Figure 1 - Google Earth 2017

A Reassessment of the Roman Villa at Swarling: A Landscape Archaeology Approach

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CL636 – Archaeological Project

1 Abstract

This research is aimed at furthering our understanding of the work done by B. J. Philp in 1960 at a site known as the 'Romano-British Villa Site at Swarling'.[1] I am aware of no other published investigation on this site, so Philp's interpretation remains exclusive. It is uncommon to find a Roman villa on the east side of the North Downs, especially one that seems to be some distance from a river.[2] The classification of a villa is a somewhat contested subject in modern scholarship,[3] and therefore, a reassessment of Philp's interpretation may be needed. The lack of available evidence for this site has encouraged me to undertake a landscape study focusing on the theoretical concepts of space and time. By this, I mean to undertake a multi-period study looking for patterns and trends of human activity within the targeted landscape. In addition, I will also be sourcing primary data through the means of a geophysical survey. These results will be discussed and analysed accordingly. This project will establish the nature of the surrounding archaeological record and use this in collaboration with the geophysics results to offer a reassessment of the Roman villa at Swarling. To the best of my knowledge, each site studied will consist of all the accessible publication and research made available to date; it is my hope that this will be a useful body of research for any future projects undertaken within the area.

[1] Arch.*Cant.*74.186. (HER: TR 15 SW 14)
[2] (Allen *et al.* 2016) P.113.
[3] (Blanning 2014) Chapter 6.

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3 Acknowledgements

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4 Introduction

In 1960, B. J. Philp excavated what seemed to be the remains of a Romano-British Villa at a site known as Swarling Manor Farm. 'A series of 24-test holes were dug' to identify the nature of the cropmark complex thought to be representative of 'buried walls'[4]. Due to the pressing circumstances of rescue archaeology at the time, Philp was unable to commit resources and time to definitively identify the somewhat limited archaeology. That said, a commendable amount of information was able to be gathered in the short space of time spent on site and this led Philp to conclude that the site was likely 'an early Romano-British Villa, which had replaced a Belgic hut'.[5] With the advantages of modern technology and with the progression of academic research, I have decided to augment the work done by Philp and if the need arises, reassess the identification of the archaeology. To do this, I will undertake this research with a focus on landscape archaeology. This is because a landscape study will allow me to remove the constraints of a single-site interpretation and consider the wider context, or 'nested landscapes' in which this site would have formed a part of.[6] To achieve this, I will begin by laying out a somewhat retrogressive analysis of the geology and topography. This will be followed on by a piecemeal study of the important historic phases and natural areas of interest within this landscape. Once the natural and historic environment is understood, we have a much better chance of understanding period-specific archaeology. This then is the understanding I hope to have installed unto the reader as I present my geophysical prospection results and interpretation.

5 Research Rationale, Aims and Methodology

Although a series of test pits were undertaken in 1960,[7] there is a significant lack of evidence to allow for any definitive interpretation of this site. The pottery evidence from the test pits suggested to Philp that the site had likely experienced two phases of occupation, with the suggestion that this was continuous occupation until the sites eventual disuse.[8] Therefore, to improve our chances of a viable interpretation of the site, I undertook a limited geophysical prospection to provide more evidence to support the work done by Philp in 1960. More detail on the outcome and interpretation of the data will be presented in section 7 of this project. For now, I would like the reader to understand that the results of the geophysical survey gave enough justification for me to further engage in this research.

[4] Arch.*Cant.*74.186-7
[5] Arch.*Cant.*74.190.
[6] (Howard, Thompson and Waterton 2020)P.166.
[7] Arch.*Cant.*74.186-190.
[8] Arch.*Cant.*74.186-190.

5.1 Landscape Archaeology: Why It Is Suitable for This Project

Landscape archaeology is a broad concept that has evolved into what I shall simplify as two indistinct substrates. One stratum focuses on the 'physical characteristics'[9] of the landscape and how throughout its history, humanity has imprinted its agency[10] upon the environment. This notion has led archaeologists to perform a 'diachronic'[11] study on sites and monuments centred around an empirical methodology. The second stratum takes a more theoretical approach by looking at the cause of agency within the landscape which allows the archaeologist to consider the 'ontological' and experiential meaning behind humanity's past 'social practices'.[12] This simplification of the term landscape archaeology should not be taken as a definition but should instead be seen as an example of the suitability behind the use of the concept. This project will attempt to integrate techniques associated with both substrates, as this will allow our interpretation to be both practical and theoretical resulting in a more diverse and less restrictive study.

5.2 Applied Landscape Archaeology

A practical study refers to applied landscape archaeology, meaning that the techniques used will revolve around collecting empirical information as it is presented within the landscape or through accompanying documents such as cartographic evidence. This approach arguably stems from the late Mick Aston and Trevor Rowley's famous book called *Landscape Archaeology: An Introduction to Fieldwork Techniques on Post-Roman Landscapes.*[13] The authors suggest that the landscape is 'a palimpsest',[14] meaning it offers physical evidence of past human interaction. However, like material evidence, the idea of the landscape palimpsest should not be used or seen simply as a 'form of artefact created by human activity',[15] as there are several processual considerations that need to be acknowledged when undertaking this proposition. To avoid this limitation, I will test my hypotheses through the means of rational, logical and 'high-probability statements',[16] noting the limitations of the methodology as we proceed through the evidence.

[9] (David and Thomas 2010) P.38
[10] (Renfrew and Bahn 2005) See Agency.
[11] (David and Thomas 2010) P.25
[12] P.38
[13] Whom were no doubt inspired by Hoskins famous 1955 *The Making of the English Landscape.*
[14] (Aston and Rowley 1974)P.14.
[15] (Howard, Thompson and Waterton 2020)P.166.
[16] (Binford 1972) P.93.

5.3 The Use of Archaeological Theory Within the Landscape

One of the best ways to test the validity of a hypothesis about the archaeological record is to use theoretical inferences. The archaeological record can provide us with the physical evidence to prove something exists from a past culture, but it is down to our inferences of how this has come to be which allows us to grasp a glimpse of past human activity. Theoretical studies related to landscape archaeology have drawn in many 'theories and methods' from other areas of research.[17] This is because, the term landscape is itself subjective and therefore, can be used and interpreted in a multiplicity of different ways making a single definition very 'complicated'.[18] The stance I will be taking throughout this project is that of the landscape archaeologist, meaning I am generally interested in the presence of human activity encapsulated within the environment.

6 Historic Landscape Character

In general, landscape archaeologists are primarily interested in both artificial and natural environments. This is because, throughout its history, humanity has engaged with the natural environment resulting in the creation of what we refer to today as the historic environment.[19] To best optimise the study of a particular site, you have to understand its place within the wider landscape. This is because historical sites are not a singular phenomenon encapsulated within a single space through time. Instead, their archaeological form as it is handed down to us today is the result of numerous interactions from other pre-dated sites, contemporary sites and even post-dated sites. This means to fully understand a site's place within the landscape, you have to understand those that surround it, no matter what historical period they come from. Research developments, such as those of Tim Ingold and Christopher Tilley, have encouraged new interpretations and understandings of how past cultures may have interacted with their localities. The approaches advocated by Ingold and Tilley, encourage archaeologists not only to consider topographical and morphological studies but to also consider how past societies would have experienced, conceptualised and used their environments. By understanding the present state of the environment, we can attempt to experience and understand the way it was experienced and understood in the past.

6.1 Topographical and Geological analysis

[17] (Howard, Thompson and Waterton 2020) P.161.
[18] (Howard, Thompson and Waterton 2020) For the most up to date discussion on landscape studies.
[19] (Historic England 2021) See *Heritage Conservation Defined*. The historic environment is protected by many laws in the United Kingdom emphasising the importance of which our present society places upon the past.

On an East-West alignment, Swarling Villa, which is hereby referred to as the cropmark site, is situated on the south-facing slope of a marked valley on the North Downs, being part of the area locally described as the Chartham Downs. Due to the constraints of the research agenda, the study area of this project is limited to roughly one mile in each direction of the Villa's location. This allows us to include the key geological, topographic and archaeological areas of interest which contribute to the makeup of this particular landscape.

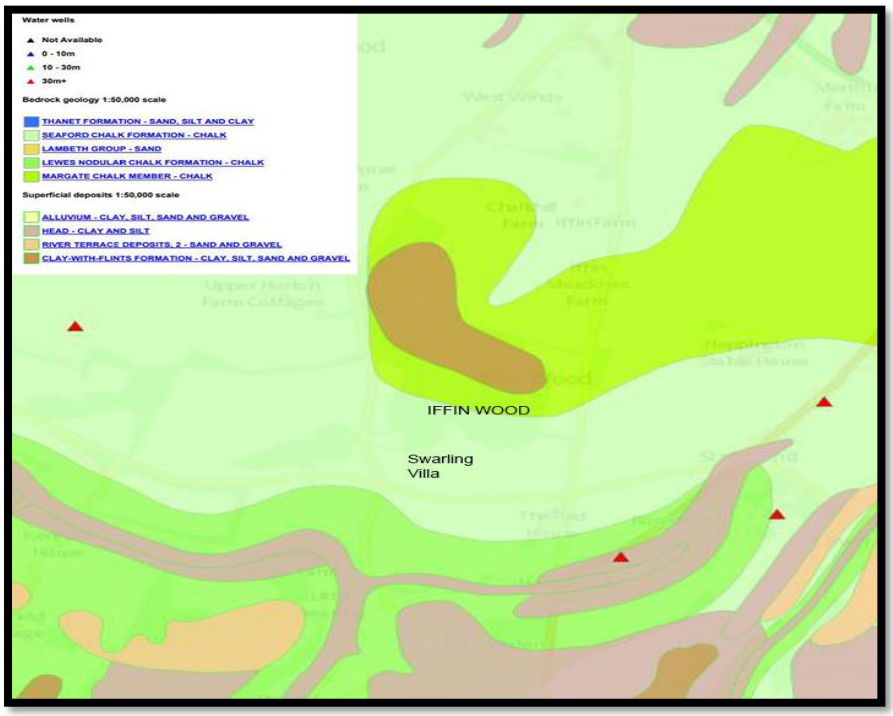

Figure 2 - British Geological Survey data of Swarling Villas location

Within this study area, we have three chalk bedrocks known as the Seaford Chalk, the Margate Chalk and the Lewes Nodular Chalk formations (Fig 2).[20] The cropmark site is situated upon the Seaford Chalk, whilst Iffin Wood (a key feature in this study) is situated upon the Margate Chalk, with an additional superficial deposit of Heavy-Clay-With-Flints occupying most of the Northern part of the woodland. The nature of the bedrock can sometimes dictate the nature of the soil and therefore, it is generally thought that the Chalk Downs are 'well-drained' but 'calcareous'.[21] Fertility is usually associated with 'well-drained non-calcareous soils',[22] which would suggest that the Chalk Downs is generally more suited to accommodate grazing pasture over arable farming. However, a report surveying the 'Natural Area' of the North Downs, asserts that the Downs has a few distinct types of

[20] Marshall, Tom, 'Iffin Wood', Environment Roam, OS data, January 2021, using Digimap Ordnance Survey Collection Digimap (edina.ac.uk)
[21] (Fleming 2016) P.221
[22] (Blanning 2014) P.47

geology which vary in their location and soil composition.[23] According to the report, 'heavy-clay-with-flints' constitutes a vast range of the Downs and is supposed to have a far lesser degree of calcareous properties unlike that of the 'thin chalk soils', making it suitable for arable farming.[24]

Figure 3 - Iffin Wood stratigraphy heavy-clay-with-flints deposit

To better understand the geology of this area of study, I put together two maps depicting the specific agricultural land usages. One was based on data from 2015 (Fig 5), and the other based on data from tithe maps dated from 1837-1843 (Fig 6). Both maps highlight that within this landscape, arable farming is the favoured type of land use which indicates a purposeful consistency of practice for almost 200 years.[25] Until a soil sample has been collected, we can only observe from the data presented here that this part of the Downs seems to comprise relatively fertile soil. The extend of time and the consistency of land use between the data sets implies we could see similar consistencies within the geology at early points in history.

[23] (Langslow 1997) P1.
[24] P14
[25] Dudley Stamps crop map created in the 1930s classified the surrounding land as arable too.

Figure 4 - Elevation map, demonstrating the slope which the site sits upon.

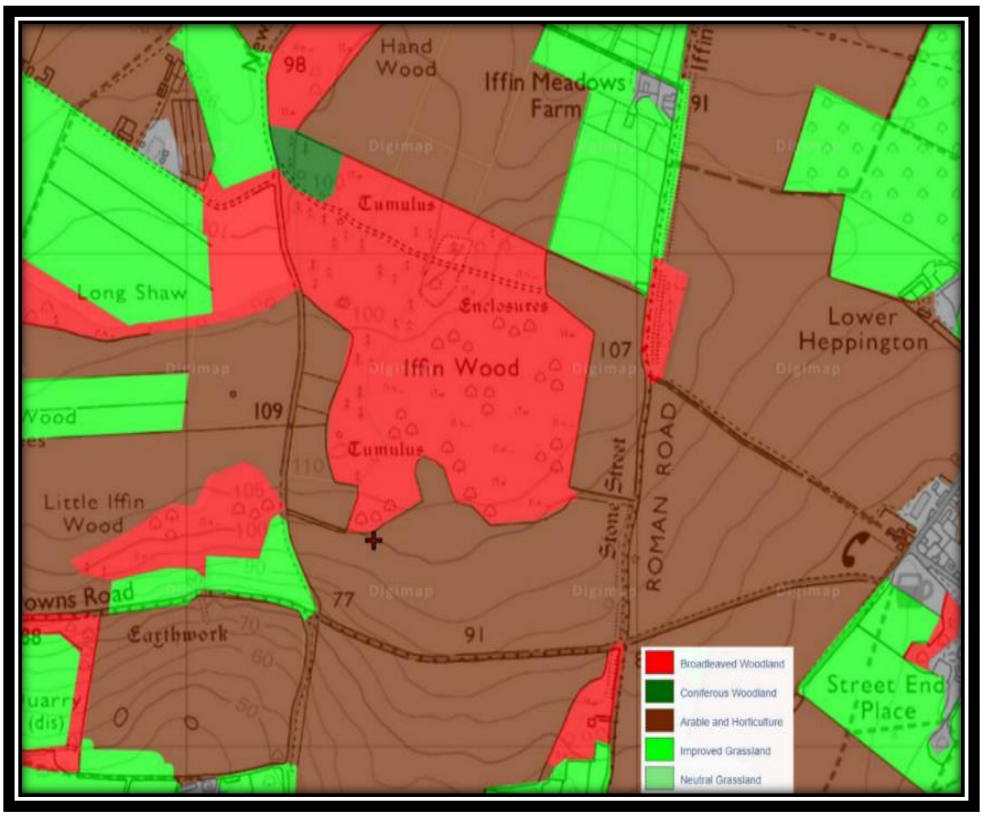

Figure 5 - LCM 2015, Swirling Villa marked with a cross. DigiMap

Figure 6 - Authors interpretation of 1837-1843 tithe maps, displaying land usage. Fields with no shading represent areas where data could not be collated within the remit of this project.

How then, can we elicit this information verifiably without a pollen analysis.[26] In truth, we cannot say for certain what the environment may have looked like without such data available to us. However, we can attempt to deduce as much information as we can from what evidence we have. For example, one element that needs to be considered in this instance is the act of deforestation, as this process can physically impact the soil's composition, especially on a topography such as the Downs.[27] To explain, trees allow the process of 'percolation' to take place whereby precious nutrients are maintained within the soil by the gradual release of water and its resorption through the roots.[28] By removing the trees from the biological process, the soils will be exposed to heavy rainfall which can wash away crucial 'minerals and salts' that form a part of the crumb structure.[29] A glimpse of this geological process can be seen at the East side of Figure 1, where the black lined crop markings represent scarring from erosion as it creeps down the slope. Erosion on chalk escarpments is primarily

[26] (Dark 2000) Chapter 1.
[27] (Rippon and Clark 2004)P.37
[28] (Aston 1985) P.23-24
[29] (O'Connor and Evans 2005)P.31 -P.40 Colluvial erosion.

caused by hydrological influences as slopes have natural gravitational drainage. Without percolation, the escarpment on which the cropmark site resides would no doubt suffer from erosion, most likely colluvial, which would affect the fertility of the crumb structure. Directly North of the cropmark site lays the ancient woodland known as Iffin Wood. The presence of Iffin Wood within the modern landscape no doubt helps control hydrological effects upon the soil structure.[30] If we can trace Iffin Wood's existence back to other historical periods, then there is leverage to suggest that the geology would have been similar to that which we see presently.

6.2 Iffin Wood, the Manor of Ytching and the Burial Mounds

6.2.1 Iffin Wood

Iffin Wood has been identified as an ancient woodland/semi-ancient woodland by a report from Natural England.[31] This suggests that part of the woodland could be dated as far back as 1600 CE.[32] The oldest cartographic evidence available to this author infers that Iffin Wood has been a feature within the landscape for 252 years (Fig 7). Through the process of map regression, we can see that Iffin wood has been subject to woodland management throughout this time. The East side of the woods has been subject to heavy deforestation, leaving some areas isolated to form shaws or independent woodlands such as Little Iffin Wood and Pond Wood (Fig 6). The 1769 cartographic evidence (Fig 7) implies that Iffin Wood is an important part of this landscape by how it covers almost all of the Chartham Downs.[33] It is my opinion that this perception of the landscape produced by the cartographer is reliable. For instance, the cartographer has depicted a 'Nale bourne' South of the Woods and leading to Petham. This feature is significant as it is not portrayed on more recent maps but does still exist today as a small stream that appears during wet weather and follows the same trajectory. Therefore, the attention to detail from this cartographer is of a high standard, depicting what they believed were the important features of the landscape at the time of their creation.

[30] (O'Connor and Evans 2005) P.35
[31] (England 2011)
[32] (East Sussex County Council 2010) Section 13 Glossary. (Bowden and Royal Commission on Historical Monuments (England) 1999) P.134.
[33] (Aston and Rowley 1974) P.59. For a discussion on what has been omitted and what has been overemphaised in cartograpghic evidence.

Figure 7 – first publication in 1769. Labelled for the reader's benefit.

Figure 8 - Iffin Wood, Drone photograph, taken by the author 13/03/2021.

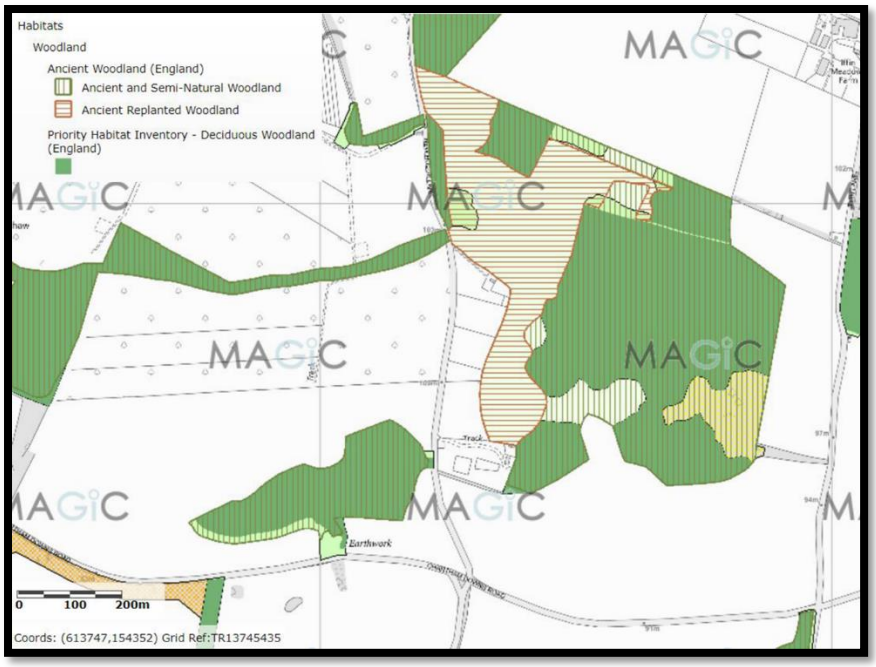

Figure 9 - Natural England, highlighting the ancient woodland classification.

A fair amount of archaeological work has been done within the woods, most notably by Canterbury Archaeological Trust who surveyed the medieval manor,[34] but most of these reports remain inaccessible to the public domain. With the help of this module's supervisor Dr Steve Willis and fellow student Martha Carter, I undertook a level one walkthrough survey.[35] Due to the density of the scrub within the woodland, any attempt to undertake a more extensive survey was prohibited. Nonetheless, the survey was highly informative. As has been recorded by Natural England, Iffin Wood should be recognized as two distinct parts (Fig 9). The West side of the wood has what seems to be the formation of a wood pasture, where the trees are spaced apart allowing room for animals to graze upon fallen acorns and nuts. From what I could identify, the trees in this area consisted of some ancient oaks and beeches with hazels dispersed amongst them. The East side of the wood is predominantly dominated by scrub but also has lots of hazel and holly trees alongside ancient beeches and oaks. The rate at which the scrub started to form into groves was enlightening. A study done by Kirby suggests that once scrub has taken over a 'patch of ground', it takes around 75-years for this to turn into groves.[36]

[34] (Tatton-Brown and Bennett 1983). The owners of the woods have possession of other archaeological reports undertaken.
[35] (East Sussex County Council 2010)
[36] (Kirby 2003)P.15

Therefore, it is not hard to imagine that if left unmanaged, the ancient trees within this woodland would soon colonise the land around them as is occurring presently within the East side of the wood.

6.2.2 The Bowl Barrows

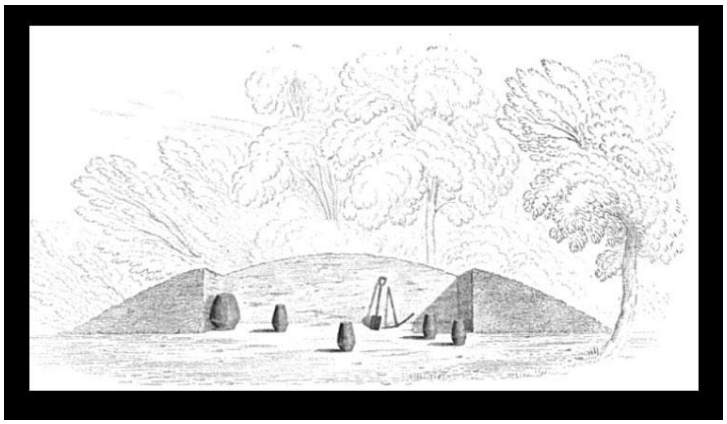

Figure 10- Illustration from 1842 excavation

Within the West side of the woods, we have two recognised and scheduled Bronze Age bowl barrows.[37] Their positioning is relatively linear, with one North of the woods and one South. The Northernmost barrow was excavated in 1842 and its classification as a burial mound was confirmed by the discovery of 5 urns.[38] The urns identification by Sir Henry is unreliable, as his interpretation is based upon a claim that Iffin woods was an Iron Age encampment during the invasion of Caesar.[39] Modern inferences of the face-down positioning of the urns and the size and shape of the barrow, place them in association with the Bronze Age.[40] Without Sir Henry's excavation, the nature of these mounds would be uncertain as both could easily be overlooked due to the animal burrows, colluvial deposition and possible plough erosion. One would usually expect to find evidence of surrounding circular ditches also, but this was not apparent. Both mounds are lacking in any upcast material from a surrounding ditch suggesting the soil was either bought in from elsewhere or the flints were intentionally removed. The extant ditch on the Southern barrow is hard to distinguish (Fig 11), and no ditch was mentioned in Henry's excavation report for the Northernmost. Several struck flints were

[37] Historic England Ref: TR 15 SW 20 and TR 15 SW 5.
[38] (Akerman 1844) P57-61
[39] P.61 This is yet to be proven or investigated.
[40] It is worth noting that it was uncommon for cremations to be placed within burial mounds during the middle and late Bronze Age, instead one would normally find 'one inhumation' accompanying a small barrow in the early Bronze Age. (Adkins, Adkins and Leitch 2008) P.67. This raises many questions as to whether or not they are a later addition to the mound but this investigation is beyond this project.

found dispersed around the Southern Barrow, with the most significant flint being found in Swarling Villa's location.[41]

Figure 11 - Steve inspecting the barrow, which is hard to morphologically distinguish. Taken by author 13/03/21.

The very existence of these barrows suggests Iffins Wood as we know it, did not exist in the same form as it did in the Bronze Age.[42] This is because barrows are often thought to be placed within 'aspects of visibility'.[43] Upon this premise, I created two viewsheds (Fig 12 + 13) on Google Earth to test both the distance from which these barrows could likely be seen and also to reveal areas where a settlement associated with these barrows may have resided. A settlement or foci is expected to be in viewing distance of these barrows and most likely at a lower setting to 'enhance' their 'visual effect'.[44] During the woodland survey, I attempted to get a 3D laser scan using cloud point technology to gauge the size of the Southernmost barrow. Unfortunately, this was only partially successful due to the density of the vegetations surrounding the barrow. The barrow measured at 0.37m during this scan[45] but if

[41] These can be seen in the appendix.
[42] (Aston 1985) P.23
[43] (Bowden and Royal Commission on Historical Monuments (England) 1999)P.88.
[44]P27.
[45] See appendix for the scan.

we consider the geological relief that has occurred over time, then the initial height of the barrow would have been more likely around 1- 2metres.

Figure 12 – 2 metre high Viewshed of Northern Barrow (51°14'46.06"N/ 1° 3'17.75"E). The light green depicts areas that are visible from the location selected.

Figure 13- 2M high Southern Barrow Viewshed (51°14'30.62"N / 1° 3'18.85"E)

As can be seen in Figure 12, the Northern Barrow is situated to be seen from three directions but mainly on a route heading either East or West. The North-South heading also offers good visibility of the Northern Barrow whereas heading South-North offers no visibility. The East-West alignment of the Northern Barrow is particularly interesting as it would conform to Blanning's hypothesis that notes the 'East-West grain' of Kent's topography, favours the 'North Downs escarpment' as a prehistoric

pathway.[46] The Southern Barrow is less visible on an East or West bearing but is exceptionally visible on a South-North heading towards modern-day Canterbury. If the Chartham Downs was cleared of woodland this would offer a fantastic view much like those we see today in Figure 14.

Figure 14 – Chartham Downs, SSW facing, drone photograph. 60M above ground. Taken by author 13/03/21

Using viewshed analysis will also give us a good idea as to where settlement locations may reside. The analysis suggests that east of the barrows seems the most probable location based upon the premise that the settlement would want to see both barrows.[47] However, this purely hypothetical as both barrows may not necessarily be contemporary or belong to the same community. A comprehensive viewshed analysis is beyond the remit of this project, but its minor inclusion is necessary to highlight suspected areas of visibility at this period in time. I think the presence of the barrows and their placement as analysed by the viewshed, allows us to correlate them with the long-held notion that chalk downlands were some of the 'first parts of Britain to have been cleared of forest and cultivated'.[48] The creation of the barrows signifies the importance of the place upon which they were constructed, they mark the landscape for all to see and by doing this they play an active role for those who lived near and saw them regularly. If we are to follow the premise that the barrows are created to be visually representative from afar, which I believe they are, then we can assuredly state that Iffin Wood was not covering the same topography as it is today.

[46] (Blanning 2014) P37. (Tilley 1994)P.159.
[47] There are two unidentified enclosures to the East of the barrows according to HER, alongside the discovery of a Neolithic Axe.
[48] (Langslow 1997)P.14.

6.2.3 Iffin Manor

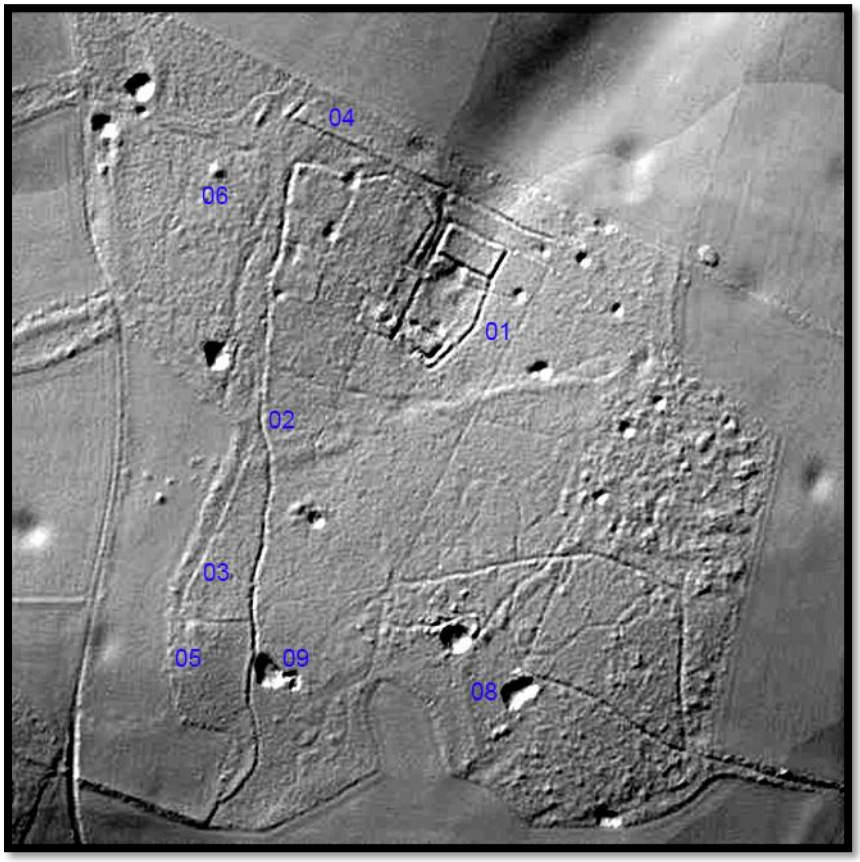

Figure 15 - LiDAR data of Iffin Wood. Accessed 20/03/21.

On the east side of Iffin Woods, we have a deserted medieval manor, which after excavation in 1983, became a scheduled monument.[49] Hasted has suggested that this was formerly known as the manor of 'Ytching' during the reign of 'King Henry the VIth'.[50] However, Tatton-Brown notes that a medieval 'manor of Iffin' is often referred to in the *Cartulary of St. Gregory's Priory*.[51] I could see no evidence to suggest that Iffin Manor differs from Ytching, though, recent research undertaken by Dessoy significantly progresses our understanding of the ownership of the manor in the thirteenth century.[52]

During the woodland survey, we were unable to locate the exact layout of the manor due to overgrown scrub and vegetation. However, its presence within the woodland is best demonstrated by the LiDAR data presented in Figure 15. Listed as 01, the data depicts a series of rectilinear and sub-

[49] HER: TR 15 SW 6
[50] (Hasted, 1800) See *Parishes: Nackington*
[51] (Tatton-Brown and Bennett 1983).
[52] (Dessoy, Forthcoming) Dessoy's thesis also lists further names for manor, 'Gythinges' and 'Yescing'. Ytching seems to derive from Old English whereby Ing can be translated as 'settlement of the people' according to (Mills 2011). See entry Fryering.

rectangular enclosures which are 'the remains of the medieval manor of Iffin'.[53] The complex is thought to contain several structures, with the main manor house residing at the south part of the enclosure. The report by Canterbury Archaeological Trust suggests some of the subsidiary banks and ditches could be evidence for medieval field systems. The most obvious features that match this suggestion are 03 and 04, which are individual linear banks with shallow ditches adjacent to them. However, the LiDAR data shows several smaller rectilinear enclosures to the East and South-East of the main complex. The geomorphology of these is suggestive of furlongs but this theory remains uncertain until a more extensive survey is undertaken. In my opinion, the most significant anomaly picked up on the LiDAR was the trackway heading North-South (02). This has not been recorded by any previous survey work within the woods but its directional heading is suggestive of connecting the manor to Swarling Villa. The earthworks on either side of the trackway stand no higher than one metre tall (Fig 16) and the ditch shallows out at both the North and South ends.[54]

Figure 16 – Dr Steve Willis looking into the trackway, with a suspected Semi-Ancient Oak tree in the middle

According to the HER, the manor is thought to have existed between 1086-1465 where its reference in historical literature no longer exists. Areas of land directly surrounding manorial estates are often referred to as demesnes.[55] Demesnes are also referred to as the fields owned and worked by the

[53] HER: TR 15 SW 6
[54] Note 02 alignment with the modern road to the West.
[55] (Hall 2014) Glossary.

manor, so they may not necessarily be adjacent. The manor would likely have been surrounded by a series of 'yokes', which according to Hall are the main type of field system arrangement in Kent.[56] There was 'no communal crop regulation' in Kent, meaning most fields were 'severalty holdings' causing a dispersed settlement pattern.[57] Agricultural production is a staple for most medieval manors, and one comes to expect that most of the surrounding landscape was under its control. Figure 17 is an attempt to illustrate the scope of influence a manor may have had based upon a comparative example from 'the manor of Gillingham'.[58]

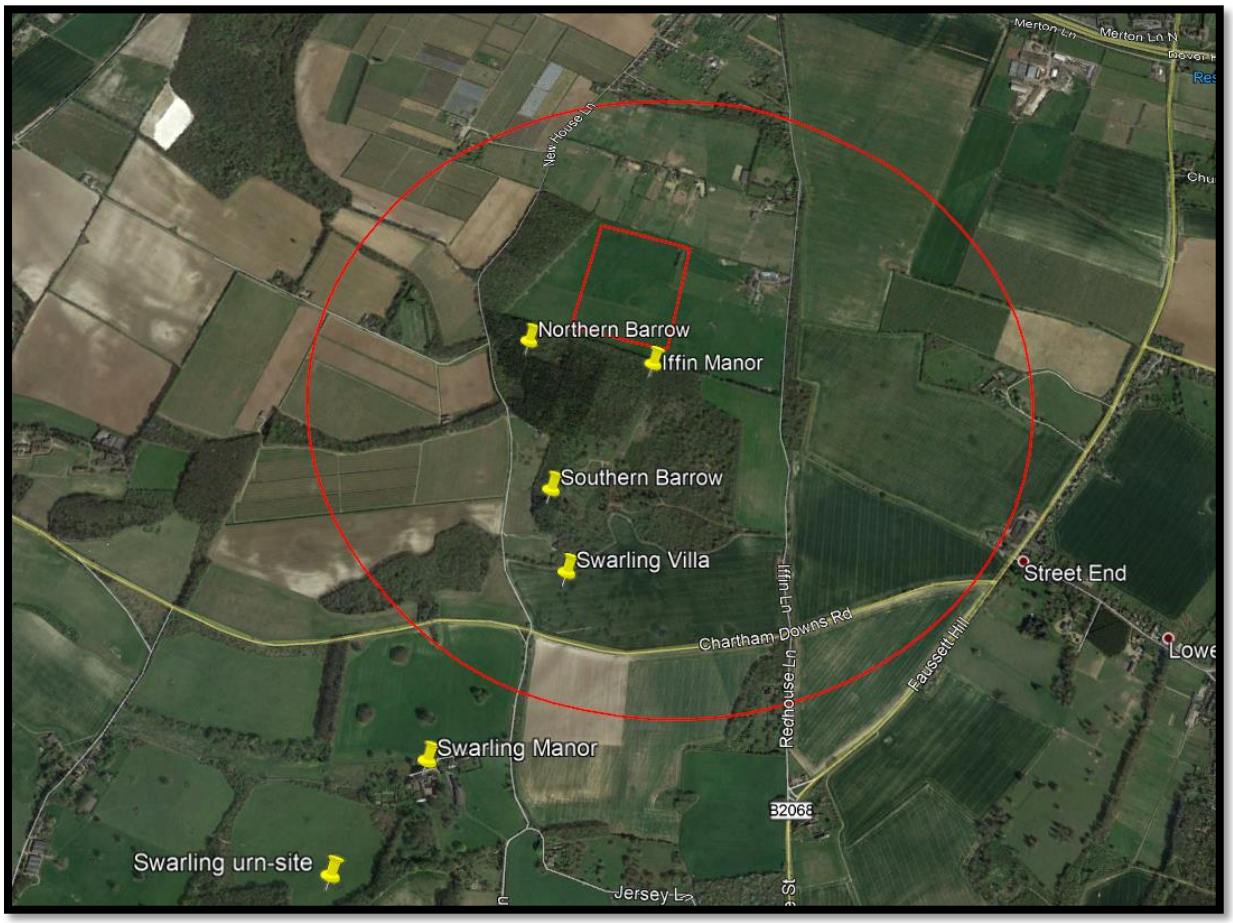

Figure 17 – Hypothetical map created to illustrate the scope of influence a manor could have, large red circle represents 806 acres, the rectangle represents 25 acres or a yolk.

[56] P.61 Yokes are on average 25 acres, 'but they vary from manor to manor'(Du Boulay 1966) P.120.
[57] P.61
[58] (Baker 1964)P.2 Gillingham has control over 806 acres of land.

Figure 18 – Green outline approximately following the 1769 maps depiction of Iffin Wood, showing how vast this is across the Chartham Downs.

Gillingham Manor had about 236 acres dedicated to arable and pasture with a further 320 to marshes and another 250 to woods and coppice. The Gillingham Manor is a good example of how much land a manor could own but the presence of Swarling Manor suggests this was not entirely the case with Iffin Manor. Iffin Manor likely had no marshes under its control and instead had dew ponds situated nearby to collect water. Given the analysis of the geology and pedology in section 6.1 we could plausibly assume that the manors primary focus was on agricultural production with extensive land being dedicated to arable and pasture use. The manors last reference in the historical literature was 1465, meaning there is a 135-year gap where we could assume there is no land management occurring resulting in woodland regeneration.[59] Aforementioned, Kirby has identified this as a plausible amount of time for woodland to regenerate and this is likely the cause of the more extensive wooded landscape we see in the 1769 map.[60] This suggests, that there is a strong possibility that a precursory form of Iffin Wood could have been a part of this medieval landscape and existed to the West of the manor acting as a source of timber production and possibly woodland pasture (Fig 18).[61] Over time this woodland was likely subject to the creation of 'assarts' and deforestation that comes associated

[59] The manor would have likely carried on for some time after this last reference but there is no evidence as of yet to suggest for how long. Pottery and coin evidence in context is the best answer for this limitation in the data.
[60] (Kirby 2003) P.15. 75 years.
[61] The West of present Iffin Wood is the ancient part of the woodland according to Natural England and the 1769 shows a much larger woodland than we see presently.

with settlement pattern and thus, created the woodland we see today.[62] The western ancient section of the present Iffin Wood had a much more dispersed layout of trees which is typically a sign of wood pasture. Wood pasture offers two benefits for the manor, firstly it gives the animals a place to graze safely and healthy, whilst ensuring the scrub does not become overgrown and second, it keeps them away from the main 'agricultural land'.[63] Anomaly 02 in the LiDAR data (Fig 15) could, therefore, be a droveway for the animals heading into the wood and act as a barrier between the agricultural land and the grazing pasture. These inferences are simply suppositions and should not be seen as definitive assessments of the archaeological record. However, they do highlight that this landscape could invite ecological affordances which I believe allows us to see continued patterns of human activity taking place.

7 Geophysical Prospection and Evaluation

The research strategy for the cropmark site aimed to follow non-invasive principles, preserving the archaeological record until I had a better understanding of the nature of the site. Philp's work in 1960 is the only known previous work to be undertaken. If the site was a Romano-Brtish villa, it would be a significant classification for our understanding of the Roman occupation in Kent. So with this in mind, I decided to err on the side of caution and opted for a geophysical prospection over any invasive methodologies. Since Philp's test-pitting, the cropmarks which originally drew him to the site, have become exceedingly discernible (Fig 19). These geological anomalies offer a tantalizing glimpse of the presumed archaeological features hidden beneath. However, as per good practice, cropmarks should not be used in 'isolation' no matter how vivid they are.[64] The benefits of geophysical prospection in identifying sub-surface archaeological features are widely known and accepted across the European heritage sector.[65] To achieve a 'research dividend',[66] I made sure that the survey was conducted following all relevant guidelines for professional practice.[67]

[62] (Sparey-Green 2021) Forthcoming publication.
[63] (Higham and Ryan 2011)P.145. Notes 'acorns', 'beech-mast' and on P.171 'Holly' and the capabilites of 'Oak' to cope with grazing pressure. All these are within present day Iffin Wood.
[64] (Bowden and Royal Commission on Historical Monuments (England) 1999)P.106
[65] (Campana and International Summer School in Archaeology 2009; Clark 2001; Aspinall, Gaffney and Schmidt 2008; Gaffney and Gater 2010; Schmidt, Linford and Linford 2015)
[66] (Carver 2009)P.343. Maximum amount of data possible.
[67] (Schmidt, Linford and Linford 2015)

Figure 19 – Google Earth 2017, Swarling Farm. 51°14'22.75"N; 1° 3'19.89"E

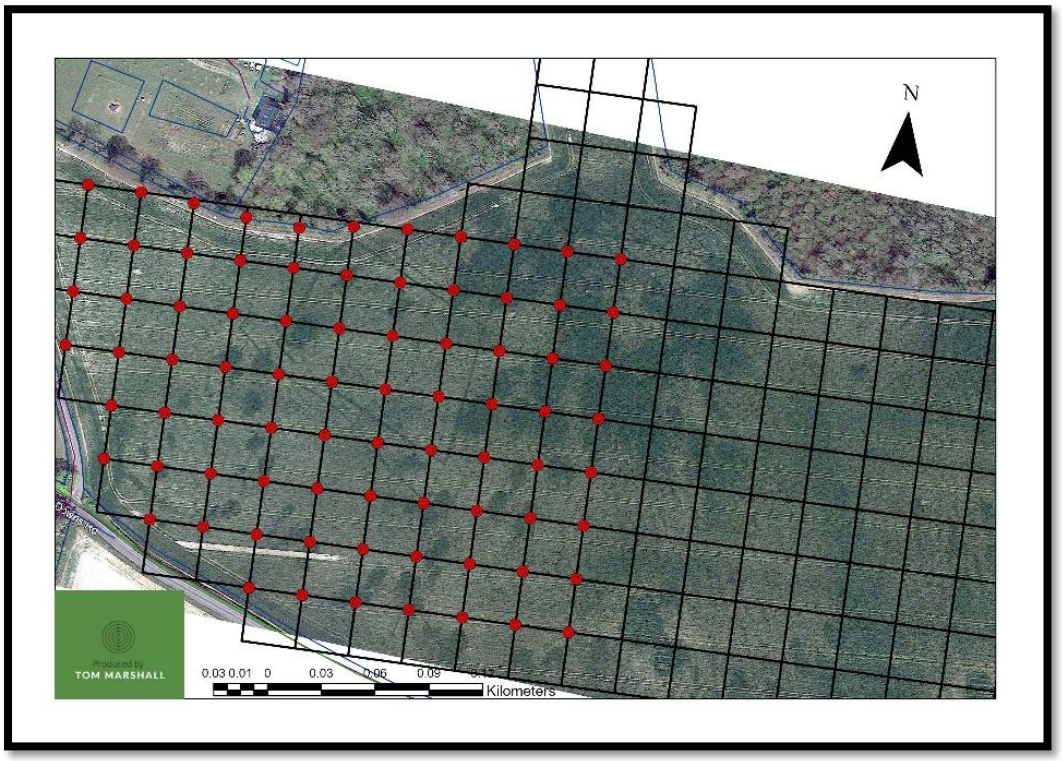

Figure 20 - Grid layout

7.1 Aims and Methodology

In September 2020, a gradiometer and earth resistance survey was conducted over a targeted site known as Swarling Villa.[68] The survey was conducted by the author for the purposes of research. Several positive anomalies matching the alignment of the cropmarks were discovered and identified. These will be interpreted as Definite, Probable and Possible features of archaeological interest. Anomalies suggesting natural processes will be excluded from the discussion but will be highlighted as Natural in the illustrations.

The main aim of the survey was to confirm that the geological anomalies were representative of subsurface archaeological features. Philp's interpretation was at the forefront of the objectives of this survey, as his classification of a Romano-British villa would suggest the site contained significant stratigraphic depth and complexity related to both the LPRIA and Roman periods. The morphology of the complex seems to associate well with a Romano-British settlement, comparative examples suggest it is likely a farmstead.[69] Philp's test pits identified a series of ditches alongside some buried remains of wall foundations, both of which he was able to chase with relative success. Philp's identification of these features suggests the 'formation processes' which are related to these features have 'altered the soil', allowing us to see the cropmark phenomenon.[70] Therefore, the character of these anomalies was likely those of which Philp identified in his test pitting, ditches and walls. Upon this premise, I decided to undertake a gradiometer survey given the likelihood that the layers of strata within the ditches would have a strong magnetic response due to the build-up of organic material which comes associated with settlement occupation. In addition, it was sensible to undertake an earth resistance survey for several reasons. First, to compare the responses of the scans to see if they complement each other. Second, to offer an alternative method of data collection, which will then offer more leverage towards our final interpretation. Last, to utilise the different susceptibilities which both sets of equipment offer towards archaeological investigation, in this case, resistivity for any masonry and magnetometry for anthropogenic ditches or pits. Both scans can pick up these desired outcomes individually in the right circumstances but each scan is particularly beneficial for certain archaeological features.

The gradiometer survey covered a total of 5.04 acres over the targeted area which is located on the West side of the field. A grid that was 240m x 210m long was laid out in 30m x 30m smaller grids (Fig 20). The scan was completed using zigzag traverses spaced out at 1-metre intervals to match the 1-

[68] Lat: 51°14'22.91"N, Long: 1° 3'21.86"E. Location: Chartham, Kent.
[69] (Allen *et al.* 2016)P.36,90,93,118.
[70] (Renfrew and Bahn 2016) P.82.

metre width of the dual probe system. 1m traverse intervals are the present 'standard' for producing rapid maps of relatively high quality. However, 0.5m traverse intervals are the desired method but were not chosen on this occasion due to time pressing circumstances.[71]

The earth resistance survey used the same grid layout as that of the gradiometer but on a more refined scale (Fig 21). The traverses were again zigzagged at 1m intervals also matching the width of the four-electrode lengthed machine (1m). The grids were targeted over areas of high archaeological interest which can be seen in Figure 24.

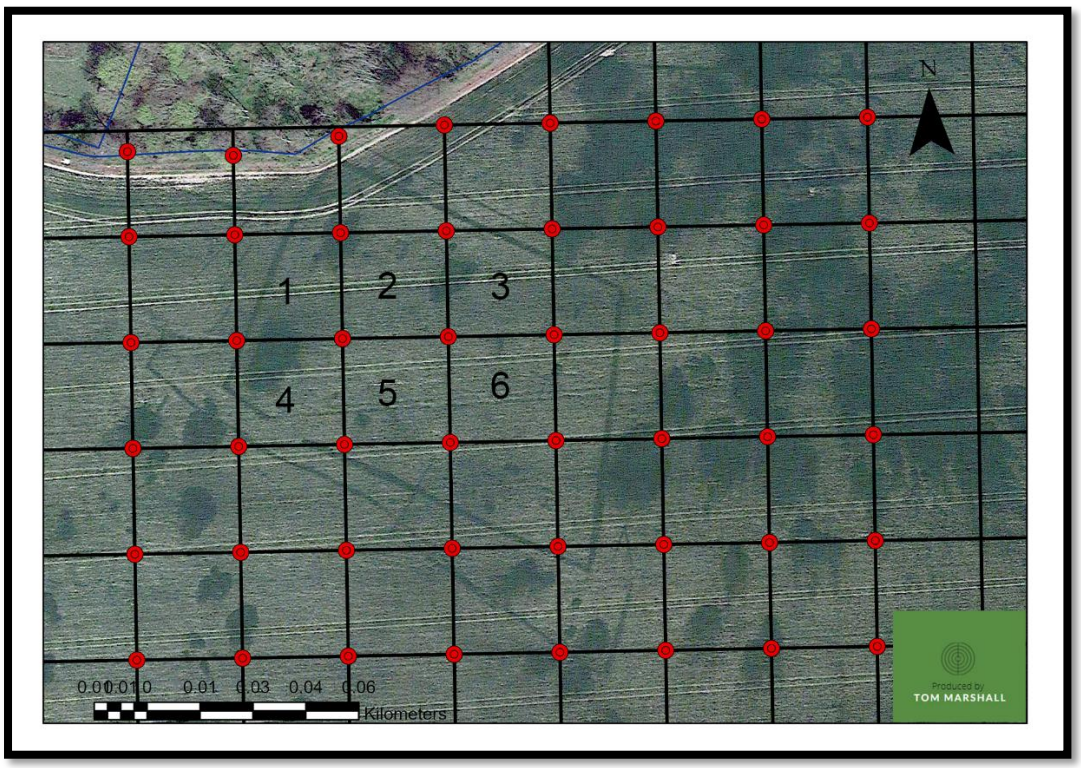

Figure 21 - Resistivity Grids

[71] (Gaffney and Gater 2010)P.95.

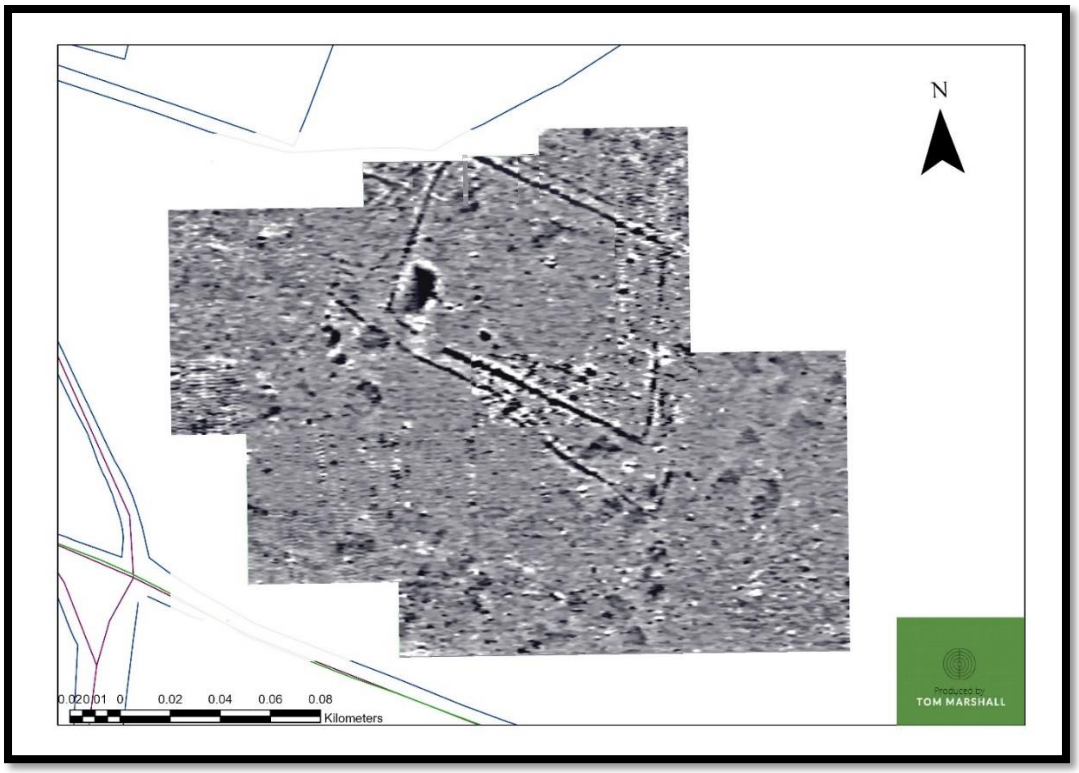

Figure 22 - Processed Gradiometer Scan

7.2 Geological Conditions and Outcomes

As previously discussed in section 6.1, the site sits on a slope of the North Downs and lays upon a chalk bedrock. The soil is classified as lime-rich with a loamy texture.[72] The 'south-facing aspect' of the North Downs likely formulates its own micro-climate as it is generally considered to be one of the warmest parts of the country.[73] The clay with flints is likely absent or at least thinner on the slope suggesting this area would be accommodating to the plough. According to Philp, the topsoil was 'between 6 and 12 inches' deep, which is likely the reason why the preservation of the archaeology is poor and has suffered from plough damage.[74] These conditions favoured the magnetometer as can be seen in the results displayed in Figure 22. Several positive anomalies were discovered and the scan has been processed to enhance their visibility.[75] Unfortunately, the earth resistance survey suffered not only from the dry climatic nature of the season,[76] but the equipment was also carrying some unknown damage, which caused spurious readings. Therefore, these results were written off as spoiled and have not been used during this project which is a significant loss towards the final interpretation. The

[72] (Cranfield University 2021). *The Soils Guide*. Available: www.landis.org.uk. Cranfield University, UK. Last accessed 15/04/2021
[73] (Langslow 1997)P.13-14.
[74] Arch.*Cant.*74.186-7. (Gaffney and Gater 2010) P.12
[75] See appendix for methodology.
[76] (Clark 2001) P.124.

gradiometer scan does show signs of poor configuration within certain grids showing significant enhancement. (east of 03 and SSE of 05). This is a user error but overall has not significantly impacted the results of the scan.

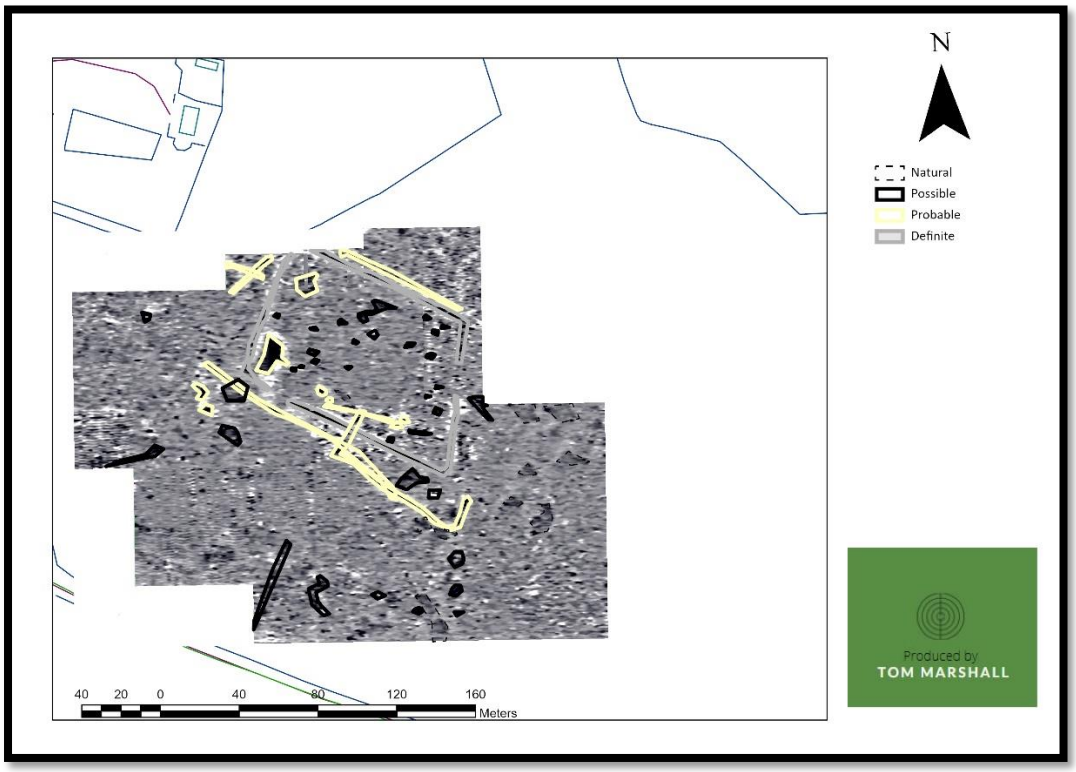

Figure 23 - Authors interpretation of the results.

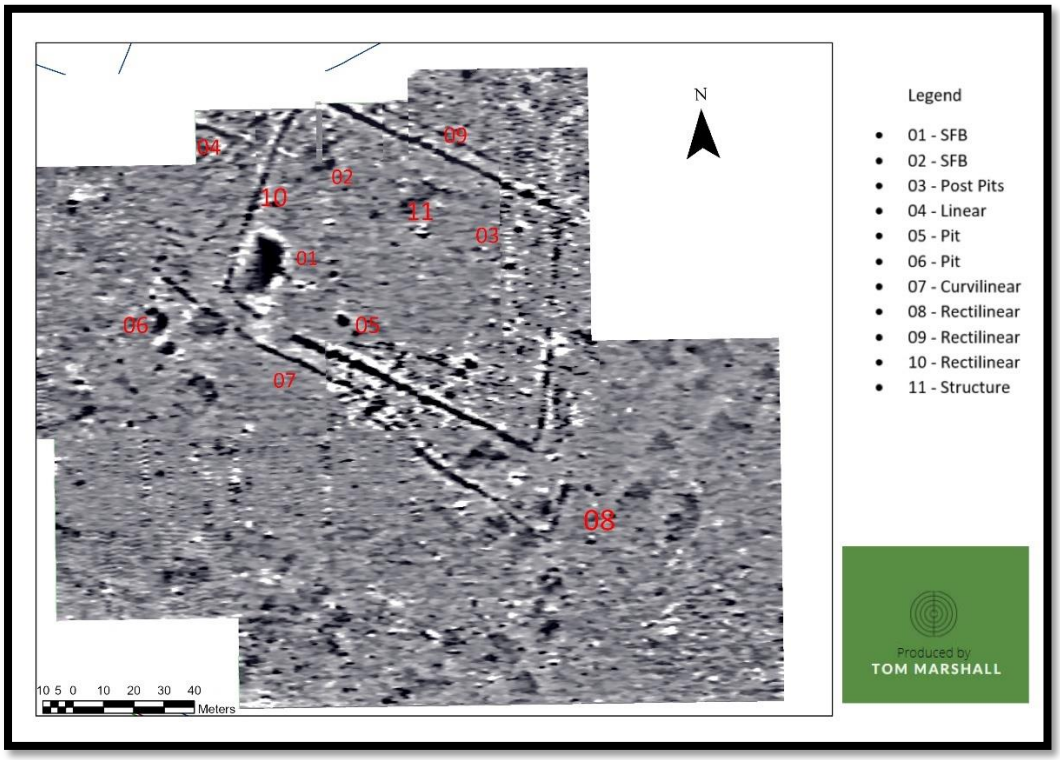

Figure 24 - Gradiometer survey annotated with labelling to highlight the areas of archaeological interest

7.3 Interpretation

Given that this research is primarily focused on producing new data so it can be used in the archaeological identification of this site, my interpretation of the data will be less 'subtle' in its approach like one comes to expect when reading a geophysical report.[77] To aid in our understanding of the data, I created Figure 23 and 24 as a synthesis of what the anomalies could represent within the archaeological record. This interpretation is based upon various comparative studies and prior knowledge and understanding of the periods under investigation. For those more accustomed to reading gradiometer data, I created Figure 27 and 28 to further emphasize the positive and negative responses, including the significant ferrous spikes.

The internal rectilinear anomaly (10) is situated on a North-West to South-East alignment and measures approximately 1.77 acres, or 115m by 80m. This is primarily a positive magnetic response with a few surrounding negative fringe responses also, noticeably these are mainly on the Northside of the dipole. I have classified this as Definite, given its clear anthropogenic form which is representative of boundary ditches. In context, the morphology reflects that of an enclosure ditch typical of the LPRIA and Roman periods. The data produced by the scan also suggests that the anomaly has two entrances, however, the cropmarks suggests that there is no gap in the ditch on the Eastern boundary, suggesting the area had less magnetized properties in the fill creating this façade.

The external rectilinear and curvilinear anomalies (07, 08, 09) are situated on the same NW-SE alignment which implies a possibility that they may be relatively contemporary to anomaly 10. However, the anomalies likely represent two phases of occupation distanced by lifetimes not necessarily centuries (Fig 25). Ditches 07 and 08 cross-over forming an intersection and 08 runs into 10 which also forms another intersection. Test pits in these locations will aid our understanding of the sites phasing. The external anomalies are also fainter in their magnetic response, this could be the result of an accompanying bank silting back into the ditch with less magnetized material.[78] 08 is likely representative of the 'much smaller enclosure' mentioned in Philp's report, however, due to this being the only mention in the report, an element of caution is being maintained in their association. 09 could represent a double ditch and bank boundary with anomaly 10. Overall, these anomalies are generally fainter in their magnetic response, which could be interpreted in a number of different ways, but the most likely reason for me is their distance from the main habitation of the settlement. They are also

[77] (Aspinall, Gaffney and Schmidt 2008)P.143.
[78] (Clark 2001)P.125

unlikely to represent the ditches and walls found in Philp's report and therefore, they have been classified as Probable archaeological features to avoid any overinterpretation.

The majority of anomalies have been classified as Possible due to their relatively lower magnetic contrasts when 'compared to the surrounding material'.[79] This makes their interpretation difficult as they are harder to morphologically distinguish from the natural. Less magnetised soil does not mean they are not archaeological features but demonstrates a close contrast between the anomaly and the surrounding material. Several of these also lack any spatial patterns to suggest they are anthropogenic by nature. Anomaly 03 seems to contain a series of post pits scattered sporadically. The size of post pits could make the magnetic responses fainter due to the lack of material physically able to enter the original cut. Anomaly 11 has proved the most challenging to categorise due to its seemingly spatial pattern representative of a roundhouse. In this instance, the contrast was hard to distinguish with some anomalies showing no negative response to the positive, therefore, I have categorised it as Possible. Possible anomalies are by no means written off as archaeological features, it simply states that the likelihood of them representing archaeology is lower based on the data available.

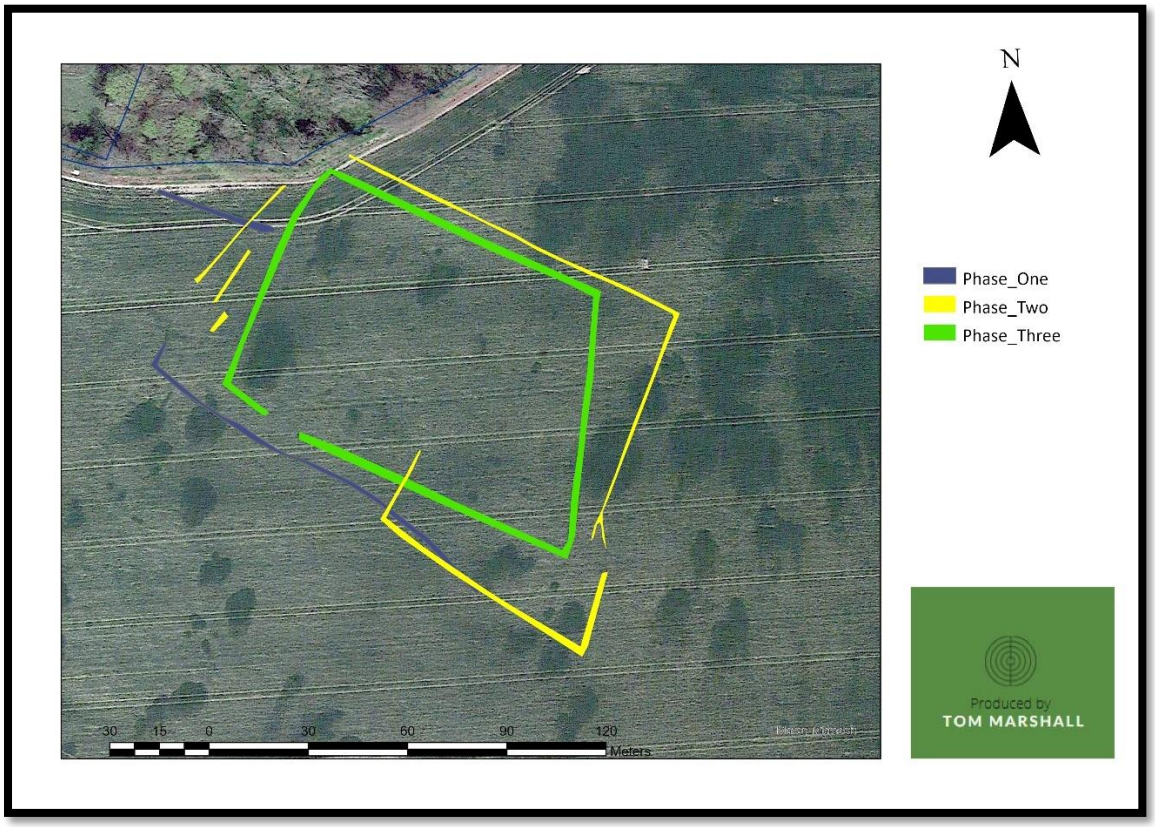

Figure 25

[79] (Campana and International Summer School in Archaeology 2009) P.75.

7.4 Discussion

The geophysical prospection significantly enhanced our understanding of the site and has progressed the work undertaken by Philp in 1960. It would seem that most of the anomalies are representative of contemporary occupation, with those that are not likely being good indicators for the persistence of place. Anomalies 01, 02 and 11 have been interpreted as targets that could represent structures. The density of anomaly 01 certainly dominates the data and could be representative of a walled building. Its form and dimensions are typical of a Romanized building or *'domos',*[80] but this interpretation should be taken with an element of precaution. The positive anomaly is surrounded by a negative halo which could be characteristic of the foundations of the wall being negative (non-magnetic) and the interior sunken floor being the positive anomaly. Furthermore, it seems to correspond with the alignment of anomaly 10 and also has a favourable East facing entry. The presence of a walled building needs to be seriously considered in this interpretation due to the identification by Philp that anomaly 10 was a masonry or sleeper wall.[81] If one could justify spending money on an external boundary wall, one could justify spending money on a much smaller walled building.[82] If anomaly 10 was the linear wall that Philp identifies then this suggests a later level of romanization, likely the second century where we see more elaborate and extensive architectural designs taking place.[83] I have considered anomaly 01 to also be representative of a midden or industrial activity due to its strong thermomagnetic response, however, the size and shape of the anomaly suggested otherwise. Without the resistivity results or test pitting, we cannot confirm either possibility at this stage.

There is a possible roundhouse SW of anomaly 11 which can be seen in Figure 26. The spatial pattern seems consistent with this theory, however, the size of the house could be questioned. What is clear, is that several anomalies representing post pits are dotted around this location, suggesting structural activity. Asides from the exterior ditches being fainter, there are no major signs of the habitation effect which is often associated with this type of settlement.[84] The closest suggestion to their being one is likely SSE of anomaly 05. However, as mention earlier, this is likely a discrepancy in the scan configurations via user error.

[80] (De La Bédoyère 2001) P.124
[81] (Wheeler 1932) P.119.
[82] (Aspinall, Gaffney and Schmidt 2008)P.147.
[83] (Millett 1990; Wheeler 1932; De La Bédoyère 2001)P.118,117,24 respectively.
[84] (Aspinall, Gaffney and Schmidt 2008)P.144

Figure 26 – Phases with ferrous spikes, possible post pits.

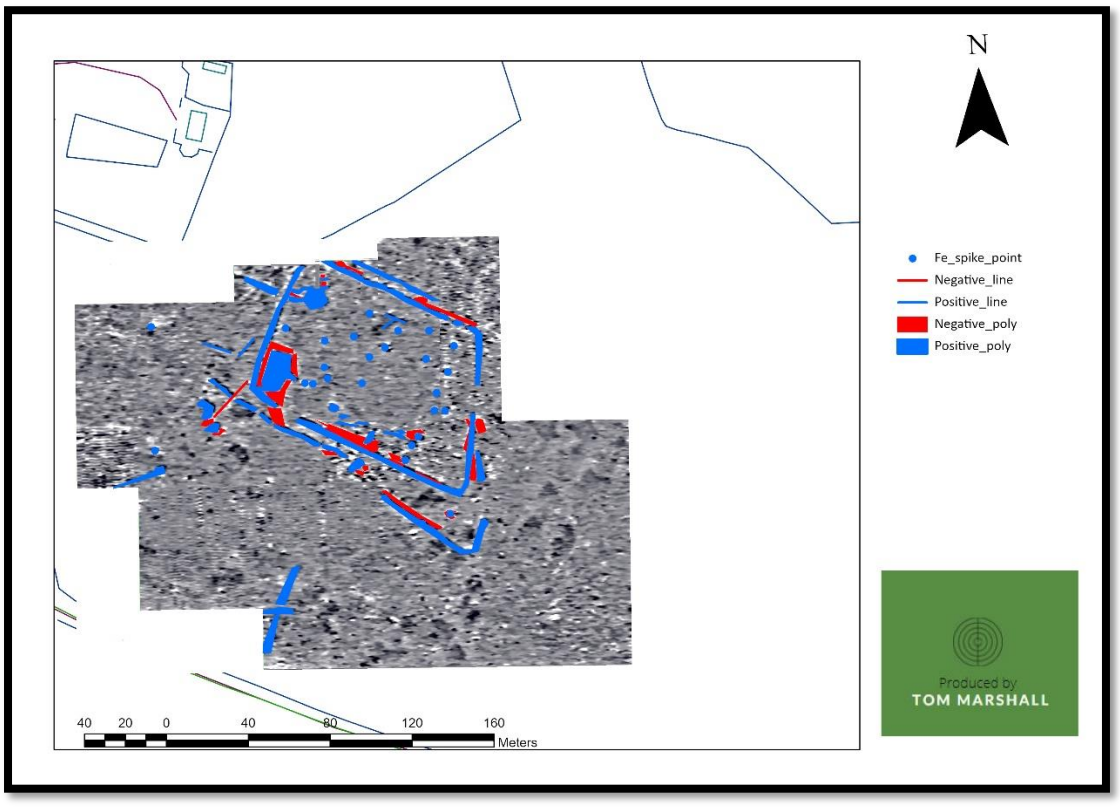

Figure 27 – Positive and Negative anomalies

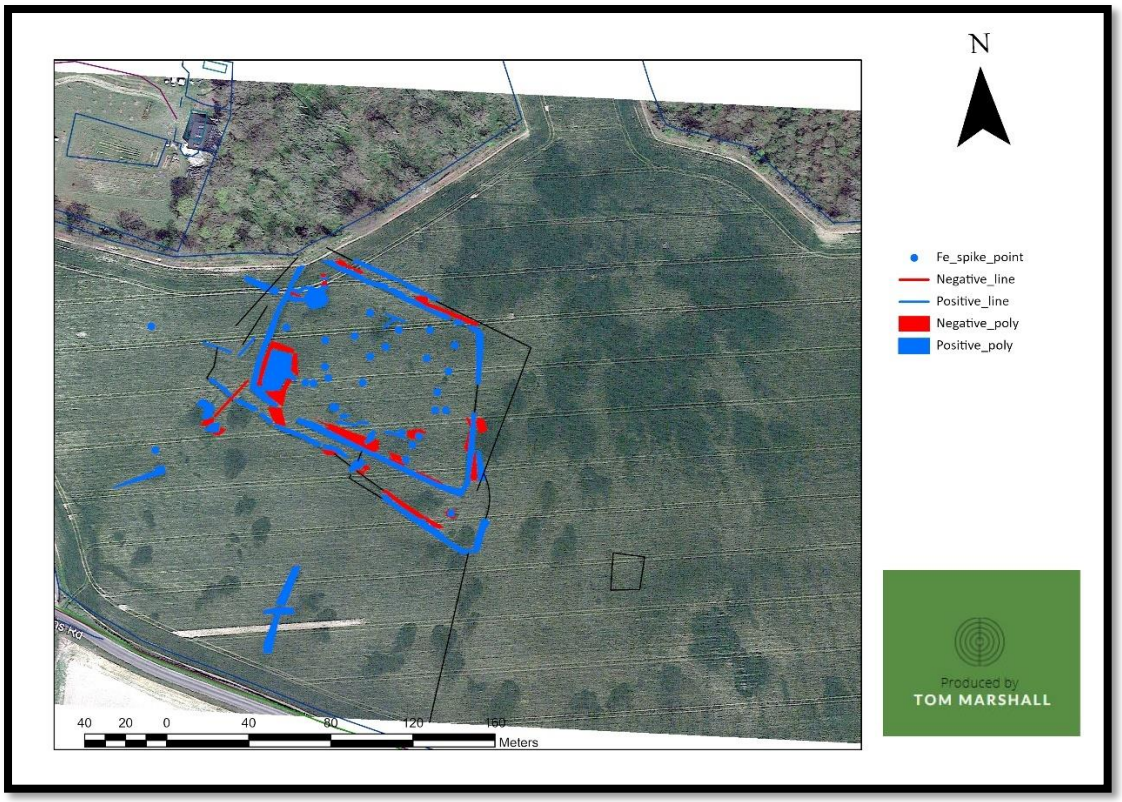

Figure 28 – Positive/ Negative anomalies including the cropmark annotation.

8 Concluding discussion

When undertaking this research project I had a clear idea of the questions that needed answering if I was to have any chance of understanding what the cropmark complex could be. Without excavation or material evidence, we cannot hope to know definitively what the nature of the site is. I have seriously considered the possibility that this site could have been a temple or military outpost situated only 2.8 miles outside *Durovernum Cantiacorum* (Canterbury). A military outpost seems unlikely for two reasons. Firstly, the walls are seemingly not as substantial as one comes to expect with military outposts, and secondly, the size of the complex is suggestive of a small outpost or marching camp that would have likely been ephemeral with no walls being built. In addition, a geophysical survey undertaken by SubScan South East in 2008 assessed an adjacent field NE of the site for the likelihood that the geological anomalies represented Roman military occupation.[85] It was concluded that this much larger field had little evidence to support the theory, with the anomalies likely representing field boundaries. Furthermore, SubScan did suggest that a set of earthworks in a field east of the one

[85] 51°15'6.94"N, 1° 4'13.02"E. (Burrows 2008)

surveyed was actually a more likely candidate. Combined, this was enough evidence for me to exclude this theory from further investigation.

A temple complex on the other hand is a much harder classification to disprove. Death is an inevitable process, and thus, so are mortuary practices of some sort. My line of argument for this project was to find patterns of human activity within the landscape, the barrows and Iron Age cemetery,[86] certainly conform to this idea suggesting that we may have a 'ceremonial landscape'.[87] Rural religious complexes could be 'isolated and self-contained structures'[88] and the access from Stone Street makes this a viable suggestion. However, the geophysics did not offer any real evidence to support this theory, as temples are usually centralised within the complex. Of course, the resistivity data would have been much better suited towards identifying this theory. In truth, we cannot disprove this theory until further investigation is undertaken either by a resistivity scan in more favourable conditions or through excavation. Unfortunately, due to the seasonal crop, both methodologies were beyond the limits of being included within this project. Thus, it should be noted that this theory remains a possibility until proven otherwise. However, it is my belief that this site is not a temple complex and I hope to have demonstrated enough evidence so far to support this belief. Throughout, I have tried to use the landscape as a medium to identify patterns or trends of human activity through space and time. This concept has led me to believe that settlement in this particular landscape is surely driven by a rational preference towards resource procurement. Social and cultural practices no doubt also have an influencing factor in such decisions but I would argue that ecological affordances are the emic perspective we should consider given the evidence available.[89]

The barrows signify the first known phase of occupation of this landscape and astonishingly they still stand more than 3000 years later. Their setting upon the plateau of the Downs conforms to the long-held notion that these were specifically placed to be seen from afar. To find a Bronze Age barrow in the landscape usually means there is an accompanying settlement nearby. There are methods of investigation we could use to learn more about this phase of occupation. For example, the barrows themselves represent a social practice, their creation, shape, and placement are interconnected with how they experienced and saw death[90]. One gauges a sense that the ditches used to create the barrows act as a boundary to keep the dead separate from the living. Thus, the barrows are likely at a

[86] (Bushe-Fox 1925) Has not been discussed due to forthcoming work and primarily the limitations of the project.
[87] (David and Thomas 2010)P.168.
[88] (De La Bédoyère 2001)P.165.
[89] (Ingold 2000) Chapter 2. Emic: attempting to enter the rationale of the subject.
[90] (David and Thomas 2010) P.159, there are many theories which could be used such as the barrows represent 'a historical hegemony of place'.

different setting to the primary settlement, as their positioning would also impact any agricultural practices on the plateau. With this in mind, the most likely place to settle in the landscape would be on an escarpment or the valley bottom of the Downs, with visibility of the barrows being a spiritually associative priority. The viewshed identified that there is a possibility that during or by the time of the Bronze Age, this landscape might have seen major deforestation. If the ridges and plateau of the Downs were relatively cleared of woodland, like we see today, then this could benefit a variety of social practices. The escarpments have been identified as well-drained locations and if the plateau is occupied with the barrows one would expect these to be utilized for agricultural purposes. The valley bottom, by Swarling manor, contains the only known water source in the direct area, with the River Stour being some two miles away.[91] I do not think it is unreasonable to suggest that given the alluvial and geological processes that have occurred over time, that at some point this nailboune might have been a consistent stream of water. The last two social practice which we could come to expect during this phase of occupation is flint extraction and the use of clay for pottery and storage pits. Several worked flints were found in this landscape, dating from the Neolithic to the Bronze Age and it is no surprise given the nature of the geology and the favourable heavy flints. Clay pottery and clay storage pits were a key practice associated with Bronze Age societies and the environs would no doubt have supported these necessities.

The extent of Iffin Wood from 3000 BCE to the 16th century is uncertain without evidence from pollen analysis. Woodlands have always been 'subject to cycles of clearance and regeneration' at the hands of human interference since the transition towards agricultural practices.[92] It is my belief that most societies and cultures would have seen the environment as 'a set of resources' which they could 'begin to exploit or inhabit' in various and often unique ways.[93] Thus, woodlands act as a key provider of the essential resources of both fuel and timber, so settlement near them makes logical sense from this perspective. It is my belief, that Iffin Manor's occupation of this landscape was afforded by the benefits that this environs offered. Iffin Manor is dated from the 11th-15th century according to historical records. The size of its territory is likely limited due to the presence of Swarling Manor. This is a good indicator for a dispersed landholding with which yokes are often associated with. Two manors in such close proximity also highlight the economic potential of the landscape. The extraction of chalk and flint are not usually associated with this period and there is no suggestion of any other type of production taking place within this landscape aside from timber. This further implies that the manors

[91] Transhumance to this is a possibility but unlikely.
[92] (Higham and Ryan 2011) P144.
[93] (David and Thomas 2010) P.302. (Ingold 2011) P.175.

main economic drive must have been agriculture and timber production. The survival of Iffin Manor for three centuries suggests the land was economically sustainable.

Philp's theory that the nature of this site is Romano-British should be considered with great confidence. The predominantly rectilinear nature of these anomalies, alongside the discovery of wall foundations and the material evidence, is indicative of Romanised engineering and occupation. However, I believe there to be two or possibly three phases of occupation to the site, which is primarily identified by the external ditch anomalies showing a slight disparity of alignment to the interior. The interior ditch was classified by Philp as being earlier than the wall which rested upon it. [94] Therefore, it is highly conceivable that there was an LPRIA transition to this site, as the landscape is renowned for its Iron Age presence due to Swarling cemetery being only half a mile away. This cemetery has been dated to around 100-50BCE and according to Bushe-Fox, the occupiers of the settlement originated from the Belgae culture.[95] Furthermore, several IA small finds have been located by metal detectorists including a significant linchpin,[96] which could be associated with the metalworking site discovered next to Swarling cemetery. I think there is a case to suggest that the site lasted into the 2nd century CE due to the boundary wall signifying the use of Roman practices. This is both a costly and labour intensive expenditure. If this site was limited to the 1st century CE as Philp suggests, then this implies that the owners of the site must have either been economically wealthy before the Roman occupation or that they acculturated to the Roman system very quickly. Both of these theories are plausible accounts of the events surrounding the creation of the wall boundary. If this was a native IA settlement, then we can assume they must have been of aristocratic status or at the very least associated with a 'communal foci' nearby [97] and likely showed support to the invasion and the '*agrimensore'* who organised and settled the land after the Roman conquest.[98] Subsistence living had certainly become a more redundant practice during the Roman occupation, with the creation of surplus offering major economic benefits within the Roman economy.[99]

[94] Arc.*Cant.*74.190
[95] (Bushe-Fox 1925; Birchall 1965)
[96] Arc.*Cant.*120. 375-378
[97] (Cunliffe 2005) P.248. P.166 more than likely one of the 'four kings' of the Cantiaci community.
[98] (Mattingly 2007)P353.
[99] (Allen *et al.* 2016)

Component	Evidence	Least 'Romanized'		Most 'Romanized'			Evidence
plan detail	row-plan	X	X	X	X	X	corridor(s) and wing(s)
roofing	thatch		X	X	X	X	tiles
wall construction	timber		X	X	X	X	stone
wall covering	none			X	X	X	painted wall plaster
floor construction	earthen			X	X	X	*opus signinum*
window glass	none				X	X	glazed
heating	none					X	hypocaust
floor covering	none					X	tessellated pavement
interpretation		farmstead	highly Romanized farmstead	minor villa	villa	substantial villa	

Figure 29 – Table taken from Rippon's research to demonstrate one way of characterizing a villa.

This project aimed to undertake further research and assess whether the classification of this site as a villa was correct. Scholars have differing opinions on what constitutes a Roman villa, [100] but I believe the simplest characterisation comes from Rippon's table seen in Figure 29. To be classified as a villa building, in its simplest form one would expect a corridor to be accompanied by a wing. The geophysical survey produced no evidence to suggest this site had these components. However, the survey was limited without the earth resistance data, and therefore, an element of caution needs to be made in the final assessment. The occupation of this landscape through space and time seems to be sculpted by ecological affordances, in particular, the fertility of the soil to support agricultural tendencies. Therefore, it seems natural that we can expect the same pattern of human activity to have occurred during the main period of investigation. Given the cropmark site's location and morphology, I feel confident in suggesting that at the very least this was a farmstead. Whether or not the boundary walls saw accompanied components of further 'romanisation' remains to be seen.

By Tom Marshall

Word Count: 8794

Excluding:

- Abstract
- Table of Contents
- List of Figures
- Appendix

[100] (Blanning 2014; Branigan and Miles 1987; Rippon 2018) To name but a few.

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10 Appendix

Definition of HLC: "*Characterisation, identifies essential or distinguishing features and qualities, and follows an established archaeological and landscape history tradition of simplification, reductionism, grouping and classification. Sorting and containing complex information in such ways has allowed broader patterns to be identified and larger narratives to be prepared than would have been possible through restriction to the particular*".[101]

Survey Equipment:

The equipment used during the survey was a Bartington Grad601-2 dual fluxgate gradiometer and a Geoscan RM85 both of which belonged to the University of Kent. I also used a GS18 GNSS RTK Rover and a CS20 data controller to layout an appropriate grid; these were given to me courtesy of Darnley Archaeological Services and secured and insured through my membership with the Kent Archaeological Society.

Terra Surveyor Processing:

The data was processed using Terra Surveyor, this helps to improve the appearance of any features present in the data. As per any enhancement of data, the fewer processes used the better for the reliability of the data.[102]

The following processes were used:

Clipping – Removes all extreme values within the data that are outside a specified value. This narrows down the peaks and troughs of the data making it less noisy and more balanced, allowing more detail to be seen.

DeStripe- was used to calculate the mean of the traverse and then that was subtracted from the grid to remove the stripping effect seen in the data. In essence, this equalises the data the many variables used during the scan.

DeSpike – Used to remove any random peaks of trough spikes that exceeded the threshold datapoint value. These are usually caused by modern metals in the upper layers of the stratigraphy.

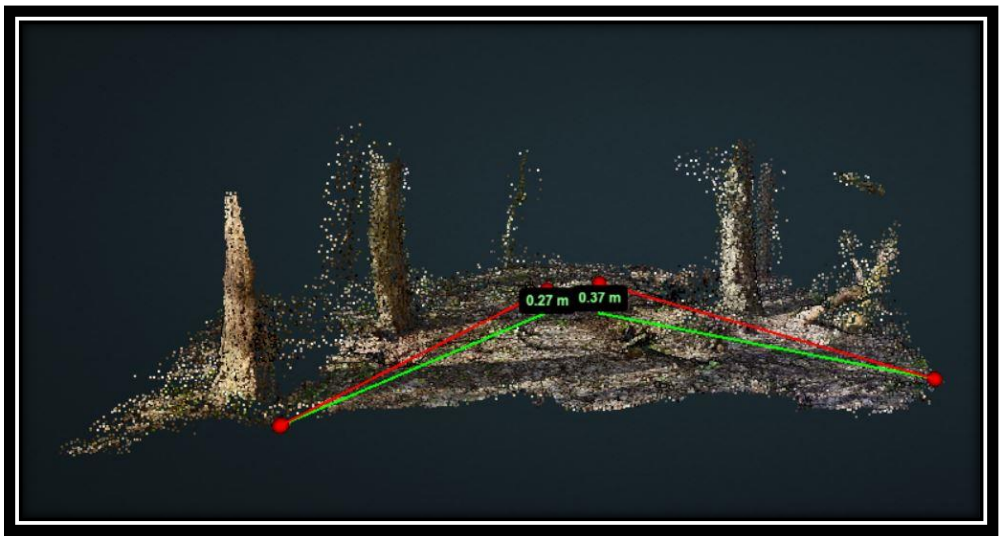
Worked flint from Swarling field:

[101] (Herring 2009) P.63-64.
[102] (Consulting n.d.)

Left: Likely thinning or retouch flakes Right: Primary flakes

Front and back of a right-handed scraping tool.

Front and back of a right-handed fabricator



Attempted 3D capture of Southernmost barrow.

<u>Portable Antiquities Scheme Recorded Finds:</u>

Iron Age:

- Coin Index, C (2010) *CCI-99005: A IRON AGE COIN* Web page available at: https://finds.org.uk/database/artefacts/record/id/312600 [Accessed: 21 Apr 2021]
- Lewis, M (2002) *KENT4198: A IRON AGE COIN* Web page available at: https://finds.org.uk/database/artefacts/record/id/42729 [Accessed: 21 Apr 2021]
- Lewis, M (2002) *KENT4197: A IRON AGE COIN* Web page available at: https://finds.org.uk/database/artefacts/record/id/42977 [Accessed: 21 Apr 2021]

Roman Period:

- Richardson, A (2005) *KENT-FD1683: A ROMAN COIN* Web page available at:https://finds.org.uk/database/artefacts/record/id/100007 [Accessed: 21 Apr 2021]
- Ahmet, J (2016) *KENT-F96BC5: A ROMAN COIN* Web page available at:https://finds.org.uk/database/artefacts/record/id/778858 [Accessed: 21 Apr 2021]
- Ahmet, J (2016) *KENT-87F6E6: A ROMAN COIN* Web page available at:https://finds.org.uk/database/artefacts/record/id/812241 [Accessed: 21 Apr 2021]
- Ahmet, J (2016) *KENT-88C043: A ROMAN COIN* Web page available at:https://finds.org.uk/database/artefacts/record/id/812273 [Accessed: 21 Apr 2021]
- Richardson, A (2005) *KENT-FD37D3: A ROMAN COIN* Web page available at:https://finds.org.uk/database/artefacts/record/id/100011 [Accessed: 21 Apr 2021]

Medieval Period:

- Richardson, A (2005) *KENT-FD5AF4: A MEDIEVAL HARNESS PENDANT* Web page available at: https://finds.org.uk/database/artefacts/record/id/100018 [Accessed: 21 Apr 2021]
- Richardson, A (2005) *KENT-FCCF07: A MEDIEVAL JETTON* Web page available at:https://finds.org.uk/database/artefacts/record/id/100004 [Accessed: 21 Apr 2021]
- Richardson, A (2005) *KENT-FDC785: A MEDIEVAL SPINDLE WHORL* Web page available at:https://finds.org.uk/database/artefacts/record/id/100025 [Accessed: 21 Apr 2021]
- Richardson, A (2005) *KENT-FD9063: A MEDIEVAL MOUNT* Web page available at:https://finds.org.uk/database/artefacts/record/id/100021 [Accessed: 21 Apr 2021]

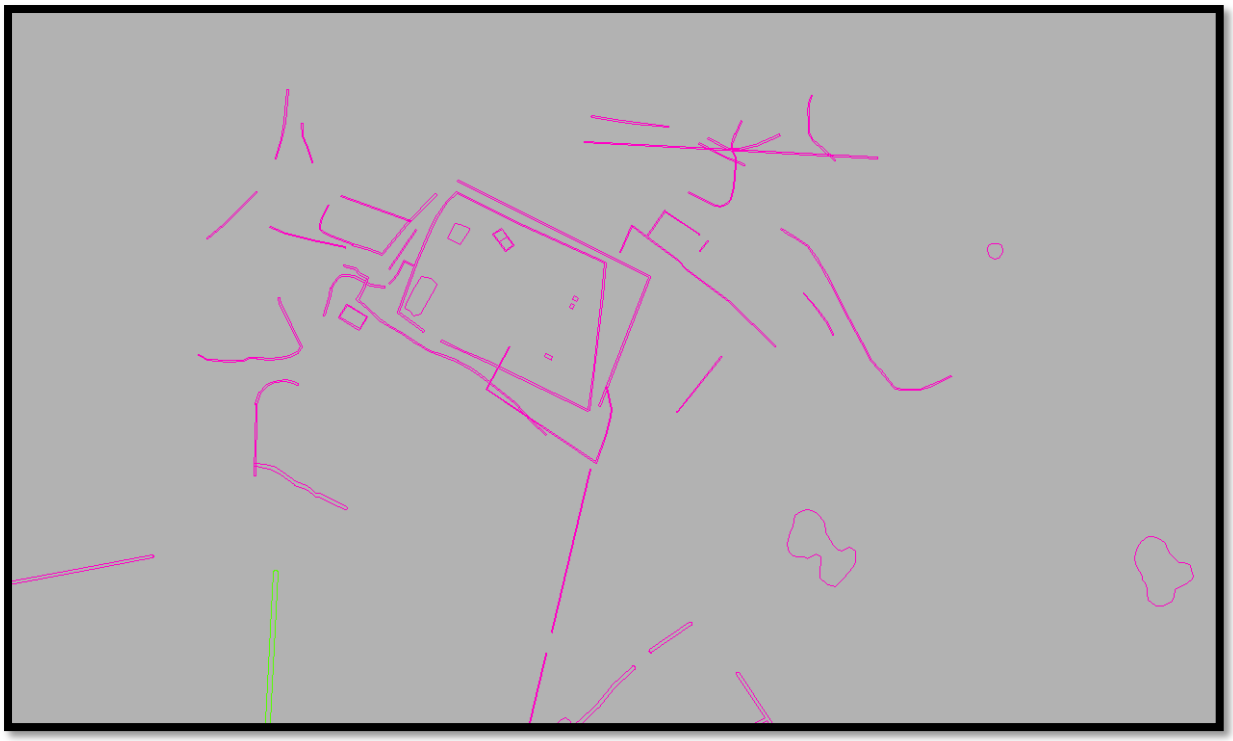
Historic Environment Record Small Finds:

TR 15 SW 4: Neolithic polished flint axe

https://webapps.kent.gov.uk/KCC.ExploringKentsPast.Web.Sites.Public/SingleResult.aspx?uid=MKE5401

TR 15 SW 58: Iron Age Linchpin

https://webapps.kent.gov.uk/KCC.ExploringKentsPast.Web.Sites.Public/SingleResult.aspx?uid=MKE18126



Christopher Blair-Myers interpretation of the cropmarks in Swarling and adjacent fields.

The following data was produced by a fieldwalking exercise in the field next to Swarling manor (labelled A) under the guidance of Dr Steve Willis.

Material Collected
Count of Material from First Stint

	0m - 1	10m – 1	20m - 1	30m - 1	40m - 1	50m - 1	60m - 1	70m - 1	80m - 1	90m - 1	100m - 1	110m - 1	120m - 1	130m - 1	140m - 1	150m - 1	160m - 1	Average Count
Type																		
Charcoal												2						0.12
Pottery Ink Well												0.5						0.03
General Glazed Pottery		1			8	2		4	1	1			1	9				0.12
Fine glazed pottery	6	2	1	8		5	4			1	7	18	5		3		4	2.00
Coarse glazed pottery	3	1		3			4				3	5			1			1.18
Unglazed pottery	2		1		8		2	4	1	15	1			2		2		2.24
Unglazed pottery - fine*		12	1								1					4		1.06
Oyster shell		2		23	7	1				2		2	1					2.24
Cockle shell				1						3								0.24
Shell (unspecific)	5			1		1	3		1					2	2			0.88
Slate					3							1				1		0.29
Glazed tile			1	1						11		2						0.88
Coarse tile	22	10	5		16	8	25		8		23	12	15	8	8	10	3	10.18
Cement				32							1							1.94
Brick	11			14			7			1		17					2	3.06
Iron object		2		12								1					1	0.94
Flint - worked									1	8	2							0.65
Glass - bottle			2			1					2		1	1				0.41
Glass - window											3							0.18
Glass (unspecific)	3	2			2					3		4						0.82
Clay pipe	1			5														0.35
Wood																		0.00
Coal	1																	0.06
Total Count	**54**	**29**	**10**	**92**	**36**	**18**	**45**	**4**	**11**	**44**	**36**	**64.5**	**17**	**13**	**11**	**17**	**6**	**507.5**

Total count of all material

Prepared by Emma Jackson (University of Kent) May 2010

Count of Material from Second Stint

	0m - 2	10m – 2	20m - 2	30m - 2	40m - 2	50m - 2	60m - 2	70m - 2	80m - 2	90m - 2	100m - 2	110m - 2	120m - 2	130m - 2	140m - 2	150m - 2	160m - 2	Average Count
Type																		
Charcoal																		0.00
Pottery Ink Well																		0.00
General Glazed Pottery					2	1		2		34	1			1				2.29
Fine glazed pottery	2			1														0.12
Coarse glazed pottery	1	1		1		1												0.24
Unglazed pottery		1			7		2	3								1		0.82
Unglazed pottery - fine																		0.00
Oyster shell						1			1			2						0.24
Cockle shell																		0.00
Shell (unspecific)	2			1		1	1											0.29
Slate									1				1					0.12
Glazed tile													1					0.06
Coarse tile	14	3	5	65	31	9	12				11	30	6	5	7		5	11.94
Cement									4									0.24
Brick							9					11	4	7	8		2	2.41
Iron object						1						1					1	0.18
Flint - worked					3*					3*	2*					2*		0.00
Glass - bottle									1								1	0.12
Glass - window																		0.00
Glass (unspecific)	3						1	1	2		1						1	0.53
Clay pipe												2						0.12
Wood												1						0.06
Coal																		0.00
Total Counts	**22**	**5**	**5**	**67**	**40**	**14**	**25**	**6**	**9**	**34**	**12**	**47**	**12**	**12**	**15**	**1**	**10**	**336**

* these are possibly worked but unlikely

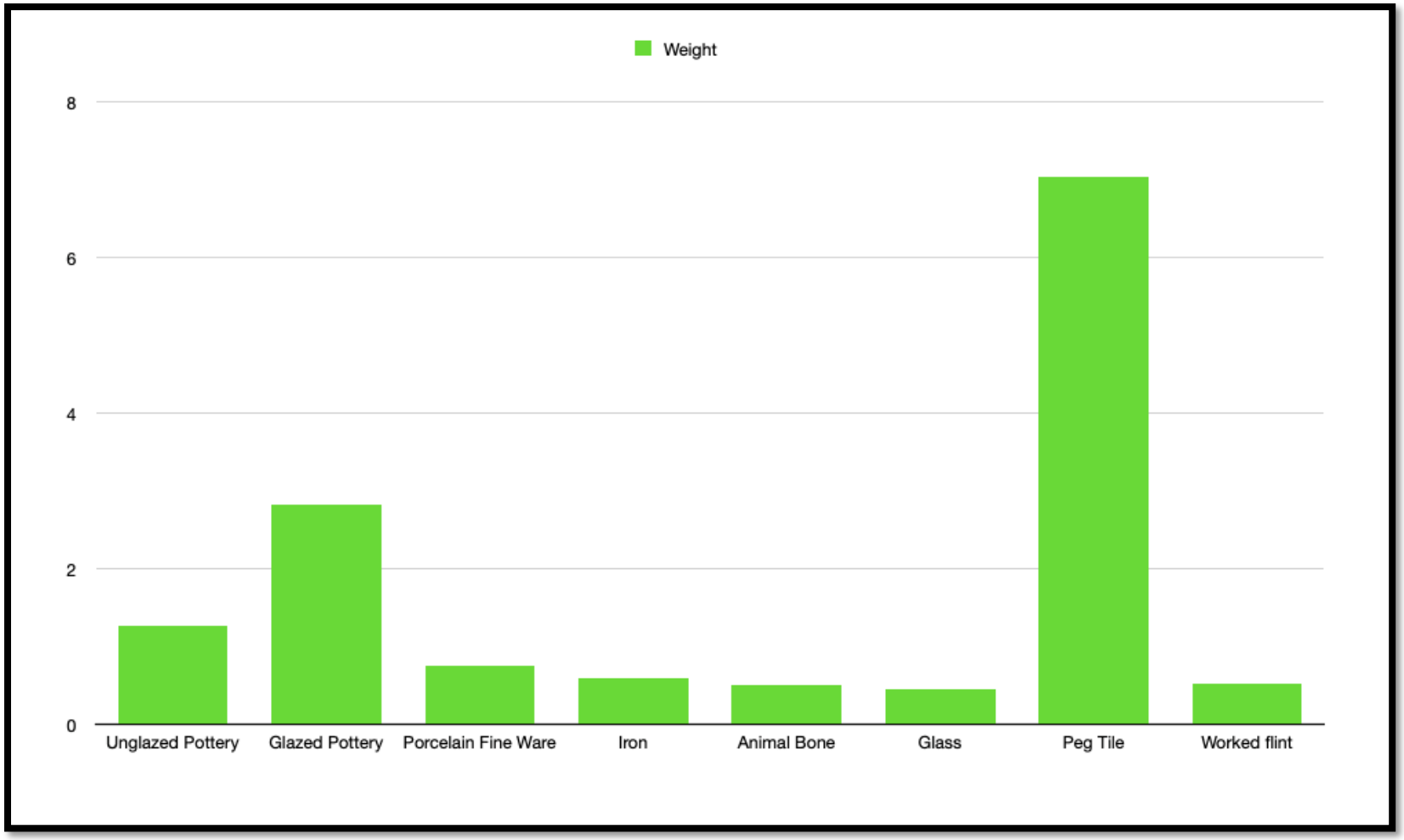
Total count of all material

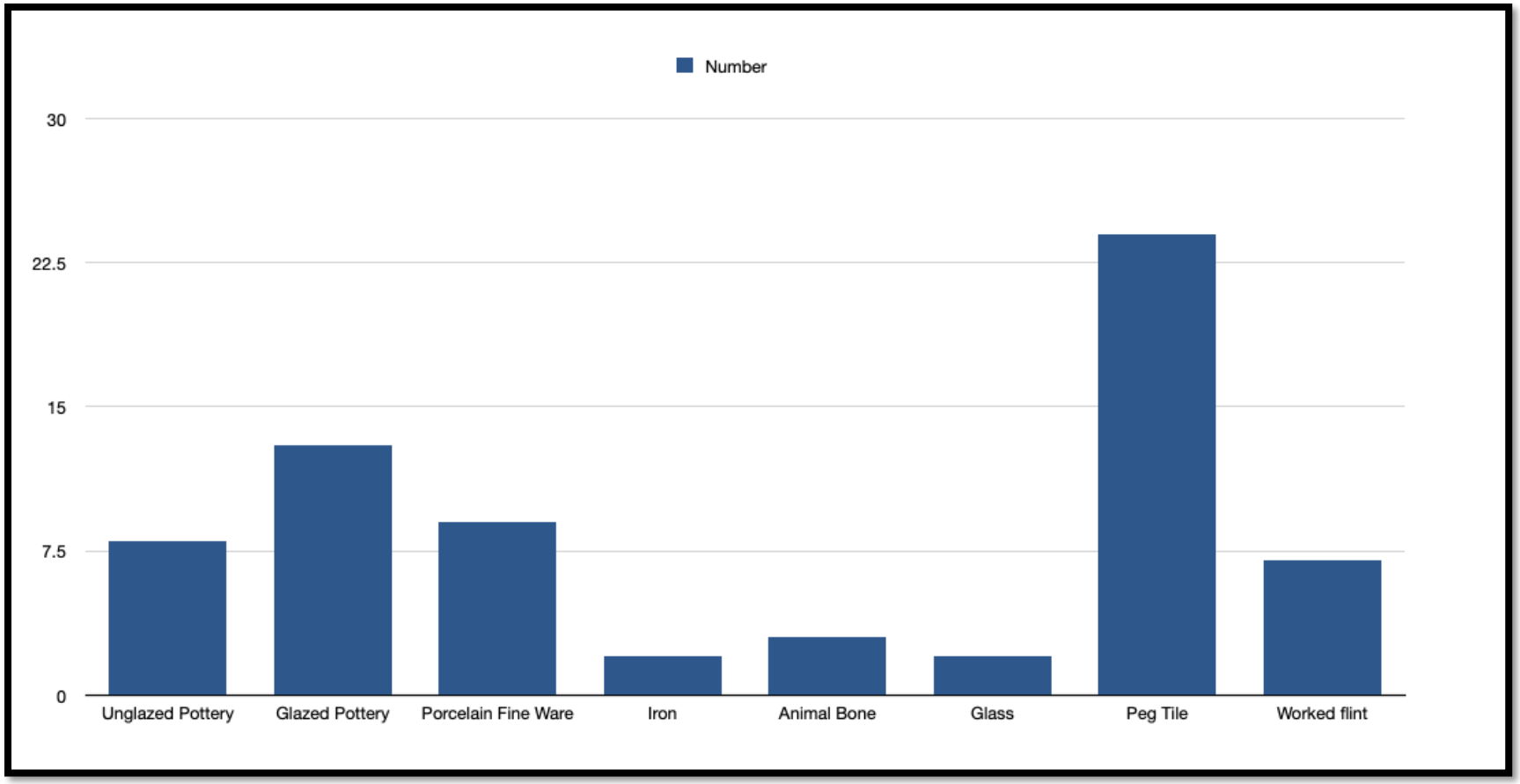
Prepared by Emma Jackson (University of Kent) May 2010

My own data collected from Swarling field, sporadically found for sampling. Weight in grams.

Table 1

Material	Number	Weight				
Unglazed Pottery	8	1.27				
Glazed Pottery	13	2.83				
Porcelain Fine Ware	9	0.76				
Iron	2	0.59				
Animal Bone	3	0.50				
Glass	2	0.45				
Peg Tile	24	7.04				
Worked flint	7	0.52				


Weight
8
6
4
2
0
Unglazed Pottery
Glazed Pottery
Porcelain Fine Ware
Iron
Animal Bone
Glass
Peg Tile
Worked flint


Number
30
22.5
15
7.5
0
Unglazed Pottery
Glazed Pottery
Porcelain Fine Ware
Iron
Animal Bone
Glass
Peg Tile
Worked flint

CODE OF CONDUCT FOR WOODLAND SURVEY

We wish to undertake an archaeological survey of your woodland.

Archaeological remains survive very well in woodland as they haven't been disturbed.

The evidence is often visible on the surface. These remains, which can include those of woodland management or crafts, small scale industry, military or settlement sites, have usually not been recorded.

Surveying your wood will give a better understanding of how it was used in the past and how that use fits into the surrounding landscape.

Information recorded in this survey may be included in the county Historic Environment Record.

To ensure that you know what is happening, we:

Will provide you with at least one person's contact details
Will notify you of the date/s and duration of the survey/s
Will notify you of the names of those taking part in the survey/s

To ensure that no damage will occur to the wood, we:

Will not dig into, or disturb, the ground
Will not cut or deliberately break branches
Will not pick fungi or flora
Will not damage fences or walls
Will close all gates

To ensure that no harm befalls any surveyor, we:

Will complete a Risk Assessment for woodland survey; identifying, assessing and managing the risks
Will ask all participants to read and sign the Risk Assessment
Will keep a record of any mishap or accident that occurs and note name, time and nature of injury

Signed…… **Date……**

University of Kent

Department of Classical and Archaeological Studies

Risk Assessment for:

Iffin Wood 2021 Practical Walkthrough Survey for CL636 Archaeological Project

Risk Assessment Procedure:

Identify the hazards that may be encountered during this fieldwork – please remember to consider whether your activities might put members of the public and other people at risk.

For each hazard, estimate:

Likelihood	High / Medium / Low / Negligible
Consequence	Severe / Medium / Low / Negligible

Then use the matrix to identify the appropriate level of risk:

	Likelihood of Hazard			
Consequence of Hazard		**High**	**Medium**	**Low**
	10.1 Severe	High	High	Medium
	Medium	High	Medium	Medium/Low
	Low	Medium/Low	Low	Low

Enter the appropriate level of risk against each hazard listed.

Risks considered to be “low” or “effectively Zero” probably need no further documentation, although it is important that these risks are drawn to the attention of anyone working with you.

Where higher levels of risk have been identified you need to record the control measures that are (or will be) in place in order to reduce the risk to an acceptable level. These might include further training in the use of equipment, wearing protective clothing etc.

Principal Author of this Assessment:

Tom Marshall, third-year Student of the University of Kent; Student Member of the Chartered Institute for Archaeologists and Professional Fieldworker in commercial archaeology.

Event:

An Archaeological walkthrough survey of a woodland aimed at collecting primary data and learning new skills which is directly related to the module CL636. This is a practical task for this author's (a student in my third-year at the University of Kent) selected area of research.

Location:

The location is a **Woodland**, owned by Howlets Zoo, permission has been granted under conditions mentioned in Special Remarks.

Iffin Wood, Coordinates: **51°14'28.79"N 1° 3'33.84"E**

Date of Event:

13th March 2021.

Activities:

Using GPS to plot coordinates of archaeological features. Using tape measures to record features. Photography on phone.

Special remarks:

Field trip for CL636 with course convenor, Dr. Steve Willis and student Tom Marshall whose area of research is directly related to this survey.

The owners of the woodland have asked the following and this has respectfully been agreed too:

No digging is to take place, nor is anything to be removed from the site.

Iffin Wood is a working woodland Monday – Friday, so entry will take place on the weekend to avoid this risk.

The setting and activities to be undertaken are broadly Low Risk. Steps will be taken in the normal way to raise awareness of hazards and potential hazards, to minimize the exposure to the risk and to minimize the impact of any hazards. Risk Assessment is an on-going process of awareness, observation, communication, and action and all participants in the fieldwork will have a responsibility to raise awareness of any risks not included in this document and which may arise in the course of the fieldwork.

Risk Assessment: Significant Hazards and Control Measures adopted.

NB Where the risk is any more than low, we document the measures that have been taken to control it. Your first choice as organiser or participant should be to avoid the hazard if at all possible: if you cannot do this, you need to take steps to reduce the risk to an acceptable level.

Fieldwork Supervisor/s:

Tom Marshall and Steve Willis.

Introduction and background:

We will be responsible for Health & Safety 'on site' during the activity.

The fieldwork:

Standard woodland survey conducted with the University of Kent's survey equipment following guidelines from the *Historic Environment Awareness Project*.

Programme of work:

The survey will comprise of one day's work.

Personnel:

Student Tom Marshall and Lecturer/ course convenor of the module CL636, Dr. Steve Willis. Both familiar with the local surroundings having done previous survey work in adjacent fields.

Health Clearance:

Not applicable for this local and non-strenuous activity.

Participants are obliged to read this risk assessment and consider and reflect upon it and the health and safety and risk assessment briefing prior to any active participation.

Travel:

Both participants will independently travel to site. Tom Marshall or Steve Willis will transport all equipment to and from the site in their own cars. The site is in a rural setting with arranged parking at the nearby farm.

Equipment:

GNS, survey tapes, plastic pegs to hold tapes to the ground.

Location description:

Iffin Wood, Coordinates: 51°14'28.79"N 1° 3'33.84"E

Services are accessible locally, as are medical resources (A&E at Canterbury and Ashford). There is telephone network coverage at this location, however, entry into the woodland will reduce this. The woodland is surrounded by adjacent fields at the North, East, and South side, so by walking to the edge of the woods will improve this signal.

Communication of Risks:

All hazards and risks specific to this activity and identified in this risk assessment will be brought to the attention of participants by the start of the work, being issued to them as part of the safety documentation they are obliged to read.

Archaeological fieldwork in its nature is dependent upon developing conditions and circumstances. Whilst experience is valuable and advanced planning takes place, the contingent nature of fieldwork means that occasionally adaptation to new circumstances is required. These will be considered for risk as a matter of course.

Hazard (& likelihood of realisation)		**Control Measures**

Minor injuries - Such as bruising, blisters, minor sprains, strains, minor cuts to hands, forearms, elbows, resulting from trips, slips, falls or brushes with vegetation or bites, impacts, and stings from insects/vegetation (assuming no extreme adverse reaction, in which case will need rapid response; see below). - These are possible and may be a consequence of the potential areas of uneven ground and the presence of flints in the soil, loose branches on the ground and wet surfaces, etc. - Cuts and scratches, eye damage, due to projecting twigs and vegetation stems. - Likelihood Low - Consequence Low (excepting eye damage) - Risk level Low		• The ground should be dry. Wet conditions lead to slipping risks on the mud and grass so firm supportive footwear is required. There is a high possibility of animal burrows or holes created from tree removal, so avoid steep slopes and choose routes carefully. • During wet weather all personnel will evaluate whether the area is safe to access and for operation. • A First Aid Kit will be carried by (Tom Marshall emergency first aid trained). • All participants will be informed of the necessity to report all accidents and injuries, regardless of how trivial they may be perceived to be and an Accident Book will be completed in full. All accidents will be reported to the Universities on-line E-Safety accident recording system throughout the entire project. • Projecting twigs, branch and vegetation can present a risk to eyes and the team need to be aware of such risks when working by trees. • Avoid handling any plant known to cause irritation. Do not pick fungi. Any participant known to react to pollen should carry their own antihistamine. • Avoid piles of stacked timbers in case they are unstable.
Major injuries - resulting from falling trees or masonry, slips and falls, etc. - Likelihood Low - Consequence Severe - Risk level Low		• All personnel will be made aware of potential hazards that may be exacerbated by weather conditions such as falling trees and blown debris. In the event of unsuitable weather e.g. heavy rain or wind the field activity will be postponed. • Avoid standing on any depressions as it may collapse (old saw pits, quarrying, wells, dene holes). Vigilance is required, previous survey work performed by professional archaeology units have not identified any such features. • Private woodlands can sometimes allow the use of shotguns for pest control. The owners and surrounding farmers will be

		informed on the date and time of our arrival to avoid this unlikely outcome.
Danger from livestock; horses - Likelihood Low - Consequence Medium – severe - Risk level Low		• Avoid contact with dogs. • Farm animals are unlikely in woodland but avoid if seen or crossing a field.
Snake or rodent bite; wasp, fly, mosquito or bee sting. - Likelihood Low - Consequence medium-severe if an adder bite - Risk level Low		• Bites should be reported and a rapid response is essential. • Participants should mention about potential reactions to stings in advance and care will be taken with food and especially drinks. • Snakes (grass and adder) can sometimes bite in defence, secrete blood and spray fluid with bad odour and adders can give a bite that is dangerous to humans, if they are encountered, participants should immediately retreat from the area and inform the project lead (Tom Marshall). These snakes are not aggressive unless they react to a threat. A bite will require urgent medical attention. • Tics may be present in grasses and trees, but unlikely given animals will rarely be present in the area or at this time of year. Care needs to be taken with their removal if they have bitten into you (usually on the leg).
Chemical and/or biological contamination of the site area - Likelihood Low - Consequence Low - Risk level Low		• No such materials are expected to be encountered and the team will be vigilant. • All participants are instructed to wash their hands etc. in clean water with soap or other cleansing agent on leaving the site area and at any food breaks.
Recurrence of previous or existing medical condition leading to illness or death (e.g. asthma attack, epileptic seizure etc.) OR rapid		• All personnel will be aware of a sudden event / development possibility.

onset condition (e.g. fainting, anaphylaxis, stroke, heart attack, etc.) OR bite from potentially venomous snake; tetanus. - Likelihood Low - Consequence Low - Risk level Low		• All personnel should be fit to undertake this work and advisably have undertaken fieldwork or exercise in the last few months/recent past. Completion of the University's Full Health Travel questionnaire (i.e. fitness to undertake the activity evaluation form) was not considered necessary (see above) for this activity. • Participants will advise of any health or dietary problems. • Updated anti-tetanus vaccinations are a requirement of participating in any field project, and a reminder of this will have been given to all participants. • All participants are encouraged to notify the Project Supervisor of any problems or circumstances which may affect their ability to work on site. The Project Planner will be informed of people requiring forms of medication. • The project leader (Tom Marshall) will have a mobile phone available for summoning an ambulance (or other emergency service). • In the event of a person or persons requiring medical treatment beyond first aid, the most senior member of personnel on site will arrange for an ambulance to be summoned immediately and will ensure that the individual(s) are accompanied to the medical facility which is deemed appropriate by the ambulance personnel/paramedic who attends the scene**.** It is most important that all personnel know how to direct an ambulance to the site. Awareness of the geographic location is necessary. • All participants are required to bring adequate supplies of their own medication.
Road Traffic Accidents or other vehicle related incident. - Likelihood Low - Consequence Medium/Low		• All vehicles used must comply with the safety standards as advised by the government. Seatbelts will be worn at all times.

- Risk level Medium/Low		
Weather-related hazards - heavy rain, high winds, low/high temperatures, sun - Likelihood Low - Consequence Low - Risk level Low		• Suitable clothing and preparations are required appropriate for the time of year the activity is taking place. • All participants to maintain fluid levels by drinking water regularly throughout the day. • Suitable clothing for adverse cold and wet weather (waterproofs) should be brought to the activity and be to hand. • No alcohol is to be consumed during lunch break or at other times during the working day.

Weather-related hazards such as Lightning strikes - Likelihood Low - Consequence Medium-severe - Risk level Low -		• Forecasts do not predict possible lightening; participants will be evacuated at the first sign of such a storm.
Fire - resulting in injury or death through smoke inhalation, burns, collapse of buildings etc. - Likelihood Low - Consequence Low - Risk level Low		• There is minimal risk of fire during the activity.
Isolation of team members from the rest of the team leading to vulnerability. - Likelihood Low		• All team members are advised there is no 'sole' working and members should not stray from colleagues. If members of the team are moving or undertaking a task that leads them away from the team they should insure they have advised other members of

- Consequence Low - Risk level Low		the activity and the course should be via established paths. An attitude of alertness in such circumstances should be maintained.
Work specific - trip hazard, surveying - trip hazard, survey markers (tape, pegs) - Likelihood Low - Consequence Low (see 'Minor injuries' above for trip hazard) - Risk level Low		• All participants are encouraged to be vigilant at all times towards their surroundings. • The woodland is a working wood, but participants will not be entering during these working hours. • The work will require participants to move off any paths or trails laid out, so extra caution to where one is placing their feet is required during these moments. • High-vis jackets will be supplied by Tom Marshall as an extra precaution.

Covid-19 transmission prevention - Likelihood Low - Consequence medium/severe - Risk level Low		• Hand sanitizer will be provided upon arrival on-site. All equipment will be wiped down after use. Two-meter social distancing will be implemented at all times. • Participants must ideally wear gloves when holding equipment which is shared. • All participants will confirm they have had none of the following symptoms prior to arriving on-site: - a high temperature – this means you feel hot to touch on your chest or back (you do not need to measure your temperature) - a new, continuous cough – this means coughing a lot for more than an hour, or 3 or more coughing episodes in 24 hours (if you usually have a cough, it may be worse than usual) - a loss or change to your sense of smell or taste – this means you've noticed you cannot smell or taste anything, or things smell or taste different to normal. • Travel to the site must be taken in a covid safe manner, such as separate vehicles, walking or cycling.

I have completed this risk assessment to the best of my knowledge and I will ensure that all group members have understood the risks associated with the work and our means to minimize those risks.

Signed.....

Name **Tom Marshall**

Position Project Planner

Date: 28/02/2021

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