FIRST WORLD WAR PRACTICE TRENCHES IN PULLINGSHILL WOOD, MARLOW

AN INTERPRETATION AND EVALUATION

DANNY DAWSON

First World War practice trenches in Britain are a significant archaeological resource yet they have been largely disregarded. The entrenchment system at Pullingshill Wood in Buckinghamshire is an outstanding example of this form of military earthwork, but there has been no previous comprehensive assessment undertaken of this site. This analysis highlights the chief characteristics of this trench network from a landscape perspective, focussing on format, siting, visibility and activity considerations. It stresses that effective use of the terrain's natural contours, and other pre-existing features enhanced the value of Pullingshill Wood as a military practice site. In conclusion, it identifies other important heritage functions which this site has the potential capacity to fulfil, further highlighting its undeniable archaeological significance.

Origins

The S-shaped trenches used by the Boers during the South African War (1899–1902) were considered far superior to those of the British Army[1], and were the precursors to those employed at the start of World War 1. Lessons were learnt quickly in late 1914, however, as trench construction became a science of the effective utilisation of the landscape. Many early systems proved death-traps, owing partly to increased fire power, but also to poor siting and design. Fig. 1 shows some common faults.

Growing appreciation of the importance of trench tactics and design led to the decision to establish a tented encampment at Bovingdon Green;1,200 men of the 3rd Battalion Grenadier Guards and 700 of the 4th Battalion were sent there in June 1915[2]. The encampment was approximately one mile from Pullingshill Wood, where the soldiers were instructed to dig a trench system and to participate in related field exercises under the command of Colonel Corry.[3] Interestingly, Colonel Corry had been sent back to Britain somewhat in disgrace following his tactical errors at the Battle of Mons (1914)[4]. His move from the Front and his appointment to supervise construction of the trenches at Pullingshill was probably seen as a mark of official disfavour. Yet Corry's work at Pullingshill seems to have restored his reputation; he was reinstated to his former command and returned to France in September 1915[5]. Corry's experience of the Western Front facilitated the design of an effective system of trenches. The success of the Pullingshill system of trenches was evidenced by its subsequent use by various regiments including Welsh Guards, 'Bankers Battalion' (26th) of the Royal Fusiliers, Royal Army Medical Corps (RAMC), 3/5th London Field Ambulance, and Royal Engineers[6].

Form of the Trenches

After World War I, the military earthworks at Pullingshill Wood were largely forgotten and there seems to be no reference to them until 1999, when they were noted by Julia Carey of Buckinghamshire County Council. This is surprising because the dimensions of the system are substantial, approximately 100m × 349m (NGR SU 8215 8631, Fig. 2). The layout comprises of an east-facing frontline or 'fire' trench, behind which is a support trench, with communication trenches linking both to the rear/reserve line. Some modifications are also incorporated within this pattern, to provide closer approximation to 'real' trench warfare – including 'saps', strong points, machine gun nests, passing places etc (Fig. 2). The land-

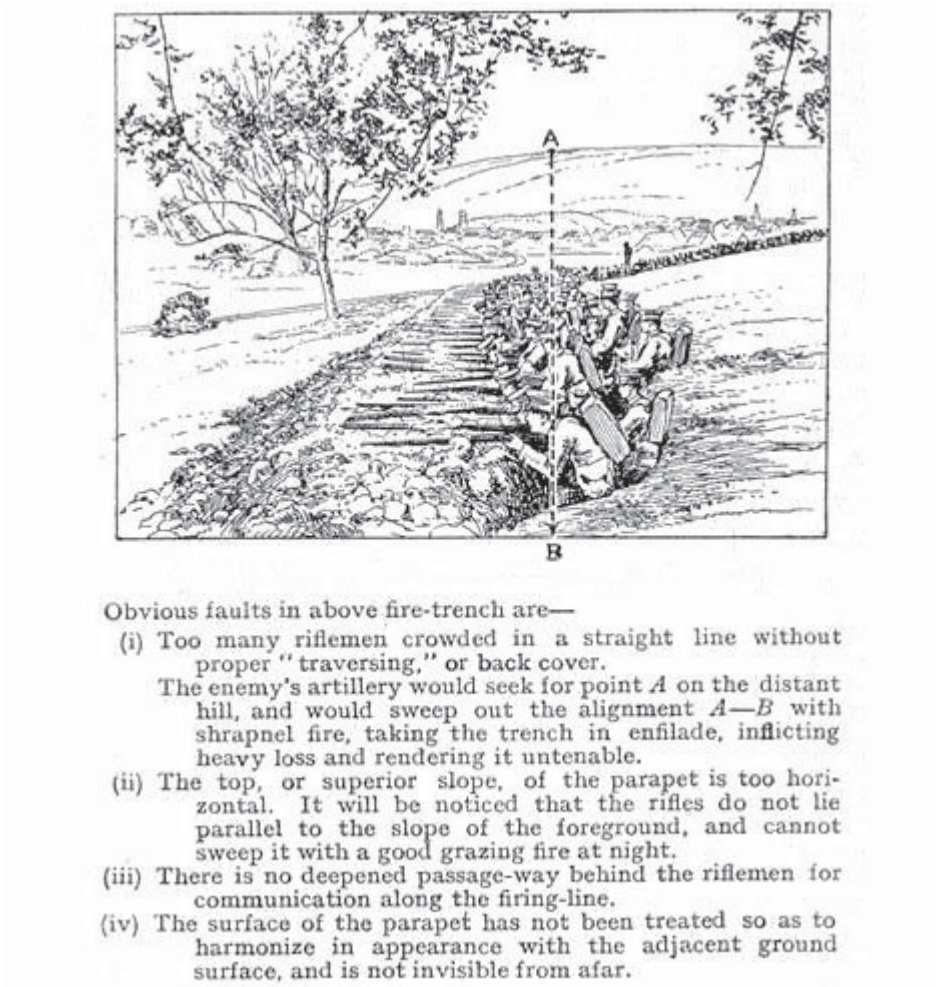

FIGURE 1
Source: EJ Solano, *Field Entrenchments, spadework for riflemen*. British General Staff Manual (London, 1914), 72. Reproduced courtesy of Lancashire Museums.

scape was certainly used effectively to maximise military advantage. In particular, the fire trench has a zig-zag pattern, which is augmented by 'traverses' which appear within it at regular intervals. A traverse is simply a buttress of earth between two adjacent sections of trench, It provides some shelter against shrapnel and prevents enfilade fire, and also makes the front wall more stable. At Pullingshill, the measurements (depth and width) of the front line varies considerably, a common characteristic throughout this system. Generally, the fire trench is c.1.2m (deep) × 1.8m (wide), but can increase to 1.7m × 1.8m, or reduce to a mere 0.6m × 1m. The original variations may have been less because of the effects of the leaf layer (15cms in some areas) and erosion of the walls in the course of the last 90 years. Even so, varying depths must have meant that soldiers would have had to be very careful to remain under cover while in the front line.

While perhaps not conforming to measurements suggested by some serving officers[7], the Pulling-

shill system was well-designed. The support trench, which runs close to and parallel to the fire trench, also reflects thoughtful excavation and exploitation of the land's natural contours. A zig-zag pattern is similarly prevalent, incorporating traverses for increased protection. The average dimensions for this supporting line are c.1.2m (deep) × 1.7m (wide), though size fluctuations are again apparent

Understandably, the communication trenches, which join the two forward trenches to the rear line, are considerably wider, but an attempt to achieve more depth is also evident. Commonly, they are 1.65m (deep) × 1.9m (wide). It was essential that communication trenches should be wider and deeper because large numbers of soldiers would be moving backwards and forwards through them. Under Western Front conditions they would have often been moving quickly allowing only a stooped gait at best. These deeper communication alleys would have facilitated a safe passage. Importantly, the zig-zag design of these linking trenches prevented them being seen from a distance, and their design meant that they could not be raked end to end by enemy fire[8].

Although Pullingshill was only a practice site, as far as possible it was necessary to replicate the physical features found in trenches on the battlefields of France and Belgium. Those who passed through Pullingshill would soon be in grave danger; their chances of survival might be increased if they found themselves fighting in a trench system similar to the one in which they had done their training. The Pullingshill system therefore included a rear (reserve) line. Of course, the presence of a back trench increased the element of realism with the trenches in France, although remaining landscape evidence at the practice site suggests that it was not much used. Intensive examination indicates that this line of entrenchment received least care and attention. A zig-zag format and traverses are again prominent for a large proportion of its length, with trenches averaging 1m (depth) × 1.5m (width). Interestingly, in the north-west section of this line, however, these dimensions reduce sharply to 15cm × 30cm respectively, before this trench dies out completely leaving a noticeable gap! Moreover, as indicated later, this is merely one of several indications, derived from terrain and contour examination, that the rear zone was comparatively little used.

Thus, though not used equally, the Pullingshill design includes the four distinct lines of entrenchment – fire, support, communication, and rear. Many other military features are also incorporated, adding further authenticity to the site. Repeated visits have allowed the identification of several substantial strong points. These were generally circular, averaging 2m (depth) × 3m (diameter). They were usually found at the end of passages leading off from the support or communication trenches. During battle, these large areas were used as internal control centres for the deployment of troops offensively/defensively, waiting areas for reinforcements before they joined the line, or simply as passing places. The same would have probably been true in the training exercises at Pullingshill – where astute landscaping meant that they were very difficult for the fieldwalkers to locate.

It was equally hard to find examples of 'island traverses'; in fact only one was discovered. Except on Salisbury Plain, this is a rare feature in training sites investigated in Britain or abroad. Discovered in the fire trench 28m northwards from point '0' (Fig. 2), the island is approximately 1m (height) × 1.2m (diameter), presenting another form of barrier to enfilade fire. There may have been other examples at Pullingshill, but, if so, they have become unrecognisable through time/erosion.

Interestingly, two different forms of landscape features in the Pullingshill system appear suited to serve as small machine gun nests. Circular strong points of c.1m (depth) × 1.6m (diameter) are often located next to the gaps in the front or support lines, and at both ends of the fire trench. They would have been ideal positions to command areas of potential vulnerability. Similarly, a more square-shaped outline of appropriate dimensions is apparent behind the support trench. This emplacement would probably have been designed to protect the interior of the trench, particularly by denying the enemy the possibility of retaining the forward trenches after an initial break-in.

A training system it may have been, but as the these landscape features suggest Pullingshill was designed to be realistic. Correspondingly, substantial parapets and parados – to improve protection from direct fire and shell fragments front and back – are visible on close examination.

It is certainly clear that natural lines and undulations were used to enhance the military effectiveness of the site. This point is exemplified by three

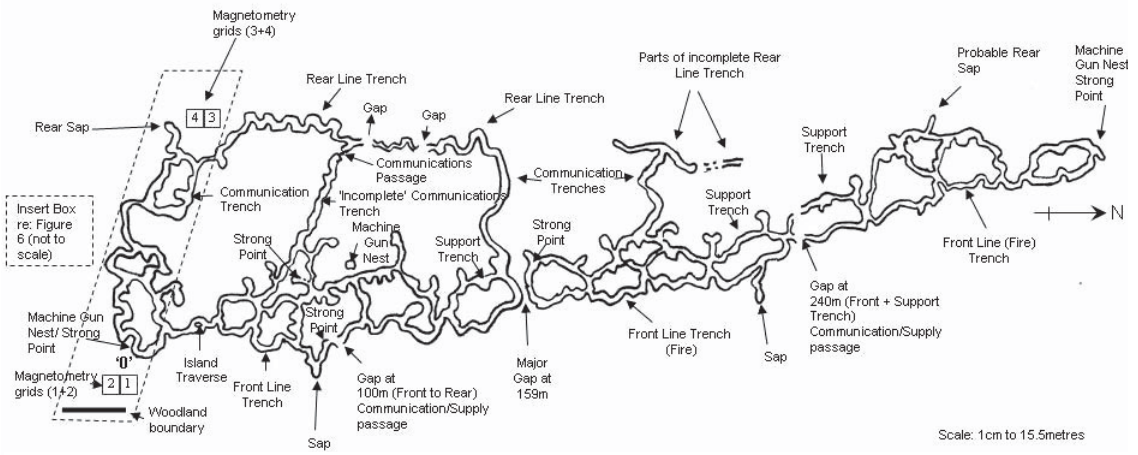

FIGURE 2 Pullingshill Wood First World War Trenches. Overall plan by Archaeology in Marlow; annotations by the author.

gaps/passages within the trench network. The passages are regular in format – all extend through the fire, support and rear trenches to the downslope beyond the west side (back) of the network. Undoubtedly, they were used by the officers for communication and provision purposes, that is to inform and supply soldiers on manoeuvres. By far the most substantial gap of the three, situated at approximately 159m from point '0' (Fig. 2), could also possibly have been used for vehicles, thus facilitating the delivery of heavy loads of military equipment, food or even troops into the heart of the system.

Significantly, the trench features near to all three of these passages, again suggest most activity took place in the forward trenches, as opposed to the rear area. The gap at c.100m from point '0' (Fig. 2), has an open 'sap' (length 11.9m) and a small strong point (suitable for a machine gun nest) nearby. A sap is a narrow trench dug towards the enemy lines for listening, observation, sniping purposes, etc – its offensive and defensive value is obvious. Similarly, close to the gap at c.240m is a pronounced sap (length 13.8m), and next to the larger passage c.159m a strong point/gun emplacement lies to the right in the support trench. In contrast, there are no similar features near any of these gaps towards the rear of the network.

It is important to explain the methodology used to produce this summary of the format of the Pullingshill trenches. A cascade approach has been adopted where possible, allowing the use of a combination of different techniques in order to facilitate a comprehensive and accurate examination of this site. For example, measuring the basic dimensions (length, width) of the trench system, and distances to gaps, saps etc., was originally undertaken with a 30m tape, but figures were also verified by hand-held GPS (Global Positioning System). This marriage of traditional techniques and modern technology proved effective. The survey of the trenches and wider landscape incorporated many hours of fieldwalking, finally allowing the identification of the bumps and hollows of the ground. Additionally, two small sections of the system were topographically surveyed, one using a plane table (with alidade), the other by Total Station to provide further insights into features, layout, contours etc. Archaeology in Marlow (AIM) also kindly provided an extensive plan of the entrenchments using this latter method (Fig. 2).

The considerable dimensions of the trench network, incorporating a high level of military landscaping, suggests that it must have been the product of much labour and many man hours of work. While it must have been exhausting, soil and geological conditions at Pullingshill meant that it was easier than in other places. Soil composition is interesting; samples revealed contrasting types. A browny-red, gravelly clay soil proliferated in the

FIGURE 3 Pullingshill Wood 1913 (6" Map edition). Note (i) the approximate location of the Trenches, dug in 1915 shown with diagonal shading (ii) the ancient parish boundary between Medmenham and Marlow (wood bank). (iii) Bovingdon Green where troops were encamped.

forward zone and particularly in the fire trench. This seemed to recede after the support trench line, while a more brown clay loam increased towards the rear of the network. Additionally, all the trenches have numerous stone/pebble inclusions, especially the forward zone. The majority of the stones are very small (< 4cm length), with a minor percentage > 12cm. Technically, the first soil type is Sonning 1, while the latter is the Frilsham series[9].

It can not have been easy but it was still better than the task faced at Seaford Head, Sussex, where the troops had to dig the trench system in compact chalk, or Penally where soldiers found themselves on a cliff top in Pembrokeshire excavating much of the network out of rock[10]! In truth, the most serious landscape related problem which might have been faced at Pullingshill Wood was swiftly overcome; the site had already been effectively cleared of trees before the trenches were dug[11].

SITING OF THE TRENCHES

Obviously, tree clearance was an important factor when decisions about the siting of the trench system were made in 1915. The extensive felling at Pullingshill is seen on a map and an aerial photograph produced 30 years apart (Fig.s 3 and 4).

A walk over the site with Craig Harrison of the Forestry Commission, confirmed that the trees within the trench network and in front, extending to the woodland boundary 20–30m eastwards, post-dated construction of the trenches. The majority were oak, with some beach, birch, rowan, and a few sweet chestnut. Beyond the rear trenches, however, the trees were larger and more mature and became progressively denser after 25m distance. These definitely had not been felled in 1915 for military purposes. Two interesting points arise from the clearance programme: i) the wider issue of the effect on flora and fauna and, ii) (more pertinent here) another indication that activity/manoeuvres were focussed at the front of the trench network, rather than the rear.

Having overcome the potential complications of trees, the choice of location for this military system seems an astute and well-informed decision from a landscape perspective. The trenches are sited on a raised plateau, and take advantage of

the natural profile of the surrounding terrain. To the south, there is an immediate, continuous downslope over 80m long until the road is reached. The slope is irregular owing to the contours of the land. This factor, combined with the blending of the parapets and parados with the woodland vegetation, allows the south-side of the trenches to remain camouflaged from a distance greater than 20m. Even at 15m it is still difficult to make a positive identification. Unlike the network at Otterburn, Northumberland, which is conspicuous at long range, concealment was evidently considered at Pullingshill. Similarly, to the west, beyond the rear of the system, there is a steep incline which continues for at least 200m. Re-emphasising the use of the slope and inconspicuous design of the trenches, it is hard to see the network within 20m of the rear line, or even at 8m from a sap (the south-west corner).

When evaluating the siting of a trench system from a landscape perspective (i.e. the degree to which features and contours may be utilised for increased effectiveness) there are other considerations than the concealment aspect. Colonel Corry, when supervising the construction of this network and associated training exercises, seems to have appreciated this. The wood bank that separates Pullingshill Wood and the Common appears to

FIGURE 4 Pullingshill Wood 1945. On close observation the outlines of the First World War Trenches remain visible. Reproduced courtesy of the National Monuments Record (Ref: RAF/106G/UK/911 re:1072).

have been used both offensively and defensively. Originally the bank marked the ancient boundary between the parishes of Medmenham and Great Marlow [12]. In 1915, it ran continuously, and conveniently, 20–30m from the front of the fire trench. The large gap in the trench system at approx 159m (Fig. 2) mirrors a break in this woodland boundary. Access to the entrenchments was thus facilitated, permitting motorised transport of recruits from Bovingdon Green Camp, if required. Alternatively, the roads (probably substantial trackways at the time) which run in close parallel to both the east and south sides of the trenches, would have been more suitable for marching along, than a difficult cross-country route. Thus, the site was clearly well placed for communication and transportation purposes.

Water supply could have been problematic at Pullingshill; large quantities would have been needed for the soldiers. Yet here too Pullingshill had its advantages. The wettest part of the wood is close to the substantial break in the boundary as even in very hot dry weather there is still standing water here and the spot is not shaded. It could be that there is a natural spring or that the army made a bore-hole to bring water from underground.

The entrenchments at Pullingshill thus appear to be sensibly positioned for military purposes and successfully exploit the surrounding land's profile and characteristics. Yet the site requires further analysis, in respect of other factors – such as visibility and activity before a comprehensive evaluation can be made.

While the site may have been well-chosen, could it have been used even more effectively? One possibility is that the trenches could have simply been turned round, that is with the fire trench facing west. This would have meant that the trench would have overlooked a substantial slope and enemy troops would have had to 'slog' uphill with little cover. But the element of realism would have been reduced. There would have been no point in training soldiers to fight on a terrain more favourable than they were likely to encounter in France or Belgium. Most of the British sector was on flat land and, in any case, Corry's experience would have made him realise that it was usually the Germans who chose the fighting positions [13].

Visibility (to and from the trenches)

Realism would undoubtedly be achieved by employing the ancient woodland boundary as cover for 'enemy troops', as they looked down into the east-facing fire trench opposite. This is apparent simply by observation, but is confirmed by Geographic Information Systems (GIS) 'line of sight' analysis. To some extent, the degree of visibility depends on the distance between the woodland boundary and the fire trench, which fluctuates between 20–30m. Generally, however, quite a lot of detail within the front trench can be observed as the features run parallel; the viewshed from a point on the wood bank is wide, enabling a large section of the trench to be seen.

The troops defending the fire trench would have had to keep their heads down in training exercises, whilst being aware of the undulations of the front wall/parapet. Such skills would have been essential for survival (part of trench routine) in World War One. Visibility was not too much of a problem for soldiers in the fire trench. They had an unhampered view of c.20–30m across a flat 'no mans land', until their sight became restricted by the woodland boundary. Further evidence that this ancient landscape feature was skilfully employed during military exercises at Pullingshill, and to some extent influenced the decision on the direction the trenches should face, is provided throughout this paper. It is interesting that some sections of comparatively low front wall/parapet are actually found in the fire trench itself! It could be that parts of the front line had been poorly constructed or that these have since been affected by human abrasion/natural erosion. Yet it is also possible that sections of low parapet offering little protection were deliberate; soldiers in France would soon discover that not all trenches were well-built and hence needed to be prepared accordingly.

Having assessed the visibility implications of the front line (eastern side) of the system, the remaining flanks require examination. The concealment factor in both the south side and west side (rear line), in particular the design's capacity to blend with and exploit the land's contours, has previously been noted. Of course the prime consideration was to see but not to be seen. Visibility southwards from this network is generally at least 19–20m. Beyond this point, the terrain falls away steeply to

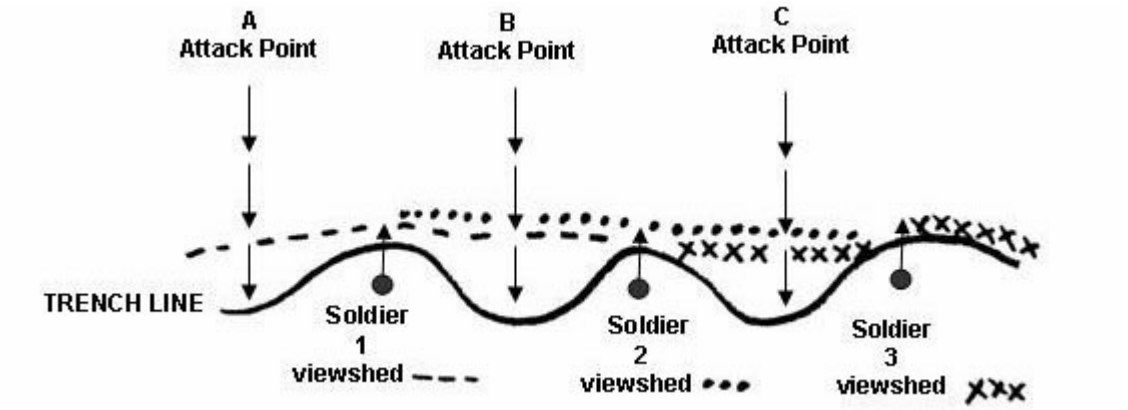

FIGURE 5

the road. There is a corresponding slope on the west side. From the rear trench, an average of 20m can again be seen. Consequently, in both instances, an enemy who has slogged up a steep incline, finds no adequate cover and becomes an easy prey in a defensive 'killing zone'. All visibility distances when observing from a trench have been calculated whilst crouching, focussing barely above the parapet which would have been the body position and view of a soldier defending his trench.

Additional analysis of the visibility perspective with regard to the north side of the trench system provides few further archaeological insights, as this arrear appears to have been largely neglected by the designers. It seems that its only role was to complete the perimeter of the network. Unlike the other flanks, there are no saps, or other features and its length dwindles to a mere 13m (compared to 100m at the southern side). The ground beyond this limit of the system is flat, and visibility exceeds 30m. Although there are few signs of activity, a soldier's viewshed would encompass the complete northern trench line, again suggesting ease of defensibility. Use of viewshed analysis on the east, west and south sides, provided another indication of how simple/difficult it would be to protect each flank of the network. The theory was that a point where two soldiers could not see each other would effectively be a 'blind spot' and open to enemy attack.

The equation is:

Number of single viewsheds required, which when combined cover a complete line of trench (N, E, S or W)

equals

Minimum number of soldiers needed to effectively defend that side

This equation also provides the number of soldiers required along a trench line to ensure no gaps in the protective cross-fire (Fig. 5). Employing this simple 'defensive visibility test' to the Pullingshill site, it appears that the following number of soldiers were required: South side 2; West side (rear) 6; and East side (front) 5.

GIS was also included to verify a number of previous observations. The results of this analysis confirmed earlier conclusions, suggesting sufficient unrestricted vision for military purposes from the east (front), south, and west (rear) entrenchment sides. Moreover, observation of the trenches is impaired from both South and West, although the east-facing forward line is visible from the woodland boundary.

There have been criticisms of GIS visibility studies, notably by Wheatley and Gillings[14]. At Pullingshill, however, accurate reconstruction of the landscape as it was only ninety years ago does not appear to pose that many difficulties. After all, it has been confirmed that the area was cleared,

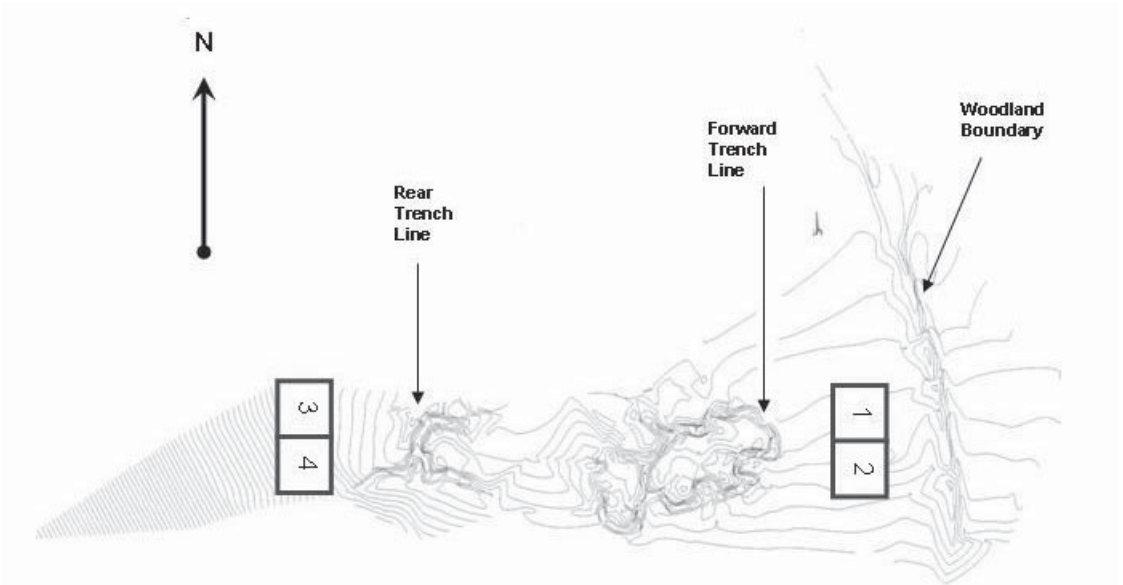

FIGURE 6 Position of Magnetometry grids between fire trench and woodland boundary (1+2) and positioning of grids beyond the rear line (3+4) (not to scale). Figure 2 shows this positioning in the overall Trench Plan.

removing the potentially problematical 'tree factor'. There are numerous advantages, as summarised by Lock and Harris, to be derived from the incorporation of GIS methodology into Landscape Archaeology analysis [15].

From a visibility perspective, it seems that the Pullingshill entrenchments were sited with considerable skill. While all flanks are defensible using the contours of the landscape, an injection of realism has apparently been incorporated into the positioning of the fire trench. Clearly, by utilising the site's surrounding features, the military exercises would have been more effective, and it may be possible to interpret these manoeuvres from the surviving archaeological evidence.

MILITARY MANOEUVRES

The woodbank, the ancient boundary marker noted earlier, runs parallel to the fire trench at a consistent height of approx 1m. This would enable 'enemy' troops to approach the site unseen during practice drills. Their covert actions would be aided by the natural downslope beyond the bank. With easy access from the road, large numbers of 'support' troops could also wait undetected in the extensive flint pits (average 4m depth × 15m diameter) near to this boundary. Moreover, there are natural depressions at frequent intervals along the top of the wood bank, ideal for gun rests, pointing towards the front line. Similarly, there are grooves in the fire trench parapet every 4–5m, which would have been suitable for firing positions. It is not known whether any live ammunition was used at Pullingshill, but 'live fire' was certainly used at other WWI practice entrenchments, as confirmed by the recent excavations at the Bustard site, Salisbury Plain[16]. It seems likely that other forms of offensive/defensive military exercises were undertaken, an interpretation further supported by the prominence of forward saps, and occasional reduced fire trench parapets, both appropriate as 'jumping off' points.

Such war games probably involving taking the woodland boundary by force or storming the fire trench, are likely to have left archaeological evidence beneath 'no mans land', so a small geophysical survey was undertaken to shed further

light on training activities and the use of landscape features. Magnetometry was the technique employed, using a Bartington Grad 601 fluxgate gradiometer. Two 10 x 10m grids (1 and 2) were felt sufficient (Fig. 6). The raw data produced was 'clipped' to help reduce the problem of something like a lump of iron etc, swamping all other responses. A suitable range of +5 to -5 was chosen. The results (Fig. 7) are ambiguous, but appear to reflect some buried evidence of activity, both on a straight alignment between the forward trench area and the woodland boundary, and on a diagonal path.

Artefactual evidence was also sought to provide additional insight into the spatial analysis of the entrenchment system. Were the forward trenches actually used more than the rear area, as landscape indicators consistently suggest? Would the location of material found associated with WWI troop activity, again corroborate this interpretation?

Authority for non-intrusive survey only was given by the Woodland Trust and by English Nature, thus excavation was not an available option. Accordingly, the Finds Liaison Officer for Buckinghamshire, Rosalind Tyrrell, was contacted to determine whether any relevant artefacts had been found by metal detector in the vicinity of the Pullingshill entrenchments. Unfortunately, the answer was negative. Consequently after discussing my research with John Flen of South Bucks Metal Detectorists, we spent several hours among the trenches. He confirmed that 'nighthawks' (rogue detectorists) had been operating in the Marlow area for years but didn't know if any finds had been made here. Although a cross section of the system was covered (parts of fire, support, communication and rear trenches), the results were inconclusive owing to an absence of strong signals, misleading evidence from modern waste (ring pulls, silver paper etc) and the possibility of earlier illicit operations.

Seeking clearer results, a comprehensive walkover of the entrenchments was re-employed. All that was found were a few pieces of old ceramic, bits of plates etc. Although no dates, labels, or insignia could be identified, they were of a similar type to pieces I had seen at WWI practice trenches elsewhere in Britain (e.g. Beacon Hill, Salisbury Plain). The fragments were not found in any particular area of the Pullingshill system, but most were in the fire trench/support trench zone suggesting that meals were taken on site while digging and participating in military exercises, which was undoubtedly famishing and thirsty work. It would not have made sense to return to Bovingdon Green Camp for refreshments owing to the distance, and

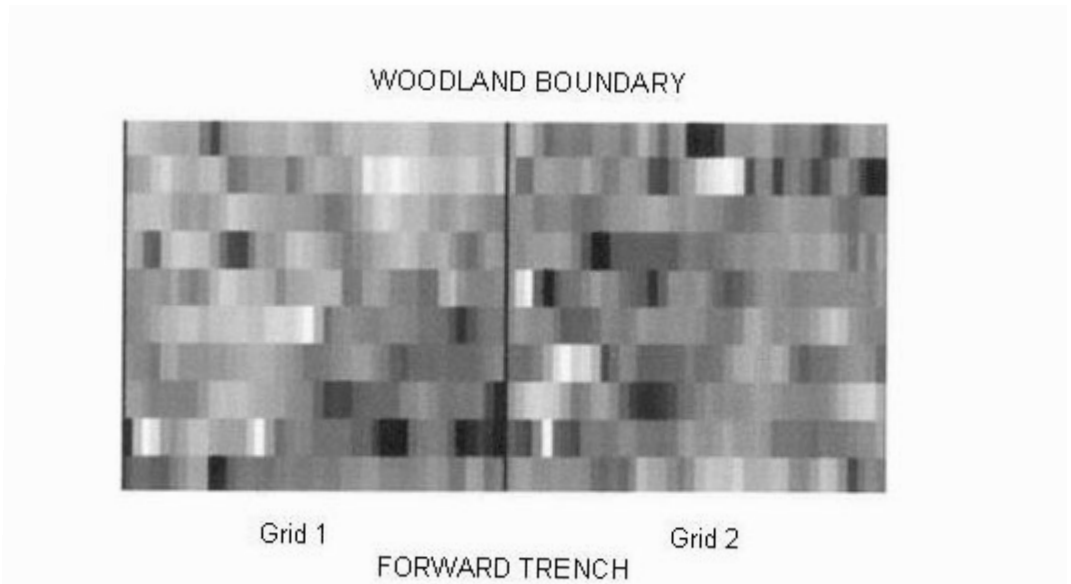

FIGURE 7 Magnetometry Results (1+2), Clipping +5 to –5

the consequent waste of time. Recruits returned to Bovingdon Camp each evening[17], making it less likely that personal items would be left or lost. There was no trace at all of any revetments within the trenches – wire, corrugated iron or building materials. This reflects the extent to which the fortification has been looted over the years. The commonest location of the few relevant material (pieces of ceramic) observed, however, again seems to indicate that the forward trenches, rather than the rear zone, were areas of greatest activity.

To test this proposition further – and the inference based on my earlier analysis, that the landscape at the front of the system was also the most heavily used, magnetometry was conducted beyond the rear line. Two 10 × 10m grids (3 and 4) were created (Fig. 6). The resulting data was again 'clipped' and a representation of each grid provided (Fig. 8). Even though the first row of the third grid had to be 'zeroed out' (absent readings owing to deep scrub), there appears to be little buried evidence of activity originating from the rear trench, or approaching it. The apparent lack of use of the 200m downslope at the back (west side) of this network seems hard to understand; after all, the slope could have provided a suitable training incline for recruits who needed to be hardened physically for conflict.

Evaluation and Conclusion

The main purpose of building many practice trench systems in England was to increase fitness levels, engender team spirit and get troops used to constructing fortifications. Crowborough Camp, Sussex, is one example [18]. Interestingly, trenches were dug in Hyde Park and at Blackpool for propaganda purposes, to allow the public to see the Front at a safe distance[19]. But the network at Pullingshill Wood is particularly significant from an archaeological perspective. The influence of the land's natural contours in relation to its siting and its astutely designed format must be emphasised. The incorporation of surrounding landscape features to provide realism and increase efficiency in trench routine and military exercises is equally significant. Moreover, even the 'neglect' of some areas of the system, provides additional evidence for interpretation, especially as to levels of activity in different parts of the trench network.

Having visited numerous Great War entrenchment systems, it is clear that the level of preservation at Pullingshill is only equalled at Beacon Hill (Salisbury Plain), Otterburn (Northumberland) and Sanctuary Wood (Belgium). At Beacon Hill and Otterburn the trenches are on Ministry of Defence land and this has undoubtedly facilitated survival by removing the threat from modern agricultural

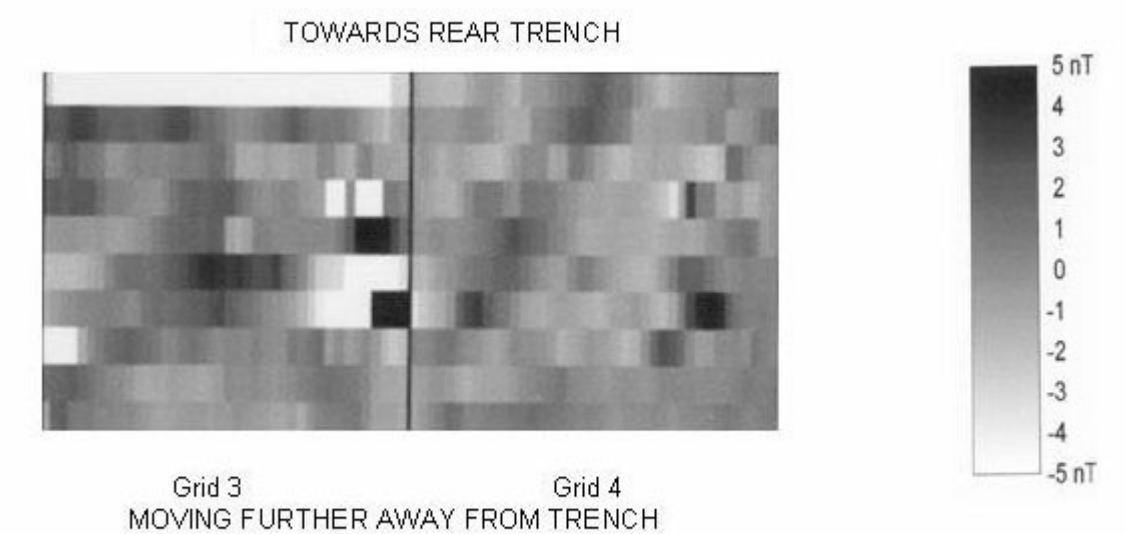

Figure 8 Magnetometry Results (3+4), Clipping +5 to –5

techniques. At Sanctuary Wood, the most visible section of entrenchment network is on private property (owned by Jacques Schier), and the incentive of continued daily revenue from visitors ensures its protection. Only at Pullingshill can the public enjoy the location and surrounding scenery with unlimited free access.

Apart from this site's 'physical' merits, ease of accessibility also enhances Pullingshill's archaeological importance. It is a 'monument' to an essentially Edwardian military perception of how a modern war would be fought. It certainly marked a significant improvement in fortification technique compared to that of the Boer war (Fig. 1). In short, it is a valuable representation of a strategic approach which had a huge influence on the whole course and character of WWI [20].

By 'humanising' these Buckinghamshire trenches, and realising the importance of their symbolism, we come to respect and appreciate those who built them and trained in them – especially those who were to make the ultimate sacrifice during the 1914–18 war. In its way, Pullingshill stands as a memorial[21], a place where 'ritual exchange' occurs. The dead having given everything; the living symbolically offer something in return[22]. A more complete understanding of Pullingshill leads to a fuller appreciation of its archaeological significance. It is an outstanding example of a WWI practice entrenchment landscape; in many ways a national exemplar. It will be interesting to discover whether, in the near future, English Heritage concurs in this evaluation.

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Notes

1. EAW Courtney, 'Boer Trenches at Paardeberg', *Royal Engineers Journal*, **30** (1900),92.
2. *South Bucks Free Press, Wycombe, Maidenhead and Marlow Journal* (7/5/1915), 7.
3. *South Bucks Free Press* (18/6/1915), 7.
4. Ponsonby, *The Grenadier Guards in the Great War of 1914 – 18*, Vol 1 (London, 1920), 21, 51.
5. Ponsonby, *Grenadier Guards*, 300.
6. *South Bucks Free Press* (9/1915 – 1/1916)
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