

# BOSWORTH BATTLEFIELD

## A Reassessment



Glenn Foard

2004

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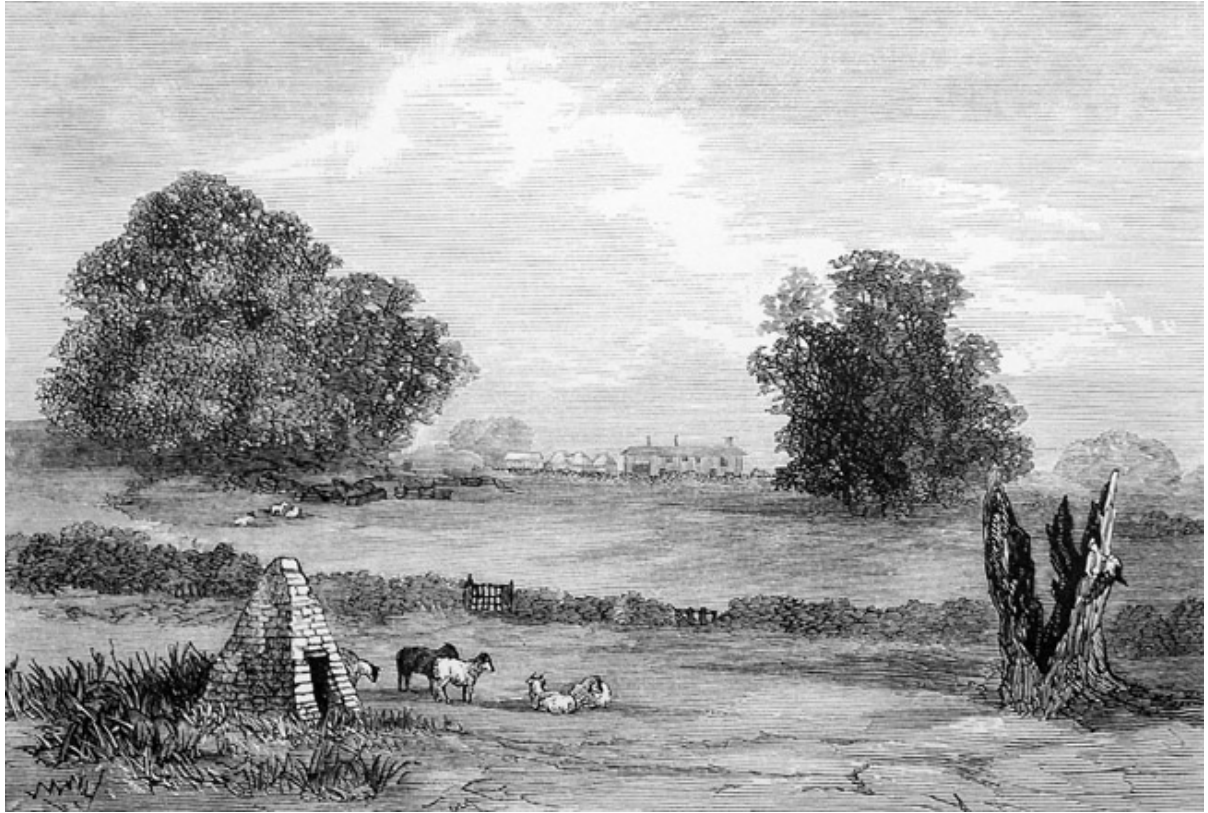
King Richard's Field as depicted on Smith's map of Leicestershire of 1602

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**Figure 1: A view by Rimmer (1898) of the Ambion Hill site looking east, showing King Richard's Well. This is the battlefield as currently interpreted at the Battlefield Centre, which now occupies the farm in the background.**



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## **ABBREVIATIONS**

BGS	British Geological Survey
LRO	Leicestershire Record Office
OS	Ordnance Survey
PRO	Public Record Office
SMR	Sites and Monuments Record
VCH	Victoria County History

## SUMMARY

Charles Oman, in his influential book *The Art of War in the Middle Ages*, dismissed Bosworth in a few words, saying: ‘this can hardly be taken for serious military study – since it was not settled by strategy or tactics, but by mere treachery.’<sup>1</sup> Yet today the battle of Bosworth is one of the most contentious of battles in English military history, because at least three alternative sites have been proposed for the battlefield, while at least four significant books and numerous articles have been devoted to the battle. The dispute will be finally resolved and the detail of the action accurately placed within the historic terrain of 1485, because it provides the greatest challenge to the rapidly developing field of battlefield studies. Then Oman’s words are likely to be shown to be very far from the truth.

The battle of Bosworth, originally named the Field of Redemore and fought on the 22<sup>nd</sup> August 1485, saw one of the most dramatic military reversals in English history. A rebel force defeated a royal army more than twice its size leaving Richard III, the last Plantagenet king, dead on the field and placing Henry VII on the throne as the first of a new, Tudor dynasty. The battle is, for its period, relatively well documented and, despite Oman’s words, clearly has a major tactical interest. Thus understanding exactly where and how it was fought should contribute significantly to our understanding of military practice in 15<sup>th</sup> century England.

The dispute over the site of the battle has perhaps proven so difficult in part because it is the only battlefield which has been extensively interpreted to the public, interpretation that was put in place before modern battlefield study had come of age. As a result an earlier, now unsustainable, interpretation of the battle and battlefield became entrenched in physical facilities on the ground. The broad consensus about the battle was thrown into chaos at the 500<sup>th</sup> anniversary of the battle with the publication of a new interpretation by Foss. Since then debate has raged over the location of the action, compounded most recently by the suggestion that the battle was actually fought more than four miles (6 km) away from the traditional location.

The report prepared in 1994 for English Heritage, to underpin the inclusion of Bosworth in the Register of Historic battlefields, inexplicably failed to assess the relative merits of the alternative hypotheses then in existence and provide a definitive assessment. However the current proposals to completely revamp the interpretive facilities at Bosworth have enabled Leicestershire County Council to finally meet the challenges provided by the ongoing debate. They have commissioned this independent assessment of the contending hypotheses over the location, extent and character of the battlefield. The following assessment is based on a detailed consideration of the evidence presented in the main secondary works on the battle, of the primary sources for the action, has collected together the main archaeological evidence which may relate to the battle, and has included a reworking of some of the primary evidence for the historic terrain of the five townships which impinge upon the battlefield.

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<sup>1</sup> Oman, 1924, 423.

It is clear from this assessment that one piece of scholarship stands head and shoulders above all others for the battlefield of Bosworth. This is the analysis by Foss, which should be recognised as a milestone in the study of pre-industrial period battles, particularly for its location of and reconstruction of the historic terrain of the battlefield.<sup>2</sup> He has built a detailed, soundly argued case which establishes irrefutable evidence as to the broad area within which the battle of Bosworth was fought. Through well supported argument he comprehensively demolishes central planks of all the contending battlefield interpretations, particularly those of Hutton and Williams and including some, such as those of Jones and of Wright, that have been published subsequently but which fail to deal with the key facts established by Foss. The work conducted in the present project on the physical and documentary evidence for the historic terrain of the battlefield has confirmed the broad interpretation which Foss has made, although it has shown that a great deal more work is needed to refine the detail. The key facts of historical geography that Foss established should now be placed at the centre of all future research on, and interpretation of, the battle.

The Foss study has however only provided the starting point for the solution of the problems of Bosworth battlefield. It is a slim volume that focuses primarily upon locating and defining the general extent and character of Redemore. Although it places the events within that historic terrain, his is a very brief analysis of the battle. Since the work was first published battlefield studies have moved on at a rapid pace. A sophisticated methodology for the interdisciplinary investigation of historic fields of conflict is being developed in Britain, within a wider international context of battlefield study. Important ongoing archaeological research, especially at Towton, is confirming the potential of this methodology for the investigation of English battles of the 15<sup>th</sup> century.<sup>3</sup>

Previous archaeological survey work at Bosworth, despite the enthusiasm and effort shown, has lacked a coherent methodology and has thus failed to deliver significant results. However, the current assessment has demonstrated that Bosworth battlefield is an ideal candidate for the application and refining of the evolving methodology of battlefield study, both for the reconstruction of the historic terrain and the recovery of the archaeological evidence for the battle. Such a project, on a battle of high profile, if adequately resourced and effectively managed could provide an essential model for future investigations of battlefields of the period in Europe as a whole. In the short term the facts established by Foss, enhanced by limited detailed mapping in the current project, can be used to provide a generalised interpretation of the battlefield. However until an adequately funded and professionally managed study is completed on the battlefield, which would take a minimum of three seasons of fieldwork, it will not be possible to prepare a definitive account of the location and course of the action at Bosworth on the 22<sup>nd</sup> August 1485. Only when the results of such investigation are available can the battlefield and the story of the battle be adequately interpreted for the public.

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<sup>2</sup> Foard, in preparation; Newman and Roberts, 2003, 172 n.85.

<sup>3</sup> For a brief review of some of the ongoing work see Foard, Sutherland, Schmidt, Pollard and Newman, 2003.

## **1. INTRODUCTION**

**This report was commissioned by Leicestershire County Council as part of a Conservation Management Plan for Bosworth battlefield being produced by Chris Burnett Associates. It deals with the battle of Bosworth, 22<sup>nd</sup> August 1485, together with any archaeological or documentary evidence that assists in the understanding of the battle, battlefield and its immediate context. It does not encompass any other remains of the historic environment within the same area, which may be of relevance to the Conservation Management Plan, as these are being dealt with in separate work by John Dyke.**

**In compiling this report most of the major secondary works on the battle have been examined. This is one of the battles most extensively written about that was fought on English soil, second only perhaps to Hastings. It was not therefore practicable within the available time to examine all of the wide ranging literature on the battle. Much of the material would however appear to be peripheral to the central issues with which the current report is concerned, while other more important evidence is believed to have been subsequently largely encompassed by the major studies.**

**The present work has concentrated on four townships: Sutton Cheney, Dadlington, Shenton and Stoke Golding. However it has become plain during the research that in a full study of the battlefield it will be necessary to include Upton township as it encompassed part of the marshland which figured so significantly in the battle. Brief attention has also been given to the alternative site immediately east of Atherstone, proposed by Jones. However it has been possible to demonstrate that Jones's hypothesis is not valid and thus more detailed landscape analysis of that location has not been necessary.**

**In this report in order to enable a rapid review of the main arguments the text has been divided into two sections. The emboldened text summarises the main issues, while the remaining text provides the detailed argument.**



## 2. A REVIEW OF CURRENT INTERPRETATIONS

The ‘standard’ interpretation, as currently presented in the visitor centre and on the guided trail which places the action on Ambion Hill, had been based on the work in the 18<sup>th</sup> century by Hutton, refined by Nichols and variously reworked by others in the 19<sup>th</sup> and 20<sup>th</sup> centuries, most substantially by Williams.<sup>4</sup> The standard interpretation has also been repeated and embellished by various other authors, including Burne, Gravett and Haigh, though generally without conducting any additional primary research.<sup>5</sup>

Interpretation of the battle of Bosworth has however been in chaos since 1985 when Richmond questioned the standard interpretation, Foss following up with an article and then in 1990 with a more comprehensive study of the battlefield.<sup>6</sup> Additional material relevant to the Foss interpretation has also been presented by Parry.<sup>7</sup> In 2002 Wright produced yet another alternative to the Ambion Hill interpretation, moving the action considerably further to the south east than Williams.<sup>8</sup> All these interpretations, even that of Foss, lie in broadly the same area of landscape, the traditionally agreed location of the battlefield, recorded in maps and documents from the 16<sup>th</sup> century onwards within the townships of Sutton, Shenton, Dadlington and Stoke. However in 2002 Jones’s highly publicised revision suggested a far more fundamental relocation of the battlefield. His analysis represents the refining of a suggestion, first apparently proposed by Starkey in 1985, that the battlefield actually lay immediately to the east of Atherstone.<sup>9</sup>

Figure 2: Location map

These alternatives need to be assessed in terms of the established facts about the battle and battlefield, the available evidence for the historic terrain of the area and the inherent historic military probability of particular actions. The dispute over the battlefield has become particularly fierce during the last decade or more and unfortunately good scholarship is in danger of being overwhelmed. It should be accepted that there is some conflicting evidence, that most of the main authors have made some positive contribution to the debate but that there are now certain facts that have been established beyond reasonable doubt which should form the basis of all future debate. It is the main focus of this assessment to identify those facts.

### *The Atherstone hypothesis*

There has been broad agreement between almost all authors writing on the subject since the 16<sup>th</sup> century that the battle took place in the area between the villages of

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<sup>4</sup> Hutton, 1788; Hutton, 1813; Williams, 2001.

<sup>5</sup> Burne, 1996, Gravett and Turner, 1999, Haigh, 1995.

<sup>6</sup> Foss, 1998b, Foss, 1988. Richmond, 1985.

<sup>7</sup> Parry, 1993, Parry, 1998.

<sup>8</sup> Wright, 2002.

<sup>9</sup> Jones, 2002; Starkey, 1985.

Sutton Cheney, Shenton, Dadlington and Stoke Golding in west Leicestershire. This general location, first mapped by Saxton in 1576, encompasses almost all the alternative battlefield sites discussed below and is described hereafter as the ‘traditional location’. However as a result of conjecture in 1985 by Starkey, reworked and presented in a detailed argument in 2002 by Jones, we now also have to consider a quite different location for the battlefield.<sup>10</sup>

The ‘new’ battlefield location proposed by Jones is more than four miles (6 km) from the traditional location, lying immediately to the east of Atherstone within the townships of Fenny Drayton, Witherley and Atterton. There is an area of impeded drainage in this area, represented by extensive areas of alluvium, that might have been mapped and analysed to determine if it contained the marsh recorded by Vergil, but Jones has not carried out any such analysis of the historic landscape in this area. Neither has he attempted to provide a detailed indication as to the likely deployments. More importantly he has failed to marshal any adequate evidence to disprove certain key facts which establish the validity of the traditional location and so this ‘new’ location can be dismissed with a reiteration of these facts.

Figure 3: Location of Bosworth Battlefield as suggested by Jones

**There is no justification at present for abandoning the traditional location of the battle. Only if the research strategy outlined below for the investigation of the traditional site fails to deliver the expected results should any further consideration be given to the hypothesis presented by Jones.**

## **A battle near Merevale**

A central plank of Jones’s argument for the Atherstone site is the description of Richard having camped near and the battle as having been fought near to Merevale.<sup>11</sup> This derives from the Crowland Chronicle and it this source alone which provides such a location. There is a straightforward explanation for this that does not require the wholesale transfer of the battle more than four miles (6 km) to the west of the traditional location. The author of the Chronicle and his intended audience will have been more familiar with certain substantial abbeys, especially one like Merevale which lay close to a major national route like Watling Street, than with distant small towns and there was no other substantial monastic site near the battlefield. Significantly none of the secular accounts refer to the battle as having been fought near Atherstone but a number do state that the battle was fought near to Bosworth, a small town of no greater significance in the 15<sup>th</sup> or 16<sup>th</sup> century. The Crowland description is not of course exceptional in providing a locational reference some distance from the actual battlefield, for other sources give similarly vague information, such as ‘Rodemore near Leicester’,<sup>12</sup> while the Castilian report refers to the action being near Coventry.<sup>13</sup> Even the

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<sup>10</sup> Jones, 2002; Starkey, 1985.

<sup>11</sup> Dick’s Hole, the first record of which so far identified is in the 19<sup>th</sup> century, is suggested by Jones as probably marking the approximate location of Richard’s camp on the 21<sup>st</sup> August.

<sup>12</sup> York Memoranda, Bennett, 1993a, 155. ‘Rodemore’ was shown by Attreed to be a misreading of the word ‘Redemore’ in the York memorandum, a misreading current since Davies; Foss, pers.com., Davies, 1843; Attreed, 1991.

comment from Rous that the action was fought on the Warwickshire/Leicestershire border can be reconciled with the traditional location, for the Registered Battlefield boundary extends to within 2 miles (3 km) of the county boundary.<sup>14</sup>

## **Townships paid compensation**

The other key evidence is that of the payments of compensation later made by Henry to villages who sustained losses at the time of the battle.<sup>15</sup> Jones distinguishes between the payments to the Abbey of Merevale for crops damaged by ‘our people coming towards our late field’ and the losses of the townships of Mancetter, Witherley, Atterton and Fenny Drayton ‘at our late victorious field’. The former he attributes to the depredations of quartered troops but the latter he interprets as representing losses during the battle itself.<sup>16</sup>

In contrast Goodman, Foss and others have interpreted these payments as recompense for the losses in grain and corn suffered by the villages as Henry’s army foraged for food in the area on the night before the battle.<sup>17</sup> It is difficult to link these payments to any interpretation of the battle as suggested by Jones as they cover such a wide area, extending both sides of Watling Street and including land in Atherstone which is on the other side of the river from the suggested battlefield. Most significantly, when the troop movements suggested by Jones are superimposed it is seen that several of the townships are actually wholly avoided, including Fenny Drayton which received one of the highest payments. The pattern is far more like that seen in many documents of the 17<sup>th</sup> century resulting from an army quartering on a group of villages.<sup>18</sup> The largest payment, to Merevale, probably indicates where the headquarters were located, which is indeed where Jones suggests Henry himself was quartered on the night of the 21st August.

## **Naming of the battle**

But the most problematic issue for Jones’s hypothesis is that the battle is named after the small town of Bosworth not that of Atherstone, and most importantly that the commonest early name for the battle was Redemore, which Jones accepts has been accurately located by Foss in the township of Dadlington. The battle was also at least once described as Dadlington Field.<sup>19</sup> In order to sustain his argument Jones therefore claims that this naming of the battle derives from where the dead were buried not where the action was fought.<sup>20</sup> He suggests that the dead, or at least a substantial number of them, were carried back with the army on its march to Leicester and buried at the first suitable location. The naming is then represented as a ritual commemoration of the burial site not of the battlefield, in order that the intercession for the souls of the dead could be most readily held in recorded memory. ‘What was being commemorated was not where the battle was fought but the place where the dead were

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<sup>13</sup> Bennett, 1993a, 160.

<sup>14</sup> *Ibid.*, 159.

<sup>15</sup> The document for the villages is given in full by Wright, 2002, 14, quoting Campbell, 188 & 121.

<sup>16</sup> Jones, 2002, 151-2.

<sup>17</sup> Goodman, 1981. Foss, 1998b.

<sup>18</sup> E.g. Foard, 1995, 167-175.

<sup>19</sup> The battle names are discussed by various authors including English Heritage, 1995, 1-2 and Foss, 1990.

<sup>20</sup> Jones, 2002, 146-7.

buried afterwards. And a burial site could be many miles distant from the actual battlefield.<sup>21</sup>

This interpretation is wrong, both in the generalities of mass graves from battles and in the specifics of the Bosworth case. This battle was not named from the place where the dead were buried. It was described as the Field of Redemore in the report to the York City Council on the 23<sup>rd</sup> August, by someone probably present with Richard's army at the battle.<sup>22</sup> The bodies will not have been buried until long after this person, or his informant, left the field, perhaps even flying for his life. The name is therefore the most immediate record of the battle and gives us a location that cannot be disputed. It clearly relates to the action itself, not the burial of the dead.

Jones's discussion gives the impression of detailed knowledge of the process of burial of battle victims, yet no sources are given for this discussion which runs contrary to the current state of knowledge of the subject.<sup>23</sup> The most common and substantial place of burial on most battlefields, as Burne knew, is typically at the point where two armies first engaged. Here the bodies will have been most densely distributed and here they seem to have been drawn together into one or more mass graves. It is likely that only where bodies were more widely distributed, typically in the rout and 'execution', that they were sometimes collected together and transferred to the graveyard of the relevant parish church or chapel. Such clearance of battlefields generally appears to have been carried out during the day or two following the action, often using local labour. There seem to be no documented examples to accord with Jones's interpretation of an army carrying significant numbers of bodies with it some three or four miles (5-6 km) to a place of burial. The other movement of bodies to parish churches, for example at Towton, were many years after the battle, and then to the churchyard of the parish or chapelry within which the action took place.<sup>24</sup> Jones accepts that normally the bodies of just a handful of the nobility would be transported from the field for special burial, yet he provides no explanation why, atypically, Henry's slain would have been move en masse to of all places the small chapel of Dadlington, even if it was on the army's general line of march to Leicester.<sup>25</sup>

Indeed later Jones accepts that burials were normally made in close proximity to the action, for he argues that the Bloody Bank field name of 1763 in Atherstone, which has a local tradition as a burial place associated with the battle, was probably one such place. However it should be noted that in 1716 it seems to have been named Tenter (P)ill.<sup>26</sup> The mound adjacent to the Fenn Lanes to the north east of Fenny Drayton is also identified as a possible burial mound of the slain, though this was demonstrated in the 1960s to be a windmill mound.<sup>27</sup>

The suggestion that by the end of the 16<sup>th</sup> century, after less than a century, local memory of the exact location of the action had been lost and that the location was transferred to the site

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<sup>21</sup> Ibid., 146.

<sup>22</sup> Foss, 1998b, 30-1. It appears as 'Redesmore' in the Londoner's Notes MS and in the Scotland copy of Fabyan.

<sup>23</sup> Foard, in preparation

<sup>24</sup> Ibid. in preparation.

<sup>25</sup> Jones, 2002, 155-6.

<sup>26</sup> Ibid., 154-5. An extract of the 1763 and 1716 maps showing Bloody Bank and Royal Meadow is given by Wright, 2002, after p.16.

<sup>27</sup> Excavation by Mr Alan F Cook in 1965, recorded in the Leicestershire Sites and Monuments Record.



of burial miles from the battlefield simply does not accord with evidence of the security of traditional sites of many other battlefields.<sup>28</sup> Jones also claims as evidence the fact that in 1503 Henry returned to Merevale and gave money for stained glass there to celebrate his victory. But this need not indicate the proximity of the abbey to the battlefield, it could simply be in recognition that Henry was quartered and prayed there on the evening or the morning prior to the battle. A similar explanation can surely also be made for the claim of the Abbot of Merevale for the 'rights' of the lordship of Atherstone in 'remembraunce of youre late victorious felde and journey'.<sup>29</sup> Other arguments, such as the 'secondary' record of the battle having been fought amongst the towns known as 'the Tuns', that has been identified by some as supporting the Jones hypothesis (Atherstone, Fenny Draton, Atterton), in reality accords just as well with Saxton's location (Shenton, Dadlington, Sutton Cheney, Upton).

Jones's arguments also fail to take into account fundamental strategic or tactical issues. The approach of Richard's army will have required the use of major roads for rapid and efficient movement of the numbers of troops, artillery and a large baggage train. Only the Fenn Lanes appears to provide such a route from Leicester, especially given the difficult nature of the terrain between Bosworth and Atherstone. Jones's location for Richard's army makes no military sense as the only major route, though admittedly not documented until the 17<sup>th</sup> century, was the Coventry to Nottingham road. He also ignores key information in the primary accounts.<sup>30</sup> They indicate that the flanking move by Henry's army was made when they were within a quarter league (c.1200m) of the royal army, not the 1.5 miles (2.5 km) shown by Jones. He also misunderstands the tactical significance of that move and, like Hall, misinterprets the description, taking it to mean that Richard's army faced into the sun, which is not what Virgil's account is saying. Virgil is describing a close action outflanking manoeuvre made to attack the right wing of the royal army which thus must have been facing in a broadly westward direction (see below).

### ***The Traditional Location: Alternative Battlefield Sites***

**Within the traditional location there are now three main alternative areas which have been suggested as the actual battlefield, each championed by at least one of the main works on the battle.**

The location of the battle on the traditional site was mapped in general terms by Saxton as early as 1576.<sup>31</sup> The first significant author who seems to have visited the battlefield and collected local information is however Holinshed, writing at the same time as Saxton. He is the first to refer to Ambion in association with the battle, but he simply has Richard's camp, not the action, on Ambion Hill. He also collected other information, particularly in relation to the actual location of the marsh mentioned in Virgil's account, stating that it had been drained since the time of the battle.<sup>32</sup>

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<sup>28</sup> Jones, 2002, 148. Foard, in preparation.

<sup>29</sup> Jones, 2002, 152-3.

<sup>30</sup> Notably in Molinet and Vigil: see below.

<sup>31</sup> Ravenhill, 1992.

<sup>32</sup> Holinshed, 1577

## Burton

**The first antiquary to write on the local history of the battle of Bosworth was Burton. The detail he provides is disappointingly limited but there is one very significant topographical reference to the location of the battlefield.<sup>33</sup>**

He reported local traditions about the battle, claiming to have talked to people who had been present at the time of the battle. According to Burton the battle was fought on ‘a large, flat, plain, and spacious ground’ three miles (5 km) from Bosworth, between Shenton, Sutton, Dadlington and Stoke. He refers to various local traditions, features and discoveries such as a ‘little mount cast up’ where Henry was said to have addressed his army. He also claims it was on Ambion Hill that Richard made his camp the night before the battle and reports that John Hardwick of Lindley, a relation of Burton’s family, acted as Richard’s guide to the battlefield. He also refers to finds of armour made circa 1602 when Stoke was enclosed, of which he claimed to have had some artefacts in his own possession in the 1620s. However for none of these discoveries does he give an accurate location. According to Williams there were various significant amendments made to Burton’s 1622 manuscript, with the help of Dugdale and Cotton, but only surviving in the original manuscript form. However they do not significantly alter the core of his evidence.<sup>34</sup>

## Hutton

**The first edition of Hutton’s book *The Battle of Bosworth Field* was published in 1788 with a second edition, including important additions by Nichols, being published in 1813.<sup>35</sup> Both Hutton and Nichols visited the battlefield before the 1797 enclosure of Sutton Cheney (Hutton in 1788 and Nichols in 1789) and in this they had an advantage over all authors who have followed them.**

**Because Hutton was the first to produce a substantial book on the battle he has been the most influential of any writer to have contributed to the study of the event. This is unfortunate given the fundamental errors in his work. Hutton defined important principles in the study of the battle which he says underpinned his investigation: ‘By carefully comparing the writers, the field, and the traditions, I have attempted to remove some absurdities and place truth on firmer ground.’<sup>36</sup> Sadly however Hutton did not follow his principles in a sufficiently close or professional a manner in the analysis he published, as was noted by certain of his contemporaries.<sup>37</sup> Instead of placing the truth on firmer ground he, and then Nichols in the subsequent edition, confused the case. To a large degree they dismissed those facts that we can now see were relatively secure, because they did not fit the interpretation which they wished to place on the battle. Hence they have the action taking place on a hilltop, not in a plain as Hall**

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<sup>33</sup> An extract on Bosworth from Burton’s unpublished manuscript was transcribed by Nichols in 1810 and printed in Hutton and Nichols, 1813, 115-118; also 78. Burton’s evidence is reviewed by Foss, 1998b, 28-9. A potentially significant collection of transcripts from public and local records from Burton’s collection is in LRO (LRO 2 D71/I/24-260).

<sup>34</sup> Williams, 1974-5. New transcripts of both Burton texts, where relevant to the battlefield should be prepared as part of the research archive.

<sup>35</sup> Hutton and Nichols, 1813. The edition used here is the repaginated reprint of 1999.

<sup>36</sup> *Ibid.*, 58.

<sup>37</sup> Throsby, 1789, I, 338 quoted by Foss, 1998b, 19.

**and Burton both indicate; the marsh has become simply a rivulet and Richard dies in dust rather than in a mire. Foss provides a detailed critique of Hutton and further assessment is made by both Williams and Jones.<sup>38</sup>**

As Jones says, there is a ‘wonderful fixity’ in the interpretation, yet it is difficult to determine the source of many of Hutton’s or Nichols’ conclusions, even where they provide detailed interpretations of the location of events and of the various camps of the protagonists.<sup>39</sup> Hutton’s original plan of the battlefield, published in 1788, is an extremely crude sketch lacking any scale and highly distorted making it impossible to reproduce to a modern map base. It places all the action to the north east of the Sence brook, on Ambion Hill, apparently based on Holinshed’s comment that Richard ‘pitched his field on a hill called Anne Beame, refreshed his soldiers and took his rest.’ This reference to Richard’s camp is interpreted by Hutton as the site of the battle. Henry is shown deployed to the north west and Richard to the south east, with William Stanley to the north east, close to Amyon Lays, and Lord Stanley to the south west. The battlefield is thus unrealistically compact, set on the small hilltop of Ambion.

**Figure 4: Robinson's and Nichols'(Pridden's) reconstructions of the deployment of the armies**

An alternative interpretation was developed by Robinson in 1785 in his map of the country five miles around Hinckley.<sup>40</sup> His alignment of the battalia was based on a calculation of the position of the sun at 2:00pm when, on unspecified evidence, he says the battle started. He also reports that on the south side of Ambion Wood there was ‘some tender ground’, with the implication that this was the site of the marsh referred to in the contemporary accounts.<sup>41</sup> Then another plan of the deployments was produced for Nichols by Pridden, who visited with both Robinson and Pridden in 1789.<sup>42</sup> The two plans are also sketches but substantially more accurate in their representation of the late 18<sup>th</sup> century landscape than Hutton’s and thus difficult to transcribe exactly to an accurate map base, although an attempt has been made in figure 4. Ambion Wood seems far less extensive than in the 1880s, while the position of the cottage where the cannon balls were said to have been found is also difficult to determine. In contrast the meadow and position within it of the small area of marsh in which they indicate Richard’s horse was supposedly mired and hence where Richard was killed, has been accurately located with reference to the Sutton Cheney Enclosure map. These two interpretations were published by Nichols in his 1813 revision of Hutton’s book. Hutton reviewed and approved Nichols’ second edition of his book and thus one must assume that he was in agreement with the interpretations presented there, except for the minor corrections he indicated, as listed in Nichols’ ‘Advertisement’.

It is Hutton who provides the first association of the Redmoor name with red soil, contrasting it with the Whitemoor meadow. The stream from Richard’s Well, running into the Sence, is also identified as that which formed the ‘morass’, hence providing the first identification of the marsh as lying on the south side of Ambion Wood.<sup>43</sup> But, significantly Hutton disputed

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<sup>38</sup> Foss, 1998b, 19-22.

<sup>39</sup> Jones, 2002, 148-9.

<sup>40</sup> Hutton and Nichols, 1813, 116-7. For information on Robinson see Nichols, 1815, IV, 643.

<sup>41</sup> Hutton and Nichols, 1813, 144-5.

<sup>42</sup> *Ibid.*, 144-5.

<sup>43</sup> *Ibid.*, 79.

the very existence of a swamp in proximity to Ambion Hill: ‘We are told by our historians, of “a great marsh, that Henry was obliged to pass, though now drained by cultivation.” This is another mistake; there neither is, nor ever was one, or any obstruction, but the rivulet mentioned before, which a man might easily jump over.’<sup>44</sup> In this Hutton is clearly correct, at least in so far as Sutton Cheney field was concerned. Though one may question many aspects of the interpretation presented by the two, Hutton and Nichols did see this landscape before enclosure and this is one of the few things of which later authors should have taken note, for it would have helped them to avoid the wildest excesses of fancy in creating marshes that indeed never existed on and around Ambion.

Hutton and Nichols’ identification of accurate locations for the camps of the protagonists demonstrate the way in which a range of evidence has been misused. Significantly in the case of Richard’s camp the local tradition, if that is what it derives from, had shifted since the time of Burton. Not only do they have Richard in the area for several days before the battle, but they provide identifications using archaeological evidence of various types which are likely to have very different significance.<sup>45</sup> They identify with some play of certainty the site where Richard died, a very small patch of boggy ground in a narrow meadow to the south east of Ambion Wood,<sup>46</sup> and are also responsible for the interpretation of Richard’s troops fleeing south towards Stoke, relating this to the discovery of battle finds in that township.<sup>47</sup>

The work by Hutton and Nichols was followed closely by many subsequent authors, such as Brooke, Barrett, Gairdner and Burne, although in most cases they conducted little or no primary research to question or enhance the interpretation.<sup>48</sup>

## Williams

**In the 1970s and in further subsequent revisions, Williams developed and expanded the Hutton/Nichols hypothesis. Despite strongly criticising Hutton’s work he takes many of the central propositions of that interpretation without question and with little carefully referenced argument. Various recent authors have broadly followed the Hutton interpretation as modified by Williams, with minor variations. In most cases they have done little or no primary research on the evidence for the battlefield and their presentation of the historic terrain is wholly inadequate. These include Bennett, who subsequently transferred allegiance to the Foss interpretation, and Gravett.<sup>49</sup>**

**Most of the shortcomings are not detailed here as they have already been highlighted by Jones and in great detail by Foss in his rejoinder to Williams’ misleading and poorly argued response to Foss’s own 1990 book.<sup>50</sup> However special mention should be made of Williams’ identification of Redmoor Plain as an area of red marl soil, from which it**

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<sup>44</sup> Ibid., 86.

<sup>45</sup> Ibid., 71, 77 and 144-5. No attempt has been made here to determine the likely significance of those archaeological remains as this was outside the scope of the present study.

<sup>46</sup> Ibid., 96 & 144-5.

<sup>47</sup> Ibid., 96, 98-9.

<sup>48</sup> Gairdner, 1896, Gairdner, 1898; Brooke, 1857; Barrett, 1896; Burne, 1996.

<sup>49</sup> Bennett, 1993a, 176; Gravett and Turner, 1999.

<sup>50</sup> Williams’ response to Foss’s book is in Williams, 2001, 37-8. Foss, 1996. See also Williams, 1985. Jones, 2002, 26-7& 157.



derived its name. In reality the whole of the area of the battlefield, as defined by Williams, is covered by drift deposits comprising both glacio-lacustrine clays and fluvio-glacial sands and gravels.<sup>51</sup> Even more dramatic is Williams' location of the marsh, which he massively expands from the work of Hutton and even the comments of Burne. He claims to have undertaken a 'close study of the topography, drainage and field names' of the area<sup>52</sup> and states that geological features suggest the north and south sides of Ambion Hill were marshy and that 'it is therefore reasonable to conclude that the marsh extended right round the eastern and southern slopes of the hill and ended at the rising ground to the north of Bradfields Bridge.'<sup>53</sup> The geological evidence does not support such an interpretation, as Hutton and Nichols recognised when they viewed the pre-enclosure landscape of Sutton in the 1780s.<sup>54</sup> As is demonstrated below, although there are now a few small boggy patches on the slope, there never has been a marsh on this hillside. The whole area, apart from the small strip of meadow identified by Hutton and Nichols, had been under ridge and furrow cultivation in the medieval period and certainly was never marshland.

Figure 5: Williams' reconstruction of the battlefield, deployments and action

Williams shows Richard's army deployed on Ambion Hill, with Northumberland to the rear to counter the Stanleys who are shown towards Near Coton.<sup>55</sup> Such a deployment on a hilltop runs completely contrary to the evidence in the primary accounts which suggest the deployment and action was on a plain with a marsh and that Richard formed an unusually wide battle array. Moreover, as Bennett pointed out, the size and shape of the top of Ambion Hill would give little room for the manoeuvring of an army as large as Richard's. It is unthinkable that an experienced commander with a large army would deploy in such a restricted location and thus compromise many of the advantages that he had over his enemy. There were far more advantageous locations in this landscape within which to deploy.

Williams's identification of Sandeford, the place where Richard was killed, is based on Hollings' identification of 1858.<sup>56</sup> But Hollings had no pre 19<sup>th</sup> century source and none which actually named the location as Sandeford. The site is not mentioned by Hutton and Nichols, who claim to have collected local traditions, and they place the spot where Richard was killed in the small meadow to the south east of Ambion Wood.<sup>57</sup> Consequently the identification of Sandeford by Hollings, used by Williams, is far from secure and indeed when considered in the light of a more detailed reconstruction of the historic terrain (see below) is seen to be highly improbable.

The direction of the rout shown for Norfolk's vanguard is also unlikely. It is made necessary by the need to account for the burials, arms and equipment reportedly found in Dadlington and Stoke and the traditional location of the crowning on Crown Hill at Stoke. Such a rout demands that in the action the formations wheel right around through 180 degrees to place Norfolk on the west side, something that Williams never explains.

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<sup>51</sup> British Geological Survey 1:10,000 scale mapping, sheet 155 (Coalville), drift and solid geology.

<sup>52</sup> Williams, 2001, 37.

<sup>53</sup> *Ibid.*, 17.

<sup>54</sup> Hutton and Nichols, 1813, 86.

<sup>55</sup> Williams, 2001, 14-15.

<sup>56</sup> Hollings, 1858

<sup>57</sup> Williams, 2001, 28 & 36.

## Wright

Most recently Wright has proposed yet another alternative for the battlefield.<sup>58</sup> He places the action on the north side of the Sence brook on the lower slopes of Ambion Hill, giving a location for the clash between Richard and Henry that is very close to that recorded by Hutton and Nichols for Richard's death. But Wright's interpretation is flawed because it has completely failed to address the basic facts of historical geography established by Foss and fails to meet certain fundamental requirements of the primary sources.<sup>59</sup> Despite this, Wright's work is still of considerable value. In addition to providing images of several of the key documentary sources, most importantly he provides a range of data, in the main text and in the appendix, on archaeological and antiquarian discoveries in the area which are not recorded, or only poorly recorded, by others.

Figure 6: Wright's reconstruction of the battlefield, deployments and action

Although he acknowledges a substantial marsh existing vaguely further to the west he shows Redemore covering a very small area adjacent to the Sence brook where it is crossed by the Fenn Lane, even though there is no good geological or topographical evidence for a marsh there. He also follows Burne and others by including patches of marshland on the slopes of Ambion even though this is covered by an almost continuous area of ridge and furrow. His identification of Sandeford is also not proven. The deployments are also in error as he shows two main battles side by side for Henry's army when the primary accounts are clear that only one, the vanguard, actually engaged while the main battle was with Henry and very small. Wright also shows no significant tactical outflanking move and depicts a full frontal assault instead of a flanking attack by Henry's vanguard.

## Foss

Though many limitations can now be identified in Foss's work as a result of more recent advances on other battlefields, it was in the 1980s a milestone in the development of battlefield studies, for its application of the techniques of local history to the problems of military history.<sup>60</sup> It reconstructed the historic terrain from a range of geological and historical sources and then attempted to fit the military history into this framework by drawing out the most reliable topographical evidence from the primary sources by a process of detailed source criticism. Finally it brought together the evidence recorded by antiquaries and others of chance archaeological finds. In this, though perhaps without knowing it, it extended the methodological developments achieved by Newman at Marston Moor. Alongside Newman it also looked back to the more considered approach of Burne in the 1950s and marks a revival of the tradition of

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<sup>58</sup> Wright, 2002.

<sup>59</sup> Ibid., 75-7. The plans are all sketched and so mapping to a modern OS base has proved difficult.

<sup>60</sup> Foad, in preparation.

antiquarian study of battlefields of the late 18<sup>th</sup> and 19<sup>th</sup> century, all of which was so unreasonably ridiculed by Allen Brown in his work on Hastings.<sup>61</sup> It is much to be regretted that, just like Newman's work on Marston Moor in the late 1970s, his methodology did not become central to battlefield studies thereafter.<sup>62</sup>

**Figure 7: Foss's reconstruction of the battlefield, deployments and action after (Foss, 1990, Foss, 1998a)<sup>63</sup>**

The slim volume by Foss is the most closely argued and fully referenced of all the studies on Bosworth. The extensive endnotes, something that is woefully absent from many battlefield studies, enable the full detail of the argument and its supporting evidence to be re-evaluated at any stage. Ironically, one of the criticisms which may be levelled at the work is that so much detail is relegated to endnotes that the book is difficult to read. The quality of the case and its documentation was also not matched by the sort of delivery and publicity that Jones has achieved. Most significantly the book is let down by the scale, quality and accuracy of its mapping. Instead of a graphic reconstruction of the historic terrain compiled from detailed historical, archaeological and geological evidence one has to struggle with written descriptions, sometimes of quite complex features. His plans cannot be closely reconciled with a modern Ordnance Survey map, lack all but the most schematic of contour information and there is even a decline in accuracy between the 1990 and 1998 editions. These shortcomings are probably the main reason why Foss's work did not secure the position that it deserved as the starting point for all other research in the battle. To be fair, given the limitations of the chosen vehicle of publication and the amount of new ground which Foss had to break in developing his analysis of the battlefield he can, to a degree, be forgiven these failings. However what it does point up very clearly is why interdisciplinary research including not just rigorous analysis of the documentary evidence for the military history but also the application of a rigorous methodology of historic landscape mapping is so essential to battlefield studies, especially for the resolution of the uncertainties over the interpretation of the battle of Bosworth.

**Foss has demonstrated beyond reasonable doubt that Redemore, which was the primary name for the battle, was the area of low lying land in the basin between Ambion, Dadlington, Stoke Golding, Upton and Shenton. He provides an early date for this identification, 1283, and other later evidence for the distribution of moor and marsh within this area from the field names. He also shows the important interrelationship of the Fenn Lanes Roman road with the marsh. The analysis also demonstrates, through the Dadlington St James chantry documents, that bodies from the battle were transferred to the Dadlington chapel and that a significant part of the action took place in Dadlington township.<sup>64</sup> Finally Foss gives a brief interpretation of the action of the battle, including a useful assessment of the translation of a number of**

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<sup>61</sup> Allen Brown, 1996. Foard, in preparation

<sup>62</sup> Foss, 1998b. Newman, 1978, Newman, 1981.

<sup>63</sup> The extent of marsh is shown as defined in 1990, as also depicted in the article in *Midland History*. This is as the author intended, whereas the 1998 version was over simplified. P. Foss, pers. com.. While figure 7 takes its historic terrain from Foss, 1990, the interpretation of the action has had to be taken from Foss, 1998a as only there is it placed on any form of map base, the 1990 version being wholly schematic. For the extent of the marsh, cross checking with unpublished plans provided by the author has not enabled the problems to be resolved as each shows a very different boundary, so the published 1990 boundary has had to be employed as accurately as achievable.

<sup>64</sup> Jones, 2002, 147.

**the key phrases from the Latin, elaborating the discussion found in various other secondary works.**

Foss has made a minimal attempt to place the events within the landscape, but given the limitations in the detail of his reconstruction of the historic terrain and the absence of any substantial archaeological evidence for the battle itself to support an interpretation, this was perhaps a wise decision. This does however mean that he is unclear about the tactical opportunities provided by the historic terrain and gives only vague indications of the possible location of Richard's battle array: the 300ft contour below Ambion or the Apple Orchard Farm ridge. He also makes no attempt to present the battle arrays with frontages in any way related to the numbers deployed, though this could be argued to be an impossible task. While a convincing case is presented for both Stanley forces being on rising ground in close proximity on the south side of the battlefield, which he identifies as the hills on which Dadlington and Stoke lie, other detail is far less convincing. Indeed there seem to be some internal inconsistencies in Foss's arguments about the deployments and the action, for his reconstruction of the historic terrain would seem to interpose marshland between the Stanleys and the supposed line of Richard's attack on Henry. His location for Northumberland is idiosyncratic and largely dependent upon the dubious evidence in Drayton's poem. Such a position over a mile (1.5 km) behind Richard's battle array runs contrary to the clear implication in the Crowland Chronicle that Northumberland was in the main battle array. It is true that Drayton was from a local family and may have had access to local information, and use has been made by various authors of the information in the ballads. Drayton's evidence must therefore be considered, but it needs to be weighed carefully against all other evidence and historic military probability. Foss does also point to Fabyan's statement that 'some were hovynge afar off', but admits this could simply refer to the Stanleys. Similarly his suggestion that in the Crowland Chronicle the wording 'in that very place' ('in eo vero loco...') and 'discernable' ('cernabatur') implied Northumberland was at a distance in a different place is also a very tenuous interpretation, but must be considered.<sup>65</sup> Similarly, the positioning of Henry's rearguard, almost a mile to the rear of the vanguard must be questioned. Although the contemporary accounts state that Henry's rearguard was unusually detached from the vanguard, this is likely to be just a few hundreds of yards, not the mile suggested by Foss.<sup>66</sup> The latter would run completely contrary to practice defined in military manuals in use at the time, as it would mean that Henry would have been unable to support Oxford and indeed probably unable even to see the action.<sup>67</sup>

**Williams' criticisms of Foss's analysis are woefully inadequate and can be largely dismissed. In contrast, Jones supports the interpretation of key documents on the burials while Bennett completely changes his view of the location of the action, supporting Foss's broad interpretation of the battlefield, describing his analysis as 'a definitive, grass-roots reconstruction of the site and the action'. Though the study is in fact far from definitive, the limited detailed mapping undertaken in the present project**

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<sup>65</sup> Foss, pers. com..

<sup>66</sup> Some problems with Foss's interpretation can be seen to derive from the poor quality of the mapping rather than the intended interpretation as presented in the text, but the reader can only judge from the overall delivery, again reinforcing the need for rigorous accuracy in mapping wherever practicable. In his article on the Sutton Cheney estates he has provided a more detailed and more accurately mapped historic landscape reconstruction of part of the battlefield, but it still does not fully meet the standards of accuracy that are now required. Foss, 1987.

<sup>67</sup> Vegetius, 1993 Pisan, Caxton and Byles, 1489

has confirmed much of what Foss has argued about the historic terrain and the broad picture of the action within it. There is however still the need for a much more systematic and comprehensive presentation of the historical and the archaeological evidence already available, prior to the implementation of a substantial survey programme employing the full potential of digital mapping to develop and refine the detail of the historic terrain of the battlefield and to locate the deployments and action accurately within it.

## **The Battlefield Register**

The English Heritage report which supported the registration of the battlefield provides a useful summary, including the influence of the marsh on the action, and elaborates this by presenting in translation four of the most important of the primary sources. Its discussion of the landscape evolution however is poor, as is its consideration of the very limited archaeological evidence for the battle. More important is its inexcusable failure to assess the relative merits of the evidence presented in the alternative interpretations of the battlefield.<sup>68</sup> It merely mentions Starkey's suggestion of a site for the battle near Atherstone, instead of testing the evidence for such a location against that already well documented for the traditional location.

With regard to the various battlefield sites proposed on the traditional location, particularly those of Hutton, Williams and Foss, the report tries to balance cases which are unequal. Instead it should have provided an independent application of logical argument to determine which elements of each hypothesis had been demonstrated beyond reasonable doubt and which were no longer tenable. Had a reasoned assessment been made in 1995 then a great deal of the confusion which continues today could have been avoided, including the recent debate about the suggestion that the battlefield was actually near Atherstone.<sup>69</sup>

Although the Registered Battlefield boundary was defined so as to encompass most of both the Ambion Hill and the Redemore sites, the failure to adequately investigate the evidence for the historic terrain has meant that the boundary does not encompass the whole area of the marsh(es) and its immediate environs. In addition there was, as usual with the Register boundaries, a decision to exclude the possible area of any flight and 'execution', even though these were a key part of many battles that could see the effective destruction of the whole or large parts of an army. This certainly appears to have happened to Norfolk's defeated vanguard at Bosworth. This is unfortunate, especially as this rout and execution, and indeed any plundering of a baggage train or camp, as a result of the cutting down and then stripping of troops and the pillaging of goods and equipment, is likely to provide some of the most substantial artefactual evidence,. Such exclusion may also mean that significant mass graves lie beyond the boundary, as is the case at Towton where the mass grave excavated in the 1990s lay well beyond the Registered Battlefield boundary along the probable line of the rout.

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<sup>68</sup> The inadequacy of the English Heritage report was pointed by at least one correspondent during the consultation stage before the launch of the Register: letter 12<sup>th</sup> October 1994 from Mr D J Knight, in English Heritage Bosworth battlefield file.

<sup>69</sup> English Heritage, 1995.

## ***Assessment***

**Certain basic facts of historical geography have been broadly determined by Foss. These facts demonstrate that the Ambion hilltop and Atherstone interpretations of the battle are no longer tenable. The reconstruction of the historic terrain now needs to be refined by systematic fieldwork and documentary research using the full range of techniques currently available to battlefield studies. Only when the detail of historic terrain has been reconstructed should a new review of the deployments and action be attempted. But a full analysis should await the results of intensive field survey for the archaeology of the battle. Only when such a survey is completed to a sufficient level of detail and over a sufficiently extensive area, should a comprehensive review of the military history be attempted to place the events within the historic terrain, informed with reference to the best current understanding of military practice of the period. The focus of the rest of this report is to provide a basic assessment of the military history, the historic terrain and the archaeology of the battle and the potential for its further investigation.**

### **3. MILITARY HISTORY**

#### ***Primary sources***

The value of the primary sources for the battle is discussed by various authors, most notably by Bennett, who reprints in translation all the major sources.<sup>70</sup> The most important source for the battle is that by Polydor Vergil, a trained historian who, although writing some years afterwards, is believed to have interviewed a range of senior participants in the battle. The Crowland Chronicle although well informed is not an eyewitness account. Molinet provides important additional evidence on the action, but his information on numbers of troops involved appears wildly in error. Valera's Castillian account is an extremely confused compilation but may contain some significant evidence. A number of the other sources provide small pieces of important information, for example as to the location and naming of the battlefield. The ballads must be treated with great care, however they are put to considerable use by various authors because they seem to contain genuine facts, perhaps deriving from eye witnesses, not otherwise recorded by the written accounts. Other later sources, such as Hall, also have again to be treated with care as they elaborate and distort the evidence provided by the sources closest to the action. Several, most notably Holinshed, seem to provide some important independent insights.<sup>71</sup>

Overall, in terms of the primary sources for the military history, Bosworth appears to be one of the best documented English battles of the 15<sup>th</sup> century. Several of the accounts can be treated as very reliable in many respects and are found to contain several pieces of topographical evidence related to the tactics and the action which may be used to great effect to accurately locate the action. In order to enable the better understanding of the sequence of events and to assess the relative security of the various elements of the story, a draft concordance of the sequence of events of the battle from main sources is provided in appendix 4, which should be used for reference for all the detail provided from primary sources in the following discussion of the deployments and the action. A range of problems can arise from the transcriptions and especially the translations of the primary accounts, where the originals are in Latin or other languages. What is ideally required is a full research archive with parallel texts in the original and in translation with annotation as to potential different interpretations.

#### ***Campaign***

The advance of the Stanley forces was along the major roads from North Wales and Cheshire, converging on Watling Street along which Henry's army was marching from Wales. According to the revised chronology provided by Griffiths & Thomas, Henry's army

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<sup>70</sup> Bennett, 1993a, English Heritage, 1995, Foss, 1998b, 9-18. A list of primary sources is given by Williams, 2001, 39, n.1. While this report was being completed the original of the French account, referred to by Jones (p.193-5) was reported as having been located; information from Leicestershire County Archivist.

<sup>71</sup> Foss, 1998b, 11.

appears to have reached Tamworth on the 20<sup>th</sup> August, when the Stanleys were already at Atherstone.<sup>72</sup> On the 21<sup>st</sup> Henry marched on to Atherstone and sometime during the day met with the Stanleys to agree the tactics for the coming battle. Foss and most other authors, except Jones and Griffiths & Thomas, have placed Henry's army in camp close to the battlefield on the 21<sup>st</sup>. Unfortunately any possibility of reliable local tradition remaining for this was completely undermined by Hutton, who with Nichols 'invented' various camps in the vicinity of the battlefield. The evidence in the primary sources claimed in support of a rebel camp close to the battlefield is equivocal. However, given the close association that Jones has detailed between Henry and Merevale Abbey in connection with the battle, it seems most likely that Henry quartered at the abbey on the night of 21<sup>st</sup> August.<sup>73</sup> This would accord well with the common practice of senior commanders choosing well appointed quarters, usually a monastery, great house or castle. If Merevale was the headquarters of the army and where the majority of the troops, including all the foot were quartered, this would explain why the largest compensation payments, greater than all the others put together, were made to Merevale Abbey.<sup>74</sup> Meanwhile other of his cavalry troops, or more likely the Stanleys' troops, were probably quartered in and about villages to the east of Atherstone. The compensation payments later made by Henry to Atherstone and adjacent villages, which Griffiths & Thomas and Jones have interpreted as payments for damage done during the battle itself or perhaps when the army made its rendezvous on the morning of the 22<sup>nd</sup> August, have more usually been interpreted as payments for the depredations of the troops and their horses quartered on the villages. Though these payments currently appear exceptional in a 15<sup>th</sup> century context, they may prove simply to be an exceptional survival. Certainly during warfare in later centuries such records of payments for damage caused and food and goods taken during quartering are common.

Sunrise will have been around 5:00 am on the 22<sup>nd</sup> August. Soon after this the army will have had to rendezvous and form up into line of march. If the army was in and around Atherstone and the Fenn Lanes was the route taken then the rendezvous may have been somewhere in close proximity to the junction of Watling Street and Fenn Lanes. From here to Redemore is just under four miles (6 km). They were surely ready to march by 7:00 if not before. If encumbered by a baggage, and possibly a small artillery train, then this march may have taken about two hours. So with the time taken to form into battalia it might have been as late as 9:00 before the two armies engaged.

Richard's troops had rendezvoused at Leicester on the 20<sup>th</sup> August. The use of the major road network by both armies will have been almost inevitable given the scale of the armies and of the artillery and baggage trains involved, especially for Richard. Through a landscape as poorly drained as that of the upper Sence valley it would be essential. From Leicester the Fenn Lanes Roman road provided a significant link between the two converging major roads to London, the one from Nottingham being followed by Richard and that from Wales and the north west being taken by Henry and the Stanleys. The Fenn Lanes gave Richard the opportunity to strike out decisively to challenge Henry. Although the Fenn Lanes Roman

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<sup>72</sup> Griffiths and Thomas, 1993

<sup>73</sup> Jones, 2002, 149-50. However, Jones's claim that to have fought at the Redemore / Ambion site Henry's army would have had to have camped close to the battlefield on the 21<sup>st</sup> is wrong, as shown by the calculations that follow.

<sup>74</sup> Wright, 2002, 14, quoting Campbell, 188 & 121. Also reproduced in Cunningham, 2003. Indeed it may be that the Crowland Chronicle has confused the evidence upon which it was based and that its source actually meant that Henry's not Richard's army was camped near Merevale.



road from Leicester appears the most likely line of advance of Richard's army, the degree to which the route survived as a major road, especially between Dadlington and Kirkby Mallory, is not known. Indeed Foss suggests a possible approach via the Leicester-Hinckley road to Earl Shilton with a diversion along the 'Leicester Lane', when news arrives that Henry was at Atherstone.<sup>75</sup> What is clear is that by this march on the 21<sup>st</sup>, knowing Henry's position in the Atherstone area, Richard was forcing a battle. The rebel army could no longer march south with the threat of being caught by a flank attack while on the march and decided to turn and fight. Richard thus forced the battle and chose the ground.

According to Holinshed Richard's camp was on Ambion Hill on the 21<sup>st</sup>, which is in close proximity to the battlefield. However none of the primary sources identify the location of Richard's quarters the night before the battle. Although one might expect an army of the size of Richard's to be quartered on a number of villages, with the infantry concentrated at the headquarters, it is possible that because he was close to the enemy Richard concentrated all his forces, with just a screen of 'forepickers' or scouts between his and Henry's forces.

## **Needs**

Understanding the main road system in west Leicestershire in the 15<sup>th</sup> century will be important in determining the likely approach to the field of both armies, the location of their camps; and the tactical decisions made when deploying the armies, as the major road will have been a consideration in this.

## ***Armies & military practice in the 15<sup>th</sup> century***

The most comprehensive of analyses of 15<sup>th</sup> century English armies is provided by Goodman. Various other authors also provide a valuable discussion of the composition of the armies and the art of war of the period, including Gillingham who takes a minimalist approach, while the main military manual of the period was that by the late Roman author Vegetius which had been updated and enhanced in various medieval translations.<sup>76</sup> Given the many uncertainties about military practice of the period it is likely that a great deal can still be learned of the nature of warfare in the period by the comparative study of the individual battles through the integrated investigation of the physical and documentary evidence for the action and of the terrain within which it was fought.

## **Composition and equipping of armies**

15<sup>th</sup> century armies could comprise three main types of troops: lords with their retinues; levies of city and shire; and foreign mercenaries. There were three arms to such a force: cavalry, infantry and ordnance. However the exact composition of the armies and the exact way in which they were deployed and used is subject to considerable debate. The armies were typically ordered on campaign into three bodies, the vanguard or vanward, the main

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<sup>75</sup> In his reconstruction of the pre enclosure landscape of Sutton Cheney the possible line of this road is depicted. Foss, 1987

<sup>76</sup> Gillingham, 1981. Goodman, 1981. Boardman, 1998. Vegetius, 1993.

battle and the rearguard or rearward. The vanguard might be expected to be the stronger of the forces with the most experienced of troops and could be expected in some circumstances to march and to fight as an independent force. The artillery and baggage were an essential component for an army and would be expected to accompany the main body, making this body march at a much slower pace. If unencumbered by the train the van could make greater speed, especially if in some circumstances they comprised wholly mounted troops or were double mounted for a rapid advance.

Field artillery was still slow and cumbersome, both in the march and especially on the field. In some actions the army taking a defensive position is known to have in some way fortified its position, as with the Scots on Flodden Hill. There is no suggestion of this at Bosworth.<sup>77</sup> Even if not 'dug in', the ordnance were likely to prove a significant encumbrance to the manoeuvrability of the battle array. It is argued by some that the artillery of the period was largely ineffective in a battlefield situation. Yet given the consistency with which they are employed in the field and despite the great limitations it placed on the armies in terms of speed of march and manoeuvrability, not to mention the cost of their equipping and maintenance, they must have been considered a potent force in some circumstances on the battlefield. This is certainly the implication of Molinet's description of Bosworth, with Henry's force not wishing to take on a frontal assault in the face of Richard's substantial artillery deployment. It would be reasonable to expect Richard, who controlled the royal artillery train at the Tower and in the various garrisons across the country, to have employed at least some field artillery in the battle, though the suggestion in the Ballad of Bosworth Field that Richard employed seven score 'Serpents' in his battle array seems highly improbable.

Light cavalry ('hobelars') will have played an important role of scouts (forepickers), providing intelligence of enemy troop movements and acting as a screen between the armies prior to deployment. They were however supplemented by the use of local guides to advise on the detail of the terrain and road system, as Burton suggests was the case at Bosworth and is securely documented at the battle of Stoke.<sup>78</sup> The balance in numbers between the light cavalry compared to the much less manoeuvrable, well armoured heavy cavalry of the men at arms, which were far more expensive to equip and maintain, is not clear. Although in various battles, Bosworth included, the 'battles' are recorded as comprising a centre of infantry and two wings of cavalry, there is uncertainty as to the degree to which the cavalry dismounted, in 'English' fashion, to fight. Such dismounting of men at arms to fight on foot is best understood in terms of the vulnerability of horse to the arrowstorm of the English archers so clearly demonstrated at Agincourt.<sup>79</sup> It is certain however that some cavalry, typically referred to as 'spears', did engage on horseback, as seen at Towton.<sup>80</sup>

The infantry in English armies of the 15<sup>th</sup> century typically comprised two main forces, the archers and the billmen. The archers were typically placed forward of the battle line almost as in later centuries commanded musketeers were drawn forward as a 'forlorn hope'. While archers were still apparently the dominant force of 'shot' there is uncertainty as to the degree to which handguns played a significant role, if any, in field engagements of the 15<sup>th</sup>

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<sup>77</sup> Barr, 2001.

<sup>78</sup> Nichols, 1815. Bennett, 1993b.

<sup>79</sup> Keegan, 1978.

<sup>80</sup> Boardman, 2000, 115.

century.<sup>81</sup> In 1485 when the Yeoman of the Guard was formed it had equal numbers of archers and/or arquebusier.<sup>82</sup> Although this cannot be taken as an indication as to the relative importance of firearms to archery in the armies of Henry and Richard, it does support the evidence in various sources that firearms were a significant weapon within the armies.<sup>83</sup> Bosworth might prove to be an ideal battlefield on which to test the level of their use archaeologically, as well as that of artillery. Although Jones argues for a substantial force of French pikemen playing a decisive role in the battle of Bosworth there is no clear evidence of the use of pike in the battle. The replacement of billmen by pike does not apparently take place in English armies until after the battle of Flodden (1513), unless only the more traditionally equipped troops had been left to deal with the northern threat when Henry took his main army to Flanders.<sup>84</sup>

## **Military practice in the 15<sup>th</sup> century and the methodology of battlefield study**

Of all the studies of Bosworth only that by Jones contains an explicit discussion of methodology, but Jones's analysis is not in the mainstream of battlefield studies.<sup>85</sup> He wishes to 'invoke the chaos of battle' and to show how difficult it was to see any bigger picture within the conflict. He is not much concerned with the detailed reconstruction of battle arrays or of the historic terrain. Indeed, extending far beyond the methodology advocated by Carman, he argues that 'trying to work out exactly what happened in a medieval battle is a redundant methodology', taking issue with Burne's principle of Inherent Military Probability.<sup>86</sup> Instead he claims 'we need to explore the ritual employed before and during an engagement to find out more about why men fought.'<sup>87</sup> He dismisses the whole methodology of battlefield study involving the drawing of detailed maps of battlefields, quoting in support Gillingham's observation on Bosworth that 'many such maps have been drawn but, apart from the fun of making them, they are all quite worthless.'<sup>88</sup> He also claims that 'our modern desire for a running order of events and a diagram of the action furnished with arrows, illustrating the positions and movement of the participants, is going to be frustrated..... The order in which (the events) took place, and the cause and effect between them, is ultimately unknowable.'<sup>89</sup>

This is a council of despair. But Gillingham was writing in 1981, before Foss had examined the historic terrain and before the more recent developments in the study of battlefields of the medieval and post medieval period.<sup>90</sup> Jones does not have this excuse. His whole study of the battle is flawed as a result of his failure to consider the evolving methodology of battlefield study, of which Foss's work represents an early but significant component. Jones's approach,

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<sup>81</sup> pers com. Matthew Bennett.

<sup>82</sup> Meyrick, 1829.

<sup>83</sup> Eg: the Parliamentary record and Molinet, Bennett, 1985, 156 & 161.

<sup>84</sup> Barr, 2001.

<sup>85</sup> No questions are raised here over the general scholarship of Jones's work, other than where it relates to the study of the battle itself. Indeed there is much of value to be found in his study of the wider context of the battle.

<sup>86</sup> Carman and Carman, 2001; Burne, 1996, xi-xii.

<sup>87</sup> Jones, 2002, 202.

<sup>88</sup> Ibid., 211, n.10; quoting Gillingham, 1981, 242.

<sup>89</sup> Jones, 2002, 164.

<sup>90</sup> Foard, in preparation.

as emphasised in his title, 'The Psychology of a battle' argues against the value of attempting to distinguish the facts of the battle and to reconstruct the events, claiming that 'it is in the intangible that a real key to understanding a battle's outcome may be found.'<sup>91</sup> Rather than breaking new ground Jones's methodology seeks to undermine the scientific study of battlefields. It dismisses what is verifiable, the things that contemporaries recognised as fundamental to the outcome of a battle, such as the detail of terrain and the effectiveness of the deployment of the forces as explained in the various contemporary translations and enhancements of Vegetius, and replaces it with vague un-testable assertion about such things as the state of mind of commanders and soldiers.<sup>92</sup> Pursued to its logical conclusion this approach would imply that it is irrelevant to know where a battle was fought, what the tactical opportunities and threats were posed by the terrain and how the commanders exploited that. It would claim that what answers there may be to understanding this battle are contained within the documentary record of the military events. As Hutton recognised in the late 18<sup>th</sup> century, and as has been so vividly demonstrated in various studies since the inception of the modern school of battlefield study in the work at the Little Bighorn in the mid 1980s, this is far from true.

Once we have a definitive understanding of the battlefield and of the location and character of the action within it, based on the scientific study of the sources and the site, then it may be valid to speculate upon the wider, psychological aspects of warfare. This is after all nothing new, for it is an approach that has been argued in detail by Keegan.<sup>93</sup> However to do so without having first established the verifiable reality through an intensive study of the battlefield is counterproductive. Ritual there may have been, but when it came to quite literally bashing or blowing the opposition's brains out before he did that to you, then the only ritual that really mattered until the action was over, was the one involving drill with arms.

For a battle to be fought which involved the engagement of thousands of men, there had to be order and a hierarchical structure. Some argue for a very low level of structure within the armies of the Wars of the Roses, with the troops grouped vaguely according to retinue and with the troops unused to fighting in large bodies. But without effective drill and the application of coherent military practice the thousands of troops would descend into chaos. Battle was undoubtedly chaotic, but military practice was designed to overcome that force of chaos. Indeed the central focus of offensive action was to break the coherence of the enemy deployment and to release the inherent chaos, for when one did that the enemy became a vulnerable target and the 'execution' could begin. De Creveld may dismiss European military theory of the pre-industrial period as mere drill, but with armies of five, ten or twenty thousand men it was the key to effective combat.<sup>94</sup> It was not through some ritualistic yearning for past glory that Vegetius's late Roman military manual was read by countless English commanders from at least the time of Alfred right through to the 16<sup>th</sup> century.<sup>95</sup> It

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<sup>91</sup> Jones, 2002, 14. Jones is willing to dispute issues of terrain, deployment and engagement, at least in so far as it undermines the hypothesis advanced by others. Jones, 2002, 26-7. Indeed he does accept that 'some understanding of the battle's location, as far as can possibly be known, is necessary to make sense of what happened there.' Jones, 2002, 146. But significantly at no point does he critically assess the analysis of the battlefield by Foss. If he had then the inadequacy of Jones's methodology, evidence and argument would have been clearly revealed.

<sup>92</sup> Vegetius, 1993

<sup>93</sup> E.g.: Keegan, 1978.

<sup>94</sup> Van Creveld, 2000.

<sup>95</sup> Vegetius, 1993.

was for the instruction on the ordering of forces and on the action itself. Dependence on ritual, as argued for by Jones and by Carman, rather than good military practice, would have spelled disaster.<sup>96</sup>

**Because military practice in the pre-industrial period has always centred on the imposition of order by basic rules of deployment and action, so by understanding those rules one has a way to begin to understand a battle starting with the reconstruction of the deployment of the armies on the ground with the types and numbers of troops involved. Far from being a redundant methodology, the approach of the military historian, best exemplified in England in the 20<sup>th</sup> century by the work of Burne, needs to be reinvented. It needs to be revised, formalised and developed and placed within a more scientific framework. Burne's principle of Inherent Military Probability has been discounted by many historians because it involved the application of modern military experience to the study of historic battles.<sup>97</sup> If however detailed knowledge of contemporary military practice is substituted for the modern then Inherent Historic Military Probability becomes a valuable principle for analysis. This principle needs to be applied within a context of an effectively reconstructed historic terrain. When this has been done then the results can be tested against the physical evidence of the distribution of the unstratified artefacts and stratified burial deposits.**

In none of the previous reconstructions of Bosworth has an attempt been made to present deployments which in any way relate to the likely frontages and depths of the armies deployed according to probable later 15<sup>th</sup> century military practice, as far as it can be reconstructed. It seems possible from various primary sources for the Wars of the Roses that armies were broadly organised in companies with subdivisions ranging from 20, through 100 or sometimes 120, up to 1000. Each body of 100 would have had its standard.<sup>98</sup> Jones claims that the organisation of troops into units of 100 men (centaines), each with its own standard, was a French formation.<sup>99</sup> In reality it is likely to have been part of a much wider European tradition of military practice, seen in England in the Wars of the Roses and probably the basis of military organisation in the period.<sup>100</sup> This agrees broadly with the structure of armies of the 16<sup>th</sup> and 17<sup>th</sup> centuries, even if the arms and functioning may have differed, for as then a commander had to know how to calculate at least approximate frontages for his troops or else he would not have been able to judge the suitability of any particular ground for a deployment. Moreover to move and to deploy thousands of troops requires that they be organised in a coherent hierarchical structure.<sup>101</sup>

Vergil's description of Bosworth appears to show the reduction of the vanguard to close order under Oxford's command that troops should not stray more than 10ft from their standards. According to later military manuals at close order a company of 100 men would be 15ft wide and deep, probably explaining Virgil's statement of 10ft from the standard, which would be expected to have been withdrawn to the centre of the body when the company was engaged. This tends to support the interpretation of units of 100 men each with a standard and captain as the basic organisation of the army.

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<sup>96</sup> Jones, 2002, see above. Carman and Carman, 2001.

<sup>97</sup> Burne, 1996, xi-xii.

<sup>98</sup> Goodman, 1981....

<sup>99</sup> Jones, 2002, 162.

<sup>100</sup> Goodman, 1981.

<sup>101</sup> Such principles are strongly emphasised by Vegetius, 1993.

There is however no consensus about the detail of the deployments of 15<sup>th</sup> century armies, because there are no military manuals which provide the kind of detailed information necessary to enable the calculation of the frontages of the armies with the confidence that can be achieved in the 16<sup>th</sup> and 17<sup>th</sup> centuries. A good deal of what follows is therefore conjecture, but it is intended to provide the basis for discussion, as some order of scale for the battle arrays and their likely formations needs to be proposed if the constraints and opportunities of the battlefield are to be assessed and then tested archaeologically. In calculating the frontages to give a possible crude order of scale for the battle arrays, the measurements for infantry deployment given in Vegetius' late Roman manual is used. This should be broadly valid as it was translated for and read by English commanders from Alfred right up to Richard III and Henry VII, and was reworked in several medieval books. These include one compiled in England during the Wars of the Roses and another translated for Henry VII, from the original French, several years after his accession.<sup>102</sup> These have been supplemented for cavalry deployments with the evidence of a much later manual by Ward, of 1639, in order to indicate a possible order of scale if the cavalry did engage on horseback rather than on foot.<sup>103</sup> Vegetius, followed by Knyghthode and Bataile, and indeed followed by later manuals, gives 3ft width and 7ft depth per man for his station at order, also making clear the importance of retaining forces in rank and file. For horse Ward gives 5ft width and 10ft depth per horse for its station and repeats that of Vegetius for infantry. At close order the distances would be halved. Such spacings in the deployment of horse and foot are likely, for very practical reasons, to have been fairly consistent for much of the pre industrial period and indeed practical considerations of infantry and cavalry engagement are likely to have led to similar depths of formations in the 15<sup>th</sup> as in the early 17<sup>th</sup> century. Before new formations were implemented in response to the increased use of musketry, the horse tended to fight 6 deep and men 10 deep.<sup>104</sup> Vegetius gives 6 deep for the infantry as the normal practice but 10 deep if the field is too narrow. Clearly, as both Pisan and the author of *Knyghthode and Bataile* specify, in some respects medieval practice varied in detail but certain fundamental principles appear to remain the same.

### ***Richard's battle array***

There is broad agreement that Richard had something between 10 – 15,000 troops at Bosworth.<sup>105</sup> He had an army comprising both retinues of the nobility and shire/city levies and also had control of the royal ordnance so one may accept Molinet and the Ballads' description of an army well supplied with field ordnance.<sup>106</sup>

A commander had the option of deploying his battles in two ways, i) one behind the other with the second, or indeed a third, acting in support. ii) he could deploy the battles side by side to achieve a particular tactical objective, as the English army had to do at Flodden in 1513 to avoid being overwinged by the Scottish army.<sup>107</sup> Holinshed claims that Richard's

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<sup>102</sup> Ibid., esp. 25 & 94; Pisan, Caxton and Byles, 1489; Vegetius Renatus, Dyboski and Arend, 1935

<sup>103</sup> Ward, 1639. Vegetius, 1993

<sup>104</sup> If all Henry's troops fought on foot then circa 5000 in a single line 10 deep, with 10ft between each company, gives a total of circa 2000ft; if in two lines then 1000ft. If 1000 fought as cavalry: 2500ft (1250ft). Thus the order of scale for Henry's van is then 1000 – 3000ft. For Richard, if all fighting on foot in one line and with a total of 700ft for gaps between squadrons: 2800ft frontage; if 1000 were horse then 2640ft: 3340ft; 2000 horse: 3900ft: 3000 horse: 4100ft. A gap of 250ft is given between battles, being a bowshot.

<sup>105</sup> Bennett, 1993a, Wright, 2002, Foss, 1998b, 55-65. Foss, 1998b

<sup>106</sup> Williams, 2001, 15.

<sup>107</sup> Barr, 2001, 87-8.

two battles were placed one before the other in what may have been the most common 15<sup>th</sup> century battle formation. The vanguard was commanded by the Earl of Norfolk, with archers to the fore and a wing of cavalry on either side of the infantry deployment. He then has a main battle with Richard, again with cavalry wings. The Crowland Chronicle, however specifically describes Norfolk's vanguard as on one wing, suggesting both battles were side by side. The Castilian account also implies Richard's army was in battle array with a right and left wing, with the van on the right wing, though his account is extremely garbled. This would accord with the description of the army having an unusually wide battle array. The implication is, then, that Northumberland formed up on the left wing. He was certainly not  $\frac{3}{4}$  mile (1 km) to the rear, near Sutton Cheney, where Foss places him following the unreliable source of Michael Drayton's *Polyolbion*.<sup>108</sup> The Crowland Chronicle implies that Northumberland was in the battle array, for his troops are discussed immediately after Norfolk's troops are stated as being on one wing. If Norfolk was on the wing then, as he had the van, he would have been on the right wing according to established principles of deployment, where the topographical evidence in the accounts demonstrates he must have been. Northumberland, as the commander of the rearguard would, in such a single battle array, be expected to take the left wing. The way the Chronicle states that, in the place where Northumberland was posted, 'no engagement could be discerned' implies again that he was in such a position where engagement might be expected but was not achieved. Had he been posted three quarters of a mile behind the battle array his troops would have been of no value even as a reserve and such a deployment would run completely contrary to recorded military principles of deployment. Richard himself, according to Virgil, was behind the main battle line with a small reserve, which might be expected to represent a lifeguard of heavy cavalry. They are likely to have been a hundred or two at most, not the 1000 claimed by Williams, which various authors have contested.

It seems likely that Richard's battle plan was to deploy in a very wide battle array, to face the enemy with damaging artillery fire in its advance and then to overwing and envelop the enemy battle array by deploying on an exceptionally wide frontage, using both van and rear in a single battle line. To control Lord Stanley and keep him from directly assisting Henry he held Lord Stanley's son, which succeeded in keeping part of his army out of the action for most, if not all, of the battle.

### ***Henry's battle array***

There is broad agreement that Henry had approximately 5,000 and the Stanleys also around 5,000 troops.<sup>109</sup> But as Lord Stanley would not deploy with Henry's battle array, presumably because his son was a hostage with Richard, Henry was forced to deploy most of his troops in the vanguard under Oxford, in a 'slender' battle array in an attempt to match the frontage of Richard's vanguard. Henry himself was with the main battle, a small force of perhaps just a troop of cavalry and a company of foot behind the vanguard. Bennett, drawing upon Lindsay and DeValera suggests that William Stanley did actually join Henry's initial deployment, forming an infantry rearguard for the rebel battalia.<sup>110</sup>

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<sup>108</sup> Drayton, 1622, quoted for Bosworth in Hutton and Nichols, 1813, 133-5.

<sup>109</sup> Bennett, 1993a, Wright, 2002, Foss, 1998b, 55-65. Foss, 1998b

<sup>110</sup> Bennett, 1993a, 116.

### *Deployment location*

A number of secondary works suggest that Richard's army had to prepare hurriedly for the action because Henry's forces advanced sooner than expected. There is no clear evidence for this in the primary accounts, indeed the contrary seems to be true. It is not unpreparedness that Oxford exploits, otherwise he might have made a direct frontal assault on an incompletely deployed royal battle array. In fact it seems likely that Richard's army was deployed in good time, for it is the strength and width of the battle formation that Oxford reacts to. Richard had been in close proximity to the battlefield since the previous evening. It was he who had chosen to advance to engage Henry at this time and he who chose the ground on which the battle would be fought, taking a defensive position and forcing Henry's army to attack.

While deploying in sufficiently strong a position to maintain an advantage over the rebels, he will presumably have wanted to ensure them sufficient space to encourage them to draw up in battle array for a frontal attack, so that the strategy of firepower and overwinging could be employed to effect. Thus Richard's deployment must surely have been far enough back from the marsh to have enabled Henry to march across it in column and to deploy without the danger of being attacked before his forces were fully deployed. If Richard had deployed too close to the marsh then he would have forced the enemy either to retire or to manoeuvre for a flank attack.

Richard had the advantage of ground in the height of both the Ambion ridge and that immediately west of the Sence, offering him a good view of the rebel advance, deployment and manoeuvres, especially given this was almost wholly open field and moor, without hedgerows and woods. In contrast there was some dead ground behind the shield of the Greenhill ridge for Richard to hold his battalia out of sight of the rebel commanders. The sources are however apparently in conflict over whether Richard's army was or was not in view. Molinet's words, implying that the rebels had to guess at the royal deployment from the artillery fire might indicate it was deployed in the dead ground with the artillery perhaps a little forward on Greenhill. However this would have given insufficient room for Henry's forces to advance and deploy. But Virgil states that the length of the battle array overawed the rebel force when viewed from a distance. Viewshed analysis has been used here to give an impression of the extent of dead ground available to Richard when viewed from the highest point of the rebel advance along the Fenn Lanes (see figure 15).

If deployed behind the Sence, Richard's battle array must have been deployed sufficiently far forward to enable Norfolk to march forward to charge as soon as Oxford rounded the northern end of the marsh.

The Stanleys appear to have formed a quite separate battle array. Foss provides a convincing argument to place Stanley to the south of the field on the rising ground towards Dadlington and Stoke.<sup>111</sup> The location of the Stanleys may be central to the understanding of the failure of Richard's rearward, under Northumberland, to engage.

The two armies seem to have formed in battle array when about a quarter league apart, according to Molinet, then the artillery fire appears to have opened up, revealing the royal deployment and determining Oxford to mount his flanking manoeuvre and attack the right

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<sup>111</sup> Foss, 1998b, 44.



wing of Richard's army, where Norfolk commanded the vanguard. This involved the army turning north-westward, putting the sun at their back and with the marsh protecting their right flank. This is clearly described by Virgil as a tactical move following accepted military practice.<sup>112</sup> The success of this manoeuvre suggests that Richard may have made a major tactical blunder in his deployment by not in some way precluding the flank attack, for it seems to have completely nullified his advantages. Understanding the detail of the terrain and how Richard's army was deployed within it is essential if we are to understand the significance of these deployments and tactical manoeuvres.

One then has the problem of whether any, and if so how many, cavalry actually fought on horseback and how many dismounted. The cavalry were deployed on the wings of the battle array, as seen at Stoke. The right wing is likely to have been the vanguard of horse when in line of march and the left wing the rearguard, with the main body being the infantry centre. The infantry in the centre battle will have comprised both archers and billmen, with the archers deployed to the fore to deliver the initial arrowstorm. When deployed thus in some actions, as at Agincourt, they were protected by what are later called Swedish feathers; ash poles of about 4 foot in length stuck in to the ground at an angle, one for each archer creating the 'harrow' formation mentioned in some sources for other battles.<sup>113</sup> However there is no evidence for such practice in the accounts of Bosworth. As the enemy advanced the archers would have needed to withdraw, like later forlorns which were placed as much as 60 paces to the fore, to the protection of the main body of infantry, in this case the billmen. This broadly follows the pattern of deployment and action defined by Vegetius, with the 'shot' advancing to the fore from the third and fourth lines to engage the enemy, but then withdrawing to leave the heavily armed men in the first and second lines to bear the brunt of the hand to hand action.<sup>114</sup>

## The Action

**In the absence of a detailed reconstruction of the historic terrain of the battlefield and the recovery of a representative sample of the archaeology of the battle, there is little point in developing a detailed account of the possible sequence of the events of the action within the landscape. However a brief consideration is necessary to consider the options that need to influence the investigation of the battlefield.**

Once he realised the position and form of Richard's battle array and the threat posed by the destructive firepower of the artillery in a frontal assault, but most of all the danger of being overwinged by Richard's very wide formation, Oxford was faced with the need for a rapid tactical response. The key to the battle seems to have been Oxford's last minute outflanking move, when within less than 1200 metres of the enemy battalia. This must have been an intentional tactic to exploit the opportunities of the terrain to outflank the enemy in a classic move from the military manual. By a flank attack Richard's army would be forced to manoeuvre and might be constrained by the ground on which he had chosen to fight and especially as a result of having such a wide battle array. The vanguard would typically be the strongest battle in an army, with the best trained and most experienced soldiers. An attack on

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<sup>112</sup> Ibid., 45.

<sup>113</sup> Ward, 1639

<sup>114</sup> Vegetius, 1993, 94-5.

the vanguard would thus be a reasonable tactic for a smaller force, concentrating almost all its troops into its own vanguard and hoping that if it could destroy the strongest battle of the enemy army that the rest would flee. By throwing everything into the vanguard in an all or nothing bid to even the odds, Oxford had to trust in the Stanleys support in deterring the engagement of Richard's rearward battle and in supporting Henry should his tiny main battle come under attack, as indeed it did.

The most vulnerable point for Oxford is likely to have been at the point when he had to wheel to right to engage. Richard thus ordered Norfolk to attack as the army passed the marsh. The first exchange was the arrowstorm and then the troops will have closed at a charge to 'hand strokes'. The picture given by Bennett and others of this charge being a rushing move which would disorder the battle formation is wrong.<sup>115</sup> A charge would typically be a well ordered and steady advance so that order could be retained.

Various authors have suggested that Northumberland did not deploy or engage because he had an understanding with Henry. As Jones has pointed out, Northumberland was imprisoned after the battle, something that would not be expected if the Earl had acted in support of Henry by intentionally failing to engage.<sup>116</sup> When Oxford turned Richard's right flank it may have been in part the restrictions of the terrain which precluded Northumberland's engagement. Indeed this may have been an element in the calculation that Oxford made in deciding on this tactic. Another consideration is that although the Stanley contingent did not deploy with Henry, its presence as a separate battle array to one side, 'between' the two battles, will have provided a threat which needed to be countered by Richard. Thus Northumberland may have had little choice but to maintain a stance to counter any intervention by the Stanleys.

**It is particularly important to reconstruct the terrain and position the deployments and the action with sufficient accuracy within it, to be able to determine in what ways Richard's original deployment was at fault, not just in failing to adequately protect against a flanking attack, but also perhaps in deploying in too constricted a site.**

### *Richard's cavalry Charge*

It would appear that when Norfolk's vanguard was being hard pressed and with Northumberland perhaps unable to intervene, Richard saw the opportunity to recover the situation. He attempted a direct attack with a relatively small number of heavy cavalry on Henry, who was positioned some distance behind his vanguard, protected by just a small body of infantry and a lifeguard of horse.<sup>117</sup> The attack seems to have come close to success.

Jones has argued that the battle was then decided by the involvement of French pikemen who defended Henry against Richard's cavalry charge. It is technically possible that some of the French mercenaries used by Henry were pikemen, for the French had taken Swiss pike into

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<sup>115</sup> Bennett, 1993a, 111.

<sup>116</sup> Jones, 2002, 176.

<sup>117</sup> The 'exciting new source' that Jones claims in support of his argument that Richard's charge was with hundreds of cavalry, representing his whole division, is so vague that it is open to very different interpretation. Indeed its claim of 15,000 troops of Richard's whole division would accord well with the interpreted size of Richard's whole army and suggests the whole source is in fact simply referring to the battle deployment as a whole.

their army in 1480 and they had attempted to arm and train French troops in the Swiss pike method, though initially with limited success.<sup>118</sup> Had a pike formation been used and been central to Richard's defeat then, given the political importance of the outcome and the European wide interest in the 1480s in the development of pike warfare, it seems improbable that all the major sources would have omitted any reference to the first and most dramatic use of pike in England. Just a small number of infantry will have been left to support Henry. There is nothing in the accounts to support the use of pike, yet Jones reconstructs the event in graphic detail, with a division of pike being withdrawn from the vanguard engagement to defend Henry. This is a quite unbelievable manoeuvre, running back from the main engagement and reforming around Henry, before Richard's cavalry charge reached the king. The logistics of such a move are simply unbelievable. The whole point of Richard's charge was that he had seen Henry to be isolated with just a small body of troops well away from the vanguard.

There is no reason to suggest such a move, for the primary accounts are clear that it was Sir William Stanley's troops that came to Henry's aid and defeated and killed Richard. These did not contain French mercenary forces. Most, if not all, of whom were deployed in the Vanguard with Norfolk. The important question about this whole action, leading to the death of Richard, is where Henry was when Richard charged and where were William Stanley's troops in relation. Until the wider battle formation and action is understood through more comprehensive reconstruction of the terrain and by the recovery of the pattern of the archaeology of the battle it is not possible to present a coherent interpretation.

### ***Rout***

It is uncertain whether Norfolk's vanguard was already collapsing before Richard's cavalry charge or if it was a direct result of Richard falling, because the death of a commander typically led to the flight of medieval armies. In the rout there were many from the vanguard that were killed, some perhaps by Lord Stanley's forces which at least one source suggests were involved in the 'execution'. What does seem unlikely however is the direction of their flight suggested by most authors; towards Dadlington. It seems far more likely that it will have been north eastward, away from both Oxford's forces and Lord Stanley's. In this context the oval area defined by Saxton for the battlefield may be significant. Such a flight towards Sutton and Bosworth may explain the apparent concentration of possibly battle related finds towards Sutton Cheney, though this might in part represent the plundering of Richard's camp or baggage train (see figure 13).

The one thing which does seem to have happened to the south of Redemore, supposedly on Crown Hill, immediately after the action is the crowning of Henry, the crown having supposedly been discovered in a bush by Sir Reginald Bray.<sup>119</sup> The tradition relating this event to Crown Hill has, however, been questioned because the name has as yet only been found as early as the beginning of the 17<sup>th</sup> century.<sup>120</sup>

### ***Locational evidence in primary sources***

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<sup>118</sup> Barr, 2001, 41.

<sup>119</sup> anon, 1789.

<sup>120</sup> Foss, 1998b, 52.

**There are a number of key references and various lesser references in the primary sources for the military history that assist in the placing of the events within the contemporary landscape.**

### **The battlefield**

There were a number of contemporary names for the battle that suggest its location. The most specific are Redemore Field,<sup>121</sup> Redesmore,<sup>122</sup> or Redemore near Leicester.<sup>123</sup> Others are less specific, including a field in Leicestershire,<sup>124</sup> on the border of Leicestershire and Warwickshire,<sup>125</sup> near Merevale,<sup>126</sup> near Coventry,<sup>127</sup> Bosworth,<sup>128</sup> a field near Bosworth.<sup>129</sup> One specifically states on Bosworth heath,<sup>130</sup> and another Bosworth field otherwise Dadlington field.<sup>131</sup>

The Redemore name is the earliest and one of the most common contemporary names for the battle. This associates the action very clearly with a low lying area of wet ground, which has been identified with reasonable certainty by Foss (see above).

### **Richard's camp**

**Richard camped near Merevale about 8 miles (13 km) from Leicester,**<sup>132</sup>

**Richard camped near Bosworth.**<sup>133</sup>

These are generalised descriptions. The first specific information is when Hall places his camp on a hill and Holinshed places it on Ambion Hill, though whether this is correct is unclear.

### **The plain**

**The ballads have the armies drawn up on a plain.**<sup>134</sup>

Drayton also has them drawn up on a spacious moor, while Buck says Richard was killed on a plain. Both Hall and Holinshed also distinguish between the hill on which Richard's army is said to have camped and the plain on which the battle was fought. That the battle was fought on a large flat plain is also indicated by Burton, although Williams claims that this was corrected in the later, unpublished version of the manuscript to just a plain. It is also uncertain whether his evidence was independent of Hall and Holinshed.<sup>135</sup>

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<sup>121</sup> Ibid., 30-35. Bennett, 1b

<sup>122</sup> Bennett, 1d

<sup>123</sup> Bennett 1b

<sup>124</sup> Bennett, 1c

<sup>125</sup> Rous, Bennett IIb

<sup>126</sup> Crowland, Bennet 11a

<sup>127</sup> Castillian report, Bennett iiiia

<sup>128</sup> Bennett, 1e.1

<sup>129</sup> Bennett & IVb

<sup>130</sup> Bennett, 1e.2

<sup>131</sup> Dadlington chantry licence, Foss

<sup>132</sup> Crowland, Bennett 11a

<sup>133</sup> Virgil.

<sup>134</sup> Bessy

<sup>135</sup> Foss, 1998b, 17. Foss (p.59, n.53) also discusses the relative value of the various versions of Burton's text, suggesting the latest may not necessarily be the most complete in some respects.

## **The Stanley deployment**

**The ballads suggest that Lord Stanley was positioned on a hill from which they could see the action.**<sup>136</sup>

**Shakespeare also has Lord Stanley half a mile (0.8 km) south of the king.**

**Virgil has the Stanley force approach the field midway between the two armies.**

## **The marsh**

**A marsh ('palus') was used as a defensive shield for Oxford's outflanking manoeuvre.**<sup>137</sup>

**The ballads state Richard's army stood in a marsh.**<sup>138</sup>

Marshes do not often figure as significant factors in major battles and so it must have been a substantial feature of real tactical importance to be mentioned. It could not have been a small area of poorly draining ground, such as that suggested by Burne in the area of Ambion Wood, but a largely impenetrable boggy area, probably wide enough to enable Henry's forces to keep out of effective range of Richard's archers, that is about 250m. However it need not have been a continuous area of marsh to have been impossible for the enemy to cross, because for any army of the period it was essential to keep formation and thus even a fragmented area of marshland would have been sufficient to deter an attack of a main battle array.

## **Battle arrays and lines of march**

**Henry's army turned to put the marsh on its right, thus putting the sun to their backs.**<sup>139</sup>

This shows that the marsh extended in a roughly north-west /south-east direction, as the battle is believed to have been fought in the morning, though how early is uncertain. It also implies the marsh extended across or close to the approach of Henry's army, on its east side between it and Richard's army. The comment by Hall that this manoeuvre placed the sun in Richard's eyes appears to be wrong, being yet another of Hall's elaborations based on a misunderstanding of Virgil's meaning. There is therefore no reason to believe that Richard's army was facing into the sun, indeed Virgil's description implies quite the contrary, as the turn to the north west was an outflanking manoeuvre and thus Richard's battle array was probably deployed broadly north/south or north-west /south-east.

**The ballads state that Oxford attacked the right flank of Richard's army.**<sup>140</sup>

**Henry's army or vanguard was in the field a quarter league from the royal army.**<sup>141</sup>

This is probably a statutory league and thus the forces were about 1200 metres apart.<sup>142</sup> The implication is probably that this is where the battle array was drawn up although it has been taken to mean that Henry's camp was just a quarter league from Richard's battle array.

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<sup>136</sup> Ballad of Bosworth Field. Ibid., 29-30.

<sup>137</sup> Virgil.

<sup>138</sup> Ballad of Bosworth Field.

<sup>139</sup> Virgil.

<sup>140</sup> Rose of England.

<sup>141</sup> Molinet.

<sup>142</sup> The standard league was 3 miles but the customary medieval league was the same as the old English Mile, ie 1.5 miles. A quarter league is thus about 1200m or 600m. Adams, 1976, 7-8; Chapman, 1995.

**Richard's army (vanguard) attacked when Henry's army (vanguard) had advanced past the marsh.<sup>143</sup>**

### **Richard's cavalry attack**

**Richard charged from the other side, beyond the battle line ('ex altero latere .... Incurrit').<sup>144</sup>**

This seems to mean the other side of the the whole battalia or at least of the vanguard. He also implies that Richard was on rising ground before the attack because he says Richard descended. Henry is said by Virgil to have been some way off when Richard attacked.

### **Richard's death**

Richard is said to have been killed at Sandeford.<sup>145</sup> His horse is said to have leapt into and became stuck in a marsh,<sup>146</sup> and Richard's corpse is said to have been covered in mire and filth.

### **Norfolk's death**

The ballads suggest that Norfolk retreated to and was killed on a hill, at or near a windmill.<sup>147</sup>

### **Henry's Crowning**

Virgil states that immediately after the battle Henry went to the nearest hill to address his troops and there he was crowned.

## ***Needs***

**Given the problems of the use of the primary sources it is desirable that a definitive parallel text is produced in digital form as part of the research archive, ideally with images of the original document, transcripts and where appropriate translations.**

**This should be accompanied by a detailed assessment of each source, including its proximity in time and source of information together with a more general consideration of its broader value in the study of other military actions.**

**The concordance of primary source information presented in rough draft in appendix 4 should be developed into a definitive presentation of the sequence of the action as provided by the primary sources for the military history and highlighting any topographical or other significant information.**

**A detailed analysis of military practice of the period should be prepared to provide the basis for a re-interpretation of the primary evidence and its later integration with the historic terrain and battle archaeology evidence discussed below.**

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<sup>143</sup> Virgil.

<sup>144</sup> Virgil.

<sup>145</sup> Bennett, 1a

<sup>146</sup> Molinet, Bennett IIIc

<sup>147</sup> Song of Lady Bessy.

## 4. THE BATTLEFIELD

Griffiths and Thomas, among others, have argued of Bosworth battlefield that *'poorly recorded 'improvements' by enclosure, drainage, canal-cutting and railway laying have so transformed Redmoor Plain as to make a detailed topographical interpretation now impossible.'*<sup>148</sup> This cannot be accepted any more than their claim that *'there is no sound alternative to relying on the contemporary record'*. There is enormous potential in this battlefield, both in the form of physical and documentary evidence, for the reconstruction of the historic terrain as a basis for a reinterpretation of the action. The first important steps of this reconstruction have been taken by Foss, however a great deal more is needed, to a far higher level of detail, using the full range of historical, archaeological and palaeo-environmental survey techniques to reconstruct the landscape as it was in 1485.

### *Methodology of reconstruction of historic terrain*

The techniques of investigation of historic landscapes are now well developed, but battlefields pose unusual problems, because a battle represents a single day in the life of a landscape. It evolves in a complex fashion, sometimes in large scale planned transformations, at other times with smaller cumulative changes over many decades or centuries, while at other times or places there may be very long periods of relative stability. To determine exactly what stage a landscape had reached on a particular day over 500 years ago is a difficult challenge.

One cannot simply work from the physical geography. For example, the extent of a marsh in 1485 will not have been stable ever since the last ice age when the landscape of much of England was completely redrawn. Firstly there will have been a process of natural evolution with the progressive silting up of areas with impeded drainage. Yet even these apparently natural changes were not immune to human interference, the expansion of arable cultivation in the late Saxon and early medieval period for example greatly increased the volume of silts being laid down in valley floors across much of the Central Province of England. Then there were the direct human impacts of drainage or occasionally the decay of such systems. It is a complex study of the interaction of natural and human agencies within the framework provided by the physical geography.

### *Physical geography*

The fundamental structure is provided by the physical form of the land: its drainage pattern and the impact of the geology and soils on the soil conditions, especially drainage.

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<sup>148</sup> Griffiths & Thomas, 1993, 159.

## Relief and drainage

The battlefield is a wide, flat bottomed basin with impeded drainage surrounded by higher ground mainly on the south and east. There has been no major quarrying or other substantial earthmoving to have changed the physical form of the landscape of the Bosworth battlefield. However the construction of the canal (under an Act of 1794) and the railway have locally transformed the relief and may have impacted to a limited degree on drainage. So too have the small group of ponds dug in the valley to the north west of Stoke Golding. However these are all sufficiently restricted in area to enable the physical form of the landscape in 1485 to be recoverable. In contrast there have been substantial man made changes in the drainage pattern since 1485, and possibly before. In addition there has been extensive land drainage of the area in the 19<sup>th</sup> and especially 20<sup>th</sup> centuries. These changes are critical to the understanding of the battle but can only be adequately reconstructed by a detailed study combining digital mapping from historic maps and a range of archaeological and geomorphological investigation.

For a low resolution impression of the wider context of the battle the 50ft contours from the one inch New Popular edition mapping have been used. For a more detailed picture of relief for the battlefield and its immediate context the 5m contours from the Ordnance Survey Explorer mapping have been used. For the core of the battlefield a 10cm contour mapping has been produced from the 10cm NEXTmap dtm, which provides important new insight into the fine detail of the relief and drainage of the battlefield.

## Geology & soils

The surface geology of almost the whole of the battlefield comprises drift deposits ranging from fluvio-glacial sands and gravels through to fluvio-glacial clays, areas of boulder clay and finally deposits of alluvium in the lowest lying areas. Only in very small areas does the solid geology of mudstone and sandstone reach the surface to influence the character of soils and drainage. The soil type, drainage and ph will vary dramatically between these different geologies, affecting both land use and the survival of artefacts and human remains.

Unfortunately the Soils Survey have not published a 1:25,000 scale soils map which covers the battlefield. The only published data is the 1:250,000 scale mapping which is at far too coarse a resolution to be of value. The geological mapping, derived from the BGS 1:10,000 scale mapping, is far more accurate but cannot be used with confidence at the highest levels of resolution required for the analysis, particularly that needed to determine the distribution of former marshland. It does not for example distinguish the small deposits of peat in the former marsh areas or probably small patches of sands within the alluvium, while the exact boundary between one geological type and another is too inaccurate to use effectively in conjunction with the 10cm contour data.

Figure 8: A simplified surface geology



## *Land use*

**It is the interaction of man's activities with the physical geography that has determined the nature of land use at any given time, giving rise in some places to areas of marsh or moor, heath or furze and of woodland, which might impede troop movement or provide important cover. For much of the last thousand years however across this region most of the landscape will have been under arable cultivation as part of very extensive open fields. Only in very limited areas by the late 15<sup>th</sup> century will the landscape have been enclosed in hedged or walled fields, but where it had been then these may have had a major influence on the military potential of the land. The other main influence affecting troop movements will have been the road systems with its fords, bridges and other 'passes' either facilitating or constricting movement. Recovering the pattern of the landscape, even in the crudest form of distinguishing enclosed from unenclosed landscape, or the extent of a marsh at any given time can be particularly difficult.**

## *Administrative and tenurial organisation*

**The documentary sources which are an essential component of the reconstruction of the historic terrain are located within collections which relate to the cross cutting patterns of administrative and tenurial organisation. Only a very rapid search of the indexes of the Leicestershire Record Office, Public Record Office and British Library and the A2A online national index of records has been conducted for the present project. A comprehensive search should be undertaken as part of any battlefield survey project.**

No major collections were identified in the BL or PRO collections but the Enclosure Award for Sutton Cheney is in the PRO. A wide range of documentary sources relevant to the historic landscape are in the LRO and a list of the maps and other documents consulted there is provided in appendix 2. A large number of documents relating to the battlefield townships were identified in the A2A search, of particular note being the 16<sup>th</sup> century documents relating to the manor of Ambion in the East Sussex Record Office.

**The historic landscape firstly needs to be examined in line with the most basic local administrative units by which it was organised in the medieval and post medieval period; the township and the ecclesiastical parish. Typically each township had its own open field system and, in this region, normally a single nucleated village, occasionally with a lesser hamlet or farm. In this region a parish would frequently encompass more than one township and this will enable the location of relevant sources regarding tithes and other matters to be identified which may add information about the historic terrain.**

**Figure 9: Historic townships and parishes relevant to the battlefield**

**Secondly it must be understood in terms of its tenurial structure, of manors and lesser holdings, which together made up estates, sometimes centred on manors or monasteries long distances away. While frequently there might be just one manor in a township there could be more, while there were often other lesser holdings. A detailed study of the pattern of ownership will enable the collections of medieval and later documents to**

be tracked down.<sup>149</sup> For example, in the medieval period the manor of Hinckley had income from Shenton township and thus some topographical information relevant to reconstruction of the historic terrain may exist in the records of that manor.<sup>150</sup>

### *Open fields*

The vast majority of the battlefield and its wider context was exploited as open field during the medieval period. No surviving furlong map has been identified for any of the battlefield townships, but the extent and layout of the open field system can be clearly seen from the evidence of ridge and furrow recorded as earthworks, soilmarks and cropmarks on aerial photographic sources from the 1940s to the present. The full pattern of this system can be recovered by a detailed ground based survey complemented by the air photographic evidence and by detailed study of the wide range of medieval and post medieval documentary sources which describe elements of the system in fine detail.

Only a small area of ridge and furrow survived in 1990 and it is likely that even less survives today.<sup>151</sup> A high priority should be given to securing the conservation of whatever ridge and furrow does still remain on the battlefield as it is the most tangible representation of the character of the greater part of the battlefield as it was in 1485.

The ridge and furrow defining the strips of the open field furlongs is likely to represent the maximum extent of arable agriculture around 1300. It is however possible that some of the ridge and furrow could have resulted from post medieval ploughing and thus post date the battle. Initial assessment by Hall would suggest that this is not the case on the battlefield, but this requires confirmation by analysis of the evidence across the whole battlefield. The extent of medieval ridge and furrow will enable the definition of the uncultivated areas which will represent the meadow, marsh and heath that was never cultivated in the medieval period. It can for example be seen to have encroached over what the BGS define as alluvial areas in some parts of the moor. This points up the difficult evolution of the landscape, whether through the inaccuracy of the BGS data when used at this resolution or the fact that there is not a perfect correlation between geological and land use patterns in this case.

It is possible that some of the open field furlongs had been converted to permanent grass, though not enclosed, or even abandoned and allowed to revert to furze or heath by the time of the battle, as a result of the changes in land use which are seen across the region in the period following the recession of the 14<sup>th</sup> century. Certainly the furlong in the heart of the moor in Shenton, with field names in the 18<sup>th</sup> century of Moorey Leys, had been converted to unenclosed permanent grass well before the township was enclosed in the 17<sup>th</sup> century.

Sketch mapping at 1:10560 scale of the extent and direction of ridge and furrow across west Leicestershire has previously been undertaken by Hartley of Leicestershire Museums Service, his original mapping being available through the Leicestershire SMR. This mapping

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<sup>149</sup> The Institute of Historical Research may have conducted research for the Sparkenhoe Hundred even though no volume has been published and they may therefore have research notes for the various battlefield townships.

<sup>150</sup> Francis, 1930.

<sup>151</sup> Digital archive accompanying Hall, 2001.

recorded ridge and furrow visible on the 1940s RAF vertical air photographs held by Leicestershire Record Office, the HSL vertical air survey of 1969 held by LCC, and the 1999/2000 colour vertical survey also held by LCC. This work is currently being prepared for publication but the original mapping sheets were made available for the present study in the form of raster images for the battlefield area and its immediate environs. These were registered in MapInfo and each furlong was digitised from these maps to create polygon vector data with a line to indicate the recorded direction of the strips.

Hartley's work however was undertaken as a rapid survey on a countywide scale. It provides a good initial assessment of the extent and pattern of ridge and furrow, as far as it is recorded on the relevant photography. However a great deal of additional detail is available on the original photography, as has been demonstrated in the current project. A number of the RAF verticals of the 1940s have been rectified and registered in GIS and the ridge and furrow more accurately mapped for the area immediately surrounding the probable marshland on the floor of the basin. This has shown that in a small but significant number of cases the exact extent of the field system or the direction of the furlong was incorrectly mapped in the countywide data set, demonstrating the need for a comprehensive computerised mapping from all available photography. There are also substantial gaps within the furlong pattern which reflect the incomplete survival of the evidence in the 1940s. It is therefore essential that this mapping is completed using the methodology of field survey developed by Hall, to recover a near complete picture.<sup>152</sup>

The 'current survival' of ridge and furrow presented here needs comprehensive revision, having been compiled from the data mapped from the 1991 aerial survey of Leicestershire in the Midland Open Fields Project enhanced by preliminary reconnaissance on the ground, particularly where land is now under woodland and so not visible on the aerial photography.<sup>153</sup>

**Figure 10: Currently known extent of ridge & furrow and location of marsh related field names (current survival data needs enhancement)**

A preliminary reconnaissance on the open field landscape of the Bosworth Battlefield was conducted by David Hall on 9<sup>th</sup> January 2004 to assess the potential for a comprehensive mapping of the open-field system of the area. Two areas were examined. In the area south east of Ambion Hill ridge and furrow is well preserved in the present woods, but a strip of meadow/pasture ground below the wood by the side of the brook running near the canal was identified. This accords with the meadow identified by Hutton and Nichols as the site of Richard's death.<sup>154</sup> Another sample area was visited at Whitemoor. A few fields of ridge and furrow survive here but the majority has been ploughed flat. However an area of pasture/moor/fen was clearly identifiable together with a wide strip of alluviated ground devoid of ridge and furrow. Nearby, linear soilbanks (headlands) enabling identification of the ploughed-out ridge and furrow blocks (furlongs) were recognized.

**It was concluded from the initial reconnaissance that the whole of the battlefield area could be satisfactorily mapped from fieldwork backed up with detailed computer based**

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<sup>152</sup> Hall, 1995.

<sup>153</sup> Digital data set in Leicestershire SMR accompanying Hall, 2001.

<sup>154</sup> 'Small meadow' in the terriers. Foss, 1987

mapping from the RAF 1940s vertical photographs and other vertical photography. The proposed fieldwork would include identification of pasture and meadow, as well as mapping ridge and furrow systems. This will need to be complemented by detailed documentary research on medieval and post medieval terriers, surveys, charters etc to recover the pattern of field names and to enhance the understanding of the layout and character of the field system. Such reconstruction should form the core of a reconstruction of the medieval landscape of the battlefield and may pinpoint names which will assist in the interpretation of the primary sources for the battle.

### *Marsh and moor*

The ‘mor’ in the name Redemore, is the modern word moor but, in this region at least, it was used for ‘swampy ground’. Redemore has been securely identified in a 13<sup>th</sup> century document as lying, in part at least, within Dadlington township.<sup>155</sup> The exact location will need to be confirmed by detailed reconstruction of the medieval landscape of the five battlefield townships, but sufficient information is already available to closely locate the moor. There were other areas of moor to the south and east of Stoke and Dadlington, these appear to be quite separate areas, not part of Redemore.

Almost the whole area of the five townships has a complex geology of fluvio-glacial sands, gravels and clays. However the relevant land is the area of impeded drainage on the floor of the basin which lies to the north of Stoke and Dadlington in the townships of Dadlington, Stoke Golding, Shenton and Upton, each of which appear to have been allocated part of this lowland wet moor. The poor drainage appears to have been created by a combination of the very flat nature of the ground, the ponding effect of the gravels along the course of the Sence Brook, which runs along the north eastern edge of the basin, and the extensive spread of fluvio-glacial clays on the floor of the basin. Here there are two discrete areas of alluvium and associated fen and moor field names

There are no extensive areas of alluvium beside the Sence itself and there was little potential for the formation of marshes. Nowhere is there any field name evidence to indicate an area of marsh along the course of the river itself and, even before deepened and straightened, leaving in places the abandoned channel as an earthwork in unploughed pasture fields, all this land will have been freely draining meadow due to the presence of the gravels. The 10cm contour mapping has also failed to reveal any area of very flat ground which might represent a small area of marshland, to compare with that found in the area to the south west.

In the area to the north east of the Sence, the area of Ambion Hill and its environs where Williams identified a marsh, has no evidence of former marshland in the geological, detailed contour or the field/furlong name evidence, just as Hutton stated.<sup>156</sup> Indeed it has been demonstrated by Hartley’s mapping of ridge and furrow and by reconnaissance by Hall that ridge and furrow covered almost the whole of this area in the medieval period. The only exception is a narrow meadow alongside the small stream running along the south east boundary of Ambion Wood, the area where Nichols identified the site of a small area of ‘tender ground’ where they claimed Richard had

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<sup>155</sup> Foss, 1998b.

<sup>156</sup> Hutton and Nichols, 1813; pre enclosure terrier and survey of Dixie estate in Sutton Cheney, LRO DE 40/22/4.

been killed. The tiny area of boggy ground that existed there in the 18<sup>th</sup> century is now wholly drained, but was never extensive enough to represent the marsh recorded by Virgil.

Figure 11: Review of terrain reconstruction in previous studies

In contrast, behind the gravels to the south west of the Sence the floor of the basin is covered with glacial clays and the fall is very slight, hence the drainage very poor. Definition of the exact extent of the marsh in Redemore as it was in 1485 is not however simply a matter of geological evidence. The landscape is in continual transition and no simple geologically based land use association can be drawn. Redemore in the 15<sup>th</sup> century may have been somewhat different from the marsh and moor area that existed in earlier centuries. The exact extent and pattern of ridge and furrow of the open field furlongs can however assist in the definition of the maximum possible extent of the marsh, though much of the unploughed alluvial area will have been floodplain meadow not marsh and so additional evidence is required to define the exact extent of marsh.

Initial interpretation is assisted substantially by the 10cm contour data which picks out an area of exceptionally flat meadow closely associated with an area of fen field names (e.g. Fen Meadow). Field inspection has revealed a somewhat peaty soil in at least part of this area, immediately north of Fenn Lanes. The man made channel draining the area can be clearly identified in the contour data, lying at the western edge of the flat ground, abutting against the open field furlong on the slightly rising ground of Moorey Leys to the west.<sup>157</sup> Two other potential marsh or mire areas have also been identified to the west identified by similar field names (Fomers and Fenn Closes) and drainage channels, although the contour data reveals a valley floor which is not as flat as that of Fen Meadow.

The marsh appears to have already been drained by the later 16<sup>th</sup> century, for Holinshed, who appears to have visited the battlefield, wrote ‘at this present, by reason of ditches cast, it is growne to be firm ground’.<sup>158</sup> But the marsh need not have been a continuous area of open water or dense marsh to have formed a barrier to a direct attack. The ‘fen holes’ descriptions of the landscape would seem to indicate a more piecemeal intermixing of marsh with drier land, but this would have been sufficient to preclude any form of attack by an army in battle formation, where the maintenance of the formation was essential.<sup>159</sup>

Figure 12: Location of marsh indicated by 10cm contouring with fen, moor and mire related field names

Having thus closely defined the likely extent of the marsh it will be necessary to refine this data and exact extent, particularly to the north and south as it is not at present clear where marsh shaded into meadow. This is however critical, particularly on the north side as this will have determined where the clash of the vanguards took place. Thus there is the need for more detailed and comprehensive mapping from

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<sup>157</sup> Field names on Shenton estate map of 17..., tithe map..., Dadlington tithe map....

<sup>158</sup> Holinshed, 1577, 443

<sup>159</sup> Foss, 1998b, 36.

archaeological and documentary sources, followed up by a programme of soil sampling and analysis to determine the exact extent and character of this marsh. It will also be necessary to understand and chart as comprehensively as possible this process of drainage if we are to fully understand the degree to which marsh had been converted to meadow by 1485.

### *Gorse, heath and wood*

Despite the arguments of Williams and others there was no significant area of marsh on the slopes of Ambion or indeed anywhere within Sutton Cheney township. On this higher, better drained ground there were probably areas of rough grazing in the late medieval period, in part expanding over areas of former open field furlongs with the reduction in cultivation and of grazing pressure in the post Black Death period.

On the non-acidic soil the abandoned arable land, where not intensively managed as grass, will have reverted to gorse or furze, represented in several gorse field names. In one place, Ambion Wood, this may have been allowed to regenerate to full woodland, for immediately to the west of the present Ambion Wood was a close called Wood Close in the 1840s but in 1727 it was Gorse Close. If there was any woodland in the medieval period in this area, which might have had an influence in the location and character of the action, then there should be evidence in terms of an absence of ridge and furrow furlongs. However initial reconnaissance would suggest that the whole of Ambion Wood lies over ridge and furrow.

On the acid soils there seems to have been a development of heathland, as in Sutton Heath to the north east of Sutton village. Some of which may have had medieval origins but it may all have developed in the later medieval on former open field land. There is however little or no evidence of such heath or furze on the core of the battlefield.<sup>160</sup>

### *Enclosure*

There may already have been a small amount of enclosure for pasture in the five townships by 1485, the most likely being in a small area around the deserted hamlet of Ambion. However the vast majority of the landscape was almost certainly still open field, comprising arable and meadow, at the time of the battle. Any ancient enclosure that did exist in 1485 could have had a significant role on the exact nature and location of the action and it will be important to attempt a reconstruction of the history of enclosure, but this will be highly dependent upon the survival of relevant documentary sources.

It is true that all of the townships except Sutton Cheney were anciently enclosed<sup>161</sup> and there is good evidence in a number of locations of hedgerows following the reverse 's' alignment of the medieval strips. However, these enclosures will almost all have been created well after the battle and so very few if any of the present hedgerows are likely to be contemporary with the battle.

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<sup>160</sup> Prior's Map, 1777, Welding, 1984.

<sup>161</sup> According to Hutton enclosure of Shenton was in 1646, Hutton and Nichols, 1813, 79) while Stoke was in circa 1602 and Dadlington after 1670. Foss, 1998b, 34.

## Communications

None of the primary sources refer to the Fenn Lanes Roman road as the route taken by either army, but it was the most logical route to have moved a large army in 1485. Account must be taken of the existence of an important route from Leicester to Hinckley via Earl Shilton in the medieval period and this might prove, as Foss argues, to have been the route whereby Richard might have approached the field and the victorious army marched to Leicester. It is unclear when the central section of the Roman road between Dadlington and Kirby Mallory was abandoned, or whether there was a significant alternative route by which the route connected with Leicester, but both Wright and Foss point to the possible existence of an east-west section of road, the Leicester Lane, through Sutton Cheney township which joined the Fenn Lanes.<sup>162</sup> Contrary to Wright's interpretation, however, it would appear from the detail of the furlong pattern (though this needs confirmation by detailed survey) that the Roman road ran straight on from the currently known Fenn Lanes alignment towards Hangman's Hall, rather than diverting north east towards Sutton, to avoid Wright's putative marsh alongside the Sence brook.<sup>163</sup>

**Very little work has been done on the early road system of Leicestershire and unfortunately the earliest detailed map of the county, that of 1777 by Prior,<sup>164</sup> post dates the turnpiking of many routes which probably made substantial changes to the road network of the region in the 18<sup>th</sup> century.<sup>165</sup> There is therefore the need for a general investigation of the road system of the area between Leicester and Atherstone to assist in the interpretation of the battle and the immediately preceding troop movements by both armies.<sup>166</sup> The reconstruction of the field system of the five townships should also contribute significantly to understanding of the road system across the battlefield itself, through the evidence provided by the terriers etc. However, given that all but Sutton were anciently enclosed townships, it is likely that the lesser road system first recorded in the 18<sup>th</sup> or 19<sup>th</sup> century for all but Sutton will be in essence the medieval system, except for specific modifications such as those undertaken for the construction of the railway or canal.**

**The Roman road is of particular importance, as the likely route of approach of both armies and a key feature of tactical importance running through the battlefield. Its whole alignment through the five townships needs to be established, but with particular focus on where it passes through Redemore both for interpretation of the action and to identify any locations where the medieval route does not lie beneath the modern road. It is important to establish its exact alignment in 1485, its width and boundaries and its potential impact on the line of march of the rebel army and their speed of deployment. If this was the route of Richard's cavalry attack then the width of the causeway across the marsh will be important in understanding the frontage that he was able to maintain in the charge. If this is Sandeford then locating the crossing of the stream will be of primary concern.**

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<sup>162</sup> Wright, 2002, plan before p.17 & p.49-51. Foss, 1987.

<sup>163</sup> Wright, 2002, plan before p.17.

<sup>164</sup> Welding, 1984.

<sup>165</sup> Cossens, 2003

<sup>166</sup> There is a brief chapter in the VCH (vol.2, p.67-91), dealing with road systems but it is extremely out of date and provides little useful detail.

## ***Sandeford***

Richard is stated as having been killed at Sandeforth.<sup>167</sup> The inadequacy of Hollings' identification of Sandeford has been discussed by both Foss and Wright.<sup>168</sup> Nichols, as we have seen, located the site immediately to the south east of Ambion Wood, but with no supporting evidence. Wright's discussion of the possible alternative locations for Sandyford and for the course of the Roman road is inadequately referenced and some of the argument questionable. Foss identified Sandyforth as probably being the Fenn Lanes crossing of the marsh in Redemore.<sup>169</sup> The proximity of a sand pit to this point on the 19<sup>th</sup> century tithe map demonstrates the presence of sands within the area, but there is as yet no definitive proof for this identification.<sup>170</sup>

The identification of Sandeford may be assisted by evidence of the Civil War skirmish that is said to have taken place on the very spot where Richard III was killed, if one accepts this identification in 1644.<sup>171</sup> Scaysbrook suggest that this will have been on the Hinckley to Ashby road, the royalist troops being from Hastings' garrison at Ashby de la Zouche and plundering in the Hinckley area, who were engaged by parliamentary troops dispatched from the garrison at Leicester. There is however no detail in the published account to locate the exact direction of the troop movements or the road they were on, unless other as yet unused sources provide further information on the skirmish. The value of this action is that it maybe expected to have deposited a small quantity of pistol shot and other artefacts and thus the discovery of such material on the battlefield might assist in confirming the location of Sandeford.

## **Settlement**

The settlements adjacent to the battlefield have a twofold significance. Firstly the extent of their ancient enclosures, typically a tight grouping of hedged closes immediately adjacent to the tenements, will have restricted the extent of military action. This is perhaps most relevant in the case of Shenton, which will have provided a northern limit to the open ground over which the action between the vanguards could have been fought. It may also be significant for Ambion and Sutton Cheney if they were in the path of the routed and fleeing royal troops. It is therefore important to define, as far as practicable, the extent of the anciently enclosed land and tenements within each of these settlements. In the plans presented in this report a rough extent of the post medieval settlements has been mapped using the 1880s map evidence. This is wholly inadequate and will need to be replaced through a combination of archaeological survey and documentary research.

## **Needs**

**It may be desirable to obtain a slightly more extensive coverage of the dtm eastward to enable an extension of the analysis to encompass the area of the possible flight and**

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<sup>167</sup> York House Book, B2-4 f.169, quoted with an image of the original document in Wright, 2002, after p.48.

<sup>168</sup> Ibid., 44-5.

<sup>169</sup> Foss, 1998b, 37-8.

<sup>170</sup> The earthworks of several small irregular pits can still be seen in the field on the edge of the fen and there is also clear evidence visible on the thermal imagery. NERC thermal imagery for the Bosworth survey, copy with LCC. LRO: RAF vertical air photo CPE/UK/2555/3026.

<sup>171</sup> Hutton and Nichols, 1813, 159-60. Scaysbrook, 1992, 66-7.



camp. The exact extent required cannot currently be determined and may require the results of both the mapping from historic maps and the initial results from metal detecting survey. There will certainly be the need for further processing of the existing data in order to refine the picture, removing as far as possible the distorting effects of woodland on the dtm and removing the substantial post battle modifications of landform, most notably the railway and canal embankments and cuttings. This data can then be used more effectively in a sophisticated viewshed analysis to consider issues such as the invisibility of potential deployment positions and possibly the impact of relief on the range and effectiveness of artillery fire.<sup>172</sup>

A detailed reconstruction, by palaeo-environmental and/or soils specialists, will be required for the soils and drainage of the floor of the basin, which is believed to represent Redemore, in order to understand the distribution of marshland, streams and other land use in 1485. Detailed information will also be required on the soil ph across the battlefield to be able to assess the potential for the preservation of iron, especially unstratified iron objects from the battle (see below).

It is important that the furlong pattern for the whole of all five battlefield townships is reconstructed and analysed by a specialist in the archaeology and documentary evidence for such field systems, using aerial photographic and new ground surveys together with documentary study. This should be linked to the reconstruction of the wider aspects of the landscape including the medieval road system. In specific areas however, particularly with regard to the Fenn Lanes, it may be appropriate to consider small scale targeted excavation to provide detailed information on the alignment, width and character of the road in key locations.

There is the need for soilmark photography of the battlefield under ideal conditions in the late summer or autumn to recover any remaining soilmark evidence of ridge and furrow as well as to provide detailed information on the varying character of soils across the battlefield, particularly on the floor of the Redemore basin. Though less likely to yield useful results, it may also be possible that cropmark photography in ideal conditions in summer, particularly under drought conditions, may produce some additional data as regards the pattern of drainage and the pattern of ridge and furrow and soil variations. Such photography should be conducted in the form of oblique photography by a local specialist in archaeological aerial photography who can respond immediately to exceptional ground conditions.

It will be important for researchers who have carried out previous work on the battlefield terrain, most notably Peter Foss, to be drawn into the project if they are willing to contribute their existing knowledge and records of primary documentary evidence for the historic landscape.

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<sup>172</sup> Trees and especially woods both affect the height recorded in some places and also providing a barrier to viewshed where none existed before, thus as far as practicable all tree data needs to be excluded somehow from the model. Account also needs to be taken of the fact that the armies themselves will have carried standards and many troops will have been on horseback so that this should be taken into account when carrying out viewshed analysis to see what troop deployments could have been visible from the enemy positions. It may also be that some form of composite viewshed is needed to show what can be seen from the whole of a battle array rather than just from one point.

## **5. BATTLE ARCHAEOLOGY**

While the documentary study of the battle and placing of the action within the historic terrain provides a framework for investigation, it cannot provide a definitive interpretation, particularly for medieval battles, where the documentary record is generally so much poorer than that for 17<sup>th</sup> century actions. Though we have a good location for the marsh, if not as yet an accurate mapping of its 1485 extent, the location of the action itself will be dependent on the evidence of battle archaeology.

Ongoing work on Towton battlefield has demonstrated the potential to recover important artefactual and stratified evidence for the location, extent and character of the action on battlefields of the 15<sup>th</sup> century, comparable to that which has been demonstrated for English battlefields of the 17<sup>th</sup> century.<sup>173</sup> There is however as yet much that is not understood as regards the nature and potential of the archaeology of battle and it is likely that different archaeological signatures may be recognised for different phases of a battle, such as the initial engagement and the rout.

A reconnaissance survey of a part of the battlefield, discussion with members of the existing metal detecting team and a rapid assessment of metal finds so far made at Bosworth, was undertaken by Simon Richardson as part of the present project.<sup>174</sup> In addition to identifying a substantial number of finds potentially related to the battle within the existing collection, his assessment would suggest that the current small detecting team is well suited to the task, if they are given appropriate support and training. The assessment also suggests that there is a high potential for the survival of battle related artefacts across the whole of the battlefield at Bosworth, although the taphonomy of the battlefield, that is the varying potential for the survival of iron objects according to the soil ph, past chemical application and past cultivation patterns, will need to be assessed by a specialist.

Fortunately over much of the core of the battlefield landowners have not allowed metal detecting and so it is likely that the artefacts distribution at Bosworth, unlike many other battlefields, has not been significantly affected by random, unrecorded metal detecting. The limited metal detecting survey conducted on Bosworth battlefield, mainly in the area of the possible royalist camp or line of the rout, rather than in the heart of the main action, has yielded a substantial number of artefacts which may be related to the action of the battle but a more sophisticated analysis will be required to determine the association with a high level of confidence. Of greatest importance however is the need to implement a systematic survey methodology, with accurate recording and analysis, across the whole battlefield in an attempt to recover a picture at least as comprehensive as that from Towton. Such evidence will be critical to the placing of the initial battle arrays and the action within the reconstructed historic terrain.

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<sup>173</sup> Sutherland and Schmidt, 2003. Foard, 2001.

<sup>174</sup> Richardson is the metal detectorist who has conducted the Towton survey and various other metal detecting survey work on medieval and later battles in England and abroad.

**It must be remembered that the archaeological evidence cannot provide direct information as to the location of the initial deployments, as it is only the action which delivers large numbers of artefacts. Indeed, if any troops did not engage, then their presence on the field may not be identifiable through the archaeological record. This may be true for Lord Stanley's forces, although at least one source does suggest that his troops participated in the 'execution' during the rout of the royal vanguard.**

## **Artefacts**

### *Antiquarian and other non survey finds*

Many of the artefacts said to have been found on the battlefield over the past 200 years or more are now lost, while most lack an accurate provenance. The most comprehensive summary available to date is that provided by Foss.<sup>175</sup> A significant number of the weapons and items of equipment that have been identified in recent times have been shown to be of 17<sup>th</sup> century date. A few of the finds which are, or may be, of 15<sup>th</sup> century date may yield some useful information about the battle and its location. No attempt has been made here to produce a comprehensive catalogue, but a rapid search has been made of the reports of finds but no significant pattern has been revealed.

Burton reported the discovery of many arrowheads and also refers to various discoveries of armour, weapons and other accoutrements on the plain between Shenton, Sutton, Dadlington and Stoke. In 1898 Rimmer reported that 'some of the spoils that have been dug up, such as the steel parts of a crossbow and spurs, that are preserved in the church at Bosworth and in the Liverpool Museum, are depicted in engravings in Hutton's book.'<sup>176</sup> The discovery of three or four cannonballs in the garden of Hewit's cottage, which is marked on Pridden's map of 1789, is identified by Foss as Glebe Farm.<sup>177</sup> These may be the same cannonball finds reported around Glebe Farm by Williams, although he does not reference the discoveries.<sup>178</sup> Nichols also depicts various artefacts said to be from the battle.<sup>179</sup> While the finds from Stoke in particular, if they could be accurately located, might be of particular significance, most seem to yield little significant information.

The main problem with these finds is the interpretation of the various round shot, as depicted on figure 13. Both stone and iron 'cannonballs' have been claimed to have been found on the battlefield, both on Ambion Hill and elsewhere, including in Upton township.<sup>180</sup> Some of the objects thus identified are clearly natural flint nodules but others appear to be manufactured stone balls which may be for use in artillery. Iron roundshot was already in artillery use in Europe by the 1470s, but the degree to which it was used, if at all, in field artillery in England in 1485 remains unclear. All these 'gunstones' need to be subject to specialist examination before being accepted as relating to medieval artillery.<sup>181</sup> Some of the 'cannonballs' are said to have been found on Ambion hill in the 18<sup>th</sup>, 19<sup>th</sup> and 20<sup>th</sup> centuries.

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<sup>175</sup> Foss, 1998b, 71-5.

<sup>176</sup> Rimmer, 1881, 113.

<sup>177</sup> Hutton and Nichols, 1813, 83. Foss, 1998b, 75, n.5.

<sup>178</sup> Williams, 2001, 36.

<sup>179</sup> Hutton and Nichols, 1813, 153-9.

<sup>180</sup> Foss, 1998b, 73-5.

<sup>181</sup> E.g.: six 'gunstones' are illustrated by Wright, 2002, between p.84-5 and discussed p.82-4, most of which appear likely to be natural but cannot be identified with certainty from photographs.

Foss has also drawn attention to the potential for the use of case shot as well as round shot by the artillery pieces of the period, on the basis of discoveries on the Mary Rose. However, unlike 17<sup>th</sup> century case, which often seems to have used musket shot, the examples from the Mary Rose were simply of flint nodules.<sup>182</sup>

It has been suggested by various authors that the iron round shot found in the vicinity of the battlefield could have come from the Civil War skirmish of 1<sup>st</sup> July 1644 rather than the battle of 1485.<sup>183</sup> This is not correct, for the skirmish was a cavalry action, as the newsheet account printed by Nichols and the list of captured royalists, who are all cavalry, makes clear.<sup>184</sup> There will have been no artillery involved in that action and thus no potential for it to have contaminated the 1485 battlefield with round shot. No other Civil War action is reported in the area by Nichols' or Scaysbrook and had there been a sufficiently substantial action to have involved the large pieces of field ordnance indicated by the calibre of the round shot found on the battlefield, then it is highly unlikely that it would have gone unnoticed.<sup>185</sup>

### *Metal detecting finds*

A number of metal finds potentially related to the battle have been found in recent years on, or in close proximity to, the battlefield. These include a ferrule, possibly the butt end of a late medieval standard, found on Crown Hill, and a late medieval belt fitting for suspending a sword or dagger and a late medieval chape from the end of a sword or dagger scabbard, both from near Crown Hill.<sup>186</sup> These are not reported with accurate locations nor has the method of survey or what other material has been recovered.

### *Taphonomy*

It has been suggested that the battlefield soils have a high acidity which would result in the rapid destruction of iron artefacts.<sup>187</sup> However, the geology varies significantly across the battlefield and in some places iron objects have been recovered in recent years which are in a relatively good state of preservation, such as the iron ferrule from near Crown Hill, suggesting that at least in some areas of the battlefield the soil conditions may be more conducive to preservation of iron.<sup>188</sup> A comprehensive specialist assessment of the varying potential for the survival of iron objects according to the soil ph, past chemical application and past cultivation patterns, across the whole of the battlefield is required. Tithe maps of the 1840s, land use mapping of 1928 and the vertical air photographs of the 1940s and 1960s can be used to determine the land use for most of the study area, as can the survival of ridge and furrow in the 1940s.

## **Burials**

**Mass graves, as Burne remarked, are most commonly found in close proximity to the location where the two armies first engaged. There are examples, as at Towton, where in addition to the main graves at the heart of the battlefield there were other mass**

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<sup>182</sup> Foss, 1998b, 75, n.2.

<sup>183</sup> e.g.: Gravett, 2000, 36.

<sup>184</sup> Hutton and Nichols, 1813, 159-60. Scaysbrook, 1992, 168.

<sup>185</sup> Nichols, 1811. Scaysbrook, 1992.

<sup>186</sup> Find by Mr Wragg near Crown Hill, anon, 1999, 6.

<sup>187</sup> Foss, 1998b, 75, n.4, quoting Alan Cook.

<sup>188</sup> anon, 1999.

graves at a distance from the initial action. In the case of Towton this appears likely to have contained dead from the 'execution' during the rout. The modern investigation of such burials can yield substantial evidence as to the nature of warfare of the period and the character of the troops involved.<sup>189</sup> No such modern discovery or investigation has taken place at Bosworth. There is however the potential for major discoveries of this kind on the battlefield, especially if the core of the action can be located by metal detecting survey. Once a general area of search has been narrowed down then systematic geophysical survey may be feasible to search for the location of mass graves, as recently achieved at Towton, but this may prove a very difficult task given the scale of the area and the likely relatively small size of the mass graves.

Virgil reports that there were 1000 dead from the action. Although too great a reliance should not be placed on such figures, it is a far more realistic figure than some chronicles suggest for some other battles. There is certainly the potential for substantial numbers of dead to have been buried in mass graves on the field and in adjacent churchyards, the latter either immediately after the battle or in subsequent years. This is documented in the case of Dadlington church. Foss has detailed the records of the intended establishment of a chantry at Dadlington, said to be built on a parcel of ground where the battle was fought but now interpreted as meaning the rebuilding of the existing medieval chapel in the village of Dadlington, to which it is said the bodies of the slain in the battle 'beth broght & beryed'.<sup>190</sup> Whether this relates to the original burial, as is generally assumed, or some form of clearance of mass graves some years after, as happened at Towton, is not certain.

Various references have been made to burials found on the battlefield in past centuries. Most are poorly located and none are securely dated and the association drawn between them and the battle by various authors has to be treated with care.<sup>191</sup> The two most securely located discoveries are those from Dadlington churchyard<sup>192</sup> and adjacent to and from Crown Hill, Stoke Golding. Even these may have non-battle related explanations. The burials reported in 1782 as often found in gravel for road repairs in Crown Hill field, may relate to the Crown Hill Close recorded on the Tithe map.<sup>193</sup> A sword also said to have come from a gravel pit in Stoke Golding might have been from the same location.<sup>194</sup> There are earthworks of several substantial quarry pits cutting ridge and furrow in the undeveloped area of Crown Hill which may represent these gravel pits, the majority of the close being still under grass. The geological mapping suggests that this is an area of glacial clays, although there are fluvio-glacial sands and gravels in close proximity and so the detail of the geological survey may prove to be in error. This is however clearly a priority location for archaeological investigation, both of the undisturbed area and also perhaps of the backfill of the pits themselves. Wright reports the location of the traditional burial site, a quarry pit some 70 yards north of Sutton Cheney church, which was built over in the 1980s and 1990s.<sup>195</sup> The alleged burial site south of King Richard's Well is also discussed and approximately mapped

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<sup>189</sup> Fiorato, Boylston and Kunsel, 2000.

<sup>190</sup> Foss, 1998b, 39-40.

<sup>191</sup> The discoveries are listed by Ibid..

<sup>192</sup> Wright, 2002, 132

<sup>193</sup> Nichols, 1782, 100-1, quoted by Foss, 1998b, 72.

<sup>194</sup> Hutton and Nichols, 1813, 99.

<sup>195</sup> Wright, 2002, 112, 129 and map after p.124.

by Wright.<sup>196</sup> Burials adjacent to the Battlefield Centre were also reported in the 19<sup>th</sup> century.<sup>197</sup>

**Perhaps most intriguing however, given the present understanding of the likely extent of the marsh, is the alleged burial site to north east of Whitemoors, at approximately <sup>4</sup>38600 <sup>2</sup>99320, reported by Wright.<sup>198</sup> If this is a genuine site then it might well represent a mass grave associated with the clash of the vanguards, if the metal detecting survey and historic terrain reconstruction confirm the broad and very tentative interpretation of the battlefield presented here.**

**Not all the locations where burials have been reported in the past have been registered on the Sites and Monuments Record, yet this is essential to ensure that they are a material consideration in the planning process. Any development proposals or other land use change covered by the Town and Country Planning Acts, and in the case of the Dadlington churchyard under the Faculty Jurisdiction, which might destroy any archaeological remains, should be subject to a requirement for archaeological evaluation. Where practicable as part of a battlefield survey project, geophysical survey and trial trenching should be conducted on the probable burial sites.**

### ***Previous survey work***

A steering committee was established and a programme of survey work was begun in 1995-6 to seek archaeological confirmation that the battle did take place on the Ambion Hill site.<sup>199</sup> This was prepared by Chris Brook, head of Historic Building Conservation and Pete Liddle, County Archaeologist, in consultation with English Heritage. A programme of work including metal detecting survey, fieldwalking, remote sensing and historic map analysis, production of a digital terrain model and core sampling was proposed. Most of this work was not carried out and most of that which was begun was not pursued for more than one season. A small scale metal detecting survey, limited fieldwalking and thermal remote sensing were undertaken, all largely focussing on the area in close proximity to the visitor centre. No project design appears to have been prepared to underpin the research and, apart from the analysis of the thermal imagery, the work appears to have ceased in 1996 with very little achieved. In 1999-2002 the metal detecting and fieldwalking survey was re-established but now supervised by Richard Mackinder.<sup>200</sup>

There are a number of probable reasons why this initiative failed. At that time the important work at Towton had not been reported and had achieved far less than it has today and so there was no model for the study of a medieval battlefield that could be followed. Neither does the committee appear to have included anyone with experience of battlefield survey, which had by then been undertaken and published for a number of Civil War battlefields in England and many American battlefields. As a result, despite having access to extensive

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<sup>196</sup> Ibid., 130, 134 and plan before p.121.

<sup>197</sup> Ibid., 136 & Brooke, 1857, 173.

<sup>198</sup> Wright, 2002, 133-4.

<sup>199</sup> Minutes of Bosworth Battlefield Archaeology Working Group, held in English Heritage's Bosworth Battlefield file.

<sup>200</sup> See Appendix 3.

archaeological expertise, given the very specialist and interdisciplinary nature of the investigation of battlefields it is not surprising that the steering group was unable to define a meaningful research design and methodology for the survey.

## **Metal detecting**

The initial metal detecting in 1995-6 was carried out by up to four detectorists working within a computer generated random sample of 100m \* 100m grid squares. A log book recording this early work was maintained by one of the participants, but just one season's fieldwork was completed and no significant battle related finds appear to have been recovered. The finds from this work were deposited in the museum but cannot currently be found.<sup>201</sup>

### **Figure 13: Distribution of possible battle related finds from Bosworth survey and chance discovery**

In 1999-2002 the survey was re-established but now supervised by Richard Mackinder, using the same small group of detectorists but covering a more extensive survey area using a less systematic survey method (see Appendix 3). Work concentrated particularly in an area close to Sutton Cheney village where a significant number of medieval finds were made, some potentially of military significance. In 2002-3, on the advice of the County Archaeologist the Hinckley Metal Detecting group was invited to join the survey, with up to 50 people involved at certain times, on unscheduled fields in close proximity to the Visitor Centre.

**The use of large numbers of detectorists is inappropriate for battlefield survey. What is required is a small, experienced, trustworthy and dedicated group of at most 5 or 6 detectorists, similar to that already available to the Bosworth project. The team members need to build up a good knowledge of the relevant artefacts of the period and need to work to a carefully coordinated, well recorded, systematic survey strategy.**

The evidence on intensity and extent of survey work is not yet adequate to enable assessment of the relative densities of distributions. The artefacts identified on this mapping as potentially related to the battle have not been subject to specialist assessment to determine which are more likely to relate to military action as opposed to other activity. Most importantly, no control survey work has yet been undertaken on locations away from the battlefield to determine the likely background 'noise' of artefact deposition from non battle related activity in the 15<sup>th</sup> century. Given these limitations in the data no attempt has been made to draw conclusions from the recorded artefact distribution, other than to note the degree to which the work has so far tended to avoid the areas immediately to the east of the marsh. If and when a potential focus of action is suggested by the non ferrous artefacts, which are those that are in general more easily recovered and identified, then the survey can be transferred to an intensive phase, as at Towton, to locate ferrous artefacts, most notably arrowheads as these should be the critical identifier of the action, particularly of the initial engagement of the vanguards.

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<sup>201</sup> Richard Mackinder pers. com..

## Fieldwalking

The survey strategy applied in 1995-6 which covered a very small area and produced very limited results was replaced in 1999 by a methodology defined in consultation with Pete Liddle, based upon the countywide survey strategy. It has been conducted on a 20\*60m grid recorded by traverse and stint. Although the survey has produced valuable information on pre-medieval settlement it has yielded no significant data with regard to the battle.

Fieldwalking survey has very limited potential to contribute to the investigation of battlefields. There are two peripheral ways in which the data might generate some useful information. Firstly it may indicate, through the absence of finds from the 15<sup>th</sup> century, areas of the open field furlong system which were not under cultivation at the time of the battle.<sup>202</sup> Similar evidence might also be recoverable with regard to land under meadow or marsh, however in the latter case the potential for later alluviation burying any 15<sup>th</sup> century or earlier finds has to be considered. However the other survey methods outlined here for the investigation of the distribution of marsh, meadow and open field are likely to be far more effective, while determining whether particular areas were or were not cultivated in the 15<sup>th</sup> century is unlikely to yield significant information relevant to the interpretation of the battle.

Secondly it may provide some form of control for the interpretation of the metal finds. This is essential as most battle related items may only prove distinguishable from domestic items, lost or deposited through manuring, as a result of their concentration in areas lacking any concentration of ceramics deposited by manuring. They may also prove different from domestic artefacts in the percentage of high status objects. The knowledge as to where high and low rates of manuring were taking place in the 15<sup>th</sup> century might allow a check to be made as to whether any of the concentrations of metal finds may relate to such manuring activity. This can probably be tested by examination of just one or two sample areas where high quantities of metal finds of the 15<sup>th</sup> century are being made. If this produced positive results then more extensive fieldwalking might be justified.

**Fieldwalking survey, which has been a central element of the Bosworth battlefield survey to date, while it has provided valuable information on earlier settlement patterns, has very limited potential to contribute to the understanding of the battle or the battlefield. Effort should now be concentrated on the metal detecting survey. Fieldwalking survey for the battlefield study should only be initiated again in a very targeted fashion, if at all, once significant metal detecting results have been achieved and if this or the historic landscape reconstruction has raised significant questions that can be effectively tackled by fieldwalking survey.**

## Remote sensing

**No new conventional aerial photography by a specialist in aerial archaeology was commissioned as part of the battlefield survey and the survey methodology was not defined with reference to proven methods of landscape reconstruction. The work also**

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<sup>202</sup> This will require professional identification of the ceramics to give a close date range, using Midland Purple and Cistercian Wares as the main indicators. Richard Knox, pers. com..



**seems to have focussed primarily upon the Ambion Hill location rather than the wider battlefield. For all these reasons the remote sensing work has failed to produce any significant information as regards the investigation of the battle or battlefield.**

### ***Thermal imagery***

In 1998, in collaboration with Natural Environment Research Council (NERC), LCC acquired thermal imagery in three transects across the battlefield from Fenn Lanes to the Battlefield Centre. The data in proximity to the Battlefield Centre was subsequently analysed in detail, forming a significant component of PhD at the University of Durham.

It had been hoped that this survey work would yield information on the location and extent of the marsh and other features significant to the battle, such as mass graves. In the present study a rapid assessment has been made of the thermal imagery (the centre band only was made available) and of the archaeological results of the PhD analysis. This has revealed no significant information that was not already available from the earthwork evidence available on the RAF vertical air photographs of the 1940s, which themselves provide a vast wealth of data that is not recorded on the thermal imagery. In one or two places small areas of ridge and furrow not visible on the RAF verticals may have been revealed, but these features may already exist on conventional photography that has yet to be mapped in detail.

### ***Geophysical surveys***

Several geophysical surveys have been conducted in close proximity to the Battlefield Centre. They are particularly relevant for the archaeology of the medieval village of Ambien and of pre medieval settlement remains, but appear to contain no evidence of relevance to the battle.<sup>203</sup>

### **Archaeological excavation**

A small scale evaluation of the proposed site of the extension to the Visitor Centre was conducted in 2003. It produced no evidence of relevance to the battlefield.<sup>204</sup>

### **Digital mapping**

The importance of the application of GIS to the recoding and analysis of the battlefield has been recognised and various digital data sets have been created as part of the Bosworth survey. Unfortunately no advice has been taken from a specialist in the application of GIS to the mapping and analysis of the historic environment. As a result a number of problems have been identified with the digital data created. This includes the application of inappropriate practical mapping methods, such as using text rather than polygon data for recoding various items such as land ownership mapping and field numbering, or use of line data and text to define field names rather than text appended to polygons. There is also no metadata for most of these data sets to determine source, scale and accuracy of mapping. Neither has there been

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<sup>203</sup> Heritage & Resources Team, 1999; Clarke, 2003; Mercer, 2003.

<sup>204</sup> Clarke, 2003.

an overall strategy defined as to the data sets needed for the survey and the parameters by which such data should be collected in order to facilitate specific types of analysis.

**A clear methodology is required for the digital mapping of all data sets, from historic map data through archaeological data from aerial photographs to survey finds, to ensure consistency and effectiveness of data storage and analysis. The definition of this methodology should be one of the first steps in a revised survey programme and should be drawn up with reference to current best practice and in consultation with specialists in battlefield archaeology, English Heritage and other interested parties. This methodology should integrate all data sets including digital photography and access database recording of finds, using the GIS as the central hub of all recording and analysis activity. As part of the work for the present project a digital archive has been created containing a range of data relevant to the investigation of the battlefield, providing the basis for the development of a comprehensive research archive for the battle and battlefield.**

## **Needs**

The SMR should be updated as a matter of urgency with all the potential burial sites and a maximum potential battlefield area should be defined. Within this area all planning applications and other significant land use change covered by the planning process and Faculty Jurisdiction should be assessed for their potential impact on the archaeology of the battle or battlefield. Where significant potential impacts may occur then appropriate evaluation and/or recording action should, where practicable, be initiated through the planning process.

Continued metal detecting within the Registered Battlefield, or the extended area recommended in this report, should ideally be halted except for a systematic battlefield survey conducted to the highest modern standards. English Heritage should be encouraged to seek the extension of their powers to halt all unlicensed detecting on Bosworth and all other nationally important battlefields.

The taphonomy of the archaeology of the battle should be assessed by a specialist.

The survey programme needs to be completely redefined. Fieldwalking survey, in so far as it relates to the investigation of the battlefield, should be halted and effort concentrated on metal detecting survey according to a coherent survey and recording strategy. In any detailed battlefield study the production of a detailed GIS linked catalogue, including where possible digital photographs, should be a priority, with specialist identification being sought for all potentially significant artefacts that can be located in museum or private collections. This record system should be the same as that applied to the recording of the finds from the systematic metal detecting survey.

It is recommended that pilot work is undertaken in winter 2003-4 to test a strategy for systematic metal detecting reconnaissance survey and recording. Each detectorist should be issued with a GPS unit which enables continuous logging of position. Survey strategy should be by regular transect coverage of each field at spacings to be determined by pilot work.

Each GPS unit should be collected in at the Battlefield Centre at the end of a survey day and data downloaded into GIS and survey route and finds locations mapped.

The need for adequate resourcing for the conservation, analysis and long term archiving of all finds should be agreed with the County Archaeologist and costed as part of the project design for the full survey.

## **6. ASSESSMENT AND RECOMMENDATIONS**

All the evidence points to the conclusion that the battlefield lies more than a mile (1.5 km) to the south west of the currently interpreted Ambion Hill site. It is likely that the currently interpreted site had no direct involvement in the action, although it may have been the site of one of the royal camps on the previous night and may have lain in the course of the flight of some of the royal troops.

The broad topographical context of the battle has been determined beyond reasonable doubt, thanks mainly to the work of Foss. There are however still major uncertainties over the detail of key elements of the historic terrain, the positioning of the initial deployments and the location of the main phases of the action. Until these shortcomings are addressed we do not have a sufficiently detailed understanding of the battle or battlefield to be able to design an effective interpretation for the public.

The present project has summarised the current state of knowledge, provided limited new detailed mapping of the historic terrain and identified the main remaining gaps in knowledge and the evidence which might reasonably be collected to fill those gaps. It has determined that there is a high potential both within the physical and the documentary record which would enable substantial results to be achieved by further detailed investigation of the battlefield.

Figure 14: Interim reconstruction of historic terrain with highly conjectural deployments

Figure 15: Viewshed from highest point on approach of Henry's army

### **A new battlefield survey**

This report and its digital archive are not the basis for a new interpretation of the battle, but rather should form the starting point for a new, systematic investigation of the battle and battlefield, which aims to resolve the key issues regarding the location and character of the action at Bosworth on the 22<sup>nd</sup> August 1485. This should build upon current best practice in battlefield studies and draw upon relevant specialist expertise to ensure the work is conducted to the highest standard. To achieve this, the information and needs presented in this report should be used as the basis for the definition of a research strategy to investigate the battle and battlefield. This will be required in order to guide the research and enable the production of a costed project design for a major programme of investigation, which is an essential prerequisite to any re-interpretation of the battle.

The importance of such a study cannot be overemphasised. When one reviews the evidence of the terrain and the action, even in its currently incomplete form, one begins to see that, rather than being a foregone conclusion decided by treachery, Bosworth

might prove to have been a hard won battle decided by the tactical brilliance of the senior rebel commander, perhaps even exploiting a disastrous miscalculation by Richard in the form and position of his battle array. Richard, although he had the advantage of numbers and of the choice of the ground on which the battle was to be fought, may have failed to adequately protect his flanks from attack. He may have placed his unusually long battle array, presumably intended to overwing the enemy, in a position where it was not just unwieldy but constrained by the terrain and unable to adequately respond to Oxford's outflanking move. In other words this most significant of English battles may prove to have been won and lost on the field through the tactical exploitation of the terrain. It is thus a battle well worth detailed study, where the understanding of the historic terrain, of the initial deployments within it, and of the movement of the action across that terrain may even reveal a quite different story to any of those which have been previously told. In so doing it may also cast valuable light on the nature of warfare in the 15<sup>th</sup> century.

The initial data collection conducted in the present project, on the documentary and archaeological record and on the survival of the historic landscape, has been assessed against the background of the current state of knowledge in battlefield studies in Britain. This would indicate that the problem of the exact location of the battlefield can be resolved by an adequately funded intensive campaign of investigation over a minimum 3 year timescale. It is likely that certain components, particularly the historic terrain reconstruction, could however be delivered in a shorter timescale of 6 – 12 months. This whole programme should be guided by a research agenda and strategy and implemented in line with a fully costed project design.

The detailed study of the battlefield should apply a methodology of systematic investigation integrating the techniques of military history, historical geography and landscape archaeology.<sup>205</sup> It should work at the cutting edge of battlefield studies, drawing lessons from the important ongoing archaeological work at Towton, and has the potential to provide an exemplar for all future studies on later medieval battles across Europe.<sup>206</sup>

The primary sources for the military history need to be re-analysed in the light of current knowledge of military practice of the later 15<sup>th</sup> century to define the likely scale and form of deployments and key elements of the action with the related topographical clues. The evidence this provides should then be placed within the contemporary historic terrain, determined by a comprehensive reconstruction of the historic landscape of the townships of Shenton, Sutton Cheney, Dadlington, Stoke Golding and Upton, following established principles of battlefield study.<sup>207</sup> The detailed analysis of the deployments and the action should however only be undertaken when the results of at least three years of systematic metal detecting survey have been completed to recover a representative sample of the battle archaeology. That survey should be reassessed after the first season to determine whether or not the expected results are being achieved and the methodology reviewed in the light of the conclusions.

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<sup>205</sup> Foard, in preparation.

<sup>206</sup> Sutherland and Schmidt, 2003.

<sup>207</sup> Foard, Ibid.

**As part of the survey a research archive should be compiled consisting of a full bibliography, a comprehensive collection of transcripts and translations of primary sources, and a full collection of secondary works; comprehensive records of all archaeological data for the battlefield and as far as practicable copies of all relevant documentary data on the historic landscape. This should be in digital form, as far as practicable and allowable within copyright restrictions and permissions, and as far as possible it should be delivered on CD to researchers and where possible over the web. This should be developed as a component of both the interpretation and investigation projects and should ideally be based in the Visitor Centre for the use of visiting groups. All original data collected by the project should be submitted to the SMR and ideally a digital archive prepared for long term archiving by the Archaeology Data Service at York.**

**Such a programme of investigation will almost certainly have fundamental implications for the interpretation of the battle, both in terms of the exact location of the action and, particularly in the way in which the action related to the historic terrain, for the understanding as to how the battle was fought and why it had the outcome it did.**

## **Conservation of the battlefield**

**The work will also undoubtedly have major implications for the long term conservation of the battlefield. On present evidence the Registered Battlefield boundary would appear to cover much of the core of the battlefield and part of the area of the possible rout. However it does not encompass all of the marsh which represents the critical area of the rebel approach. Neither does it encompass much of the area over which the rout and execution is likely to have taken place, the potential site of the royal camp or site of a major element of the possible ‘execution’ during the rout adjacent to Sutton Cheney. However, any changes to the battlefield boundary should await the results of the recommended battlefield survey.**

## **Interpretive facilities**

**The conclusions of this report regarding the location of the action provide major challenges for the development of the interpretive facilities at the Battlefield Visitor Centre, because it demonstrates that the current presentation of the battle in the Centre and in the landscape is based on a flawed interpretation of the battle.**

**Only when the results of the recommended battlefield survey are available will it be possible for such an adequate new interpretation of the battle be prepared for the public. An interim revision of the current presentation should however be undertaken as soon as is practicable to take account of the revised interpretation. The major new initiative for the presentation of the battle in the Battlefield Centre and in the landscape should be designed and implemented in a staged process to take account of the ongoing results of a minimum three season programme of battlefield investigation with completion following analysis at the end of the third season. The redesign of the scheme of presentation within the visitor centre and in the landscape should therefore be developed in parallel with, and not before, the conduct of this investigation.**

The potential exists for the investigation to provide the basis for the most vibrant of temporary interpretive presentations which follows the progress of the research and is then replaced, probably in stages, by a wholly reworked interpretive scheme as the conclusions of the investigation become available. It is therefore recommended that a detailed investigation programme is designed and costed to represent the first component of an HLF funded project proposal, to be accompanied by a staged process of reinterpretation for the visitor developed in parallel with the investigations. The full potential for graphic presentation of the battle and battlefield which would be enabled by the survey programme should be exploited in the presentation to the public, both in the Battlefield Centre and, if possible, on line.

Figure 16: Simplified 3D image of historic terrain with conjectural deployments

Although it is desirable that interpretative facilities be located away from the core of any battlefield, it is a concern that the Bosworth Battlefield Centre is apparently so far from the centre of the action. This raises various practical problems regarding the interpretation of the battle from the current Battlefield Visitor Centre, for the Centre does not have even a distant view of the battlefield, due to the presence of Ambion Wood. It is essential that a battlefield Centre should provide the visitor with direct access to the core of the battlefield as the appreciation of the events of the battle within the context of the landscape is an essential component, indeed should be the primary focus, of any visit to a battlefield. This is a serious challenge for which proposals need to be developed before a coherent interpretive scheme can be constructed.

## Key locations

There are a number of key locations that can already be identified where there are important conservation needs and interpretation potentials:

### *St. James Church, Dadlington:*

Site of the early 16<sup>th</sup> century chantry to the victims of the battle, expected to contain burials of substantial numbers of the dead from the battle. Any ground disturbance within the graveyard should be the subject of archaeological investigation defined in accordance with a research strategy for the battlefield. The site also has a high interpretive value as the only medieval building with a documented association with the battle.<sup>208</sup>

### *Crown Hill, Stoke Golding*

Traditional site of the crowning of Henry Tudor after the battle. Almost the whole of the close known in the 1840s as Crown Hill Close is still under pasture and contains well preserved earthworks of earthwork ridge and furrow, cut by several substantial quarry pits, which may be the locations from which human remains and battle artefacts were reported in the 18<sup>th</sup> century. It has excellent if somewhat distant views across the battlefield and has a high conservation and interpretive value.

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<sup>208</sup> Parry, 1993.

### ***Fen and ridge and furrow area***

There are several fields which contain areas of former marsh which appear not to have been heavily disturbed by modern cultivation. Also of significance are the deep drainage channels which run through the former marsh which may represent the course of the 16<sup>th</sup> century ditches which first drained the marsh. There are also several fields of ridge and furrow in fields abutting these closes which represent very well the pattern of the medieval landscape in 1485. There are also a number of other ridge and furrow fields within the general area of the battlefield, at least one also containing earthworks of the abandoned channel of the Sence brook. All have a high interpretative value and their long term conservation should be secured.

### ***Fenn Lanes***

The Roman road known as Fenn Lanes appears to have been a key component of the landscape of 1485, especially its two crossing points over the probable marshes. The whole of the length of this route across the battlefield, including the area in close proximity to the present course as the Roman and medieval course may be slightly different from the present in some places, should be subject to archaeological evaluation should any potential threat arise. By far the most significant locations may be the points at which it crossed the marshes, where the presence of any causeway and any ford should be sought.

### ***Whitemoors car park and permissive path from Whitemoors to Bosworth Battlefield Centre***

Although this car park and permissive path is peripheral to the current interpretation of the battlefield, it lies close to the heart of the battlefield as now understood. Any decisions on the future of this facility should await the results of the intensive battlefield study.



## APPENDICES

### ***Appendix 1: 1940s Vertical Air Photographs (VAPs)***

All VAPs from 1940s relevant to battlefield that are in NMR and in LRO have been examined. All VAPs listed below in bold text have been scanned, warped and registered in GIS, either in this project (VAPs from LRO) or by the Battlefields Trust (VAPs from NMR) which have been made accessible by the Trust for this project. Where listed in italics the photos have been seen at NMR but no copies obtained as they contain no major data additional to those copied, although in a full survey project all these additional air photos should be examined and any additional data transcribed into GIS. No 1950s or later VAPs were examined but it is also recommended that these are examined in a full project to establish if they contain any additional information. The 1940s VAPs not listed here but appearing on the printout coversearch (28/08/2003) from NMR held by the Battlefields Trust are not considered worth further examination.

**106g\_uk\_636\_4294** LRO, *NMR*  
**106g\_uk\_636\_4295** LRO, *NMR*  
**106g\_uk\_636\_4296** LRO, *NMR*  
**106g\_uk\_636\_4297** NMR, LRO  
**106g\_uk\_636\_4298** LRO, *NMR*  
**106g\_uk\_636\_4299** NMR, LRO  
**106g\_uk\_636\_4300** LRO, *NMR*

**cpe\_uk\_2555\_3023** LRO, *NMR*  
*cpe\_uk\_2555\_3024* NMR  
**cpe\_uk\_2555\_3025** NMR, LRO  
**cpe\_uk\_2555\_3026** NMR  
*cpe\_uk\_2555\_3027* NMR  
**cpe\_uk\_2555\_3028** NMR  
**cpe\_uk\_2555\_4023** LRO, *NMR*  
*cpe\_uk\_2555\_4024* NMR  
**cpe\_uk\_2555\_4025** LRO, *NMR*  
*cpe\_uk\_2555\_4026* NMR  
**cpe\_uk\_2555\_4027** LRO, *NMR*  
*cpe\_uk\_2555\_4028* NMR  
*cpe\_uk\_2555\_4204* NMR  
**cpe\_uk\_2555\_4205** NMR  
**cpe\_uk\_2555\_4206** NMR  
**cpe\_uk\_2555\_4207** NMR  
**cpe\_uk\_2555\_4208** NMR

**541 212 3027** LRO, *NMR*  
**541 212 3029** LRO, *NMR*  
541 212 3030 *NMR*

<b>541 212 3031</b>	<b>LRO, NMR</b>
541 212 3032	NMR
<b>541 212 3033</b>	<b>LRO, NMR</b>
541 212 3034	NMR
<b>541 212 3035</b>	<b>LRO, NMR</b>
541 29 4115	NMR
541 29 4065	NMR
541 29 4066	NMR
541 29 4067	NMR
541 251 3024	NMR
541 251 3025	NMR
541 251 3026	NMR
541 251 3027	NMR
541 251 3028	NMR
541 251 4024	NMR
541 251 4025	NMR
541 251 4026	NMR
541 251 4027	NMR
541 251 4028	NMR
541 213 3029	NMR
541 213 3030	NMR
541 213 3031	NMR
541 213 3032	NMR
541 213 3033	NMR
541 213 3034	NMR
541 213 3035	NMR

## **Appendix 2: Documentary sources consulted at LRO**

DE900	reconstruction of battle of Bosworth
SHENTON	
6 D43/19/6	survey
6 D43/31	estate map of 1727
6 D43/19/1	map of manor c.1727
6 D43/19/2	map of part of Shenton park 1727-32
PP 347	map of 1797
6 D43/30/1	plan of 1849
DE 4362/68	tithe map and award 1849
DG8/198	glebe terrier
DADLINGTON	
FNS 884	Field Name Survey
DE 76 D7 1/44	Tithe Map 1843
MF 258	Glebe terriers 1625, 97, 1825

1041/2/189-192 Glebe terriers 1674,90,97,1700

#### STOKE GOLDING

Ti/308/1 Tithe map 1844  
FNS 88/1,1a,2 Field Name Survey  
ID41/2/658 Glebe terriers  
12 D42 Typescript history  
12 D47/13 notes for same  
5 D33/199 typescript 1928

#### SUTTON CHENEY

PP 347 Enclosure map 1797 (the Award in PRO: enrolled on Common Pleas Recovery Roll; referenced by (Tate and Turner, 1978) has not been examined)  
DE 40/22/4 terrier & Survey  
DG8/198 glebe terrier (also listed under Shenton)  
1041/2/675 glebe terrier

### **Appendix 3: Bosworth Battlefield Survey**

A report by Richard Mackinder on fieldwalking and metal detecting survey 1999-2003.

#### **Fieldwalking**

Once a field has been chosen to be walked a computer-generated map is produced to a scale of 1:2500. Over this base map, an acetate with a pre-drawn 20m x 60m grid system is laid to produce a 'working area' map. The grid was laid out along the longest straight hedge. (Not necessarily in a north-south, or east west direction.) The field itself is then laid out using canes positioned in the middle of each grid (to aid the walker to maintain as much as possible a consistent 2m wide catchment area).

All pottery and flint is then picked and subsequently bagged on every grid walked. The bags are given a unique number. i.e. field, stint, traverse. The walker for each bag is deliberately not recorded.

Once the field had been walked, all finds are gently washed, dried and recorded.

All finds were recorded on an Excel worksheet under the following headings.

*Pre Roman Pottery*  
*Flint flake*  
*Flint implement*  
*Metal*  
*Roman Pottery*  
*Tile*  
*Coin*  
*Metal*

<i>Anglo Saxon</i>	<i>Pottery</i>
	<i>Coin</i>
	<i>Metal</i>
<i>Early Med</i>	<i>Pottery</i>
	<i>Coin</i>
	<i>Metal</i>
<i>Late Med</i>	<i>Pottery</i>
	<i>Coin</i>
	<i>Metal</i>
<i>Tudor</i>	<i>Pottery</i>
	<i>Coin</i>
	<i>Metal</i>
<i>Post Tudor</i>	<i>Pottery</i>
	<i>Coin</i>
	<i>Metal</i>

#### *Other Items*

Due to the large numbers of post medieval items recovered only a few were bagged, though all but the most modern roof tile brick were recorded.

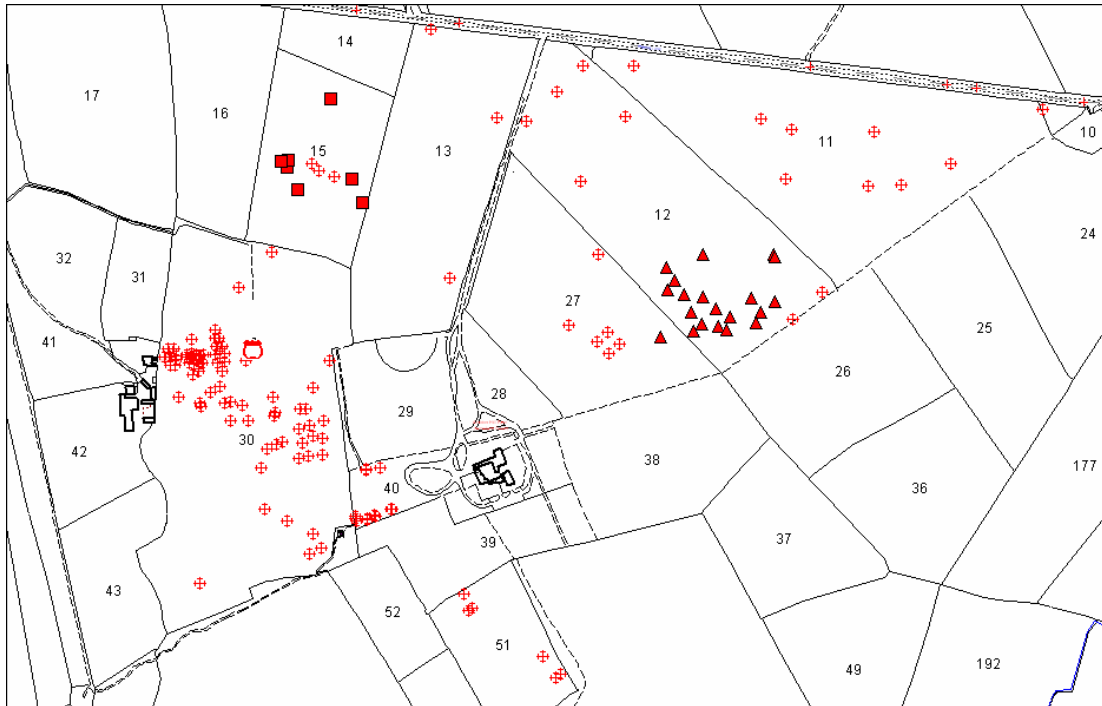
More recently the recording has been modified to:

<i>Prehistoric</i>	<i>Pottery</i>
	<i>Flint flake</i>
	<i>Retouch</i>
	<i>Flint implement</i>
	<i>Metal</i>
<i>Roman</i>	<i>Pottery</i>
	<i>CBM</i>
	<i>Metal/ Coin</i>
	<i>Glass</i>
<i>Saxon/Viking</i>	<i>Pottery</i>
	<i>Metal/ Coin</i>
<i>Medieval</i>	<i>Pottery</i>
	<i>Metal/ Coin</i>
	<i>Glass</i>
	<i>CBM</i>
<i>Post-Med</i>	<i>Pottery</i>
	<i>Metal/ Coin</i>
	<i>Glass</i>
	<i>Slag</i>

*Other relevant finds e.g. oyster shell, flint spheres etc.*

Once the finds have been recorded, the 'working area' map is scanned into the computer and used to generate the relevant 'period' layers in Map Info.

The resulting maps can then be interpreted.



The map above shows the Roman finds in the fields adjacent to the Battle Centre.

All of the walking and recording of finds has been undertaken by volunteers. Some of the fields have been walked by adult GCSE training groups. This undoubtedly has resulted in some of the fields being either unevenly walked or finds being incorrectly recorded. However there have always been 2 members of the team present at the recording stage. (Namely Jane Southgate and Richard Mackinder.)

Most recently a new method of walking the field has been introduced. This entails a small number of people (2 or 3) walking the chosen field in a more random method and spotting finds rather than bagging. The advantage of this is that one can quickly 'see' the area of concentration with regard to period. It also allows the finds to be left in the field for future researchers; but most importantly it allows us to cover a far larger area of ground every time we go out. The down side to this method is it does not allow an accurate mapping of finds; or confirmation of identification of finds.

## **Metal detecting**

The majority of the metal detecting has been undertaken using the 'random wander' method and subsequently plotted on the 'it was about there' method. A number of the fields immediately around the Battle Centre have been grided in a similar method to that used by the fieldwalkers. This method proved both unpopular with the detectorists and very slow. Also when only walking a 2m line in a 20m grid the chance of missing artefacts is greatly increased. With regard to metal detecting, we want to combine the 'random wander' method with a GPS machine so that all the finds can be accurately located and downloaded onto an Excel work sheet and subsequently put direct onto Map info tables.

*Richard Mackinder: November 2003*

**Appendix 4: Draft concordance of main primary sources for the battle**

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
date		10 took place on 22 August, 1485				
place		9 this battle, which was fought near Merevale, ...				
<b>Richard's army camped in tents</b>	1 The next day after King Richard, furnished thoroughly with all manner of things, drew his whole host out of their tents,					
<b>Henry advances</b>		1 The Earl of Richmond with his men proceeded directly against King Richard.				
<b>Richard's battalia</b>	2 and arrayeth his battle-line, stretching it forth of a wonderful length, so full replenished both with footmen and horsemen that to the	3 opposite the wing in which the Duke of Norfolk had taken up his position.	1 King Richard prepared his battles, where there was a vanguard and a rearguard; 3 The leader of the	1 When King Richard was certified of the near approach of Earl Henry in battle array, he ordered his lines		Norfolk deployed opposite Oxford

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	<p>beholders afar off it gave a terror for the multitude, and in the front were placed his archers, like a most strong trench and bulwark; of these archers he made leader John Duke of Norfolk. After this long battle-line followed the King himself, with a choice force of soldiers.</p>		<p>vanguard was Lord John Howard, whom King Richard had made Duke of Norfolk, granting him lands and lordships confiscated from the Earl of Oxford.</p> <p>4 Another lord, Brackenbury, captain of the Tower of London, was also in command of the van, which had 11,000 or 12,000 altogether ...</p>	<p>2 and entrusted the van to his grand chamberlain with 7,000 fighting men.</p>		
<p><b>Henry's preparation &amp; Thomas Stanley's failure to join</b></p>	<p>3.1 In the mean time Henry ... early in the morning [commanded] the soldiers to arm themselves,</p>					

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	<p>3.2 sending withal to Thomas Stanley, who was now approached the place of fight, as in the midway betwixt the two battles,</p> <p>3.3 that he would come to with his forces, to set the soldiers in array.</p> <p>3.4 He answered that the earl should set his own folks in order, while that he should come to him with his army well appointed. With which answer, given contrary to that</p>					



source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	was looked for, and to that which the opportunity of time and weight of cause required, though Henry were no little vexed, and began to be somewhat appalled, yet without lingering he of necessity ordered his men in this sort.					
<b>Henry's battalia</b>	3.5 He made a slender battle-line for the small number of his people; before the same he placed archers, of whom he made captain John Earl of Oxford; in the right wing of the	2 For his part, the Earl of Oxford, the next in rank in the army and a most valiant soldier, drew up his forces, consisting of a large body of French and English troops,	5 The French also made their preparations marching against the English, being in the field a quarter of a league away.			

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	battle line he placed Gilbert Talbot to defend the same; in the left verily he sat John Savage; and himself, trusting to the aid of Thomas Stanley, with one troop of horsemen, and a few footmen did follow;					
<b>Numbers Henry</b>	4 for the number of all his soldiers, all manner of ways, was scarce 5,000 besides the Stanleyans, whereof about 3,000 were at the battle, under the conduct of William.			5 (Lord Tamerlant) with 10,000 men,		8,000
<b>Numbers</b>	5		2			10,000 – 16,000

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
<b>Richard</b>	The King's forces were twice so many and more.		he had around 60,000 combatants and a great number of cannons.  12 The Earl of Northumberland, who was on the King's side with 10,000 men,			
<b>Arrayed at distance</b>	6 Thus both the battle lines being arrayed, when the armies could see one another afar off, they put on their head pieces and prepared to the fight, expecting the alarm with intente ear.					
			6 The King had the artillery of his army			

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
			fire on the Earl of Richmond,			
<b>Marsh between armies</b>	7 There was a marsh betwixt both hosts,					Marching in battalia
<b>F flank march</b>	8 which Henry of purpose left on the right hand, that it might serve his men instead of a fortress,		7 and so the French, knowing by the King's shot the lie of the land and the order of his battle,  8 resolved, in order to avoid the fire, to mass their troops against the flank rather than the front of the King's battle.		Then the blew bore [Oxford] the vanguard had; He was both warry and wise of witt;  The right hand of them [the enemy] he took' The sunn and wind of them to gett	
<b>Henry marching north west</b>	9 by the doing thereof also he left the sun upon his back;					

<b>source</b>	<b>Polydor Vergil</b>	<b>Crowland Chronicle</b>	<b>Jean Molinet</b>	<b>Diego de Valera</b>	<b>Ballads</b>	<b>commentary</b>
<b>Henry passes march</b>	10 but when the king saw the enemies passed the marsh,					
<b>Richard orders charge</b>	11 he commanded his soldiers to give charge upon them.					
<b>arrowstorm</b>	12 Suddenly making great shouts [they] assaulted the enemy first with arrows, who were nothing faint unto the fight but began also to shoot fiercely;					
<b>Hand to hand</b>	13 but when they came to hand strokes the matter then was dealt with blades.					
<b>Oxford</b>	14					Danger of Oxford

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
<b>disengages</b>	In the mean time the Earl of Oxford, fearing lest his men in fighting might be environed of the multitude, commanded in every rank that no soldiers should go above ten foot from the standards; which charge being known, when all men had throng thick together, and stayed a while from fighting,					being encompassed
<b>disengage</b>	15 the adversaries were therewith afear'd, supposing some fraud, and so they all forbore the fight a certain space, and that verily					

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	did many with right goodwill, who rather coveted the King dead than alive, and therefore fought faintly.					
<b>Oxford re-engages in triangular array</b>	16 Then the Earl of Oxford in one part, and others in another part, with the bands of men close one to another, gave fresh charge upon the enemy, and in array triangle vehemently renewed the conflict.					
<b>Henry's location</b>	17 While that battle continued thus hot on both sides betwixt the frontlines, King Richard understood,					

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	first by espials where Earl Henry was afar off with small force of soldiers about him; then after drawing nearer he knew it perfutely by evident signs and tokens that it was Henry;					
<b>Richard charges</b>	18 wherefore, all inflamed with ire, he strick his horse with the spurs, and runneth against him from the other side, beyond the battle-line.					
<b>Richard engages</b>	19 Henry perceived King Richard come upon him, and because all his hope was then in valiancy of arms, he					



source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	<p>received him with great courage. King Richard at the first brunt killed certain, overthrew Henry's standard, together with William Brandon the standard bearer, and matched also with John Cheney a man of much fortitude, far exceeding the common sort, who encountered with him as he came, but the King with great force drove him to the ground, making way with weapon on every side.</p> <p>But yet Henry abode the brunt far longer</p>					

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	than ever his own soldiers would have weened, who were now almost out of hope of victory,					
<b>Wm Stanley engages</b>	20 when as lo William Stanley with three thousand men came to the rescue:		11 The vanguard of King Richard, which was put to flight, was picked off by Lord Stanley who with all of 20,000 combatants came at a good pace to the aid of the Earl.	3 My Lord Tamerlant with King Richard's left wing 4 left his position and passed in front of the King's vanguard 6 then, turning his back on Earl Henry, he began to fight fiercely against the King's van, and so did all the others who had		

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
				plighted their faith to Earl Henry.		
<b>flight</b>	21 then truly in a very moment the residue all fled, and King Richard alone was killed fighting manfully in the thickest press of his enemies.	6 For in the thick of the fight, and not in the act of flight, King Richard fell in the field, struck by many mortal wounds, as a bold and most valiant prince.	15 The King bore himself valiantly according to his destiny, and wore the crown on his head;  16 but when he saw this discomfiture and found himself alone on the field he thought to run after the others.  17 His horse leapt into a marsh from which it could not retrieve itself.  18	8 But in the end the King's army was beaten and he himself killed,		

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
			<p>One of the Welshmen then came after him, and struck him dead with a halberd,</p> <p>19 and another took his body and put it before him on his horse and carried it, hair hanging as one would bear a sheep.</p>			
<b>Potential for Richard to escape</b>	<p>28 The report is that Richard could have saved himself by flight. His companions, seeing from the very outset of the battle that the soldiers were wielding their arms feebly and sluggishly, and that</p>			<p>7 Now when Salazar, your little vassal, who was there in King Richard's service, saw the treason of the King's people, he went up to him and said: 'Sire, take steps to put</p>		

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	<p>some were secretly deserting, suspected treason, and urged him to fly. When his cause obviously began to falter, they brought him a swift horse. Yet he, who was not unaware that the people hated him, setting aside hope of all future success, allegedly replied, such was the great fierceness and force of his mind, that that very day he would make an end either of war or life.</p>			<p>your person in safety, without expecting to have the victory in today's battle, owing to the manifest treason in your following'. But the King replied: 'Salazar, God forbid I yield one step. This day I will die as a King or win'. Then he placed over his head-armor the crown royal, which they declare to be worth 120,000 crowns, and having donned his</p>		

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
				coat-of-arms began to fight with much vigour, putting heart into those that remained loyal, so that by his sole effort he upheld the battle for a long time.		
<b>Fight</b>	22 In the mean time also the Earl of Oxford after a little bickering					
<b>Rout &amp; execution</b>	23 put to flight them that fought in the front-line, whereof a great company were killed in the chase.		9 Thus they obtained the mastery of his vanguard, which after several feats of arms on both sides was dispersed.			? vanguard not front line?

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
			10 In this conflict was taken the Duke of Norfolk with his son. The former was taken to the Earl of Richmond, who sent him on to the Earl of Oxford who had him dispatched.			
<b>unengaged</b>	24.1 But many more forbore to fight, who came to the field with King Richard for awe, and for no goodwill,	4 In the place where the Earl of Northumberland was posted, with a large company of reasonably good men, no engagement could be discerned, and no battle blows given or received.	13 ought to have charged the French, but did nothing except to flee, both he and his company, and to abandon his King Richard, for he had an undertaking with the Earl of Richmond,			Northumberland clearly deployed in battalia

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
<b>flight</b>	24.2 and departed without any danger, as men who desired not the safety but destruction of the prince whom they hated.	8 and many, especially northerners, in whom the King so greatly trusted, took to flight without engaging...	14 as had some others who deserted him in his need.			
<b>Losses: Richard</b>	25 There were killed about a thousand men, and amongst them of noblemen of war John Duke of Norfolk, Walter Lord Ferrers, Robert Brackenbury, Richard Ratclyff and many more ...	7 [Many were slain] ..		9 and in this battle above 10,000 are said to have perished on both sides. Salazar fought bravely, but for all this was able to escape. There died most of those who loyally served the King,		
<b>Losses: Henry</b>	26 Henry lost in that battle scarce an					



source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	hundred soldiers, amongst whom there was one principal man, William Brandon, who bare Earl Henry's standard ...					
<b>duration</b>	27 the fight lasted more than two hours.					
		5 In the end a glorious victory was given by heaven to the Earl of Richmond, now sole King, along with a most precious crown, which King Richard had previously worn on his head.				
<b>Henry to next hill</b>	29 ...Henry, after the					Is 'next' really 'adjacent'?

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	victory obtained, gave forthwith thanks unto Almighty God for the same; then after, replenished with joy incredible, he got himself unto the next hill,					
<b>Burial and medical treatment</b>	30 where, after he had commended his soldiers, and commanded to cure the wounded, and to bury them that were slain,					
<b>crowning</b>	31 he gave unto the nobility and gentlemen immortal thanks.... [Upon Henry's head] Thomas					

source	Polydor Vergil	Crowland Chronicle	Jean Molinet	Diego de Valera	Ballads	commentary
	Stanley did ... set anon King Richard's crown, which was found among the spoil in the field ... as though by commandment of the people proclaimed king...					
				10 and there was lost all the King's treasure, which he brought with him into the field		

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This bibliography contains various secondary works that were not consulted in the present study but which may be relevant to the issues. It does not however attempt to provide a definitive bibliography of the secondary or even the primary sources. That is something that should be an initial objective in a detailed battlefield survey project, working from all the existing secondary works to compile a comprehensive bibliography for the battle.

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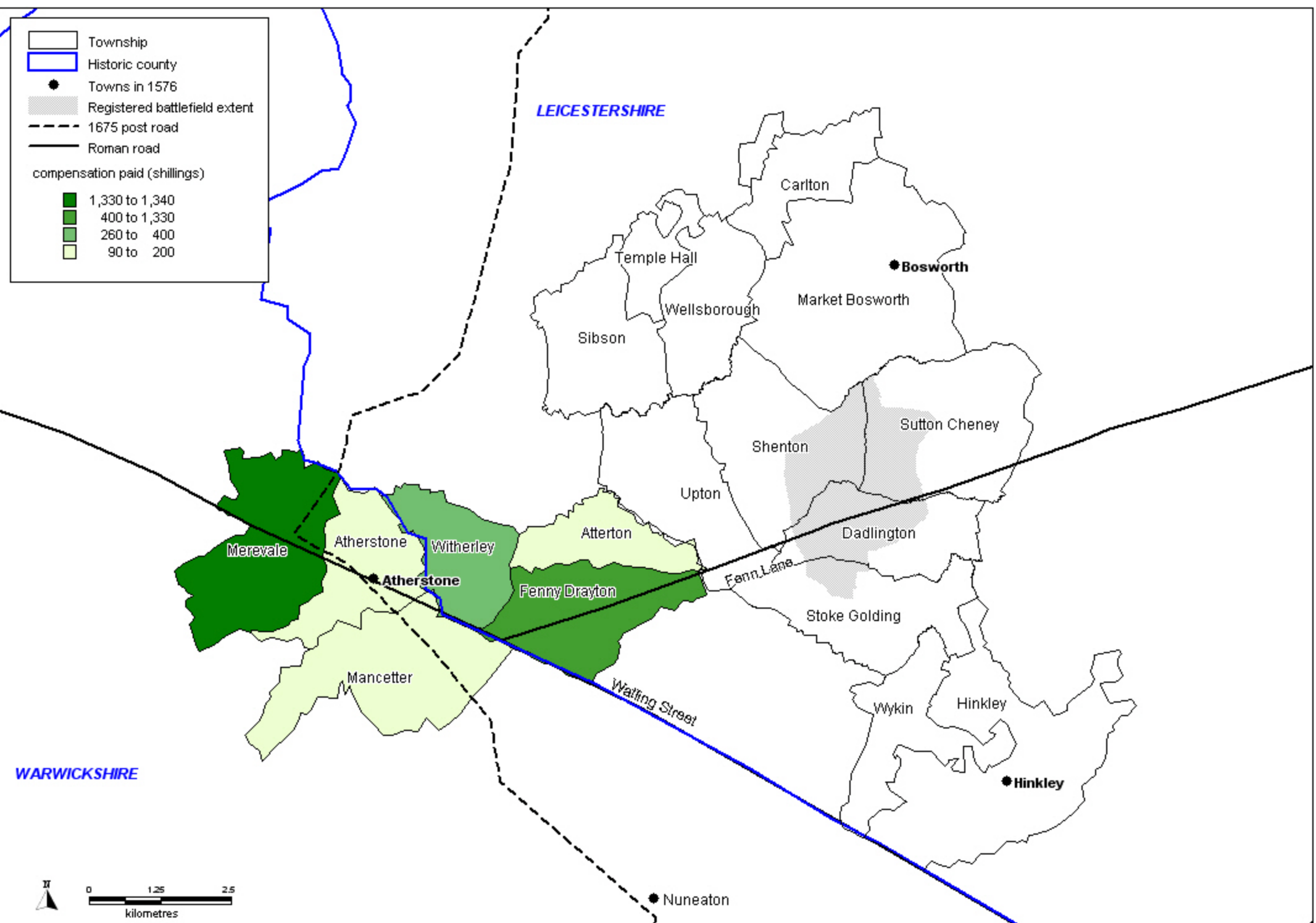
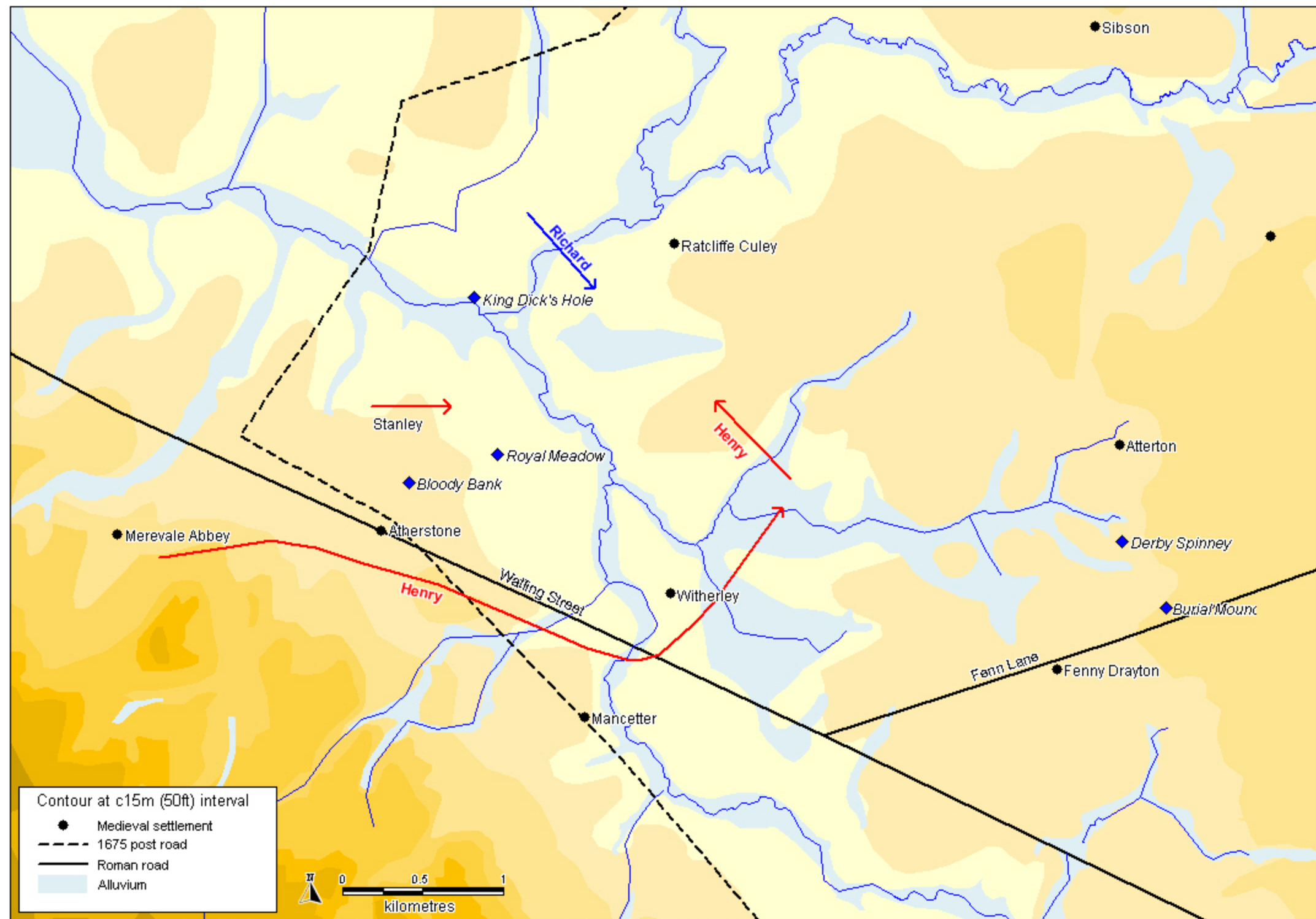


Figure 2: Location map (townships after Kain & Oliver 2001)





Battlefield as suggested by Jones. (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)

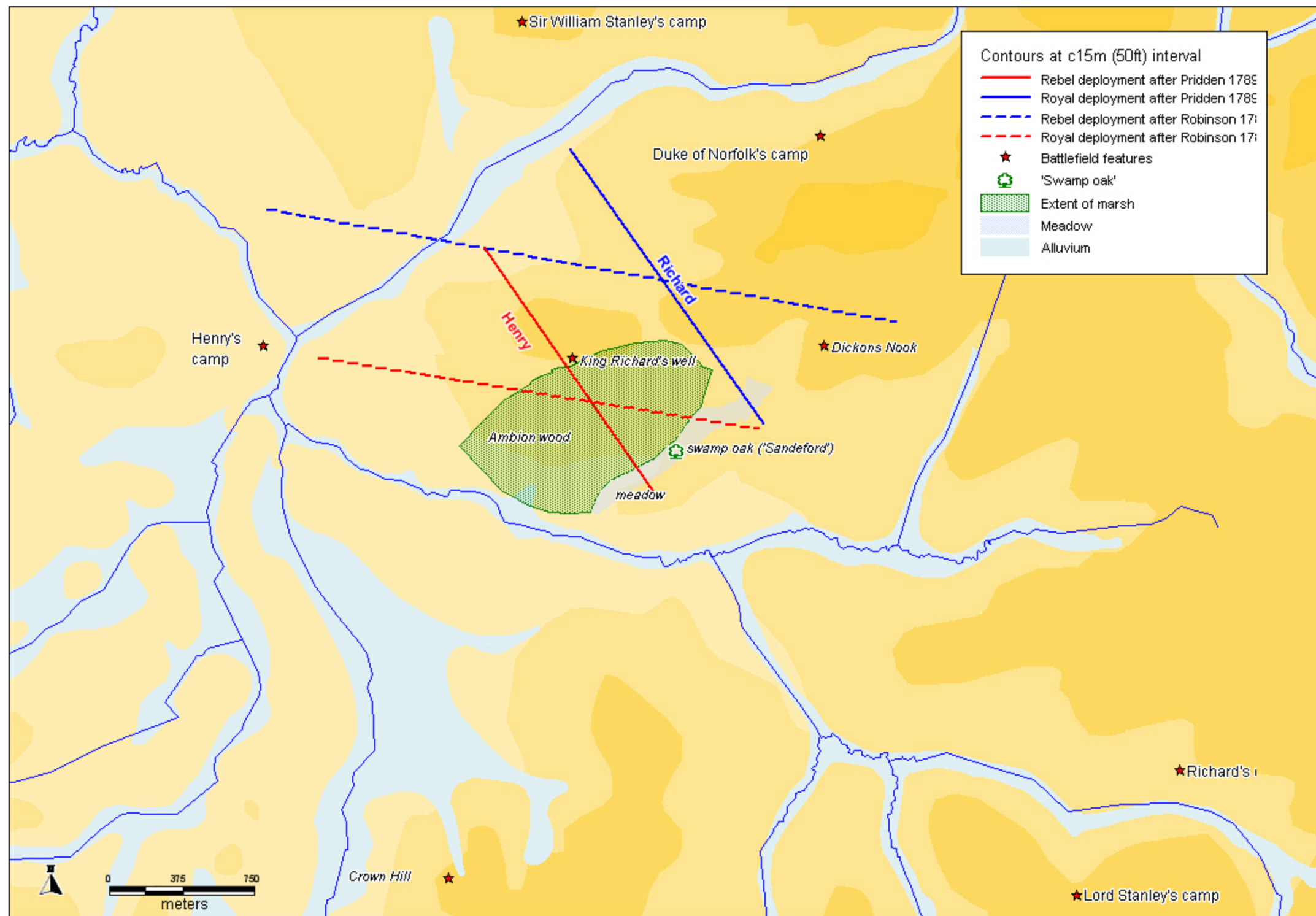


Figure 4: Deployments from Hutton (1813). (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)

Contours at c15m (50ft) interval

- >>>> Royal rout/flight
- Rebel advance
- Royal advance
- Royal army
- Rebel army

- ✂ 'Sandeford'
- ▨ Extent of marsh
- Roman road
- 1880s settlement area
- Alluvium

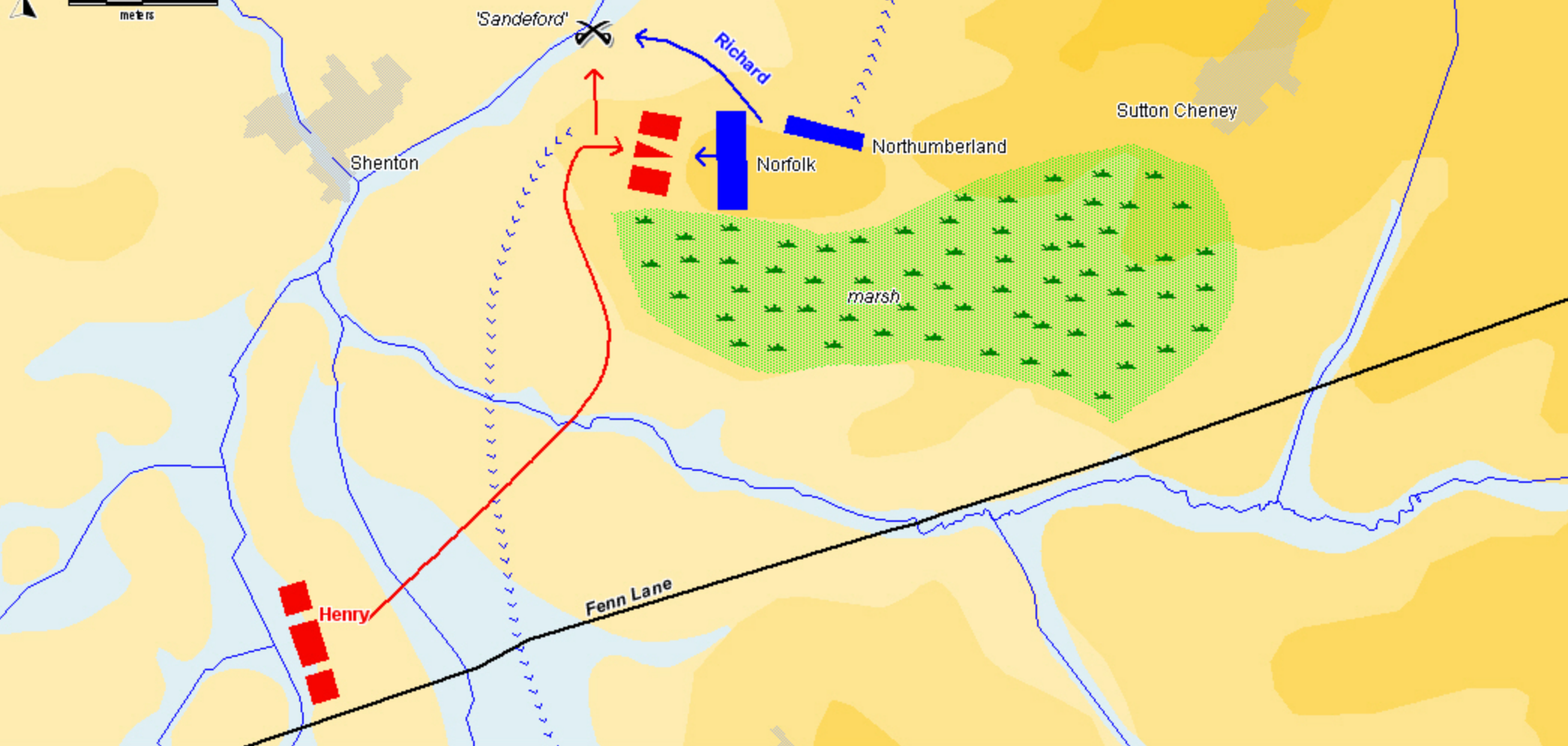
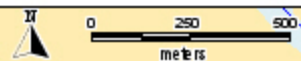


Figure 5: Deployments from Williams (2001). (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)



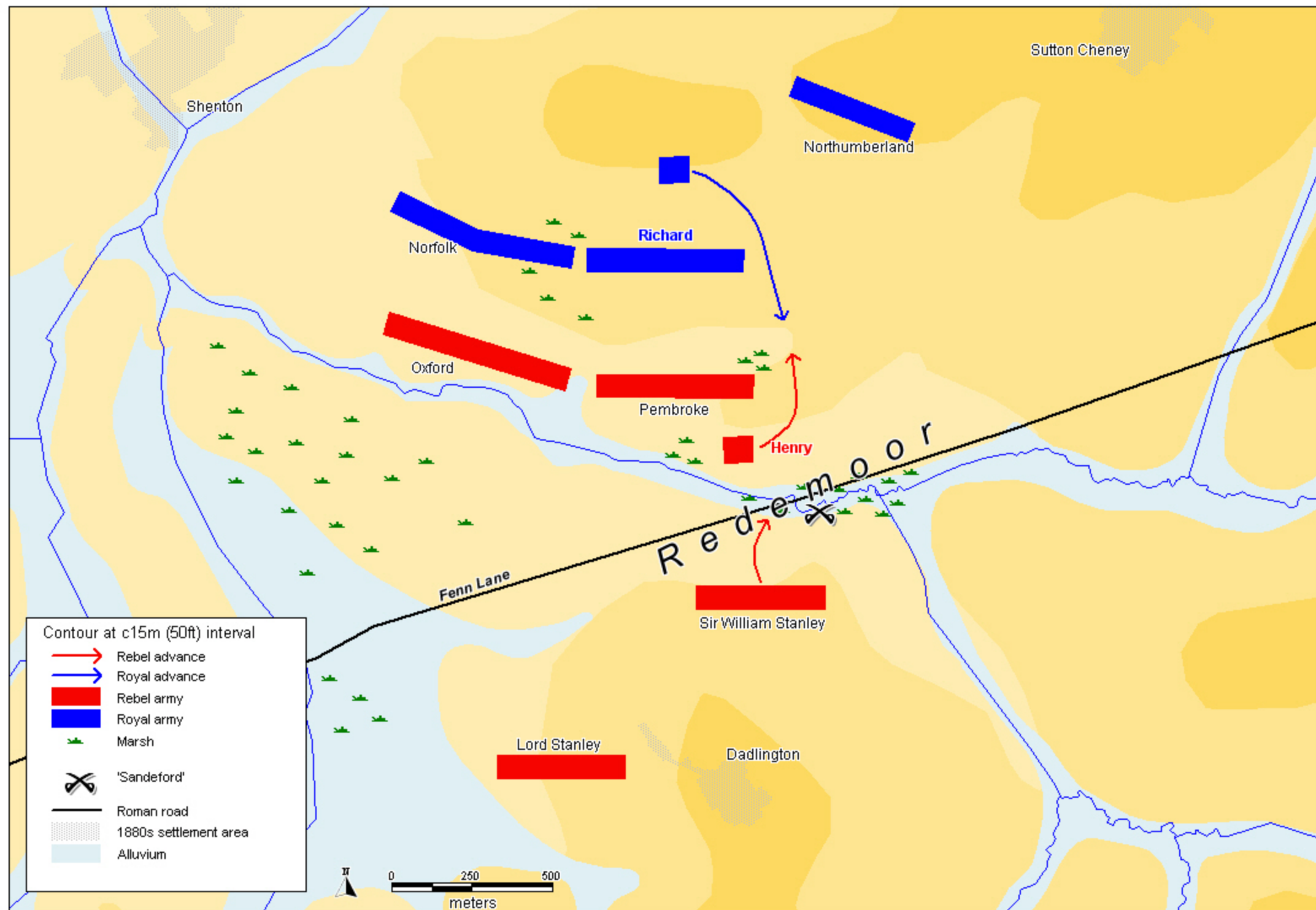


Figure 6: Deployments from Wright (2002). (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)

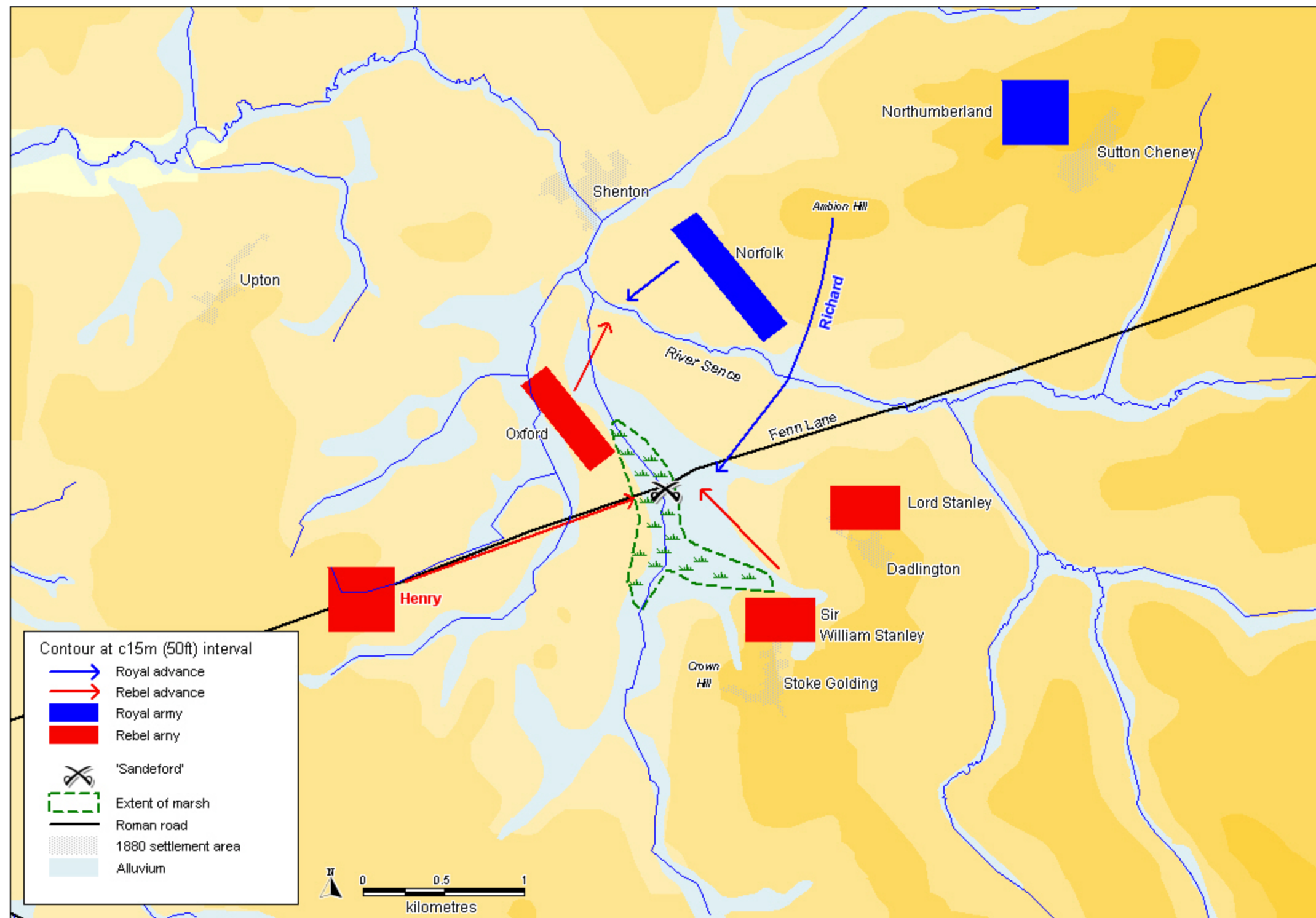


Figure 7: Deployments from Foss (1998). (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)



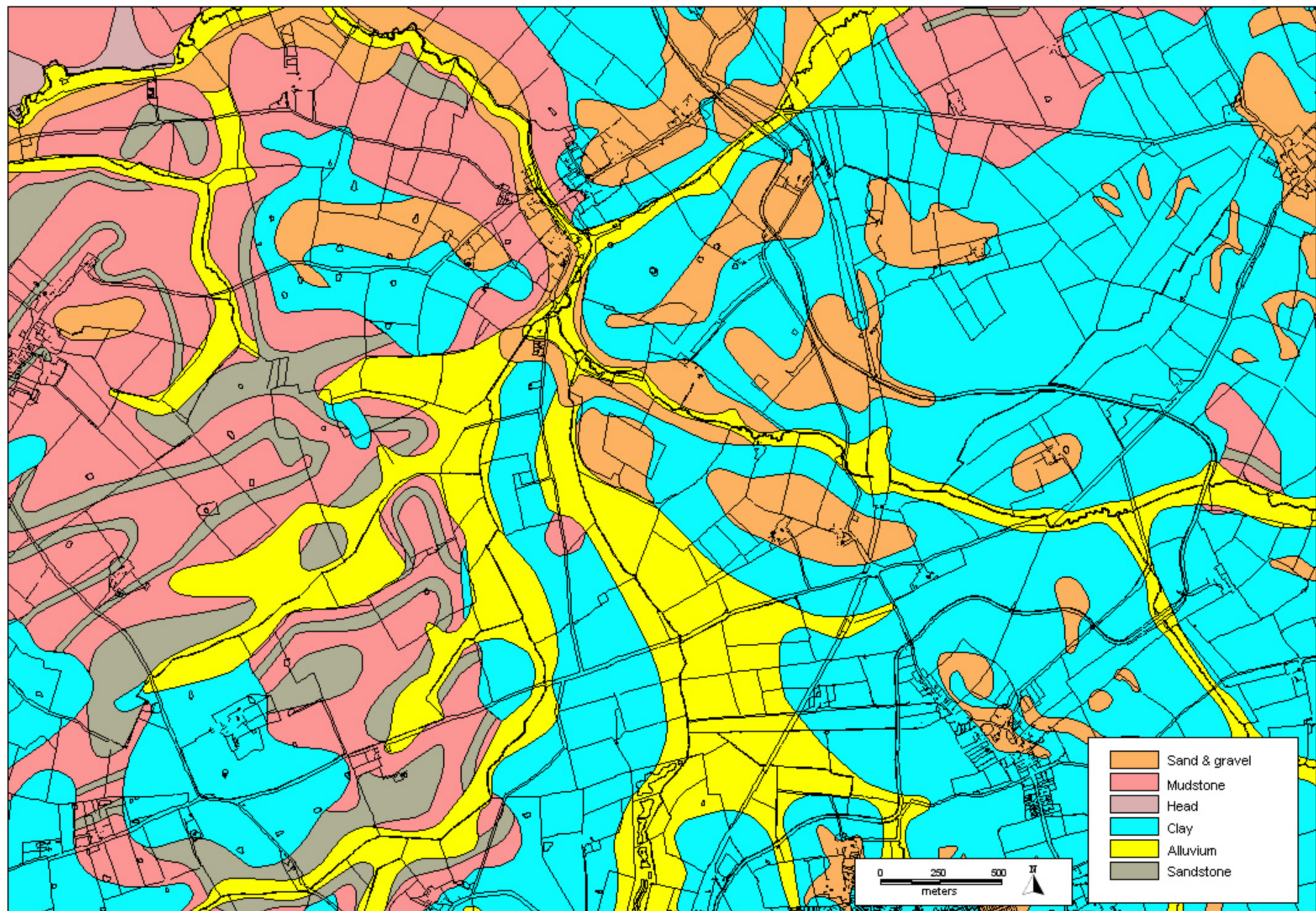


Figure 8: Simplified surface geology on OS landline map base. (Derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC; Ordnance Survey © Crown copyright. All rights reserved. LCC: Licence No. 076724)

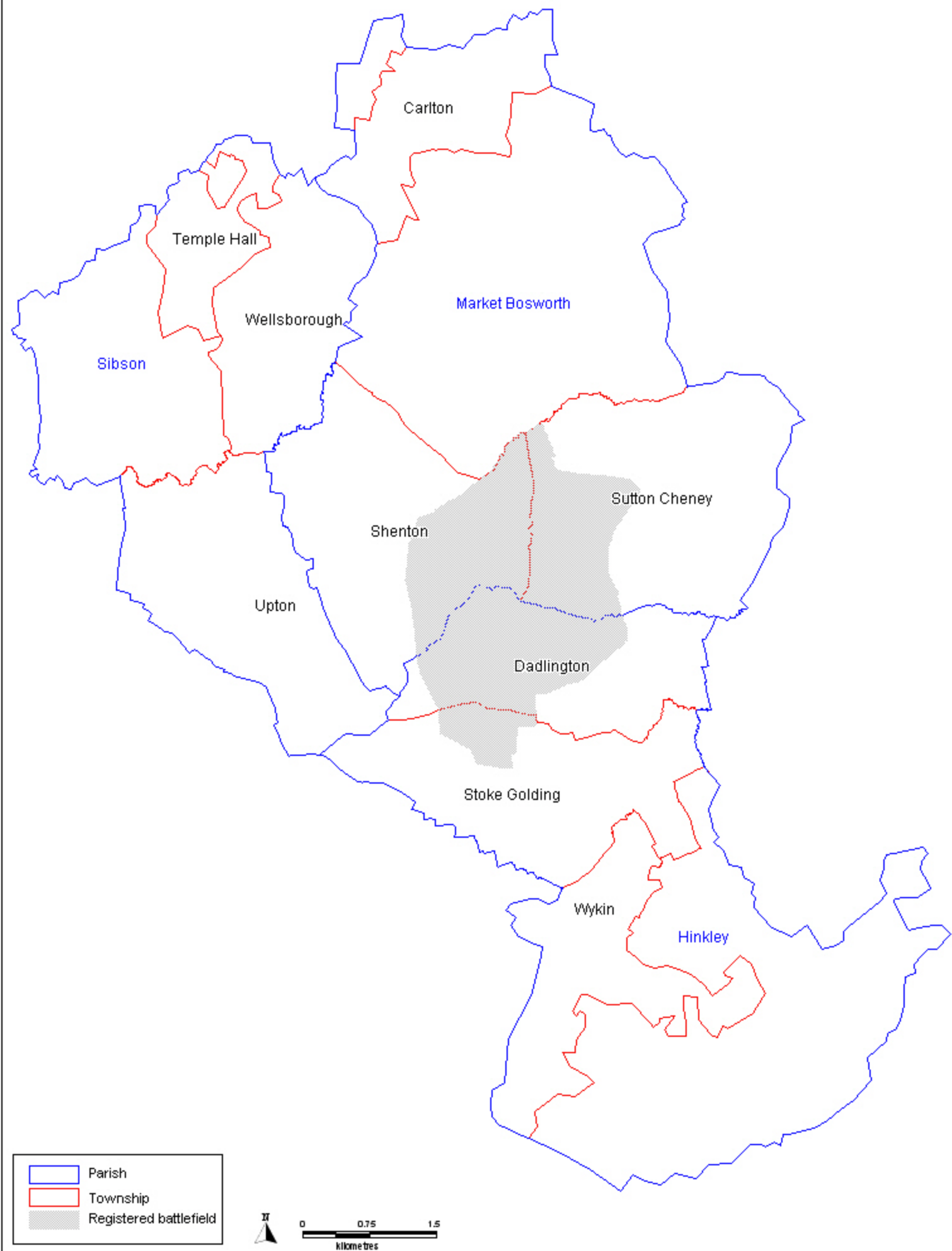


Figure:9 Battlefield historic parishes and townships (after Kain & Oliver, 2001)



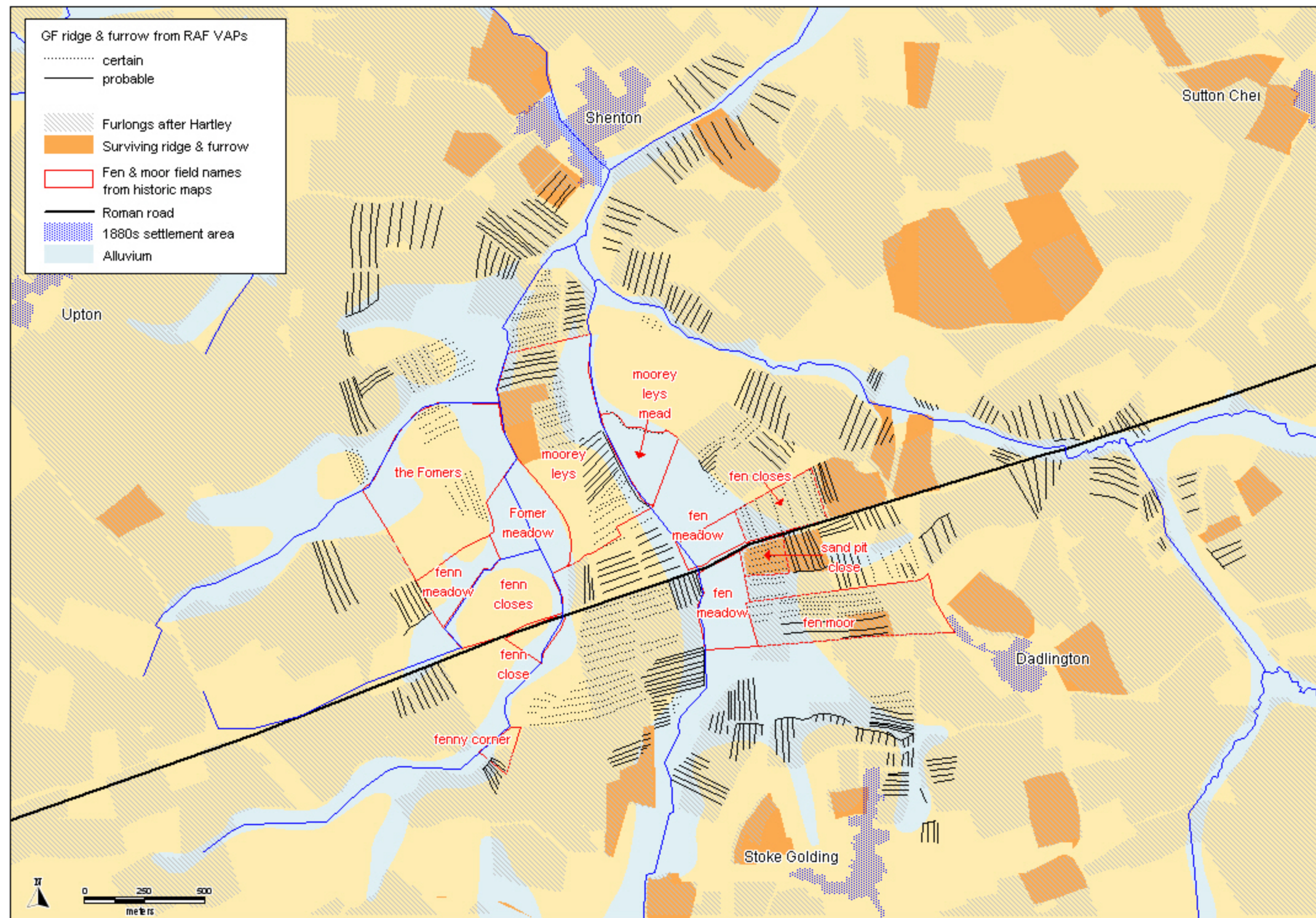


Figure 10: Distribution of ridge & furrow with marsh related field names. (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)



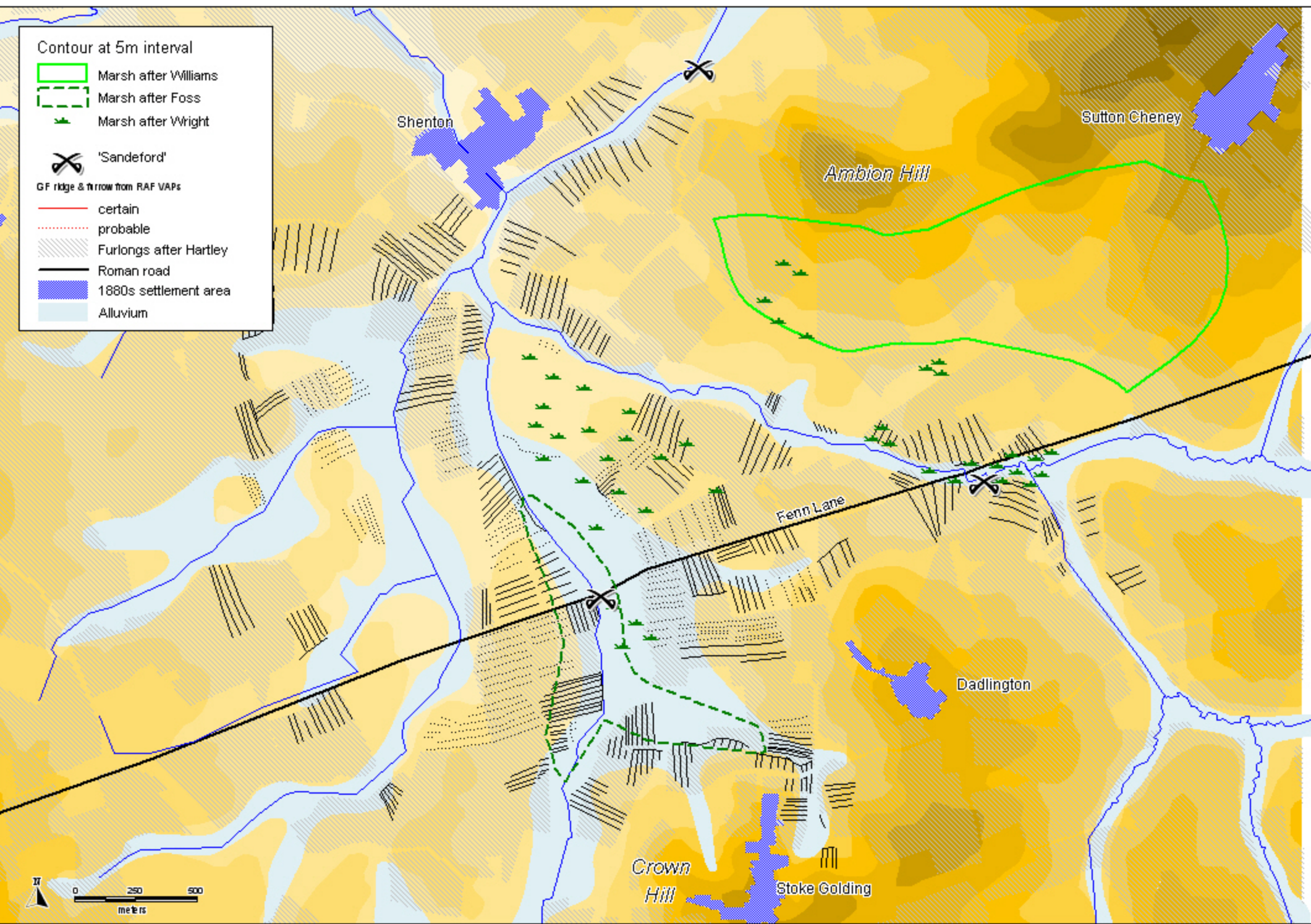


Figure 11: Review of terrain reconstruction in previous studies. (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)



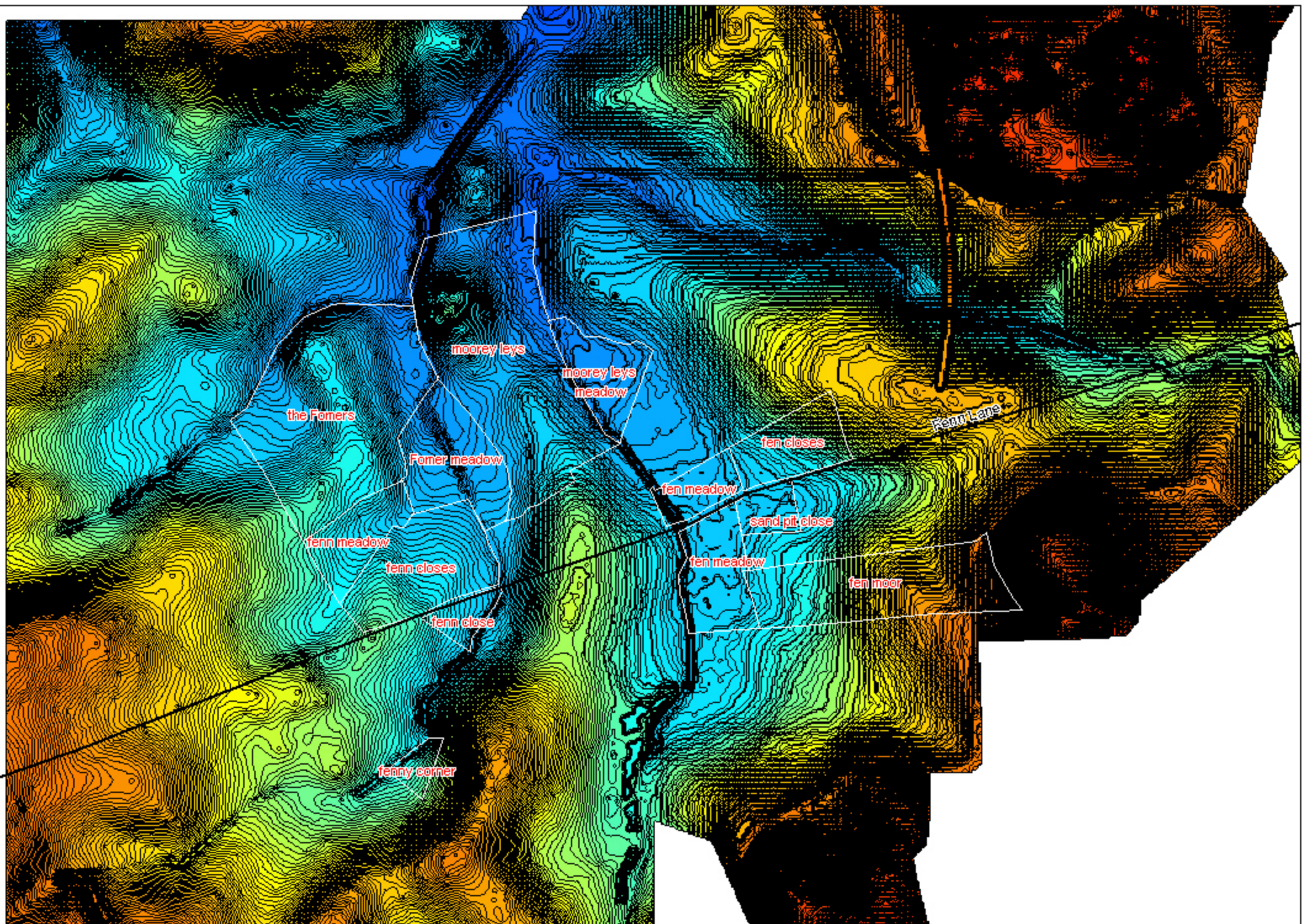


Figure 12: Location of marsh indicated by 10cm contouring with fen, moor and mire related field names. ( Contour from NEXTmap Britain dtm.)



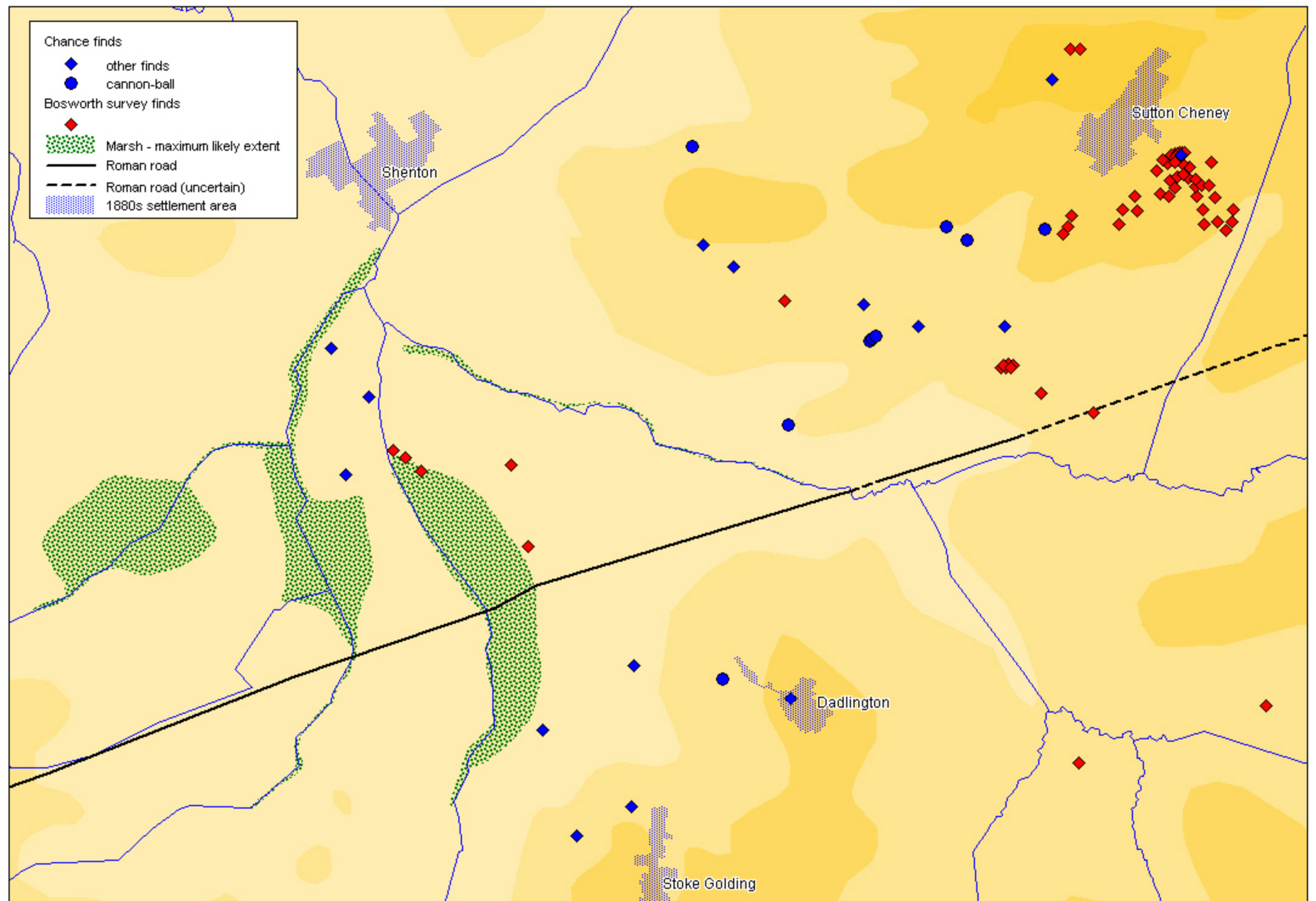
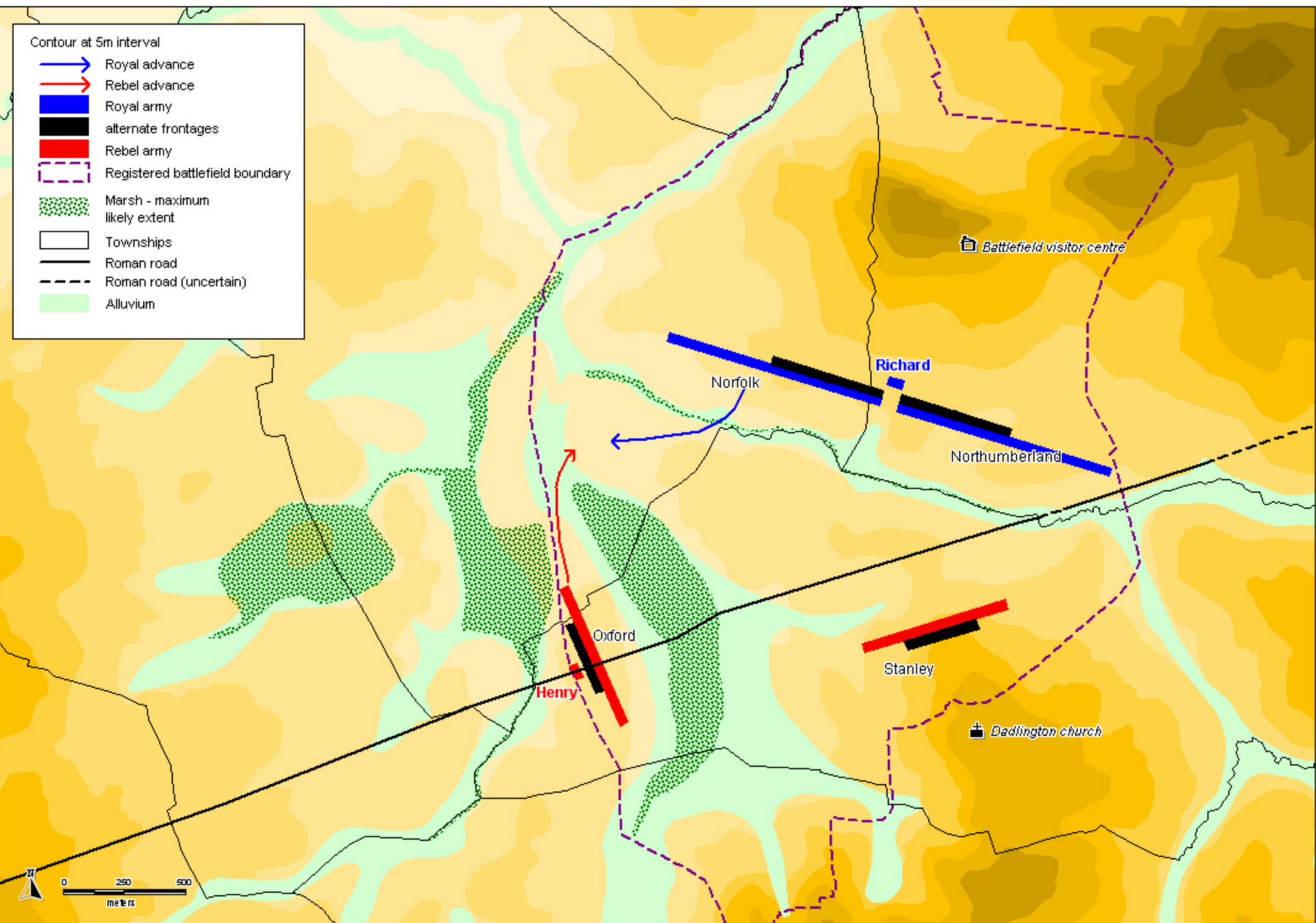
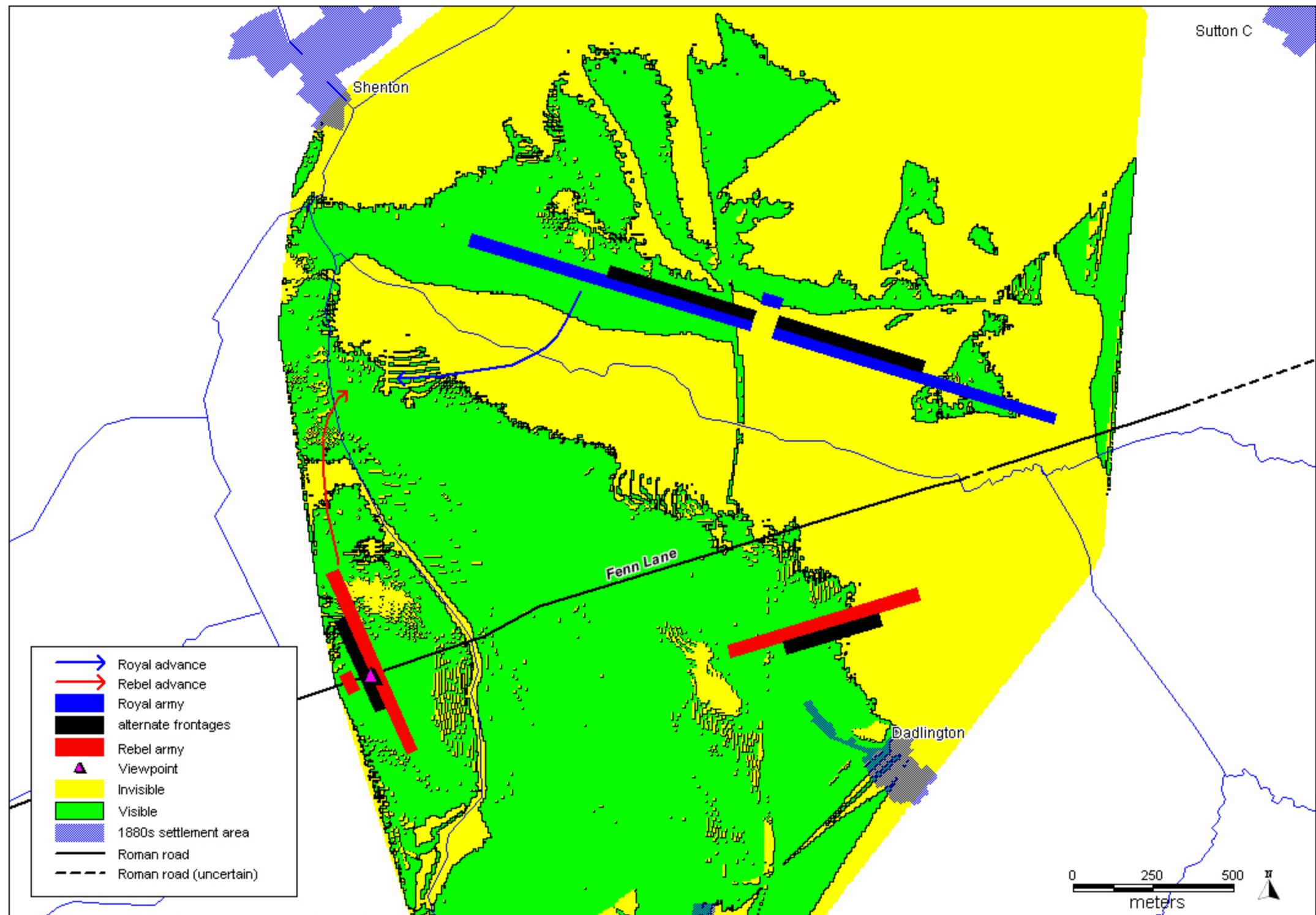


Figure 13: Archaeological evidence possibly related to the battle (from SMR & Bosworth survey)



- Contour at 5m interval
- Royal advance
  - Rebel advance
  - Royal army
  - alternate frontages
  - Rebel army
  - Registered battlefield boundary
  - Marsh - maximum likely extent
  - Townships
  - Roman road
  - Roman road (uncertain)
  - Alluvium

Figure 14: Conjectural reconstruction of terrain and deployments. (Alluvium derived from 1:10,000 scale BGS Digital Data under Licence No 2001/004, British Geological Survey. ©NERC.)



Sutton C

Shenton

Fenn Lane

Dadlington

- Royal advance
- Rebel advance
- Royal army
- alternate frontages
- Rebel army
- ▲ Viewpoint
- Invisible
- Visible
- 1880s settlement area
- Roman road
- Roman road (uncertain)



Figure 15: Viewshed from highest point of Henry's army. ( from NEXTmap Britain dtm.)



