THE 2018-2022 INVESTIGATION OF THE 1461 BATTLE OF MORTIMER'S CROSS

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Introduction

In late 1460 the dynastic struggle, now known as the Wars of the Roses, took a dramatic new twist when on the 30th December the pretender to the throne Richard, duke of York, was killed in action at Wakefield. His son Edward, who received the news while in Gloucester raising forces in support of his father, inherited the claim to the throne. Following Wakefield the Lancastrians raised substantial forces in Yorkshire before marching south to capitalize on their victory.

In response the earl of Warwick, then in London, began rebuilding the rebel forces in the east, while Edward continued to recruit an army in the Welsh Marches and had soon raised 3000 troops. This was Edward's power base, for he was the earl of March and descended from the highly influential Mortimer family who for much of the medieval period had their principal estates here, with their major residence in the castle at Wigmore, Herefordshire. The Yorkist controlled area of the Marches included the fortified towns of Shrewsbury, Ludlow and Hereford, all of which his father had visited in 1460. This was soon after the battle of Northampton, a victory which had enabled the Yorkists to begin reclaiming the estates and castles, which had been confiscated and garrisoned by the Lancastrians after their victory at the battle of Ludford in 1459.

In early 1461 in south west Wales the Lancastrians were also raising a second army, commanded by Jasper Tudor who may have landed at Milford Haven from France with foreign troops on about 27th December. He established his headquarters at Tenby and Pembroke, where he was joined by the Earl of Wiltshire who landed with troops from his Irish estates. Just as his son Henry Tudor would do in 1485 in the Bosworth campaign, in late January Jasper marched out of Pembrokeshire, presumably aiming to unite with other Lancastrian forces in Midland England to finally destroy the Yorkists.

When Edward received news of this Lancastrian army marching from Wales he appears already to have been moving eastwards, presumably to join with the earl of Warwick, for the Short English Chronicle says Edward 'with all his men torned a yene bacwarde into Walis and mett with hem at Mortymers Crosse…'.[1] If so then this suggests that Edward was seeking to bring Jasper Tudor's army to battle not to evade it, while the same source says specifically that the Lancastrians were seeking to bring Edward to battle 'purposynge hem for to destroye hym'.

[1] *Short English Chronicle*, Gairdner, 1880, 58-78.

After his victory at Mortimer's Cross, Edward marched south to Hereford with his prisoners. Surprisingly he then delayed his march from Hereford and, without Edward's support, the earl of Warwick was defeated in the second battle of St Albans on the 17th February 1461. Only later did Edward finally join the earl at Chipping Norton, ultimately marshalling all their forces for a decisive victory on 29th March at Towton.

The problem

Fifteen battles were fought between 1455 and 1487 during the Wars of the Roses. Recent study has shown that many of the sites are poorly defined or wrongly placed, which can be seen as part of a wider problem with medieval battlefields.[2] There is just one site, Towton, where physical evidence has been recovered which matches closely the location where local tradition has always placed the action.[3] However Bosworth, the other battlefield subject to successful intensive fieldwork, is likely to be more typical in many respects. Here the site was revealed two miles from the battlefield location as recorded since the late 18th century, and it lay beyond the boundary of the Registered Historic Battlefield. Other sites where such problems over location have been defined include Barnet and Northampton but at others, including for example Edgcote, the scale of uncertainty is unclear.[4]

[2] Foard, 2018.
[3] Fiorato et al., 2000.
[4] Foard & Curry 2013; Foard & Morris 2012, 81-96; Foard & Partida, 2013; Foard and Raynor, 2012.

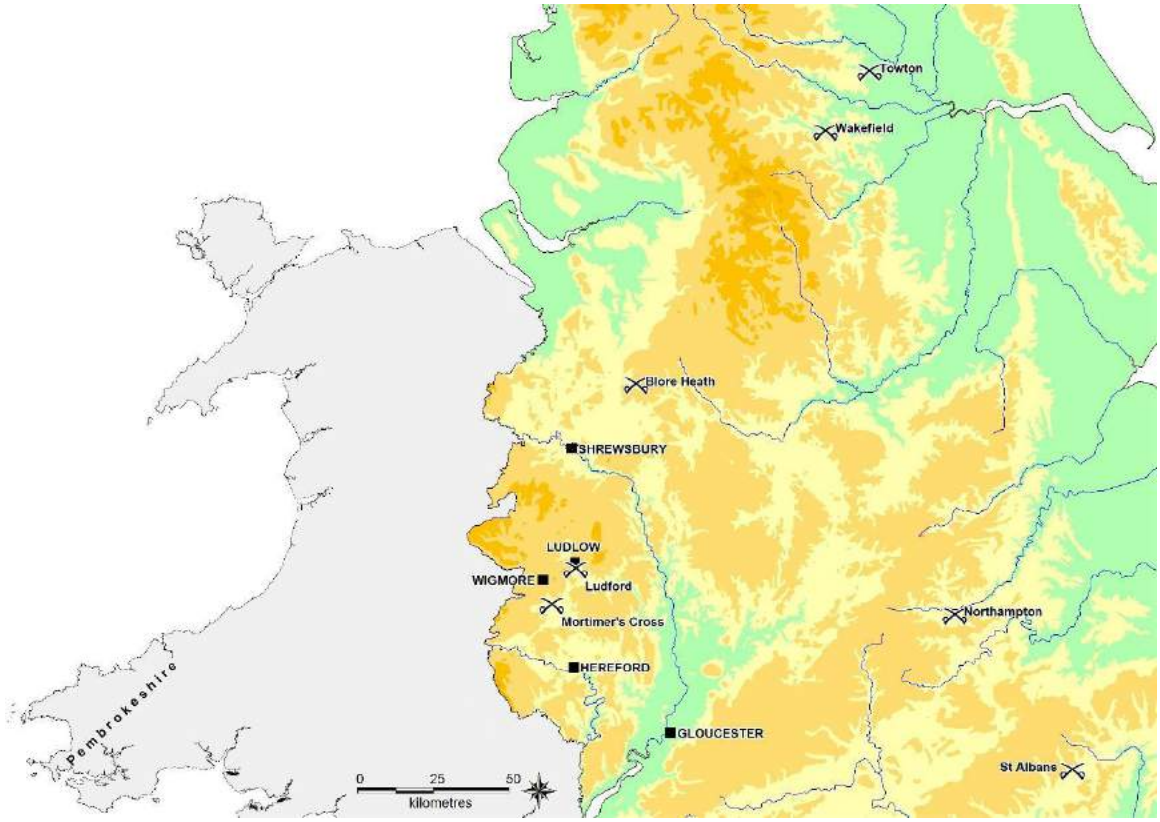

Figure 1: The battlefields of 1459-61

The initial problem is that very little topographical evidence is provided by the primary sources, even for a major battle like Bosworth. Thus the initial objective in any investigation of a Wars of the Roses battlefield is to identify or confirm the location and define the extent of the site. The methodology which proved effective in this at Bosworth is exacting due to the sparse physical evidence that appears to be present on sites other than Towton. It involves re-examination of all primary accounts, where appropriate in the original to ensure adequate translation or transcription, and a review of all names for the battle as they can contain topographical clues. Combining this evidence with an examination of local traditions and a review of any previous finds that may be battle-related enables a broad search area for the battlefield to be defined. The historic terrain of this search area is then reconstructed using documentary and physical evidence, seeking to place in the modern landscape the topographical details from the primary accounts. Alternatively, in the absence of topographical detail in those accounts, the reconstructed terrain can be used to apply the principles of Inherent Military Probability developed by Burne, but set in the context of the then contemporary military practice.[5] This seeks to identify distinctive terrain features that an army of the period is likely to have exploited, given its known or probable direction of approach to the battlefield. This analysis should enable one or more hypotheses to be developed as to where and how the

[5] Burne 1951; Foard 2012, 27

troops deployed and how the action may have played out within the landscape. Finally these hypotheses are tested through a survey for the physical evidence left by the battle.[6]

Mortimer's Cross, though probably smaller than other key battles of the Wars of the Roses, had a significant outcome for it set Edward earl of March on a path to the crown at the very time when his closest ally, Warwick the kingmaker, suffered a dramatic defeat. Yet military historians have devoted far less attention to this compared to most other battles of the Wars of the Roses. This lack of attention is in part because there is no documentary evidence about the action and thus little can be said about the battle. Even its exact location and scale remain uncertain and this is why the battlefield has not been included on the Register of Historic Battlefields. It is this problem that the present project was designed to address, exploiting the techniques of battlefield archaeology that proved so effective at Bosworth in establishing the location of the battle and adding to our understanding of the nature of the action. There are also wider research potentials if the archaeology of this lesser battle, fought two decades earlier than Bosworth, could be identified. It would enable comparison with Bosworth, possibly casting new light on the evolution of gunpowder weapons during the second half of the 15th century, a critical but poorly understood period in the development of these weapons and their application to the battlefield.

Past interpretations

According to Major Salt, when Alfred Burne compiled his two volume work *The Battlefields of England* he omitted Mortimer's Cross because he was unable to come to any conclusion as to how the battle was fought.[7] Burne's was an honest response to the dearth of primary documentary evidence. Unfortunately Salt then failed to follow Burne's excellent example, even if he admits it is 'with some trepidation that I venture to talk about the battle…when an expert has admitted his inability to do so.' It is a great shame that not just Salt but also several earlier and even more later authors equally failed to curb their enthusiasm. As they let their imaginations run wild a remarkable array of detail of the events of the battle appeared, often very carefully placed within the landscape surrounding Mortimer's Cross. While late 16th century poetic works, particularly Drayton's *Miserie of Queene Margarite*, inspired some of the detail given by the early authors these poems were composed so long after the battle that their account of events at Mortimer's Cross undoubtedly owe much to poetic license.

For these reasons all the elaborate accounts of the battle written in the last two centuries must ultimately be set to one side, so they can no longer distort the way in which we approach the battle. A new picture must be constructed from the primary sources, establishing what original documentary evidence actually exists and assessing how reliable it may be. Where evidence is lacking then any conjecture must be presented clearly as such and supported by well argued justification.

[6] Foard & Curry 2013, ch.5
[7] Salt, 1949; Burne, 1951, 98.

But first there is a valuable story to be drawn from these secondary work, revealing the way views have changed over time as to where and how the battle was fought. This analysis should allow us to identify the earliest records of local traditions about the battle, which are those most likely to have some validity, and provide information on past discoveries of artefacts or features that were believed to derive from the battle. Such analysis is important because, as recent investigation of both Bosworth and Barnet have shown, there is a tendency for the traditional sites to be forgotten, as original oral history fades, allowing medieval battlefields to migrate across the landscape to new locations over the last two centuries or more.

Figure 2: Looking south west from Mortimer's Cross down the Roman road towards Hereford. Branching left from it, beside Blue Mantle Cottages, is the 18th century turnpike that runs directly to Kingsland village in the middle distance, which is picked out by the concentration of trees. Further left is the present meandering course of the river Lugg. This view up to Kingsland and the Roman crossing of the curving tree lined course of the river Pinsey encompasses most of the project search area. (photo: Glenn Foard 22/07/2018).

The first map to refer to the battle of Mortimer's Cross is John Speed's *Herefordshire* of 1610, published in 1616 in his *Atlas of Britain*. He does not locate the battle on the map with his normal tent symbol, though this is no great loss because his locations are too arbitrary to be relevant for the accurate placing of the traditional site. As can be seen by comparing the locations given by Speed for the battles of Towton, Wakefield and Barnet with where the battles are now known or suspected to lie. What he does give is a brief

historical summary: ‘Upon the Virge of this Shire betwixt Ludlow and little Hereford, a great battail was fought by Jasper Earle of Pembrooke and James Butler Earle of Ormond and Wiltshire, against Edward Earl of March. In which 3800 men were slaine. The two Earles fled, and Owen Teuther taken and beheaded. This field was fought upon the daye of the Virgin Maries Purification in Anno 1461. Where in before the battell was strok, appeared visibly in the firmament three sunnes which after a while joined all together and became as before: for which cause (as some have thought) Edward afterwards gave the Sunne in his full brightness for his badge and cognizance.’[8] Speed also references the battle in his *Description of the Civill Warres of England* but this adds no further information.[9]

Figure 3: The depiction of Mortimer's Cross battle from John Speed's map of Herefordshire

[8] Nicholson, 1988.
[9] Speed, 1600.

The battlefield is omitted from later county maps, including those by Morden and by Bowen. Not until the publication of the first large scale map of Herefordshire, by Taylor in 1754, was a detailed location given for the battle. He shows crossed swords north west of the village beside the name 'Kingsland Field'. The latter appears not to be a naming of the battle but rather indicates the survival at that time of open fields on the west side of Kingsland, for elsewhere in the parish he names Kingsland East Field and Laughton Field, and similarly identifies many others elsewhere in the county. Not naming battles seems to be his normal practice because the battle of Tewkesbury is similarly indicated by crossed swords but is not named. While Taylor's map is the earliest specific identification of what may be the traditional location of the action, there is a much earlier written report which seems to define broadly where the action took place. This is in a history of Herefordshire prepared by Blount, which he never published but that survives as an incomplete manuscript dated 1675. There Blount records for Kingsland that 'In this Parish is a field called ye Great West field near Mortimers Crosse, was a famous battle fought upon Candlemas day 1467…wherein wth ye slaughter of 3800 men…'.[10] Whether his 'near Mortimers Cross' means he is placing the events close by that hamlet or simply commenting on how the Great West Field extended from the edge of the hamlet of West Town to the boundary with Aymestry and Shobdon at Mortimer's Cross is unclear.

[10] Botzum & Botzum, 1997, 97.

Figure 4: Extract from Taylor's map of Herefordshire 1754

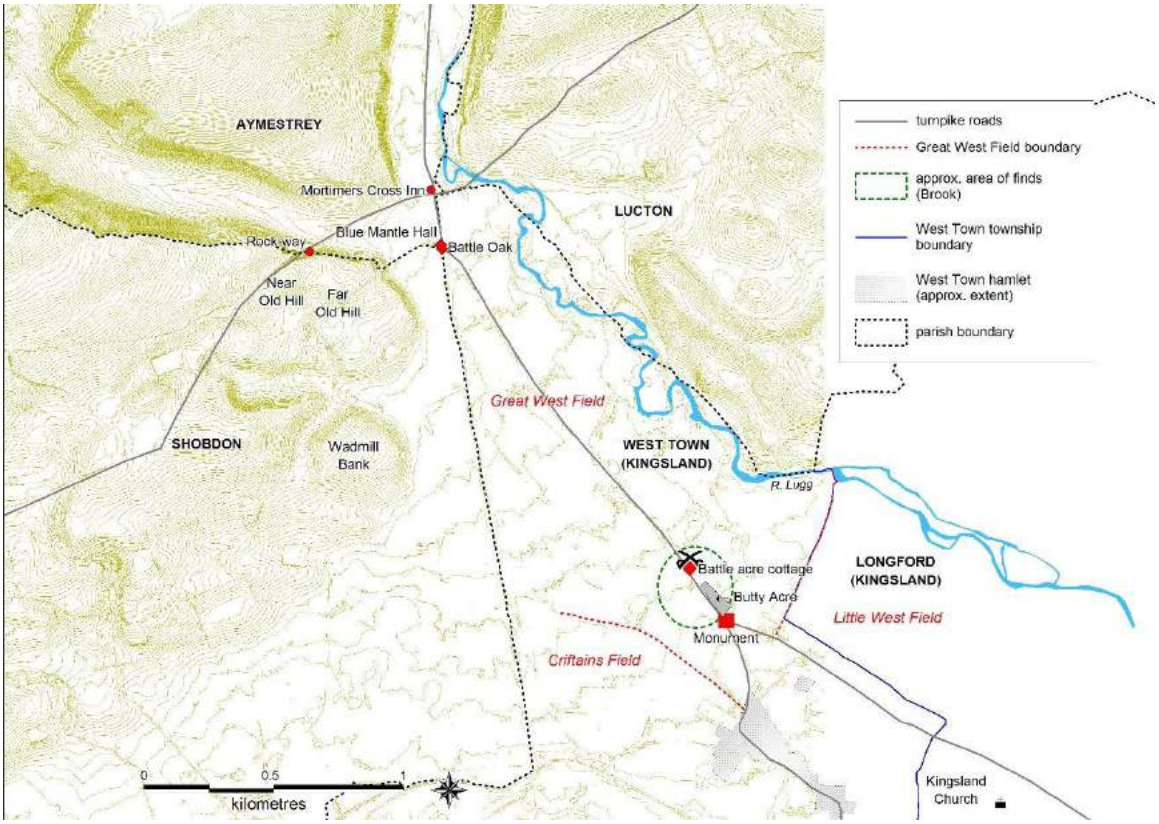

Figure 5: Location of topographical features linked to the battle of Mortimer's Cross according to local tradition, in the context of other elements of historical topography. Background data: river from OS 1st edition mapping 1885; 1m contours from Environment Agency Lidar data processed for the project by Andrew Freeman; extent of West Town from Tithe Map of Kingsland 1841.

Later commemoration or memorialization of medieval battles may also provide evidence as to where, in subsequent centuries, a battle was believed to have been fought. The pedestal monument to the Mortimer's Cross battle, erected by subscription in 1799, was placed at the road junction where the main street from Kingsland joined the new turnpike road from Leominster towards Shrewsbury.[11] This is approximately 350 meters south east of Taylor's battle symbol. It is unclear whether this should be taken as independent evidence supporting Taylor and representing a genuine folk memory of where the battle was fought. In 1799 they may simply have followed Taylor's map when placing the memorial, just moving it a short distance to exploit a highly visible location at a road junction. The main problem is that 18th and 19th century mapping and memorialization can simply reflect a later and incorrect local perception of there the action took place, as has been demonstrated in the case of Richard's Well at Bosworth and with the High Stone at Barnet.[12] However the earlier evidence from Blount, because then unpublished, is unlikely to have been seen by Taylor and thus together they do support the case for a

[11] Photo of the pedestal monument in its setting in 1896. Barker, 1896.
[12] Foard & Curry 2012, 4; Foard et al 2020.

genuine folk memory that the battle of Mortimer's Cross was fought in the Great West Field of Kingsland.

Figure 6: The pedestal monument, standing in front of what in the early 2000s was still the Monument Inn that had been called the Three Horseshoes on the 1904 OS six inch map.

Further support seems to be provided by Hodges, who gives Battle Acre Cottage as the name of an isolated house immediately south of Taylor's crossed swords. Unfortunately this is probably a spurious later distortion, for the Tithe map of c.1840 clearly names the plot immediately south east of this cottage as Butty Acre.[13] Moreover, if Battle Acre was a name current in the mid 19th century then one might have expected one of Brooke's local informants to have mentioned it when describing the discovery of supposed battle-related finds in this area.

[13] Hodges 2002, 50; Tithe map of Kingsland TNA IR 30/14/119.

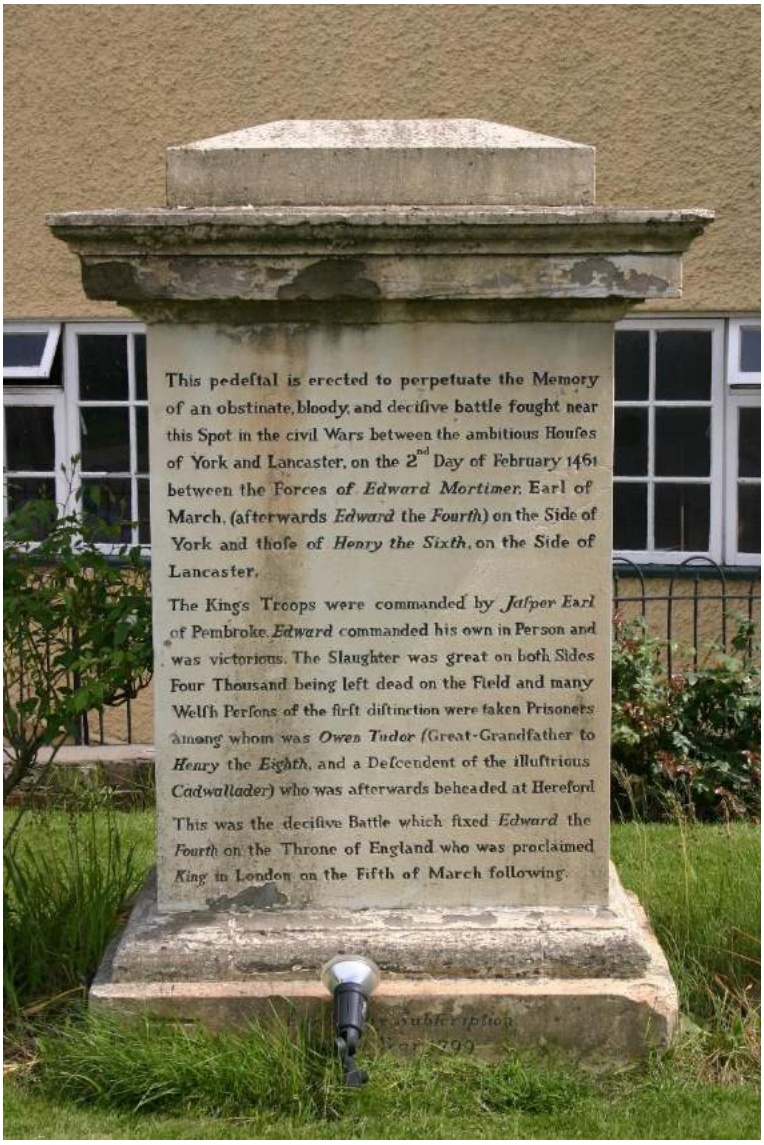

Figure 7: Pedestal monument of 1799 showing the inscription

In the light of the evidence presented to Brooke in the 1850s he describes the battle as having been fought on a site immediately north west of Kingsland, just north west of the pedestal monument. He then draws upon historical sources including Holinshed, Hall, Grafton, Baker, Leland, Ralph Brooke, Dugdale and Sandford to place the armies on this site. He suggests the Yorkists facing west with the Lancastrians facing east. This location chosen for the monument, mapped by Taylor and described by Brooke is almost two kilometers south east of Mortimer's Cross, but within 500m of the edge of the medieval hamlet of West Town.[14]

[14] Brooke 1857.

Figure 8: Barrett's 1895 view looking north west from the monument across the area where, according to Brooke, the locals had recovered artefacts they believed to be from the battle. This area is now unfortunately occupied by sports fields.

The first steps in the migration of the battlefield from this location, beside the monument, to the area immediately adjacent to Mortimer's Cross began in the late 18th century, long before Brooke was writing. It is Price, in 1795, who seems to start the process of reinterpretation. It is unclear whether any of what he writes about the battle is based on local tradition, other than what we have seen in the 1675 Blount manuscript, upon which Price drew. Of the rest some can be shown to derive from Drayton's 1627 poem, *Miserie of Queen Margarite* – though Drayton was writing long after the battle and does have the excuse of poetic licence – but the majority seems to come from Price's imagination.[15] Thus it is he who seemingly originates the spurious Lancastrian garrison in Leominster, and the story of Edward returning to Wigmore and fighting the battle in order to defend his estate there. However, all Price says in terms of the location of the battle is that it was fought on the plain 'in the great West field near Mortimers Cross in the Parish of Kingsland'. This is one of the few things he says of the battle that can be traced back to the Blount manuscript, as discussed above, but Price says little more than Blount as regards location.

Williams, in his *Leominster Guide* of 1808, elaborates Price's account of the battle. He has the spurious Welsh garrison at Leominster joined by Jasper Tudor's force and driving off Yorkist troops from Eyton and from Cursneh Hill near Leominster and preparing for an attack on Wigmore castle, which he says forced Edward to march back to protect his estate there, while the Lancastrian army camped overnight at Kingsland. As with Price, we cannot determine whether anything he says derives from local tradition. Even when Williams calls the battle ' "bloody Candlemass day" of local tradition', it is unclear whether this really was a traditional local name for the battle, for he provides no references for this or indeed most of the rest of his interpretation. But on the matter of

[15] Price, 1795, 28-35. As this book seems to have been the starting point in transforming the location and interpretation of the battle, a full transcript of the relevant section is given here in Appendix 1.

location of the action he says little more than Price: ‘they led out the king's army to the *Great West-field,* near Mortimer's-Cross’.[16]

It is Favel Edmunds, in a lecture given in 1851 that otherwise owes much to Williams, who firmly transfers the battlefield.[17] He criticizes earlier writers such as Hume and Rapin for their lack of detail of the battle and says Hall, Stowe and Speed give fuller information, though most of the detail Edmunds provides exists in none of these three works. Instead, Edmunds takes to their logical conclusion the events imagined by Price and elaborated by Williams. Like Williams, he has a Lancastrian garrison in control of Leominster and the royal army advancing to a camp at Kingsland with the intention of taking Wigmore castle. He has Edward marching towards Yorkshire then hearing of the threat and responding by marching back. But then he adds new detail, describing Edward deploying the Yorkist army ‘across the road to Wigmore, on the “fayre plain near Mortimer's Cross,”—since called the Great West Field’, with its left wing protected by the river Lugg (though in error he says the river Arrow). He provides no secure evidence for this firm placing of battle, but the new site gained important endorsement in 1885 with its inclusion on the Ordnance Survey first edition six-inch map. Then it was given greater certainty when Barrett in 1896 published a plan showing battle arrays immediately south of Mortimer’s Cross, with the Yorkists deployed facing south at the Battle Oak and Blue Mantle cottage, and the array extending from the river on the east almost to Mortimer’s Rock on the west. This is a picture largely copied by Hodges in the 1980s, with almost every other modern interpretation focused on this same location, immediately south of Mortimer’s Cross.

[16] Williams 1808, 72-84.

[17] Lecture to the Hereford Literary and Philosophical Society reprinted as Edmunds 1851. There is a three page typescript, written after 1984, presenting a critical assessment of the account dismissing most of it as fanciful elaboration with no basis in the primary sources. HARC PAM492.

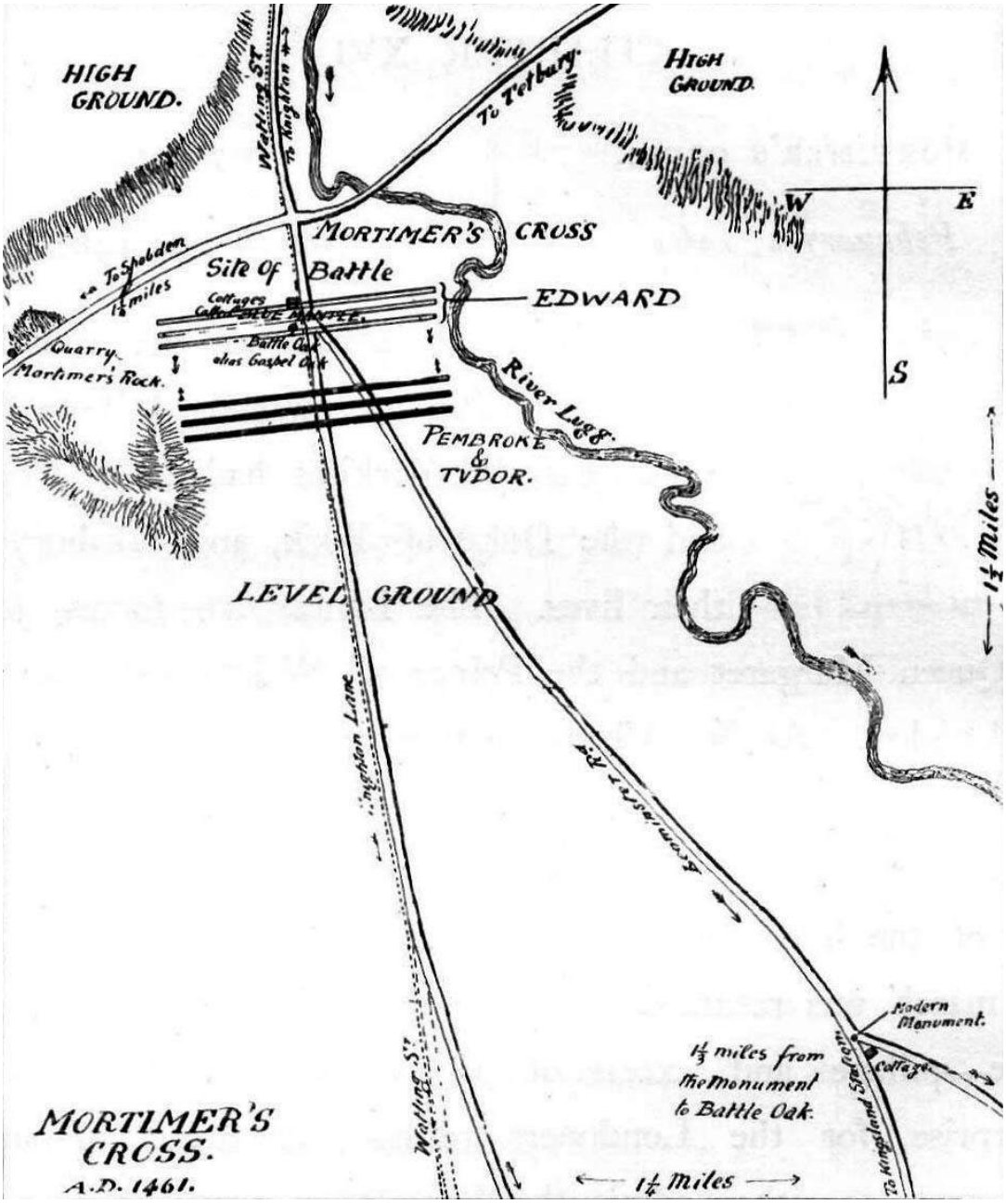

Figure 9: Battle deployments as depicted by Barrett in 1896

Figure 10: The Ordnance Survey first edition six-inch map of 1885 shows the supposed site of the battle, names the Battle Oak as the Gospel Oak, and marks Blue Mantle Cottages. It also shows an intriguing 'Stone' on the opposite side of the road to the Gospel Oak. This is not the symbol used for a milestone, which is indicated at the crossroads. Could this be a remnant of the original medieval cross, perhaps the site of the socket stone that is depicted on an early cigarette card (which might otherwise be considered a dubious source)? The Stone is still recorded on the OS six inch map of 1953.

Figure 11: Cigarette card purporting to show a stone cross base at Mortimer's Cross 'where the old cross stood', as well as the Battle Oak. (F&J Smith's Studio Cigarettes 'Battlefields of Great Britain' series, number 11, issued 1913).

In 1915 H T Evans maintained this new location but turned the action through ninety degrees to focus on the east-west turnpike road (A4362) at Mortimer's Cross itself. He has the Yorkists facing west, with their backs to the river Lugg, and the Lancastrians descending the steep slope near the Rock-Way (now called Mortimer's Rock), from the west to engage. Haigh and Smurthwaite both follow this arrangement.[18] Such a Yorkist deployment, with its back to the river, would ignore key principles laid down in early military manuals, while Hodges has also argued that the ground is too narrow here for such a deployment. Moreover the descent of such a steep slope on the west would have been very difficult for a Lancastrian army in battle array. If such deployments were intended to respond to the presence of the east-west road then a further concern is that, as discussed below, we have found no firm evidence for this as anything other than a local road before construction of the turnpike in the 18th century.

As we have seen, Burne omits any account of Mortimer's Cross from his two volumes of *The Battlefields of England*, stating that 'little is known about the detail of this battle.'[19] In contrast Hodges, in what has become the standard interpretation, follows Barrett in identifying a location immediately to the south of Mortimer's Cross and returning to deployments facing north and south. He has the Yorkists marching south from Shrewsbury via Wigmore to Mortimer's Cross, where they meet the Lancastrian army which has marched north along the Roman road, known here as the Hereford Lane. This gives a battle focused on the Roman road, immediately south of the narrow pass where the river Lugg cuts through the high ridge that extends from Ludlow to Presteigne. Hodges claims Edward deployed archers on the slopes and cavalry in the small side valley on the north side of the hill called Wadmill Bank. He suggests that Blue Mantle Cottage and the adjacent Battle Oak are traditions which mark the site of the battle. The other traditions, such the supposed burial mound for the dead and archaeological

[18] Smurthwaite 1984, 105; Haigh 1995, 40-5.
[19] Burne, 1951, 98.

discoveries reported by antiquaries close to Kingsland, near the battle site recorded by Taylor and the pedestal monument, are explained away as relating to the rout and execution of Lancastrian forces fleeing towards Kingsland at the end of the battle. Unfortunately, as with much of Hodges' analysis, the latter picture owes a great deal more to Price, Williams and Favell Edmunds than it does to primary sources.

The earliest account we have found linking the battle with that oak tree is in 1870, when it is named Battle Field Oak and described as a hollow and decaying ancient tree that was the boundary mark of the four parishes of Kingsland, Aymestry, Shobdon and Lucton – though it is not mentioned in the 18th century perambulation discussed below.[20] But it is described as 'Battle Oak alias Gospel Oak' by Barrett in 1896 and Gospel Oak is the only name given on the 1885 first edition six inch Ordnance Survey map. The presence of this other name for the oak raises the possibility that the name Battle Oak was only given to the tree as a result of the transfer of the battle to this location in the 19th century, just as we have seen Butty Acre was later transformed into Battle Acre.

Blue Mantle Cottages lie just a few meters north of where the Battle Oak stood. They are on or close to the site of Blue Mantle Hall, which is given as the waypoint here on the perambulation of Aymestry parish in 1770. The boundary is recorded running 'along the brow to the Rock-way – fetching a compass to Blue Mantle Hall, and thence to Mortimers Cross…', the latter meaning the settlement and the inn, where the officers then enjoyed five shillings of ale.[21] Blue Mantle is also named 'Hall' two decades earlier, in the records relating to the Blue Mantle Hall Turnpike Trust, which was established in 1749.[22] These pre-Favell Edmunds records of the name and its association with a 'Hall' not a cottage prove the name is not a result of the battlefield being transferred here in the 19th century. However, the link made to the battle is not straightforward. While the junior officer of arms of the College of Arms known as Blue Mantle is recorded as early as 1448 there is no documentary evidence to demonstrate a link of the Hall to this herald, nor that this herald was present at the 1461 battle.

There are several other locations locally linked to the battle. For example Hodges notes the tradition of the Lancastrians pursued through Mortimer's Cross to the north west to Kynsham. The problems with all such local traditions are clearly demonstrated at Mortimer's Cross by that which refers to Croft Castle. It used to be said that the battle had been viewed from the battlements of the present Croft Castle, which was the home of Sir Richard Croft, a significant local Yorkist supporter who fought for Edward at Mortimer's Cross and Towton. However it is now known that the present building is a late 17th century construction, the medieval castle having been destroyed in the Civil War if not before.[23]

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[20] A photograph and brief note on the Battle Field Oak / Gospel Oak and Blue Mantle Cottages is given in *Transactions of the Woolhope Club*, 1896, 140. Lucton boundary did not in fact extend this far.
[21] HARC AF14/2.
[22] Blue Mantle Hall turnpike trust referred to in an Act of 32 George II (1759), referenced in *Journal of House of Common*, 57, p.221.
[23] Brooks, 2003, 52-5.

Figure 12: Barrett's 1896 drawing of the Battle Oak

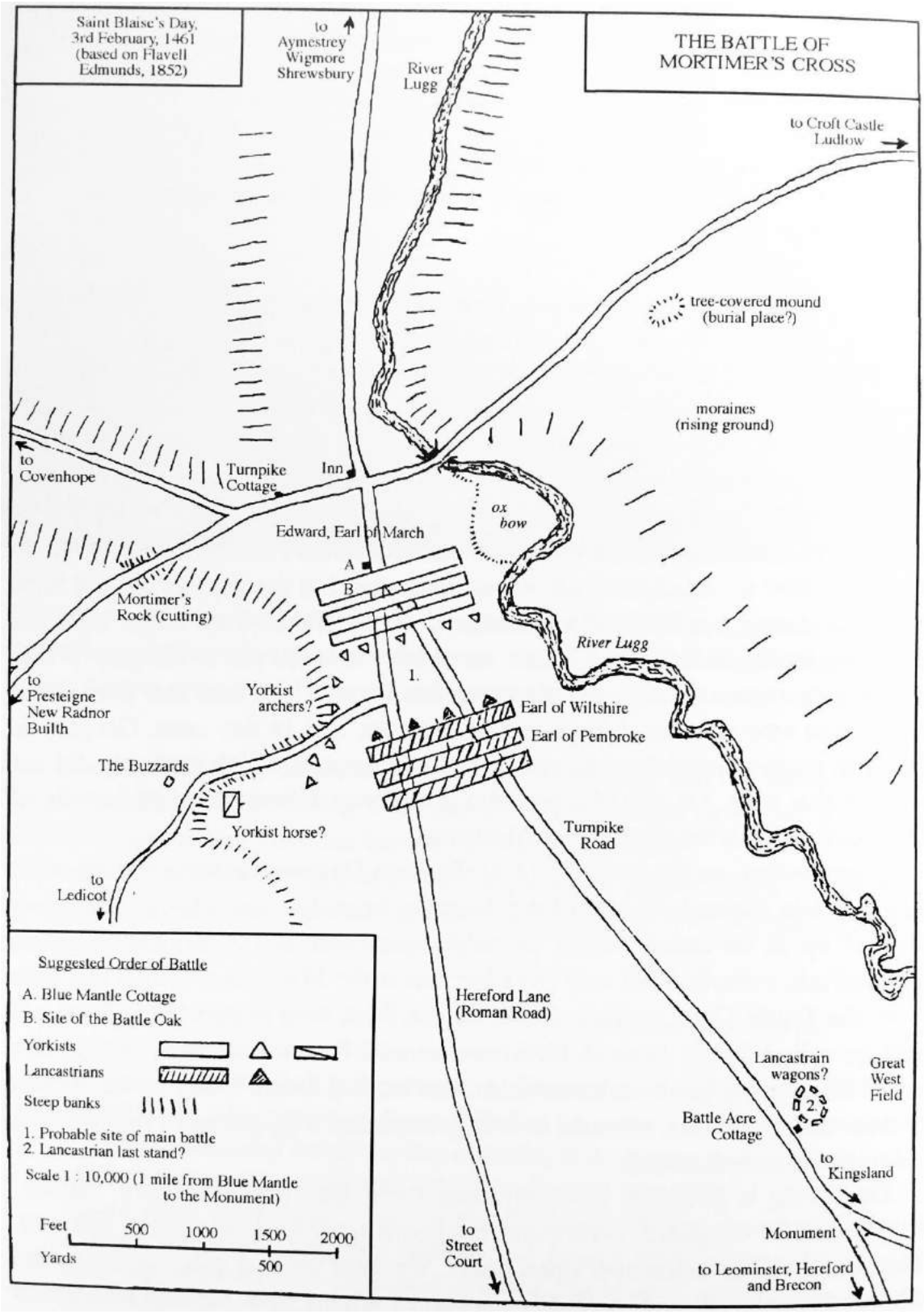
Saint Blaise's Day,
3rd February, 1461
(based on Flavell
Edmunds, 1852)
to
Aymestrey
Wigmore
Shrewsbury
River
Lugg
THE BATTLE OF
MORTIMER'S CROSS
to Croft Castle
Ludlow
tree-covered mound
(burial place?)
moraines
(rising ground)
to
Covenhope
Turnpike
Cottage
Inn
ox
bow
Edward, Earl of March
A
B
Mortimer's
Rock (cutting)
River Lugg
1.
to
Presteigne
New Radnor
Builth
Yorkist
archers?
Earl of Wiltshire
Earl of Pembroke
The Buzzards
Yorkist horse?
Turnpike
Road
to
Ledicot
Suggested Order of Battle
A. Blue Mantle Cottage
B. Site of the Battle Oak
Yorkists
Lancastrians
Steep banks
1. Probable site of main battle
2. Lancastrian last stand?
Scale 1 : 10,000 (1 mile from Blue Mantle
to the Monument)
Feet 500 1000 1500 2000
Yards 500
Hereford Lane
(Roman Road)
Lancastrain
wagons?
Great
West
Field
2
Battle Acre
Cottage
to
Kingsland
to
Street
Court
Monument
to Leominster, Hereford
and Brecon

Figure 13: Deployments as depicted by Hodges in 2002, broadly following Barrett's plan of 1896 but said to be have been based on Favell Edmunds' interpretation.

Elaborate descriptions of the battle are given in various secondary works. Occasionally one can see that they draw upon current interpretation of tactics of the period. Thus, for example, Barrett and Hodges both show the armies arrayed in three battles, one behind the other, while in contrast Smurthwaite and Haigh follow a more modern interpretation of tactics, showing three battles deployed side by side. But for most of the elaborate detail of the events of the battle provided by authors from Williams through to Hodges and beyond, there is hardly a scrap of evidence in the primary sources.

The crucial issue, which none of the secondary works adequately address, is securely locating the action. Other than the battle name, the strongest evidence we have, which has not previously been used in placing the action, is the fact that Mortimer's Cross is one of a handful of battles of the Wars of the Roses where a chantry was established for prayers to be said for the souls of those who fell in the battle.[24] Three records from the process of dissolution of chantries deal with the two chantries of Kingsland. The first is from the 1546 national survey, which refers to the chantry to St Katherine within the parish church of Kingslane that it says was founded by Edward IV to pray for the souls of those killed in the battle of Mortimer's Cross.[25] The second record is from the national survey of 1548 and deals with the chantry of Our Lady. These are both records from the commissioners' digest of the actual returns submitted by parishes. Although the original returns for Kingslane, which are likely to have been more detailed, appear not to survive a full rental of the properties of the two chantries does exist.[26] A separate rental for the chantry of Our Lady also survives.[27] It is possible that other documents such as wills or mortmain licences might record the earlier history of the two foundations but none has been found during the research for this project.[28]

Despite the initial wording of the entry, the battle chantry is not to be confused with the chantry of St Mary, as one must assume it is a coincidence that the battle was fought on feast of the Virgin Mary's Purification. The full entry for the battle chantry is:
'34: The service of owre lady and saynt kateryne within the parishe churche of kyngeslane : Edward the iiii th kynge of Englond ffounded the said service of saynt kateryne of charytie to praye ffor the soulles of all thoes that were slayne in battell att mortymers crosse wythyn the countie of herefford as yt ys affirmed by the presentors in wryttynge before the kynges maiesties commissioners sworn & examined apon the same : £2 : £10/6/- [wherof] : Dyverse rents resolute yerely payable and goynge oute of the

[24] Taylor 2019.
[25] Chantry certificates, Herefordshire, 6 February 37 Hen VIII (1546), TNA E 301.25, entry 34
[26] A full rental of 'The lands that belongythe to the servesses in the paryshe of kyngeslane', presumably comprising the chantries dedicated to both Our Lady and St Katherine, is given in TNA E 301.26 (1546-1552), entry 110.
[27] TNA SC12/2/48, dated 1547-53.
[28] A detailed discussion of the documents from the suppression of the chantries and the administrative processes underpinning it is provided in the introduction to Kitching 1980, ix-xxxiv.

[premises As by a particular] rental may appere : 22/- : £8/4/- wiche byn imployed to the mayntennce of a preste ther accordynge the ffoundacone : The said service is no parishe churche of yt selff but is within the parishe churche of kyngeslane : None : There were no other lands ne proffyttes belongynge to the said service synce the 4th of ffebruarie […]"[29]

The dedication is presumably to St Catherine of Sienna who was noted for her custom of giving away clothing and food, hence 'of charytie'. Perhaps most significant is the fact that she was canonised in 1461, the year of the battle. Neither entry for Kingslane specifies a chantry but instead the term 'service' is applied. This could be part of a wider issue where some terms are used interchangeably in these national records. However 'service' is used in other Herefordshire parishes, including for example Wigmore, and seems to mean a priest was maintained to hold services but where there was not a separate chantry chapel within the church. In contrast the chantry of Our Lady in Leominster is specified as such and has a priest to hold services which are explicitly stated as being held in the chapel of St Mary in Leominster church. The chantry certificate of 1548 for Kingsland specifies two stipendiary priests of Our Lady in Kingslane who held services at the altar of Our Lady in the parish church of Kingsland.[30] These facts weigh against the suggestion made previously that the battle chantry, or indeed Our Lady's chantry, may be the origin of the Volka chapel which lies on the northern side of the church.[31]

Because St Katherine's chantry was established in the church at Kingsland, rather than in a possibly purpose-built chapel on the battlefield as was the case at Barnet, the chantry location cannot help in establishing the exact site of the battle.[32] What its presence in Kingsland church does suggest, as with the chantry in Dadlington chapelry at Bosworth, is that at least part of the action in which significant numbers fell took place within the parish of Kingsland. But what is not reported for Kingsland is the translation of the bodies of the dead from mass graves on the battlefield to Kingsland churchyard when the chantry was established, in the way that occurred at Towton and possibly also at Bosworth. But interpreting such evidence is not straightforward. For example at Towton we find the chantry was established in the hamlet of that name and within whose township the main group of mass graves were located. However the action extended

[29] Chantry certificates, Herefordshire , 6 February 37 Hen VIII (1546), TNA E 301.25.

[30] '33: The Hundred of Stratford: The parishe of kyngeslane howseling people (ccc): Twoo stipendaris at the aulter of oure lady in the said parishe churche The one of them discharged: Certeyn landes & (tenements) gyven by divers persons to the ffyndynge of a prest to celebrate there & to teache chylderne: (?) John Harteley incombent stipendary preste a man of goode con(?)facon(?) of thage of xlii yeres whych doth celebrate. Helpe the curate & kepythe a scole and dothe brynge upe yongh vertuesly havyn for his salary the (clere revenue) of ye same and the profytte of his scolers and no other lyvynge : The land & tenements belongyng to the same be of the yerely value of £9/16/- whereof iii (?) Rep(?)ses yerely 31/9d And so remain clere £8/4/3d: Plate & jewelles £2 Stoke of money £2 Ornaments to the same £2: None'. Houselings represent the number who received Communion, the majority appear to be nicely rounded approximations, and as such cannot be used with any precision as a basis for calculating the total population of a place. Certificates of chantries, Herefordshire, 1 Edward VI (1548), TNA E 301.24, entry 33.

[31] *Transactions of the Woolhope Club*, 1960, 318, quoting TNA E.301, Nos. 24, 25, 26.

[32] Foard et al 2020.

equally into Saxton township, and many of the dead must have been buried there for their remains were translated to Saxton churchyard. The other potentially complicating issue with Mortimer's Cross is that Edward held the manor of Kingsland and, as the advowson of the church descended with the manor until the reign of Elizabeth I, it is conceivable that Edward simply chose for the chantry the nearest church he controlled rather than the parish in which the action took place.[33]

With this and our other caveats in mind, it is reasonable to draw a tentative conclusion from all the preceding evidence – the chantry, the tradition regarding Great West Field, Taylor's crossed swords, the monument, and the local information recounted to Brooke. This is that a significant part of the battle probably took place in the township of West Town in the north west sector of Kingsland parish. This is why we have selected that area as the core of our search area when investigating the battlefield.

The evidence from the primary sources

While local traditions and reports of finds can often assist in targeting fieldwork, the most important starting point for reanalysis of a battle is normally a review of the primary sources, especially those written within living memory of the action. This should establish what documentary evidence actually exists and assess its reliability. With that knowledge one can then exclude all that is simply speculation in secondary works of recent centuries which, in the case of Mortimer's Cross, modern authors seem to have transformed into fact. A fuller presentation of the evidence in each of the primary sources is presented in appendix 1. Unfortunately, what this reveals is that the documentary record for Mortimer's Cross is one of the poorest for any battle of the Wars of the Roses.

The first issue to be tackled is the date and time of the battle, for there is some confusion as to whether it was fought on the 2nd or 3rd February 1461. According to the *Brut Chronicle* 'at Candelmasse after, he had a batail at Mortimess Crosse'. Hall also says the battle was fought 'on Candelmas day in the mornyng, at whiche tyme the sunne (as some write) appered to the erle of March, like iii sunnes'. But Hall was writing nearly a century later and, as we shall see, he is probably wrong in the day and context he attributes to the parhelion, and with his reference to morning also questionable as it may derive from the timing of the parhelion. Candlemass, otherwise known as the Virgin Mary's Purification, is 2nd February and by the Julian calendar this was a Monday. Gregory also reports the

[33] Price, 1795, 30. *Calendar of Inquisitions Post Mortem*: Edmund Mortimer 6 EdIII 387, does not include Kingsland; Roger Mortimer 1360 33-4 Ed III, 154, refers to various properties, including an Extent of Kingsland; Edmund Mortimer 1381 5 Ric II, 534-61, has no Kingsland demesne because it had been demised to William Latimer et al; Roger Mortimer 1398, has no Kingsland yet in 1389-90 he had held Kingsland as per the steward's account roll in the Harley Mss at Brampton Bryan. The IPM for Edmund Mortimer 1425, p.475 shows he held the manor of Kingslane with demesne lands etc. Kingsland remains with the crown after Edward IV but in the 16th century was granted to Harley with just a remnant retained by the crown. The later history of tenure of Kingsland manor is given in *Transactions of the Woolhope Club*, 1921, 279-85.

battle as being fought 'at Mortymer ys Crosse in Walys the secunde day of Februar'. The *Annales Rerum Anglicarum*, said to be by William of Worcester, also states the battle was fought on the feast of the Virgin Mary's Purification.[34] This is supported by the *Short English Chronicle* which says Edward 'met with hem at Mortymers Crosse, whare that hit was saide on a Sonday Candilmasday by the morowe appered the sonne as iii sonnys.' This seems to indicate that the parhelion was seen on Sunday 1st February while the battle was on the Monday.

Two sources contradict this. The *English Chronicle* states that the battle was fought on the 3rd February, but goes on to say of the parhelion: 'And the Monday before the daye of batayle, that is to say, in the feest of Puryficacion of Oure Blessed Lady, abowte x ate clocke before none, were seen iij sonnys in the firmament shynyng fulle clere…'.[35] In his *Itineraries* William of Worcester also states that the battle was fought 'on St Blaise's day on a Tuesday', which is the 3rd February. There is one independent source which might be thought to support the 3rd February date. This is the dissolution certificate for the battle chantry in Kingsland church that is discussed above. This says 'There were no other lands ne proffyttes belongynge to the said service synce the 4th of ffebruarie'.[36] This apparent starting of a new period of assessment on the 4th February might be taken to imply that the 3rd February was the end of the relevant year and the day being remembered by the chantry, but it is simply the date of the issuing of the licence relating to the dissolution of Herefordshire chantries.

While the balance of sources are towards the battle having been fought on the 2nd February it is possible it was the day after, though uncertainty on the date will not significantly affect our investigation. What is crucial however is when and where the parhelion was seen. The balance of evidence here is strongly towards it occurring on the day before the battle, not on the morning as the battle began which is an idea that seems to owe much to Hall's very late account. The timing is crucial for it dramatically affects how we interpret the events preceding the battle.

The significance subsequently given to the parhelion may be partly responsible for the confusion as to the day on which the battle was fought. Certainly the conflation of this portent with the battle itself has precedents. For example the battle of Heavenfield in c.AD 633 has incorrectly been placed where Oswald's army quartered beside Hadrian's Wall the night before. This is almost certainly because of the great significance later given to his setting up the first cross in Northumbria at the camp before the battle, leading to it becoming a place of pilgrimage. This focused attention on that location rather than the battle's true site, which is probably miles to the south at or near Denisesburn.[37]

The time of 10:00am given by the English Chronicle for the parhelion makes sense because it is a reflection effect in ice crystals in the cold morning air, which creates the

[34] Worcester, *Itineraries* 202-5; *Annales Rerum Anglicarum*; Davies 110; *English Chronicle*; *Benet's Chronicle*; Milan State Papers vol.1 74.
[35] Davies, 1856, 99.
[36] Chantry certificates, Herefordshire, 6 February 37 Hen VIII (1546), TNA E 301.25.
[37] Foard & Morris 2012, 48-9.

impression of three suns in the sky, one on either side of the actual sun. This parhelion was supposedly treated as a good omen of the Trinity looking down on the Yorkist cause. According to Hall, elaborated later by Shakespeare, it was the reason why Edward took the sun as one of his heraldic badges.

This is not the only account to say the parhelion occurred the day before the battle. This is crucial as it provides support for the very specific account given by Gregory as to where Edward's army was when they saw the parhelion: 'Alle soo the same day that the Erle of Marche shulde take hys jornaye towarde Mortymer ys Crosse fro Herforde este, he mousterd hys many with owte the towne wallys in a mersche that ys callyd Wyg mersche. And ovyr hym men say (saw) iij sonnys schynyng.' This is potentially the most important information in any of the primary sources, for it places Edward's army not at Wigmore or anywhere to the north of Mortimer's Cross but at Hereford. Importantly Gregory is not alone in this. In the manuscript the *Typological life and genealogy of Edward IV* of c.1460-1470, Edward Earl of March is depicted amongst his troops, with the three suns of the parhelion in the sky predicting three crowns.[38]

Figure 14: https://www.bl.uk/catalogues/illuminatedmanuscripts/ILLUMINBig.ASP?size=big&IllID=28916

The device on the standard carried by one of the soldiers depicts 'the Black Bull of Clarence, one of the ten heraldic badges associated with Edward, which presumably was the personal device he used in battle at the time of Mortimers Cross and thus identifies these men as members of Edward's own retinue.' It is one image of a pair, part of a sequence of five pairs of colour miniatures, each linking an event of Edward's career on the right with its biblical type or precedent on the left, representing 'Edward's success and fulfilment of all prophecies…'.[39] The troops are shown standing before a major fortified town, just as Gregory says he mustered his army that morning on Wigmarsh outside the gates of Hereford. The image is certainly not an army on the plain to the south of Mortimer's Cross, where no such defensive urban complex would be seen. That there is indeed some attempt in this manuscript to represent genuine aspects of the terrain on battlefields can be seen from its depiction of the battle of Northampton. This shows in the background both the town and, opposite to this, a structure on a hilltop that is surely meant to represent the Eleanor Cross, which is specifically mentioned in the accounts as the place from which the Archbishop viewed the battle. Though if the latter is meant to be the cross then its form shows the illustrator had no direct knowledge of the topography but is providing a stylized representation of features reported to him.

One final issue is that there is no Lancastrian reference to the parhelion, which would tend to support the idea that the two armies were in quite different places at the time and thus only the Yorkists saw it.

The use of Widemarsh by Edward's army in 1461, whether for its overnight quarters or simply as open ground on which to muster before marching, follows customary practice

[38] British Library, Harley Ms 7353.
[39] https://www.bl.uk/catalogues/illuminatedmanuscripts/record.asp?MSID=18841, accessed 28/10/2021.

by the city of Hereford when accommodating large numbers of official visitors. For example, in 1552 it is stated: 'when the king's council in the marches of Wales, repair to the city of Hereford … the inhabitants and tenants of the township shall abstain from putting cattle within the common ….to the intent that the horses and geldings of the council, their servants, clerks, attorneys, and, servitors of the court, and all suitors repairing to the council shall have the feeding of the common…'. Moreover, any doubts that might be raised about identifying Gregory's 'Wigmarsh' with Widemarsh common are also resolved by this 1552 document, which describes Widemarsh Common as 'the waste ground and common called Wigmarsh'.[40]

Why then does Hodges, who has reviewed the same primary sources for the battle, come to a quite different conclusion?[41] Central to his thinking seems to be the idea, first presented by Williams, that Edward was intent on defending Wigmore from the Lancastrian army. This is why Edmunds, followed by Hodges, has the Yorkist army defending the entry to the narrow pass where the Roman road runs towards Wigmore, using the steep sided but almost level cutting the river has made through the high east-west ridge. To maintain this view Hodges has to dismiss Gregory's account by claiming he confuses where the army quartered after the battle with where it was quartered before the battle. But then he goes on to use Gregory's mention of Wigmarsh as evidence for Edward actually being at Wigmore! He cannot see why Edward would have been in Hereford when Wigmore and Ludlow were the Lancastrians' objective, though as with Williams he presents no evidence to prove this was their objective. One does have to ask why any army would consider it sensible to besiege a major fortified town or castle when an enemy army was in the field within a day's march. In fact there is clear logic to Edward being in Hereford on the 1st-2nd February that will becomes plain when we review the principal road network and pattern of fortified sites in late medieval England and Wales.

The sources tell us very little about the armies that fought at Mortimer's Cross. The *English Chronicle* reports the Earl of Pembroke and the Earl of Wiltshire as the Lancastrian commanders, with the Yorkist army commanded by the Earl of March. The Yorkist army is assumed to be from the Marches, given this is where Edward was recruiting in the preceding weeks and where his leading commanders were based. It has been suggested that the army comprised principally supporters from Herefordshire and the later Welsh counties of Glamorgan, Brecknock, Monmouth, Radnor and Montgomery. Edward's leading supporters here included Sir William Herbert, Walter Devereux, and Roger Vaughan. However forces may have come from further afield as the letter written after battle by Sir John Paston appears to refer to East Anglian forces waged to go to Mortimer's Cross.[42]

[40] Johnson, 1822, 155-6.
[41] Geoffrey Hodges, 1982.
[42] Gairdner 1904, vol.3, 449. However it should be noted that the battle of Ludford in 1459 was far more likely then Mortimer's Cross to be called the battle of Ludlow and so there is perhaps room for confusion.

The Lancastrian army included Irish, French and Breton mercenaries as well as Welsh troops.[43] It was assembled in early 1461 in south west Wales under the command of Jasper Tudor who may have landed at Milford Haven from France with foreign troops on about 27th December. He established his headquarters nearby at Tenby and Pembroke where the Earl of Wiltshire, who landed with troops from his Irish estates, joined him.[44] Just as his son Henry Tudor would do in 1485 in Bosworth campaign, in late January Jasper marched out of Pembrokeshire, presumably aiming to unite with other Lancastrian forces in Midland England to finally destroy the Yorkists. Unfortunately none of the primary sources say which route he took and thus how the Lancastrians arrived at Mortimer's Cross.

For most medieval battles the estimates in the primary sources as to the numbers engaged vary wildly and are often vastly inflated, especially relative to the numbers modern research suggests are likely. While the *English Chronicle* claims just 8000 Lancastrian troops were present at Mortimer's Cross, it has an unbelievable 51,000 for the Yorkists, while Hall gives a still improbable 23,000. The total numbers engaged are unlikely ever to be known but the figures for each army may be expected to be below even the 8000 given for the Lancastrians. Based on the numbers of named followers Hodges suggests that the Lancastrian force may have been of the order of 3500 and the Yorkists as few as 2500, which would accord far better with the scale of armies argued for by modern historians for more major battles such as Bosworth.[45]

As to the arrangement of the armies in battles and who commanded each battle there is no evidence in the primary sources. It is true that Drayton claims Ormond led the Lancastrian vanguard with unarmoured Irish troops, but Drayton was a poet writing in 1627 and so cannot be presented as a reliable primary source.[46] In addition Evans refers to Jasper Tudor's letter written after the battle which claims that his defeat was due to 'March, Herbert, and the Dwnns with their affinities, as well in letting us of our journey to the kinge, as in putting my father …to the death…''.[47] One might speculate that this highlighting of three senior Yorkists could indicate the commanders of the three Yorkist battles, for the earl of March would surely himself have commanded either the main battle or the vanguard.

The numbers reported as having been killed may also provide some guide as to the size of the two armies, as well as the intensity of the action. While contemporary sources often provide inflated figures for losses, in the case of Mortimer's Cross they are relatively modest and thus more believable. *Gregory* gives 3000 killed while the *English Chronicle* says 4000 Welshmen, meaning Lancastrians. Writing in the mid-16th century *Hall*, followed by *Speed* in the 17th century, says 3800. In comparison to the size of the armies discussed above even these figures for losses still seem high but, surprisingly, another

[43] Evans, 1915, 72-4.
[44] Evans, 1915, 73.
[45] Hodges, 2001; Foard & Curry, 2013.
[46] Drayton, 1627, *Miserie of Queene Margarite.*
[47] Evans, 1915, 74, quoting a letter from Jasper to Roger Pulestone, 25 Feb 1461. Williams, 1856, 87.

source gives an even higher and surely improbable figure. In the *Milan State Papers* a letter written a few days after the battle, and thus a source to which one might tend to give more weight, claims '8,000 men fell in that battle, including, they reckon, 200 and more knights and noble squires.' Even such losses amongst the nobility seem too high. We know that although the earls of Pembroke and Wiltshire both escaped, others were not so fortunate. Owen Tudor was captured and subsequently was executed along with Sir John Throckmorton and eight other nobles at Hereford. According to Leland, Tudor was buried in Greyfriars church in the town. A list of the high status individuals killed in the battle or executed thereafter is provided by William of Worcester.

As regards where the battle was fought we have little more than the battle name. The vaguest of naming seems to be provided by Paston who, suggests Gairdner, describes it as the 'feld at Lodlowe', which was the nearest strategically significant town, 10 miles to the north east of Mortimer's Cross.[48] However the 1459 battle of Ludford was also likely to be known by this name and so Gairdner may have confused the two battles.

The *English Chronicle* provides a closer naming, saying it was fought 'beside Wygmore in Wales'. At this time Wigmore may have been almost as well known nationally as Ludlow because it was formerly the principal residence of the Mortimers, though the reference to Wales does demand explanation. Indeed several other sources also specify Wales, while in addition naming the place. The *Short English Chronicle* says Edward 'torned a yene bacwarde into Walis and met with hem at Mortymers Crosse'. *The Brut* also says 'from thense he went to Wales where, at Candelmasse after, he had a batail at Mortimess Crosse', while the *Crowland Chronicle* gives 'Meanwhile, the duke's eldest son, Edward Earl of March, campaigning against the queen's supporters in Wales, won a glorious victory over them at Mortimer's Cross.' Such references to Wales might initially be considered to undermine the reliability of the sources, but this is not the case, for in the 15th century Wigmore, like several nearby Marcher lordships, was indeed considered to lie within Wales (figure15).

[48] Gairdner, 1904, vol.3, 449.

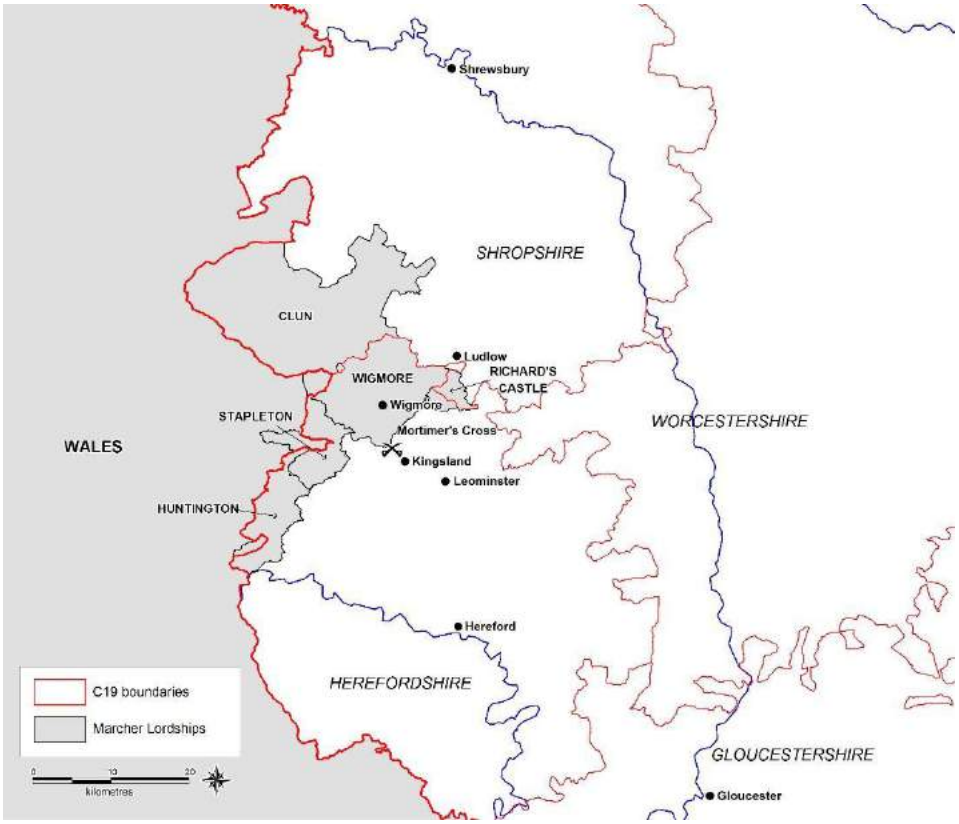

Figure 15: Map of the central Welsh Marches centred on Mortimer's Cross marcher lordships

Although his estimates of mileages are somewhat awry, William of Worcester in his *Itineraries* attempts to be more specific, locating the 'Battle of Mortimer's Cross, 8 miles from Hereford and 3 miles from Wigmore' (actually 16 miles and 3.5 miles respectively). Then there is the *Annales Rerum Anglicarum* which says the 'battle was fought near Wigmore at Mortimers Cross'. These two sources together are interesting as they show the sort of distance that might then be considered to warrant the description 'near' when describing a battle location. There is thus agreement between the sources that the battle was fought 'at' Mortimer's Cross.

One caveat must still be considered, that this apparently specific locating of the battle is used not because the action was exactly at that location but because the cross was the nearest well known landmark. Yet clearly it was not known in a regional and certainly not a national sense of a waymark on the road through the Marches, in the way for example that in the 20th century Scotch Corner was a key waypoint on the Great North Road. This is clear because, for a national audience, William of Worcester had to specify where it lay in relation to Wigmore and Hereford. So Mortimer's Cross could have been little more than a well known local landmark and thus any battle named from it must have been fought nearby by, within perhaps a mile or so, not least because the then nationally known Wigmore, with its castle and abbey, was just three miles to the north.

Unfortunately the only source to provide more specific locational information is Hall, writing in the mid-16th century. He says the battle was fought 'in a faire playne, nere to Mortimers crosse, not farre from Herford east'.[49] This might be used to support the case that the battlefield lies in the wide flat alluvial plain between Kingsland and Mortimer's Cross. Given Hall was writing in 1548, almost 90 years after the battle, and the uncertainty about the accuracy of the detail he provides elsewhere for late medieval battles, it is not clear how much trust should be placed in this vague statement. But his words must be considered alongside the evidence of the chantry, and the Great West Field and associated local traditions. Hall's words seems to support the interpretation of the battlefield lying largely in the north west sector of Kingsland township. However it must be remembered that Hall was a source used by at least some of the authors who record those apparent traditions. So one cannot be sure whether his reference to the 'playne, nere to Mortimers crosse' was actually the source of the idea in those secondary works and that their words in turn established local tradition, not the other way around.

As for any detail as to how the troops were deployed and how the action played out, all the sources including even Hall are equally silent. Only the much later poems provide any information on this and we can lend little credence to such late poetic sources. Thus the elaborate detail of the battle given in various secondary works, often presented as though it was fact, must be treated as mere speculation.

In the absence of topographical detail in the primary sources to place the action within the landscape we must fall back upon Burne's principle of Inherent Military Probability, taking account of the tactical limitations of the weapons of the period then in use on English battlefields. In order to apply this we must first consider how the two armies approached the battlefield, because this will have affected the tactical potential that each commander saw within the landscape.

The Strategic Landscape

While the primary sources do not specify the route taken by each army there are clues in the evidence already reviewed. We know that the Lancastrian army assembled in the far south west of Wales, with its headquarters in Tenby and Pembroke, while thanks to Gregory we can place the Yorkist army in Hereford on the 1st - 2nd February. The first question is why Edward would have chosen to quarter in Hereford while waiting to intercept the Lancastrian army as it marched out of Wales. This demands an understanding of the strategic framework of South Wales and the Marches in 1461, as represented by the major road network and the distribution of fortifications garrisoned by each side, set against the pattern of relief and rivers.[50] This should reveal the main options available to the two armies.

[49] 'Hereford East' is Hereford, here named in relation to Haverford West.
[50] The evidence for the strategic landscape has been collected and analysed in collaboration with Dr Tracey Partida.

Whereas on the Scottish border the late medieval Marches were divided into three English territories, each with a major fortified town as its military and administrative centre, the Welsh Marches were more complex. In the period before Henry VIII's administrative reorganization of Wales into counties, the Welsh Marches comprised the English counties of Cheshire, Shropshire, Herefordshire and Gloucestershire, together with the numerous but much smaller Marcher lordships to the west. The latter were broadly considered part of Wales, comprising a range of highly independent small units centered on the major castles of the Marcher lords. These included places such as Wigmore, Clun and Huntington in what is now England, and places such as Painscastle and Montgomery in what is now Wales.[51] Our depiction here of these counties and lordships around Mortimer's Cross is based on the small-scale map given by Davies but with detailed boundaries for Wigmore and adjacent marcher lordships taken from Rees's map of *Wales and the Marches in the 14th century* (Figure 15).

The conquest of Wales by Edward I had resulted in an increasingly peaceful coexistence along the border and, as the 14th century progressed, led to a reduction in the number of military bases maintained in the Marches. However, some clearly remained viable defensive sites, for a substantial number were garrisoned during the Glyndour rebellion of 1401.[52] But thereafter the process of abandonment continued. For example, by the early 15th century the Mortimers had transferred their principal residence from Wigmore Castle to the heavily fortified castle and town of Ludlow, seven miles to the north east, where they had consolidated their ownership in the later 14th century. Thus it was in Ludlow that Edward IV spent much of his time in his early years, with the itinerary of Edward earl of March showing him frequently at Ludlow and rarely at Wigmore.[53] Then in the later years of his reign it was Ludlow that he would choose as the base for the Council of Wales, which administered the principality for the crown. It is not surprising therefore that on the death of Edmund Mortimer in 1425 we find Wigmore Castle was derelict and worth nothing yearly.[54] However, such evidence for abandonment of major castles must be treated with care, for further research has shown that repairs were undertaken on the castle at Wigmore in 1440-42, supporting the claim of rebuilding on the site which had already been suggested from archaeological evidence.[55] The castle had clearly been re-occupied and made defensible once more, because it was one of the Yorkist castles garrisoned by the Lancastrians following their victory at Ludford in 1459.[56]

[51] Davies 2000; William Rees, 1932, *Map of South Wales and the Border in the 14th century*
[52] Hume, 2021, covers Radnorshire, Herefordshire, Shropshire, Montgomeryshire, Denbighshire & Flintshire.
[53] The Full Itinerary of Edward IV, John Ashdown-Hill https://www.amberley-books.com/media/wysiwyg/The_Full_Itinerary_of_Edward_IV_by_John_Ashdown-Hill_-_updated.pdf
[54] Calendar of Inquisitions Post Mortem, Edmund Mortimer 1425, p.475.
[55] TNA SC 11/818.
[56] Spencer, 2020.

That some castles in Wales and the Marches were still considered of strategic and tactical significance during the campaigns of the 1460s is shown by the way in which the Yorkists issued orders for the control and defence of various castles in summer 1460, following their victory at Northampton. For example Jasper Tudor was required to surrender Denbigh and Montgomery, while the castles of Beaumaris, Conway, Flint, Hawarden, Holt and Ruthin were required to be garrisoned by Yorkist troops. Although the issuing of such orders tells us of military potential it requires other documentation to prove implementation, and indeed whether a garrison was still in place at the end of January 1461.[57] Some towns also remained of strategic significance in the Wars of the Roses as can be seen from the way in which armies chose to establish camps immediately outside the gates of major fortified towns and in some cases fought there. Thus the Yorkists camped outside the gates of Ludlow 1459, leading to the battle at Ludford, and the Lancastrians camped outside the gates of Northampton leading to the battle there in 1460. Thus it is not surprising to find Edward camping or at least mustering his army outside the gates of Hereford the day before the battle of Mortimer's Cross.

But identifying the full network of defensible sites in 1461 is a major undertaking, let alone determining whether they were garrisoned and if so by which side in late January 1461. The Gough map of Britain provides the only national overview that indicates places that may have continued in use into the 15th century as significant fortified sites. Though the map's exact dating and function are subject to continuing debate, it is most likely to date from the late 14th century but with early 15th century revisions. It provides a useful starting point in searching for other castles and fortified towns which may still have been defensible in the Wars of the Roses. Though of course it is not a secure guide to the situation in the 1460s, as can be seen from the fact it does not depict every one of the castles we have seen were required to be defended in 1460.[58]

But the degree to which the presence of fortified towns and castles influenced lines of march in the Mortimer's Cross campaign will depend not only on whether particular towns and castles remained defensible. We need to know if they were garrisoned at that time, if so by which side, and how substantial was that garrison. As Spencer points out, permanently garrisoned castles were comparatively rare during the Wars of the Roses and the only garrisons continually maintained were major royal fortresses located in Wales or on the Anglo-Scottish border. Establishing which of the other defensible sites were actually garrisoned, and if so by which side, during the few days of the Mortimer's Cross campaign is far more difficult and it will probably never be possible to provide a complete picture.

Establishing which side garrisoned a defensible garrison cannot be determined simply by mapping the distribution of the estates of Lancastrian and Yorkist supporters. The

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[57] Evans, 1915, p.70 quoting *Proceedings*, vi, 303 09/08/1460.

[58] The Gough map is generally dated to circa 1370 though evidence has been presented for an earlier 15th century date with even later revisions. http://www.goughmap.org/about/ accessed 14/12/20. Five of the eight castles referred to in these 1460 documents above are depicted on the map, but not Flint, Holt and Montgomery.

problem is more complex because the fortunes of the houses of York and Lancaster changed so dramatically between autumn 1459 and spring 1461, depending on the outcome of each battle. This played out in major changes in who held each fortified site, irrespective of which side the original owners had supported, so mapping estate ownership in the mid-15th century is not a viable approach. Thus immediately after the Lancastrian victory at Ludford on 12th October 1459 the estates of the duke of York and his major supporters were seized, though in the Marches and elsewhere implementation was sometimes delayed by armed resistance. During early 1460 Lancastrian garrisons were installed in various of the rebel castles to deter potential uprisings, with the master of the king's ordnance ordered to supply them with artillery. Yet some Yorkist castles did not fall until as late as May 1460, which left only a few weeks before the battle of Northampton, which completely reversed the political situation. What is more difficult to establish is exactly which castles had been returned to Yorkist control by the end of January 1461, even in south-east of Wales where Yorkist supporters, such as Herbert and Devereux, were in the ascendant. For some we have an answer, as at Ludlow. Although this was a major castle, which formed a key part of the estates of the Earl of March himself, it had been taken by the Lancastrians after the battle of Ludford in October 1459. It remained in Lancastrian hands until at least 21 May 1460 when Edward Delamare was granted the office of constable of the castle.[59] However it had presumably returned to Yorkist control following the Lancastrian defeat at Northampton in July 1460 because the Duke of York visited the town later in 1460.

In contrast Clifford castle, adjacent to Hay on Wye, is more problematic. This was potentially a key site for the Mortimer's Cross campaign as it lay within a kilometer of the main road from Pembroke to London where it entered England. If well supplied with artillery then it might have represented a threat to a Lancastrian army marching on that road. It had been seized and garrisoned by the Lancastrians in 1460. But had the Yorkists removed the Lancastrian garrison by the end of January 1461, and if they had then did they garrison it in their turn, and if so did it retain effective artillery? What we do know is that many castles did remain in Lancastrian hands much later, for the Yorkists had to use force to clear many garrisons in Wales during the year following the victory at Towton in the spring of 1461. But even for those garrisons held by the Yorkists one must question their effectiveness in harassing a substantial army, for Spencer's research indicates that small garrisons of mainly unmounted infantry were far more common than large mounted garrisons during the Wars of the Roses. Certainly this was true of the garrisons installed by the Lancastrians in the Marches in 1460 as they were paid 4d per day.[60] It is probable that small garrisons were intended to have a passive role in defending fortifications and thus securing a base from which, if necessary, other troops could maintain territory. Thus it may be that, unless a garrison controlled a key pass such as a river crossing, as in the case of Ludlow, they will not generally have posed a major threat to the movement of a field army.

[59] Calendar of Patent Rolls 1452-61 Hen VI 586-7.
[60] Spencer, 2020.

This shows that each potential garrison requires individual research before a more secure map of garrisoned sites in early February 1461 can be defined and, even more problematic, to determine if any contained a large mobile force which could have harried an enemy army. An important data set that can contribute towards such a map has been published by Spencer and is used here but, as he states, the documentary record is very inconsistent and incomplete.[61]

Other questions remain. Firstly, whether the two sides were so committed to a decision by battle that they withdrew the troops and appropriate weaponry from their garrisons in order to strengthen their armies in the days preceding the battle. Secondly, if they did retain certain key garrisons because they were effective in maintaining control of territory, were they suitably placed and was their artillery sufficiently effective to cause serious problems for an army attempting to pass that site – a question we have already raised in connection with Clifford Castle. Even a fortified town that controlled the bridge crossing a substantial river, as for example at Ludlow, might with difficulty be bypassed up or downstream. Thus many complications would need to be addressed to sufficiently understand the strategic situation that influenced the route chosen by the Lancastrian army as it advance into England. What is presented here can be no more than an initial scoping of the problem.

In producing our map we have shown all the settlements identified on the Gough map west of the rivers Severn and Dee, distinguishing which it shows as fortified town or castle and which unfortified. Elsewhere we have only mapped the places it represents as waypoints on the major roads. Next we have applied the data provided by Spencer, supplemented by additional references provided by Evans, which demonstrate or imply the place was garrisoned at some point during the Wars of the Roses, as well as other castles where there are references to the appointment of constables or other evidence that implies they were defensible, garrisoned or besieged. Because of the difficulty of knowing which had shifted from Lancastrian to Yorkist control between the battle of Northampton on 10th July 1460 and the beginning of February 1461 we have distinguished as Lancastrian only those castles which are specified as such in January or had to be wrested from their control in the year following the battle. We have shown as under Yorkist control only those places where, between July 1460 and 1st February 1461, either Edward or his father are known to have visited or in which they recruited troops.[62] Producing a more comprehensive picture would require extensive further work that is beyond the scope of the current project.

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[61] Spencer 2020.

[62] The following list, unless otherwise specified, has been compiled from Spencer 2020, with further places added from those referenced above for 1460. Lancastrian in 1461-2: Carmarthen, Carreg Cennen, Pembroke, Tenby; Aberystwyth?, Cardigan?, Kidwelly?, Pencelli?. Returned to Yorkist control during July 1460-February 1461: Gloucester, Hereford, Ludlow, Shrewsbury Wigmore?. Other castles defensible during the Wars of the Roses: Beaumaris, Brecon, Caldicot, Cilgerran, Clifford, Conwy, Denbigh, Flint, Grosmont, Harwarden, Holt, Laugharne (see Evans 1915), Llansteffan, Monmouth, Montgomery, Powis, Radnor, Raglan, Ruthin, Skenfrith, Walwyn's Castle, White Castle.

The other key element of the strategic landscape is the road network, which has been significantly altered since the 15th century. In producing our map we have again started with the late 14th century Gough map that shows the main road out of south Wales, which runs via Hereford. It is also clear, from lines of fortified sites, where some other significant roads must have existed but are not drawn on the map, as with the string of settlements shown along the south coast of Wales (figure 16).[63] Thereafter we must depend upon much later evidence, starting with the earliest published national itinerary, by Grafton in 1571.[64] But the Gough map and Grafton simply list settlements forming waypoints on each major route. To determine the likely course of each road we must first look to the Roman road network, as far as it is currently known, because many were still in use in the medieval period. Next we can use the detailed maps in Ogilby's itinerary which depicts post roads and was published in 1675.[65] The 16th and 17th century sources, although late, do predate the major transformation of the national road network that resulted from the construction of turnpikes, mainly in the 18th and earlier 19th centuries. However many uncertainties remain, which may influence one's view as to the exact approach of the Lancastrian army to the battlefield, which in turn may alter our ideas on exactly where the battle was fought. What is required is more extensive local historical and archaeological research, on secondary works as well as primary sources, for the whole region from the Severn to Pembrokeshire.

[63] http://www.goughmap.org/about/ accessed 14/12/20.
[64] Grafton 1571.
[65] Ordnance Survey, 2011, Roman Britain: Historical Map; Ogilby 1675.

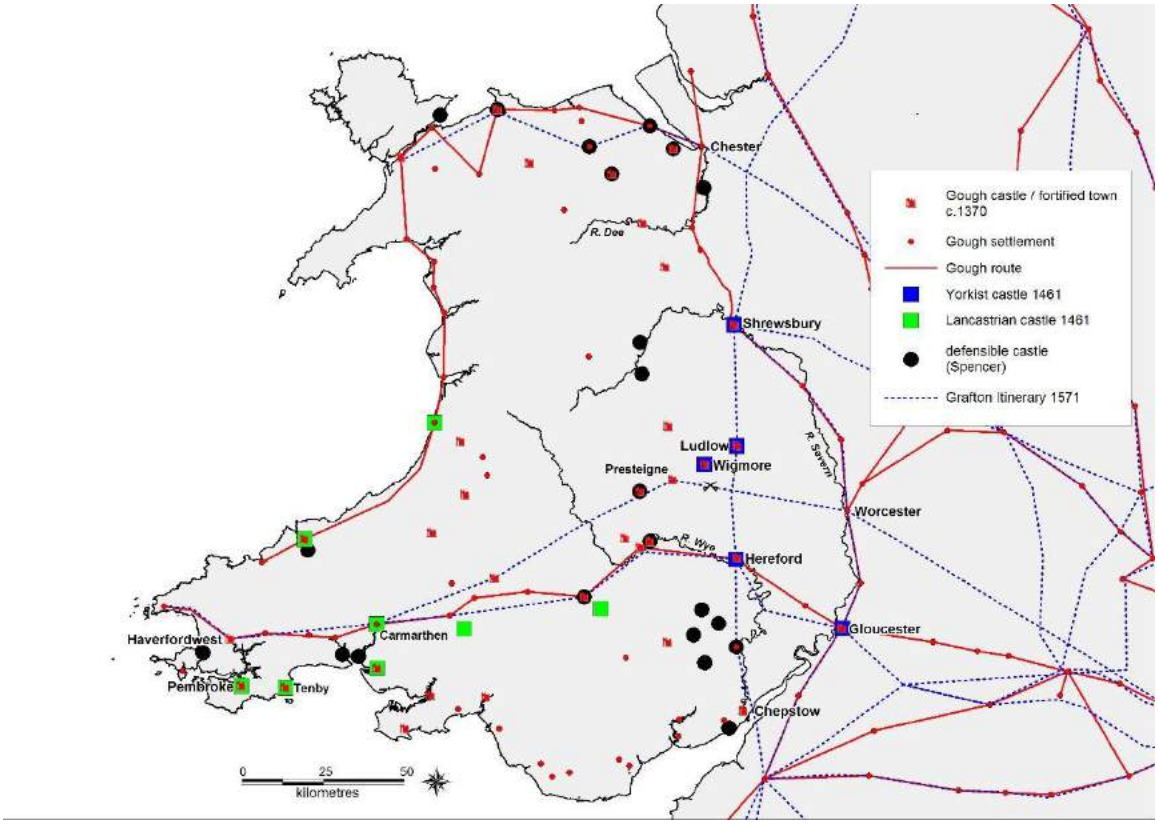

Figure 16: Gough map showing all major roads and fortified places it depicts within Wales, together with Grafton's Itinerary of 1571, and indicating fortified places that appear to have been defensible during the Wars of the Roses.

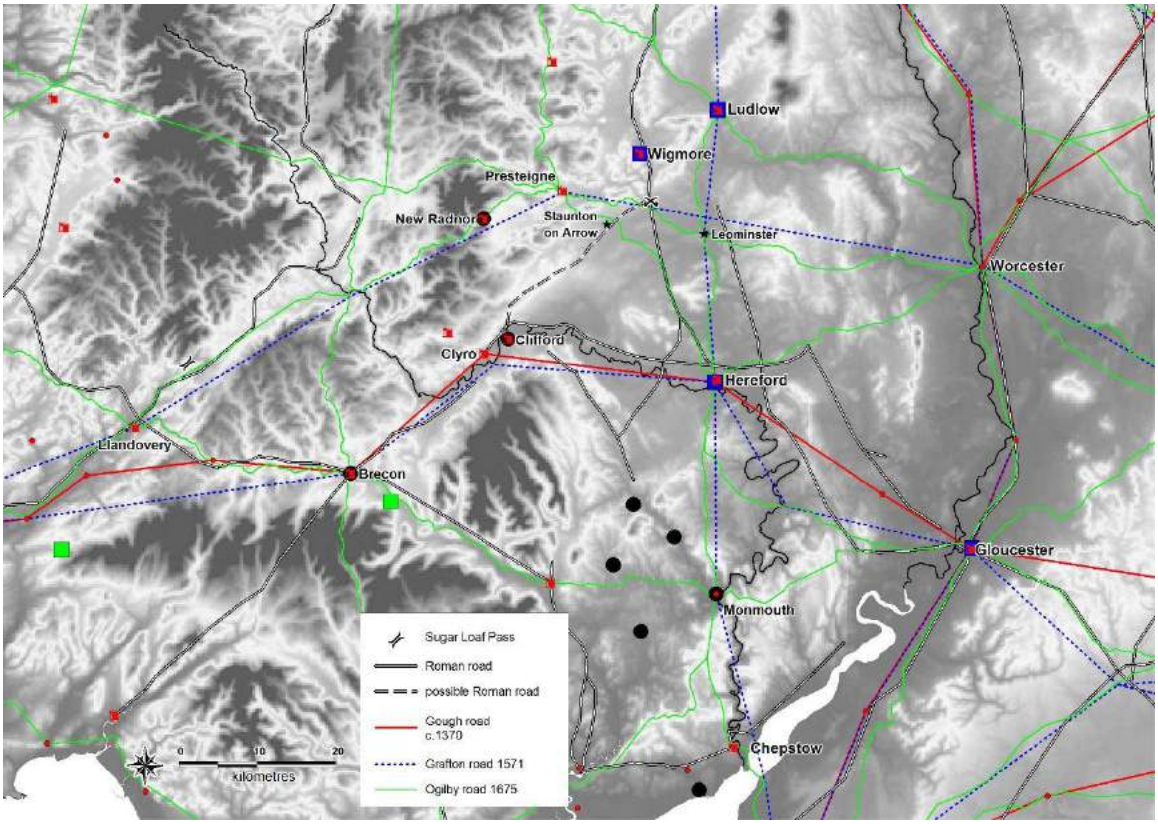

Figure 17: Map showing known and conjectural Roman roads and detailed road routes from Ogilby's Itinerary of 1675 superimposed on the evidence in figure 16. Note that Gough and Grafton routes are simply straight lines joining principal waypoints and will often have actually followed the nearby Roman or Ogilby road.

Commanders will normally have chosen the major routes when moving a large army, not least because their bridges will have been important to enable easy crossing of rivers by artillery and the wagons of the train. The Gough map shows just one road running out of south west Wales to London, presumably the principal route, leading from St Davids via Brecon and Hereford. There were other important routes of which Grafton shows a second, and more must have existed, though the options for these are limited through central Wales due to the major constraints of relief. For example that chosen in 1485 by Henry Tudor when marching from Milford Haven in south west Wales to Shrewsbury during the Bosworth campaign seems to be that first shown on national mapping by Ogilby.[66]

For an army seeking to engage a force marching out of Wales, as Edward was, it is the north-south routes through the Marches, and the fortified bases along them, which were critical. The Gough map shows the major route following the Severn valley from Bristol through Gloucester, Worcester and Shrewsbury then on to Chester – all fortified towns that also controlled the major roads out of Wales. But through the central and southern

[66] Foard and Curry 2013.

Marches lay another important route extending south from Shrewsbury through Ludlow, Hereford to Chepstow. A few miles to the west of this, between Hereford and Craven Arms and running through Wigmore and Mortimer's Cross, there was also an alternative Roman route still then in use and known as Watling Street. The north-south route through the Marches between Chester and Chepstow, with its partial Roman alternative, together with the fortified towns that controlled it, represent a network presumably created for rapid movement of a defending army along the frontier. This represents the key strategic framework determining where within the Marches an army was likely to muster and to march if seeking to intercept an enemy force advancing into England from south west Wales.

As we have seen Gregory, supported by the *Life of Edward IV*, provides us with our only fixed point for the Yorkist army, in Hereford overnight on the 1st-2nd February, from where they marched that morning. Gregory's Chronicle appears to be a reliable source for several of the earlier battles of the Wars of the Roses, providing detailed evidence on the battles of St Albans and Barnet, though as the chronicle was compiled in London it is true that similar accuracy might not apply to a battle in the Welsh Marches.[67] But his topographical information is again very specific, has no partisan propaganda significance, and appears to reflect local knowledge: 'Alle soo the same day that the Erle of Marche shulde take hys jornaye towarde Mortymer ys Crosse fro Herforde este, he mousterd hys many with owte the towne wallys in a mersche that ys callyd Wyg mersche. And ovyr hym men say (saw) iij sonnys schynyng.' As we have seen Wigmarsh can be securely identified with Widmarsh common outside the northern gate of Hereford where the road led out to Leominster and to Mortimer's Cross.[68] The detail is so specific and meaningful that there is little reason to agree with Hodges when he argues that Gregory is confused and that what is meant is Wigmore.[69] The only reason to dismiss Widmarsh would be if the battle was fought on the same day as the parhelion was seen, as the distance from Hereford to Mortimer's Cross is some 16 miles, which would at best be a 6 to 8 hour march for a full field army. In midwinter and setting out after 10:00am would require an improbably rapid march, to reach the battlefield from Hereford and to fight a battle before dark. But the *English Chronicle* makes it clear that the parhelion was seen on the day before the battle. This enables a reasonable march on the Monday and still leaves time for the battle to have been fought on Tuesday in the morning, as Hall claims – though again there is doubt over the reliability of his timing as it may result from his misunderstanding about the parhelion. Unfortunately, the primary sources do not tell us where Edward quartered his army on the Monday night and so it is not certain in which direction he approached the battlefield.

That Edward had quartered his army at Hereford for at least one night and marched north on the Monday to or towards Mortimer's Cross makes it clear that the Lancastrians did not approach the battlefield marching north from Hereford as Hodges suggests. It would be perverse to argue that Edward was seeking to avoid battle by moving from Hereford

[67] Foard et al 2020.
[68] Ogilby 1675, plate 56.
[69] Hodges 1982 and 2001.

and that the Lancastrians were pursuing him. After all, the *English Chronicle* says he had turned back towards Wales to confront the Lancastrians. Having brought his army back into the Marches it is significant that he chose to quarter for at least one night, perhaps longer, at Hereford. This was arguably the most important strategic location in the south and central Marches. It was where the main road from South Wales to London intersected the most direct north-south route.

From Pembroke the Lancastrians choice of route out of Wales would be influenced by the location in central England where they planned to unite with the main Lancastrian army. Given where the main Lancastrian army later fought the earl of Warwick, at St Albans, it seems likely they Owen Tudor would have been heading towards the south Midlands and thus will presumably have begun their march eastward on the main London road. A more northerly route, as in 1485, would have taken them much too far to the north, via Shrewsbury, also indeed making it difficult to understand how the battle came to be fought at Mortimer's Cross. On the London road at Llandovery they had the option of a northerly route via Presteigne; of continuing on the main route via Brecon and Hereford; or taking a southerly road via Monmouth. Quartered at Hereford Edward could await the return of his scouts reporting which route the Lancastrians had chosen. He then had immediate access to the frontier road to respond by marching south or, as it turned out, north to intercept the enemy.

If the Lancastrians' intention was to engage and destroy Edward then surely they would have marched on the main road directly towards Hereford. This cannot have been their intention, as the battle was fought at Mortimer's Cross which presumably means they chose the northern option. This is shown by Grafton and by Ogilby, running from Llandovery through Prestigne, passing close by Mortimers Cross, then on to Leominster and Worcester. It is broadly the route suggested by Evans, though Hodges claims this was impractical in early February because of the height of the passes. While this road at that time did not cross the steep Sugar Loaf pass that it takes today, it followed a line a little to the south east, a Roman route still shown in 1675 by Ogilby. It was a less steep climb but passing over even higher ground at Cefn Llwydlo, though even here at just 360 meters the road seems likely to have been passable in all but the most extreme winter weather.

But, showing the complexity of this analysis, there is at least one other option that needs to be explored. This is because of the suggestion by Rennel that there was a Roman road linking the main London road at Clyro with the north-south Roman road at Mortimer's Cross. He suggests the route starts by running south westward from near Mortimer's Cross passing Shobdon.[70] While the physical evidence Rennel musters for the road has been questioned, immediately west of Shobdon there is strong documentary evidence – the presence of a 'street' name, normally meaning a Roman paved road, in the Anglo-Saxon boundary charter of Staunton on Arrow. While the exact course of the charter boundary is subject to dispute, the latter part of the bounds do refer to what seems securely identified as the early feature known as the Rowe Dyke. Here the bounds run

[70] Rennel, 1970; *Herefordshire Archaeological News*, 1999, 42, and 1968, 3; Anglo-Saxon charter bounds of Staunton on Arrow, *Herefordshire Archaeological News*, 2003, 74, 32-35.

‘along the fence to the swing-gate, from the swing-gate along the street (paved road) to the dyke-gate, from the dyke-gate to the third gate, then along the street back to Milford’.[71] The dyke-gate has been identified as the point where the Shobdon to Lyonshall road passes through the Rowe Ditch. This seems to indicate a Roman road follows the south east boundary of Staunton parish crossing the Arrow over the milford, at the south corner of the parish. From here, according to Rennel, it follows other existing roads through Lyonshall and beyond, finally turning south west to reach the known Roman road in the Wye valley some distance north east of Clyro. Although doubts about the validity of this road have been aired, if the interpretation of the ‘street’ passing through the Rowe dyke in the charter bounds of Staunton is correct then it provides strong evidence for a Roman road on Rennel’s projected route that was still in use in the mid 10th century. It is thus just possible that this was still in use as late as the 15th century. The conjectural point of diversion from the main London road is about 16 miles, and thus about a hard day’s march in the winter, from both Hereford and from Mortimer’s Cross.[72] This would fit with Edward not moving until the day before the battle, waiting until his scouts reported the Lancastrian manoeuvre. This might make more sense than the Lancastrians taking the northern route via Prestigne, a diversion Edward would have been aware of a day or more earlier and thus likely to make him move sooner. But, until there is more research on this conjectural Roman road it can only remain one additional hypothesis as to how the campaign played out.

Whichever route they chose, the northerly diversion taken by the Lancastrians forced Edward to respond by marching north on the day before the battle. The implication is thus contrary to the evidence of the *English Chronicle* which claims the Lancastrians were seeking to destroy Edward – rather it appears as if it was Edward who was intent on forcing a battle. Where did he march on the day before the battle? He may have taken the Roman road north, that passed through Mortimer’s Cross, which would have taken him to his castle at Wigmore, but that would be 21 miles so much too far for a day’s march in the short days of mid winter, especially given Edward was still at Hereford at 10:00am to see the parhelion. Even less likely is he to have reached Ludlow for that was 24 miles. Moreover both would place his army several miles beyond the road from Wales so leaving the door open for the Lancastrians. Perhaps more likely is Leominster, a small town which could provide supplies for the army and which straddled the road to London, and thus enabling them to block the Lancastrian march. At just 13 miles that is a far more reasonable day’s march for early February, especially if the army did have a train of artillery.

[71] Whitelock 1968, 514-5.

[72] Analysis of the Barnet campaign in 1471 suggests a rate of march for the Yorkist army, which included a substantial number of artillery pieces, from the City of London to Barnet of just under 2 miles per hour. Foard et al 2020. An estimate of a marching rate for artillery is given from the 1497 campaign in Spencer 2019, 229.

The Tactical Terrain

The primary sources do not specify which army arrived first and thus was able to choose the ground, so we must explore both alternatives in assessing the military potential of the terrain. Also, as far as practicable, this must be the terrain as it was in 1461 for, like much of England, the medieval landscape around Mortimer's Cross was very different from that seen today. Unless otherwise stated, the terrain evidence presented here is drawn from the detailed discussion in the landscape report by Dr Tracey Partida that accompanies this report.

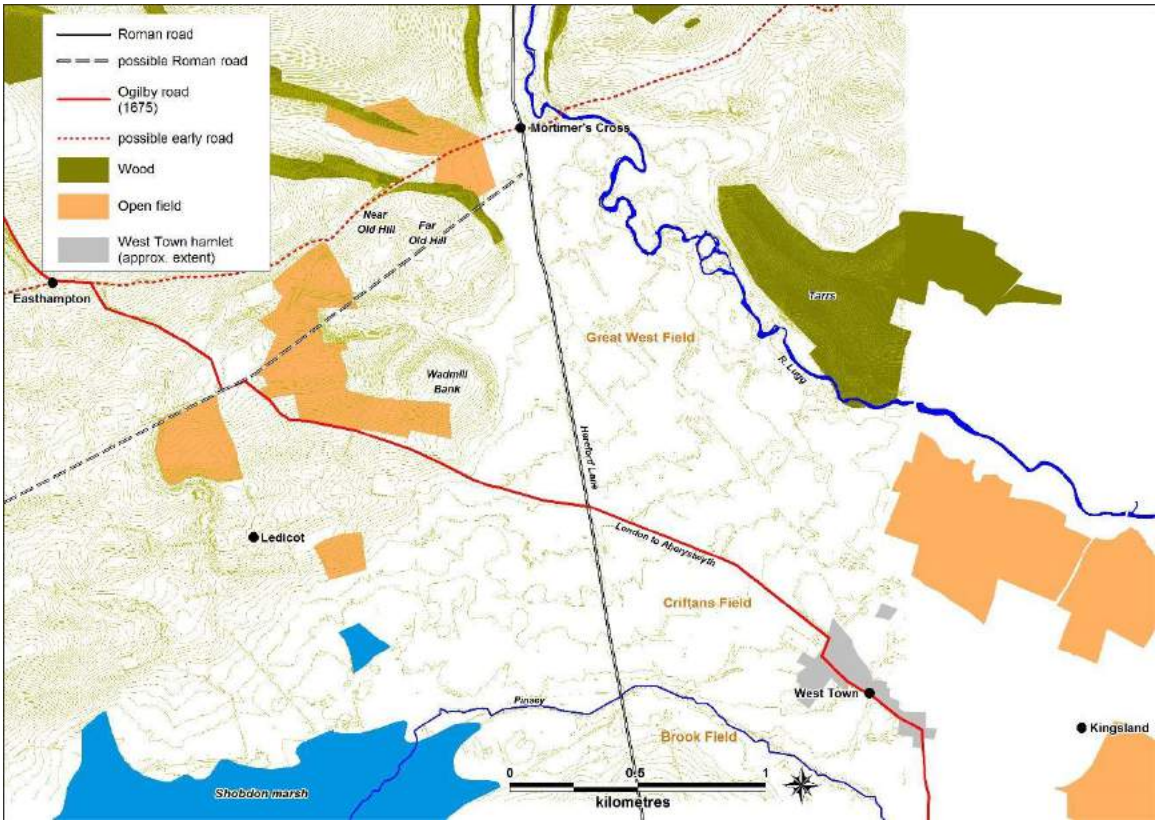

Figure 18: The core search area for the battlefield investigation, showing key elements of historic land use, in so far as they can be defined, and the road network set against the pattern of relief and rivers.

In the post conquest period a substantial estate was held by the Mortimer family, later earls of March, administered from the castle newly constructed between 1066 and 1086 at Wigmore. For part of the medieval period this estate included the manor of Kingsland. But the later history of these lands is complex as they were subdivided, granted out and sold to various other lords and lesser owners during the 14th to 18th centuries. This complexity has made it extremely difficult to trace surviving documentary sources that might help to elucidate the evolution of the landscape and thus the terrain of 1461, and it

is likely that important sources remain to be discovered in collections we have not searched. Unfortunately, part of the problem may never be resolved because what later became the Priory of Wigmore was originally sited at Shobdon and, according to the second charter in its cartulary, the Mortimers granted to the priory the manor of Shobdon with the land of Ledicot and the church of Aymestry, of which Shobdon was then a chapelry. Normally this would mean there was a good chance of finding an extensive documentary record for the estates. Sadly the majority of the records of the abbey seem to have been lost in the 16th century, for they were discovered rotting in Wigmore castle when it was owned by the Harleys. However, there may be some detailed records preserved amongst the dissolution papers of the mid-16th century in the National Archives but which were not located in the present study. What does seem clear is that the other nearby priory, Limebrook, held almost no property in the townships relevant to the study, just a small quantity of land in Shobdon. The dearth of documentary evidence for landscape evolution continues into the early-modern period where sources are fragmentary at best.[73] Despite extensive searches, transcription and where necessary translation from Latin of hundreds of documents, including over two hundred court rolls for Shobdon alone, we are only able to provide a partial landscape reconstruction (figures 19 & 20).

The underlying framework of the landscape is shown on the battlefield maps by contours, generated at 1m intervals from Lidar data, providing a background against which are set land use and other data sets. Narrow steeply-sided valleys, less than 200 metres wide in places, run from Mortimer's Cross north to Aymestrey, and north-west to Covenhope. To the south-west of Mortimer's Cross the ground rises to Near and Far Old Hill, and further south to Wadmill Bank, dissected by very narrow but exceptionally steep sided deep valleys in an area formerly called The Hole, now the Buzzards. The river Lugg presented a further constraint on the east, though its exact position in 1461 is difficult to determine because it has meandered widely over time, as it continues to do today. This is particularly marked in the stretch lying west and south of the bridge to Lucton, which shows evidence of former water courses lying much closer to the crossroads than now, as can be seen from the way the Lucton parish boundary almost touches the Roman road. Thus the Lugg and steep-sided slopes to either side would have created a constriction at Mortimer's Cross far tighter than appears today which, as we have seen, renders some past interpretations of the battle deployments implausible. The Pinsey brook in the south of our study area is a small stream which would have presented less of an impediment than the Lugg. However, the lower valley through which it runs still contained an extensive marsh when mapped by Taylor in 1754. The extent of Shobdon marsh as presented here is the best that could be achieved in the absence of detailed soils analysis, being defined from early nineteenth century field names and the extent of peat as recorded by the British Geological Survey.[74]

The only woods we have identified lay on the higher ground, such as Tarrs Wood to the east of the Lugg, or on the yet higher ground of the east-west ridge and the steep sides of

[73] See Landscape Report for a full discussion of methodology and sources.
[74] Q/RI/48; http://www.bgs.ac.uk/Lexicon/lexicon.cfm

its valleys, such as Poukhouse Wood. No evidence for woodland has been found within the core area of our study. Most of the remaining ground would have been open, either as large common pastures, which in nearby parishes were concentrated on the high ground of the ridge, with most of the lower lying land under open field arable, with hay meadows set along the narrow strip of lowest lying floodplain beside the rivers. Parts of this medieval open field strip system were still in operation in the eighteenth and nineteenth centuries in Shobdon and Kingsland respectively, tiny fragments indeed still functioning as late as 1950. The earliest enclosures would have been immediately adjacent to the settlements.

The medieval settlement pattern comprised a series of hamlets rather than a single nucleated village in each parish. But there were wide areas without settlements: none has been identified on the plain between Mortimer's Cross and West Town and the only settlement between Mortimer's Cross and Ledicot was Hole Farm, now called The Buzzards, but we have found no pre eighteenth century documents relating to this. Nor are we able to state with confidence at what date settlement was established at Mortimer's Cross itself. In 1461 there may have been nothing there but a stone cross. At West Town we have established a putative extent based on occupation and associated closes depicted on the tithe map of 1841, but clearly this may display a larger area than existed in the fifteenth century. Perhaps of greater significance is our lack of understanding of what land, if any, was already enclosed away from settlements at the time of the battle. The landscape study has shown that early enclosure within this area was piecemeal over at least four centuries and without recourse in the 18th or 19th centuries to parliamentary act and thereby leaving little in the written record. But what we have not done is to search for any records of private enclosure enrolled in Court of Chancery or another equity court from the 16th century onwards. It seems unlikely from the available evidence that there had been much, if indeed any, enclosure of Great West Field in the fifteenth century but it is far less certain to what degree enclosure had taken place in Ledicot and the other townships of Shobdon or around Mortimer's Cross. The earliest documentary evidence we have found is a lease dated 1535 which refers to closes named Wingswell, later Wingenwall, which we have been able to locate immediately south of Blue Mantle Cottages.

Thus despite extensive documentary research there are still major limitations in our understanding of the character of the landscape in 1461 where we are searching for the Mortimer's Cross battlefield. While new sources may be revealed by further searches, until the battlefield is located by identifying battle archaeology it is impossible to effectively target such additional work.

If, as seems most likely, the Lancastrian army approached either along the London to Aberystwyth road via Presteigne or along the putative Roman road from Clyro, this would bring them to the rising ground between Ledicot and Mortimer's Cross. Having dismissed an approach from Hereford, our landscape research has revealed no other straight forward route that would have led them via Mortimer's Cross. If the Lancastrians arrived first then this rising ground could have provided a tactically advantageous

position for their deployment. On Wadmill Bank, with the ground sloping down gently south eastward, the extra height would allow their artillery to command the Roman road from Hereford and much of the plain extending across that road into Great West Field almost to the hamlet of West Town. They would also be deployed across and controlling the Aberystwyth to London road, while to the north east a steep scarp cuts through the rising ground providing left flank protection. Further north east there is an alternative hill, again with the ground falling gently south eastward to the Roman road and the plain beyond, with a steep scarp beside Mortimer's Rock to the north east again providing left flank protection for an army facing south eastward. If however one attempted a deployment facing north-eastward here, overlooking Mortimer's Cross itself and controlling the putative east-west road, for which we still lack early evidence, then the steep scarp at Mortimer's Rock would pose a significant disadvantage if the army had to advance onto the plain. A similar problem would arise with a much less likely north eastward deployment on Wadmill Hill. This problem of the Mortimer's Rock scarp renders far less likely the interpretation, first presented by Evans and later copied by Smurthwaite and Haigh, of a battle fought with armies facing east and west beside Mortimer's Cross. Authors must show a very cavalier attitude to the historic terrain to enable such interpretations. This is most clearly seen in Haigh's battle plans, for not only does he fail even to show the steep scarp, he also invents a Wig Marsh beside the river Lugg for which there is absolutely no evidence simply so he can account for a parhelion immediately before the battle – timing we have shown is almost certainly a mistake.[75] In this area the only other option for a Lancastrian deployment is to replace that given by Hodges for the Yorkists, facing south down the Roman road, using the Lugg as left flank protection and the Mortimer's Rock scarp against their right flank. Though here they would need to control the higher ground to the right to avoid enemy shot from commanding their deployment.

[75] Evans, 1915; Haigh 1995, 42-3. Haigh, 1995, 42-3; Smurthwaite 1984, 105.

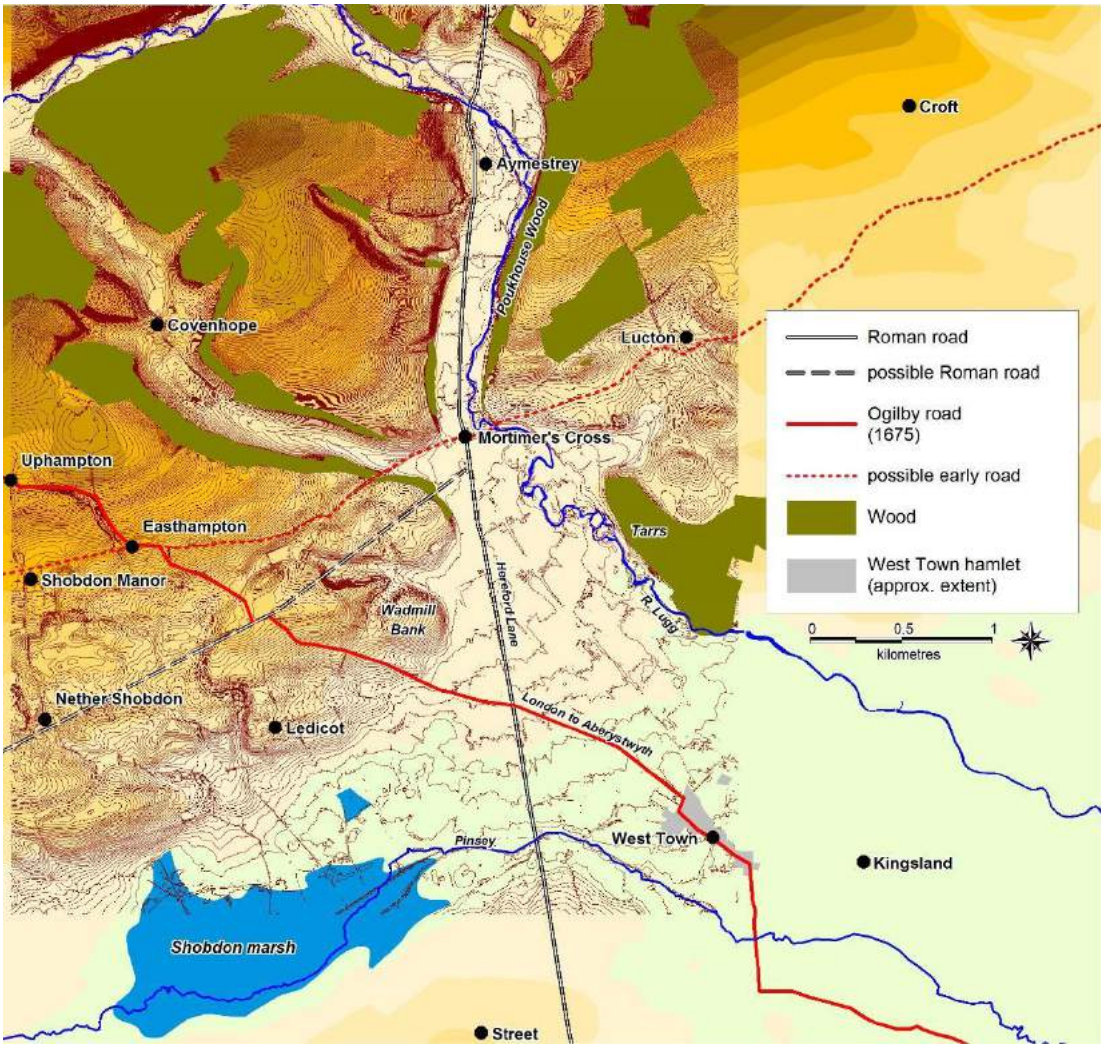

Figure 19: Local relief map with contours at 1m interval from Environment Agency Lidar data, also showing known pre-modern settlements, major roads, woodland, rivers and marsh. Kingsland is named as today where the church stands, but in the medieval period this area of occupation appears to have been called Longford, with Kingslane normally then used only for the manor and parish.

The Yorkists could have approached from almost any direction except the west, depending on where they quartered the preceding night. But, as we have seen, it is unlikely that they could have reached Wigmore or Ludlow the previous day and anyway such quarters would have left the main road to London open to the Lancastrians. Far more likely, given what we know of the road system, is an approach from the south east with headquarters the night before at Leominster, or even in Kingsland itself, for either would allow Edward to maintain control of the Aberystwyth to London road. Here they could have approached the battlefield from Leominster along the London road through West Town, or have passed immediately south of West Town to cross the Pinsey brook northwards along the Hereford Lane.

The greatest uncertainty which might alter ones perspective is if a major east-west road running through Mortimer's Cross did exist in 1461, for then the ground immediately east of the River Lugg would need to be considered. This route was established as a turnpike in 1756, but it is unclear whether it was a major route from Ludlow into Wales at an earlier date. It is perhaps more likely that such a route will have run on the north side of the ridge, through Wigmore where it could be controlled like the north south road by the Mortimer's major castle. In 1675 Ogilby, whose itinerary records side roads to his main routes, does show a road running east from Easthampton and another slightly to the south on or close to the line of the later turnpike, but they are simply described as the road to Lucton. Perhaps more significant are the topographical clues, for the road from Presteigne seems originally, before emparking, to have run directly eastward past Shobdon church, castle and manor, with this alignment continued eastward from Easthampton to the Lugg bridge on the Lucton road. Thereafter it may perhaps have run on a pre-turnpike line on what is now a footpath through Lucton and past Lucton Hall in the direction of Tenbury and Ludlow. Certainly on the Ordnance survey six inch mapping of 1905 there is a narrow earthwork on this alignment which appears like a terraceway 120 meters long leading westward almost to the base of the bridge over the Lugg (figure 21)

If Edward arrived first and along the Hereford Lane then the most advantageous position to deploy may have been straddling the Roman road immediately south of the Pinsey, with Shobdon marsh protecting his left flank and the enclosures of West Town protecting his right flank. If they marched through West Town or Longford then the ground of the traditional battlefield might have been chosen, with the river Lugg and the woodland of the Tarrs beyond protecting the right flank and the enclosures of West Town protecting the left. The third but far less likely option, unless a major east-west road did exist, might be the rising ground immediately east of the river Lugg in Lucton parish. Here a Yorkist army would overlook the narrow northern part of the plain, using the woodland of the Tarrs to protect its left flank and the woodland and steep scarp of Poukhouse Wood to protect the right.

All these option would be compatible with the battle having been described as 'at' Mortimer's Cross, especially if the defeated Lancastrians were pushed back past the cross. The issue is not simply how close to Mortimer's Cross the battle needed to have been fought to acquire that name. The situation is also confused to a small degree by the fact that the cross itself had been lost by the time of the earliest surviving maps and its exact location has not been identified in any earlier written source. The situation is compounded because Mortimer's Cross had become a settlement by the 17th century, apparently sitting wholly within the southern extremity of Aymestry township, and the focus of that occupation when first mapped may not relate to the actual location of the cross itself. Nor do we know whether there was already a settlement there in 1461 or if it was simply the location of a notable wayside cross.[76] It seems likely that the cross

[76] The earliest record of occupation at Mortimer's Cross found in this project is 1692, although immediately adjacent in Ledicot township is an enclosure by 1535, and later we see at least one farm in Mortimer's Cross holding immediately adjacent land in the other townships. G39/1/2/1; CF50/79.

functioned in part as a boundary marker – the hamlet was after all the place where the Aymestry perambulation ended in the 18th century – so the cross probably lay at a point where the boundaries of several parishes and townships met. This may have been close to the present crossroads, where Aymestry, Kingsland and Lucton meet. Alternatively it might have been at the junction of Aymestry, Kingsland and Shobdon where the Gospel Oak stood in recent centuries. It is just possible that the unexplained 'stone' shown on the 1885 Ordnance Survey map immediately east of the Gospel Oak was the base of the Mortimer's Cross, for such a cross base is depicted, together with the Battle Oak, on a somewhat dubious image on an early 20th century cigarette card (figure 11). However, where the cross stood would probably make a difference of only a couple of hundred meters.

If the battle was fought on the plain south of Mortimer's Cross then the action would indeed have been primarily within the open fields of West Town, especially the Great West Field as apparent local tradition, first recorded in the 17th century by Blount, might indicate. Though the plain does also extend southwards through Criftans Field to the Pinsey and a short distance westward into Ledicot township before the ground rises. Much of West Town township was still open field well into the 18th century so will have been open in 1461 with perhaps little or no hedged enclosures except for closes around West Town itself. Indeed a small fragment of the open field system of Great West Field still survived in 1950 when visited by the Woolhope Club, who saw a series of reverse S strips divided by narrow grass balks.[77] It was one of a very few examples of this medieval system of land management still functioning in England in the 20th century, of which almost none now survive. Today even this has gone from Kingsland. The only indications of the former open fields are a few modern pasture fields with indistinct earthwork ridge and furrow and several hedges with a reverse S plan-form that were planted along furrows between former strips. But it is possible that already by 1461 some enclosure had taken place. Certainly, Ogilby indicates both open ground and enclosure where the Aberystwyth road crossed Great West Field in 1675. To the west of the Hereford Lane the land of Ledicot was probably also still largely open field in 1461, for again limited areas remained open into the 18th century. However here there may have been more land already enclosed because, as noted above, at least one enclosure is documented in the Ledicot township immediately south of Mortimer's Cross by 1535.

The key issue in establishing where and how a pre-modern battle was fought is to determine where the two armies deployed, for so much that followed in a medieval or early modern battle was determined by exactly where and how the armies set out their battle arrays. The plain and the rising ground to its north west will have provided extensive open terrain across which armies could have deployed and then fought in battle array. Unfortunately, the lack of documentary evidence to demonstrate exactly what, if anything, had already been enclosed by 1461 provides significant uncertainty. The presence even of isolated enclosures could have modified the tactical potential, whether providing flank protection for an otherwise unlikely deployment, or disrupting such

[77] *Proceedings of the Woolhope Club*, 1949, XLIX-LIII

potential in what otherwise would have been suitable ground for deployment. Even within West Town township, which remained so extensively open into recent centuries, we are uncertain as to the exact extent of the settlement itself and its peripheral closes, and hence the limits on any Yorkist deployment on the probable traditional battle site.

Combining all the preceding evidence a search area can be defined within which it seems most likely the battlefield will lie and, within this a series of foci can be suggested where deployment is most likely and hence where sampling for battle archaeology should begin (figure 28). This search area has at its core the township of West Town (in Kingsland parish), but extends across its western boundary into Ledicot and Easthampton townships (in Shobdon), and Covenhope and Aymestry townships (in Aymestry parish). For reasons already presented, it does not seem likely that the battlefield will lie east of the river Lugg in Lucton, or north through the pass to Aymestry village or beyond into Yatton. However, if sampling for battle archaeology is spread adequately across the initial search area, sufficient to demonstrate an absence of physical evidence of military action, then these other zones may have to be explored at some point in the future, though this is beyond the time and resources available in the present project.

Figure 20: Looking south west from Aymestry village where the Roman road follows the narrow almost level pass cut through the ridge by the river Lugg, with woodland covering much of the steep scarps on either side. The Roman road makes a distinct turn at Mortimer's Cross as it exits the pass, running on across the plain towards Hereford.

Battlefield Archaeology

In most battlefield investigations evidence from analysis of the primary sources for the battle, when set within a reconstruction of the historic terrain, enables one or more hypotheses to be developed as to where the battle may have been fought. These can then be tested through a search for battle archaeology. Unfortunately, the absence in the

primary sources of any detail of the action or its topographical context made this impossible for Mortimer's Cross. Our search area has therefore been defined through the less satisfactory analysis of local traditions, and by applying the principles of Inherent Military Probability. This analysis led to a search area extending further west than that proposed in the original project design. It extends across the low lying flat ground from the traditional site of the battle, where the monument lies, to the site immediately adjacent to Mortimer's Cross that is favoured in modern interpretations, and westward onto the higher ground in Ledicot where there appear to have been other tactical potentials.

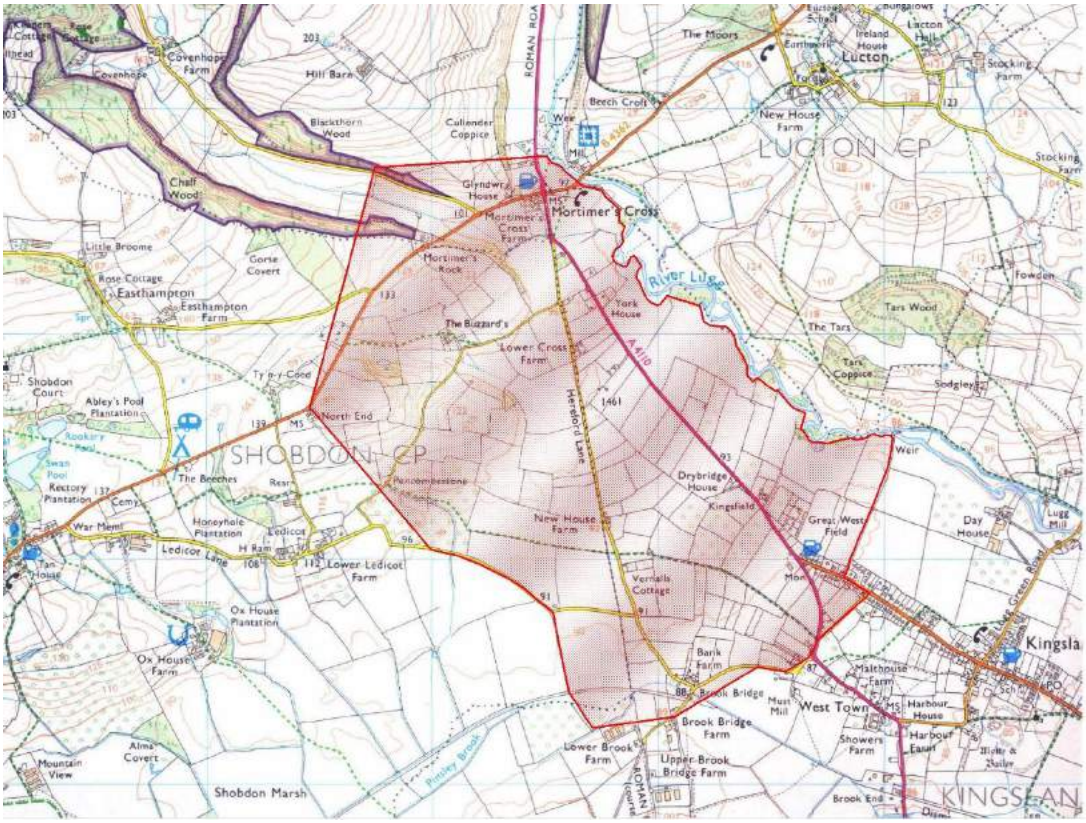

Figure 21: The archaeological search area as modified following landscape research and documentary research on the battle.

Expected character of battle-archaeology

The methodology for archaeological survey of a battlefield is determined by the character of the physical evidence that is expected to have been left by a battle of that period and type. Defences were rarely constructed on battlefields in the Wars of the Roses, Northampton being the main exception because this was an assault upon a defended camp. The physical evidence left by most battles will be restricted to mass graves and to scatters of artefacts, left on or close to the surface during the action. Mass graves can be

anywhere on a battlefield, or further afield if there was significant action during a rout or if bodies were transported to existing consecrated ground. At Towton the mass graves lay principally in the centre of the action where large numbers were killed, but at least one other lay a mile away in Towton village beside the medieval chapel. Individual high status burials may also occur in nearby or even distant churchyards, to which a small number of bodies were sometimes transported for burial. In addition remains from some mass graves, as at Towton, could be later translated to the nearest consecrated ground years later, though they were likely to remain within the parish or chapelry within which they had been originally interred. The establishing of a chantry to the dead of the battle could provide a focus for such translation, as may have occurred at Bosworth, though there is no evidence of this with the Mortimer's Cross chantry.

What the Towton research has shown is that if mass graves can be located and fully investigated they can yield extensive information on many aspects of late medieval warfare, including the character of the action, of the troops engaged, and the effectiveness of the weapons.[78] Unfortunately, investigation over many years at Towton has also shown the difficulty of locating mass graves using geophysics, even when the approximate location is known.[79] An effective methodology for locating such graves still does not exist, not least because they are relatively small features set within sites that can cover many square kilometers. Only where clear contemporary, antiquarian or place name evidence exists can effective, closely targeted investigation be attempted.

At Mortimer's Cross the reports of several earthworks locally believed to be where the dead from the battle were buried appear spurious, so archaeological investigation for mass graves was not practicable. Firstly there is the supposed burial mound reported to Brooke by Reverend Evans, which he says had already by the 1850s been levelled by cultivation.[80] In the absence of any locational information in the report this feature cannot be found. There is also a discussion by George in 1914 when he dismisses the idea that the mound near the rectory, which is now known to be a medieval castle motte, was the burial place of dead from the battle.[81] A fairly confident dismissal can also be issued with regard to the modern claims that the mound in Lucton parish at the crest of the hill to the east of and overlooking Mortimer's Cross is a burial site from the battle. There was already a small plantation here on the Tither map in 1840 and in 1885 on the first edition six-inch Ordnance Survey mapping but on the latter the adjacent fields contain several small quarries that are identified there as gravel pits. The form and sheer size of the earthwork revealed within the spinney by the 1m Lidar data surely confirms this is an early quarry not a mass grave.[82]

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[78] Fiorato et al 2000; Holst & Sutherland 2014.
[79] Sutherland 2009.
[80] Brooke 1857, 67-80.
[81] R H George, 'Wapley Camp, the Upper Lugg Valley and Kingsland', *Transactions of the Woolhope Club*, 1914, 62-4
[82]

https://environment.data.gov.uk/DefraDataDownload/?Mode=OGCPreview&mapService=https%3A%2F%

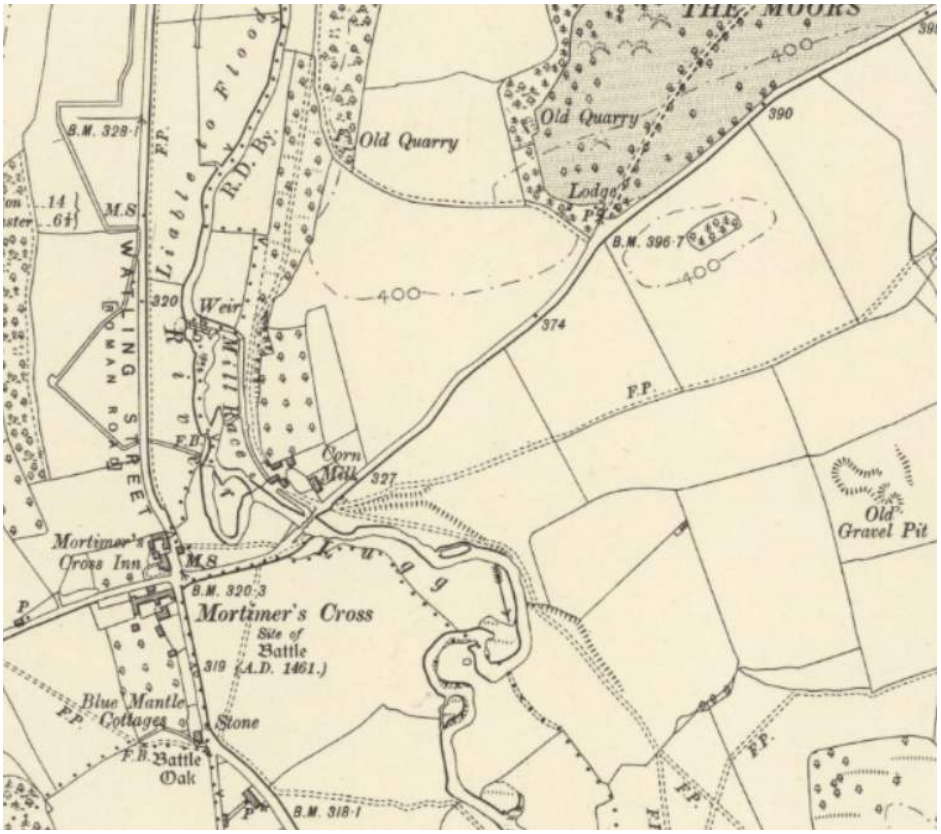

Figure 22: Ordnance Survey 6 inch mapping 1905. By this date the Gospel Oak of 1885 has become the Battle Oak; a causeway earthwork is shown extending east from Lucton bridge on the line of the putative pre-turnpike east-west road. Also shown are quarry pits east of the river, with the supposed battle burial site of modern tradition already shown as a coppice on the small hilltop above 400ft. south of the main road.

Thus the principal evidence here, as on most battlefields of the Wars of the Roses, is likely to be a scatter of unstratified artefacts left in the topsoil during the action and in clearing the battlefield immediately afterwards. This evidence has the potential to reveal how the action fitted into the contemporary terrain, thus unlocking a wide range of military and archaeological analysis. As all organics will have decayed, unless there were waterlogged deposits, the surviving scatters will comprise just three classes of object. Firstly there may be stone round-shot, which are known from contemporary continental battlefields, and possibly also stone hail-shot, both fired from artillery. Such evidence has yet to be demonstrated on any battlefield of the Wars of the Roses. This may be because such stone projectiles were not used in battle, but it may simply be because no effective methodology exists for their recovery, because the expected low density of such finds means fieldwalking survey is unlikely to be effective.[83]

2Fenvironment.data.gov.uk%2Fspatialdata%2Flidar-composite-digital-terrain-model-dtm-1m-2020%2Fwms Accessed 14/01/2022.

[83] At Bosworth only one of the 40 lead or lead-composite round shot was seen on the surface before being located with a detector. Foard & Curry 2013, 149-50.

So almost all battle-related artefacts likely to be recovered will be of metal, as these can be located through systematic metal detecting survey. Given the relatively low density of these finds at Bosworth, such survey must be undertaken at high intensity (2.5m spaced transects were effective at Bosworth whereas 10m spacing was not), employing appropriate equipment and expertise, and accompanied by GPS recording of each object to sub-meter accuracy.

These artefacts fall into two classes according to metal type: ferrous and non-ferrous. Towton produced Europe's first substantial assemblage of such battle-related finds, comprising several thousand non-ferrous artefacts, many of high status, ranging from weapon parts to clothes fittings. The site has also yielded several hundred ferrous arrowheads.[84] However, subsequent surveys on two Roman and two medieval battlefields in Europe, with exceptional survival of ferrous artefacts, suggest that when deposited early battlefield assemblages were typically dominated by ferrous objects, with non-ferrous artefacts comprising just a few percent of the assemblage.[85] This suggests the assemblage from Towton is atypical. Its composition is possibly due to the very large number of the English nobility who were killed there, as well as the wet conditions on the day that will have favoured small artefacts being trodden into the ground and hence not recoverable during post battle clearance. While these non-ferrous artefacts are widely distributed across several square kilometers, the ferrous arrowheads at Towton come from just a small part of the battlefield, probably due to special preservation conditions in that part of the site.[86] Thus the issue of decay of ferrous artefacts is a major consideration on all medieval battlefields. A methodology has been trialed for the assessment of likely preservation conditions for non-ferrous artefacts on early modern battlefields through analysis of factors including the character of the soil and land use history. However, this research needs to be extended to ferrous artefacts on late medieval sites such as Towton to understand what conditions might have enabled ferrous survival on other battlefields, to show where survey for such finds may be worthwhile.[87] At Mortimer's Cross the poor condition of many non-ferrous artefacts, and indeed of the ferrous sphere recently recovered there, suggests aggressive soil conditions across most if not all of the search area which would make survival of small ferrous artefacts such as arrowheads improbable.

Intensive systematic survey at Bosworth recovered clear evidence for that battle in the form of 40 lead and lead composite round-shot fired from artillery pieces. These objects are so obviously battle-related that normally only one needs be found to show that the battlefield has been located, enabling close targeting of survey to define the extent of the scatter. At Bosworth the round-shot were accompanied by only a very sparse distribution of other non-ferrous battle-related artefacts, strongly supporting the continental evidence that already suggested the number of such objects seen from Towton is atypical. A non-ferrous artefact scatter as sparse as that at Bosworth, if not accompanied by round-shot, would be extremely difficult to locate and interpret. The one positive factor is

[84] Sutherland & Holst 2014.
[85] Sutherland & Holst 2014.
[86] Foard, 2018.
[87] Rowe, 2019.

that most of the non-projectile battle finds from Bosworth were high status artefacts, possibly representing locations where members of the nobility were engaged in hand to hand fighting and possibly killed, thus reinforcing a pattern already suggested for Towton. The presence of gilded, silver or other high status 15th century artefacts is the one factor that might make it possible to identify them as battle-related even if only a small number of these objects were recovered.[88] The very low density expected for such finds means that, in the absence of round-shot, even more intensive survey than at Bosworth might be needed over a wide and contiguous area in order to reveal such a scatter. The time implications would make this extremely challenging to achieve across a search area as wide as that at Mortimer's Cross.

Given that 40 round-shot have been recovered from Bosworth, should similar evidence be expected on Mortimer's Cross battlefield if an identical survey methodology was followed? There are two issues. First is the apparent change in the nature of gunpowder weapons and their application to the battlefield between 1455 and 1485. The early phase of the Wars of the Roses saw the first significant use of gunpowder artillery on the battlefield by English armies, responding to lessons imparted by continental armies most notably in the English defeat at Castillon in 1453. Then comes what may be a key period in the evolution of warfare in Europe, with technological developments in gunpowder weapons in or soon after 1470, which appears to transform the battlefield capabilities of both artillery and handguns. In Europe this may have led to the application of both to the battlefield on a scale not previously seen, accompanied by large-scale use of the pike. While this transition influenced battlefield use of artillery by English troops, and even though handguns are recorded in armouries of the Wars of the Roses, handguns appear only to have been used in the defence of garrison, most notably at Calais. English armies shunned the battlefield use of handgun (and with it the pike) for several more decades because, unlike the crossbow more typically used on the continent, in the short term the English warbow retained an advantage on the battlefield compared to the rate of fire of handguns.

The documentary record does provide some indication as to the character of the bullets to be expected if they were used at all in battle here. Handguns appear in English records from the 1450s, with large numbers purchased for Calais in the 1470s-1480s, and for these the only ammunition was of lead. The calibre of these bullets is seen in 1472-5 when supplies for these handguns comprised 4000 shot of 0.17 lbs (77g and thus 23.5mm), which is the size of one bullet recovered from both Towton and from Bosworth. These, plus one 20mm and possibly also the 28mm bullet from Bosworth, suggest that just a few handguns were present on those battlefields but certainly no more. Such bullets are very large compared to the calibre of bullets for later shoulder firing handguns. The other type of handgun recorded was the hackbut or hook gun, a heavier weapon mounted on a tressel and protected by a pavise. They are first record is Calais in 1469 but the description given by Gregory of the use of handguns by the foreign mercenaries at St Albans II in 1461 might indicate they were using this type of gun. While the smaller bullets used in later 15th century handguns might prove difficult to

[88] Foard & Curry 2013, ch.7.

distinguish from the pistol calibre rounds fired by Civil War cavalry or from later sporting guns, the larger calibre rounds in use in 1461 would be immediately recognizable.[89]

Thus while the improving artillery pieces were in regular use on the battlefields of the Wars of the Roses, handguns and pikes were rare if not wholly absent. Therefore, unlike 17th century battlefields and European battlefields of the later 15th century, handgun bullets are unlikely to provide an archaeological signature on battlefields of the Wars of the Roses. The only exception may be where continental mercenary hangunners were engaged, most notably at St Albans II in 1461 and Barnet in 1471. While it seems likely that French troops were present in the Lancastrian army at Mortimer's Cross there is no evidence to indicate they included handgunners, though that remains a slight possibility given the inadequacy of the documentary record.

Thus, it is the evidence from artillery that is likely to be the principal archaeological record on most battlefields of the Wars of the Roses. The documentary research by Spencer on artillery of the period provides a framework for discussion as to what guns might be expected on a battlefield in 1461 and of what material their round-shot was most likely to be made.[90] There are a number of classes of artillery he has identified which only or most frequently fired lead rounds. In the light of the calibres of the round-shot from Bosworth, and the small number from other battlefields of the period, the guns most likely to have been used in the field seem to be those with a bore below 100mm, with the vast majority probably below 70mm, though there is a caveat on calibre presented below. This is almost certainly a matter of the mobility needed for battlefield use, because the upper limit of calibre seen at Bosworth is broadly comparable with the upper limit of field artillery pieces commonly in use on the battlefields of the 17th century. Then the saker (for the largest of which Elton gives round-shot of 95mm) seems to have proved the most effective field piece, as demonstrated by its choice as the sole type when first equipping the New Model Army.[91]

Spencer lists two types of wagon mounted gun. The ribaudequin, which only ever had two chambers, with twenty-four examples listed in Hickling's account that all fired 4 inch (101mm) shot. This is not to be confused with the organ gun, which also could be wagon mounted, have as many as 39 barrels, and for which the only recorded ammunition was lead round-shot. Of individual field pieces the principle type in use in the Wars of the Roses was the serpentine. It is first recorded in 1448 and continued in use into the 16th century, with large numbers acquired by crown from the 1450s to 1480s. They vary greatly in size, each having a long barrel relative to its bore, increasing its range and accuracy, and are regularly described with removable chambers. They typically fired lead round-shot in the fifteenth century but the larger pieces were capable of firing gun stones. It was not until the mid-1480s that iron shot was increasingly used in them as an alternative to lead. This is presumably because the introduction of cast iron at that time

[89] Foard & Curry 2013, 142.
[90] D Spencer, 2019, *Royal and Urban Gunpowder Weapons in late medieval England*, 235-256
[91] Foard 2012, 88.

made iron round-shot easier and cheaper to manufacture than the wrought iron rounds which were in occasional use before this. But some serpentines were of a much larger bore than the archaeology from Bosworth suggests we might expected on the battlefield, as in the Caister castle inventory of 1462, with one firing gun stones of 10 inch (254mm) and another 7 inch (178mm). Hickling's account in the 1450s has two serpentines firing shot of 3.5 lbs (1587g, which would be 64mm if of solid lead), and two 2.5 lbs (1134g, so 58mm if solid lead). The 1472-5 inventory also records 2000 lead shot of 1.5 lbs (680g, so 49mm if of solid lead); and the 1485 inventory 6000 lead shot of 1.1lbs (499g, so 44mm if of solid lead, rather than lead-composite). It is these serpentines, firing lead round-shot, which are well within the range of calibres seen at Bosworth, whereas the serpentines firing stone round-shot are of far larger bore than were seen there.

The other field gun used in large number in the 15th century was the Falcon, for which the only type of recorded ammunition was lead shot, but this was not recorded until 1489 in English records though then continuing in use into 16th century. While it is just possible the falcon was already in use four years earlier in 1485, it seems improbable that it could have existed much earlier without record. The majority of other guns were larger than the normal field pieces. Thus for example the Fowler in Hickling's account fired shot of 9 and 10 inches (228-254mm) with the only recorded ammunition being gun-stones.

The artillery seen from the documentary record have been shown at Bosworth to have left a significant archaeological record in the form of lead and lead composite round-shot.[92] It would appear there is similar evidence on other battlefields of the Wars of the Roses, as demonstrated by finds of a few lead or lead composite rounds on at least four sites, with possibly three from Northampton [1460], two from Towton [1461], several from St Albans II [1461], and three from Barnet [1471].[93] Therefore, it is not unreasonable to also expect them at Mortimer's Cross. However there does seem to be a problem, for while Bosworth has produced 40 rounds ranging in calibre from 20mm (53g) to 97mm (3214g), the extensive metal detecting survey at Towton produced just two small calibre rounds of 23mm (69g) and 30mm (c.160g). The former is compatible with the documented handgun bullets of 1472-5, while the latter round is more in keeping with the larger hand cannons seen in some continental collections, though it might equally be from the smallest of mounted artillery pieces. The absence of larger rounds from Towton is difficult to explain, but it is not due to the date of the battle because the one lead round-shot surviving from the three reported from the 1460 Northampton battlefield is of c.55mm (c.600g).[94] St Albans II [1461] has also produced one solid lead round of 53mm, so significantly larger than those from Towton. It is of course possible that round-shot are not present on earlier battlefields in number as high as seen at Bosworth. This could be because it is so much later and, in part, because it is known that Edward IV invested heavily in new artillery to replace losses sustained in the campaigns of 1471.[95] Also

[92] Unless otherwise stated the following discussion of artillery is based on analysis in Foard & Curry 2012, ch 7.
[93] Foard 2018.
[94] A previously unpublished report on the Northampton round shot is given in appendix 2 below.
[95] Spencer 2019.

because the train of field artillery from the Tower of London was almost certainly present with Richard's army in 1485.

The other potential problem at Mortimer's Cross is that it is likely to have been significantly smaller in scale than the major battles of the war, and thus fewer artillery pieces may have been present. It also lies at a considerable distance from the major arsenals in the Tower of London and Kenilworth, with the troops and their equipment being drawn principally from Wales and the Marches. So did either commander have access to resources to build up a train of field artillery?

Did the earl of March (the future Edward IV) have his own artillery field train. If he did then it is most likely to have been based in the Marches where his principal estates lay. The same would be true of his principal supporters, also drawn from the same region. Certain members of the nobility during the Wars of the Roses, such as the Courtenays, did possess their own artillery, as demonstrated during the siege of Powderham Castle.[96] That some of the guns used in such sieges and in defending the garrisons were of a suitable calibre for use on the battlefield is also suggested by the small lead composite round-shot recovered from the siege of St Michael's Mount.[97] Given Edward was marching east to join with Warwick for a major clash with the Lancastrians then it seems likely he would already have had such a train with him when at Hereford. But whether Edward and his main supporters had access to these resources is unclear. Edward was appointed constable of Bristol Castle in November 1460, so it is possible that he may have been able to procure field guns from that city. He was also recruiting in Gloucester in the winter, and Henry VI had ordered 30 pieces of ordnance to be supplied to Gloucester in 1459, so here is another garrison which may have supplied Edward with artillery for the field. Then there were the many other castles in the Marches which were required to be supplied with artillery in 1460.[98] It is of course possible that even if he did have access to guns he might have decided to leave them behind if he needed to march to London quickly, but there is no indication that the threat was so urgent as to demand he leave an important element of his weaponry behind.

Similarly, it is unclear if Jasper had access to field guns, though he might have brought artillery with him from the continent, while he also had many garrisons in south Wales under his and his supporters' control from which to take artillery, if any was light and mobile enough for a field train. This issue is ultimately the key one for the investigation of the battle of Mortimer's Cross, for it is the artillery rounds which are the key artefact class that is most likely to enable battlefields of the period to be identified archaeologically. Our inability to answer the question with confidence for either side does raise a significant question over the viability of the Bosworth methodology for the archaeological survey. If the number of rounds deposited is far less than at Bosworth but proportionate to the extent of the action then it is simply a matter of ensuring sufficiently

[96] Dan Spencer pers. com.

[97] Foard 2018.
[98] Spencer 2019, p.167.

comprehensive coverage. If there were very few or no artillery pieces then the 2.5m intensity used for the survey might not prove adequate to recover the evidence.

The other issue that must be considered on all Wars of the Roses battlefields is artefact loss, both historic and in recent decades. During the clearance of this and most other battlefields, in the hours and days after the action, almost all complete or largely complete items of arms and armour will have been removed. This will first have been at random by individual soldiers, especially in the pursuit. Then the battlefield will have been scoured by organised teams of soldiers from the victorious army to collect usable equipment. There will also undoubtedly have been scavenging by locals as soon as it was safe to venture out onto the field. These practices are well documented on later battlefields, for example at Naseby, are seen on the margins of the Bayeux Tapestry showing events after the battle of Hastings, and will undoubtedly have occurred in similar fashion in the 15th century.[99] As a result on any medieval or early modern battlefield large artefacts are rare finds, whether antiquarian or modern.

The most substantial artefacts from a Wars of the Roses battlefield will normally be round-shot. As the objective of the gunner will have been to bounce the rounds down range towards the enemy, this probably will have left most lying on the surface after the action. This was certainly our experience in the firing experiments conducted in connection with the Bosworth investigations. The larger the round the more likely it is to have been seen on the surface and thus recovered. This issue of size will probably also have influenced recovery by ploughmen in later centuries. As a result today the larger guns may be under-represented in the archaeological record compared to lesser guns. The other factor affecting recovery will have been land use at the time, with wet or ploughed land more likely to see rounds embedded in the soil, while a long crop or grass may have obscured them from view even if they were on the surface. These factors could mean the round-shot assemblage today may vary significantly in number and size on different battlefields, even if similar numbers and distribution of calibres were fired during the action.

Decay in the topsoil over the last six centuries is the next variable. Smaller ferrous artefacts such as arrowheads will have decayed in the topsoil on most battlefields. At Mortimer's Cross decay of ferrous finds may be particularly problematic, given the geological base. Certainly the condition of many of the non-ferrous artefacts recovered in the survey, especially the Roman coins but even including many modern coins, suggests a far more aggressive soil environment compared to Bosworth and Towton. So even if the battlefield is located it seems improbable that ferrous arrowheads or most other ferrous artefacts will have survived in the topsoil. In contrast, larger objects such as ferrous round shot should have survived, although their surface may have been heavily corroded, as indeed noted for the cast iron sphere discussed below.

[99] Foard 1995, 317-20.

An additional factor likely to have affected survival of round-shot at both Mortimer's Cross and Towton is the cultivation of potatoes over many decades at both sites, which anecdotal evidence suggested was likely would have led to the removal of round shot.[100] In order to assess the implications of this, a series of experiments were run to compare the impact on artefacts in the topsoil of modern potato cultivation, undertaken in 2015-16 in Malt Mill Field in Kingsland, and normal modern cultivation practices, undertaken at Woolston, Shropshire in 2016-18.[101]

At Kingsland seven sets of steel balls of 60mm, 50mm, 40mm and 30mm diameter were deposited, representing the principle range of calibres present in the assemblage of 40 round-shot recovered from Bosworth battlefield.[102] They also span the 45mm threshold above which the destoner diverts and buries stones and the potato harvester collects potatoes. A 16 mm lead ball was also added to each set to assess the effect of the machinery on handgun bullets. The first phase of cultivation, preparing the ground with the destoner and planting potatoes, resulted in dramatic movement of the steel balls of up to 14m, far greater than that seen in normal cereal cultivation at Woolston. There the artefacts comprised a 60mm and a 30mm mild steel ball and 16mm and 18mm lead balls, and the maximum distance moved by any object during one season was 2 metres, with an average shift of 0.67m.

[100] Foard & Morris 2012, 91.
[101] Foard, in preparation.
[102] Foard & Curry 2013; several additional round-shot were recovered in fieldwork on the eastern edge of the main scatter after 2011 bringing the total to 40, Bryn Gethin, pers.com.; also one further round-shot was recovered in development led fieldwork on the western edge of the battlefield by the University of Leicester.

Figure 23: Destoning machinery used prior to planting potatoes.

The Kingsland experiment showed that during the subsequent harvesting of potatoes and immediately following that the cultivation for cereals, artefact movement was no more than 0.6m. The exceptions were the removal of one 60mm ball with the potatoes and the loss of a 30mm ball, which was never relocated despite extensive re-detecting and so it too may have been removed. This shows, as expected, that the vast majority of drift in potato cultivation is due to the destoner. While some uncertainties remain, the experiment has allayed fears that modern machinery deeply buries most round-shot. While almost 50% of the spheres of 30mm and above were buried by the destoner, this was only to between 30-40cm. Indeed, because they were this shallow, in the final cultivation phase several were lifted up by the plough into the upper levels of the topsoil. For such large objects, whether of iron or lead, a depth of 30-40cm would not be beyond the range of normal vlf detectors. What is might do is to reduce the probability of them being located and so a less dense distribution might be recovered. With the 16mm lead balls the depth of burial did place some beyond detectable depth. Thus, while the impact of modern machinery is not as great as was feared, it is clear that it could have a major impact and not just by distorting the distribution pattern by tens of meters. Because in the experiment in one season at least one, possibly two, out of 28 balls was removed, representing at least 4% of the assemblage, so over several seasons a significant impact on the assemblage might occur. That the experimental evidence is applicable to the real world situation is confirmed by the recovery by Andrew Cross of a large iron sphere in 2020, while sorting potatoes on the farm from one of his fields immediately south of Lower

Cross Farm which had been cultivated and harvested using similar machinery to that in the experiment.[103]

The important question our experiment does not answer is what was the impact of cultivation for potatoes throughout the second half of the 20th century, before the current machinery was introduced. Anecdotal evidence from Edgehill [Warwickshire, 1642], including a report by a local farmer who had on his mantelpiece several cast iron rounds found by his father, indicates that potato riddling had removed round-shot from that site in the 1960s and thus is likely to have done the same on other battlefields.[104] This seems to be because there was no prior destoning and so, instead, stones were collected with the potatoes during harvesting, the stones being picked out and disposed of during sorting. This sorting and disposal frequently occurred off-site, so is likely to have removed many of the larger artefacts to another location altogether or, if sorting was done on site, then shifted them to another part of the field. So it is conceivable that some, perhaps many lead round shot of 25mm – 95mm have been removed by earlier potato cultivation at Towton and Mortimer's Cross, whereas more recently modern machinery has probably removed less, but has moved them significant distances within the field. To test this, on Lower Cross Farm we did briefly detect the area where the farmer indicated the stones and other detritus from the potato sorting had been deposited for many years after use of the earlier harvesting machinery but no round-shot was revealed there, but this was not a reliable assessment of the issue.

The other major uncertainty is the degree to which the progressive erosion of the archaeological record over the last fifty years by treasure hunters has impacted on the landscape around Mortimer's Cross. While there has been a mechanism in place for well over a decade for the recording of metal finds, much detecting still goes unreported. So, while we have reviewed the Portable Antiquities database to establish what finds have been reported from within our search area and in adjacent land, none of which seem to be battle-related, there is no way to determine what else may have been removed. At least two detectorists are said to have undertaken extensive detecting. One was Geoff Ballard who is said to have detected the whole area but never found anything related to the battle. But the most active detectorist seems to have been the late Fred Jones who undertook detecting within Kingsland, Lucton and adjacent areas over many years. While in the earlier years he reported discoveries to the Portable Antiquities Scheme, in later years he refused to do so. Moreover, while many detectorists are pleased to share information on their discoveries, Jones's widow refused the project access to his collection. So we have no idea whether he ever recovered round-shot or other battle-related artefacts, the significance of which he is unlikely to have recognized. What does appear from the distribution of his reported finds is that the vast majority came from Lucton not Kingsland. This suggests that his detecting in Kingsland was not as intensive as is often suggested locally. This may have been a response to an unusually low density of interesting finds in our search area, rather than his detecting being a cause of the low density that we have observed. Given that Jones was detecting for much of the last 20

[103] Andrew Cross, pers com. 2021.
[104] Foard & Morris 2012, 91.

years this supports the subjective feeling of the most experienced members of the survey team that the low density of finds is not a result of losses to treasure hunters but rather is a genuine reflection of a paucity of metal finds deposited here.

No research has been undertaken to establish whether any indicators of loss might be recoverable in such a situation. For example, might it be possible to assess loss rates by comparison of adjacent areas, one arable and another long term pasture but newly cultivated. In the latter the finds will have been so deep they are far less likely to have been recovered in the past than in the arable where they will have been regularly mixed and hence often nearer the surface. In the current project all one can do is compare returns generally with those from two areas where we know from the landowner that over the past few decades little or no detecting has ever been permitted. Fields 28, 29 & 31, comprising 2.09 hectares have only ever been subject to two days detecting by one individual who recovered very few objects. Our 2.5m transect survey recorded 36 finds, giving a density of 17.2 per hectare, compared to 337 finds recorded in the rest of the survey area comprising 43.7ha giving a density of 7.7 per hectare. The most useful individual artefact class to assess is the lead ball because it is a ubiquitous artefact. From the 2.09ha we recovered 14 giving a density of 6.7 per hectare compared to 42 from the rest of the survey area giving a density of 0.96 per hectare. This might suggest a high degree of loss to treasure hunting across the survey area. However the Gatley estate land has seen a blanked refusal of detecting until the present investigation and, although the isolated character of that land means that some illicit detecting may have taken place this cannot have been on a scale sufficient to cause large scale loss of artefacts. We detected 10.5ha of Gatley land recording 82 finds of which 13 were lead ball, giving a density of 7.8 per hectare and 1.2 per hectare respectively. These figures are very close to those for the remaining 35.2ha of the survey area, where 291 finds were recorded of which 43 were lead ball, giving 8.3 and 1.2 per hectare respectively. Comparable data is available from the core area of the Bosworth battlefield survey, where again no previous detecting had been allowed, which had a density of 0.96 per hectare for small calibre lead ball unrelated to the battle. This suggests that the wider survey area at Mortimer's Cross has not been severely impacted by treasure hunting and implies that some unexpected factor is at play in fields 28, 29 and 31.

This brief analysis shows the difficulty of making simplistic calculations and why there is a need for detailed research on this topic, including experimentation as well as recovery comparisons of this type. It is becoming a progressively more important issue for battlefield studies, not least because Historic England have consistently failed to take effective action to protect the archaeology of nationally important historic battlefields from treasure hunting.

Previous finds

Having defined the likely character of any battle archaeology from 1461, including what may have been lost from the assemblage as originally deposited, we can now assess the significance of finds previously suggested as battle-related. The earliest report was given

by Brooke, who visited Kingsland in 1854, 1855 and 1856 as part of his national review of the battlefields of the Wars of the Roses. He writes: 'relics of the conflict have been occasionally dug up in the fields in front (to the westward) of the pedestal, and of the point of junction of the two roads. When I first visited the field of battle, on the 16th of May, 1854, I met with a husbandman at work there, who had lived near it many years, and who informed me, that some years ago, in ploughing in the next fields immediately to the right and left of the turnpike road, after leaving the pedestal and the place of junction of the two roads, he had not unfrequently discovered remains of bridle-bits, stirrups, fragments of iron, and, amongst others, long pieces of iron, which, from their shape and size, he concluded had been sword-blades, besides other indications of the battle.Within the recollection of the Rev. R. D. Evans, rector of Kingsland, some arms, swords, and spear-heads, were found on the field of battle, and were presented to the Museum at Hereford. He also showed me, when I visited the field of battle in 1856, a large buckle, perfectly plain, conjectured to have formed part of the trappings of a horse; a small buckle, rather ornamented, probably intended for a sword-belt, both of iron or steel; and a small silver coin, seemingly a groat, all found upon the field of battle in 1854. I have also been informed by him, that there was within his recollection, in a close near the field of battle, a mound said to have been a place of burial of those slain in the battle, but that it is now quite ploughed down, and no vestige of it remains. Although the field of battle is now entirely enclosed, there were old persons living, when I visited it in 1855 and 1856, who recollected large parts of it, when the thorn fences of its enclosures were small, and not much grown, from having been recently planted, and even when a portion of the land near the pedestal was open and unenclosed. Politely communicated by the Rev. R. D. Evans, rector of Kingsland, who stated that the discovery of them took place when he was a boy. There is in the Museum at Hereford, an ancient spur, found in the neighbourhood of Mortimer's Cross, but not upon the field of battle, of the description called the prick spur, of steel, plated with silver, presented to the Museum in 1839, and which I saw in the Museum in May 1865.'[105]

Whether any of these finds actually derived from the battle cannot be established. This applies even to the spur reported by Brooke which, because silvered, might be considered the most likely artefact to be from the battle, for such high status finds were present in small number from Bosworth and were far more numerous at Towton. However if it was indeed a prick spur then it is almost certainly much earlier than the 1460s and so not related to the battle. Unfortunately the Museum Service have no knowledge of the whereabouts of the finds discussed by Brooke, in part because Hereford Museum & Gallery was not built until 1874. It opened with artefacts from the Woolhope Naturalists Field Club but that was only established in 1851. It therefore seems likely that Brooke was referring to the small museum and library maintained the by Woolhope Club's precursor, the Hereford Literary, Philosophical and Antiquarian Society, which had been founded in 1836. The present museum do not have records of the artefacts held by the earlier Society and their accession register was not introduced until the 20th century,

[105] Brooke 1857, 67-80.

though items already held were inventoried at that time, providing a starting point for a further search.[106]

There are several items in the Herefordshire Museums collection which are recorded as being related to Mortimer's Cross battlefield, of which two are believed most closely associated. First is a Barbuta helmet of the 15th century (object 9467), but this was found 20 miles downstream along the river Lugg near Lugwardine so the link seems spurious. The other is a duelling dagger of the 15th-16th century (object 110) presented in 1899 by Mr Truman Cooke and said to come from Mortimer's Cross battlefield. In addition, one of the early gift books for the Old House (now the Black and White House Museum) records a sword and a spur given by the Misses Langston of Kington in 1929. The sword (OH number 11, 8940) is said on a later record card to be of basket hilt type with a steel blade of 33" long, reputed to have been found on the site of the battle of Mortimer's Cross. It was given with another sword (OH 12, object 8939), said to be from the Civil War, and has itself since been re-evaluated as seventeenth or eighteenth century. The spur (OH 14) was also given by the Misses Langston but provenance on a separate card index is: 'supposed to have been ploughed up on Pembridge battlefield', a village about nine miles south west of Mortimer's Cross. That at least one of the finds thought to be from the battle has been reassessed as of later date is not surprising as it parallels what happened with the antiquarian finds said to be from Bosworth battlefield, almost all of which were shown from the surviving drawings to be of a later date. It seems quite likely that the finds reported by Brooke were also in fact of a later date and unrelated to the battle, or even perhaps much earlier.

The mound reported by the rector as a mass grave from the battle may also be spurious. It is perhaps more likely to have been a Bronze Age round barrow, for several ring ditches are reported in the Historic Environment Record in arable to the west and north west of Kingsland. It may even be the mound 1m high and 40m in diameter reported in an orchard at SO435615, which has been suggested as an upstanding barrow.[107] Indeed there are numerous stories which were collected locally by a member of the project team which include where mass graves from the battle are said to lie, such as Kings Hall field just above the village of Moreton Eye where mounds were said to be the graves of soldiers killed at Mortimer's Cross. And there are reports of human bones found, for example when digging to build York or Lancaster House, though in no case has substantive evidence been located about these supposed sites and discoveries and so most are not mentioned in this report.

There are also many claims of artefacts linked to the battle. One which may indeed prove to be genuine, but would be of no value to the objectives of our investigation, is that Owen Tudor's Sword was sent by Henry VIII to Hereford and is held in the Town Hall there. Most of the stories are however related to sites or finds in the environs of Mortimer's Cross and claim to relate directly to the battle. When these stories have been pursued rarely could the artefacts be produced and so the more dubious examples have

[106] Information from Judith Stevenson and Sally Mansell, Hereford Museum & Gallery.
[107] Transactions of the Woolhope Club, 1999, 436-7.

not been followed up. For example a sword was said to have been found when the sawmill buildings were being constructed opposite the Mortimer's Cross Inn during the 1960s. When seeking access to the object it was said to have been sent for analysis and then never returned. Other stories include two brigandine plates found on the eastern bank of the river south of the Lucton bridge a few years ago, while on the other side of the valley just below Mortimer's Rock arrowheads were supposedly found. Then in the field south west of the bridge Fred Jones is said to have found some chain mail which was too deeply buried to be pulled out so he left it there. Almost with exception these reports are likely to be spurious, some more obviously so than others!

The most numerous finds from the environs of Mortimer's Cross consistently linked to the battle are what has been suggested as round-shot, which when examined appear to be of cast iron. While the documentary record shows that cast iron round-shot was already in use in England by 1485, so could have been used at Bosworth, there is no evidence of it being used in this way as early as 1461.[108] The only iron rounds at that time, rarely recorded in the documents and so unlikely to be found on a battlefield, were of wrought iron. But at least three iron spheres have been recovered near Mortimer's Cross. The first was reported in 1932 at the Spring meeting of the Woolhope Club where 'Mr G H Jack exhibited an iron ball for a culverin found on the site of the battle of Mortimer's Cross…'. This is perhaps the same find as the 'cannonball' reported from Kingsland near the field of Mortimer's Cross in 1927.[109] What must be intended there is not the indeterminate meaning of culverin when used in the 15th century, but rather a gun of the standard named size in the early modern period and for which Elton in his 1668 manual gives a diameter of 120-133mm. This is larger than the largest lead rounds found at Bosworth, at 97mm.[110] Another supposed round-shot is said to have been found in the garden of York House and was until recently used as a doorstop, but this has not been examined.

The collection in Leominster Museum contains two iron spheres said to be from Mortimer's Cross. It is possible that these are the objects reported in 1927 and 1932, but could indicate that as many as four or five iron spheres have been previously recovered from the area. The larger iron round (B925) is c.119mm diameter, which is extremely close to the diameter of that reported in 1932 making it highly likely this is the same object. The ball shows extensive surface corrosion, which may have removed evidence of a mould ridge and sprue snap expected on cast iron, but it does have a shallow hole which seems to represent a casting fault. While the corrosion would be compatible with lying in the aggressive topsoil around Mortimer's Cross since the battle, if it is indeed cast iron then, as we have seen, it is almost certainly not from the battle.

[108] Spencer 2019.
[109] Transactions of the Woolhope Club, 1927 & 1932.
[110] Elton 1668, quoted in Foard 2012, 88. Foard & Curry, 2013, 167.

Figure 24: Iron sphere from Mortimer's Cross in Leominster Museum (B925)

The smaller iron round (B430) is c.74mm in diameter and has what appears to be a distinctive offset casting mould ridge, but with a shallower raised band that extends to the normal mid point for a mould ridge. Alternatively this may indicate some form of swaged steel ball of much more recent origin. This and its very low level of corrosion suggests it has not been in the aggressive soil around Mortimer's Cross for more than 500 years and is not a medieval round-shot.

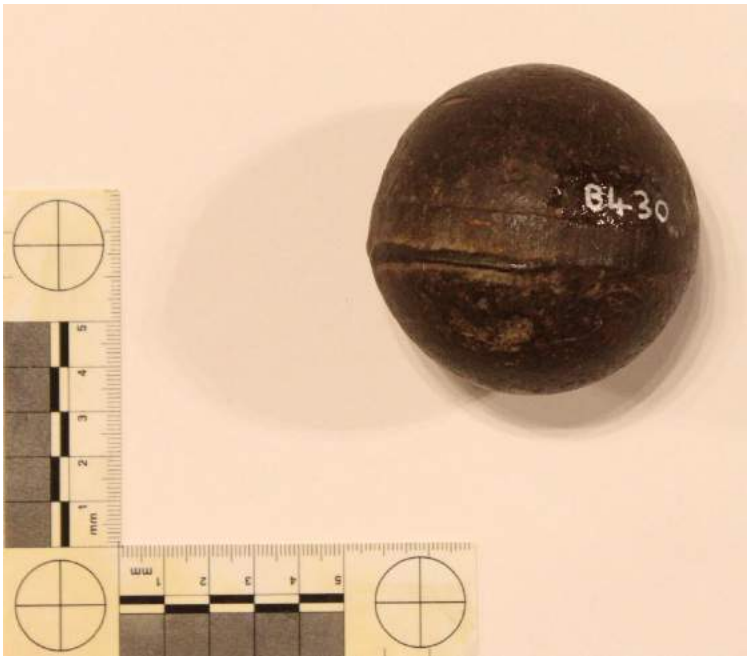

Figure 25: Iron sphere from Mortimer's Cross in Leominster Museum (B430)

While one might question the provenance of the antiquarian finds, such as the two iron spheres in Leominster Museum, there is no question as to the provenance of the iron sphere recovered in 2020 from survey field 15, belonging to Lower Cross Farm, which was recovered by Andrew Cross while sorting potatoes from that small field. It is 76.3-77mm in diameter and weighs 1678g, though some loss of mass and diameter is possible due to the degree of corrosion of the surface. It would appear to be of cast iron as there is no evidence of lamination, which one might expect from corroding wrought iron.

Figure 26: Heavily corroded iron sphere from field 15 on Lower Cross Farm recovered in 2020 in sorting potatoes.

There are explanations other than round-shot for such objects.[111] These include cast iron bearings for swing bridges or lock gates, use in ore crushing and in grinding, as components for iron railings, they can even now be bought in groups as garden ornaments, while one museum example from Barnet proved to be a womens' shot putt! There was construction under way across Kingsland in the late 18th century of part of the Kingston, Leominster to Stourport canal. It was opened to the east of Leominster in 1794, but construction west of Leominster was abandoned by 1801 with only a short distance at Kingsland ever dug, the earthworks in places recorded on the first edition Ordnance Survey six in mapping in 1885. The works are faintly visible on the modern Lidar data extending as far as the Hereford Lane immediately south of New House Farm, within 300m of the iron sphere find in field 15.[112] But construction was abandoned so early it seems improbable that these iron spheres come from a swing bridge or lock gate as surely none had yet been installed before work ceased. Certainly no water was ever run in the trench as can be seen from the name of the house beside the turnpike crossing which is still known as Drybridge. If the spheres do not come from this most obvious source, the other possible explanations for their presence seem even less likely. But it is the number that have been reported from this small area which is concerning. Such ferrous rounds

[111] Foard & Curry 2013, 152.

[112] https://htt.herefordshire.gov.uk/herefordshires-past/the-post-medieval-period/transport/canals/the-leominster-and-stourport-canal/ accessed 11/01/2022. 1m Lidar data viewed on Archiuk.com 15/02/2022.

have been even more commonly reported from Barnet, and one of 79mm diameter has even been reported from Nomansland near Sandridge that has been suggested as related to St Albans II battle, like Mortimer's Cross fought in 1461. This combined with the failure to locate any lead or lead-composite round shot in battlefield survey at Barnet and Mortimer's Cross, and their rarity at Towton, may eventually demand a reassessment of the date at which cast iron round-shot was introduced.[113] But at present it remains a very unlikely scenario that cast iron round-shot was in use in 1461.

The absence of lead or lead-composite round-shot at Barnet and Mortimer's Cross and just two very small rounds from Towton may also demand a reconsideration of the potential for the use of stone round-shot of under 100mm in field artillery even though, as we have seen, the documentary record suggests they were normally reserved for guns of larger bore. A preference for lead may in part be explained because the smaller the ball the more significant the mass reduction would be compared to equivalent sized lead or iron balls, thus delivering somewhat shorter range and lower impact energy and hence effectiveness. There are however in Leominster Museum two small stone spheres, described there as 'sling stones', said to be from Mortimer's Cross. Unlike several seen from Bosworth they do not immediately appear to be natural spheres, both in form and stone type although specialist analysis would be needed to confirm this. There are after all stone round-shot of just under 50mm from continental battlefields of the period. The two items at Leominster (at 56mm x 62mm and 66mm x 69mm) are also within the upper range of diameter of the Bosworth round-shot, though they are not as perfectly spherical as one might expect of an artillery round-shot. Thus on balance it seems unlikely that they are artillery projectiles but the issue might need to be reconsidered in future.

The museum also contains an iron axe and an iron spearhead with part of a surviving wooden shaft, said to come from Lucton and from Kingsland village respectively, but neither appear to be battle-related, not least the spear because it has part of the wooden shaft surviving.

[113] Foard, Partida & Wilson, 2020. The Nomansland find reported by as being found on West End farm, Nomansland, Sandridge (approx TL162 125) in the early 1970s, where there are 19th century reports of finds of cannon balls. Andie Hill pers. com.

Figure 27: Two near spherical stone balls from Mortimer's Cross, described as 'sling stones' but representing the best candidates so far seen for stone round-shot

At one stage in the survey it was thought that a lead projectile had been recovered from Shobdon by a local detectorist, suggesting the battlefield might lie beyond the western boundary of our search area. However, when examined, it proved to be only half a sphere with one face appearing like a round-shot, but the other with clear evidence of having been 'sawn' in half in antiquity, making it unlikely it was an in-situ round shot. Further cleaning then revealed a small hole which passed right through the object showing it was not a round-shot but part of a weight, plumb bob or similar object.[114]

[114] The Shobdon lead artefact had a diameter at its widest point, set in from the cut side, of 41.99mm - 38.28mm. The depth of half sphere was 23.3mm and its mass 224g. It was recovered from the fields south east of Shobdon Court.

Figure 28: The two faces of the lead object recovered from Shobdon

While we have dismissed every object so far as almost certainly unrelated to the battle, there is one last artefact which cannot be so easily discounted. This is a solid lead ball of 22mm diameter that was recovered by detectorist Mrs Burleigh between Yatton and Wigmore.[115] It has a very corroded surface and thus unfortunately all of the normal evidence of manufacture and firing has been lost. It varies in diameter between 22.37 – 23.71mm, because it has slight traces of facets but, due to the surface corrosion, it is difficult to interpret these features although they might indicate firing as part of a multiple load. It weighs 64.85g which indicates a diameter of 22.2mm, though corrosion may have slightly reduced the mass and diameter. It is not magnetic and so does not contain an iron die, while the correspondence of mass to diameter indicates there is no stone inclusion either. While such an inclusion would strongly support a 15th century date its absence is not a problem as most such small calibre bullets of the period are solid lead.

A lead ball of this calibre is far above the bore of early modern handguns and is likely to be from one of two sources. It could be from a mounted gun of the Civil War, but as far as we are aware there is no context for the firing of such a weapon in anger in this area at that time. Alternatively it is from a handcannon or mounted gun of the 15th century. A single lead ball of 23mm has been recovered from both Bosworth and Towton and, as discussed above, this is the documented size of many of the handguns used at the time by English garrisons.[116] However its location, just 1 mile south of Wigmore but 2.5 miles north of Mortimer's Cross, makes it improbable that it is an outlier of a scatter on the battlefield itself. It seem too close to Wigmore, given the way the primary sources describe the battle as near Wigmore at Mortimer's Cross. If fought this close to Wigmore, a far better known place, then it would surely have been named simply the battle of Wigmore. Moreover, despite searching most of the surrounding fields the detectorists have found no other large calibre lead balls or any other significant 15th century finds, though until a systematic survey is conducted the absence of other finds cannot be confirmed. What seems more likely is that this was one round fired by routed Lancastrian troops being pursued northwards from the battlefield, for it was found very close to the

[115] NGR SO4256067700
[116] Foard & Curry 2013, 14

now abandoned course of the Roman road. This was still the main road in 1461, bypassing Wigmore, because it is still shown as such on Taylor's map of 1754.

Figure 29: Lead ball of 22mm recovered from between Yatton and Wigmore.

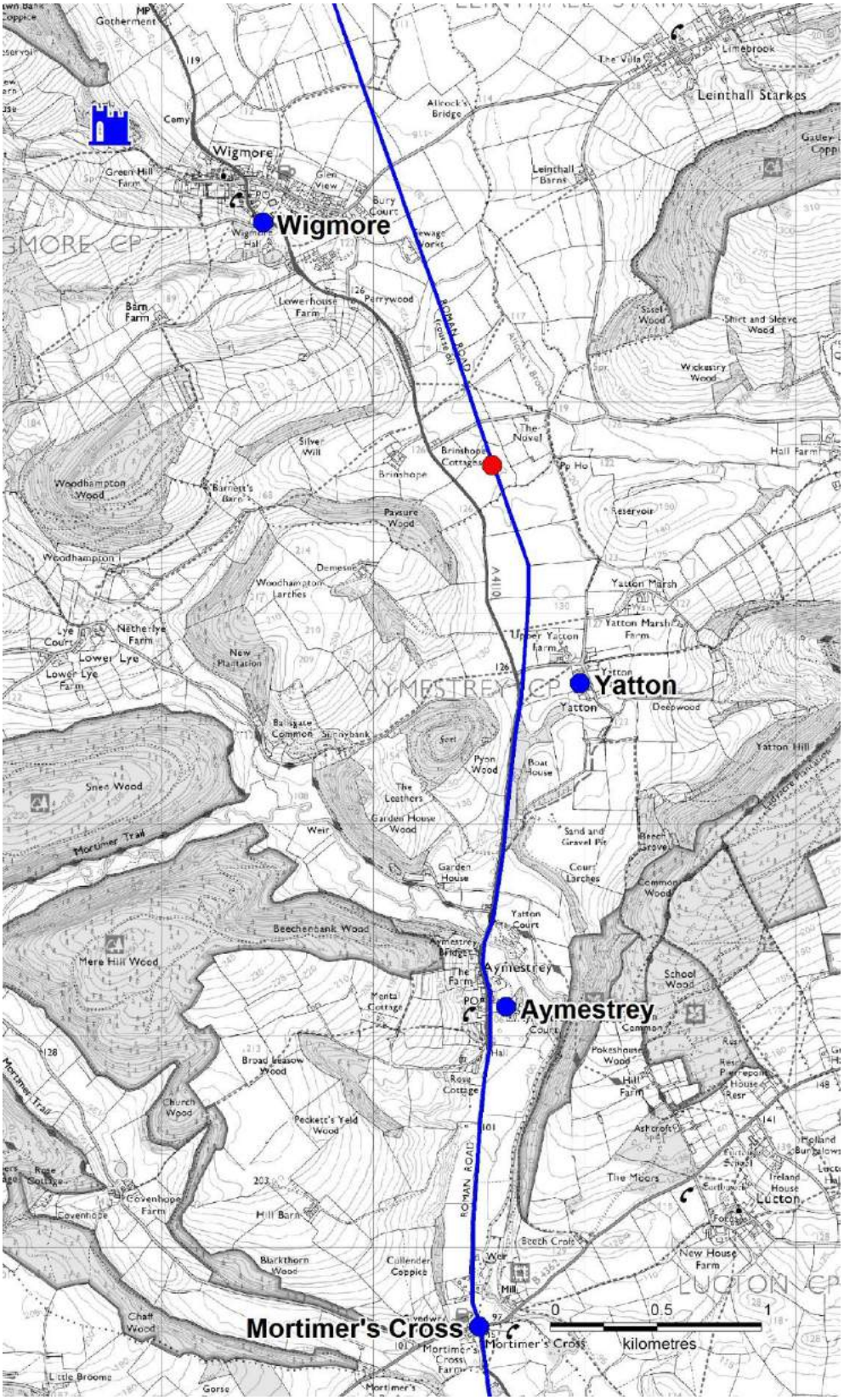
Wigmore
Yatton
Aymestrey
Mortimer's Cross
ROMAN ROAD
A4110
0
0.5
1
kilometres

Figure 30: Location of the 22mm lead ball found between Yatton and Wigmore, shown in relation to the Roman road.

The Metal Detecting Survey

In 2015, when the project proposal was being prepared, pilot work for the detecting survey was undertaken on two pasture fields immediately north of Lower Cross Farm. The survey during the full project began in November 2018 and was completed in January 2022. The search area shown in the project design was extended westwards beyond the plain to take account of the results of research on the landscape and the primary sources for the battle. The survey followed the methodology detailed for survey of the core area of the battlefield in the Bosworth project, which was considered the minimum likely to identify a similar density of battle-related artefacts to Bosworth.[117] As no evidence for the battle was recovered the detecting never progressed beyond the reconnaissance stage and so no areas were subject to resurvey.

It had been intended that all potentially significant finds were GPS recorded to sub metre accuracy, but many were not due to the high ridge and many trees obstructing the critical satellite signals at certain times. The latter issue was not considered problematic in the reconnaissance stage, while we were still searching for the battlefield. A few finds lack any GPS record. This resulted in two ways. Firstly there are two fields where locational data for most or all of the finds was lost due to GPS logging failures (fields 14 & 20). Secondly, each detectorist was given responsibility for deciding which of the artefacts they recovered justified GPS recording. To pick up occasional mistakes that any team member might make when assessing muddy finds, all non-ferrous finds made by each detectorist on each day were retained and reassessed, if necessary after washing. A very few potentially significant finds were recovered from this modern rubbish, particularly in the early phases of the survey and with new team members. These finds, which lack waymark numbers, have been located to the central area of the relevant field but have not been included in any distributional analysis.

The collecting of modern non-ferrous rubbish was also undertaken to enable assessment of background noise which might impact on recovery rates in each field. Apart from the two fields discussed below which were heavily contaminated and thus excluded from the distribution maps as they were abandoned or yielded no pre-modern finds, modern rubbish did not cause a significant problem across most of the survey area.

The other value of collecting modern rubbish was to allow the detecting effectiveness of each team member to be assessed on a day to day basis, so that guidance could be provided where needed to improve machine settings or technique. For most of the period the team comprised just four people who were present for almost the whole survey, with

[117] Foard & Curry 2013, ch.5.

others occasionally assisting for several days here and there. With all the detecting data to hand at the end of the survey this variation in effectiveness can now be seen from the total number of finds recorded and the number of lead balls recovered by each of the four principal detectorists. Lead ball was chosen as the most common single artefact class spread across the whole survey area and one similarly present on most battlefield surveys (Table 1). The degree of variation between detectorists seen here is comparable to that noted in the Edgehill survey for both all finds and for lead ball.[118] The variation relates to level of experience, effectiveness of technique, and detector specification and setup. It is an unfortunate but inevitable outcome of working with any team. While detectorist 1 used a larger coil enabling deeper penetration of signals, it is interesting to note that while this detectorist recovered significantly more recordable finds, he did not recover more lead ball than detectorist 2 who used an identical detector but with a standard coil and different setup of the detector. This emphasises the complexity of the factors in play, suggesting technique and machine setup can in some contexts have a greater influence on recovery rates than coil size, but it is would justify more objective research.

While the variation in recovery rates between all detectorists is quite significant and will have had an overall impact on the effectiveness and consistency of the survey, its impact on distribution patterns was minimised by the random way in which transects were allocated to each detectorist, so there were never extensive areas detected by just one individual. This is the approach also followed to good effect in the Edgehill and Bosworth surveys.

[118] Foard 2012, 152.

Detectorist	Days detecting	finds recorded	Find per day	Lead ball	lead ball per day
1	27	86	3.2	13	0.48
2	29	74	2.5	16	0.55
3	27	46	1.7	7	0.24
4	25	39	1.6	4	0.16

Table 1: relative detecting effectiveness of each member of the core detecting team. The eight other detectorists are excluded as random variations could significantly bias their results as they detected on so few days.

A total of 132 person days were contributed by the team, which systematically surveyed 46 hectares on 2.5m spaced transects. An additional two areas were detected on a random basis for practical reasons (fields 3, which was a development site, & part of field 23) and so these areas have been excluded from the distribution maps. A total of 358 finds were recorded in the field, but often the number considered worth recording on any day, and especially the number of notable finds, were so low that at times it was difficult for the team to maintain enthusiasm. An additional 15 finds were retrieved from the modern rubbish once they had been cleaned and their significance became plain. The latter were logged to the centre point of the relevant field but they have been excluded from the distribution maps.

Figure 31: A horse harness pendant with enamel heraldic decoration featuring three birds. One of the relatively few notable finds from the survey, but of too early in the medieval to be related to the battle.

Survey within the search area has not fulfilled our initial objectives in terms of coverage. This was in part a result of the restrictions, both national and self-imposed by the team, resulting from the COVID 19 pandemic. This led to all of one season and most of another being lost. These losses could not be adequately recouped, despite a compensatory year being added to the project timetable. But there were other factors which had an even greater impact on coverage, the most important being the refusal by one major landowner to allow us access, which rendered a large part of the 'plain' inaccessible (figure 31). This greatly extended the problems of access to key areas already posed by modern development, the presence of the Luctonians sports fields and, in the north west corner of

the search area, several small areas of woodland (figure 29). The other difficulty that influenced which areas were detected was the presence of orchards. Unlike woodland, the wide and regular spacing of trees in the orchards makes survey practicable but it would not be possible to maintain the standard search intensity, so these areas were avoided in the reconnaissance stage. This decision was confirmed early on after investigation of a small area of old orchard beside New House Farm (field 5), then reinforced later when we detected an area of former orchard beside Kingsfield Farm (field 12), as in both we encountered large quantities of modern rubbish. Thus, there were several reasons to avoid the orchards unless they became essential for adequate coverage. However we made no assessment of new orchards, such as those west of the Hereford Lane, and so these may not suffer similar contamination. Just one other field (field 32) was found to be heavily contaminated with modern artefacts, due to a long history of dumping rubbish on the site, making systematic survey impractical.[119]

[119] Data on quantities of modern rubbish recovered by each detectorist each day were recorded for most fields, with the data presented in the digital archive on the Day Areas GIS table, which also lists who detected on that day.

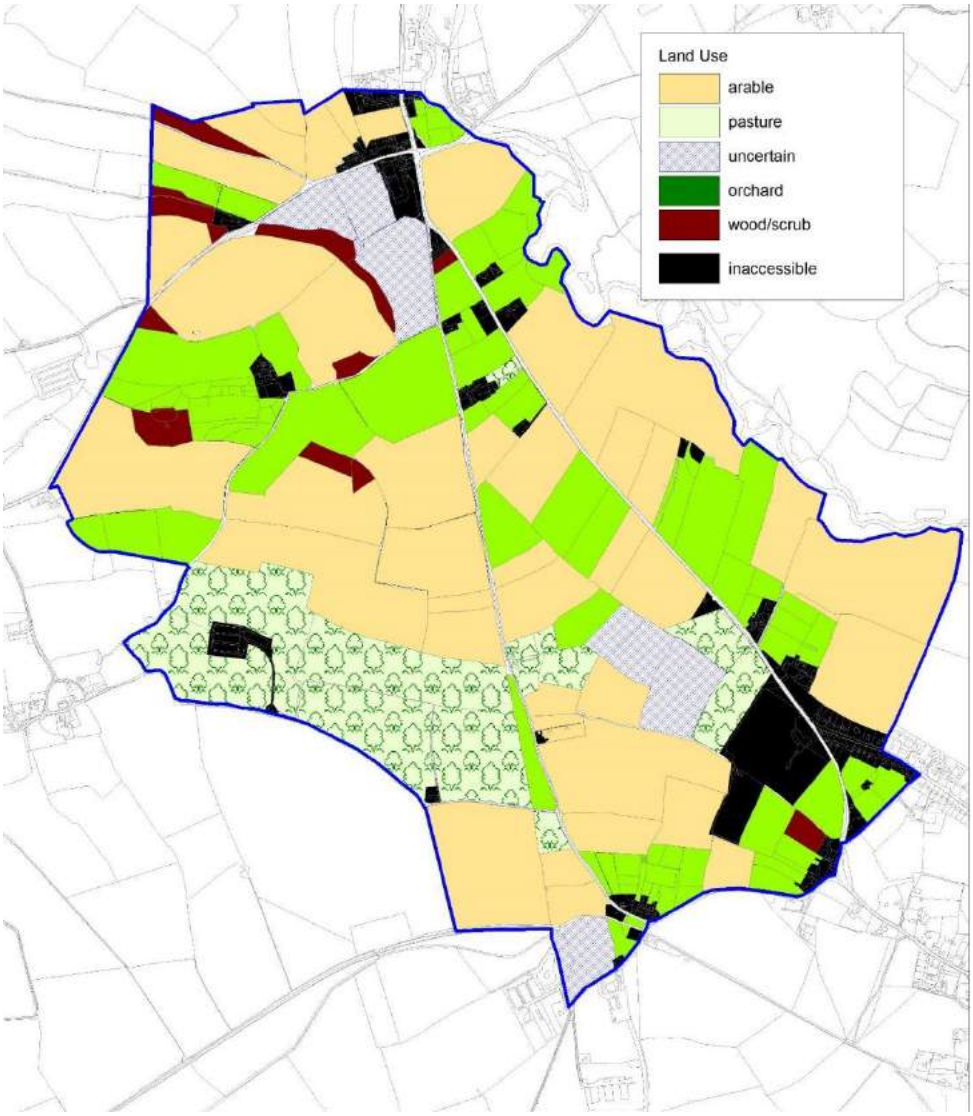

Figure 32: Land use at the time of survey.

As a result of the various constraints, large tracts of the search area were not examined, especially around the traditional site of the battle. Coverage was also affected by the small size of the survey team – in part a reflection of recruiting difficulties because Kingsland is so far from major centres of population. This was compounded by the remarkably rapid turnaround in many fields in most years between harvest and drilling with a new crop. As access to cropped fields was not normally allowed, except with fodder crops or ley grass, even where access was obtained there was only time to survey part of the area. If this represents a general change in agricultural practice compared to that seen in the 2000s at Bosworth and Edgehill, then it will pose major problems for large scale battlefield surveys in mainly arable landscapes. In an attempt to address this problem we detected on new stubble, as this sometimes gave several weeks between harvest and cultivation. Unfortunately this impacted on recovery rates, especially when it required detecting in unsuitably dry soil conditions. The problem is most clearly seen with field 27 where no recordable finds were recovered, even though the adjacent field

25, detected in good conditions on recently harrowed ground, produced a significant number of recordable finds. With these exceptions, survey was normally undertaken in good conditions, though this did include several fields detected under stubble where recovery may not have been as effective as elsewhere (eg: field 26).[120]

Fortunately a significant proportion of the search area was under pasture, which was accessible for most of the year, and it is only this that enabled so much ground to be surveyed. But pasture poses very different and well documented limitations, impacting on the effectiveness of survey.[121] This is because, where fields are not cultivated, worm action causes objects to slowly migrate down the soil column and, if uncultivated for long enough, they eventually reach the bottom of the topsoil. Whether this takes a few decades or a century or more depends on how active is worm action in that particular field. At Mortimer's Cross the absence of ridge and furrow in most pasture fields means most of the pasture has probably remained uncultivated for no more than a decade or two. Where ridge and furrow does survive it is almost all of low amplitude, showing it has been cultivated since enclosure, but only for a very brief period as the earthworks are lost after just a few seasons of cultivation. Most were perhaps only cultivated in the 1940s under the War Ag. The problems posed in these fields were demonstrated clearly in the last area detected (fields 35 & 36), which the landowner reported had not been cultivated for at least forty years and perhaps much longer (figure 30). These two fields retained slight traces of ridge and furrow, visible on the ground and on the 1m Lidar, but in the northern part of field 35 more distinct with two well preserved ridges and a headland. In these fields the distribution of most of the recorded finds appears directly related to former ditched boundaries still existing in 1952 in field 35 and on the modern Explorer mapping in field 36. Presumably, the artefacts were recovered because they were brought near to the surface by disturbance as the boundaries were removed in recent decades. This suggests that elsewhere all but the most recently deposited artefacts were too deep to be located with standard vlf detectors. If the density of recovered finds in fields 35 & 36 is compared with pasture fields 28 & 31, that lack ridge and furrow and which the landowner said had been cultivated within the last five years, the difference in recovery rates resulting from recent mixing by cultivation can be clearly seen (figure 32). Once the scale of the impact on recovery rates was recognised it was decided not to detect the fields immediately south east of the monument (fields 37-39) as these are completely covered by ridge and furrow suggesting that they may not have been cultivated for perhaps two centuries so are likely to yield no pre-modern finds. A similar problem appears to have impacted on recovery rates in fields 33 & 34. Most of the rest of the pasture appears from aerial data and discussion with landowners to have been cultivated in recent decades, and this is reflected in recovery rates, which we maximized by detecting only in good soil conditions and with acceptably short grass to enable detecting coils to be kept close to the soil surface.

[120] Detecting conditions, including land use, crop/grass, and soil conditions, are recorded on the Day Areas GIS table.
[121] Foard 2012, 150-1.

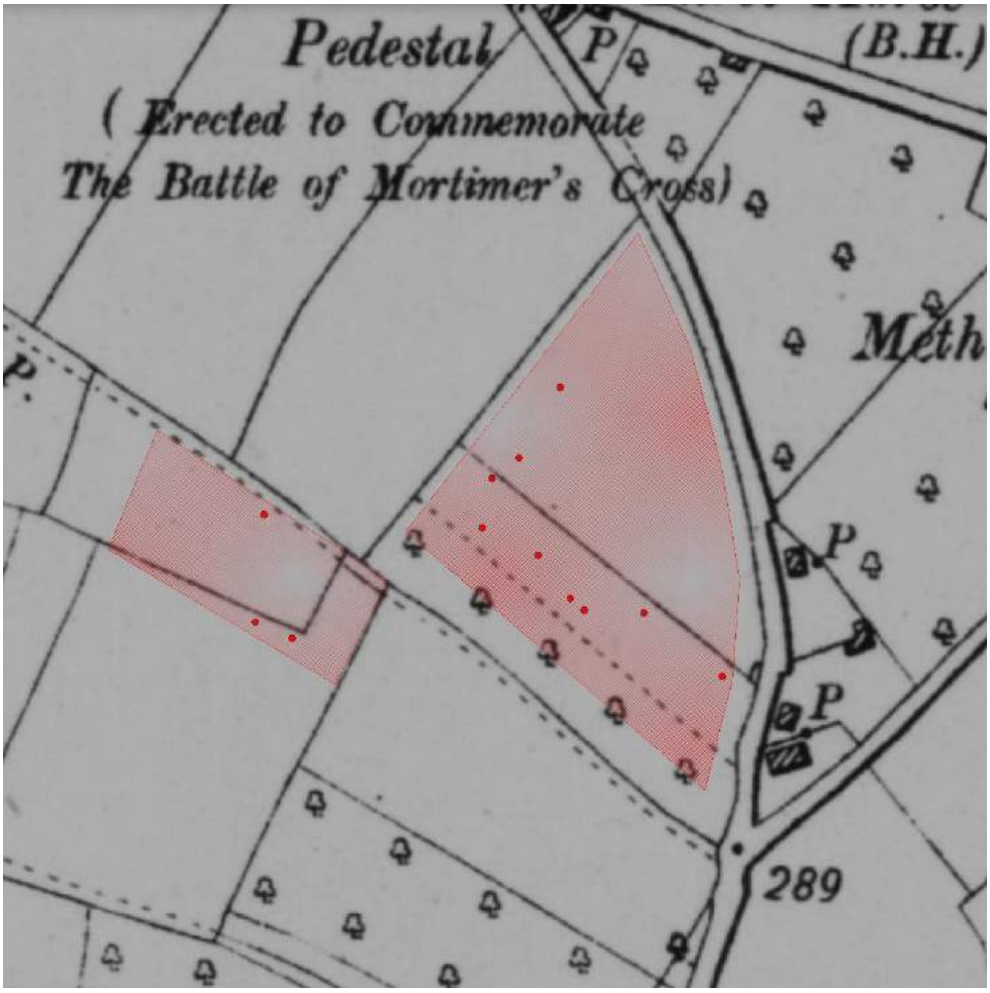

Figure 33: Fields 35 and 36 with a 6 inch OS map base of 1904 showing hedgerows now removed within the areas surveyed. The detecting finds concentrate on or close to the former boundaries suggesting here the finds were brought closer to the surface when the hedgerows were removed at some time after 1952 in the east field and in the last decade in the west field. Elsewhere the finds are presumably too deep to be located by standard vlf detectors.

There is one important caveat that means the difficult pasture fields should not be excluded from our analysis of distribution patterns. This is because it is likely that, even in the problem pasture fields, if lead or lead composite projectiles of over 40mm (the norm at Bosworth) were present they would have been detected even if lying at the bottom of the topsoil, because they contain so much lead. Only if most projectiles were well under 40mm, as at Towton, might they have been consistently missed at Mortimer's Cross if lying at the bottom of the topsoil.

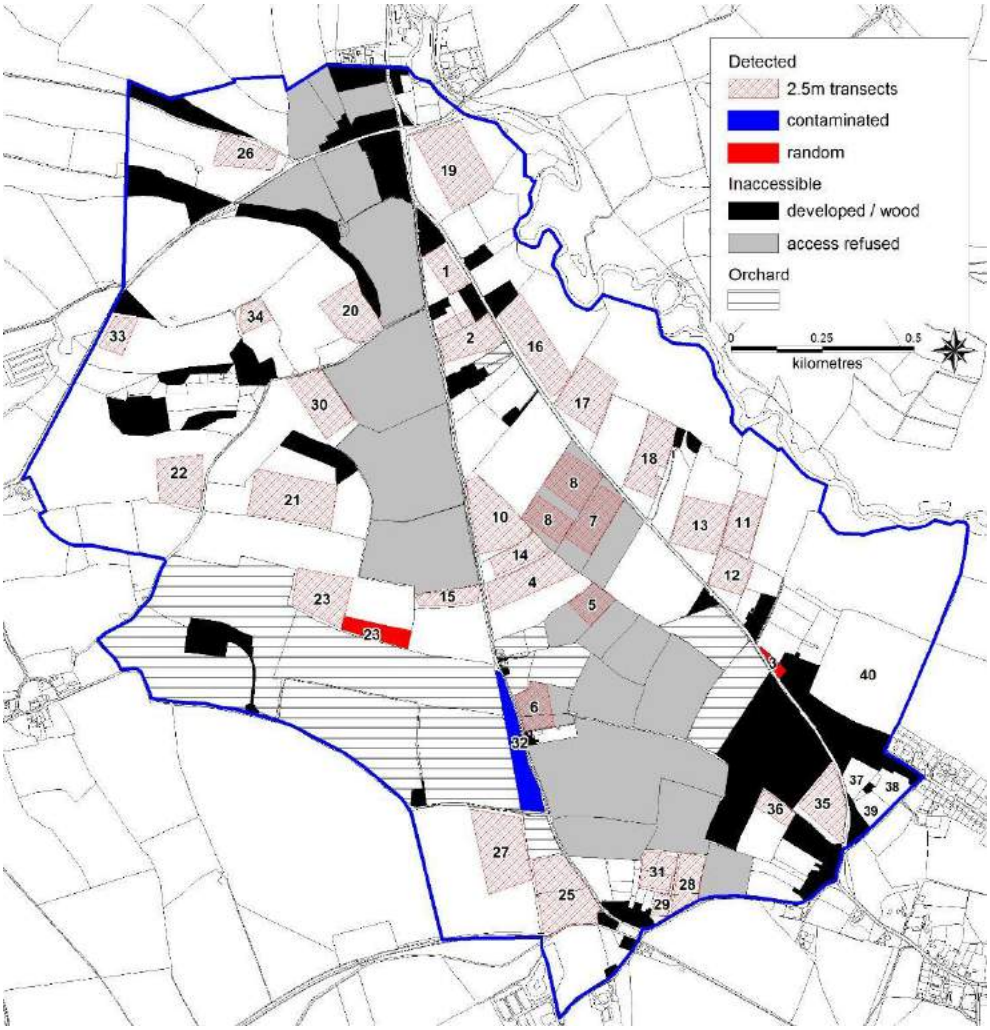

Figure 34: Areas detected and major constraints on coverage. Several fields changed hands after they were detected and so became inaccessible thereafter (fields 7, 8, 5, 6).

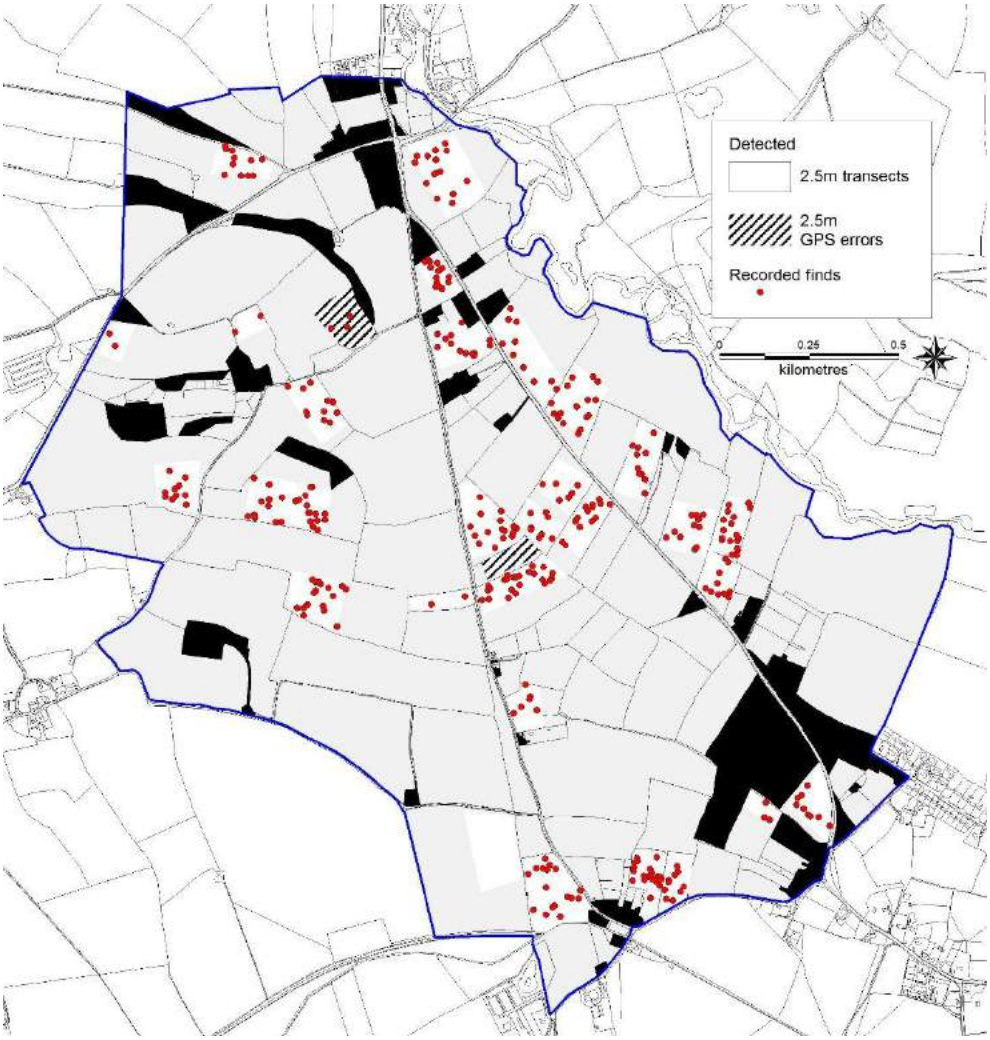

Figure 35: Distribution of all finds recorded in the field during detecting on 2.5m transects, excluding items subsequently retrieved from modern rubbish. Two fields cross hatched lack representative find data due to GPS logging errors.

The survey has produced no lead or lead composite round-shot, which is the most distinctive form of non-ferrous 15th or 16th century battle archaeology. The largest calibre lead ball recovered was 29 grams / 17mm, being just below the calibre of a standard 17th century musket. Neither have we recovered any distinctive grouping of finds of 15th century date or indeed of any medieval finds which might be suggestive of military activity. In the absence of any clear evidence for the battle we did not progress beyond the initial rapid assessment of the finds, which was undertaken by Peter Reavill using the photographic record of the assemblage. Specific identifications were given to 47 finds, ranging in date from Roman through medieval and early modern. Particular focus has been given to those finds which span the late medieval to early modern period but these appear typical of domestic rubbish thrown out on the fields with manure (including objects such as coins, buckles, vessel fragments, tokens and spindle whorls). Should

future work locate the battle then a full analysis of all the finds should be undertaken to provide a more robust analysis.

Comparison of five groupings of finds – Roman, medieval, late medieval/early modern, lead ball and silver coin – reveals quite different distribution patterns with concentrations in different areas (Figures 36.1, 36.2 and 37). This suggests the patterns do not result from the overall survival of finds across the surveyed area but rather implies different deposition patterns. What that patterning might reveal about the nature of Roman, medieval and early modern agricultural or other activity in the search area would require a more detailed analysis of the finds, but is beyond the scope of the present study.

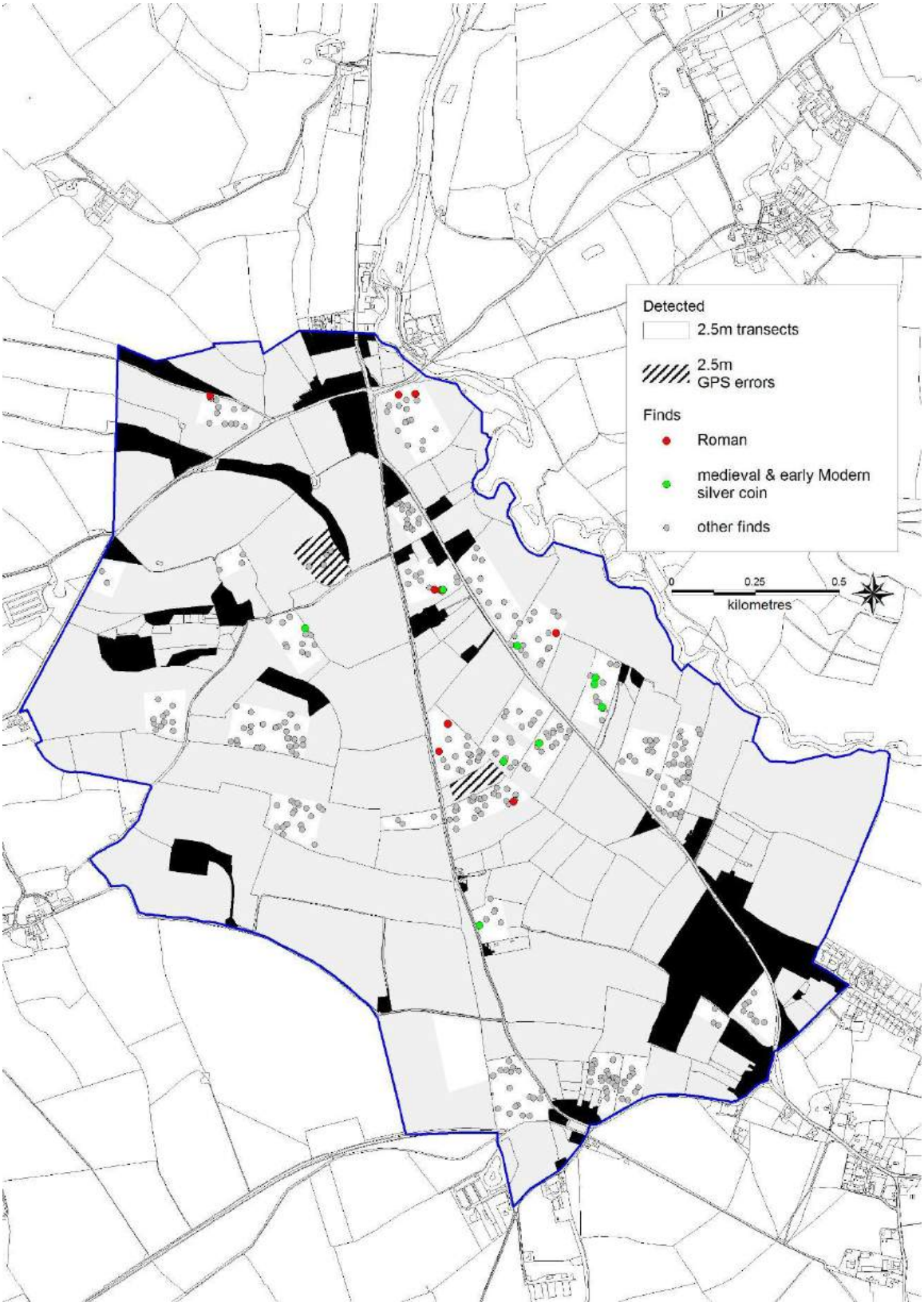

Figure 36.1: Lead ball set against all other recorded finds from 2.5m survey

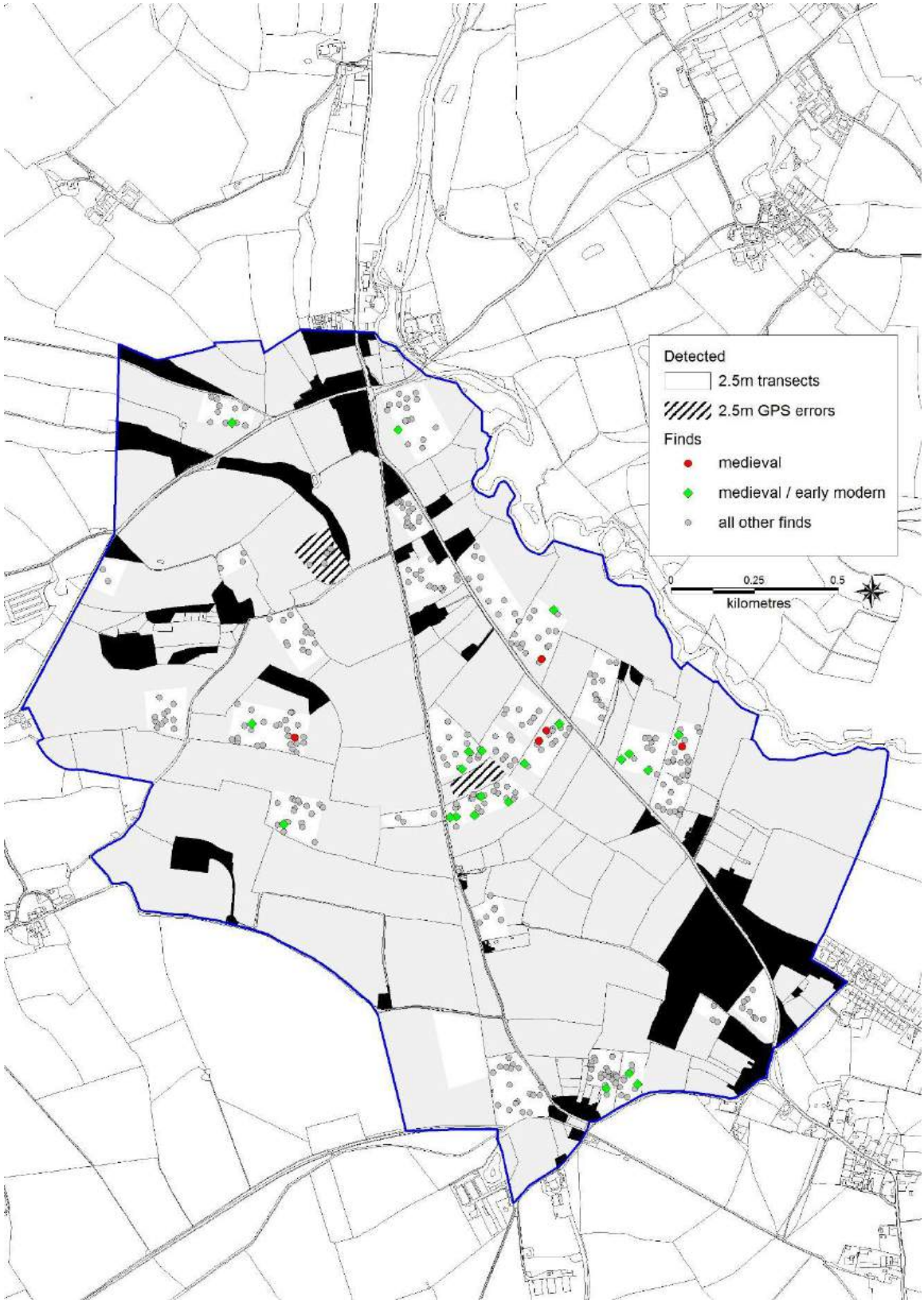

Figure 36.2: Distribution of medieval and late medieval/early modern finds

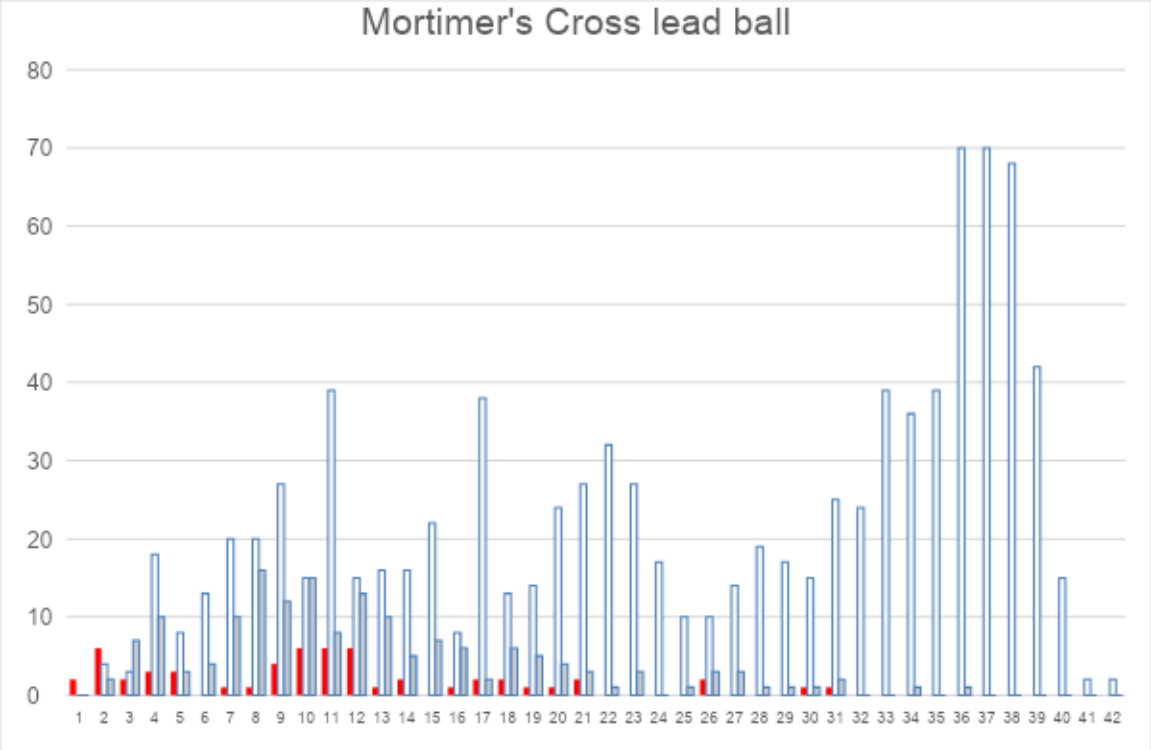

Figure 37: Graph of calibre of lead ball from Mortimer's Cross (red), compared to Bosworth (grey) background noise and to Edgehill (white) battle-related assemblages (scale of gram, bore and weapon calibre)

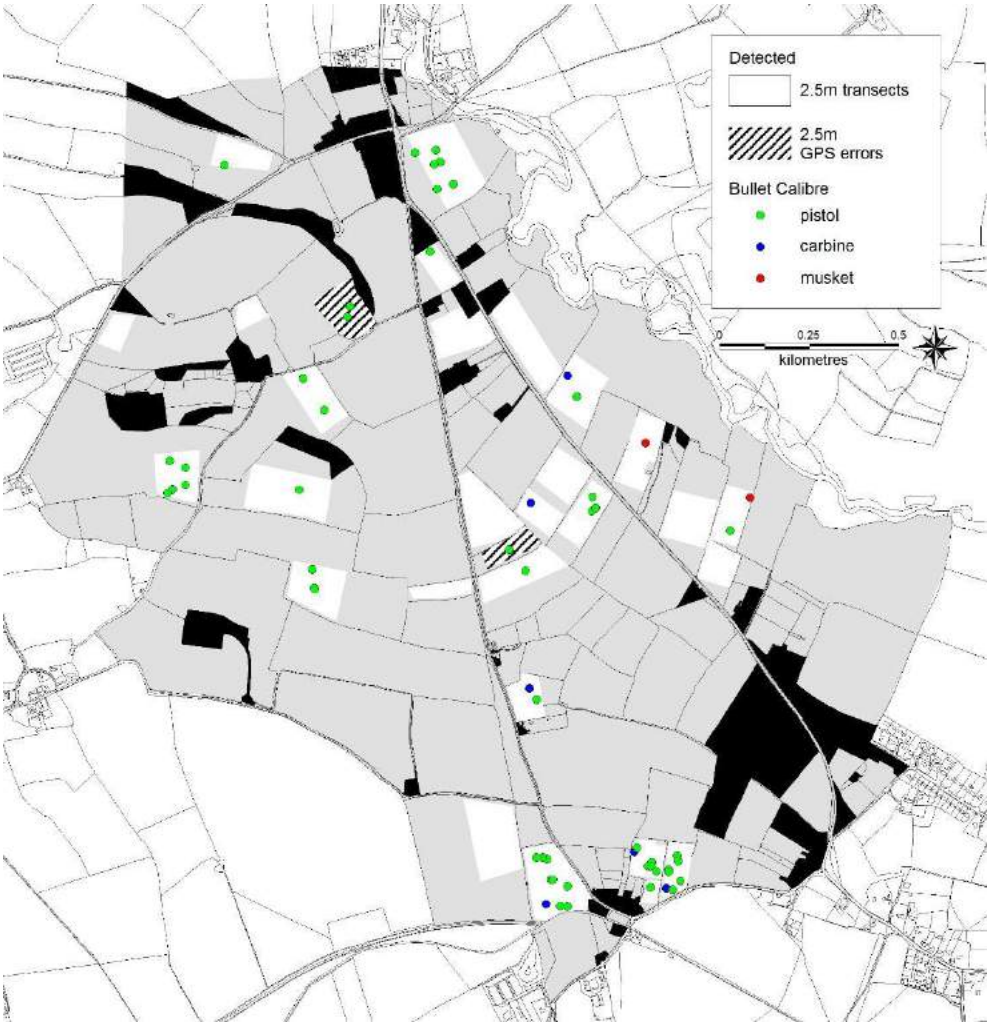

Figure 38: Distribution of lead ball distinguishing pistol, carbine and musket calibres (includes finds only located to field).

The graph of lead ball calibre demonstrates that the Mortimer's Cross assemblage has a distribution very similar to that seen in the Bosworth assemblage. The latter has been shown to be comparable to the background noise in other areas of the Midlands beyond battlefields, rather than the calibre distribution to be expected of bullets from 15th century handguns.[122] This is in striking contrast to the battle-related 17th century Edgehill assemblage, which shows a very different distribution focussing especially on carbine and musket calibres. In the Mortimer's Cross survey in the 45 hectares detected on 2.5m transects 56 lead ball were recovered, so 1.24 per hectare. In the core area of the Bosworth survey, where 194 hectares were detected at 2.5m only 49 lead ball were recovered, so 0.25 per hectare. If one excludes the unusual density in the current survey on the three fields beside the river Pinsey then the density of lead ball on the survey is closer to that at Bosworth: 34 lead ball from 36.37 hectares being 0.93 per hectare. This suggests that the density of lead ball at Mortimer's Cross is not exceptionally low, an

[122] Foard & Curry 139-146.

indication that the overall low density of finds from the survey is not a result of intensive previous treasure hunting depleting the assemblage. But there is the need for other comparative data sets to assess the validity of such crude analysis.

Conclusions

The crucial question to address here is whether one can take the absence of battle-related finds from our survey as evidence of absence of military action from the search area. The first, and perhaps the least likely option is that our assessment of previous loss to treasure hunting is incorrect. Hence that the battlefield lies within the search area but the battle archaeology has already been largely removed by treasure hunters, unrecognized and unreported. We have presented limited evidence, based on what was recovered, that would suggest this is not the case, but this is far from definitive proof. That the treasure hunters Fred Jones, Geoff Ballard or others would have failed to recognise battle archaeology as such if they found it is quite likely. Lead and lead composite round-shot has only recently been generally recognised as a key element of the archaeological signature of 15th century battlefields. Thus, for example, the first round-shot from St Albans II was classified as a lead weight by the Portable Antiquities Officer for Hertfordshire until we reanalysed the object, and then one other supposed lead weight from Barnet was reassessed by them as potentially a round-shot. Indeed, as the detectorist has made clear, the significance of the 22mm lead ball found between Yatton and Wigmore, reported above, was not recognised until seen with many other artefacts by the Portable Antiquities Officer. It is therefore important that any opportunity to search the collections of detectorists who have worked in the Mortimer's Cross area is taken up in future.

Figure 39: Lead round shot of 53mm diameter from St Albans II battlefield, photographed when temporarily held by St Albans Museum (photo: G Foard 7/05/2015)

The second option is that a sufficiently large and contiguous zone within the search area was not surveyed and the battlefield lies there. It is just possible to take the round-shot distribution from Bosworth and superimpose it on our detected areas at Mortimer's Cross, especially within the traditional site, such that no rounds fall within a detected area. If one then considers the smaller scale of this battle and the possibility that fewer artillery pieces were present then the probability of such a failure increases. What seems far less likely, but not impossible, is that very few or no artillery pieces were used in the battle and thus there is little or no round-shot to be found. This seems improbable given the number of garrisons in the region that were supplied with artillery, and the fact that other major figures, comparable to the earl of March, are known to have had at least a small artillery train as part of their retinue.

The third option is that the site simply lies beyond our search area. This seems the most likely explanation, given that there is no information in the primary sources as to exactly where the battle was fought. This was, after all, almost the result at Bosworth, with the site discovered after three and a half years in the last week of survey on the periphery of the search area. It is also the most likely explanation for the failure to locate Barnet battlefield, where we know that there was large-scale use of artillery. It is important to remember that analysis of the primary sources for the battle, even when reviewed in the context of the historic terrain, in so far as it could be reconstructed, produced no evidence as to where the battle was fought. The only significant evidence is that the action was sufficiently close to Mortimer's Cross for some accounts to describe it as fought 'at' or 'near' that place. The naming of battles is particularly problematic. They can acquire the name of a large or well known place many miles away, as with Bosworth, or of a

distinctive topographical feature well over a mile from the action, as with Edgehill. For lesser places or less distinctive features then proximity in battle naming may indicate far closer spatial association, as with Newburn Ford. Therefore it seems reasonable to consider that the action took place within no more than a mile or so of Mortimer's Cross to gain that name, for as we have shown this does not seem to have been a nationally or regionally known landmark. However it is possible for a battle to take a name from a location towards which the defeated army was driven, as at Towton, rather than the parish within which the main action began. So, having Mortimer's Cross as our only fixed topographical reference certainly does not exclude the traditional site near West Town, Kingsland. Nor does it preclude the main action being within a mile or so in any other direction, though the terrain does severely limit the options to the north.

While we sought to encompass the most probable locations within our search area, if it does not lie there then several other viable options exist. The most obvious target areas might be immediately east of the Lugg near Mortimer's Cross, though the Portable Antiquities Database shows that here Fred Jones undertook extensive metal detecting over many years and reported many finds but they include no obvious battle archaeology, at least amongst those he reported. The other option is immediately north of Mortimer's Cross towards Aymestry, in the narrow pass through the ridge, even if this seems improbable in tactical terms. A location yet further north beyond the village seems improbable, despite the find recorded between Yatton and Wigmore, or the battle surely would have been called Wigmore not Mortimer's Cross.

What appears to us to be the most depressing, but hopefully the least likely, explanation is that the majority of round-shot used in the battle were of stone or of ferrous metal with only a small number of rounds being of lead and most of those of small calibre. This would explain why several ferrous and at least two stone spheres have been found in the area between Mortimer's Cross and Kingsland. But this demands that the documentary record regarding the introduction of cast iron projectiles is incorrect by almost two decades. And that stone round-shot was extensively used in smaller bore artillery, which is not what the documentary record suggests. Either of these options seems unlikely, though if true it would pose major problems for future surveys on all battlefields of the Wars of the Roses.

The conclusions of this project are unsatisfactory, but what we hope our investigation has been able to do, at the very least, is to build a secure base upon which future work can take place. There seems little more that can be added in terms of the primary written sources for the battle, unless a new document is discovered which provides genuine topographical detail. It is more likely that in the future documents will be identified which enhance our understanding of the medieval terrain, but it is unlikely that this would enable the likely site of the battle to be identified.

Where this leaves us is with the archaeology of the battle. Here there are two principle ways forward. Firstly a chance discovery of a mass grave on a development site or in other ground disturbance. To ensure no such discovery is missed it is particularly

important that any development proposal within the search area is subject to a funded watching brief, even though Mortimer's Cross is not currently on the Register of Historic Battlefields. In addition there ought to be pre-determination evaluation, with a detecting survey on 2.5m transects following our standard survey method, on any larger development proposals on greenfield sites. The second possibility is the chance find by a treasure hunter of a lead or lead composite round shot or of a high status mid 15th century artefact, such as an heraldic badge, and that they report such a find and it is recognised for what it is. There is a third option, which depends initially on the perseverance of the project's detecting team and on gaining access to more land in key areas. That is to continue detecting within the search area to fill in the major gaps in the survey as and when the agricultural regime and landowner permission allows or, failing that, then to test the other possible areas where the battlefield might lie.

Having found distinctive archaeology in 2009-11 that securely located the battlefield at Bosworth it appeared that we now had a straightforward methodology that could be used to locate and understand other battlefields of the second half of the 15th century. And, if one found that archaeology, this would shed important light on the changing character gunpowder weapons and their use on the battlefield in a critical period in the evolution of artillery and handguns. Beginning in England we sought to apply that method to the battlefields of Barnet and Mortimer's Cross, two of what appeared the best preserved battlefields of the Wars of the Roses.

The failure of those two projects to produce results comparable to Bosworth raises important questions. Is the failure because the archaeological signature of battle changes far more dramatically than was expected between 1460 and 1485, and thus our survey methodology is not effective before the 1480s? Alternatively, has our attempt to reduce the time outlay in completing a survey compared to Bosworth, to enable more battlefields to be investigated and with less resources, impacted too much on the scale and targeting of the investigations? And, related to this and perhaps most important, in enhancing the Bosworth methodology for the new surveys was the wrong decision taken over reconnaissance strategy? We decided to move the reconnaissance stage from 10m spaced transects, as used in that first phase at Bosworth, to 2.5m spaced transects which were only used at Bosworth in the detailed survey once the battlefield had been located. This shift was because at Bosworth, in the reconnaissance, three fields were surveyed on 10m transects on what later proved to be the battlefield before the first battle related find was recovered, due to the sparse nature of the scatter. This is significant because the strategy at Bosworth had been to test fields scattered widely across the search area seeking to rule out wide zones. Once we knew the low density of actual finds we realised it would be difficult to rule out land surveyed on 10m transects as part of the battlefield if they produced no battle-related finds. Thus, it was decided future reconnaissance should be at 2.5m as that ought to recover evidence in the first sweep if it was present. This also meant that survey work did not have to be repeated on any area to give a comprehensive survey once the battlefield was located. Nevertheless, by moving to 2.5m transects, to achieve greater certainty in ruling out land, we reduced the extent of coverage by the survey by 75%. This makes it far more difficult to survey a wide enough extent of the

search area to be confident of encompassing the actual battlefield, especially given the ever shorter time between harvest and re-seeding. Unless one is already confident of the battlefield location from other evidence, a return to 10m spacing for reconnaissance might prove to be the more effective strategy, as long as small areas of just a few hectares producing nothing are not counted as demonstrating the absence of battle archaeology in that zone. As long as four times the extent of the actual battlefield is surveyed at 10m then battle-related finds will be recovered just as surely as they would have been at 2.5m in a quarter of the area, but a much wider zone will have been tested.

Acknowledgements

The project was established as a collaboration between the local community, the Battlefields Trust, and the University of Huddersfield, with the encouragement of Historic England. The objective of the wider project was not only to locate and improve knowledge about the battle, but also to develop on-site interpretation and promote conservation of the battlefield. Funding was provided principally by the Heritage Lottery Fund but with in-kind contribution from the University of Huddersfield.

First and foremost we must thank the members of the detecting team who, over more than four years, turned out in all seasons, spending many full days surveying in weather both good and bad. The core team, working under the direction of Dr Glenn Foard, comprised Ian Cole our most experienced detectorist, Ian Maddox and Malcolm Evans. They were joined for part of the survey by Malcolm Sampson, who played a key role during the pilot work and while we set up the detecting survey; and by Chris Stokes, another experienced detectorist, who assisted when other commitments allowed. Thanks also to experienced battlefield archaeologists Bryn Gethin and David Beaumont who assisted in the pilot work and Sam Wilson who assisted in both this and the last day of detecting. And to the handful of other experienced detectorists who also worked for brief periods on the survey, including Charlie Walters who joined us for several days to gain experience in detecting for battlefield archaeology. The final member of the team was Chris Fear who played an important role in processing most of the finds, with occasional assistance of others, and provided his home office for the purpose. Last but not least in regard to the archaeological work we must thank Peter Reavil, Portable Antiquities Officer for Herefordshire for his specialist advice on the finds including a rapid assessment of all but the last day's finds, using a photographic record of the assemblage.

We are also grateful to the landowners, land agents and tenants who facilitated access to their land for the archaeological survey, although we must make particular mention of Andrew Cross, the Gatley Estate, and Peter Vaughan without whose support the project would have been impossible. The other landowners included Nigel Rees, Mike Aubrey, Peter Friend, Julian Gore, the late Ray Gore, and the late John Tedstone. It is unfortunate that two other owners with significant holdings in the core search area refused permission, making it impossible for us to be confident that battle archaeology is wholly absent in key areas.

Thanks are also due to the staff of Hereford Museum, who undertook searches in their archives in connection with the finds reported from the battlefield in the 19th century; and to Leominster Museum for providing access to their collection. Also to Mr and Mrs Burleigh for giving access to finds from their detecting near Yatton. It is unfortunate that we were unable to gain similar access to the private collections of one or two other detectorists who had undertaken extensive treasure hunting in Kingsland, Lucton and adjacent areas in past decades, because we still do not know if they recovered battle-related finds the significance of which they were unable to recognize.

Then there are the various volunteers who worked with Dr Tracey Partida in the research on the historic landscape. First and foremost we must mention John Hopkins and Noriko Horiuchi who undertook research not only at HARC but also made several visits to search and photograph medieval and early modern documents at the National Archives at Kew, and who transcribed and translated a great many of these and other primary sources. Also other research volunteers who worked on sources at HARC including Steve Horsfield, Ann Brandish and Andrew Brandish. Additional research was undertaken by Ian Maddox on secondary works on local history, identifying several significant documentary records. Environment Agency LIDAR data was processed Andrew Freeman to produce detailed contours mapping used in several illustrations in the report. Also of course the staff of HARC and particularly Rhys Griffith, Senior Archivist, who facilitated the research on the documents and the training sessions that we ran at HARC for the volunteers. Also the Brampton Bryan estate and their archivist for providing access to their muniments.

Thanks also to Professor Anne Curry who collected several of the copies of the primary sources for the battle, and Dan Spencer for comments on the issue of artillery. Also to the librarian and other members of the Woolhope Club who carried out searches of their archives, provided copies of important references and produced transcripts of several short secondary works that were otherwise unobtainable. We are also grateful to Steve Eyers of Swift Light Flight who kindly provided us with an archaeological reconnaissance flight from Shobdon airfield over the landscape around Mortimer's Cross in July 2018.

Beyond the archaeological and landscape survey we must acknowledge Patricia Pothecary who played a central role in developing the project bid and steering it to success, and then leading the first stages of establishing the full project. Last but not least there is Gary Ball, who worked as overall project director, along with the members of the Steering Group who oversaw the project.

APPENDIX 1: EXTRACTS OF PRIMARY AND SECONDARY SOURCES

There are ten primary sources extending from the report to the duke of Milan written within days of the battle, through a number of chronicles written over the subsequent decades, to the history by Hall which was not composed until the mid 16th century. But despite the number of sources there are none which provide the critical topographical detail we require to have a chance of identifying the likely site of the battle through an analysis of the historic terrain. In addition there are a number of secondary primary sources, written so long after the events that they cannot be given the same status as the primary sources but which may nevertheless contain valuable information. Also presented here is an extract from Price's History of Leominster, a secondary work but one which is not otherwise easily accessible and was influential in the development of understanding of the battle in recent centuries. The latter also includes the relevant extract of Drayton's poem.

PRIMARY SOURCES

1. **William of Worcester: 'Itinerary'**

Worcester made several journeys through England and his notes are now known as his 'Itineraries'. A modern scholarly edition and translation was published as the *Itineraries of William Worcestre* in 1969, edited by John Harvey. The battle of Mortimer's Cross is detailed on p.202-3, and includes a list of senior Lancastrians killed or executed.

'Memorandum apud bellum de Mortysmercrosse die Sancti Blasii per .viii miliaria de Herefordest de Wygmore per tria militaria fuit die Sancti Blasii die Martis per Edwardum comitem Marche victum bellum; fuereunt per judicium occisi et decapitate de prisonariis captis ex parte Regis Henrici vi tenentes contra Edwardum ….'

This is translated as:
'Memorandum that at the Battle of Mortimer's Cross, 8 miles from Hereford and 3 miles from Wigmore, on St Blaise's day on a Tuesday won by Edward Earl of March, there were slain by judgement and beheaded of prisoners taken from the side of King Henry VI, holding against Edward Earl of March….' and thereafter lists the individuals.

2. **William of Worcester: 'Annales Rerum Anglicarum**'

This history of the reign of Henry VI is also said to be by William of Worcester. The most modern edition is Joseph Stevenson, 1864, *Letters and Papers illustrative of the Wars of the English in France during the Reign of Henry VI: Chronicles from 1324–1468, 1491*, vol 22, issue 2, part 2, p.775-6:

'Vigilia Purificationis beatae Mariae factum est bellum proper Wigmore apud Mortimer Crose, ubi cmes Marche occurit cum LI millibus contra comitem Penbrochiae cum octo

mille, ubi fugerunt de eodem campo comes Penbrochiae, comes Wyltescire, et multi alii. Ac Owenus Tedere (pater dicti comitis Penbrochiae), et Johannes Throgmertone, armiger, cum viii aliis capitaneis decollate sunt apud Hereforde.'

This is translated by Dockray, 2000, 110 as:
on 3rd February '*a battle was fought near Wigmore at Mortimers Cross, where the Earl of March with 51,000 men attacked the Earl of Pembroke with 8000, and there fled from the field there the Earl of Pembroke, the Earl of Wiltshire and many others…'*

3. The English Chronicle (Brut Continuation)

A new edition of *The Brut* continuation, previously only known through a damaged Lyell version in the Bodleian Library originally published by J S Davies.
This was republished in 2002 based on MS21608 at the National Library of Wales.
An English Chronicle 1377-1461: A New Edition, Aberystwyth, National Library of Wales MS 21608, and Oxford, Bodleian Library MS Lyell 34. Edited by William Marx, 2002. Boydell.

Davis gives:
'The iij^{de} day of Feuerer, the same yere, Edward the noble Erle of March faught with the Walsshmen beside Wygmore in Wales, whos capteyns were the Erle of Penbrook and the Erle of Wylshyre, that wolde finally haue dystroyed the sayde Erle of March.
And the Monday before the daye of batayle, that is to say, in the feest of Puryficacion of Oure Blessed Lady, abowte x ate clocke before none, were seen iij sonnys in the firmament shynyng fulle clere, whereof the peple hade grete meruayle, and therof were agast. The noble Erle Edward thaym comforted and sayde, 'Beeth of good comfort, and dredeth not; thys is a good sygne, for these iij sonys betokene the Fader, the Sone, and the Holy Gost, and therefore late us haue a good harte, and in the name of Almyghty God, go we agayns oure enemyes'. And so by His grace, he had the victory of his enemyes, and put the ij erles to flight, and slow of the Walsshmen to the nombre of iiij M^{l}.'[123]

Dockray, 2000, 108 provides a partial modern English transcription:
'Edward, the noble Earl of Marsh, fought with the Welshmen near Wigmore in Wales, whose captains were the Earl of Pembroke and the Earl of Wiltshire, (and) he won a victory over his enemies, put the two earls to flight, and slew 4000 Welshmen.'

4. Brut Chronicle

Brie, F, 1906, *The Brut or the Chronicles of England*, Early English Text Society: Original Series, 131, London, p. 529
'And this tyme the earl of March being in Shrewsbury hering the deth of his fadre desired assistance and aid of the town to avenge his fadres deth. And from thense he went to Wales where, at Candelmasse after, he had a batail at Mortimess Crosse ayent the earles of Penbrok and of Wilshire, whereof the earl of March had victory.'

[123] Davies, J S, 1856, *An English Chronicle 1377-1461*, p. 99 or 110?

A modernised transcript is given by Hodges, 2001, 37:
'And at this time, the earl of March being in Shrewsbury, hearing the death of his father, desired assistance and aid of the town for to avenge his father's death; and from thence went to Wales, where, at Candlemas after, he had a battle at Mortimer's Cross against the earls of Pembroke and Wiltshire.'

5. Short English Chronicle

'A Short English Chronicle: London under Henry VI (1422-71)', in *Three Fifteenth-Century Chronicles with Historical Memoranda by John Stowe*, ed. James Gairdner (London, 1880), pp. 58-78. British History Online http://www.british-history.ac.uk/camden-record-soc/vol28/pp58-78 [accessed 27 November 2021]:
'And the Erle of Marche kept his Crytmas at Glowceter. And when tythinges came that my lorde his fader and his brother with many oþper lordys falsely was mortherd and slayne, to hym the grettes hevynes that might be, and how the northe was reysed like as it a for wretyn commynge southewarde, than a none he dide sende in to dyverse shires of knowlache, and after he hadde xxx ml of gode men commyng to fyght with hem. Than came sodenly oþer tidynges that the Erle of Wildshire and the Erle of Pembroke by see were come in to Walys with Frensshemen and Brettons, and Iresshe men, comynge and reysen Walys thorowe purposynge hem for to distroye hym, and he with all his men torned a yene bacwarde into Walis and mett with hem at Mortymers Crosse, where that hit was saide on a Sonday Candilmasday by the morowe appeared the sonne as iij sonnys sondry on hym in the este and closyd a yene to geder. And than he kneled doune on his kneis and made his prayers and thanked God. And anone fresshly and manly he toke the felde upon his enemyes and put hem at flyght, and slewe of them iij ml, and some of ther capteyns were take and he hedide, but Pembroke and Wildshire stale a wey prevely disgysed and fled oute of the contrey.'

6. Crowland Chronicle

Pronay N., Cox, J., ed. 1986, *The Crowland Chronicle Continuations: 1459-1486*, p.113
'In the meantime the duke's eldest son, Edward, Earl of March, who was campaigning against the queen's supporters in Wales, won a famous victory over these same worthless enemies at Mortimer's Cross.'

7. Gregory's Chronicle

Gairdner, J, 1876, *Gregory: The Historical Collections of a London Citizen in the Fifteenth Century*, Camden Society, p.211.

'*Alle so Edwarde Erle of Marche, the Duke of Yorke ys sone and heyre, hadde a gre jornaye at Mortymer ys Crosse in Walys the secunde day of Februar nexte soo folowynge, and there he put to flyght the Erle of Penbroke, the Erle of Wylteschyre. And there he toke and slowe of knyghtys and squyers, to the nomber of iij M^{l}., &c.*

Ande in that jornay was Owyn Tetyr i-take and brought unto Herforde este, an he was be heddyde at the market place, and hys hedde sette a-pone the hygheyste gryce of the market crosse, and a madde woman kembyd hys here and wysche a way the blode of hys

face, and she gate candellys and sette a-boute hym brennynge, moo then a C. Thys Owyne Tytyr was fadyr unto the Erle of Penbroke, and hadde weddyd Quene Kateryn, Kyng Harry the VI. ys modyr, wenyng and trustyng all eway that he shulde not be hedyd tylle he sawe the axe and the blocke, and whenn that he was in hys dobelet he trustyd on pardon and grace tylle the coler of hys redde vellvet dobbelet was ryppyd of. Then he sayde, "That hede shalle ly on the stocke that was wonte to ly on Quene Kateryns lappe," and put hys herte and mynde holy unto God, and fulle mekely toke hys dethe.

Alle soo the same day that the Erle of Marche shulde take hys jornaye towarde Mortymer ys Crosse fro Herforde este, he mousterd hys many with owte the towne wallys in a mersche that ys callyd Wyg mersche. And ovyr hym men say (saw) iij sonnys schynyng.'

Modernised partial transcript:
Dockray 2000, 109
'Edward Earl of March, the Duke of York's son and heir, won a great victory at Mortimer's Cross in Wales, where he put to flight the Earls of Pembroke and Wiltshire, and took and slew knights, squires and others to the number of 3000. (In) that conflict Owen Tudor was taken and brought to Hereford east (Hereford), where he was beheaded in the market place: his head was set on the highest pinnacle of the market cross….'

8. John Benet's Chronicle

John Benet's Chronicle for the years 1400 to 1462, Camden Fourth Series, III; Cambridge Journals Online, p.229
'Et 3 die Februarii Comes Marchie in Wallia pugnavit cum comite comitatus Wyltonie et Comite de Pembroke at ibi Comes Wyltonie et Comes de Pembroke fugerunt.'

9. Milan State Papers

Calendar of State Papers and Manuscripts in the Archives and Collections of Milan 1385-1618. London, 1912, 74.
11 March 1461: Prospero di Camulio, Milanese Ambassador to France, etc., to Francesco Sforza, Duke of Milan: '*On the 3rd inst. the Earl of March won a battle against two of the princes of the island, who support the queen; 8,000 men fell in that battle, including, they reckon, 200 and more knights and noble squires. By that victory he recovered the little country of Wales, which is in the part of the island farthest away, towards Ireland. It is a lordship of the Duke of York, and therefore of his son.'*

10. Hall, 1548-50

Hall is the only primary source, to give any topographical detail, saying Edward 'met with his enemies in a faire playne, nere to Mortimers cross….'. But whether it should be considered valid detail is uncertain for not only was he writing nearly 90 years after the battle, he could also have added typical battlefield detail — in the same way has he provides extensive speeches for principal combatants in most battles, which surely come purely from his imagination. He is also the only one to say the battle was fought in the morning, though again whether he assumes this from believing, incorrectly, that the three suns were seen in the morning just before the battle.

'The erle of Marche…lying at Glocester, heryng of the death of his noble father…. he removed to Shrewsbury, and other townes upon the river of Severne…..The people of the Marches of Wales, which above measure fauored ye lynage of the lord Mortimer, more gladly offered him their ayd & assistence, then he it either instanty requyred, or hartely desired, soo that he had a puyssant army, to the number of xxiii M. redy to go agaynst the quene, and the murdeers of his father. But when he was settyng forward, newes were brought to him, that Iaspar erle of Penbroke, halfe brother to kyng Henry, and Iames butler, erle of Ormond & Wylshyre had assembled together a great number, both of Weshe and Irysh people, sodainly to surprise and take him and his frendes, an as a captiue to conuey him to the quene. The duke of Yorke, called erele of Marche, somewhat spurred and quickened with thee noueltyes, retired backe, & mett with his enemies in a faire playne, nere to Mortimers crosse, not farre from Herford east, on Candelmas day in the mornyng, at whiche tyme the sunne (as some write) appered to the erle of March, like iii sunnes, and sodainly ioined all together in one, and that upon the sight thereof, he toke suche courage, ye he fiercely set on hs enemies, & then shortly discomfited: for which cause, men imagined, that he gaue the sunne in his full brightnes for his cognisaunce or badge. Of his enemies were lefte dead on the ground iii M. & viii C;...'

11. Paston Letters

James Gairdner 1904, *The Paston Letters, A.D. 1422-1509*, vol.3, 449

Letter 449 in 1461 refers to troops sent from East Anglia to the 'feld at Lodlowe' which Gairdner identifies as the battle of Mortimer's Cross. However it should be noted that the 1459 battle of Ludford is also described as 'at Ludlowe'.[124]

'…And yet it woll be thought ryght straunge of hem that have waged pepill to wage any more, for every towne hath waged and sent firth, and are redy to send forth, as many as thei ded whan the Kyng sent for hem be fore the feld at Lodlowe; and thei that ar not go, be goyng in the same forme.'

SECONDARY PRIMARY SOURCES

Shakespeare

Henry VI, part iii, act 2, scene 1 (near Mortimer's Cross)

'Dazzle mine eyes, or do I see three suns?
Three glorious suns, each one a perfect sun;
Not separated by the racking clouds,
But sever'd in a pale clear-shining sky.
See, see! they join, embrace, and seem to kiss,
As if they vow'd some league inviolable:

[124] Calendar of Patent Rolls 1452-61, 568.

Now are they but one lamp, one light, one sun.
In this the heaven figures some event.
'Tis wondrous strange, the like yet never heard of.
I think it cites us, brother, to the field,
That we, the sons of brave Plantagenet,
Each one already blazing by our meeds,
Should not withstanding join our lights together,
And over-shine the earth, as this the world.
Whate'er it bodes, henceforward will I bear
Upon my target, three fair-shining suns.'

John Speed, 1610.

An account of the battle given on his map of Herefordshire of 1610, published in 1616 in his Atlas of Britain. Reprinted in Nicholson, 1988, *The Counties of Britain: A Tudor Atlas by John Speed*

'Upon the Virge of this Shire betwixt Ludlow and little Hereford, a great battail was fought by Jasper Earle of Pembrooke and James Butler Earle of Ormond and Wiltshire, against Edward Earl of March. In which 3800 men were slaine. The two Earles fled, and Owen Teuther taken and beheaded. This field was fought upon the daye of the Virgin Maries Purification in Anno 1461. Where in before the battell was strok, appeared visibly in the firmament three sunnes which after a while joined all together and became as before: for which cause (as some have thought) Edward afterwards gave the Sunne in his full brightness for his badge and cognizance.'

Stowe

John Stowe, 1631, *Annales*, 413
(first published 1605)

'The Earle of March so commonly called, but now after the death of his father Duke of Yorke, lying at Glocester, was wonderfully amazed when the sorrowfull newes of these mishaps came to his understanding: but comforted by his friends, hee removed to Shrewsbury and raised thereabout an army to the number of 23000. ready to goe against the Queene, and his fathers enemies. But when he was setting forward, newes was brought him that Jaspar Earle of Penbroke, James Butler Earle of Ormond and Wiltshire had assembled a great number of Welchmen and Irishmen, suddenly to take and surprise him, he being therewith quickened retired back and met with his enemies in a faire plaine neere to Mortimers Crosse, beside Ludlow, not farre from Hereford east, on Candelmas day in the morning, at which time the sun (as some write) appeared to the Earle March like three sunnes, and suddenly joined together in one, upon which sight he tooke such courage that he fiercely setting on his enemies put them to flight: and for this cause men imagined he gave the sun in his full brightnesse for his badge or cognizance. Of his enemies were slaine to the number of three thousand eight hundred, The Earles of

Penbroke and Wiltshire fled, but Owen Tewther (whom Leiland saith should bee called Meredicke) father to the says Earle of Penbroke, which Owen Tewther, hadde married (as was said) Katherine mother to King Henry the first was there taken and beheaded, and afterward was buried in a chappel of gray Friers Church in Hereford. There were also taken and beheaded David Toid, Morgan ap Reuther Sir John Skidmore, and his two Sonnes, Thomas Griffith, John Throkmorton, Thomas fitz Henry, and other.'

Holinshed
Chronicles, 1808, vol 3, 269-70.

'The earle of March, now after the death of his father, verie duke of Yorke lieng at Glocester, was woonderfullie amazed, when the sorrowfull newes of these mishaps came vnto him: but after comfort giuen to him by his faithfull louers and assured alies, he remooued to Shrewesburie, declaring to the inhabitants of that towne, and to them of the other townes in those parties the murther of his father, the ieopardie of himselfe, and the present ruine of the common wealth.

The people on the marches of Wales, for the fauour which they bare to the Mortimers linage, more gladlie offered him their aid and assistance than he could desire the same; so that he had incontinentlie a puissant armie, to the number of thrée and twentie thousand, readie to go against the quéene, and the murtherers of his father. But when he was setting forward, newes was brought to him, that Jasper earle of Penbroke halfe brother to king Henrie and James Butler earle of Ormund and Wilshire, had assembled a great number of Welsh and Irish people to take him: he herewith quickened, retired backe and met with his enimies in a faire plaine, neere to Mortimers crosse, not far from Hereford east, on Candlemasse daie in the morning. At which time the sunne (as some write) appeared to the earle of March like three sunnes and suddenlie ioined altogither in one. Vpon which sight he tooke such courage that he fiercelie setting on his enimies put them to flight and for this cause men imagined that he gave the sunne in his full brightnesse for his badge or cognizance. Of his enimies were left dead on the ground three thousand and eight hundred.

The earles of Penbroke and Wilshire fled but sir Owen Teuther father to the said earle of Penbroke (which Owen had married king Henries mother as yee haue heard before) with Dauid Floid Morgan ap Reuther, and diuerse other were taken, and beheaded at Hereford.'

SECONDARY WORKS

Price

Price, John, 1795, *An historical and topographical account of Leominster.*

‘In the reign of Henry the VI soon after the battle of Wakefield in which Richard Duke of York was slain his Son Edward afterwards King Edward IV who at that time resided in the strong and beautiful castle of Wigmore had raised a large force in the Marches of Herefordshire and having joined those troops to the Salopians and the garrisons of Shrewsbury and Ludlow he took the field at the head of more than twenty thousand experienced Bowmen Queen Margaret hearing that the Earl of March was in great force in Herefordshire was anxious to quell his increasing power as soon as possible and therefore without waiting to take her whole army to London she detached the best part under the command of Jasper Earl of Pembroke the Earl of Ormond and Wiltshire and Owen Tudor to assist the Welsh troops in the neighbourhood of Leominster who still remained faithful to her cause. The Earl of March who at first purposed following the Queen altered his course and discovering that the main army reinforced by the Welsh troops stationed at Leominsier was marching from that town towards the Castle of Wigmore haftened to protect it from the dangers of a siege and the Queen's army continuing to advance towards Kingsland he deemed it prudent to risk the event of a battle conscious that in case of an unfortunate event he could easily make a retreat to Wigmore being posessed of the defiles and narrow passes thro the woods. The distance from Wigmore to the plains of Kingsland is not much above three miles thro the pleasant village of Aymestrey supposed to be the most picturesque part of the county of Hereford being diversified with hills whose summits are covered with thick woods hanging rocks to be seen here and there thro the trees verdant valleys thro which the River Lug meanders with a clear and rapid stream and the general view of the country is reckoned a lively representation of some pleasant parts of Switzerland He therefore proceeded with his troops from his castle and met the enemy in the great West field near Mortimers Cross in the Parish of Kingsland a few miles to the North West of Leominster In these plains a famous battle was fought upon Candlemas day anno 1640 between the Earl of March and Queen Margaret's forces the engagement continued with unabated vigour from nine o Clock in the morning till sunset as both parties were conscious that the event of this battle would tend to decide their future fortune and their claims to the crown of England At length with the slaughter of three thousand eight hundred men the Earl of March

*The Histories of that period all concur in mentioning that before the battle of Mortimers Cross the Sun appeared to the armies like three Suns and soon after joined in one whence Edward bɔre the Sun triple in full brightness as a recognizance

March put the Queen's forces to flight and took a great number of prisoners among whom were Owen Tudor the most noble Gentleman of the Welsh nation defcended from the great Cadwallader who had married Queen Catharine Mother to King Henry VI David Floyde Esq Morgan ap Reuther and divers other Welshmen of Note all of whom he confined at Leominster in the common dungeon the fame in which Edmond Lord Mortimer one of his ancestors had been imprisoned by Glendour and afterwards without any trial caused to be beheaded at a place in that town called the Five Crosses now called the Iron Cross. Some accounts mention Owen Tudor to have suffered at Hereford it is however certain that the other prisoners were executed in this town. Drayton in his

Miseries of Queen Margarite gives the following description of the battle of at Mortimer's cross.

“Edward of March the Duke his father slaine,
Succeeding him whilst things thus badly sort,
Gathering an army, but yet all in vaine,
To ayde his father, for he came too short,
Hearing that Pembroke with a warlike trayne
Was coming towards him, touched with the report,
His valiant Marchers for the field prepares,
To meet the Earle, if to approach he dares.

Jasper, by birth half brother to the king,
On bright Queene Katherine got by Owen Tether,
Whom Henry's love did to this Earldome bring;
And as from Wales descended sent him thither,
And of South-Wales gave him the governing,
Where in short time he got an host together,
Cleaving to Henry who did him preferred,
As an Alye to the house of Lancaster.

Upon their march when as they lastly met,
Neere to the Cross that Mortimer is nam’d,
Where they in order their battalions set,
The Duke and Earl with equal rage enflam’d,
With angry eyes they one the other threat,
Their deadly arrows at each other aym’d:
And there a fierce and deadly fight begin,
A bloodier bateell yet there had not bin.

The Earl of Ormond an affociate then,
With this young Tudor, for the king that stood,
Came in the Vanguard with his Irish men
With darts and skaines; those of the british blood
With shaftes and greaves them seconding againe,
And as they fall still make their places good,
That it amaz’d the Marchers to behold,
Men so ill arm d upon their Bowes so bold.
Now the Welsh and Irich so their weapons weel’d,
As tho’ themselves they conquerors meant to cal,
Then are the Marchers inasters of the field,
With their brown bills the Welshmen so they mall.
Now th’ one now th’ other likely were to yield,
These like to fly, then those were like to fall,
Until at length (as fortune pleas d to guide)

The conquest turn d upon the Yorkists side.

* Three suns were seen that instant to appeare,
Which foone againe shut up themselves in one,
Ready to buckle as the armies were,
Which this brave Duke took to himself alone,
His drooping hopes which somwhat seem’d to cheere,
By his mishaps, neere lately overthrown.
So that thereby encouraging his men,
Once more he fets the white rose up agen.

Pembroke and Ormond save themselves by flight,
Four thousand souldiers of both armies dead,
But the great losse on the Lancastrians light,
So ill the friends of poore King Henry sped;
Where Owen Tudor taken in the flight,
This young Earl's father by Queen Katherine's bed,
At Hereford not farre away from thence,
Where others with him dyde for their offence.”

…..’

APPENDIX 2: LEAD ROUND-SHOT FROM NORTHAMPTON 1460

This analysis of a lead round shot from Northampton, previously unpublished, is provided as an example from a year before Mortimer's Cross as to the character of fired and impacted round-shot which might be expected on Mortimer's Cross battlefield.

Four possible round-shot have been reported from Northampton battlefield. Of these only one could be examined so their identification as round shot cannot be confirmed. Two of the others have been lost. One had been deposited with Northampton Museum who can no longer find it; the other was lost by the finder.

The other item is a lead artefact reported in 2011 by a local metal detectorist, Steve Pulley. Unfortunately, it never proved possible to gain access to the object to weight, measure and analyse it, so its identification as a round-shot remains uncertain. While it appears from photographs to be of a size comparable to the mid range of the Bosworth round-shot, it shows a number of facets on one hemisphere that are comparable to compression facets seen on much smaller lead ball fired as hail-shot in the 17th century. The other hemisphere is more normally curved but is far from a sphere which argues against it being a gunpowder projectile unless its asymmetrical form results from being fired as hail-shot along with a number of other lead rounds from a large bore piece. We are unable to quote and documentary evidence for such a practice in the 15th century.

Figure 40: The two hemispheres of the lead object reported by Steve Pulley as having been found near to the River Nene to the north of Delapre Abbey.

The fourth item, which was examined, is of solid lead and was provided for analysis in autumn 2014 by Mrs Lucy Clifton of Home Farm, Delapre Park. This was found by her father while working somewhere on Home Farm. Analysis demonstrates this is a lead round shot which has been fired from an artillery piece. It is likely that the projectile was fired during the battle fought somewhere in the area around Delapre Abbey in 1460. While the firing evidence seen on the ball is compatible with a late 15th century composite wrought iron gun barrel, the round is too heavily distorted by impact to enable a definitive assessment. Therefore there is a slight possibility it was fired from a cast bronze or iron gun barrel from the defences of the town during the Civil War. Solid lead rounds continued in use in the mid 17th century for artillery of this size and there were a number of times when artillery from the town was fired against royalist troops who approached the defences. For example, on 15th May 1643 hundreds of the Earl of Northampton's royalist cavalry faced the town, first in Upton field and then beside the Queen's (Eleanor) Cross. In both cases they were driven off by artillery fire from parliamentary artillery pieced on the defences.[125]

The degree of distortion to the ball caused by impact damage means that accurate measurement of its original diameter is not possible. While a measurement between the extreme edges of the intact area of the firing band gives a diameter of at least 59mm, the massive distortion of the ball due to impact has significantly changed its shape and so this measurement is likely to be greater than the original firing diameter. The original calibre of the ball can be estimated from its mass with some degree of confidence as xrf analysis

[125] *Continuation of certain special and remarkable passages*, 8-25 May 1643; *Kingdomes Weekly Intelligencer*, 23-30 May 1643. Foard 1994-5.

has shown it is almost pure lead (see below). The mass is 598g, which indicates a diameter of 46.5mm. There has been some loss of lead due to impact damage and thus the calculation provides only a minimum calibre, although the impact facets and spalling suggest only a limited loss. Thus an original diameter of around 50-60mm seems likely. This would place it towards the larger end of the spread of calibre of the round shot recovered from the 1485 battle of Bosworth where lead composite rounds are more common, although solid lead rounds of approximately this size have been recovered from both Bosworth and Barnet battlefields.[126]

The projectile did not respond to a magnet and so does not contain even a small ferrous die. Neither would it appear that enough lead has been lost through the impact sufficient to obscure the loss of an iron cube or stone pebble. In addition, despite the massive distortion, there is no trace of stone shards cast into the lead round. This was therefore almost certainly a projectile of solid lead rather than lead composite. While composite rounds had gone out of use by the end of the 16th century, with one very specific exception, artillery pieces of up to at least demi-culverin calibre could still use solid lead as well as cast iron round shot.[127] Hence, while the vast majority of round shot for artillery that are recorded in the Royalist Ordnance Papers during the Civil War are of cast iron, there are a few references to lead rounds. For example, a 16 May 1643 receipt records round shot of lead for a demi-culverin and for a 3 pound piece.[128]

While no systematic research has yet been conducted on the metal composition of lead projectiles of the 15th to 17th centuries, it is conceivable that there will be some variation in the trace elements which accompany the lead, or in the proportions of the isotopes of lead that are present. The Northampton round shot was therefore subject to xrf analysis at Huddersfield University by Professor Susan Kilcoyne. The analysis tested areas of the ball where surface corrosion had been lost due to modern damage as well as areas of lead carbonate corrosion. The xrf analysis has demonstrated that the ball is essentially pure lead, with all other elements below 2%.[129]

The ball is in very good condition, with only a very thin lead carbonate corrosion deposit and very little erosion of that corrosion deposit. As a result fine detail is still visible on the surface. The condition is similar to that seen at Bosworth, which is far better than rounds recovered from other battlefields of the Wars of the Roses from which lead or lead composite round shot have been reported. This would suggest that the topsoil on Northampton battlefield has relatively benign soil chemistry and that any assemblage of lead projectiles will be amenable to detailed analysis. However, the massive impact damage on this round shot means that less than 50% of the original surface of the ball is

[126] Foard & Curry, 2013, 161.
[127] Foard & Curry, 2013, 157-8.
[128] Roy 1966, 99.
[129] Xrf analysis of 2 cleaned areas of ball giving percentage of element and, in brackets, the percentage error: Fe 1.7% (0.1%) & 0.9% (0.2%); Cu 0.2(0.02) 0.2 (0.01); Zr 0.1 (0.02) 0.2 (0.01); Rh 1.16 (0.1) 0.9 (0.04); Pd 0.4 (0.06) 0.5 (0.04); Cd 0, 1.39 (0.1); Sn 0, 1.49 (0.2); Pb 96.2 (0.5), 94.9 (0.3).

still intact and so some firing evidence has been lost, limiting the conclusions that can be drawn about the type of gun that fired this round.

The massive impact has greatly distorted the sphere, with the minimum diameter at the impact being 38mm. There is additional evidence to suggest at least one other impact before this. This is on the largely intact hemisphere which has a broad, slightly concave facet which includes several small gouges, one of which contains in-situ a small fragment of the stone, which appears to be Northampton Sand and Ironstone, which created the gouge (figure 36). This gouge has small striations on one face, where the stone has scraped sideways, and a flat surface on the other face, where the tiny stone has pushed the lead up into a slight rise. The direction of this gouge is quite different to that seen on the major impact.

The major impact seems to be the second impact, as slight spalling from the latter overlies one of the small gouges discussed above. This indicates that the ball bounced at least once before the main impact. Experiments have shown that round shot typically bounce several times before coming to rest.

The massive impact has a broadly flat face with a slightly irregular surface but with a series of large deep gouges around the edge, the latter causing some degree of spalling and loss of lead (figure 38). These gouges have distinct striations that run in slightly different orientations (figure 39). While at first sight this might be taken as an indication of superimposed impacts, it is more likely that they represent separate elements of one impact. The nature of the striated gouges might initially suggest an impact with wood. However, the presence of traces of stone in small depressions in the main impact surface and one of the large gouges suggests that these various gouges represent impact with small stones in the soil during one impact event (figure 38).

A single firing band is visible, where compression on the lower hemisphere on firing has caused the equator of the ball to expand to be compressed against the interior face of the barrel as it travelled down the bore. This band is in two distinct and separate facets, each with striations running parallel to the direction of travel. The band is slightly concave in the direction of travel, but this appears to be a result of the subsequent impact distortion of the ball. One facet has a clearly visible return on both sides and the same seems to be just visible on the other facet. The width of the former is 28mm, with height of at least 18mm, though the lower edge is not intact; the other facet is also at least 28mm wide. The gap between the two facets is circa 10mm, with the compression on the facets leading to a slightly concave separation between them. These band facets could therefore represent staves of a composite construction gun, with the gap between them representing the position of the join between two staves where the barrel diameter was slightly greater because the staves were under-bent.[130] However, surviving late medieval artillery pieces so far examined indicate that stave built barrels generally do not have a bore of under circa 70mm. It is possible therefore that the facets simply represent irregular bending of

[130] Foard & Curry, 2013, 169.

the bore of a gutter-built composite gun barrel. In either case this would indicate a late 15th rather than mid 17th century gun barrel. However, the incompleteness of the evidence renders a definitive analysis impossible. The visible facets give no indication of the ball having slipped to a different orientation during firing, but such a large area of the original surface of the ball has been lost that this analysis is not definitive.

Figure 41: Largely intact hemisphere with a modern gouge centrally placed; one of the firing band facets visible toward the bottom of the image; and the initial slightly concave impact facet to the top.

Figure 42: Small gouges superimposed on the broad but slight concave flattening on the otherwise largely intact upper hemisphere of the ball. To the bottom and bottom right are the two facets of the firing band, showing the striations on the bands and the slight concave gap between the two facets.

Figure 43: The small gouge in the upper hemisphere which still contains part of the small stone which created it. To the left of the stone the distinct striations are visible in one face of the gouge, while the lower face is flat.

Figure 44: Image showing the degree of deformation of the ball, with a wide gouge and associated spalling of lead clearly overlapping the firing band.

Figure 45: The massive impact facet, showing the multiple gouges, with their striations, running in slightly different directions. Centrally on the face the small irregular dark brown areas represent stone embedded in slight gouges, suggesting this was an impact with stony soil or a large stone which fragmented.

Figure 46: The broad peripheral gouges (left) on the edge of the major impact facet (to the right), showing the degree of spalling and potential lead loss. Also clear is the smoother form of the gouge face in some cases, compared to those visible on figure 40.

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