmed that the combination of fabrics and forms was very similar to that recovered in the recent quarry find (see section 2.0 above). In addition to their finds, there were several pottery sherds in a box marked 1887 which is long before the monument was subject to any systematic archaeological excavation. The box contained several large sherds plus two reconstructed pots see (Fig. 33). The box also contained several sherds with a “honeycomb” structure which have been suggested as being part of a crucible for metal working (Fig. 34).

Fig. 33 Pottery marked as being found in 1887 (reproduced by kind permission of Maidstone Museum)

Fig. 34 Possible crucible (reproduced by kind permission of Maidstone Museum)

Also amongst the pottery sherds from Bigbury found by Jessop and Cook is a red coloured sherd with a hand written note from C. F. C. Hawkes, comparing the sherd to a similar one found at All Cannings Cross (Fig. 35).

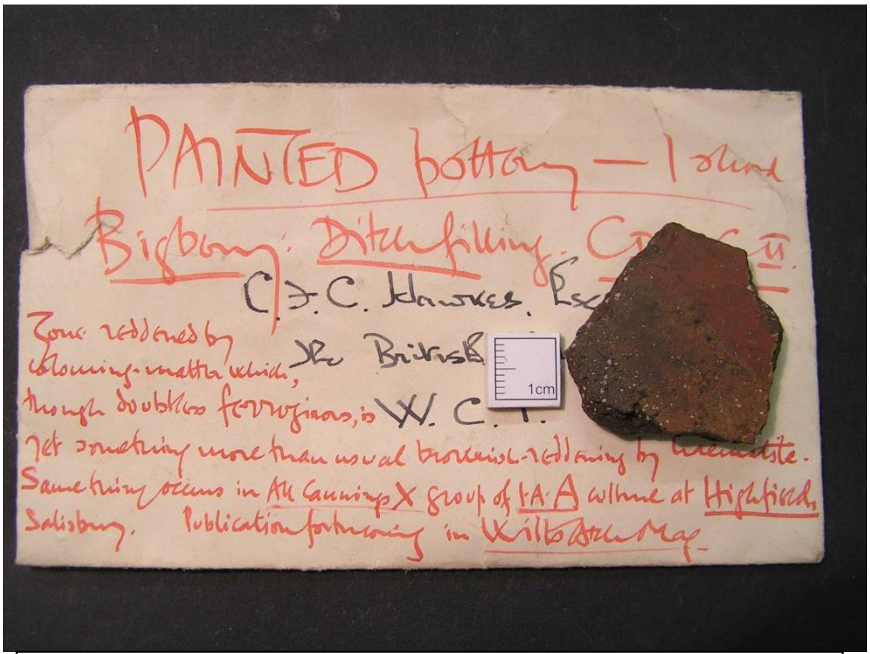


Fig. 35 Coloured sherd (reproduced by kind permission of Maidstone Museum)

Fig. 36 Dressel 1 amphora handle with note from P.R. Sealey.

Also at Maidstone Museum is the handle of the Amphora recovered from the spoil of the Waterhole excavated by Thompson (Fig 36) (Thompson 1983, p.265). The handle was identified by Dr. P. R. Sealey in Thompson's report, who described it as part of a Dressel 1 vessel and acknowledged that dating was difficult but suggested a date towards the end of the 1st century BC after the invasion by Caesar (ibid).

Parker in his book on Ancient Shipwrecks suggests that the dating of Dressel 1 Amphorae could be earlier and a more recent article on Dressel 1 amphorae by Sealey also suggests that mid-1st century BC is a possible date (Sealey 2015; Parker 1992, p.32). An additional important comment by Sealey in his report, was that it is not possible to identify with any confidence, whether the Amphora is a Dressel 1A or 1B variant unless a complete vessel is available. This is due to the similarity and inconsistencies in the style of the manufacture of the two variants (ibid).

5.2 Oldbury Archive

Fig. 37 Slingshots from Oldbury

The pottery archive held at Maidstone museum for Oldbury, contains the finds from Thompson and Ward-Perkins. The collection is very dusty but it was possible to identify that some of the sherds had a similar flint tempered fabric to that seen at Bigbury but there was much more of the sandy tempered fabric, confirming the observation of Isobel Thompson (Fig. 9). In the Thompson archive there were several smooth pebbles which are not natural to the geology of Oldbury, which Thompson refers to as slingshots.

Fig. 38 Patch Grove Ware from Oldbury

The Ward-Perkins archive of pottery, contained several pieces of Patch Grove Ware (named after the first find location just to the north-west of Oldbury Hillfort), some of which had a soapy feel and had an orangey slip (Fig.38).

6.0 Worked Flint Bigbury

The Test Pit excavations of 2013 recovered several pieces of struck flint in the form of debitage and three items that could be termed worked flint.

Contained within the upper layers of the Iron Age ditch in Test Pit 2 and Test Pit 3, were two very similar small flint scrapers (see Fig. 39). These scrapers are very alike and are similar to one illustrated from the excavation at Iwade, which has been dated to the Late Neolithic/Early Bronze Age (Bishop and Bagwell 2005). These scrapers were also investigated by Angela Muthana a lithic expert and she confirmed that an Early Bronze Age date is likely (Pers comms Angela Muthana).

In the middle fill of the Iron Age ditch in Test Pit 3, a flint awl probably of a similar date to the scrapers (Fig. 40) was recovered. It is likely that the flints are secondary deposits from an earlier occupation of the site as evidenced by the Bronze Age pottery recovered.

Fig. 39 Two flint scrapers found in upper layers of the ditch in TP2 and TP3. Test pit 2 NE-SW Section

Fig. 40 Flint awl found in (306)

Chapter 11 - Discussions and Summary

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1.0 Communities and Territories

As has been shown previously, the number of positively identified Hillforts in Kent is far fewer than that identified in other counties in the south of England. Additionally, apart from Caesars Camp at Keston close to London, all of the Hillforts are seen as later in date (2nd century onwards). The dating at Keston is not secure but Thompson suggests that it is probably middle Iron Age and also considers it being closer in association with the Thames area, than Kent (Thompson 1978).

The modern border of Kent, is unlikely to be the same now, as that which marked the territories of the Iron Age tribes of the region. So when we compare Kent with Sussex for example, we have to accept that the boundary is fluid and whether a Hillfort now lies in Sussex or Kent is purely a modern construct; any analysis should consider a reasonable corridor between the Kent and Sussex/Surrey border.

It has been shown in chapter 1 that the county is divided by natural features, with the potential that these formed discrete tribal areas of influence. Moore in his article in the *Journal of Social Archaeology,* suggested that the term tribe, when applied to the Iron Age, needs to be used with some caution. The perceived implication that the word describes discrete political identities may not reflect the fluid nature of Iron Age society, so whilst tribes and tribal boundaries are discussed below, it is acknowledged that interactions both social and political may have been more complex (Moore 2011, p.21).

Caesar mentions that there were four Kings of Kent at the time of his writing and (Caesar and Edwards, H. J. (Henry John),1869-1923, translator. 1917, p.261). Cunliffe suggests that the county could have been divided up into four kingdoms with three of them centred on the main rivers of the Stour, Medway and Darent with the fourth possibly the Weald or East Sussex (Cunliffe 2005, p.166). The distribution of the different types of pottery temper isolated by Isobel Thompson (shell, flint and sand) is used by Cunliffe to emphasise the point, as there is some correlation to the broad areas he defined as possible Kingdoms (Cunliffe 2005, p.167). He suggests that kingdoms may have centred around the main rivers with each having a main waterway as a part of their territory.

Holman in his article in *Archaeologia Cantina,* reviewing the current knowledge of Iron Age coins in Kent, highlights a slightly different view (Fig. 1). He suggests that the rivers could be the boundaries, which then puts the potential kingdoms all in the archaeologically more affluent area of the northern half of the county (Holman 2000, p.220). He also shows that there are large variations in the number and type of coins recovered from each area, his area “A” having over 73% of the total coins recovered (Holman 2000, p.221). Through the analysis of coin distribution, Holman suggests that area “D” is different to the rest of Kent. One indicator supporting this is that (although acknowledging a small sample), the ratio of silver to bronze Potins is 1:1, whereas in all the other areas bronze is much more frequent than silver (all have a similar ratio of 5:1) (Holman 2000, p.226).

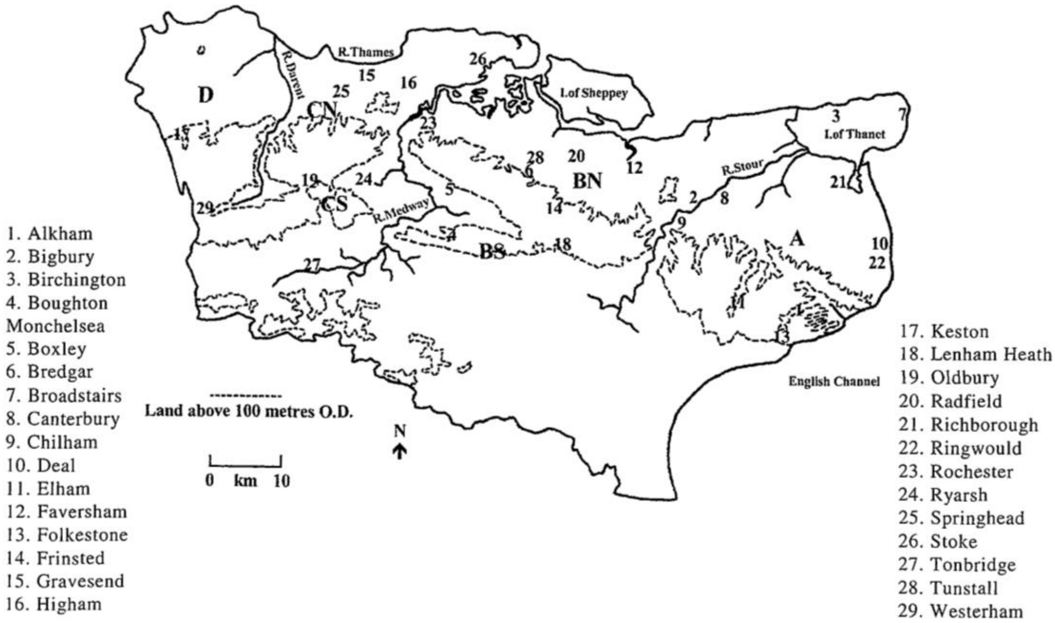


Fig. 1 possible late Iron Age Kingdoms of Kent (Holman 2000, p.219)

The evidence on these grounds does suggest that Kent was divided up into 3 or 4 areas of different coin circulation profiles and the three main rivers are an obvious candidate for a focus of territory definition. As discussed above, the Kent boundary during the Iron Age is likely to have been less well defined than the modern border today and it is possible that the area to the west of the county which is now modern Surrey and greater London, may have formed an additional territory. Whether the rivers formed a boundary or were at the centre of each territory or indeed a combination of the two, is in reality not easy to ascertain. The distribution of coins, ceramics or other artefacts can never show a hard boundary as there will be a blurring of evidence where two zones meet. Moreover, it is naive to think that cultural entities can be read directly from the distributions of certain types of (archaeologically selected) material culture. What can be said with some confidence is that the material record implies Kent was divided by the later Iron Age, into territories each having some distinctive features.

The Wessex Hillfort of Danebury is suggested to have had an influence of around 25-30km over the surrounding countryside, whilst Maiden Castle could have had a similar influence zone, as it is 29km to the nearest Hillforts of Hod Hill and Hambeldon Hill (Sharples 2010 p170). If these approximate zones of influence are applied to the Hillforts of Bigbury, Loose and Oldbury, they fit neatly into this narrative (maybe too conveniently), as being centres for each of the territories. This can only really be applied to the Late Iron Age; what the political and social landscape looked like during the earlier pre-history period is much more difficult to decipher. The physical characteristics of the landscape would have probably been important in defining movement, contact and resource access and perhaps ergo, territories, even if they were smaller than the Late Iron Age divisions.

The Late Iron Age of Kent, shows more of an affiliation with Essex and Hertfordshire than it does with its immediate neighbours of Surrey and Sussex. This is evidenced particularly by the distribution of coins and some pottery types. Allen had argued that it was during the mid to late 2nd century BC, that the quantity of imported gold coins (Gallo-Belgic A-F) increased (Allen 1961, pp.99-131). A distribution map of the Gallo-Belgic A in particular (Figs. 2 & 3), does show a concentration in north Kent, Essex and Hertfordshire although Holman states that both A and B type coins are less common in East Kent, with the main concentration being in the west and along the north coast (Cunliffe 2005, p.129; Holman 2000, p.210).

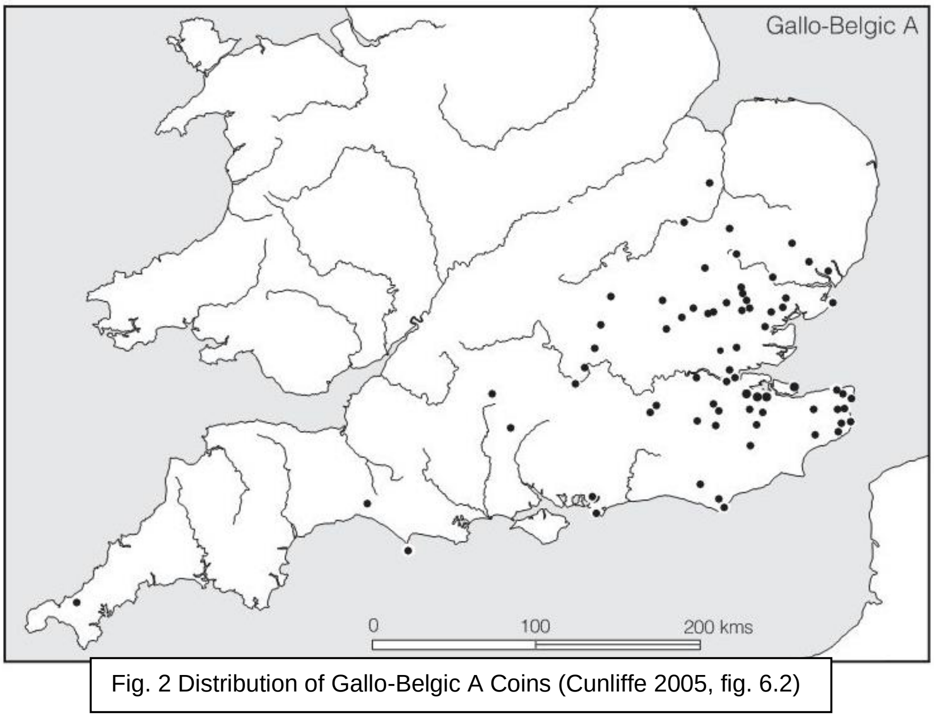


Fig. 2 Distribution of Gallo-Belgic A Coins (Cunliffe 2005, fig. 6.2)

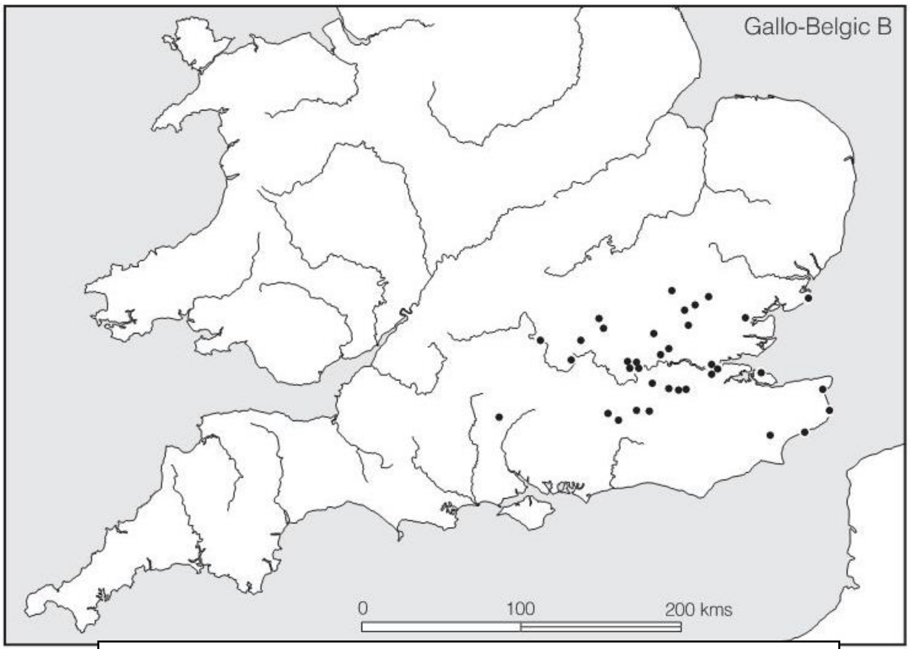


Fig. 3 Distribution of Gallo-Belgic B Coins (Cunliffe 2005, fig. 6.2)

The distribution pattern of the coins, is similar to the La Tène 3 (approx. 1st century BC) pedestal urn distribution, identified by Hawkes (Fig.4) (Hawkes and Dunning 1930, p.189). Cunliffe also shows that during the last century BC to the 1st century AD, there is a distribution of Mucking-Crayford style pottery, which may highlight the relationships of the area in west Kent. This pottery can take the form of burnished jars with omphalos or foot ring style bases and can be plain or decorated. The main region where this type of pottery has been recovered takes in the area around Essex and West Kent, with Oldbury being an important source of the undecorated type (Cunliffe 2005, p.115). These associations indicate the relationships of the later Iron Age but in the earlier period the ceramic distribution seems to be more localised (Cunliffe 2005, pp.88-103).

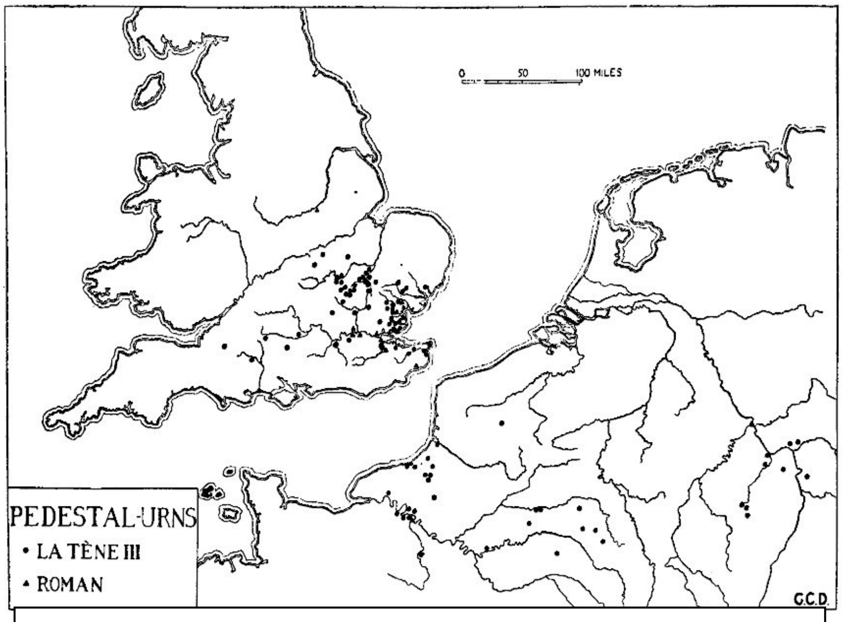


Fig. 4 Distribution of Pedestal Urns (Hawkes and Dunning 1930, fig.7)

2.0 Hillforts Overview

As discussed in chapter 2, Hillfort is a general term applied to a settlement commonly located on higher ground with surrounding earthworks, which could be labelled as “fortifications”; they can be seen throughout Britain with southern Britain having the densest population (Cunliffe 2005, p.348). It is the element of supposed fortification that can be misleading as to the function of Hillforts.

As demonstrated with the excavations at Bigbury and Oldbury, many investigations of Hillforts concentrated on the ramparts, with few investigating the interior, consequently our understanding of what lies within is sorely lacking. The Wessex Hillfort Project, in an effort to bridge this gap in our knowledge, surveyed a wide range of Hillforts in Central Southern England (Payne, Corney and Cunliffe 2006, p.vii). The survey results showed varying degrees of activity within the interior of the Hillfort, some of which would have been influenced by the surveying conditions such as underlying geology or agricultural activity but the majority illustrates the varied and complex nature of Hillforts. The project concluded that it is not possible to predict the internal character of a Hillfort by its size or form and it also states that the internal layout is highly variable, with some being well organised while others appear to have internal arrangements that were more random. However, many sites do have in common, a clustering of activity and in several cases what appears to be zones of particular activity (Payne, Corney and Cunliffe 2006, pp.146-147).

Does this reflect their use as a central place, a seasonal meeting place, a stronghold exercising control of the immediate area, a centre of administration and/or industry or elite residence, or a combination of these? It is likely that Hillforts had a multitude of functions and these probably changed through time. The driver behind the construction of these monuments will likely be different, dependent on location in the landscape and the prevailing culture of the society. It is for this reason that it is practically impossible to state for certain what these were used for and comparisons between Hillforts in different areas need to be treated with caution.

3.0 Fewer Hillforts in Kent?

Taking into consideration the imprecise and probable fluid location of the Kent county border, Kent does appear to be different when compared to its close neighbours, in particular the number and location of Hillforts.

There are several potential reasons why so few of these Iron Age monuments exist in the extreme southeast of England:-

a) Lack of suitable construction sites.
b) They were built but they are as yet, not detected.
c) There were cultural reasons which influenced the decision to build or not to build these monuments.

3.1 a) Lack of suitable sites?

The high ground of chalk which is the North Downs, is devoid of Hillforts not just in Kent but also in neighbouring counties. The absence of Hillforts on the chalk in Surrey does not appear to have inhibited the construction of these monuments, as alternative sites have been found on the Greensand Ridge. The eastern end of the North Downs runs across the top of Kent and arcs down towards Dover in the east; it is interrupted only by rivers which run more or less south-north. The geological symmetry of the South East of England means that the South Downs mirror the North Downs and yet, the former is home to several of these Iron Age monuments numbering into double figures. It is possible that the stony-clay glacially derived mantle forming a superficial layer of the North Downs, unlike the perhaps more forgiving South Downs, was a problem to farm with the technology available at the time. This may have made settlement less attractive with a consequence that large defended monuments could not be sustained. This of course assumes a particular function of Hillforts, one which relies on cultivation of the immediate area, implying that it was occupied throughout the whole year, with a significant population that required feeding. This assumption cannot be sustained and it is likely that Hillforts had a multitude of functions, one of which could have been seasonal occupation possibly associated with pastoral activities.

The Greensand Ridge which runs parallel to the North Downs at a distance between 2km at its closest and 10km at its furthest, is the location of the three Kentish Hillforts; these are Squerryes, Oldbury and Quarry Hill at Loose. It is also home to several Hillforts in Surrey like Antisbury, Holmsbury and Hascombe (Thompson 1986, p.285). The Greensand Ridge in the west has a significant elevation but as you move further east, it becomes less prominent and the height advantage that it gives becomes less significant.

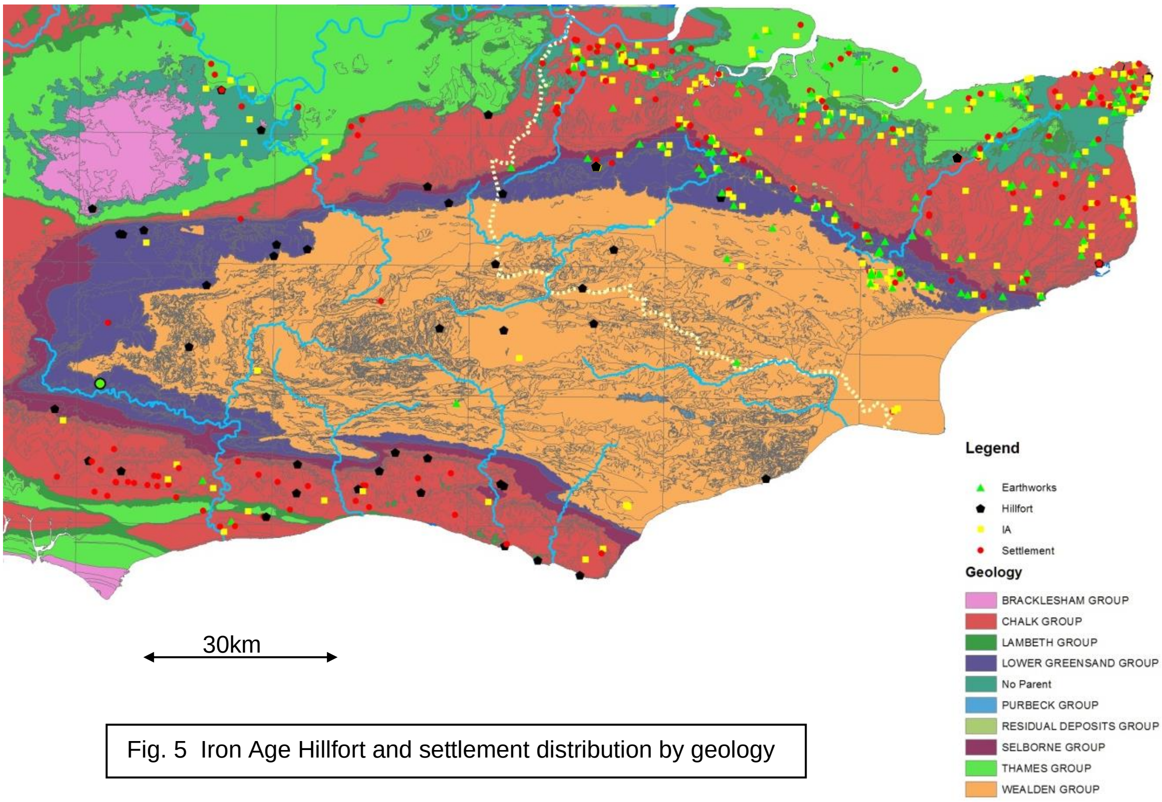


Fig. 5 Iron Age Hillfort and settlement distribution by geology

It is unlikely that poor availability of suitable locations is the reason why Hillforts were not so numerous in Kent, especially East Kent. If we look at the spatial plot of Iron Age activity and settlement from the Kent HER (Fig.5), apart from the expected focus on the fertile river valleys, it shows that the majority of the Iron Age sites identified are on either the northern side of the North Downs adjacent to the coast, or along the Vale of Homesdale and the Greensand Ridge, both of which are on the southern side of the North Downs. The North Downs rise up quickly from the low land below, providing many locations which would have a commanding view, yet are potentially close to settlement if this was a criterion for Hillfort site selection.

There is also a concentration of settlement on the Isle of Thanet and the area between Thanet and Dover. Areas where the Iron Age activity seems to be reduced are the top of the North Downs and also the area of the Weald. The data from the Sussex HER suggests that in contrast to the North Downs, the South Downs see the majority of the Iron Age activity.

The numbers of known Iron Age sites are likely to some degree, a reflection of investigation and excavation activity, due to the modern planning process. Thanet, in particular, now has large urban areas and also has benefited from several large civil engineering projects like the construction of the East Kent Access Road. This ran over an archaeologically rich area and as can be seen from Fig. 6, several Iron Age sites were identified. Thanet also benefits from a very active and diligent Archaeological unit, The Trust for Thanet Archaeology, and they have contributed greatly to the archaeological knowledge of Thanet and the surrounding area.

Probably more noticeable in terms of concentration of archaeological sites, is the route of the Channel Tunnel Rail Link. It is likely that this area was a very busy settlement zone in pre-history, considering that such a precise and narrow project like the rail link, uncovered so many sites in its path (despite the aim in the planning process to avoid known sites).

Various road and civil engineering projects have also been undertaken in the area around Dover and Canterbury and like Thanet, the archaeological groups in these regions have been instrumental in ensuring that the archaeology is investigated fully. This area also has a very strong amateur group which has added greatly to the archaeological record and will have contributed to the concentration of known Iron Age activity.

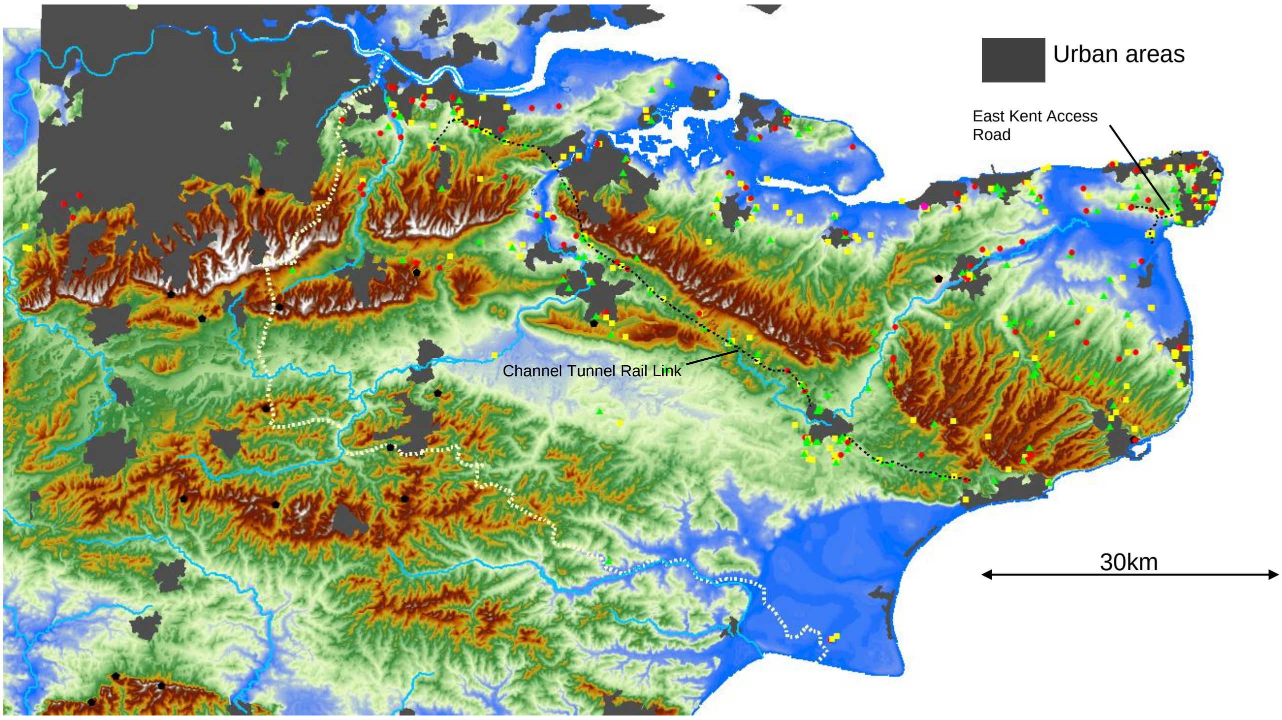


Fig 6 Correlation of Iron Age activity and modern urban centres and civil engineering works

The Iron Age activity and settlement pattern illustrated above, shows that even with the bias of the developer led excavation strategy, the focus is on the foothills of the North Downs and around the coast. This indicates that the higher ground favoured by the Hillfort builders is never too far from an area of Iron Age activity, suggesting that even if the Hillfort was permanently occupied for large periods of time, they would have been able to be resupplied without too much difficulty.

3.2 b) Built but not yet detected?

This scenario is likely to be a very real one and it is probable that there are Iron Age earthworks which either have not been detected or have been destroyed by agriculture or urban development. This is clearly illustrated by the discovery of the large earthwork revealed by the 2010 LiDAR survey at Homestall Woods, which was previously unknown (Sparey-Green 2014, pp. 393-394).

The possibilities of Hillforts in Thanet have already been discussed and the evidence to date suggests that Thanet does not have a strong case for such structures. Ashbee points to the discovery of double ditches at North Foreland Hill as evidence of a Hillfort; he even goes as far as to suggest a minor oppidum. Additionally, whilst not stating explicitly that a ditch defended Iron Age settlement at Fort Hill Margate is a Hillfort, he strongly suggests this (Ashbee 2005, p.162). Moody, with his intimate knowledge of Thanet, explains North Foreland as a site of more than one phase, with the double ditch features more likely to be the ditches of hollow ways used to connect other parts of the island (Moody 2010, p.120). He also goes on to state that Thanet during the Iron Age, had zones of specialised functions connected by drove ways and track ways. This mobile society used this network to move between the different coastal and upland areas suggesting that there was not a requirement for a central place which a Hillfort would provide (Moody 2010, p.118).

Dover has also been suggested as a potential Hillfort location and although as previously stated, local archaeologist Keith Parfitt, states that there is no real evidence to support this, it is worthwhile revisiting the Iron Age settlement distribution map. Dover no doubt, would have been an important port during the Iron Age (after all it is the find-site of the Channel-going boat of the Middle Bronze Age discovered in 1992) and the break in the chalk cliffs which gives access to the land beyond, would be a strategic point to control (Clark 2004). The settlement map shows a concentration of activity in the immediate area around Dover and it is likely that the port was an important resource in terms of coastal trade from other parts of Britain and also from the continent. Even if the tribes in this area were settled and free from internal conflict it is possible that some impressive structure high up on the cliffs overlooking the port would not be out of place. As Ashbee points out there is constant and considerable erosion of the chalk cliffs and it is possible that a large part of any Hillfort has now disappeared into the sea (Ashbee 2005, p.158).

With reference to Fig. 7, the other site that would seem to fit the attributes of a Hillfort is the area close to Folkestone and here we find the earthworks at Peene in the form of a double ditch enclosure cutting off a promontory (Bradshaw 1973). Like Dover, Folkestone is likely to have been an important port, with its location at the edge of the North Downs providing access to the interior. The settlement patterns also suggest that this would have been a busy landscape with indications of activity on the south-east ridge of the chalk uplands. Excavations by the Canterbury Archaeological Trust during the construction of the Channel Tunnel terminal in the late 1980s, identified several Iron Age settlements. One of the largest multi period settlements was Dolland's Moor which produced over 17,000 pottery sherds (Macpherson-Grant 1989, p.60). The Iron Age had two main occupation periods of the Early Middle Iron Age and the Later Iron Age/early Roman period (ibid).

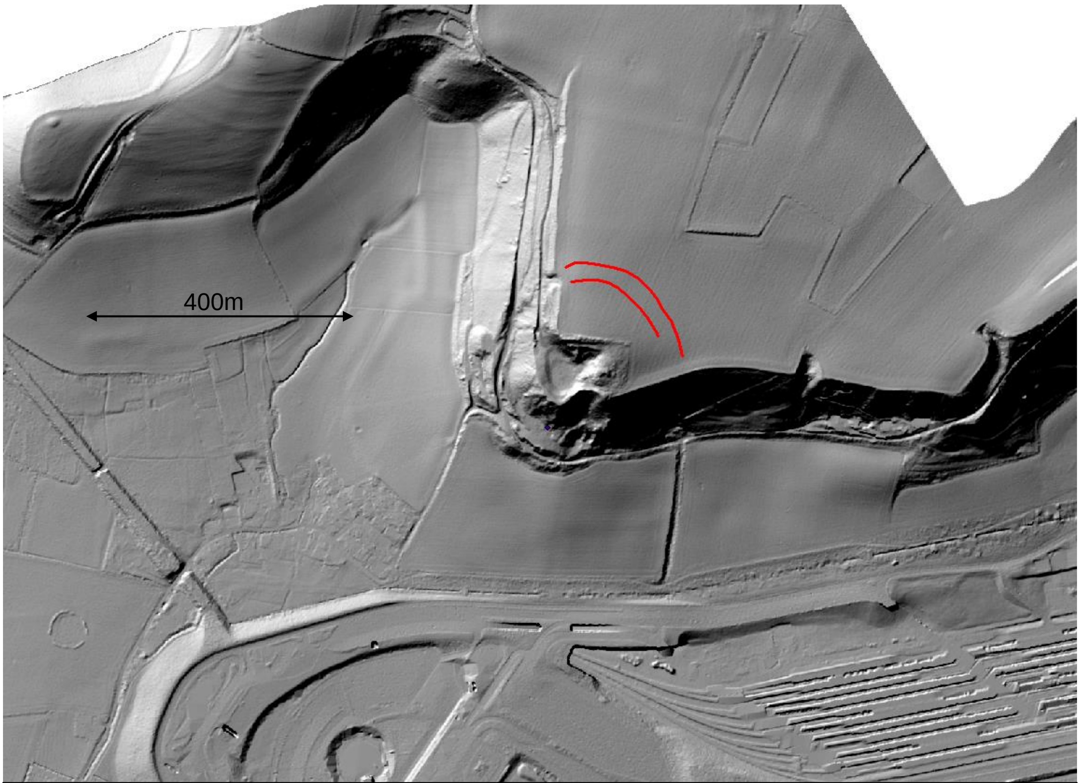


Fig. 7 LiDAR of terrain of Peene (outline of probable earthworks seen on Google Earth in red)

The coastline is about 5km away from Peene (Fig.8) so the view from the high ground would have afforded a far reaching vista out to sea and also covered several kilometres of coastline. The view inland is restricted to the east and there is a limited view to the west, restricted to almost due west.

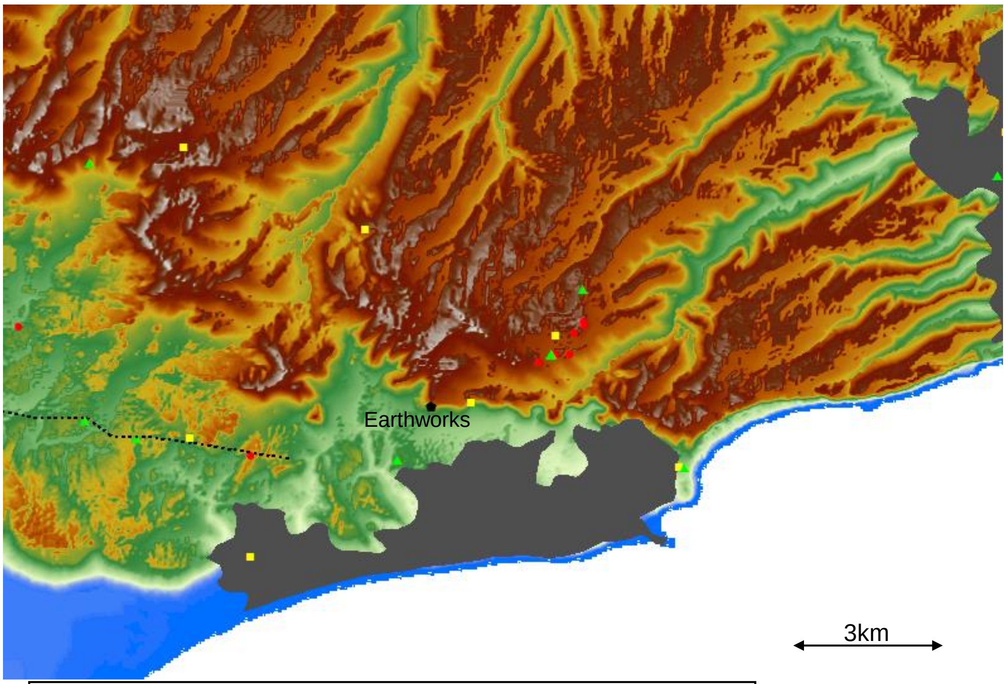


Fig 8 Location of Peene showing nearby known Iron Age activity

One other site which the Kent HER has identified as a possible oppidum, is that at the Sunset Caravan Park at Seasalter near Whitstable (*Seasalter Oppidum*). Here excavations revealed a ditched enclosure hugging the 55m contour and enclosing an area of around 40,000sq m. The ditch has been described as not substantial and probably not designed for defence (Ibid). The site covers a large area revealed by nearby excavations at Church Lane East and Wraik Hill. The main settlement site of Sunset Caravan Park and Church Road East has evidence of habitation from the Late Bronze Age into the early part of the Roman period and Wraik Hill has evidence of later Iron Age activity (Allen and Wilson 1998-1999; Allen 1998-1999). The classification of oppidum in the HER looks to be based on its size and its late date but the enclosed area is only 4ha which is not large enough for the normal classification of oppida, although the settled zone outside of the ditched enclosure would increase the area. Signs of industry have been identified in the form of iron slag and re-fired ceramics indicating the possibility of the production of salt (Allen and Wilson 1998-1999, p.11).

There is no doubt that this is an important prehistoric site with evidence of continued occupation since the Bronze Age, becoming a nucleated settlement sometime during the Iron Age. Applying the criteria of the classification of oppidum as discussed in chapter 2, this site does not as yet fulfil the main conditions to be labelled an oppidum, though further excavation may change this. It is also unlikely to be a Hillfort as the encircling ditches appear to be too slight and a ditched enclosure is a more appropriate interpretation.

As described in the Bigbury environs chapter, two circular ditched enclosures have been identified on the LiDAR plot and both have the potential for the classification of Hillfort. Knockhimdown Hill has the more classic shape and position of a Hillfort but the other possible double ditched earthwork (where Iron Age pottery has been found) has the more intriguing shape.

Fig. 9 shows a 3D view of the site looking eastwards. This shows that there is an undulating linear feature running up the west side of the promontory joining the earthwork feature at the top of the hill. The linear feature does not seem to continue down the east flank but there is a trace of a similar feature at the bottom of the slope.

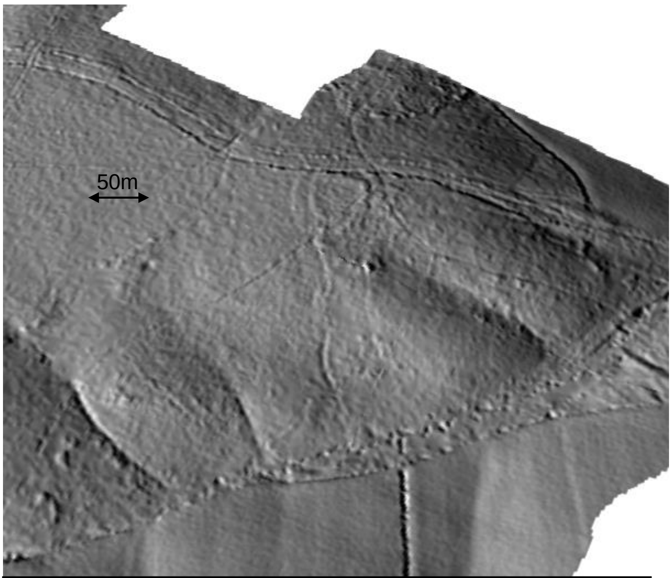


Fig 9 LiDAR showing the possible double ditched earthwork

It is just possible that this linear feature is the remains of a cross-ridge dyke and if it is, then it would be part of a group which includes Peene and Bigbury, both of which have a similar isolated promontory configuration. Cross-ridge dykes are often a precursor in other parts of Britain where the continued occupation and refinement of the earthworks leads to the construction of a Hillfort.

It could be that at Peene and also at the double ditched feature, this progression did not occur, but Bigbury with perhaps the benefit of a more influential position, prospered and developed into a significant Hillfort.

The evidence to date does seem to show at least for East Kent that there were significant monuments built that have the form of at least the first stages of Hillfort construction. If it is assumed that the area of the Weald was sparsely inhabited due to the thick woodland and that the area of what is now Romney marsh was also not widely settled due to the marshy low lying land, then the remaining area suitable for settlement is not large (Romney marsh p40-41). If it can be proved that Peene was an early Iron Age cross-ridge dyke then this and the earthworks of Bigbury and the double ditched feature would mean that at least the Early Iron Age Hillfort density would not be too different from other counties.

3.3 c) Cultural reasons to build or not to build?

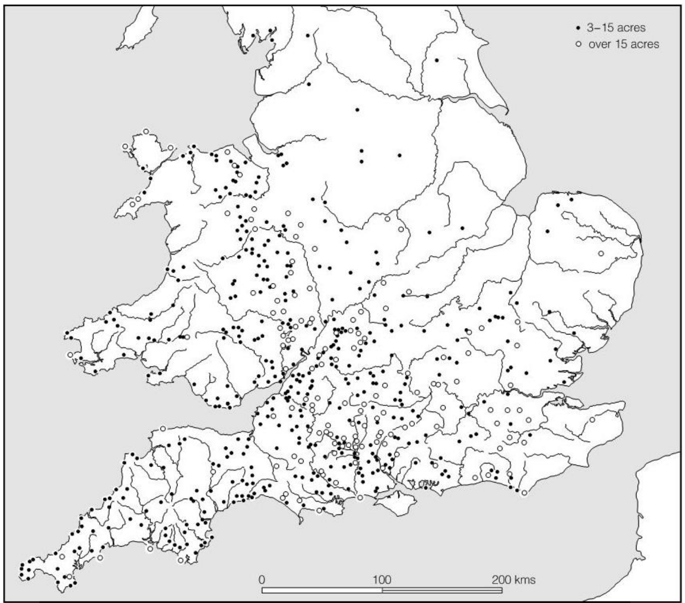


Fig. 10 Distribution of Hillforts (Cunliffe 2005,

This posed question is probably one of the most difficult categories to prove one way or another, as archaeological evidence showing “why” something was or was not done is open to interpretation. In England, Scotland and Wales there are around 3,300 identified Hillforts or defended enclosures with over half, less than 1.2 ha (Cunliffe 2005, p.347 quoting Hogg 1979).

The majority of the larger Hillforts are located in central southern Britain and as can be seen from Fig 10, there are large areas where Hillforts are rare, which includes the south east of Kent.

Cunliffe suggests that the birth of Hillforts in the central southern part of Britain came in the early part of the 1st millennium BC, out of the need to establish territorial ownership; this also saw land divisions in the form of linear earthworks (Cunliffe 2005, p.589). The number of Hillforts grew in the Early Iron Age and the Middle Iron Age saw another change in the Hillfort pattern, as many of the smaller forts dropped out of use and we see the remodelling of others, so that the Hillfort numbers are reduced but their size increases, possibly reflecting their wider ranging influence (Cunliffe 2005, p.590).

This, Cunliffe explains, was a result of smaller territories merging into larger ones due to conflict or political alliances. This may suggest, that where Hillfort construction was rare, there could be connection with a small population, implying that land ownership was not a stress factor, thus resulting in a reduction in conflict. Were these areas more egalitarian in their social organisation making the need for central places redundant? Or was it the reverse, where the ruling classes were so powerful and far reaching that there was no need to demonstrate power by building Hillforts across the landscape? It of course may also be down to something far less complex, suggesting that Hillforts were just not a requirement for Iron Age life and social reproduction in these areas.

4.0 The Missing Middle Iron Age?

With the evidence collected during the test pit excavations in 2013, the occupation of the ridge at Bigbury on which the Hillfort straddles, can now be pushed back definitely to the Early Iron Age and probably at least to the Bronze Age (chapter 10). The pottery recovered during the previous excavations within the ramparts, covers the later Iron Age from around the 2nd century BC, with a potential for older pottery, dating according to Thompson, from 5th to 3rd century BC, explicable as a pre rampart occupation (Thompson 1983, p.254). Jessup and Cook suggest that the early looking pottery is in fact later but made in an older tradition (Jessup and Cook 1936, p.166).

A survey of prehistoric settlement patterns of the north coast of east Kent, suggests that there were fewer settlement sites identified from the EIA/MIA and MIA/LIA and the evidence suggests that Bigbury could also fit into this settlement gap (Allen 2009, p.198). Allen shows that during the Late Iron Age the settlement activity rises dramatically to levels close to that of the Late Bronze Age; once again this shows a similar profile with the occupation of Bigbury (Allen 2009, p.200). He suggests that the ebb and flow of the settlement activity is connected to the maritime trade, in particular the bronze trade during the start of the Early Iron Age. This he states, is evidenced by an increase in Bronze hoards close to trading waterways like the Wantsum Channel and the Swale (Allen 2009, p.202). He then suggests that the settlements decreased sharply in the study area during the early Middle Iron Age, as a reflection of the decline of the riverine trade from the Continent (ibid). The settlement density in the coastal area increased during the Late Iron Age and was likely to be related to the general increase in continental trade at this time, with the increasing Roman trading activities in Gaul (Cunliffe 2005, p.484).

Early Iron Age influence from the continent can be seen in the pottery of Kent, with good examples recovered at Highstead, where a surface treatment called rustication has parallels on the continent. According to Champion, this treatment is diagnostic of Early Iron Age sites in east Kent (Bennett 2007, p.209). Champion goes on to discuss several examples of cross-channel similarities, indicating that the English Channel was not an obstacle to trade. He also points out that several of the Early Iron Age structures at Highstead were rectangular in shape, a tradition seen on the continent, with the British tending to favour the roundhouse (Bennett 2007, p.290). This is an important piece of information particularly when analysing the results of geophysical survey, as the general expectation is that any Iron Age structures would appear as circular or sub-circular anomalies, dismissing squarer features as much later; the evidence from Highstead suggests that this is not necessarily the case.

Although Bigbury is not in the area of study by Allen, it is close in proximity and it is also on a river, so any trading fluctuations in the North Kent area would doubtless be reflected in the fortunes of Bigbury. The large prehistoric site, recently excavated at the location of the new Turing College at the University of Kent, on initial examination shows a similar dating profile (Lane 2014). There was evidence of the Late Bronze Age, possibly including cremations but the predominant activity seems to be of the Early Iron Age to the Mid Iron Age (800BC to 400BC), in the form of a large ditched enclosure, post structures including roundhouses and industry. This industry appears to be ordered in zones of activity, as pottery kilns, loom weights and spindle whorls and timber lined pits were found on different areas of the complex (Lane 2014, p.19). The Iron Age activity from about 400BC to 100BC is practically undetectable but after 100BC there was evidence of cremation burials and adjustment of boundary ditches, indicating a change of use from industry to something more agricultural (Lane 2014, p. 21). This is a very similar occupation profile to the large prehistoric site at Highstead (Bennett 2007, p.295).

A possible example of a Middle Iron Age site on the same ridge as Bigbury but nearly 8km to the west, can be found at Mill Hill in Perry Wood, Selling. This site has been subject to small investigation excavations as part of the "*Discovering Perry Wood Archaeological Project*" and the most recent investigations in 2014/2015 by volunteers led by the Trust for Thanet Archaeology, found a ditch which may be part of a sub-rectangular circuit (Pers Comms Ges Moody). Within the ditch fill, were several sherds of pottery, with the prehistoric assemblage belonging to the Early Middle Iron Age (400BC-350BC) (The Trust for Thanet Archaeology. 2016). Analysis by Nigel McPherson-Grant notes several parallels with Highstead and also comments on the poor manufacturing quality of the sherds. This he suggests may be an indication of the increasing view that between the Early Middle to Middle Iron Age, a reduction in the ceramic manufacturing quality is noticed (ibid). This is similar to the decline in the quality and variety of ceramics around the Early Middle Iron Age (400BC-300BC) seen in Wessex (Sharples 2010 P324).

The Highstead site started in the Bronze Age and saw occupation from 900BC to 400BC. The evidence for settlement then only reappears again from 100BC to 250AD (Bennett 2007, p.295). It is possible that the missing period is undetectable because day to day life somehow changed in a way that left little impact on the immediate surroundings. It is unlikely that they stopped using ceramics and went over to much more archaeologically invisible utensils like wood, leather and horn. It is also possible that the ceramic traditions failed to progress significantly so that distinguishing between early and middle eras is difficult to differentiate in the archaeological record. Accompanying C14 dates associated with pottery finds would be helpful to differentiate the age of similar pottery types.

This idea of similar pottery forms spanning the Middle and Late Iron Age eras was the theory that Jessop and Cook put forward to account for the different age of pottery found at Bigbury. It is also possible that the idea put forward by Allen suggesting that the population declined due to the drop off in trade with the continent, could also be a reason for this missing era.

5.0 Bigbury

The location of Bigbury is a deliberate act where many factors would have been considered. The Pilgrims Way is likely to have been an ancient trackway following the line of the ridgeway and undoubtedly pre-dates its connection with Chaucer. It is likely to have been a very important route in pre-history and the control of its access could have been a critical function of Bigbury. When this is coupled with the close proximity to the River Stour providing the potential for the regulation of its use, could one of Bigbury's functions be connected with control? That is not to say that there is not a defensive element to its location and construction but its ramparts are not that formidable everywhere and there are areas of weakness as already discussed in chapter 7.

The extensive geophysics and survey around Bigbury which was carried out as part of this research, is disappointing in not positively identifying evidence of a wider settled area outside of the ramparts, but through excavation, probable Bronze Age and definite Early Iron Age activity very close to the defences, has been revealed. It is impossible to tell if the Early Iron Age settlement was under the protection of the area defined by the Cross-Ridge Dyke that bisects the Hillfort, as its dating is so imprecise but these features are conventionally seen as dating to the late Bronze Age or Early Iron Age (Cunliffe 1971b, p.57) . Cross-ridge dykes do not tend to be of a defensive nature. Many are passable by going around the ends, so whilst this may be useful to allow the free movement of animals, it demonstrates more that the Dyke acts as a barrier for humans, signifying a boundary where permission must be sought to cross (Oswald 2011, p.5). It is perhaps not unreasonable to suggest that the Dyke was an early attempt to section off the end of the ridge for the purposes of control of access. The Early Iron Age ditch identified in the geophysics and 2013 excavations is possibly a part of that attempt at control and demonstration of land ownership.

5.1 Dating evidence

The dating evidence for Bigbury (see table 1 below), is primarily from the pottery recovered and as detailed in chapter 2 has caused some debate between the early and the more recent excavators, as pottery of both an early and late date was found in the same context. The 2013 pottery find in the old quarry at Bigbury, although predominantly Late Iron Age, did contain a small rim fragment with an earlier form (See chapter 10 2.6). Thompson and the Blockley brothers also produced C14 dating which all point to a later date (2^{nd} to 1st C BC).

Who	Type	Context	Location	Dating	Notes
Jessup and Cook	Pottery	Trench C1&2	North ramparts, occupation layer under ramparts		Early and late IA pottery
Jessup and Cook	Pottery	Trench C8	North ramparts, primary silting of ditch		Heavily gritted early IA pottery
Jessup and Cook	Pottery	Trench C8	Fill of ditch	Iron Age A	Mostly Iron Age A gritted pottery with one possibly Hallstatt – La Tène 1
Jessup and Cook	Pottery	Trench 7, 8 extension	Behind ramparts in occupation layer	Predominantly Iron Age A	Belgic? Sherds also recovered possibly 1^{st} century BC
Jessup and Cook	Pottery	Trench 15	South side ramparts-occupation layer	Predominantly Iron Age A	Belgic storage jar, coarse gritted ware
Jessup and Cook	Pottery	Trench 12	Occupation layer inside of north ramparts	Iron Age A	Daub with impressions, rough gritted ware
Jessup and Cook	Pottery	Trench 12	Occupation layer inside of north ramparts	Iron Age C?	Vase little grit la Tène II,
Jessup and	Pottery	Trench 14	Occupation layer inside		Mixture of wheel thrown

Cook			of north ramparts		and handmade IA pottery
Jessup and Cook	Pottery	Spit 1	Occupation layer inside of north ramparts		Iron Age A also wheel thrown pottery
Jessup and Cook	Pottery	Spit 2	Occupation layer inside of north ramparts		La Tène II
Jessup and Cook	Pottery	Spit 3	Occupation layer inside of north ramparts		Not specified
Jessup and Cook	Pottery	Spit 4	Occupation layer inside of north ramparts		Wheel turned Belgic IA
Jessup and Cook	Pottery	Spit 5	Occupation layer inside of north ramparts		Hallstatt – La Tène I
Thompson	Pottery	Trench 78/1	North ramparts - Old ground surface beneath ramparts	Iron Age A	
Thompson	Pottery	Trench 78/1&2	Occupation layer over north ramparts	Later Iron Age	Belgic sherds
Thompson	Pottery	Trench 79/1	Annex		Nothing reported
Thompson	Pottery	Trench 79/2	Primary fill of cross-ridge dyke	2nd-3rd Century BC	
Thompson	Pottery	Trench 78/4-10	Behind north ramparts	Mixture of early and Belgic pottery 2nd to 1st century BC	Possible hut occupation layer
Thompson	Pottery	Trench 80/1	Clay lined water hole	Belgic and earlier	Mixture of grog and flint and sand tempered wares
Thompson	Pottery		Spoil of water hole	2nd to 1st Century BC?	Dressel 1 amphora
Thompson	Bronze strap link	Trench 78/8	In water hole loam	Late 1st Century BC or early 1st Century AD	
Thompson	Pottery	Trench 79/9	Annex temporary smithy?		Flint gritted, same as interior
Thompson	C14		Lower levels of water hole	110BC±50	Revised from 30AD±35
Thompson	C14		Lower levels of water hole	130BC±45	
Thompson	Archmaeomagnetic		Water hole silt	300BC-90BC	Revised from100BC-70BC
			Re analysis of Jessup & Cook sherds suggest some early 5th to 3rd Century BC (Thompson 1983, p.254)		
Blockley & Blockley	Pottery	Trench Xii – (15)	Under ramparts in southwest	350BC-50BC	Gritted fabric
Blockley & Blockley	Pottery	Trench i-(8)	Overlaying of the reduced ramparts at the south	End of 1st century BC	Grog tempered ware
Blockley & Blockley	C14	Trench i-(9)	Under the slighted rampart at the south	20AD±70	charcoal

Table 1 (Jessup and Cook 1936; Thompson 1983; Blockley 1989)

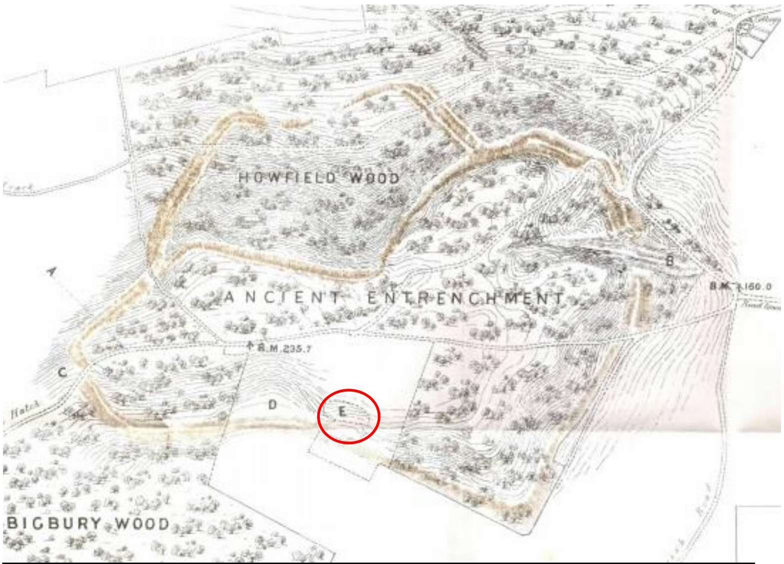
As can be seen from table 1 above, the dating from Jessup and Cook is referenced to the Hawkes definition of the Iron Age and rarely are actual dates supplied apart from what they refer to as “Belgic”. Whilst there is no doubt that they were skilled archaeologists, a thorough examination of their pottery is required using modern protocols and updated ceramic knowledge gained in the last 20 years.

An important observation of the differences between the Jessup and Cook excavation and that of Thompson, was the stratigraphic location of the occupation layer at the north ramparts. Thompson clearly shows that the dark main occupation layer (which had pottery evidence of Middle and Late Iron Age), ran over the rampart and not beneath, as Jessop states (Thompson 1983, p.253). In contrast, the section drawings from Jessup and Cook show a significant dark occupation layer under the ramparts. We have to believe that both excavators described what they saw; the only difference between the two trenches is their location by the ramparts, so it is possible that as the excavations were nearly 200m apart, there may have been modifications to the Hillfort structure at one of the areas. If the opportunity arises again for excavation, then the unravelling of this mystery need to be a priority. More frequent trenches between the two sites above are required, to identify if a point can be determined where the occupation layer can be seen to switch from above to below the ramparts.

5.2 Bigbury – Ironwork discoveries

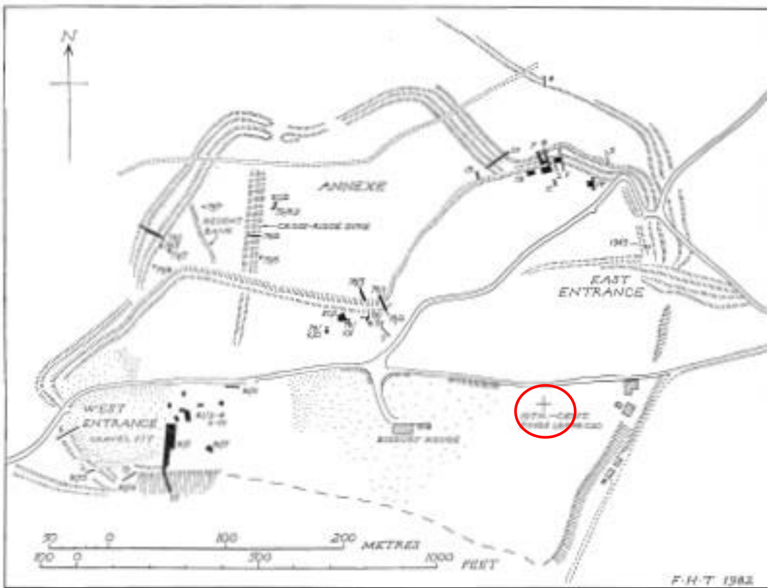
The key discovery that brought Bigbury to the attention of the antiquarians was the large collections of ironwork discovered during quarrying in the later part of the 19th century. Thompson, as part of his excavation report of Bigbury published in *The Antiquaries Journal*, added the metalwork finds of the 19th century (Thompson 1983, pp.265-273). The artefacts cover a range of uses, including: weapons, hearth furniture, agricultural equipment, horse and chariot paraphernalia, as well as possible currency bars; there were also lengths of slave chain fetters (ibid). These are all major items which would have represented value and empowerment to their owners. It also illustrates some of the activities that may have occurred in and around Bigbury. None of the recovered hoard appears to be “rubbish” indeed quite the reverse; it is a reflection of the high status and standing of the community that was capable of removing these items from circulation.

It is not clear why the ironwork was buried, as the context is lost but several theories have been suggested. Was it a ritual deposit, a stash for repair or recycling, a hurried burying of valuable artefacts or even artefacts from a burial? Brent, who first brought these artefacts to the attention of the world, states that they are from “Roman Graves” although he clearly did not see the context and at that time in history many such finds were attributed to the Romans (Brent 1861, p.33). Jessop in his article on Bigbury in 1932, reproduces a map drawn by a Dr Williams-Freeman which appears to show the site of these iron artefacts in a different location to that which Hussey illustrated in 1874 (about 100m north west). This location error seems to be perpetuated in subsequent maps including the one published by Thompson in 1983. This error was corrected by Sparey-Green in his survey of 2011 to something close to the Hussey reference (Sparey-Green 2011, p.27). This error may have some significance, as the iron work discovery as defined by Hussey, puts the location closer to the Hillfort boundary.



Hussey points to area E (circled in Fig. 11) as the location of the metalwork discoveries

Fig. 11 Survey of Bigbury showing metalwork find spot (Hussey 1874)



F.H. Thompson's map indicates the metalwork discoveries were found further north-east (circled in Fig. 12)

Fig. 12 Thompson's map based on that published in Jessup and Cook's

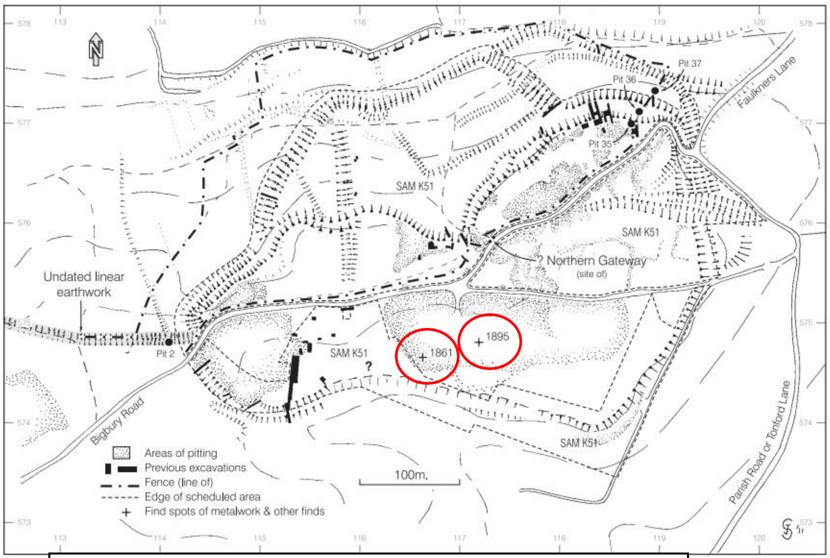


Fig. 13 Corrected metalwork find position by Sparey-Green

The map from Christopher Sparey-Green shows the metalwork discoveries in a similar position to Hussey (circled in Fig. 13) He has also identified a possible second location of a later find spot.

The connection of iron work caches and boundaries during the Iron Age is well known and they may have had a role in emphasising a boundary or more pertinently in the case of Bigbury, be connected with the abandonment of the site (Hingley 2006, p.238). The find by Thompson of a deposited iron plough share in the gully surrounding a probable roundhouse in the interior, may also be an indication of an abandonment offering (Thompson 1983, p.247).

Jessop's article details several different finds of iron at Bigbury between 1861 and 1895 (Jessup 1933, p.95). One find included the slave fetters amongst other metal items and in a separate context, the firedog was recovered. Seemingly, another location, produced the cauldron hangers in a context which included a circular arrangement of what Jessop suggests were loom weights. The context is also described as having a layer of black matter suggesting burning, in association with a fireplace or oven (Jessup 1933, p.96). In 1866 Brent appears to have visited the site of another discovery of iron work at Bigbury, found in a location close to the original find spot. Here he describes that the finds were in association with burning and they included fragments of pottery which he suggest were Roman (Jessup 1933, p.97). The pottery shown in Jessop's article in figure 4, is Roman according to Isobel Thompson but it is not at all clear that these vessels came from the same context as the iron work to which Brent referred (Thompson 2015, p.611). The cooking equipment, namely the tripod used for the suspension of cooking vessels, Jessop suggests, has parallels with a similar artefact found at Standfordbury in Bedfordshire (Hawkes and Dunning 1930, p.261). This he says was found in a high status grave context which included fire dogs, Roman glass and pottery and was dated to the mid first century AD (Jessup 1933, p.107).

During the Late Iron Age, the south-east of Britain saw the introduction of the Aylesford-Swarling cremation ritual (Fitzpatrick 2007, p.125). These burials differed in status by the inclusion of grave goods; presumably the lowest were without and the highest included bronze plated buckets and other bronze vessels (Cunliffe 2005, p.559). A bucket burial discovered in Baldock, Hertfordshire had as part of the grave goods, fire dogs, a bronze cauldron, as well as Dressel 1 amphora (Cunliffe 2005, p.154). The Welwyn-type burials also in Hertfordshire, included imported pottery, as well as feasting accoutrements such as fire dogs and cooking tripods, as part of their lavish grave goods (Stead 1967, p.55).

The slave chains recovered do have parallels elsewhere and the Bigbury chains are often compared with the ones recovered from Llyn Cerrig Bach in Anglesey, although Fox describes the Bigbury chains as being more primitive (Fox 1946, pp.84-85). They both have a similar locking mechanism which does not need padlocks or rivets but depends on an interlocking device, which means that for one to be released, the chain has to be passed through the entire length. The date of the Welsh chain has been given as around 50AD and the date given by Thompson for the Bigbury chains is 50BC (Thompson 2003, p.225). Fox also compared several other similar metal artefacts recovered at Anglesey with those from Bigbury. In particular he cites the similarity of lynch-pins as used to secure wheels to carts or chariots which he dates as between 25BC to AD50 (Fox 1946, p.20).

The date of 50BC given by Thompson, is likely related to his assertion that the Hillfort was abandoned after the invasion by Caesar in 54BC. He suggests that the ironwork caches are due to the forced abandonment of valuable possessions by the fort's occupants, as a result of eviction after defeat by Caesar (Thompson 1983, p.256). He makes no mention of the different locations where the iron was recovered or the possible evidence of the connection with burials. Thompson rightly points out that the iron items represent many of the day to day activities of the Iron Age, like agriculture, woodworking, equine activities and feasting, but as has been shown by Hingley, all that has been found at Bigbury (with the possible exception of the slave fetters) mirrors the majority of the metal work hoards found in Britain in many different contexts. The evidence suggests that as the iron deposits were all found in a similar area, then this location may have represented a special place. The fact that some areas had an association with burning and some had an association with Roman pottery, suggests that there may have been several different reasons why iron was deposited and possibly at different times. It could also suggest that the occupation of the fort continued past the Caesarean invasion which would give the opportunity to date the slave fetters closer to that of Llyn Cerrig Bach and they could have been part of a closing ceremony, as Bigbury transferred its importance to Canterbury.

5.3 Bigbury environs

The prehistoric landscape around Bigbury has never been studied in detail before and this is probably true for the Canterbury environs of which Bigbury is a huge part. The excavations by Jessup and Cook, Thompson and Blockley, only concentrated on the ramparts and the interior, giving only a narrow interpretation of the monument. No apparent thought was given to how Bigbury fitted into the landscape; this changed with the LiDAR survey of the Blean by the Kent Wildlife Trust.

The LiDAR survey has resulted in the identification of significant earthworks in and around Bigbury and although it is not possible to say for certain if they are prehistoric, their form and scale suggest a pre-Roman date. These types of earthworks are seen elsewhere and have been associated with dispersed nucleated Iron Age settlement. Good examples for comparison are the dyke systems at Chichester and at Colchester (Hawkes and Crummy 1995; Bedwin and Orton 1984). The Iron Age landscape around the Bagendon area, also shows linear earthworks associated with settlement and whilst the work by Tom Moore concentrates on the relationships of the earthworks to a specific type of enclosure called a Banjo enclosure, parallels can be made to Bigbury (Moore 2012). Banjo enclosures are settlements where the entrance is flanked by tentacle like earthworks, probably acting as a funnel for the movement of people and stock. Although Bigbury is not a Banjo enclosure, the earthworks to the south-east which now form Tonford Lane, could be part of an outer earthwork which presents an embellished entrance into the Hillfort complex, guiding people to a selected entrance point.

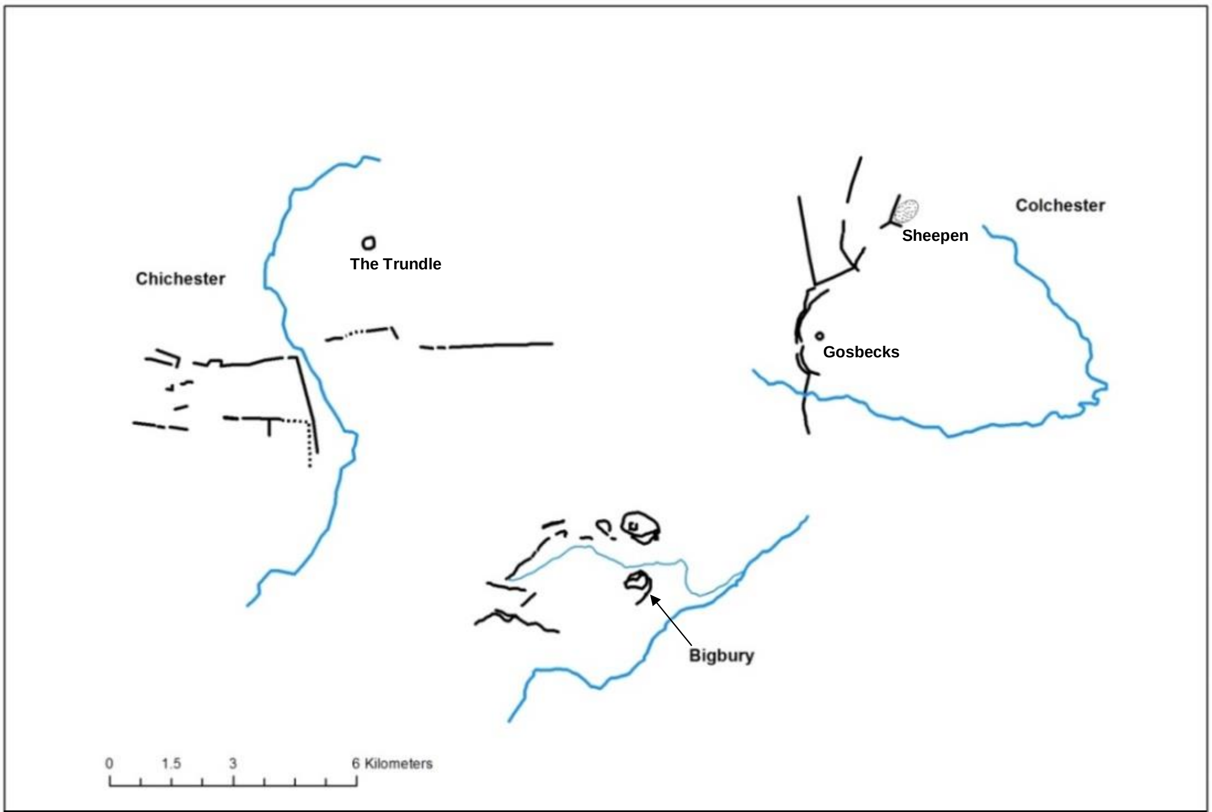


Fig. 14 Comparison of earthworks associated with Late Iron Age settlement (Bigbury, Colchester (Hawkes and Crummy 1995) Chichester (Bedwin and Orton 1984)

The scale of the earthworks at Bigbury, when compared to Colchester and Chichester, is similar, particularly if we accept that the earthworks around Bigbury may extend further west along the ridge. Both Chichester and Colchester earthworks have been dated as late Iron Age. The earthworks at Colchester appear to have been added to during the Roman times, but the evidence from excavations at Chichester seems to suggest that they were filled in early in the Roman occupation (Hawkes and Crummy 1995, p.55; Bedwin and Orton 1984, p.69; Manley, Kenny and Rudkin 2011; Cunliffe 1971a, p.19).

As can be seen by Fig. 14, each of the sites illustrated have a significant river associated with the earthworks, with both Colchester and Chichester having earthworks that straddle the river. Colchester has at least two foci of activity; one is at Gosbecks and one is at Sheepen. Willis suggests that the close proximity of Sheepen to the river would have had special significance; it is sited at its lowest downstream point where the river was not tidal. This was a culturally significant boundary since freshwater would have been considered differently to seawater (Willis 2007). Bigbury has earthworks which are both sides of the Cranbourne stream, which is now not a significant body of water but may have been different during the Iron Age and the marshy area which is Hunstead Bog (see below) is also close by and could have had similar special significance to that at Sheepen. To date no earthworks have been seen on the south-east side of the River Stour but this area is now heavily built up and also has been altered significantly by gravel extraction. There are possible Iron Age features on the Bigbury side of the river listed in the Kent HER.

A possible linear feature has been found at the end of Howfield Lane TR 15 NW 329 and a possible D shaped enclosure TR 15 NW 328 which is now part of a lake created by gravel extraction, is close by. The high ground to the immediate east of Bigbury called Golden Hill, is also mentioned in the HER as having a linear earthwork TR 15 NW 326. All of the HER features mentioned above, have no date attributed but the description given does suggest that they could be of prehistoric origin.

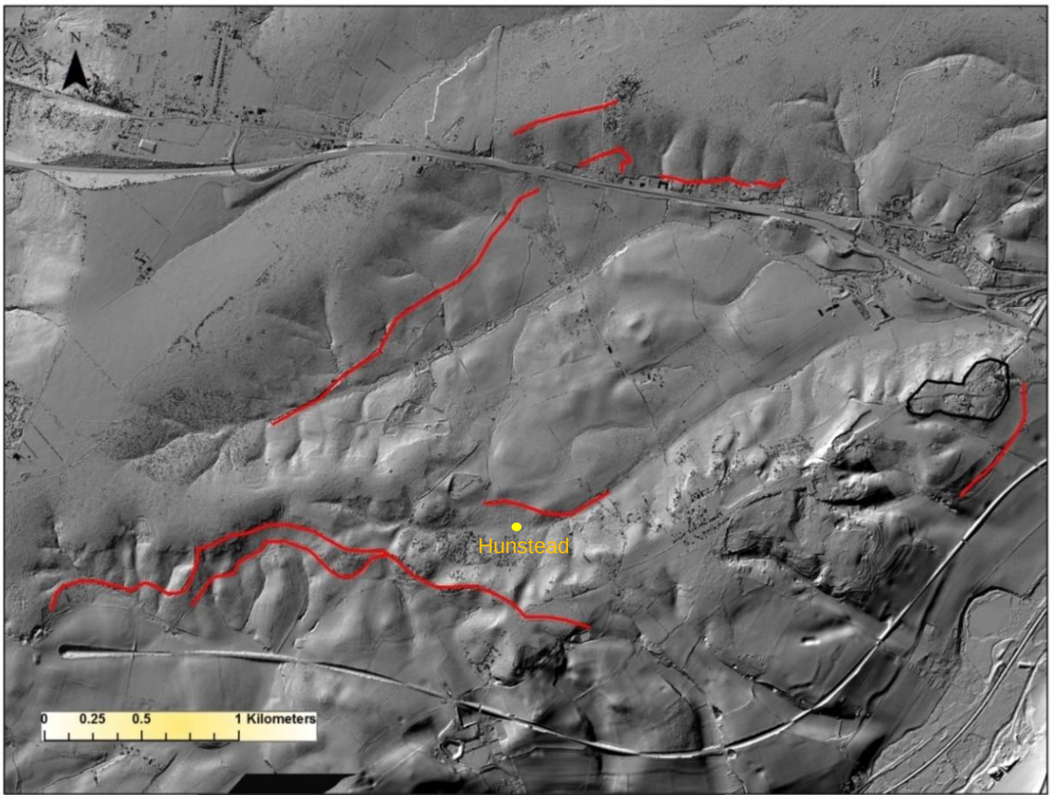


Fig. 15 Linear earthworks around Bigbury

The Blean LiDAR image (Fig. 15) shows an oval low lying area flanked by higher ground to the north and south; the ridge to the south is terminated by Bigbury to the east which effectively closes the oval. The alignment of the ditches as shown in Fig. 15 appears to isolate or enclose the low lying ground of just over 700ha. Within this low lying ground is the bog at Hunstead which appears to have an additional ditch close by. It is well known that during prehistory there was a special relationship with watery places and there are many examples of such places having votive offerings such as deliberately deformed weapons (Rogers 2008, p.42). As already discussed in chapter 7, by the time of the Iron Age, this bog was already formed and it is possible that this may have been a special site for the local inhabitants. The earthworks could have been constructed as a barrier to separate a zone of ritual significance from a zone of allowed navigation. This navigation zone would include the area to the south of the earthworks at Fright Woods, including the River Stour. As the earthworks leave Fright Woods to the east, there is a hint on the LiDAR which suggests that they head in an approximate south-easterly direction. It is impossible for them to be traced after this point having probably been obliterated by more modern agricultural activity but there are a couple of possible scenarios.

If we assume that the line of the modern Pilgrims Way is on the same line at this point as the older prehistoric route way, then the earthworks could turn and would direct travellers along the ridge and into the west entrance at Bigbury. An alternative scenario could be that if the earthworks after leaving Fright Woods continued south-east, this would tend to direct the movement of people towards the possible south-east entrance of Bigbury defined by the modern Tonford Lane, effectively limiting traveller movement to the area adjacent to the river.

The earthworks that run along the lower slopes of the ridge to the north and the ones that run diagonally NE-SW, are more likely to have a function connected with boundary marking rather than navigation, unless it is proven that the earthworks at Homestall have prehistoric origins.

Other than the location of Hunstead Bog, it is not obvious what the reason may be to restrict access to the low-lying area to the west of Bigbury, or otherwise demarcate it with such a huge physical investment, not least as the area has no obvious natural asset different from surrounding areas and in the present contemporary landscape appears unremarkable. The geology of the area is similar to that at Bigbury being predominantly Thanet Beds (sand, silt and clay) and is now mainly laid to orchards and hop plantations with no major settlement. Reviewing maps of the late 18th century, shows a similar pattern to much of the immediate area, wooded with areas of open land. The analysis of the bog sediment suggests that the landscape was probably very similar to that of today with a mixture of arable and woodland land use (Allen and Scaife 2013, p.10). It is possible, that this area which is protected by the earthworks was given over to agriculture specifically for the benefit of the inhabitants at Bigbury. It could also be an area set aside for horses which were a valuable commodity in the Iron Age. Horse and chariot fittings have been found at Bigbury and Caesar describes the use of chariots by the Britains in his Gallic Wars book. Thompson also describes what he calls a “temporary Smithy” in the Annex at Bigbury; even if Bigbury was not a site of intensive metalworking production, a facility for repair would certainly be part of the activities at the monument. There are also fields to the south of Bigbury which nestle in a valley and are effectively hidden from view until one gets close; these would be ideal places to keep livestock either cattle or horses particularly in times of unrest.

Moore in his article “*Beyond the Oppida*” suggests that Iron Age complexes associated with linear earthworks like polyfocal sites and territorial oppida, are more than just a collection of activity centres but must be considered as “integrated landscapes” controlling movement of people and animals “*creating choreographed landscapes of power*”(Moore 2012, p.413). His article points out that several of these dyke systems are associated with the junction of two different types of landscape and quotes Stanwick and Chichester as examples (Moore 2012, p.405). This can clearly be seen at Bigbury.

Bagendon which is the principal site discussed by Moore was associated with minting of coins, as was Colchester (Moore 2012, p.394)(Hawkes and Crummy 1995, p.77). Could this be evidence of the importance of these sites in the late Iron Age, a place that warranted investment in the construction of major earthworks and the orderly flow of people through the landscape? There is a possibility that clay moulds found at Canterbury were associated with the minting of coins (Holman 2005, p.30) and so far no evidence of coin minting has been recovered from Bigbury, although a mint mark DVNO of a coin from Amminus, which Holman suggests means “site on a hill”, could point to the high ground at which Bigbury is located. The Roman name for Canterbury was Durovernum which means fort by the alder-swamp so it is unlikely that it would have a DVNO as part of a mint name (Holman 2000, p.216). There is a complication with this as Amminus is dated to the first part of the 1st century AD which would suggest that Bigbury was still occupied at this time, contrary to the evidence recovered to date (ibid).

5.4 The Caesar connection

As described in chapter 1, Bigbury has many of the characteristics of the place where Caesar faced a battle with the British, a few miles in from his landings on the south-east coast in 54BC. It is close to a river and stands on higher wooded ground making use of the natural defences. There are several points on the perimeter of Bigbury which could offer a potential weakness to be exploited by the Romans but evidence at any of these points is slim. Evidence for the presence of Caesar at Bigbury does not yet exist but the earthworks at Homestall Woods approximately 1km to the north of the Hillfort may change that.

The vulnerable points of any Hillfort are the entrances and with a promontory fort like Bigbury, the side which joins the ridge is a particularly weak area. It is likely that this entrance would have been protected possibly by additional outworks and palisades but the evidence now is not detectable. The Blockley brothers found evidence of what they called a posthole ditch close to the western entrance but this was only found in one trench so it is difficult to suggest that it was a definite feature (Blockley 1989, p.244). The geophysics around this area, especially at the head of the small valley to the south, shows a large build-up of colluvium which may be masking earthworks and it has also been shown by the test pits that some of the archaeology is deeply buried and was not detected by the geophysics survey, so the lack of evidence of outer earth works should be treated with some caution.

Moving to the south of the Hillfort, there is the area where the ramparts have been removed, according to Hussey, sometime before 1873. This stretch of the ramparts was ploughed out presumably to increase the agricultural usefulness of the land; the sketch which appears in Hussey's report is from an OS sketch and shows that there were the remains of two faint lines of banks (Hussey 1874, p.15). The way that they have been drawn is open to some investigation (see chapter 2) but by the publication of the 1887 OS map, all traces seemed to have disappeared. A question that needs to be asked is why was this area of the ramparts chosen for agricultural expansion? One explanation could be that this area of the ramparts was already in a poor state so the effort to reduce it more would be less. This location is some way from the potentially defensively enhanced west entrance and in the other direction there are the steeper ramparts of the south-east corner Hillforts (Fig.16). The area immediately south of the missing defences is approximately the same height as the ramparts and is backed by a large flat area from which an attacking force could be assembled. The possibility exists that this was the point where Caesar attacked the fort and reduced the ramparts to a level that made it attractive 1800 years later to make this the target for agricultural expansion. It was approximately 50m to the west of this area that the Blockley brothers excavated and discovered a layer of charcoal; the date given by C14 analysis with a 95% probability is between 101BC and AD244 which is within the Caesar invasion dates (Blockley 1989, p.241).

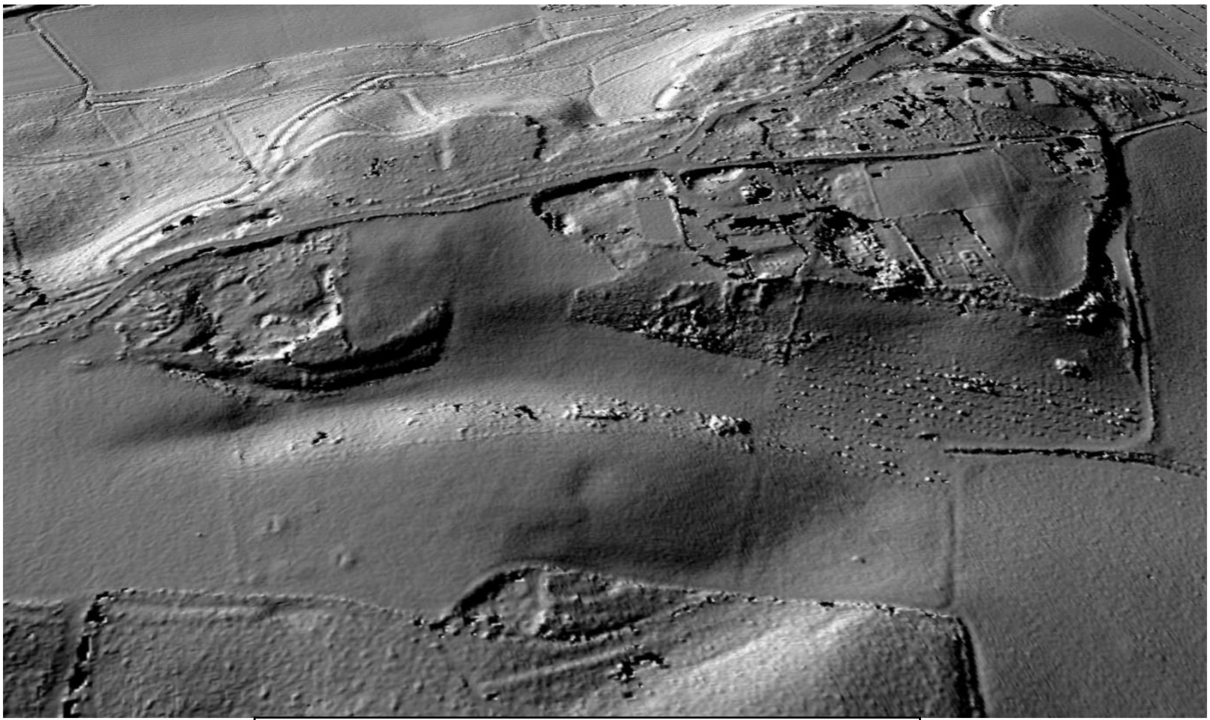


Fig. 16 Destroyed ramparts on the south side of Bigbury

The eastern entrance at Bigbury is very deep, as a result of heavy foot and horse traffic over the years. This area is very sandy and is easily eroded (a second hollow way has been created presumably due to the original route being difficult to pass) but by how much the hollow way had been eroded at the time of the fort construction is not easy to determine. If it was an ancient route way, then some pre-existing erosion would be expected which may account for the depth of erosion seen now. The slope from what is now Tonford Lane to the potential original entrance level is relatively steep and so some reduction in the entrance ground level may have been necessary. This could have been achieved, either by as already suggested a pre-existing route way, or a ground level reduction as part of the Hillfort construction. If the possibility of an earthwork exists on the line of Tonford Lane, then there would have had to be a causeway at this point which could also have been created to reduce the steepness of the slope. Because of the disturbance in this area it is not an easy location to unpick but this is another area which Caesar could have chosen for his attack. Using a 3D

LiDAR model of this area (Fig.17) it is possible to determine a potential earth ramp just to the south of the hollow ways.

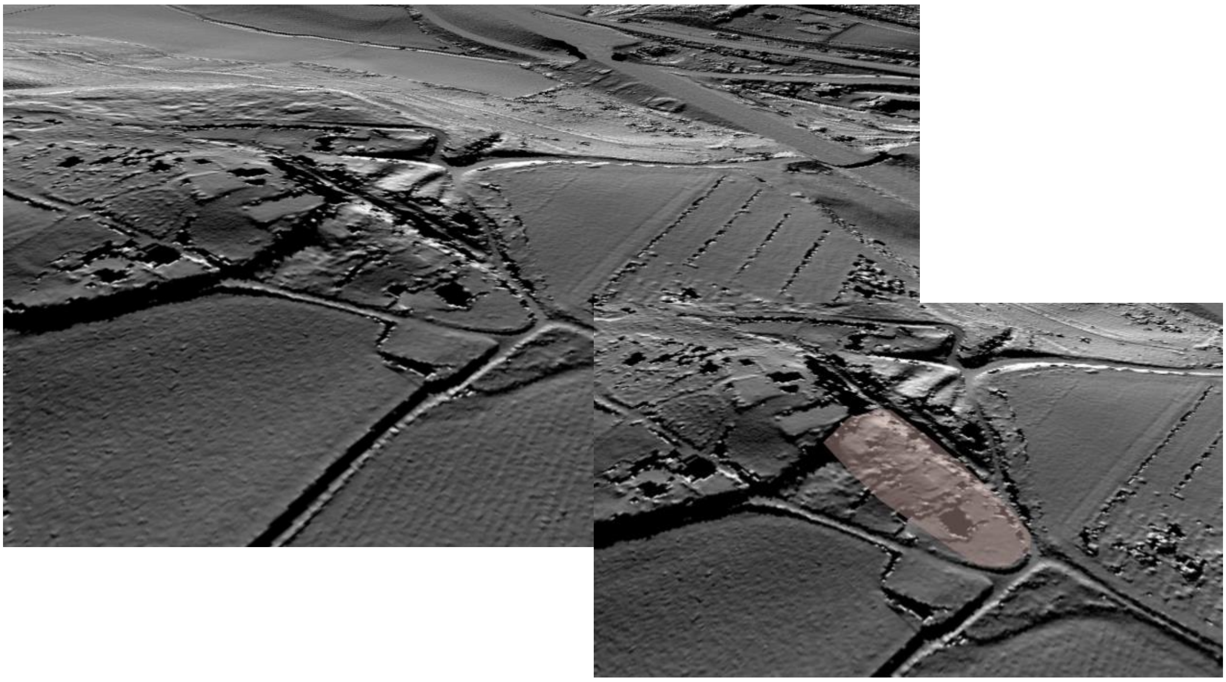


Fig 17 Bigbury east gate, natural or artificial ramp?

This potential ramp stretches out to where the Pilgrims Way joins Tonford Lane and reaches up to the top of the ramparts some 80m away. The LiDAR image shows that the line of the ramparts at the potential ramp site, although still just visible, is diminished when compared to the other side of the hollow ways; this is particularly true for the lower ditch and bank. It is not easy to tell what is the natural slope of the land and what could be an artificial ramp used for the purposes of breaching the ramparts. The natural slope of the ground at this point is part of a slightly higher ridge of land that runs along the spine of the camp, which then protrudes past the eastern entrance. This finger of higher land, because it forms a potential weak point in the forts defences, could be expected to be fortified accordingly but this is not what the LiDAR shows. It is possible that the ramparts have been eroded over time but equally it could be that Caesar saw the vulnerability of the camp at this point and took advantage of an already sloping natural, to fill in the defensive ditches, constructing a ramp from which to storm the defences. Caesar in his Gallic War book describes an attack on Noviodunum, a ditch and bank protected Oppidum, where he brings in protective sheds to the edge of the ditch and starts filling it in. He states that the defenders were so alarmed at this new approach to warfare that they asked to surrender (Caesar, Wiseman and Wiseman 1980, p.48). There are several examples in Caesar’s book where he describes the breaching of the defences of Oppida by the use of protective sheds and filling up of the surrounding ditches. This must indicate that this tactic was well drilled, showing that a similar attack at Bigbury even under fire, would not have been an obstacle for Caesar.

Jenkins, in his excavations just to the north of the hollow ways in 1963, located two large postholes in the bottom of the inner ditch at this location and it is possible that this may have been part of the east gate defences (Jenkins 1963, p.xlvii). Caesar mentions in his work that the entrances of Hillforts were blocked with felled trees and these post holes may have been part of that structure. Jenkins also states that as these postholes were sealed with a primary deposit, it may have been part of an earlier phase of defences of the east gate (ibid). He also found a baked sling shot in his excavation, which he compared to a similar item recovered from an early Iron Age fort in Belgium (Jenkins 1963, p.xlviii). The location of the slingshot find, which is close to an entrance, would have been a key point to defend in the event of an attack. He states that he found the slingshot in the primary fill of the ditch which could rule out any connection with Caesar, if we take the Hillfort construction date as being 2nd century BC, although how frequently and thoroughly the ditch was cleaned cannot be known. The report by Jenkins has so far not been published and all we have is his short note published in *Archaeologia Cantiana,* his archive only containing section drawings. It should be noted that the geology at Bigbury means that there are many suitable stones for sling shot ammunition available all over the site, so manufactured sling stones may not be required at least for the defenders.

Moving further anti-clockwise, another potential area which could have been the site of an attack by Caesar is the north side of the camp, immediately facing his probable camp at Homestall Woods. This location is probably the least suitable point for an attack as the natural slope of the land is steeper here than anywhere else at the fort. Nevertheless there is likely to have been an entrance through the main ramparts, so by default, it may have been a focus of attention by Caesar and as a consequence the ramparts of the Annex may have been constructed as part of additional fortification on this side of the monument. As already discussed in chapter 7 the Annex is a double bank feature which could be seen as overkill if it were only to have a function of stock control and although the earthworks are not overly impressive in size, they may have offered a sufficient obstacle for invading soldiers, especially in combination with the boggy ground which it borders. There are no signs remaining now of ramparts being removed or denuded. If this did happen, then depending on the timescale of the fort's abandonment, this may be because they were rebuilt after any damage as a result of the attack by Caesar.

A possible clue as to whether Roman soldiers were at Bigbury, came in the early part of 2016 when a metal detectorist found what appears to be a lead slingshot in the fields immediately to the north of the Bigbury Annex (pers comms Christopher Sparey-Green). This find requires verification before a definite description and date can be attributed.

The evidence for Caesar being at Bigbury is very weak and more investigation is required. A more systematic metal detector survey to the north of the Annex is necessary, as more lead slingshots and possible hobnails would be compelling evidence for Roman soldiers. Additionally, further excavation work at Homestall is required to obtain a dating profile of the site.

Whilst the potential Caesar connection is important to the history of Bigbury, there is a danger that this focus will overwhelm our attention to understanding the status and function of this monument. This is a very important site with a long history, yet so little is known of this history and further excavation is required of the interior as well as surviving ramparts.

5.5 Iron Age Canterbury

It is widely thought that Canterbury was the location to which the activities at Bigbury moved, probably sometime after the invasion by Caesar (Ashbee 2005, p.160; Thompson 1983, p.278; Cunliffe 2005, p.168). The best evidence for Iron Age Canterbury to date is from the excavation of the Marlowe Theatre which started in 1978 (Blockley and Elder 1995).

The location of the settlement at Canterbury is in the river valley and looks to have been located either side of the Stour (Blockley and Elder 1995, p.8). This is in an ideal place to control the river trade and arguably more practicable than Bigbury. The excavation at the Marlowe site revealed Iron Age structures including the remains of roundhouses and three concentric ditches which have been interpreted as connected with stock control rather than defensive capabilities (Blockley and Elder 1995, p.8). The dating of many of the features has been attributed from the end of the first century BC with the settlement existing undisturbed until the middle of the first century AD; this fits the Bigbury presumed timeline (ibid). The Marlowe excavation report makes an interesting point by suggesting that the grog tempered pottery found during the Blockley excavations in the weathered ramparts, should not be dated earlier than the last quarter of the first century BC (Blockley and Elder 1995, p.9). This then implies that the occupation of Bigbury lasted in some form at the same time as the early phase of the Late Iron Age settlement of Canterbury. The report adds that the absence to date, of Roman imported pottery (apart from the Dressel 1 amphora handle) at Bigbury, does not affect this hypothesis as these imports were not seen in Canterbury until after 15BC (ibid).

One of the potential indicators of commerce in early Canterbury that demonstrates its status and significance, has been the large number of coins recovered, coupled with the find of possible moulds connected with coin minting (ibid). Also recovered is the evidence of imported pottery in the form of amphora and Gaulish wares, underlining the settlement's ability to conduct long distance trade (Blockley and Elder 1995, p.51). The fact that many of the coins were of low value further suggest a thriving market economy in Canterbury (ibid).

Although the case for the activities at Bigbury moving to Canterbury cannot be conclusively proved, the probability is high. Their respective timelines show that during the last part of the first century BC there was likely to have been a brief period where the two settlements co-existed. What functions were undertaken at each site, is impossible to tell, but it is clear that at some point before the early part of the first century AD, Bigbury was no longer required, at least as part of any administrative function or central place. It is possible that it existed as a stand-alone farmstead or similar, but to-date no evidence has been recovered to support this. Cunliffe suggests that there could be a sequence in the Late Iron Age, of moving from developed Hillforts to enclosed oppida and from enclosed oppida to open urban settlements and territorial oppida, which would sit well with the known histories of Bigbury and Canterbury (Cunliffe 2005, p.406).

6.0 Oldbury

6.1 Dating evidence

Any attempt to understand the purpose and function of Oldbury is closely interlinked with establishing its construction date and this requires further consideration.

Who	Type	Context	Location	Dating	Notes
Ward-Perkins	Pottery	Site 1,2,	West side ramparts		mixture of wheel thrown & handmade
Ward-Perkins	Pottery	Site 3	South entrance		mixture of wheel thrown & handmade
Ward-Perkins	Pottery	Site 4 - Primary ditch	Northeast gate	as sites 1-3	
Ward-Perkins	Pottery	Site 4 - rampart core (2nd period?)	Northeast gate	Late BC early AD	Belgic fabrics, Roman mortaria

Ward-Perkins	Bead	No formal context	Found in fox hole on the slope below west side of ramparts	Later Iron Age	Class 6 Oldbury type bead
Ward-Perkins	Bead		Northeast gate section A-B		Unstratified – small amber bead
Ward-Perkins	Bead		Not given		Small dark blue glass bead
Ward-Perkins	Sling stones	All parts of the camp			Sub-circular water worn pebbles possibly from 3 miles north at Knockmill wood (Ward Perkins 1944, p166)
Ward-Perkins	Whet stone	Site 2	Westside of ramparts	Probably medieval	Not stratified but in Iron Age context
Ward-Perkins	Quern stone	Site 4	Near crest or rampart		Lava stone used as part of rampart construction/repair
Thompson	Pottery	Trench 83/1/2	South entrance on rampart tail		No grog tempered sherds, only flint and sand temper
Thompson	C14	Trench 83/1/2	Hearth sealed under south ramparts	595BC±45 Revised date	Original date 360BC±50
Thompson	Pottery	Trench 83/1/2	South ramparts above rubble fill of ditch	Later IA	Grog tempered
Thompson	Pottery	Trench 84/1/2	NE gate beneath the rubble tail of rampart		Flint, sand and possible grog
Thompson	Pottery	Trench 84/1/2	Higher level of rampart to a depth of 0.9m	2nd-3rd century AD	Roman samian, greyware with cream slip
Thompson	Pottery	Trench 84/1/2	Outside the ramparts in and around quarry pits	Mid-1st-3rd century AD	Later pottery as a result of later quarrying
Thompson	Pottery	Trench 83/5	Anomaly 4 approx. 200m NW of south entrance		Handmade sparsely gritted
Thompson	C14	Trench 83/8	Anomaly 3 approx. 200m NW of south entrance	120BC±50	Original date 110AD±40
Thompson	C14	Trench 84/3	Anomaly 11 approx. 200m NW of south entrance	260BC±140	Original date 40AD±80
Thompson	Pottery	Trench 84/3	Associated with anomaly 11	150BC-50BC	

Table 2 (data taken from excavation reports)(Ward Perkins 1939; Thompson 1986)

As already discussed in chapter 9, the two theories that have been put forward regarding dates are from Ward-Perkins and F. H. Thompson. The former, after his excavation in 1938 revised his initial thoughts and suggested that the fort was first constructed around the turn of the millennium, with a later reconstruction as a response to the impending Roman invasion in 43AD (Ward Perkins 1939, p.153). Thompson, forty years later, revised that idea and stated that it was first constructed sometime in the early part of the 1st century BC and was abandoned by the middle part of that century (Thompson 1986, p.277).

The evidence is presented in table 2 above and is similar to the Jessop dating of Bigbury. Ward-Perkins rarely gives defined dates, rather implied ones when referring to wheel thrown and Belgic pottery, suggesting later Iron Age date.

The Ward-Perkins view of the Oldbury date does come from a background of popular thinking during the mid-20th century, where invasion was viewed as the catalyst for change (Hawkes and Dunning 1930) and his view was that Oldbury was built for some military purpose by native Wealden peoples as a defence against a Belgic invasion. It has already been discussed that the topography of the Hillfort is largely dictated by the natural shape of the promontory on which it is constructed, but this results in an extremely large area with a perimeter of nearly 3.5km, which would have made it difficult to defend. If as Ward-Perkins suggests, the monument was constructed in times of possible invasion, then it would have been a more logical decision to select a site that was smaller, more compact and more readily defendable. The scale of Oldbury also means that it was probably not constructed as a rapid response to a threat but rather as a reaction of a growing concern of a potential threat. Oswald in his report on Oldbury, has suggested that a smaller fort may have been constructed first at a site closer to the highest ground but the geophysical survey does not support this theory.

The likelihood that a monument of this size was constructed purely for defence in response to some threat, is difficult to believe and it makes more sense that it was constructed more as a demonstration of power and to impress. It would also have served as some form of defensive shelter but that is unlikely to be its prime purpose.

The construction date of early 1st century BC given by Thompson is plausible and the revised C14 dating of several features could push the date even further back, as they all have been revised older. Unfortunately, the spread of dates at this point on the calibration curve is so great that a reliable date is not possible. As an example, charcoal found in trench 3 in1984, which is related to a linear feature having pottery dated from 150BC to 50BC, was revised to 591BC to 67AD which is too coarse to be really useful (Thompson's original date with a C14 calculated in error was 40AD±80) (Thompson 1986, p.279).

As already discussed in the Oldbury environs chapter, a fragment of Puddingstone which typically appears at the start of the 1st century AD, was found in the core of the northern ramparts (chapter 9 section 6.0). There is a continental import of similar material that could be earlier and unless the source of the quern can be identified, then the advice was not to use this as dating evidence. Ward-Perkins in his 1939 excavation report, makes reference to another piece of quern; this is a different material which is referred to as Niedermendig lava, although this should more correctly be called Mayen Lava (Röder 1955, p.68). This was reported to have been found in the top of the stone revetment close to the northeast gate (Ward Perkins 1939, p.181); the date of this type of quern according to Dr Shaffrey is post conquest (Pers comms). This may lend weight to the Thompson theory that the later pottery found at the north-east gate rather than being evidence of restructuring, was evidence of stone robbing during the early Roman period, further suggesting that there was occupation close by at this time.

6.2 Continental Parallels

The Hillfort survey in northern France by Wheeler and Richardson in 1938 and 1939, showed that whilst the size of Oldbury at 50ha is large for Britain, there were several examples described by the surveyors just in the north of France (Wheeler and Richardson 1957, pp.102-132). One of the largest is the oppidum of St. Désir near Lisieux in Normandy which he estimated had an area of over 160 ha. Although much of the ramparts are damaged he describes them as having a *murus Gallicus* construction (Wheeler and Richardson 1957, p.119). This is a type of rampart construction using timbers and large nails infilled with stone or earth and is typically late in the Iron Age period for France (Ralston 1981, p.87). Other large sites included St. Samson–de-la-Roque in Normandy at a little over 97 ha, which Wheeler classifies as in the Fécamp style, meaning it has a flat bottomed ditch as part of its defensive construction (named after his excavation at Le Camp du Canada, Fécamp, Normandy) (Wheeler and Richardson 1957, p.120, 62). Camp de Mortagne or Camp de César also in Normandy, Wheeler describes as being a "great size" with a perimeter of about 2 miles and Fécamp style defences (Wheeler and Richardson 1957, p.121).

Wheeler excavated Le Camp du Canada as part of this survey and as typical for that period he excavated the ramparts and entrance and a few small areas within the interior. He suggests that the fort was constructed before the invasion by Caesar (56 -

51BC) and he stated that the fort was not occupied on a permanent basis and possibly abandoned shortly after construction or kept ready in case of emergency use (Wheeler and Richardson 1957, p.65). This is a similar scenario to that developed by Ward-Perkins for Oldbury.

There is little evidence to date of substantial investigation or excavation in the interior of the Hillforts mentioned above except the Oppidum of St. Désir near Lisieux. It is suggested that recent excavation has discovered possible workshops and storage areas and the possibility of zoned areas defined by ditches (University of Strasbourg 2008). There is a possible similarity with Oldbury, with the potential for zoned activities revealed by the recent geophysics survey.

6.3 Settlement evidence

Both of the excavators, due to the paucity of the pottery recovered, suggested that the fort was not permanently settled. They concentrated their work on the ramparts and entrances, with the aim to provide a date to the structure and these would be locations which of course would not necessarily be places where pottery was used or discarded.

This Hillfort covers a very large area and the few trenches which the excavators dug in the interior, amount to approx. 950square metres and they would have had to be very fortunate to come down onto settled areas. It is likely that such a large interior would have been divided into zones, possibly of industry, stock management along with settlement and storage, on the basis of other examples as seen at the Turing College site on the University of Kent Campus, so low numbers of recovered pottery in one area cannot be extrapolated across the whole interior (Lane 2014, p.9). Thompson found 8.5kg of iron slag in an area north-west of the southern gate. He investigated several hearths around this area but the feature that produced the slag and scattered charcoal and two possible furnace areas, strongly suggesting iron working. The example of the recalibrated C14 dates above, comes from this feature so a date contemporary with the occupation of the Hillfort is very likely. The slag was investigated and by its roughly circular plan, was thought to be from the bottom of a hearth likely to be the result of blacksmith workings (Thompson 1986, p.284). There were also traces of tuyeres in the hearth lining adding to the evidence of working at higher temperatures.

The extensive geophysics conducted in 2014 and 2015 although not conclusive, strongly suggested that there was Iron Age activity with the possibility of defined zones similar to those seen with the Wessex Hillfort Project at Norsebury Ring and Castle

Ditches (Payne, Corney and Cunliffe 2006, p.68, p.106). One such zone is the area of the Upper Toll Field. This is a large field with a flattish area towards the ramparts in the west and sloping down to the stream that bisects the interior (see chapter 8 Fig.27). It is on this flatter area, that the geophysics has detected activity in the form of sub-circular features and a generally well-defined “noisy” area. This demarcated area is unlikely to be as a result of agriculture or geology as it is well-defined and constrains all of the anomalies found in this field. Unfortunately, the large field called Gibbet Field is so contaminated by modern agricultural activity that anomalies are very unclear and not conclusive. What the geophysics does show is the continuation of a linear response starting from the Kiln Field to the north, which appears to be under the field division (see chapter 8 Fig. 40). This later division looks to be a lynchet with a height differential between the two fields in places of nearly 2m and now has a large ditch running from the ramparts in the east to the stream in the centre. It may be significant that where the linear feature in Kiln Field goes under the lynchet, the height differential between the two fields is almost nothing. An area in Kiln Field which shows a similar defined noisy area as Upper Toll Field, is towards the south-east corner (see chapter 8 Fig. 4a). This appears at first sight to be more of a rectangular feature but a closer inspection suggests that the boundary is sub-circular and it is bounded on its south-east side by the linear feature. The other side of the linear feature clearly demonstrates a less noisy response on the geophysics plot, suggesting that this linear feature is not geological and very likely to be contemporary with the anomalies seen on the other side, once again showing a defined zone of activity.

To the north-east of this defined zone there appears to be two parallel rows of dark circular anomalies which could mark an entrance way into the sub-circular feature. They appear to be over 2m in size (although this could be a function of the survey discrimination) making them large postholes, or they could be lines of pits. Whilst these pit-like features could be a coincidental random pattern of anomalies, their apparent association with the noisy sub-circular feature definitely makes them a feature worthy of more investigation. They form two rows approximately 10m apart and appear to funnel out to merge with the boundary of the sub-circular noisy area. If they are the remains of post holes, then this could form part of an elaborate entrance lined by large posts or it could be a practical addition funnelling stock into a particular location, possibly for a specialised function. Equally these types of possible structure are what might be anticipated in a monument of this scale, with a central place function.

The issue remains that the access to this area appears to be from close to the ramparts and this requires further examination. The farm track that now runs parallel with the ramparts at this point, is used as a parking place for various items of farm machinery, so it was not possible to carry out the geophysics survey in this area; we therefore cannot know for certain how the linear feature connects with the ramparts, if indeed it does. There are several possibilities:-

a) It stops short of the ramparts
b) It is cut by the ramparts (suggesting the feature is older than the ramparts)
c) It merges with the ramparts

Option a) would mean that this feature is likely to be either contemporary with or later than the Hillfort construction and that the feature is a boundary or possibly a track way that acted as a boundary between zones. If it were a trackway, then assuming it is contemporary with the Hillfort building it would be expected to have a much more direct relationship with the north-east entrance. It is also on average 15m wide which would be large for an internal trackway and closer to the scale of a ploughed-out boundary bank and ditch.

Option b) would mean that this linear anomaly was an existing feature when the Hillfort was constructed, possibly part of a wider landscape feature; this would fit the scale of the anomaly. Unfortunately, the available LiDAR survey of the area, stops about 200m from this side of the ramparts and aerial photographs do not show any features in the close proximity that would suggest a continuation of this feature outside of the ramparts. It is also true to say that this area is now heavily altered by agriculture over the years so it is likely that any remnant of a ditch and bank, if it were there, has now been erased.

An additional possibility for this scenario is that the linear anomaly stops at the ramparts and it is part of a later feature possibly constructed soon after the fort went out of use.

Option c) is that the feature at its eastern end merges with the ramparts. This would only be practical if it were part of an earlier smaller enclosure feature before the main ramparts were built.

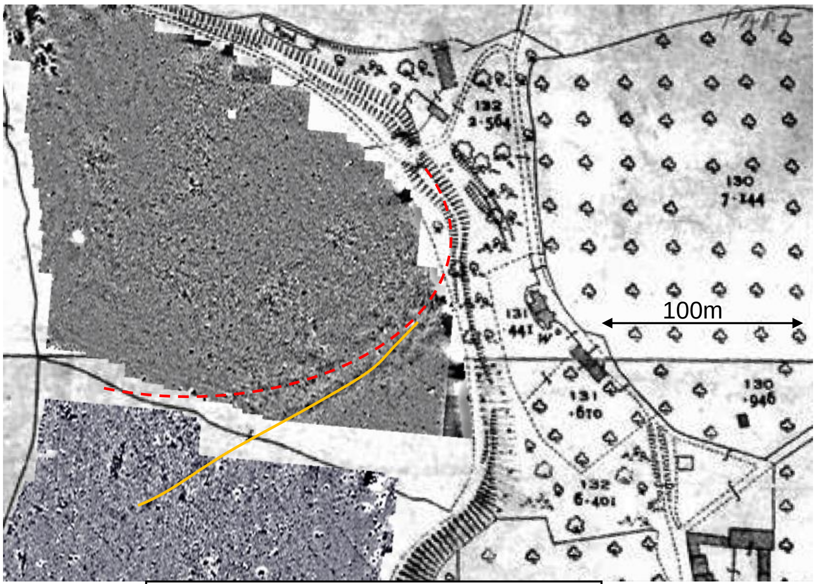


Fig 18 Geophysics linear feature in

Fig.18 shows the geophysics plot placed into the 1960s OS survey and it can be seen, that even with an element of the linear feature continuing into Gibbet Field to the south, part of it curves around westwards and could potentially join up with the ditch that separates the two modern fields.

At the other end (which meets the ramparts) it is not impossible to suggest that the feature curves around and continues north on the line of the current rampart, where there is an inward kink into the existing ramparts. This would mean that it was part of an earlier feature and could even have been part of the primary ditch features discovered by Ward-Perkins in 1938. It is also possible to consider that it could have been part of paired enclosures like that seen at Castle Hill near Tunbridge (Money 1978). An earlier settlement at Oldbury is not difficult to believe. After all, it was a focus in the Palaeolithic period and has a water source; indeed as Thompson found evidence of Early Iron Age occupation at the southern end of the fort but its location at the bottom of the promontory is perhaps difficult to explain, it would be more logical if it were on the higher ground further south (Harrison 1933, p.148).

The explanation for this linear feature can only really be ascertained with excavation. Its scale is difficult to explain as a contemporary internal division so the likelihood is that it started life as an earlier feature, which in a slighter more weathered form some time later, was used as an internal division with structures located to one side.

6.4 Oldbury summary

The purpose of Oldbury and what role it played in Late Iron Age society is not any clearer, even with the extensive geophysics survey but the results do show that perhaps there was much more activity in the interior than previously thought. If we accept that Kent was divided into some form of territories, then Oldbury would sit firmly in the territory to the west of the county, possibly as a central place. The recovered pottery as discussed above, has an affiliation with Essex and the majority of the sherds recovered had a sand temper, which is in line with the distribution highlighted by Isobel Thompson (chapter 10 Fig. 9). Oldbury is by far the most significant Iron Age monument in this part of Kent in terms of scale of enclosure and earthwork investment, (the Bigbury complex perhaps now needing to be excepted), so it is possible that it had an important role in the management of the territory. It is not in an ideal place to monitor either the river Medway or the Darent but it is in a good position to observe movement on the ancient ridge way which is now the Pilgrims Way and control the access in and out of the Weald via one of the few gaps in the Greensand Ridge to its east.

As the C14 dating for the hearth found under the southern rampart suggest (see Table 2) Oldbury had a much earlier Iron Age history than that suggested by the dating of the rampart construction. Oldbury has a dump type rampart construction, indicating a probable later date, with Thompson proposing that it is contemporary with the Surrey Hillforts (Cunliffe 2005, p.364; Thompson 1986, p.267). If, as the geophysics suggests, an earlier enclosure was constructed lower down on the slope on the north side, then it is not unreasonable to suggest that as continental trade started to increase during the Later Iron Age (see section 4.0 above) the small enclosure was expanded to reflect an increase in prosperity. The investment in labour to construct Oldbury must have been significant and reflected the status of the builders; this expansion would not have occurred if the monument was not to have an important purpose.

The building of Oldbury was a considered event, at a location that was already in use and possibly already fortified, albeit at a much smaller scale. Like Bigbury, Oldbury is likely to have been built or remodelled as a result of the growing prosperity of the region, due in part to the increasing trade with the continent, which stimulated the increasing influence of a growing elite. These important places were multifunctional; they demonstrated power and exercised control over key routes and activities within their region. After the Claudian invasion these constrained places did not fit the Roman political purposes. Bigbury had by then already moved to Canterbury and was obviously adopted by the Romans and prospered. The Hillfort had outgrown its purpose and if as previously suggested it was connected with control of the ridgeway route, then surely the construction of the Roman Watling Street to the north, effectively bypassed this control.

Unlike Bigbury there seems to be no indication that Oldbury "moved" to another location, although Rochester, with the benefit of the Roman Watling Street, may have been a candidate. The lack of an obvious place for the relocation of Oldbury may indicate that its role in the Late Iron Age society was not as critical as say Bigbury but equally, it could be as simple as just not being required by the invaders or society after the Late Iron Age.

Chapter 12 – Closing Thoughts

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1.0 Introduction

This research had a set of defined criteria to work to and this final chapter shows how these criteria were addressed and what conclusions, if any, can be drawn from the results. Whilst it is difficult to give definite answers to some of the research aims, each one has been addressed and the data presented and interpreted as best as possible given the available evidence either from this or similar research.

2.0 Is Kent Distinctive?

Bigbury and Oldbury are enigmatic sites in Kent and it is surprising how little we know about them. Whilst other parts of Britain, like Wessex, have invested significant resources in trying to understand the Iron Age settlement and culture of their area, Kent appears to have done little that is not driven by the rescue Archaeology process. If Thompson, over 35 years ago, had chosen to investigate sites other than these two Hillforts, then it is likely that the only results we would have, would be 80 years old.

Plotting the known Hillfort locations, does show that Kent appears to have far fewer than its neighbouring counties (see Fig 2 in chapter 1) and the possible theories why this may have been, are discussed in chapter 11 section 3.0. With the recent discovery of the large earthwork at Homestall near Bigbury, the possibility that Hillforts were built but as yet not discovered, must be real. Potential candidates have been suggested in chapter 2, but further investigation is required, to positively identify them as Hillforts rather than enclosures.

The fact that Kent has three developed Hillforts in Oldbury, Bigbury and Loose (Loose is not a "typical" Hillfort but is likely to have been a developed settlement of some importance), possibly reflects a distribution of power taking place in the later stages of the Iron Age. As already discussed in chapter 2, Creighton suggests that the Later Iron Age saw an increase in hierarchy, with leaders having the support of mounted war bands (Creighton 2000, p.17). The increase of these "war bands" was possibly a response to aggressive immigration from the continent, or a pursuit for greater wealth; he attributes the arrival of gold, as one of the catalysts that drove this change. This increased wealth and power would require protecting and the construction of large Hillforts would provide this protection, whilst at the same time demonstrating the affluence and status of leaders.

This is reflected in the observation by Caesar that Kent was divided into 4 Kingdoms, with the possibility that the three hillforts mentioned, each aligned with a Kingdom

(Cunliffe 2005, p.166). The fourth Kingdom may be further west and could fall into the now Surrey or greater London region. If we apply the same area of influence to the three Kentish Hillforts as seen in the developed Hillforts of Maiden Castle and Danebury (which is around 25 to 30km), then the density of these monuments in Kent for the Late Iron Age, is similar to that of Wessex (Sharples 2010 p170).

Kent is a frontier county with the Continent and this closeness is reflected in the archaeology of this later pre-historic period. One of Kent's distinctive features, is that during the 3rd century BC, it was one of the first areas in Britain to use coins (Champion 2007, p.128). Coins have been found throughout Kent but larger concentrations have so far been seen in the east of the county. With various denominations recovered, this suggests that they were readily accepted and probably used for daily transactions, as well as for ritual or gifting (Holman 2005, p.42). Other distinctive influences likely from the Continent, can be seen in the ceramic record. During the Early Iron Age there is evidence of "rustication" on early pottery; this is a form of surface decoration also seen in northern France. Similarly, triangular loom weights seen in southern and eastern Britain have parallels on the near continent (Champion 2007, p.115). Elaine Morris during her pottery analysis from sites along the Channel Tunnel Rail Link Project, found that Early Iron Age pottery vessels from the White Horse Stone site, were larger than elsewhere in similar sites in Britain (Morris 2006, p.51). Whether this was as a result of continental influence or just a site specific phenomenon, she was not able to determine without further research, but it does illustrate again that Kent can be different. An additional indicator of continental influence is that of house construction. Britain consistently favoured the roundhouse technique for Iron Age dwellings but sites like that of Highstead in Kent, have shown that during the Early Iron Age, there appears to be dwellings constructed in the more continental rectangular style (Bennett 2007, p.290).

The evidence does suggest that Kent is different to other parts of Britain during the Iron Age period; how much of that is as a result of its Continental neighbours and how much due to indigenous endeavour is difficult to say. The likelihood is that the Continental influence played an important role but the mechanism of that influence is complicated and would have included a combination of trading links, family kinship and Continental settlers/refugees, possibly as a result of conflict in their homeland.

3.0 Bigbury research aims

As laid out in the Research Aims and Methodologies chapter, the research aims for Bigbury were as follows:-

- To review existing literature and maps and develop a comprehensive synthesis of the available material.
- To carry out a geophysics and other survey of the immediate environs for indications of prehistoric activity outside of the ramparts.
- To establish whether there is evidence for a larger Bigbury complex other than that defined by the extant ramparts, given that several recent studies have shown other complexes of similar date to have outer works.
- To employ available landscape and LiDAR surveys of the area and spatial analysis of recovered artefacts, to ascertain whether there is evidence of a wider prehistoric settlement pattern in the area.
- To establish if possible, a stronger chronology/idea of sequence.

All aspects of these research aims were explored for Bigbury. Moreover, the study was able to identify areas where further future research would provide real benefits. The field walking survey, the geophysics survey and subsequent excavation activity, clearly showed that there was evidence of settlement during the Bronze Age through to the Early Iron Age, outside of the existing known rampart defined area. If this is taken with the evidence of occupation revealed by previous investigations of the Hillfort interior, then this settlement activity continued on the ridge during the Middle Iron Age through to the Late Iron Age (Jessup and Cook 1936; Thompson 1983; Blockley 1989).

It was not possible to prove definitively how far the prehistoric activity immediately outside of the ramparts extended physically, as the geophysics survey was found to provide no clear nor conclusive guidance; even the prehistoric archaeology that the test pit excavation uncovered was not readily identifiable by the geophysics. Whilst there were faint indications of archaeology, the geology and “clean” character of the feature fills of prehistoric activity was a factor in its visibility. What the survey did reveal was that much of the surviving archaeology was buried deep, so it is entirely possible that the prehistoric evidence exists at a lower level than the survey was able to detect. On a positive note, this depth means that preservation may be good although access will remain a problem, given that some areas are under orchard.

A study of the 2010 LiDAR survey coupled with evidence from maps, showed that there is a strong case for a wider complex at Bigbury. This research shows that it is likely that Bigbury had additional earthworks (which the modern Tonford Lane now follows), to the south-east of the main core of the Hillfort.

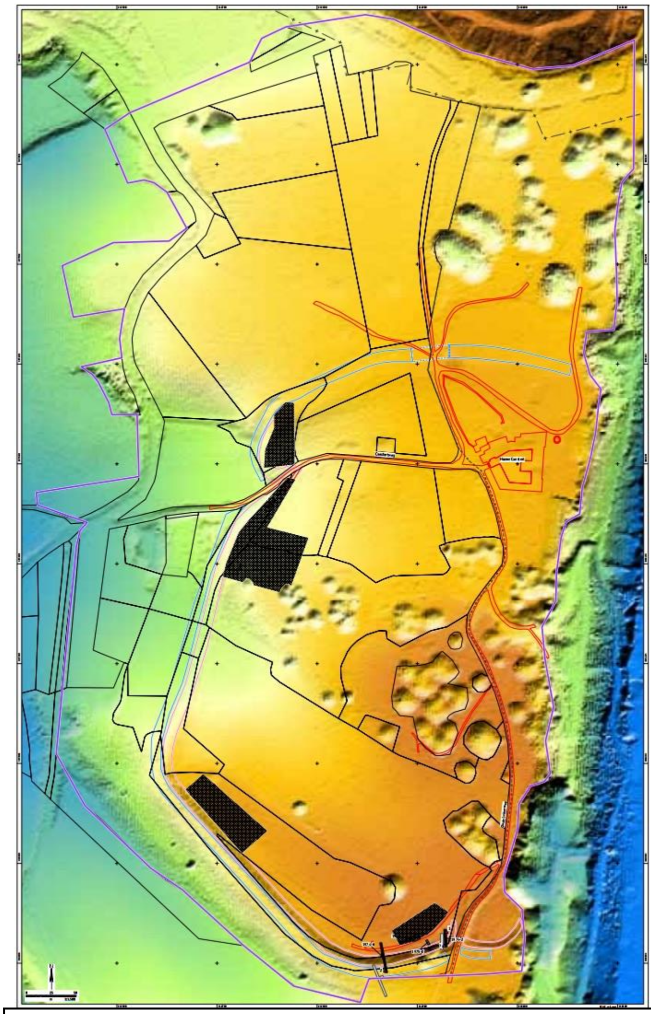

Fig.1 LiDAR image of St Pietersburg Castra (Verhoeven 2008, p.168)

The Iron Age fort of St Pietersburg Castra outside Maastricht (see Fig.1) in the Netherlands, is dated from the Mid Iron Age (250BC - 40 BC a similar date to Bigbury) and recent research has revealed that it covers a larger area than that defined by the ramparts (Verhoeven 2008, p.98 & p.103). Similar to Bigbury, the site was first excavated about 40 years ago, with trenches concentrating on the ramparts and entrances. A re-interpretation of the excavation, with the combination of LiDAR images, shows that the complex was larger than previously thought, with possible use of the plateau to the north of the ramparts (Verhoeven 2008, p.85).

The final element of the research programme for Bigbury was to determine if it was part of a wider prehistoric landscape; once again the 2010 LiDAR survey proved key to this analysis. This revealed clear linear earthworks running east-west along the ridge to the west of Bigbury and also running in a similar direction along the foot of the ridge to the north of Bigbury. The broad oval valley (approximately 4km by 2km) in between the two ridges, was truncated in the west by a further linear ditch; this effectively flanked the valley with earthworks (see Fig. 2).

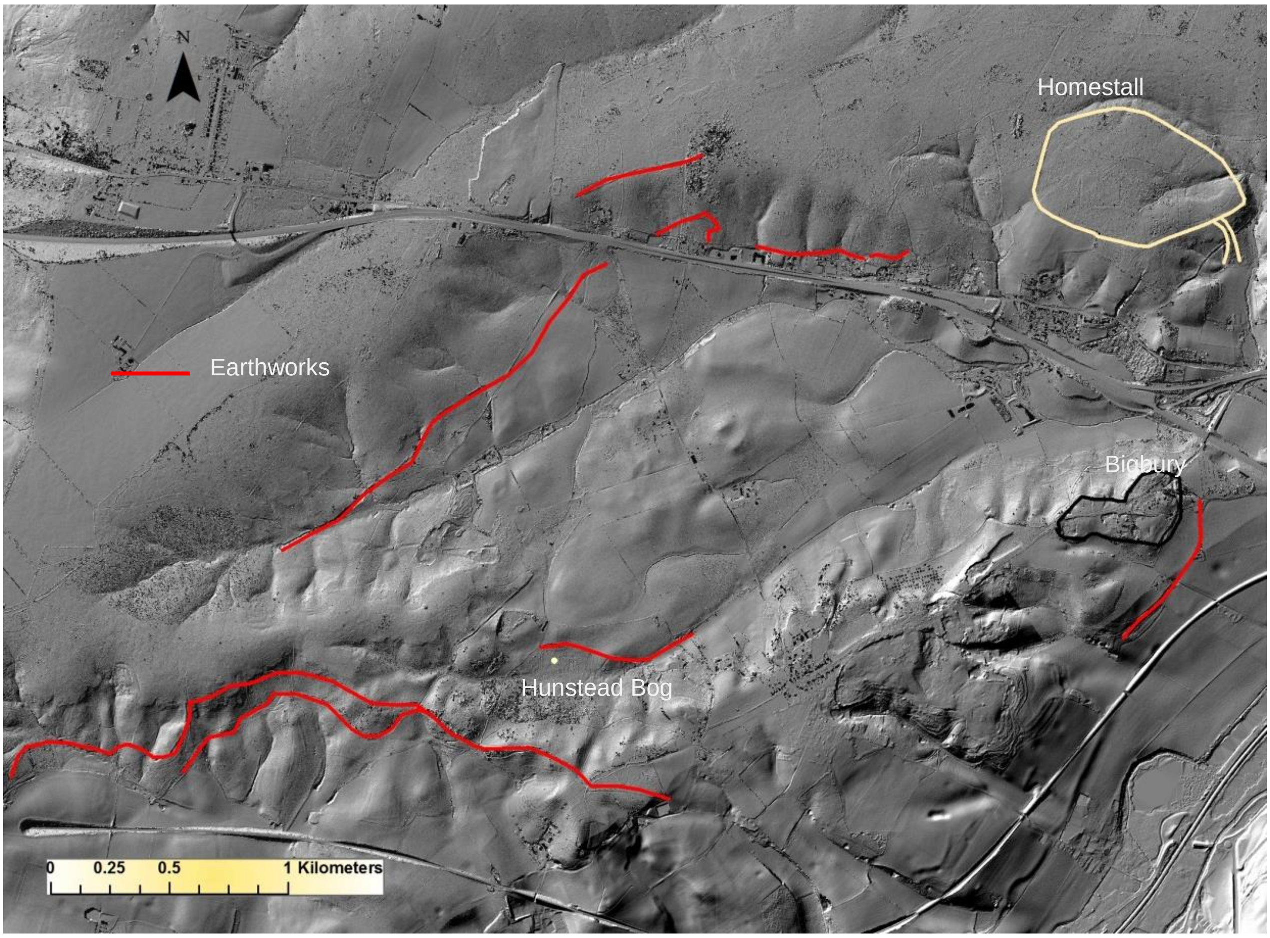

Fig. 2 Earthworks around Bigbury

There was a belief that watery or marshy places had a ritual connection in pre-history and it may be significant that Hunstead Bog which is located on the fringe of this valley, had a special role during the pre-historic period and played a part in the configuration of the earthworks (Rogers 2008, p.42). It is not possible to determine with certainty until further investigation, the age of these earthworks, nor is it possible to say if they are connected with Bigbury, but their scale and orientation do suggest a prehistoric date.

The recent discoveries of Iron Age settlements at the University of Kent campus and the grounds of St Edmunds School, were contemporary with Bigbury. The Turing College excavation, on initial examination, has evidence of the Late Bronze Age to the Mid Iron Age (900BC to 400BC), with a lull in detectable activity until about 100BC (Lane 2014, p.18,19). The St Edmunds School settlement, shows occupation from 700BC to 43AD (Lane 2012) . As stated previously, there is settlement evidence at

Bigbury from the Bronze Age to the Early Iron Age and although the Hillfort excavations require a ceramic dating review, the evidence indicates activity at least from around the 3rd century BC, with rampart construction sometime around the start of the 2nd century BC. What the relationship was between these sites is not known, partly because the full analysis of the University and St Edmunds sites is yet to be completed and published, but it does illustrate that the Iron Age landscape in this area was a busy one, with the more developed construction of Bigbury, indicating that it may have been the more important site.

One other significant revelation of the LiDAR survey was that of the large ditched enclosure in Homestall Woods to the north of Bigbury. This consisted of an irregular sub-circular ditch and bank, with a rectangular enclosure within its interior. It also has what appears to be a double ditch and bank extended outer works, protruding from the south-east entrance. This is currently under investigation with at least two possibilities postulated about its use and date. One possibility is that it was an indigenous construction of probable Iron Age date; the other is that it may have been a temporary fort constructed by Caesar for his attack on Bigbury (Sparey-Green 2014). Whatever its date and purpose, it looks to have several phases of construction and could therefore have a complex history. The recent finding of this significant monument of the Bigbury landscape, proves that important large scale discoveries can still be made which greatly impact our existing knowledge of the Iron Age of Kent.

With all of the new evidence discovered in this research, the chronology of Bigbury is still not completely clear. It has been shown that there was some form of settlement close to the site of Bigbury, definitely from the early Iron Age and with the evidence of Middle Iron Age pottery from the previous excavations, it is likely that the Cross-Ridge Dyke was constructed earlier than the 3rd century BC that Thompson suggests. The building of the ramparts, looks to have started sometime during the first half of the 2nd century BC, as Thompson and Jessop and Cook indicate, and sometime after that the Annex was built. The abandonment of the site was probably not a sudden event but took several years, as Canterbury gained in prominence; this took place in the last half of the 1st century BC.

This research has not been able to add to the story of the internal layout of Bigbury but it has shown that there is evidence that it was part of a much larger complex. At the least it looks to have had an outer earthwork, enclosing a much larger area than the core we see today, but it could also be part of a very much larger landscape of linear earthworks, on the scale of Chichester and Colchester, possibly making it a Territorial

Oppidum. The study of Bigbury would very much be enhanced, if an environs project on a scale similar to that at Danebury, Cadbury and Maiden Castle were undertaken, with integrated survey and selective test excavation.

4.0 Oldbury research aims

Due to the known limitations of access at Oldbury (particularly relating to scheduled status and tree coverage), the research aims were slightly different to that of Bigbury. They were:-

- To review existing literature and maps and develop a comprehensive synthesis of the available material.
- To carry out a geophysics survey of the interior of the Hillfort to investigate if there is evidence of prehistoric activity within the ramparts.
- To establish using available landscape and LiDAR surveys of the area and spatial analysis of recovered artefacts, whether it is possible to understand how Oldbury fits within its immediate landscape.

Like Bigbury, all aims were addressed but additional activities were identified that would help in furthering our knowledge of Oldbury. The most significant part of this research was the geophysical survey of the northern part of the interior of the Hillfort. In total, over 155,000m^2 was surveyed, but this was still only just over 33% of the total area of the interior. The heavily wooded region of the southern part of the Hillfort was 250,000m^2 and the field in the northern part called Lower Toll Field (which could not be surveyed as it still contained a disused orchard), was 55,000m^2, making a total area not surveyed of 305,000m^2. The results showed that there were several areas that look to have archaeological activity, much of which could easily be Iron Age in nature. This clearly challenges the previous assumption that the interior had little signs of activity (Ward Perkins 1939, p.154; Thompson 1986, p.285).

The type of activity is not clear from the survey and only excavation will reveal its true nature but it does appear to be in discrete areas or zones. This zoning effect may be as a result of agriculture, where changing field boundaries and uses have preserved the archaeology in discrete areas, or it could also be a true reflection of an Iron Age zoned interior, with the probability that each zone had a particular function. The geophysics also potentially showed that there may have been an older structure before the present ramparts were built. Thompson certainly found solid evidence under the south ramparts, of an Iron Age presence, with a radiocarbon date of 640BC to 550BC (calibrated), so an earlier, smaller fortified enclosure cannot be discounted (Thompson

1986, p.273). The original radiocarbon date published in the 1986 excavation report was an error by the British Museum; the revised date in the text above was the corrected date (Clark and Thompson 1989, p.303).

The size of the Hillfort is very large for Britain and its significance during the Iron Age period is difficult to determine. In order to construct the rampart circuit in a reasonable time, very considerable resources must have been available. There is no strong evidence for a palisade on top of the full extent of the ramparts but even if there were intermittent viewing platforms, the materials required to cover the rampart length, of nearly 3.5km, would have been significant. Although the natural topography of the ridge on which Oldbury is built, lends itself well to a structure of this size, there is plenty of scope to have constructed a smaller but equally impressive structure. This implies that the size was specifically chosen for a purpose and knowing that the necessary resources would have been available.

The final research aim, to try and understand how Oldbury fits into the landscape, proved to be more difficult as there was limited coverage of the area by LiDAR and the HER results, (apart from the coin distribution) did not show any particular pattern (see Fig 13 chapter 9). There do not appear to be any visible earthworks associated with the Hillfort but the land particularly to the north and east is heavily cultivated and all traces of such features, may have been ploughed away. An analysis of the visibility to and from the monument (see Fig 16 chapter 9), shows that there were significant “blind” spots to the west and south west but excellent views to the north and east. Even today without the advantage of a less cluttered prehistoric landscape and probably clean rock sides, the profile of the Hillfort when approaching from the east is impressive.

Without further excavation and re analysis of the pottery already found from Oldbury, there is not enough evidence to securely date this monument. It is not unreasonable to think that it was built, as Thompson suggested, around the start of the 1st century BC but it was sited in a location that already had a long history of occupation and possible industry; an existing smaller enclosure cannot be ruled out. The abandonment around the time of the Claudian invasion seems reasonable, with the possibility that the north-east entrance was embellished or remodelled around the start of the 1st century AD.

A more dedicated study of the wider area around Oldbury, is an opportunity to push forward our understanding of this enigmatic Iron Age monument, particularly as better LiDAR images become available. A similar study of the sprawling earthworks at Loose, 19km to the west of Oldbury, would also be productive in understanding how these monuments interacted with their immediate landscape and possibly with each other.

5.0 Bigbury and Oldbury function

We will probably never know for certain the function and the reasons for the construction of any Hillfort. It is likely that they served a multitude of purposes and those purposes and possibly their form, would have changed over time. An example close to Oldbury, would be Castle Hill at Tonbridge, with its two phases of construction around 100 years apart (Money 1975, p.64). Armit's re-evaluation of the Hownam site, within its wider context in southern Scotland, demonstrated there was no single evolutionary sequence or model but rather that the changes were complex, varied from site to site, and between regions, across considerable time-depth (Armit 1999). Hence, generalization even within regions needs qualification and caution.

Cunliffe noted that as the Iron Age progresses, Hillforts in central southern Britain become less frequent and the remaining ones can become more developed (Cunliffe 2005, p.388). Hill, following Thompson (Thompson 1978), suggested that the region to the east of Wessex, including Surrey, East Sussex and Kent, did not see Hillfort construction until the 3rd century onwards (Hill 1995, p.68). Hamilton shows that this is not necessarily the case for East Sussex, with Seaford Head and Hollingbury which have Late Bronze Age and Early Iron Age roots respectively (Hamilton, S. & Manley, J. 2001, pp.14-16). We can now see that this idea needs reviewing and the recovery of better dated samples than have hitherto been available is required, in order to establish a firmer picture. The survey by Manley and Hamilton also shows that almost all of the Hillforts on the Greensand Ridge, are from the post rampart phase, of a later Iron Age date (Hamilton, S. & Manley, J. 2001, p.17).

5.1 Oldbury – from special place to central place?

The possible functions of Oldbury have been touched upon in section 6.4 in chapter 11 and will be expanded on here. I believe that it probably had its roots as a special place with a likely focus around the springs located at the middle of the site. Götz suggested that many Oppida locations appear to have started as a meeting place or sanctuary and it is likely that Oldbury had a similar beginning (Fernández-Götz 2014, p.391). Oldbury is well known for its long prehistoric occupation with the discovery of flint tools and it has been shown in this thesis that there is evidence for Early Middle Iron Age activity at several locations in the interior. It is not difficult to argue for a continuous occupation of some degree from that era, cumulating in the construction of the ramparts.

The evidence recovered by both Thompson and Ward-Perkins suggest that the fort appears to have only been occupied for two or three generations, post rampart construction, before it was abandoned. During its relatively short life it was likely to have had repairs to the fortifications (evidenced by probable late quern stone found in the core of the ramparts) and remodelling of the main gates at the northeast and the south. This indicates that not only was the integrity of the ramparts important, but also the visual element of the monument. This “visual element” would have been an important consideration when building the Hillfort.

An earthwork of this size would have been a symbol of the power and influence of the constructing community and therefore would be required to be prominent in the landscape. This would be particularly important if Oldbury was close to a boundary between two politically different areas maybe in a marginal neutral territory.

The geophysics showed that the interior was occupied and divided into zones of activity. The number of gold coins found in and around the Hillfort is significant (see Table 2 in chapter 9) and suggests that the place was more than an agricultural settlement but a place of some status likely to be connected to trade and commerce, either on a seasonal basis or throughout the year. It would have been a place where a distributed population could meet on a regular basis to forge relationships for common goals and form and reaffirm kinship alliances. They would also be able to conduct land deals and exchange news and possibly perform special ceremonies like appointing community leaders or the minting of coins.

The turmoil and uncertainty that came with the Claudian invasion along with the changing socio-political framework that accompanied the Roman occupying force, meant that Oldbury was no longer required and was therefore abandoned at least as a central place; the ramparts became a source of building materials and the cleared interior used for more agricultural activities.

Oldbury has been ascribed the status of Oppidum, mainly because of its large size and late date. Before this research, the classification of Oppidum for Oldbury was tenuous; the commonly held belief was that it was sparsely settled at best and even with the high number of gold coins found in and around the monument, it is not easy to reconcile a key criterion for Oppida classification of an administrative or industrial centre (Collis 1984, pp.6-8). The geophysics as part of this study has shown that there is a much greater probability that Oldbury was settled and was likely to have had internal divisions for different activities. Excavation of the features revealed in the geophysics survey, is critical in answering this question; if it can be shown that industry and/or high status activity (imported pottery and coins) which may reflect an administrative role, was an aspect of the interior, then this potentially could satisfy this key criterion for Oppidum classification. If this is taken with its size and late construction, the case for the status as an Oppidum becomes more credible.

5.2 Bigbury - a strategic location

The purpose of Bigbury I believe is different to that of Oldbury. As has already been stated in chapter 11 section 5.0, Bigbury sits astride a prominent ridge which was likely to be the route of an ancient trackway traveling along the high ground roughly east west. Bigbury also overlooks the River Stour which would have been a major communications route with the location at Bigbury perhaps marking the limit of useful navigation. All of the earthworks connected with Bigbury appear to be in some way connected to the control of movement of people or goods in the area.

The likely first earthwork to be constructed was the so called Cross-Ridge Dyke. The dating of this could be connected to the Early Iron Age pottery found during the research of this thesis, but no direct evidence connecting the two has been discovered. The original purpose of the Dyke was unlikely to be of a defensive nature, as although it cuts off the end of the ridge, the ridge is not a steep spur of high ground. The eastern end of the ridge is not difficult to access and the Dyke can easily be circumvented around its ends at the north and south. Additionally, the feature itself, presumably now much denuded, can never have been substantive (see Fig. 4b in chapter 8). Its purpose therefore, could have been connected with access along the ridge either as some sort of control or possibly a boundary. The west facing ditch suggests that the restriction of movement was from west to east.

During the Later Iron Age, the construction of the ramparts put a more effective barrier across the ridge and the building of additional earthworks at the eastern end, (along the line of the present Tonford Lane) not only provided a barrier or signpost that was more difficult to circumvent but it also provided the Hillfort with an elaborate and impressive entrance indicating a much larger complex than that defined by the ramparts. These additional earthworks would also have been highly visible to anyone using the river.

At around this time a series of earthworks was constructed defining a low area of land to the west of Bigbury (see Fig. 2) effectively enclosing some 700ha. This low area is a natural valley which contains a small river and the bog at Hunstead. These earthworks probably acted as a barrier or marker to the movement of people, directing them away from the valley towards a particular entrance of Bigbury.

The addition of the Annex sometime after the ramparts were constructed, could be connected to the demarcation of the valley. The Annex may have been built as an elaborate entrance into this restricted area, not demanding to be particularly defensive but required to have a level of embellishment to acknowledge moving from one type of area to another. The reason for the restricted access to the valley is not easy to surmise, it is possible that it contained cattle and horses in particular, which would have been a valuable commodity. The Annex itself may have been a defined area for special operations like chariot and harness repair (evidence of small scale ironworking found by Thompson (Thompson 1983b, p.252)) or special animal husbandry activities like birthing or caring for sick livestock. The Annex is too steep and small to hold animals in significant numbers but it is more than sufficient to house those animals that may have required special attention.

The interior of Bigbury shows little evidence for settlement and no coins have been found at the site. Whilst this can be a sign of sparse activity within the ramparts, it is also likely to be a consequence of the lack of extensive excavation in the interior (one round house and a clay lined water hole has been found) coupled with widespread quarry damage and the unsuitability for metal detecting due its previously densely wooded character. If Bigbury was connected to control it would have had to be occupied throughout the year but not necessarily with large numbers of people. It would have had to hold sufficient people to process the movement of travellers and goods and possibly house those high status individuals that had the authority to demand tolls or compensation for using the different routes. The discovery of the metal artefacts in the late 19th Century indicates that there was a high status associated with this monument. There is no evidence of Late Iron Age occupation in the immediate environs of Bigbury but as the survey in this thesis has shown, conventional geophysics was not good at locating archaeology in this landscape.

The abandonment of Bigbury is likely to be during the latter part of the 1st Century B.C. if this was hastened because of the attack by Caesar the direct evidence is still not available but there does appear to be some converging indicators (see chapter 11 section 5.4). As Bigbury faded Canterbury grew, the recent discoveries at Ilchester Mead of a Late Iron Age enclosure settlement bounded by a river with the more defended Hillfort at Ham Hill close by, does show some parallels with that of Bigbury and Canterbury. There is a possibility that stone from the ramparts or buildings at Ham Hill was reused in the Ilchester Mead enclosure potentially indicating a transfer of some activities to the more favourable site close to the river (Leach n.d., p.32).

Bigbury perhaps, has a better claim for the classification of Oppidum than Oldbury. It does appear to fulfil several of the qualifying criteria. Having an area of 10.7ha, it just makes the lower limit of 10ha that Cunliffe suggests in *The Origins of Urbanisation in Britain* (Cunliffe 1976, p.136). It is also close to a major river, which is another criterion cited in the English Heritage document *Introduction to Heritage Assets - Oppida* Bigbury. When this is added to the likely influence that Bigbury had over the movement of people and goods, it does imply some sort of power base and by extension an important place. As discussed above it is possible that after the Caesar invasion, Bigbury's activities moved to the settlement at Canterbury; was this a transfer of power or a new start (Ashbee 2005, p.160; Thompson 1983, p.278; Cunliffe 2005, p.168)? The discovery now of earthworks potentially associated with the Hillfort enclosing a large area can only enhance Bigbury's suitability for a classification as Oppida.

6.0 Successful Research

The purpose of this research was to add to the archaeological record of Bigbury and Oldbury, thereby improving our understanding of these two important Kentish Iron Age monuments. Each of the monuments had a different research approach, based on what was achievable with the resources available. It also took into consideration what access was possible to the protected area and the immediate hinterland and the availability of existing study material. The results documented in this thesis, show that it is possible to pull new and original data from the earth, with the limited resources of an individual PhD project, which clearly adds to our knowledge surrounding these significant Hillforts. It demonstrates that while much can be achieved using non-invasive techniques such as geophysics, field walking and LiDAR, there is and will be still, a heavy reliance on excavation, to provide dating and stratigraphic evidence of sequences and sample recovery. It is hoped that elements of this research will be further investigated as there is still much to learn and these monuments are more than deserving of the attention. If these Hillforts were studied with the same vigour and intensity as the other environs projects mentioned above, then not only would it be a significant addition to the archaeology of Kent but a key piece of the jigsaw that is the complex picture of the Iron Age of Britain.

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2013/2014 Bigbury Pottery Database.

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
02001	BIGSUV001	202	9.4	Body	orange red	Ox interior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric					No	No	No	900BC	700BC	
202002	BIGSUV001	202	20.2	Body	mid brown	Poorly oxidized	P-plain bdy		Worn	Granular	11	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202003	BIGSUV001	202	15.1	Body	mid brown	Unoxidized	P-plain bdy		Abraded	Granular	10	No		Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202004	BIGSUV001	202	17.3	Body	mid grey	Ox interior	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202005	BIGSUV001	202	6.4	Body	mid brown	Ox interior	P-plain bdy		Average	Granular	4	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202006	BIGSUV001	202	3.6	Body	mid brown	Ox ext, un ox core, ox int.	P-plain bdy		Average	Granular	4	No		Hard	Fine	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202007	BIGSUV001	202	2.3	Body	mid brown	Ox interior	P-plain bdy		Average	Granular	4.5	No		Hard	Fine	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202008	BIGSUV001	202	2.4	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	5	No		Hard	Irregular	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202009	BIGSUV001	202	1.1	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Granular	3	No		Hard	Fine	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202010	BIGSUV001	202	1.1	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	4.5	No		Hard	Fine	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202011	BIGSUV001	202	7.4	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	9	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
202012	BIGSUV001	202	2.4	Body	pinky red	Oxidized exterior	P-plain bdy		Flake	Granular	9	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
202013	BIGSUV001	202	6.1	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
202014	BIGSUV001	202	5.1	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
202015	BIGSUV001	202	10.2	Body	mid brown	Poorly oxidized	P-plain bdy		Abraded	Granular	5	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202015
202016	BIGSUV001	202	2	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	4	No		Soft	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	202015
202017	BIGSUV001	202	7	Body	mid brown	Unoxidized	P-plain bdy		Abraded	Granular	11	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202018	BIGSUV001	202	6.1	Body	dark grey	Unoxidized			Abraded	Granular	12	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202018
202019	BIGSUV001	202	5.3	Body	dark grey	Oxidized exterior	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	202018

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
202020	BIGSUV001	202	2.2	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	4	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202021	BIGSUV001	202	3.2	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202022	BIGSUV001	202	2.3	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
202023	BIGSUV001	202	2.2	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Granular	8	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202024	BIGSUV001	202	36.5	Tile								No						#N/A						No	No			
202025	BIGSUV001	202	4.8	Body	orange red	Ox ext, un ox core, ox int.	P-plain bdy		Abraded	Granular	9	No		Soft	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
202026	BIGSUV001	202	3.1	Body	orange red	Oxidized exterior	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202027	BIGSUV001	202	3.1	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202028	BIGSUV001	202	3.8	Body	dark grey	Poorly oxidized	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
202029	BIGSUV001	202	36.7	Rim	mid brown	Oxidized exterior	R-rim	R+-Rim and neck zone	Fresh	Granular	9	Yes	Finger tip moulding	Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric	7%	300				No	No	900BC	700BC	202029
202030	BIGSUV001	202	31.9	Body	mid brown	Poorly oxidized	P-plain bdy		Fresh	Granular	9	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202029
202031	BIGSUV001	202	57.9	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202029
202032	BIGSUV001	202	6.2	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	202029
202033	BIGSUV001	202	3.4	Body	mid grey	Unoxidized	P-plain bdy		Flake	Granular	10	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202029
202034	BIGSUV001	202	15.3	Rim	mid brown	Unoxidized	R-rim	R+-Rim and neck zone	Average	Granular	6.5	No	None visible	Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric	4%	260				No	No	900BC	700BC	202034
202035	BIGSUV001	202	19.8	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	8	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202034
202036	BIGSUV001	202	2.9	Rim	mid brown	Poorly oxidized	R-rim	R+-Rim and neck zone	Fresh	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric	1%	260				No	No	900BC	700BC	202034

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
202037	BIGSUV001	202	6.2	Rim	mid brown	Poorly oxidized	R-rim	R+-Rim and neck zone	Fresh	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric	2%	260				No	No	900BC	700BC	202034
202038	BIGSUV001	202	1.4	Body	mid brown	Cannot tell	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202034
202039	BIGSUV001	202	1.5	Body	mid brown	Poorly oxidized	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	202034
302001	BIGSUV001	302	33.8	Base	orange red	Oxidized exterior	B-base	B+ - base and body	Average	Granular	7	No	None visible	Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric			21%	80		No	No	900BC	700BC	
302002	BIGSUV001	302	9.38	Body	orange red	Oxidized exterior	D-decorated		Average	Granular	8	Yes		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302003	BIGSUV001	302	9.5	Body	reddy brown	Oxidized exterior	P-plain bdy		Average	Granular	4	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302004	BIGSUV001	302	10	Body	reddy brown	Oxidized exterior	P-plain bdy		Abraded	Granular	10	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302005	BIGSUV001	302	8.8	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302006	BIGSUV001	302	8.1	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	9	No		Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302007	BIGSUV001	302	8.4	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Granular	9	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302008	BIGSUV001	302	5.9	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	6	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302009	BIGSUV001	302	8.9	Body	orange red	Oxidized	P-plain bdy		Abraded	Granular	8	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302010	BIGSUV001	302	11	???	orange red	Oxidized exterior	B-base		Average	Granular	9	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric			10%	80		No	No	900BC	700BC	
302011	BIGSUV001	302	5.7	Body	reddy brown	Oxidized exterior	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302012	BIGSUV001	302	3.3	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302013	BIGSUV001	302	4	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302014	BIGSUV001	302	6.1	Rim	dark grey	Unoxidized	R-rim	R-only rim	Abraded	Granular	10	No	None visible	Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric	?	?				No	No	900BC	700BC	

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302015	BIGSUV001	302	4.5	Body	orange red	Oxidized	P-plain bdy		Abraded	Granular	9	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302016	BIGSUV001	302	2.5	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	6	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302017	BIGSUV001	302	3.3	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	7	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	302020
302018	BIGSUV001	302	4.2	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Granular	8	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302019	BIGSUV001	302	3.5	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302020	BIGSUV001	302	3.3	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	?	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	302017
302021	BIGSUV001	302	3.4	Body	orange red	Oxidized exterior	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302022	BIGSUV001	302	3.8	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	9	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302023	BIGSUV001	302	2.4	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302024	BIGSUV001	302	2.4	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	7	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302025	BIGSUV001	302	1.8	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	6.5	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302026	BIGSUV001	302	3.2	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular		No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302027	BIGSUV001	302	2.6	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Granular	?	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
302028	BIGSUV001	302	5.8	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	4	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	302029 302030
302029	BIGSUV001	302	8.7	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	4.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	302028 302030
302030	BIGSUV001	302	7.2	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	4.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	302029 302028
302031	BIGSUV001	302	5.1	Body	dark grey	Oxidized exterior	D-decorated		Average	Smooth	4	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	

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302032	BIGSUV001	302	5	Body	dark grey	Unoxidized	P-plain bdy		Average	Smooth	4.5	No		Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302033	BIGSUV001	302	4.6	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	4.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302034	BIGSUV001	302	3.5	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302035	BIGSUV001	302	2.6	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	5.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302036	BIGSUV001	302	1.9	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302037	BIGSUV001	302	2.3	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	5.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302038	BIGSUV001	302	1.7	Body	dark brown	Unoxidized	D-decorated		Average	Smooth	5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302039	BIGSUV001	302	2.2	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302040	BIGSUV001	302	1.1	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	4	No		Soft	Fine	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302041	BIGSUV001	302	1.3	Body	dark grey	Oxidized exterior	D-decorated		Flake	Smooth	6	Yes	Possibly burnished	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302042	BIGSUV001	302	1.3	Body	dark brown	Unoxidized	D-decorated		Average	Smooth	4.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302043	BIGSUV001	302	17	Tile								No						#N/A						No	No			
302044	BIGSUV001	302	10.6	Tile								No						#N/A						No	No			
302045	BIGSUV001	302	4.2	Tile	orange red	Ox ext, un ox core, ox int.						No						#N/A						No	No			
302046	BIGSUV001	302	3.2	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
302047	BIGSUV001	302	2.1	Body	dark grey	Poorly oxidized	P-plain bdy		Worn	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302048	BIGSUV001	302	2.3	Rim	orange red	Ox ext, un ox core, ox int.	R-rim	R-only rim	Abraded	Granular	7	No		Soft	Irregular	Handmade	TPF4	Very fine crushed burnt flint tempered fabric	?	?				No	No	900BC	700BC	
302049	BIGSUV001	302	3.5	Body	dark grey	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302050	BIGSUV001	302	1	Body	orange red	Oxidized exterior	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
302051	BIGSUV001	302	1.4	Daube?								No						#N/A						No	No	900BC	700BC	
303001	BIGSUV001	303?	3.2	Body	mid brown	Oxidized exterior	P-plain bdy		Abraded	Soapy	8	No		Soft	Irregular	Handmade	TPG1	Grog tempered fabric						No	No	2500BC	1700BC	
303002	BIGSUV001	303?	1.9	Body	orange red	Oxidized	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	

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303003	BIGSUV001	303?	1.7	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
303004	BIGSUV001	303?	2.1	Body	orange red	Oxidized	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
303005	BIGSUV001	303?	1.3	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Soapy	6	No		Soft	Irregular	Handmade	TPG1	Grog tempered fabric						No	No	2500BC	1700BC	
303006	BIGSUV001	303?	0.7	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
303007	BIGSUV001	303?	1.1	Sandstone	mid brown							No						#N/A						No	No	900BC	700BC	
305001	BIGSUV001	306	9.7	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	8	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
305002	BIGSUV001	306	23.4	Body	orange red	Oxidized	P-plain bdy		Average	Sandy	10	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
305003	BIGSUV001	306	6.4	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
305003P	BIGSUV001	306	6.4	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric					Yes	No	No	900BC	700BC	
305004	BIGSUV001	306	3.5	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	6	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
305005	BIGSUV001	306	2.6	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	6	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
305006	BIGSUV001	306	5	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
305007	BIGSUV001	306	3.5	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
305008	BIGSUV001	306	3.2	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	
305009	BIGSUV001	306	3.6	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
305010	BIGSUV001	306	2.9	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
306001	BIGSUV001	306	7.1	Body	orange red	Oxidized exterior	P-plain bdy		Average	Soapy	7	No		Soft	Hackly	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
306001P	BIGSUV001	306	7.1	Body	orange red	Oxidized exterior	P-plain bdy		Average	Soapy	7	No		Soft	Hackly	Handmade	TPF4	Very fine crushed burnt flint tempered fabric					Yes	No	No	900BC	700BC	
306002	BIGSUV001	306	1	Body	orange red	Oxidized	P-plain bdy		Flake	Granular	?	No		Soft	Fine	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
306003	BIGSUV001	306	1.1	Body	orange red	Ox ext, un ox core, ox int.	P-plain bdy		Abraded	Soapy	4	No		Soft	Smooth	Handmade	TPG1	Grog tempered fabric						No	No	2500BC	1700BC	
306004	BIGSUV001	306	0.6	Body	orange red	Oxidized exterior	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306005	BIGSUV001	306	27.1	Body	pinky red	Oxidized exterior	P-plain bdy		Abraded	Granular	8	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306006	BIGSUV001	306	25.9	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306007	BIGSUV001	306	15.6	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306008	BIGSUV001	306	30.1	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306009	BIGSUV001	306	16	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306010	BIGSUV001	306	16.6	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306011	BIGSUV001	306	14.7	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306012	BIGSUV001	306	12.7	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306013	BIGSUV001	306	11.1	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306014	BIGSUV001	306	11.1	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306015	BIGSUV001	306	7.7	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	5	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306016	BIGSUV001	306	6.9	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306017	BIGSUV001	306	9.5	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306018	BIGSUV001	306	10	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306019	BIGSUV001	306	7.9	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	5	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
306020	BIGSUV001	306	6.4	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306021	BIGSUV001	306	5.2	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306022	BIGSUV001	306	3.2	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306023	BIGSUV001	306	3	Body	pinky red	Oxidized exterior	P-plain bdy		Abraded	Granular	5	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306024	BIGSUV001	306	3.8	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306025	BIGSUV001	306	3.6	Body	pinky red	Oxidized exterior	P-plain bdy		Abraded	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306026	BIGSUV001	306	2.9	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	5.5	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306027	BIGSUV001	306	3.5	Body	pinky red	Oxidized exterior	P-plain bdy		Worn	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306028	BIGSUV001	306	2.1	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306029	BIGSUV001	306	2.3	Body	mid to dark brown	Poorly oxidized	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306030	BIGSUV001	306	2.1	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306031	BIGSUV001	306	1.7	Body	dark grey	Poorly oxidized	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	306005
306032	BIGSUV001	306	30.6	Base	pinky red	Oxidized exterior	B-base	B+ - base and body	Average	Granular	8	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric			20%	90		No	No	900BC	700BC	306005
306033	BIGSUV001	306	11.5	Base	pinky red	Oxidized exterior	B-base	B- -Only base	Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric			5%	90		No	No	900BC	700BC	306005
306034	BIGSUV001	306	87.7	Base	pinky red	Oxidized exterior	B-base	B+ - base and body	Average	Granular	6	No	Finger tip moulding	Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric			67%	90		No	No	900BC	700BC	306005
306035	BIGSUV001	306	21.4	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	

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306036	BIGSUV001	306	21.6	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306037	BIGSUV001	306	21.6	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306038	BIGSUV001	306	19.3	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306039	BIGSUV001	306	10.1	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306040	BIGSUV001	306	9.7	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306041	BIGSUV001	306	9.7	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306042	BIGSUV001	306	7	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306043	BIGSUV001	306	5.7	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306044	BIGSUV001	306	6.6	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306045	BIGSUV001	306	4.6	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306046	BIGSUV001	306	3.4	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
306047	BIGSUV001	306	4.1	Base	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	8	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric			?	?		No	No	900BC	700BC	
309001	BIGSUV001	309	4.5	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
309002	BIGSUV001	309	2.6	Body	orange red	Oxidized exterior	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
311001	BIGSUV001	311	1.5	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Granular	7	No		Soft	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
312001	BIGSUV001	312	7.6	Base	dark grey	Unoxidized	B-base	B- -Only base	Abraded	Granular	?	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric			?	?		No	No	900BC	700BC	
313001	BIGSUV001	313	1.5	Body	orange red	Oxidized exterior	P-plain bdy		Flake	Soapy		No		Soft	Irregular	Handmade	TPG1	Grog tempered fabric						No	No	2000BC	1500BC	
315001	BIGSUV001	315	13.6	Body	pinky red	Oxidized	P-plain bdy		Abraded	Granular	12	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No			

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
325001	BIGSUV001	325	36.3	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	325001
325002	BIGSUV001	325	21.8	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	325001
325003	BIGSUV001	325	17.5	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	325001
325004	BIGSUV001	325	28.8	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	325001
325005	BIGSUV001	325	9.4	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	325001
325006	BIGSUV001	325	5.9	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	325001
325007	BIGSUV001	325	3.9	Body	pinky red	Oxidized exterior	P-plain bdy		Average	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	325001
325008	BIGSUV001	325	32.9	Body	mid brown	Oxidized exterior	P-plain bdy		Fresh	Granular	8	No		Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	325008
325009	BIGSUV001	325	21.6	Body	mid brown	Oxidized exterior	P-plain bdy		Fresh	Granular	8	No	None visible	Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric						No	No	900BC	700BC	325008
325010	BIGSUV001	325	9	Base	mid brown	Ox ext, un ox core, ox int.	B-base	B- -Only base	Average	Granular	9	No	None visible	Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric			26%	80		No	No	900BC	700BC	325008
325011	BIGSUV001	325	10.8	Base	mid brown	Poorly oxidized	B-base	B- -Only base	Average	Granular	9	No	None visible	Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric			26%	80		No	No	900BC	700BC	325008
325012	BIGSUV001	325	5.5	Rim	mid brown	Oxidized exterior	R-rim	R-only rim	Average	Granular	9	No	None visible	Hard	Irregular	Handmade	TPF1	Coarser, crushed burnt flint tempered fabric	?	?				No	No	900BC	700BC	325008
325013	BIGSUV001	325	6.6	Rim	orange red	Oxidized exterior	R-rim	R-only rim	Abraded	Granular	11	No		Soft	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric	?	?				No	No	900BC	700BC	
325014	BIGSUV001	325	1.9	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
325015	BIGSUV001	325	2	Body	pinky red	Oxidized exterior	P-plain bdy		Flake	Granular	6	No		Soft	Irregular	Handmade	TPF2	Medium crushed burnt flint tempered fabric						No	No	900BC	700BC	
325016	BIGSUV001	325	1.6	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	4.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	TPF4	Very fine crushed burnt flint tempered fabric						No	No	900BC	700BC	
325017	BIGSUV001	325	13.5	Modern?								No						#N/A						No	No			
325018	BIGSUV001	325	3	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	TPF3	Fine crushed burnt flint tempered fabric						No	No	900BC	700BC	

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326001	BIGSUV001	326	6.1	Body	light brown	Oxidized exterior	P-plain bdy		Abraded	Soapy	10	No		Soft	Irregular	Handmade	TPG1	Grog tempered fabric						No	No	2000BC	1500BC	
Q100101	BIGQUARRY	Q100	670	Base	orange red	Oxidized exterior	B-base	B+ - base and body	Average	Granular	9	No	None visible	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric			100%	120		?	Yes	150BC	75BC	Q100101
Q100102	BIGQUARRY	Q100	35.8	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						?	No	150BC	75BC	Q100101
Q100103	BIGQUARRY	Q100	62.4	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						?	Yes	150BC	75BC	Q100101
Q100104	BIGQUARRY	Q100	13.5	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						?	No	150BC	75BC	Q100101
Q100104P	BIGQUARRY	Q100	13.5	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric					Yes	?	No	150BC	75BC	Q100101
Q100105	BIGQUARRY	Q100	49.7	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						?	No	150BC	75BC	Q100101
Q100106	BIGQUARRY	Q100	52.7	Body	orange red	Oxidized exterior	P-plain bdy		Fresh	Granular	10	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						?	Yes	150BC	75BC	Q100101
Q100107	BIGQUARRY	Q100	39.7	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						?	No	150BC	75BC	Q100101
Q100108	BIGQUARRY	Q100	15.7	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	16	No		Hard	Smooth	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100109	BIGQUARRY	Q100	28	Body	mid brown	Oxidized exterior	D-decorated		Average	Smooth	14	Yes	burnished exterior	Hard	Irregular	Handmade	F1	Coarser, crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100109
Q100110	BIGQUARRY	Q100	29.1	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Sandy	14	No		Hard	Irregular	Handmade	F1	Coarser, crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100109
Q100111	BIGQUARRY	Q100	17.1	Body	mid brown	Oxidized exterior	D-decorated		Average	Smooth	7	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100112	BIGQUARRY	Q100	13.2	Body	reddy brown	Oxidized exterior	D-decorated		Fresh	Smooth	6	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100112P	BIGQUARRY	Q100	13.2	Body	reddy brown	Oxidized exterior	D-decorated		Fresh	Smooth	6	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric					Yes	No	No	150BC	75BC	Q100111
Q100113	BIGQUARRY	Q100	7.6	Body	mid brown	Oxidized exterior	D-decorated		Average	Smooth	5.5	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100114	BIGQUARRY	Q100	6.5	Body	mid brown	Unoxidized	D-decorated		Average	Smooth	6	Yes	burnished	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111

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Q100115	BIGQUARRY	Q100	3.6	Body	mid brown	Oxidized exterior	D-decorated		Average	Smooth	5	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100116	BIGQUARRY	Q100	6	Body	mid brown	Unoxidized	D-decorated		Average	Smooth	6	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100117	BIGQUARRY	Q100	6.8	Body	orange red	Oxidized exterior	D-decorated		Average	Smooth	6	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100118	BIGQUARRY	Q100	4.3	Body	mid brown	Oxidized exterior	D-decorated		Average	Smooth	6	Yes	burnished	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100119	BIGQUARRY	Q100	4	Body	mid brown	Oxidized exterior	D-decorated		Fresh	Smooth	5.5	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100111
Q100120	BIGQUARRY	Q100	6.4	Body	mid brown	Unoxidized	P-plain bdy		Average	Sandy	6	No		Hard	Irregular	Handmade	F1sparse	Coarser, sparse dark crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100121	BIGQUARRY	Q100	6.9	Body	orange red	Ox ext, un ox core, ox int.	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	F1	Coarser, crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100122	BIGQUARRY	Q100	9.2	Body	orange red	Oxidized exterior	P-plain bdy		Average	Smooth	11	No		Soft	Fine	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100123	BIGQUARRY	Q100	5.5	Body	reddy brown	Ox ext, un ox core, ox int.	P-plain bdy		Average	Smooth	8	No		Soft	Smooth	Handmade	F4	Very fine crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100123
Q100123P	BIGQUARRY	Q100	5.5	Body	reddy brown	Ox ext, un ox core, ox int.	P-plain bdy		Average	Smooth	8	No		Soft	Smooth	Handmade	F4	Very fine crushed burnt flint tempered fabric					Yes	No	No	150BC	75BC	Q100123
Q100124	BIGQUARRY	Q100	5.9	Body	reddy brown	Ox ext, un ox core, ox int.	P-plain bdy		Average	Smooth	8	No		Soft	Smooth	Handmade	F4	Very fine crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100123
Q100125	BIGQUARRY	Q100	5	Body	orange red	Ox ext, un ox core, ox int.	P-plain bdy		Average	Granular	7	No		Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100126	BIGQUARRY	Q100	3.9	Body	mid brown	Ox interior	P-plain bdy		Average	Smooth	5	No		Soft	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100127	BIGQUARRY	Q100	4.9	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Sandy	5	No		Soft	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100128	BIGQUARRY	Q100	4.4	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	6	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100129	BIGQUARRY	Q100	5.5	Body	mid brown	Ox ext, un ox core, ox int.	P-plain bdy		Average	Sandy	5	No		Hard	Fine	Handmade	S1	Sandy tempered fabric						No	No	150BC	75BC	
Q100130	BIGQUARRY	Q100	7.9	Body	mid brown	Unoxidized	P-plain bdy		Average	Sandy	7	No		Hard	Fine	Handmade	S1	Sandy tempered fabric						No	No	150BC	75BC	

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
Q100130P	BIGQUARRY	Q100	7.9	Body	mid brown	Unoxidized	P-plain bdy		Average	Sandy	7	No		Hard	Fine	Handmade	S1	Sandy tempered fabric					Yes	No	No	150BC	75BC	
Q100131	BIGQUARRY	Q100	4.5	Body	mid to dark brown	Unoxidized	D-decorated		Average	Smooth	6	Yes	burnished exterior	Hard	Fine	Handmade	F1sparse	Coarser, sparse dark crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100132	BIGQUARRY	Q100	8.5	Body	reddy brown	Oxidized	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	FeO	High iron oxide content fabric						No	No	150BC	75BC	
Q100132P	BIGQUARRY	Q100	8.5	Body	reddy brown	Oxidized	P-plain bdy		Average	Granular	9	No		Soft	Irregular	Handmade	FeO	High iron oxide content fabric					Yes	No	No	150BC	75BC	
Q100133	BIGQUARRY	Q100	5.3	Body	dark grey	Unoxidized	A-angled		Average	Smooth	8	No		Hard	Irregular	Handmade	F1sparse	Coarser, sparse dark crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100134	BIGQUARRY	Q100	2.8	Body	mid brown	Oxidized exterior	D-decorated		Average	Smooth	5.5	Yes	Burnished inside and out?	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100135	BIGQUARRY	Q100	4.1	Body	dark brown	Unoxidized	P-plain bdy		Average	Sandy	5.5	No		Soft	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100136	BIGQUARRY	Q100	2.9	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	5	Yes	Burnished inside and out?	Hard	Fine	Handmade	S1	Sandy tempered fabric						No	No	150BC	75BC	
Q100137	BIGQUARRY	Q100	2.1	Body	mid grey	Ox ext, un ox core, ox int.	D-decorated		Average	Smooth	3.5	Yes	burnished exterior	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100138	BIGQUARRY	Q100	3.1	Body	mid brown	Ox interior	D-decorated		Average	Smooth	5	Yes	burnished	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100139	BIGQUARRY	Q100	2	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Smooth	6	No		Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100140	BIGQUARRY	Q100	2.9	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Sandy	8	No		Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100141	BIGQUARRY	Q100	2.7	Body	reddy brown	Ox ext, un ox core, ox int.	P-plain bdy		Average	Smooth	6	No		Hard	Fine	Handmade	F4	Very fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100142	BIGQUARRY	Q100	2	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Smooth	4	No		Hard	Fine	Handmade	S1	Sandy tempered fabric						No	No	150BC	75BC	
Q100143	BIGQUARRY	Q100	3.9	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Granular	8	No		Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100144	BIGQUARRY	Q100	2.6	Body	dark grey	Oxidized exterior	D-decorated		Average	Smooth	5.5	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100145	BIGQUARRY	Q100	4.3	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100146	BIGQUARRY	Q100	4.7	Body	dark grey	Unoxidized	D-decorated		Average	Smooth	7	Yes	burnished exterior	Hard	Irregular	Handmade	F1	Coarser, crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100147	BIGQUARRY	Q100	4.5	Body	dark grey	Unoxidized	P-plain bdy		Average	Sandy	6.5	No		Soft	Fine	Handmade	S1	Sandy tempered fabric						No	No	150BC	75BC	
Q100148	BIGQUARRY	Q100	4.5	Body	mid brown	Oxidized exterior	P-plain bdy		Abraded	Granular	8	No		Soft	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
Q100149	BIGQUARRY	Q100	4.1	Body	dark brown	Unoxidized	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100150	BIGQUARRY	Q100	3.6	Body	reddy brown	Ox ext, un ox core, ox int.	P-plain bdy		Abraded	Granular	9	No		Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100151	BIGQUARRY	Q100	1.7	Body	mid brown	Unoxidized	P-plain bdy		Abraded	Sandy	6	No		Hard	Fine	Handmade	F4	Very fine crushed burnt flint tempered fabric					Yes	No	No	150BC	75BC	
Q100151P	BIGQUARRY	Q100	1.7	Body	mid brown	Unoxidized	P-plain bdy		Abraded	Sandy	6	No		Hard	Fine	Handmade	F4	Very fine crushed burnt flint tempered fabric					Yes	No	No	150BC	75BC	
Q100152	BIGQUARRY	Q100	1.1	Body	orange red	Oxidized exterior	P-plain bdy		Abraded	Soapy	5.5	No		Soft	Fine	Handmade	TPG1	Grog tempered fabric						No	No	150BC	75BC	
Q100153	BIGQUARRY	Q100	0.9	Body	mid brown	Unoxidized	P-plain bdy		Flake	Sandy	?	No		Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100154	BIGQUARRY	Q100	0.8	Body	mid brown	Ox ext, un ox core, ox int.	D-decorated		Average	Smooth	3.5	Yes	burnished exterior	Soft	Fine	Handmade	S1	Sandy tempered fabric						No	No	150BC	75BC	Q100154
Q100155	BIGQUARRY	Q100	1	Body	mid brown	Ox ext, un ox core, ox int.	D-decorated		Average	Smooth	3.5	Yes	burnished exterior	Soft	Smooth	Handmade	S1	Sandy tempered fabric						No	No	150BC	75BC	Q100154
Q100156	BIGQUARRY	Q100	1.1	Sandstone								No						#N/A						No	No			
Q100157	BIGQUARRY	Q100	72.3	Base	dark grey	Unoxidized	B-base	B- -Only base	Average	Granular	13	No	None visible	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric			60%	80		No	No	150BC	75BC	Q100157
Q100158	BIGQUARRY	Q100	36.6	Body	mid brown	Unoxidized	P-plain bdy		Average	Smooth	9	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100157
Q100159	BIGQUARRY	Q100	19.1	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	7	Yes	Finger nail marks interior. Burnished exterior. Feint parallel lines looked to be made by a combe or similar	Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						Yes	No	150BC	75BC	Q100157
Q100160	BIGQUARRY	Q100	13.2	Body	dark grey	Unoxidized	P-plain bdy		Average	Granular	7	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100157
Q100161	BIGQUARRY	Q100	15.8	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	11	No		Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100162	BIGQUARRY	Q100	5.8	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	6	No		Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100163	BIGQUARRY	Q100	3.4	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100157
Q100164	BIGQUARRY	Q100	4.3	Body	dark grey	Unoxidized	P-plain bdy		Flake	Granular	?	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100157

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
Q100165	BIGQUARRY	Q100	69.5	Body	light brown	Oxidized exterior	D-decorated		Average	Sandy	8	Yes	burnished interior	Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100165
Q100166	BIGQUARRY	Q100	25.8	Body	mid brown	Unoxidized	D-decorated		Average	Smooth	6	Yes	burnished exterior	Hard	Irregular	Handmade	F1	Coarser, crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100165
Q100167	BIGQUARRY	Q100	14.2	Body	mid brown	Unoxidized	D-decorated		Average	Smooth	7	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F1	Coarser, crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100165
Q100168	BIGQUARRY	Q100	16.3	Body	mid brown	Unoxidized	D-decorated		Fresh	Smooth	7	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	Q100165
Q100169	BIGQUARRY	Q100	9	Body	mid to dark brown	Ox ext, un ox core, ox int.	D-decorated		Fresh	Smooth	6	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100170	BIGQUARRY	Q100	17.6	Body	mid brown	Oxidized exterior	D-decorated		Average	Smooth	7	Yes	Burnished inside and out?	Hard	Fine	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100171	BIGQUARRY	Q100	7	Body	mid to dark brown	Unoxidized	D-decorated		Average	Smooth	5	Yes	Burnished inside and out?	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100172	BIGQUARRY	Q100	23.3	Body	light brown	Ox ext, un ox core, ox int.	D-decorated		Average	Smooth	8	Yes	Burnished inside and out?	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100172P	BIGQUARRY	Q100	23.3	Body	light brown	Ox ext, un ox core, ox int.	D-decorated		Average	Smooth	8	Yes	Burnished inside and out?	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric					Yes	No	No	150BC	75BC	
Q100173	BIGQUARRY	Q100	12.9	Body	mid brown	Unoxidized	D-decorated		Average	Smooth	9	Yes	Burnished inside and out?	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	Yes	150BC	75BC	
Q100174	BIGQUARRY	Q100	3.3	Body	mid brown	Unoxidized	D-decorated		Fresh	Smooth	6	Yes	burnished exterior	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100175	BIGQUARRY	Q100	36.8	Body	orange red	Ox ext, un ox core, ox int.	P-plain bdy		Average	Granular	9	No		Soft	Fine	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100176	BIGQUARRY	Q100	9	Body	mid brown	Oxidized exterior	P-plain bdy		Average	Smooth	8.5	No		Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100177	BIGQUARRY	Q100	26.6	Body	reddy brown	Ox ext, un ox core, ox int.	P-plain bdy		Average	Granular	8	No		Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100178	BIGQUARRY	Q100	10.6	Body	orange red	Oxidized exterior	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100179	BIGQUARRY	Q100	17.3	Body	mid brown	Unoxidized	P-plain bdy		Average	Granular	9	No		Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q100180	BIGQUARRY	Q100	11.6	Base	mid brown	Oxidized exterior	B-base	B+ - base and body	Average	Smooth	8	Yes	burnished exterior	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric			5%	160		No	No	150BC	75BC	
Q100181	BIGQUARRY	Q100	11.5	Base	mid brown	Unoxidized	B-base	B- -Only base	Average	Smooth	10	Yes	burnished exterior	Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric			11%	85		No	No	150BC	75BC	
Q100182	BIGQUARRY	Q100	11.6	Body	mid brown	Unoxidized	H-handle		Average	Smooth	13	No		Hard	Irregular	Handmade	S1	Sandy tempered fabric			12%	100		No	No	150BC	75BC	
Q100183	BIGQUARRY	Q100	30.4	Rim	mid brown	Unoxidized	D-decorated	R+-Rim and neck zone	Average	Smooth	5	Yes	Burnished inside and out?	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric	10%	200				No	No	150BC	75BC	

Sherd ID	Site Ref	Context	Wt g	Sherd Type	Fired colour	Firing	Form	Extent	Condition	Texture	Width mm	Decorated Y or N	Decoration description	Hardness	Fracture	Manufacture	Fabric code	Fabric type name	Rim present	Rim dia mm	Base Present	Base dia mm	Thin section	Burnt	Residue	Start date	End date	Linked with
Q100184	BIGQUARRY	Q100	33	Rim	mid brown	Oxidized exterior	R-rim	R+-Rim and neck zone	Fresh	Smooth	6	Yes	burnished exterior and interior	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric	17%	160				No	No	150BC	75BC	
Q100185	BIGQUARRY	Q100	7	Rim	reddy brown	Oxidized exterior	R-rim	R-only rim	Average	Granular	7	No	None visible	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric	4%	200				No	No	150BC	75BC	
Q100186	BIGQUARRY	Q100	7.7	Rim	dark brown	Unoxidized	R-rim	R+-Rim and neck zone	Average	Granular	7	No	None visible	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric	7%	150				No	No	150BC	75BC	
Q100188	BIGQUARRY	Q100	3.4	Rim	mid grey	Unoxidized	R-rim	R-only rim	Abraded	Sandy	7	No		Hard	Fine	Handmade	F1	Coarser, crushed burnt flint tempered fabric	?	?				No	No	150BC	75BC	
Q100189	BIGQUARRY	Q100	2.9	Rim	mid brown	Unoxidized	R-rim	R+-Rim and neck zone	Average	Sandy	6	No		Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric	?	?				No	No	150BC	75BC	
Q100190	BIGQUARRY	Q100	1.1	Rim	dark grey	Unoxidized	R-rim	R-only rim	Flake	Smooth	?	No		Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric	?	?				No	No	150BC	75BC	
Q101001	BIGQUARRY	Q101	79	Body	orange red	Unoxidized	P-plain bdy		Average	Granular	8	No		Hard	Irregular	Handmade	F3	Fine crushed burnt flint tempered fabric						No	No	150BC	75BC	
Q101002	BIGQUARRY	Q101	15	Rim	mid brown	Oxidized exterior	R-rim	R+-Rim and neck zone	Average	Sandy	6	No	None visible	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric	6%	150				No	No	150BC	75BC	
Q101003	BIGQUARRY	Q101	12	Rim	orange red	Oxidized exterior	R-rim	R-only rim	Average	Granular	10	No	None visible	Soft	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric	5%	200				No	No	150BC	75BC	
Q101004	BIGQUARRY	Q101	1	Body	dark grey	Unoxidized	P-plain bdy		Abraded	Very sandy	7	No		Soft	Smooth	Handmade	S1	Sandy tempered fabric						Yes	No	150BC	75BC	
Q101005	BIGQUARRY	Q101	17	Rim	mid to dark brown	Oxidized	R-rim	R-only rim	Fresh	Smooth	9	No	None visible	Hard	Irregular	Handmade	F2	Medium crushed burnt flint tempered fabric	4%	320				Yes	Yes	150BC	75BC	
Q100187	BIGQUARRY	Q100	4.1	Rim	reddy brown	Oxidized exterior	R-rim	R-only rim	Average	Sandy	8	No	None visible	Hard	Fine	Handmade	F3	Fine crushed burnt flint tempered fabric	5%	120				No	No	150BC	75BC	

Bigbury and Oldbury Museum Inventory

ID	Museum	Accession Number	Category	Object	Description	Date of Object	Donor Details	Find Site	Find site details	Location	Loc. Conf.	Photo	Refs
	Manchester	35792	Metalwork	Shackles	Two triple links are connected by an hour-glass shaped link. The other two angles of the triple links are connected to two movable, curved bars, which link together by a loop to for a circle, dia 8.5cm. cmWidth: Length: 41.80cm	IA		Bigbury					
	Manchester	35793	Metalwork	Shackles	A triangular link with two movable, curved bars. cmWidth: Length: 18.80cm	IA		Bigbury					
	Manchester	35794	Metalwork	Shackles	Perhaps part of a pair with 35793. Found complete but now in three constituent pieces. The Triangular link (A) is incomplete between the two points of the triangle. Both moveable bars are damaged. cmWidth: Length: 18.60cm	IA		Bigbury					
	Manchester	35795	Metalwork	Slave chain	Iron slave chain. Mostly formed of two kinds of links, hour glass shaped and plain. At each end are two moveable bars of iron bent to describe circles 17.8 cm in diam when fastened. At intervals of 81.3 cm other bars, each bent into semi-circles terminate in links which pass through plain links in the chain thus forming circles of the same diameter as those at each end. The other half of the circumference is formed of three hour glass-links. Altogether there are six 'iron collars'. cmWidth: Length: 546.00cm	IA		Bigbury					
	Manchester	35796	Metalwork	Shackles	Six links, all interconnected. Four of the links describe ortions of a circle, though one of a different axis. Another link is irregular in shape and the sixth is a damaged iron square with a circular hole in it. cmWidth: Length: 30.50cm	IA		Bigbury					
	Manchester	35797	Metalwork	Chain link	A flattened strip of iron with an eye at each end bent over to act as a form of chain link. cmWidth: Length: 10.90cm	IA		Bigbury					
	Manchester	35798	Metalwork	Chain link	A flattened length of iron with an eye at each end, bent over to form a link. Not intact, one of the eyes os split and the other is broken off. Cm Width: Length: 8.50cm	IA		Bigbury					
	Manchester	35799	Metalwork	Chain link	Iron chain links. Two iron chain links, one link is intact but the other is damaged; they are connected through the eyes of the preceding link. Cm Width: Length: 15.20cm	IA		Bigbury					
	Manchester	35800	Metalwork	Horse snaffle bit	Formed of three pieces with large rings for the reception of reins. Only one of the rings has partially survived. A couple link of spectacle shape attaches the outer bars together, the rings are threaded through holes in the ends of these bars. A flattened strip of iron is bent around the centre of the spectacle shaped piece. Parts are rusted together.corrosion of the iron makes it difficult to ascertain the original shape of the bit... ' Fuller description in Natalie Palk(1984) Iron Age Bridle Bits form Britain (D6), p25-6.	IA		Bigbury					
	Manchester	35801	Metalwork	Horse harness ring	A bronze covered circular iron ring for harness. Part of the circle is missing. Parts of the bronze covering have survived, according to Boyd Dawkins "ornamented with the imitation of sewing on leather." cm	IA		Bigbury					
	Manchester	35802	Metalwork	Horse snaffle bit	The outer bars and rings have survived, but the connecting middle section has not. Iron covered in bronze. The diameters of the rings are A: 7.8cm and B: 7.5cm, B being slightly thicker. The furrow on the ring bar of A is not seen on the ring bar of B. cm Width: Length: 12.20cm	IA		Bigbury					
	Manchester	35803	Metalwork	Spear head	Socketed iron spear-head. Badly oxidised small leaf shaped spear-head. Part of the blade and the socket survives. Cm Width: Length: 10.20cm	IA		Bigbury					
	Manchester	35804	Metalwork	Spear head	Description: Small leaf shaped spearhead. Most of tapering socket and part of blade survives. Cm Width: Length: 9.10cm	IA		Bigbury					
	Manchester	35805	Metalwork	Knife	Tanged iron dagger. The blade is ridged in the centre on both sides and is 19cm long, the tang being 9.4cm long. Cm Width: Length: 28.40cm	IA		Bigbury					
	Manchester	35806	Metalwork	Blade	Fragments of iron blade. One fragment appears to be curved. May be part of one of the spearhead socket of 35803.	IA		Bigbury					
	Manchester	35807	Metalwork	Needle?	One fragment is possibly a needle? Cm Width: Length: 6.80cm	IA		Bigbury					

ID	Museum	Accession Number	Category	Object	Description	Date of Object	Donor Details	Find Site	Find site details	Location	Loc. Conf.	Photo	Refs
	Manchester	35808	Metalwork	Knife	? Small tanged knife. Appears to have a blade on one side only. Cm Width: Length: 14.10cm	IA		Bigbury					
	Manchester	35809	Metalwork	Hammer	Fairly large, heavy hammer with a flat butt end and tapered narrow end. The is an ovoid hole for handle. 3.20 cm Width: Length: 11.80cm	IA		Bigbury					
	Manchester	35810	Metalwork	Hammer	Light hammer with well worn butt and smaller tapered end. Very slightly curved and with an almost rectangular hole. 1.80 cm Width: Length: 10.30cm	IA		Bigbury					
	Manchester	35811	Metalwork	Chisel	Round butt end tappers into a round length of iron which gradually tapers into a flat edge 1.4cm across. 2.60 cm Width: Length: 22.00cm	IA		Bigbury					
	Manchester	35812	Metalwork	Axe	Iron axe-head with a large hole for reception of handle. It is wedge shaped, but beds out slightly around the hole. 5.90 cm Width: Length: 21.40cm	IA		Bigbury					
	Manchester	35813	Metalwork	Axe	Basically a wedge shape, but curves out around hole for handle. 4.50 cm Width: Length: 27.50cm	IA		Bigbury					
	Manchester	35814	Metalwork	Sickle	Long curving blade, sharper on inner edge. 1.50 cm Width: Length: 42.00cm	IA		Bigbury					
	Manchester	35815	Metalwork	Sickle	Long gently curving blade with flat outer edge. Part of the nail to secure the handle survives at the base. 5.80 cm Width: Length: 48.50cm	IA		Bigbury					
	Manchester	35816	Metalwork	Sickle	Iron sickle. Long greatly curving blade. Blade curves out from the top of the base. The base is turned out describing a tapering socket for the handle. This socket has a neck from which the blade springs. The blade varies in width from a surviving 1cm at the tip to 6.4cm. The nail survives in the base. Overall length 58cm (outer curve).	IA		Bigbury					
	Manchester	35817	Metalwork	Sickle	Description: Iron sickle, badly oxidised. Part of nail survives in blade. 5.20 cm Width: Length: 47.00cm	IA		Bigbury					
	Manchester	35818	Metalwork	Sickle	Iron sickle or scythe. Two nail holes survives for handle. 3.70 cm Width: Length: 38.00cm	IA		Bigbury					
	Manchester	35819	Metalwork	Billhook	Short, curved blade with rivet or nail hole and a nearly-intact flange-socket. 5.70 cm Width: Length: 28.00cm	IA		Bigbury					
	Manchester	35820	Metalwork	Billhook	Iron bill-hook. Very similar to 35819. The blade bends very sharply towards the tip and the flange-socket is bent inwards on this example. The blade varies in width from 1.5 cm at tip to 5.2 cm at the base of blade. The nail hole survives in this tapering flange socket. 5.20 cm Width: Length: 25.50cm	IA		Bigbury					
	Manchester	35821	Metalwork	Billhook	Iron bill-hook, badly oxidised. No evidence of flange-socket of rivet hole. Flattened at outer edge. 3.90 cm Width: Length: 22.00cm	IA		Bigbury					
	Manchester	35822	Metalwork	Billhook	Part of the curving blade and flange-socket have survived, the nail hole has not. 3.70 cm Width: Length: 21.00cm	IA		Bigbury					
	Manchester	35823	Metalwork	Plough coulter?	Massive iron hook, probably the coulter of a plough. It consists of a long rectangualr tang and a shorter curved blade. Cm Width: Length: 42.50cm	IA		Bigbury					
	Manchester	35824	Metalwork	Needle?	Ploughshare Object: Description: Long, thick, tapering, flat length of iron, obtusely pointed. The base is rolled over into a flange-socket, but there is no evidence of nails or nail holes. 5.20 cm Width: Length: 31.20cm	IA		Bigbury					
	Manchester	35825	Metalwork	Currency bar?	Plough Object: Description: Long, flat and thin length of iron tapering to a point. The flange socket is intact, with no evidence of a nail hole. 4.80 cm Width: Length: 34.00cm	IA		Bigbury					
	Canterbury	CANCM:2010.2.218	Stone	conglomerate puddingstone	Cut on both sides, polished on one side showing the small lblack or brown flint or chert pebbles in a grey matrix. Reputedly from the Wetherelt collection. Other sepcimen of pudding stone CANCM:MDB 244 was given by Frank Jenkins and came from Bigbury Fort.			Bigbury	Bigbury fort				
	Canterbury	CANCM:2010.2.220	Stone	conglomerate puddingstone	Cut and polished on one side showing the small black or brown flint or chert pebbles in a greymatrix. Reputedly from the Wetherelt collection. Other specimen of pudding stone CANCM:MDB 244 was given by Frank Jenkins and cam from Bigbury Fort.			Bigbury	Bigbury fort				

ID	Museum	Accession Number	Category	Object	Description	Date of Object	Donor Details	Find Site	Find site details	Location	Loc. Conf.	Photo	Refs
	Canterbury	Archaeology.bulk store: box 9C4 vi	Flint	Stone axe	stone; axe, polished, neolithic (635, 658, 781, 7797)flint; axe, neolithic (8652)stone; axe, chipped and polished, neolithic, Scandinavian(659, 6637)flint; axe, tranchet, mesolithic (6640, 7934, u/n)stone; axe with shaft hole, neolithic (9218)flint; dagger (8482)flint; blade, mesolithic (5 u/n)	Neolithic		Bigbury					
	Canterbury	Archaeology.bulk store: box 9E4 iii	Flint	flint; cores, neolithic	flint; flake tools, Neolithic	Neolithic		Bigbury	Bigbury Woods				
	Canterbury	Archaeology.small finds: box 9.4 ix	Stone	small finds, iron	whetstone			Bigbury					
	Canterbury	CANCM:MDB 244	Stone	conglomerate puddingstone	Large block, weathered smooth on outer side, broken across section showing the small black or brown flint pebbles in a greymatrix, some iron staining			Bigbury	Bigbury <fort?>, north side				
	Canterbury	CANCM:240A	Flint	flint axe	flint axe			Bigbury					
	Canterbury	CANCM:252	Flint	flint implement	small flint implement			Bigbury	UK/Bigbury Woods				
	Canterbury	CANCM:390	Flint	small flint flake	small flint flake			Bigbury	Bigbury Wood				
	Canterbury	CANCM:497	Flint	flint scraper	small flint scraper			Bigbury	Bigbury Wood				
	Canterbury	CANCM:658	Flint	flint axe	flint axe			Bigbury	Bigbury Wood				
	Canterbury	CANCM:1088	Metalwork	bronze celt axehead	bronze celt axehead			Bigbury	Bigbury Wood				
	Canterbury	CANCM:1115	Metalwork	iron sickle	iron sickle	IA		Bigbury					
	Canterbury	CANCM:1184	Metalwork	iron knife (?)	knife shaped object of iron (Brent collection)	IA		Bigbury					
	Canterbury	CANCM:1201	Metalwork	iron sickle	iron sickle ACCESSION REGISTER STATES "THIS HAS NOT BEENRETAINED AS THE PIECE BEARING THE LABEL IS ABOUT 1" SQUARE &IT IS QUITEIMPOSSIBLE TO TELL WHAT IT ONCE WAS OR WHAT PIECES GO WITHIT. J.M.C."	IA		Bigbury					
	Canterbury	CANCM:1202	Metalwork	iron sickle	iron sickle	IA		Bigbury					
	Canterbury	CANCM:1206	Metalwork	knife	Belgic knife	IA		Bigbury					
	Canterbury	CANCM:1210	Metalwork	iron sickle	iron sickle	IA		Bigbury					
	Canterbury	CANCM:1212	Metalwork	iron sickle	iron sickle	IA		Bigbury					
	Canterbury	CANCM:1215	Metalwork	iron knife/staff	iron knife or staff; top curved	IA		Bigbury					
	Canterbury	CANCM:5134	Metalwork	lance/spear head	Roman lance or spear head from Bigbury Camp	IA		Bigbury	Bigbury Camp				
	Canterbury	CANCM:5185	Metalwork	iron implement	iron implement from Bigbury Camp	IA		Bigbury	Bigbury Camp				
	Canterbury	CANCM:5186	Metalwork	iron implement	iron implement from Bigbury Camp	IA		Bigbury	Bigbury Camp				
	Canterbury	CANCM:5187	Metalwork	iron implement	iron implement from Bigbury Camp	IA		Bigbury	Bigbury Camp				
	Canterbury	CANCM:5188	Metalwork	iron implement	iron implement from Bigbury Camp	IA		Bigbury	Bigbury Camp				
	Canterbury	CANCM:5211	Lead	lead button	leaden button (Accessions register states "probably a pilgrim's button")	Medieval		Bigbury	Bigbury Wood				
	Canterbury	CANCM:6561	Flint	flint hand axe	flint hand axe; (Accessions register states "from collection of Dr. A.G. Ince")			Bigbury	Bigbury Wood (?)				
	Canterbury	CANCM:6928	Pottery	gritty ware sherd	sherds of coarse gritty hand made ware including two bases and a rim sherd of a large storage jar			Bigbury					
	Canterbury	CANCM:6929	Pottery	grey ware sherd	sherd of grey ware pottery from olla-type pot with zone of burnishing on shoulder and oblique burnished lines			Bigbury					
	Canterbury	CANCM:6952	Flint	flint flake	flint flake			Bigbury					

ID	Museum	Accession Number	Category	Object	Description	Date of Object	Donor Details	Find Site	Find site details	Location	Loc. Conf.	Photo	Refs
	Canterbury	CANCM:7967	Metalwork	cutter	iron cutter; Accessions register states Found in museum basement in 1952, not previously entered			Bigbury	Bigberry [Bigbury?]				
	Canterbury	CANCM:8235	Stone	hone	hone of roughly oval shape, flat and perforated for suspension			Bigbury	Canterbury; Bigbury				
	Canterbury	CANCM:8807	Flint	flint flakes	two flint flakes, probably neolithic; grey flint; one with sparse white patina; rather battered edges; found in Bigbury woods near Canterbury			Bigbury	Bigbury Woods				
115	Maidstone		Pottery	Vessel	Belgic pedestal urn. Restored. Ht 13"; Rim 51/2"; Base 4 3/4"	IA		Oldbury	Oldbury; excavated; found with cremated remains	(Unidentified); Display	?		
116	Maidstone		Pottery	Vessel	Belgic pedestal urn. Restored. Base 3 3/4"	IA		Oldbury	Oldbury; excavated; found with cremated remains	(Unidentified); Display	?		
117	Maidstone		Pottery	Vessel	Situlate Jar. Restored. Ht 6"; Rim 4 3/8"; Base 3"	IA		Oldbury	Oldbury; excavated.	(Unidentified); Display	?		
118	Maidstone		Pottery	Vessel	Foot-ring bowl. Restored. Ht 4 7/8"; Rim 5 3/8"; Base 2 3/8"	IA		Oldbury	Oldbury; excavated.	(Unidentified); Display	?		
119	Maidstone		Pottery	Vessel	Belgic bowl. Carinated. Restored. Ht 51/4"; Rim 8 1/4"	IA		Oldbury	Oldbury; excavated.	(Unidentified); Display	?		
	Maidstone		Pottery	Vessel	Pedestal base; grog-tempered, brittle brown-yellow surfaces, tooled outside.	IA		Oldbury	Oldbury	IA shelf D/5	no card		Thompson 1982, 791
10	Maidstone		Iron	Slag		IA		Oldbury		Box E.I.A.92			
19	Maidstone		Jewellery	Bead	Glass; greenish; ring-shaped	IA		Oldbury	From excavation	I.A. Box 2 - display	?		Arch.Cant. (1944), 166 & fig.17,4.
76	Maidstone	1988.43	Industry	Iron slag	9 bags, various sizes	IA		Oldbury	From hill fort 1983-4	Metal Store IA 204	Y	186	
77	Maidstone		Metalwork	Nails	Iron; 7 recognisable (whole or part. V corroded.	IA	KAS 2, 1938	Oldbury		Metal Store IA 206	Y	N	
137	Maidstone		Pottery	?	Material from 1938 excavations	IA	KAS	Oldbury		E.I.A. 1-7			
138	Maidstone	43.1938	Pottery	Sherds	Sherds	IA	F.H. Thompson (excavator)	Oldbury	From 1983-4 excavations	E.I.A. 90-91			Ant. J. LXVI (1986) 281-3
139	Maidstone	43.1938	Pottery	Sherds	Sherds	RB	F.H. Thompson (excavator)	Oldbury	From 1983-4 excavations	E.I.A. 90-91			Ant. J. LXVI (1986) 281-3
207	Maidstone		Pottery	Sherds	A few sherds & display cards	IA		Oldbury		E.I.A. 83			
9	Maidstone		Stone	Stones	Misc.	IA		Oldbury		Box E.I.A. 93			
11	Maidstone	43.1988	Iron	Slag		IA/RB	F.H. Thompson (excavator)	Oldbury	From furnaces excavated 1984 in interior of hill fort (trench 4.84)	Box E.I.A. 90, 91			Antiquaries J. lxvi (1986) 2-281; 284
12	Maidstone		Stone	Sling stones (6)		IA		Oldbury	From North Gate	Display	1		
16	Maidstone	IA KAS 2	Jewellery	Bead	Glass (blue)	IA 200-100 BCE	E. Harrison	Oldbury	W. side (The Toll) of the hill fort	Unknown			Archaeologia 90, 167, fig. 5
17	Maidstone		Jewellery	Bead	Glass (blue with inset whorls of white glass)	IA	E.Harrison	Oldbury		Display	Y		Archaeologia 90, 167

ID	Museum	Accession Number	Category	Object	Description	Date of Object	Donor Details	Find Site	Find site details	Location	Loc. Conf.	Photo	Refs
50	Maidstone	1990-46	Jewellery	Brooch	Bronze; La Tène II; Hull & Hawkes type 2Aa	IA	A. Johnson	Oldbury	From site of R. villa	Box E.I.A.70?	Ia Oxon		Arch. Cant. XLII (1930) 169.; Corpus no 4285, p 136, pl 39 (wrongly described as iron).
227	Maidstone		Pottery	Vessel	Urn. Globular urn. 3 cordons; restored	IA		Oldbury		E.I.A. pottery store shelf C/1	Y	201/14 2	This jar has 2 cordons just above widest point and two grroves, on on shoulder and one below belly.

Extract from the Later Prehistoric Pottery Gazetteer

Col ID	CurLoc	Date range	Recovery method	County	Type	Site	Prefix	E	N	Sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Late Bronze/Early Iron Age	excavation	Kent	Earthwork	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Early Iron Age	excavation	Kent	Earthwork	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Late Iron Age	excavation	Kent	Earthwork	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Late Bronze/Early Iron Age	excavation	Kent	Well	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Early Iron Age	excavation	Kent	Well	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Late Iron Age	excavation	Kent	Well	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Late Iron Age	excavation	Kent	Hillfort	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Late Bronze/Early Iron Age	excavation	Kent	Hillfort	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6585	Maidstone Museum; Royal Museum, Canterbury	Early Iron Age	excavation	Kent	Hillfort	Bigberry Harbledown, Canterbury 1887, 1933-34, 1978-80	TR	117	575	up to 400 sherds
6924	Tunbridge Wells Museum	Conquest Period	excavation	Kent	Hillfort	Oldbury Hill, Nr. Ightham	TQ	59	56	11 sherds
6924	Tunbridge Wells Museum	Middle/Late Iron Age	excavation	Kent	Hillfort	Oldbury Hill, Nr. Ightham	TQ	59	56	11 sherds
6924	Tunbridge Wells Museum	Late Iron Age	excavation	Kent	Hillfort	Oldbury Hill, Nr. Ightham	TQ	59	56	11 sherds
5965	Maidstone Museum and Art Gallery	Conquest Period	excavation	Kent	No information	Oldbury Hillfort 1933, 1938, 1944; 1983-84	TQ	5820	5620	up to 720 sherds
5965	Maidstone Museum and Art Gallery	Late Bronze/Early Iron Age	excavation	Kent	No information	Oldbury Hillfort 1933, 1938, 1944; 1983-84	TQ	5820	5620	up to 720 sherds
5965	Maidstone Museum and Art Gallery	Early/Middle Iron Age	excavation	Kent	No information	Oldbury Hillfort 1933, 1938, 1944; 1983-84	TQ	5820	5620	up to 720 sherds
5965	Maidstone Museum and Art Gallery	Late Iron Age	excavation	Kent	No information	Oldbury Hillfort 1933, 1938, 1944; 1983-84	TQ	5820	5620	up to 720 sherds

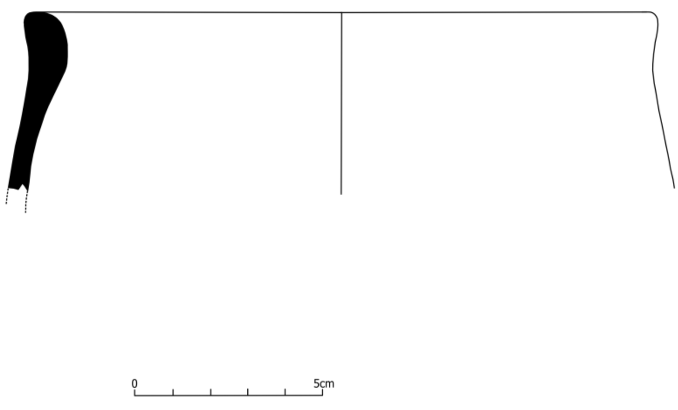
Selected Pottery Illustrations

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100184
Fired clay colour	mid brown	Oxidisation	Oxidized exterior		
Fabric code	F2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	R-rim	Diameter	160 mm	% Present	17%
Weight	33 g	Width	6 mm	Count	
Surface treatment	burnished exterior and interior				
Evidence of Use					
Recorded by	Andrew Bates				
Date	01 April 2016				

Comments

This is an open form subtly necked vessel, with an upright slightly beaded rim. It is burnished on both sides which suggests that it is most likely to be a bowl. This is similar to figure 44 in Thompson's report (Thompson 1983, p.262).



Scale 1:2

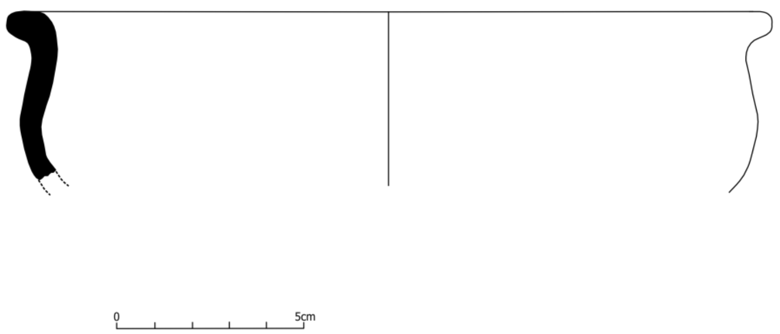
Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100183
Fired clay colour	mid brown	Oxidisation	Unoxidized		
Fabric code	F2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	D-decorated	Diameter	200 mm	% Present	10%
Weight	30.4 g	Width	5 mm	Count	
Surface treatment	Burnished inside and out?				
Evidence of Use					
Recorded by	Andrew Bates				
Date	01 April 2016				

<u>Comments</u>

A hemispherical profile, neckless vessel rising to a flat rim platform expanded to the exterior creating a ledge. The exterior is burnished and there is some evidence of internal burnishing but not so noticeable. The open form and the probable burnishing on both sides suggest that this is a bowl. The closest parallel in Thompson is sherd 79 (Thompson 1983, p.264).

Selected pottery illustrations



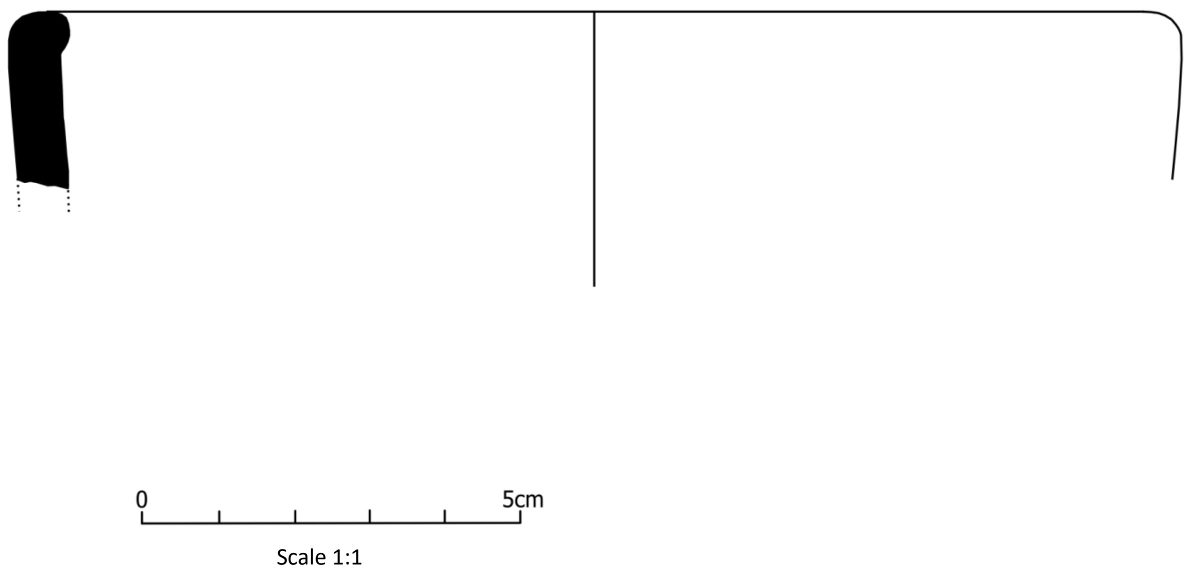
Scale 1:2

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100186
Fired clay colour	dark brown	Oxidisation	Unoxidized		
Fabric code	F3	Fabric name	Fine crushed burnt flint tempered fabric		
Form	R-rim	Diameter	150 mm	% Present	7%
Weight	7.7 g	Width	7 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

This is a convex or ovoid neckless jar with a flat rim. This is similar to sherd 1 in Thompson. Here he states that a similar vessel was recovered in the 1933-34 excavations by Jessup and Cook which the excavators stated as being early in date (Thompson 1983, p.260). A similar form in the Danebury literature is PA1 [.2] and this has a dating range of 470BC to 310BC according to the re adjusted dating (Cunliffe and Poole 1995, p.17). There are similar forms found at Highstead and they have been attributed a middle Iron Age date.

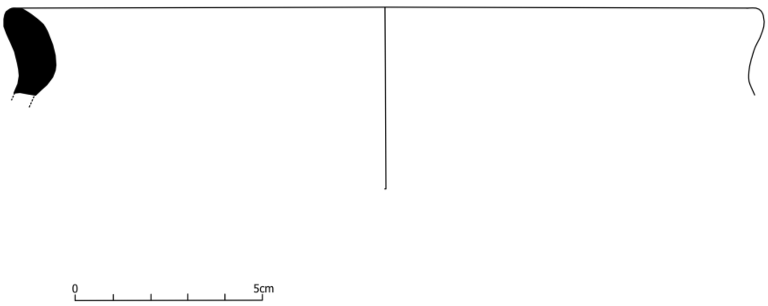


Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q101003
Fired clay colour	orange red	Oxidisation	Oxidized exterior		
Fabric code	F2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	R-rim	Diameter	200 mm	% Present	5%
Weight	12 g	Width	10 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

This is an everted rim from a necked vessel or jar. There is no sign of burnishing or other decoration. Several examples of similar rims are to be found in the Thompson Bigbury report.



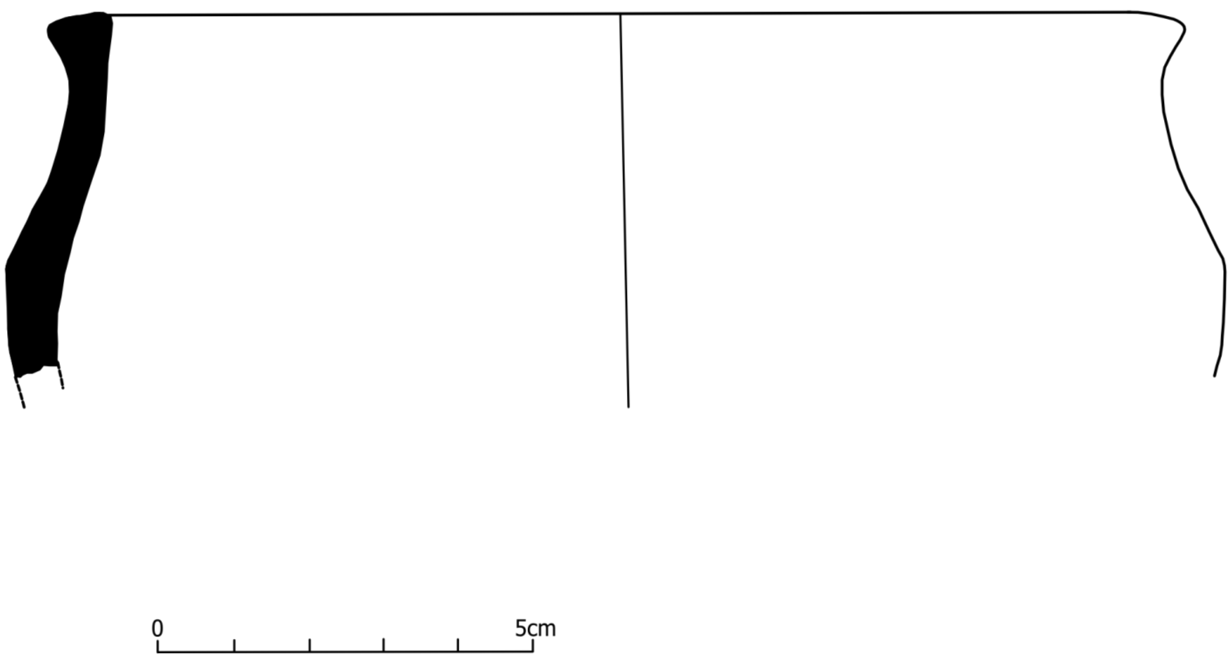
Scale 1:2

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q101002
Fired clay colour	mid brown	Oxidisation	Oxidized exterior		
Fabric code	F3	Fabric name	Fine crushed burnt flint tempered fabric		
Form	R-rim	Diameter	150 mm	% Present	6%
Weight	15 g	Width	6 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

This shows a slightly obtuse shoulder rising to a necked zone with upright flattened/flat topped rim creating subtle overhang or ledges to the interior and exterior but generally favouring the exterior. There appears to be slight burnishing on the exterior but it has a dull sandy finish on the interior. The probable open form suggests that it is most likely to be a bowl. Thompson has a similar shape in nos. 75 and 76 although these do not show such a flat rim as the example here (Thompson 1983, p.264). A similar form called F26 can be seen in the Highstead report (Bennett 2007, p.106).



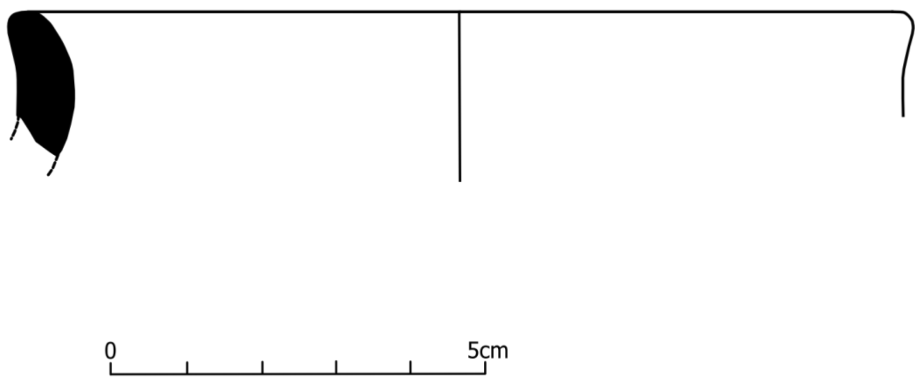
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100187
Fired clay colour	reddy brown	Oxidisation	Oxidized exterior		
Fabric code	F3	Fabric name	Fine crushed burnt flint tempered fabric		
Form	R-rim	Diameter	120 mm	% Present	5%
Weight	4.1 g	Width	8 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comment

Fragment of a slightly everted rim, sandy surface with no indication of decoration on exterior or interior. The fragment has a flattish but rounded rim which is more rounded on the interior and is slightly concave on the exterior. The sherd is too small to suggest any particular form but at 120mm in diameter it is likely to be a drinking vessel. Several examples of the rim type have been identified in the Thompson report.



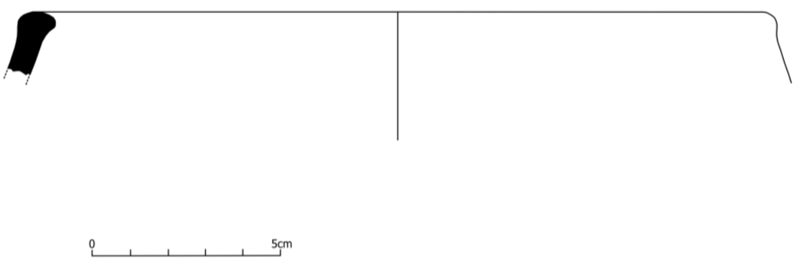
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100185
Fired clay colour	reddy brown	Oxidisation	Oxidized exterior		
Fabric code	F2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	R-rim	Diameter	200 mm	% Present	4%
Weight	g	Width	7 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

A small fragment of rim sherd with a flattish rim and subtle ledges to the exterior and interior but favouring the interior. No indication of decoration and the shape of the rim suggest a slightly closed form possibly an ovoid. Possible parallels in the Thompson report with figures 37, (p260) and 65 (p262). This could be an early sherd (Mid Iron Age) similar to Q100186.



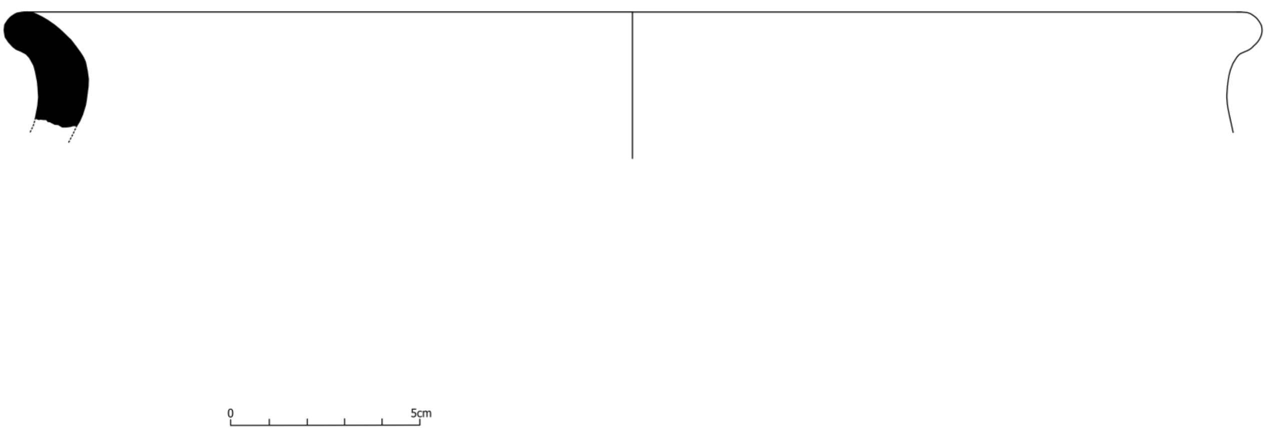
Scale 1:2

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q101005
Fired clay colour	mid to dark brown	Oxidisation	Oxidized		
Fabric code	F2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	R-rim	Diameter	320 mm	% Present	4%
Weight	17 g	Width	9 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

This is a rim sherd from probably a large storage or cooking jar. The fragment is 9mm thick and has traces of what looks like soot along the rim. There appears to be traces of burnishing on the exterior but it is not possible to tell on the interior due to the presence of the soot like substance. There are several parallels for a jar of this size in the Thompson report.



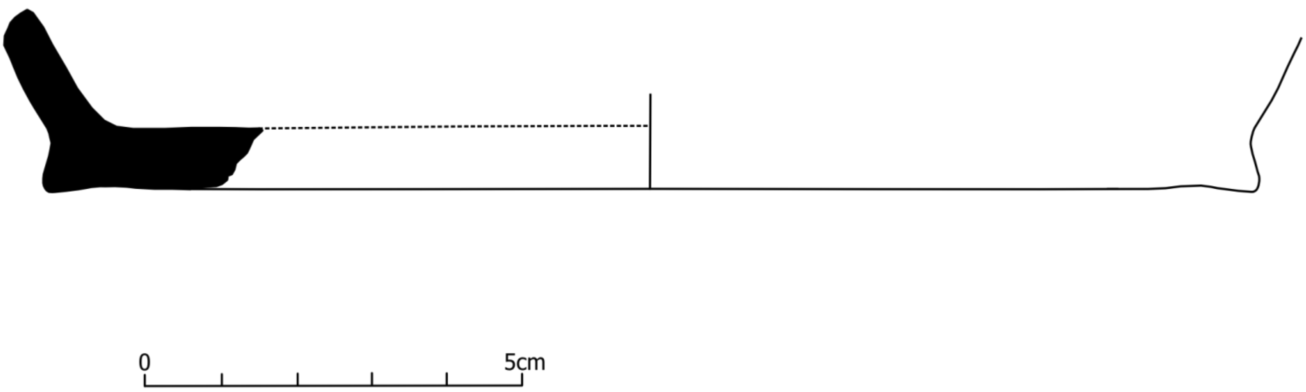
Scale 1:2

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100180
Fired clay colour	mid brown	Oxidisation	Oxidized exterior		
Fabric code	F3	Fabric name	Fine crushed burnt flint tempered fabric		
Form	B-base	Diameter	160 mm	% Present	5%
Weight	11.6 g	Width	8 mm	Count	
Surface treatment	burnished exterior				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

A flat bottomed base sherd appears to be burnished on the body element of the sherd but the base underside seems to be undecorated. The angle between the base and the body is approximately 110° with the body coming straight out from the junction with the base. A similar form can be seen in Thompson's report fig 43, although the body sherd appears to be slightly more curved in the Thomson report (Thompson 1983, p.262).



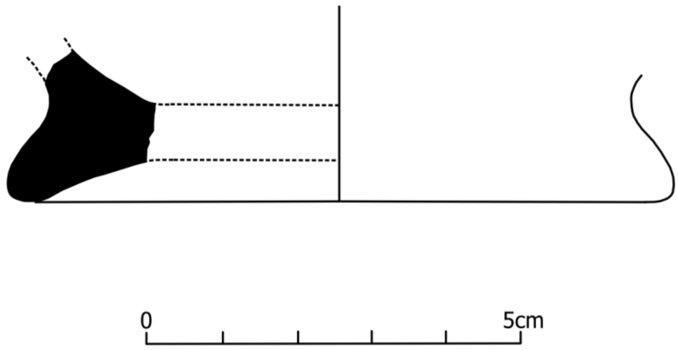
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100181
Fired clay colour	mid brown	Oxidisation	Unoxidized		
Fabric code	F3	Fabric name	Fine crushed burnt flint tempered fabric		
Form	D-decorated	Diameter	85 mm	% Present	11%
Weight	11.5 g	Width	10 mm	Count	
Surface treatment	burnished exterior				
Evidence of Use					
Recorded by	Andrew Bates				
Date	01 April 2016				

Comments

A small sherd of a pedestal base which appears to have a burnished exterior as well as probable burnishing on the underside of the base. The vessel body appears to be relatively thin walled (5mm) at the junction of the base. There looks to be some wear on the base edge where it sits onto the surface. Thompson has a similar base in his report (fig 92) and also indicates a similar fabric and surface colour.



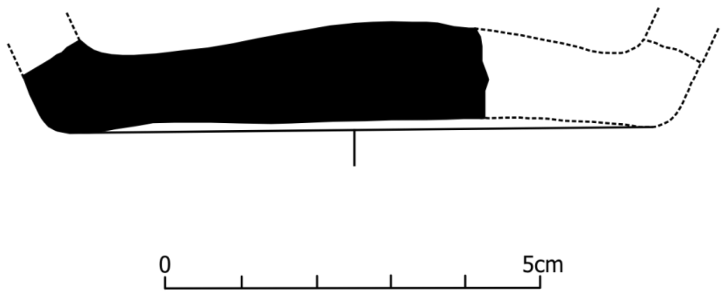
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100157
Fired clay colour	dark grey	Oxidisation	Unoxidized		
Fabric code	F2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	B-base	Diameter	80 mm	% Present	60%
Weight	72.3 g	Width	13 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

An almost complete base sherd but there is no surviving body attached. The base is not completely flat but has a slightly omphalos form. The surrounding base ridge shows some signs of wear at the point of contact with the surface it sat on. The thickness of the base increases towards the middle giving a slightly domed appearance on the interior of the base. The junction of the base to the body is curved with no signs of flaring. There does not appear to be any signs of decoration but there is a probable small finger or thumb indentation on the exterior of the base. There is no parallel in Thompson’s report which matches both form and fabric but fig 67 could be similar although there is not enough of the sherd illustrated to show the hollow in the base. It is also grog tempered and decorated (Thompson 1983, p.262).



Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGQUARRY	Sherd ID	Q100101
Fired clay colour	orange red	Oxidisation	Oxidized exterior		
Fabric code	F2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	B-base	Diameter	120 mm	% Present	100%
Weight	670 g	Width	9 mm	Count	
Surface treatment	None visible				
Evidence of Use	Food residue?				
Recorded by	Andrew Bates				
Date	03 May 2016				

Comments

This is the largest sherd in the collection found at the quarry site. It was this sherd which had dropped onto a ledge from an overhang above and led to the discovery of the pottery collection. Several conjoining sherds have been found and the pot reconstructed making it possible to show the form as drawn. This is a flat bottomed base of what is probably a large vessel and shows a rounded flaring where the body joins the base, meaning that the very edge of the base does not sit on the ground. The body leaves the base at an angle of 115° and the internal junction of the base and the body, shows evidence of the clay coils that were used in the vessel manufacturing process. Also visible is the smoothing of the surface interior by the potters fingers.

Traces of residue on the interior which is about 2mm thick in places can also be seen. This is a black hard residue which could be food residue. Several sherds with the residue present were sent for radiocarbon dating but no date could be obtained.

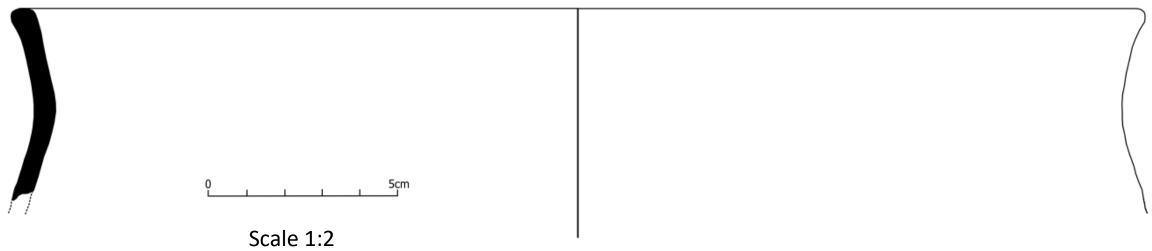

0
5cm
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGSUV001	Sherd ID	202034
Fired clay colour	mid brown	Oxidisation	Unoxidized		
Fabric code	TPF2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	R-rim	Diameter	260 mm	% Present	4%
Weight	15.3 g	Width	6.5 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	04 April 2016				

Comments

This rim is made up of three sherds 202034, 202037 and 202036 making 7% of the rim present when conjoined. It has a curved concave transition from body to neck zone ending in a generally flattened slightly beaded rim but some areas of the rim appear more rounded. There seems to be a slight ledge which favours the exterior. This is a relatively thin walled vessel with a large diameter. No evidence of burnishing or other decoration can be seen either on the exterior or interior but the form seems to be that of a bowl. There is no direct parallel in the pottery found of this age at Highstead but vessel 78 appears to be similar (Bennett 2007, p.127).



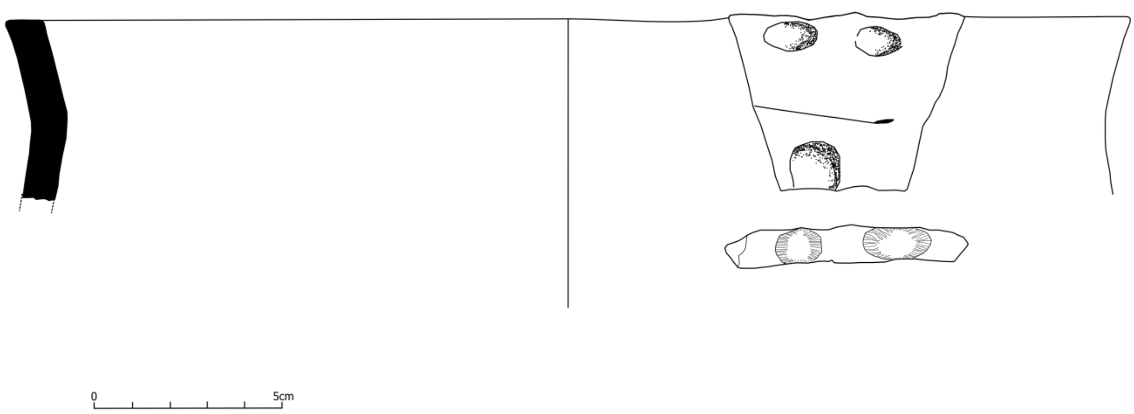
Scale 1:2

Featured Sherd Record

Site name	Bigbury	Site code	BIGSUV001	Sherd ID	202029
Fired clay colour	mid brown	Oxidisation	Oxidized exterior		
Fabric code	TPF2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	R-rim	Diameter	300 mm	% Present	7%
Weight	36.7 g	Width	9 mm	Count	
Surface treatment	Finger tip moulding				
Evidence of Use					
Recorded by	Andrew Bates				
Date	04 April 2016				

Comments

This is a concave flat rimmed sherd with evidence of fingertip moulding on the rim. This produces a slightly flared rim with the flaring favouring the exterior. This belongs to a large, thick walled vessel with no signs of decoration on the exterior. The interior of the rim shows additional signs of fingertip moulding with the impressions corresponding to the fingertip impressions shown on the top of the rim. The interior also shows a long scratch in the surface which terminates one end by the break in the sherd and at the other end comes to an abrupt halt and what looks like a small deeper indentation. This could have been as a result of loose material being wiped across the interior of the vessel whilst the fabric was still wet. The Highstead report shows several fingertip decorated vessels but none that show this type of decoration on the rim and the interior of the rim only. The fingertip impression decoration technique was the second most common form of decoration noted for the Early Iron Age pottery found at Highstead, the first being groups of fine horizontal grooves (Bennett 2007, p.113).



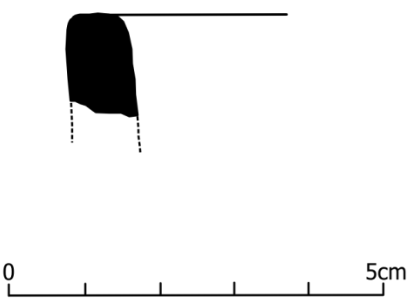
Scale 1:2

Featured Sherd Record

Site name	Bigbury	Site code	BIGSUV001	Sherd ID	325012
Fired clay colour	mid brown	Oxidisation	Oxidized exterior		
Fabric code	TPF1	Fabric name	Coarser, crushed burnt flint tempered fabric		
Form	R-rim	Diameter	? mm	% Present	?
Weight	5.5 g	Width	9 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	04 April 2016				

Comments

This is a small fragment of flat topped rim. It is straight sided with no sign of flaring of the rim and the profile suggests a slightly open formed jar. Not enough of the rim survives to measure the potential diameter of the vessel but the straightness of the sherd suggests that it could be a wide diameter. A similar form can be seen in the Early Iron Age pottery of the Highstead report vessel 146 (Bennett 2007, p.133).



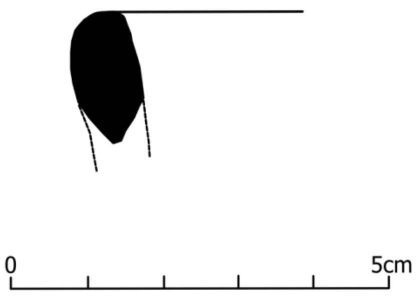
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGSUV001	Sherd ID	302014
Fired clay colour	dark grey	Oxidisation	Unoxidized		
Fabric code	TPF1	Fabric name	Coarser, crushed burnt flint tempered fabric		
Form	R-rim	Diameter	? mm	% Present	?
Weight	6.1 g	Width	10 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	04 April 2016				

<u>Comments</u>

This is a small sherd of very weathered curved profile rim. Not enough of the rim survives to measure the potential diameter of the vessel but the straightness of the sherd suggests that it could be a wide diameter. The sherd is abraded so it is not easy to see the plane of orientation. The most likely is as shown which would make it an open formed vessel with a possible slightly everted rim.



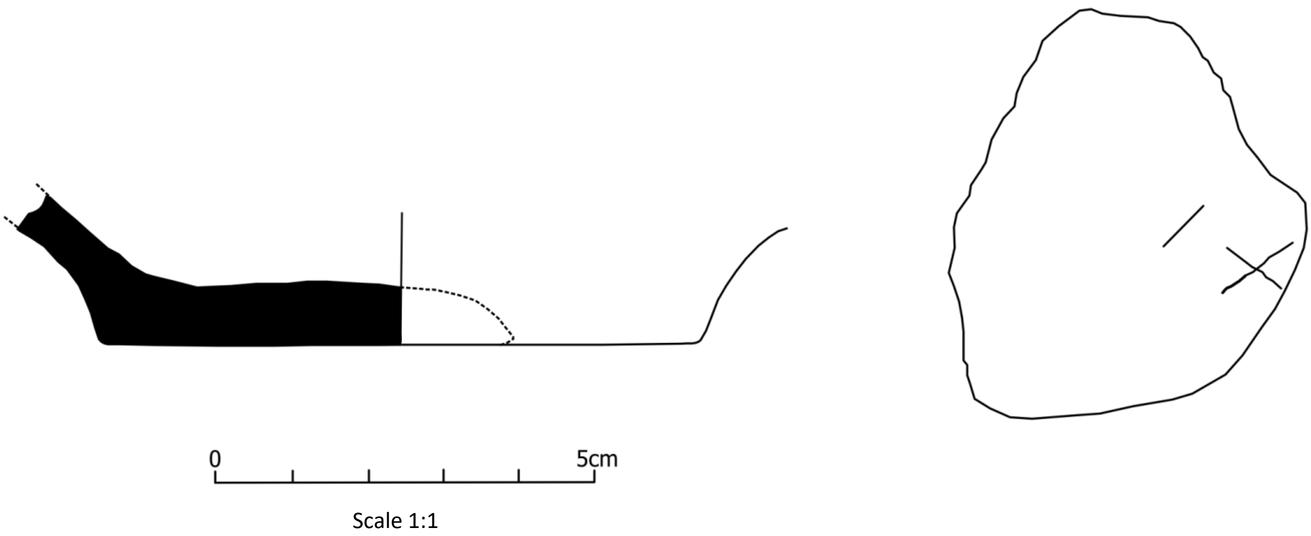
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGSUV001	Sherd ID	302001
Fired clay colour	orange red	Oxidisation	Oxidized exterior		
Fabric code	TPF1	Fabric name	Coarser, crushed burnt flint tempered fabric		
Form	B-base	Diameter	80 mm	% Present	21%
Weight	33.8 g	Width	7 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	04 April 2016				

Comments

Good sized flat bottomed base sherd, thickening towards the centre. The body leaves the base at an angle of approximately 140° to the plane of the base. There is a X marked on the underside base; this could be a deliberate mark or a coincidence of random markings. Not enough of the markings survive to tell one way or another. Similarly there are what appears to be fingernail marks at the join of the base to the body; this does not look like a deliberate pattern but more as a result of shaping the join.

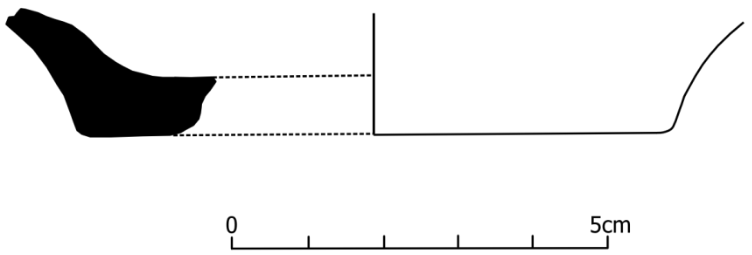


Featured Sherd Record

Site name	Bigbury	Site code	BIGSUV001	Sherd ID	325010
Fired clay colour	mid brown	Oxidisation	Ox ext, un ox core, ox int.		
Fabric code	TPF2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	B-base	Diameter	80 mm	% Present	26%
Weight	9 g	Width	9 mm	Count	
Surface treatment	None visible				
Evidence of Use					
Recorded by	Andrew Bates				
Date	04 April 2016				

Comments

This base is a combination of 325010 and 325011 with approximately 13% of base present on each. This is a flat bottomed base with the body leaving the base at an approximate angle of 135°. The condition and size of the sherd means nothing more can be determined.



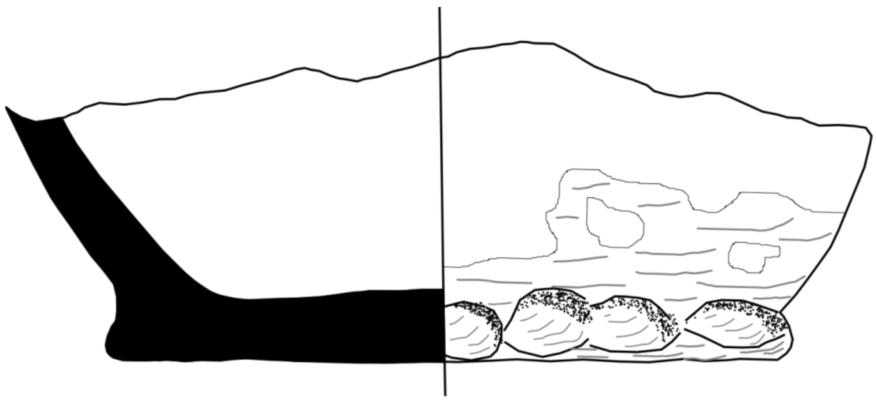
Scale 1:1

Featured Sherd Record

Site name	Bigbury	Site code	BIGSUV001	Sherd ID	306034
Fired clay colour	pinky red	Oxidisation	Oxidized exterior		
Fabric code	TPF2	Fabric name	Medium crushed burnt flint tempered fabric		
Form	B-base	Diameter	90 mm	% Present	67%
Weight	87.7 g	Width	6 mm	Count	
Surface treatment	Finger tip moulding				
Evidence of Use					
Recorded by	Andrew Bates				
Date	04 April 2016				

Comments

This base is made up of three sherds, 306034, 306032 and 306033 and the combined sherds make up approximately 67% of the total base area. This is a flat- bottomed base and where the body joins the base it is pinched by the potter which leaves behind a fingertip print. The impressions are relatively small so could either be the very tips of a male potter's finger or could be those of a woman. The interior where the base and the body join is a smooth transition with a possible impression of a finger wipe. There is one area on sherd 306034 where the exterior fingertip impressions are missing and it looks to be original not as a subsequent alteration, indicating that this was probably an error in the manufacture. At this point the join of the body to the base is visible and shows how the body is overlaid onto the base. The body of the vessel also shows some sort of coating that has flaked away in places towards the bottom but appears to be missing towards the top of the sherd. There are several indications of this form in the Highstead report and Early Iron Age vessel 208 is the closest example (Bennett 2007, p.139).



0 5cm

Scale 1:1