# Battle of Stow on the Wold (1646)

Archaeological Metal Detector Survey
2015–2022

Simon Marsh, Sam Wilson
The Battlefields Trust
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# Battle of Stow on the Wold (1646)

# Stow on the Wold

# Gloucestershire

## Archaeological Metal Detector Survey

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| Prepared by:<br>Date: | Sam Wilson, Battlefields Trust Archaeologist Advisor<br>Simon Marsh, Battlefields Trust Research and Threats Coordinator<br>November 2023 |
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*Email: research@battlefieldstrust.com*

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## SUMMARY

**Project Name:** Battle of Stow on the Wold (1646) archaeological survey
**Location:** Stow on the Wold, Gloucestershire
**NGR:** Various, but focused in fields between 418969, 228348 in the north to 418645, 226506 in the south
**Type:** Metal Detector Survey
**Date:** October 2015–November 2022
**Location of Archive:** To be returned to landowner or deposited in a relevant local museum (TBC).

Archaeological metal detector surveys were undertaken at Stow on the Wold in October 2015, April 2018, January 2019, January 2022 and November 2022 by a team from the Battlefields Trust.

The primary objective of the survey was to locate the battlefield of Stow on the Wold. Despite a small number of accounts from the second half of the 17th century and early 18th century placing the battlefield at Donnington, the traditional site of the battle at Horsington Hill, which is the historic battlefield registered by Historic England, is problematic. Its location in relation to the most likely route of royalist advance, distance from Stow and implications of its steep northern side, makes it an unlikely battlefield.

To locate the battlefield an iterative approach was adopted, initially in 2015 using a reconnaissance survey to target likely areas, with the resulting failure to find battlefield archaeology leading to further evaluation of the primary sources and a revised scheme of investigation working outward from the town of Stow. The change in approach adopted in 2018 paid dividend with scatters of bullets located west of the Evesham Road (A424) to the south of Greenfield Farm. Survey work in 2019 and early 2022 investigated areas to the west, north and east of this initial scatter to test its extent. A final day of survey work was conducted in late 2022 on the traditional site of the battlefield to test whether any battle remains could be found there. The latter failed to find any Civil War battle related evidence.

A total of 33 bullets, mainly from cavalry weapons, along with two powder charge caps, a probable sword strap fitting and a probable gun flint were found during the survey in an area covering 13.5ha. Three further bullets of bores which do not conform to the calibre of 17th century pistols and a single piece of buckshot were also found, with the former discounted as being associated with later sporting activity. Together the finds have been interpreted as being located on the parliamentarian right wing and royalist left wing of the battle of Stow. Permission to investigate the probable area of the main infantry action or other cavalry wing was not forthcoming.

# 1. INTRODUCTION

1.1 Between October 2015 and November 2022 a team from The Battlefields Trust carried out an archaeological metal detector survey on land at Stow–on–the–Wold, Gloucestershire.

1.2 The survey was carried out in accordance with standard archaeological methodology for the investigation of historic battlefields, as outlined by Foard (2012, 2013).

## *The Site (Figure 1)*

1.3 A selection of fields from those centred on NGR 418969, 228348 in the north to that at NGR 418645, 226506 in the south were investigated over the course of the survey (see Figure 1 for details of survey areas). Fields were fallow or in pasture at the time of survey and some of those that were fallow had been recently ploughed. Most fields had a very high stone content probably brought about by the shallow soils over the limestone geology (Cleeve Cloud Member – Limestone and Chipping Norton Limestone Formation) (BGS Online viewer, 2023).

1.4 The surveyed fields lay both within the Historic England Registered Battlefield of Stow on the Wold (List Entry 1000037) and outside that area.

## *Historical Background - The Battle of Stow on the Wold (21 March 1646)*

1.5 By early 1646, with royalist fortunes waning badly in the Civil War, the King ordered Jacob, Lord Astley, his General for Worcestershire, Staffordshire, Herefordshire and Shropshire, to gather troops from garrisons in his command and proceed to Chipping Norton via Stow-on-the-Wold where he would be met by 1,500 soldiers from Oxford to form a royalist field army for the 1646 campaign. Astley gathered 2,000-3,000 men and probably departed Worcester on 17 March. He headed north to Droitwich as a feint, ostensibly to threaten the parliamentarian besiegers around Lichfield, before turning south through Alcester and crossing the river Avon at Bidford. The parliamentarian authorities had early warning of royalist plans and responded by ordering the

parliamentarian governors of Gloucester, Hereford, and Evesham to withdraw troops from their garrisons and join a detachment under Sir William Brereton, then besieging Lichfield, to prevent the conjunction of royalist forces.[1]

1.6 Brereton marched from Lichfield to Coleshill on the day Astley left Worcester with 800 horse and 200 firelocks (essentially dragoons), but delayed any further advance until he received intelligence on the whereabouts of the royalists. Meanwhile Parliament's Gloucester, Hereford, and Evesham forces had rendezvoused near Evesham on 16 March with Thomas Morgan, the governor of Gloucester, in command. Struggling to defend all the crossings on the Avon with a force of 1,600 men, Morgan decided to move across the river to Chipping Campden on 19 March as the routes from the crossing points on the Avon would take any royalist march on Stow toward Chipping Campden.[2]

1.7 After crossing the Avon at Bidford using a bridge of boats on 20 March, Astley then marched down the old Roman road, Buckle Street, toward Chipping Campden. Morgan ordered 500 cavalry and some infantry to intercept the royalists to slow their march in the hope that Brereton's force would soon come up; Morgan appears to have judged that he did not have sufficient men to be certain of victory as he sent away one of his cornets to seek cavalry reinforcements from the parliamentarian commander at Woodstock in Oxfordshire when the fighting near Campden commenced. The skirmishing there lasted around four hours until the royalists reached the top of the 'Camden hills' and the parliamentarians broke contact, by which time it was 8-9pm in the evening and dark.[3]

1.8 Brereton had marched from Coleshill to Stratford on 19 March before receiving incorrect intelligence late in the day that the royalists had turned back and 'bended [their] march toward Lichfield'. He therefore withdrew toward Birmingham and quartered around four miles from Stratford that night. Late at night he received further intelligence that the

[1] Sir Edward Walker, *Historical* Discourses, (London:1705), p.152; British Library Thomas Tracts (BL TT) E.329[7], Thomas Morgan, *Colonel Morgan's Letter*, (London: 1645[6]), pp.3-4; House of Lords Journal (LJ) Vol 8, (London, 1767-1830) pp.189-190. W.D. Hamilton, (ed.) *Calendar of State Papers Domestic 1645-1647*, (London: HMSO, 1891), p.368.

[2] Wing S139, R.S, *A True and fuller relation of the Battell fought at Stowe on the Would*, (London: 1646), unpag.; E.329[7], 3-5; Bodleian Library, MS Tanner 60 ff.560r-560v; Rev T.W. Webb (ed.), *Military memoir of Colonel John Birch*, (Hereford: Golden Valley Publications, 2004), p.34. Birch's account from late on 16 March 1646 indicates the forces rendezvousing at Evesham numbered 1,600 men. The later memoir written by his secretary (who may have been serving in a military capacity with Birch at the time of the battle) suggests there were 2,700 men in Morgan's command, but we have used the lower figure as likely being more accurate given it was written in the days leading up to the battle rather than some time afterwards.

[3] *Birch memoir*, 34; Wing S139, unpag.; E.329[7], p.4; Mary Anne Everett Green, *The Proceedings of the Committee for the Advance of Money*, Vol II (London: HMSO, 1888), p.713

royalists were 'within three miles' of his force, so he ordered his men to mount up immediately and marched to Knowle, around 13¾ miles north of Stratford, unsure whether his enemy were intent on relieving Lichfield. New intelligence on the morning of 20 March revealed the royalists had crossed the river Avon and that Morgan would face them, so Brereton reversed his march, arriving at Stratford by sunset where he learned of the fighting around Chipping Campden. After a slow crossing of the Avon at Stratford – the bridge was broken down and the horses could only cross on planks one at a time – Brereton reached the Camden hills by midnight and then continued toward Stow.[4]

1.9 Morgan had earlier resolved to continue the pursuit of the royalists, marching off at around 11pm after giving his opponents a two-to-three-hour head start. At around 3am Brereton caught up with Morgan's infantry and cavalry. The combined force then marched another mile before scouts reported that the royalists were just ahead of the parliamentarian army. Morgan ordered out 400 cavalry and 200 firelocks 'to charge home his [Astley's] rear-guard, to put him to a stand before he should pass through Stow upon the Wold'. This forced the royalists to deploy into battle array and the parliamentarian force did likewise before advancing to confront their enemy.[5]

1.10 Colonel John Birch, commanding the Hereford detachment, said battle commenced at break of day and Brereton noted the parliamentarians attacked between 4-5am. Dawn on 31 March (allowing for the ten days adjustment between the Julian and Gregorian calendars for when the battle was fought) is normally 5:08am GMT at Stow on the Wold, though first light occurs at 4:27am GMT.[6] On this basis the parliamentarian attack is likely to have occurred nearer 5am then 4am and certainly after 4:30am.[7]

1.11 The battle commenced with a general attack by the parliamentarians across the whole front. Their left wing of cavalry, apparently commanded by Birch, and infantry deployed in the centre, commanded by Morgan, were repulsed, but the right wing of horse and firelocks, under Brereton, had more success with their superior numbers and forced the royalist cavalry on that side of the battlefield to flee. The disintegration of the royalist left wing of cavalry occasioned a rout of the whole army, which then fled back to Stow, where further parliamentarian attacks were made before the royalists eventually surrendered.

[4] Wing S139, unpag.
[5] *Birch memoir*, pp.34-35; E.329[7], 5; BL TT E.348[1], John Vicars, *England's parliamentary chronicle*, (London: 1646), p.398
[6] See Sunrise and Sunset times for Stow-on-the-Wold, Gloucestershire on Thursday 31 March 2022 (thetimeandplace.info) for these calculations; LJ Vol 8, p.231;
[7] LJ, Vol 8, 231

Birch said the battle had lasted one hour and he, Brereton and Morgan sent a joint letter about the victory and the gathering of prisoners in the church to the Speaker of the House of Commons at 6am on 21 March, indicating the battle was over by this time.[8]

1.12 Aside from the traditional location of the battlefield on Horsignton Hill (the site registered by Historic England) other locations for the battlefield had, prior to the survey, been proposed. The Battlefields Trust had favoured a site north of Greenfield Farm (NGR: 418703, 226827) across the Evesham Road. Another site centred on NGR 419127, 227114 had separately been suggested.

## *Archaeological objectives*

1.13 The principal objective of the metal detector survey was to find physical evidence of fighting to pinpoint the location of the Civil War battlefield of Stow on the Wold. Secondary aims included providing information about the state of the archaeological resource associated with the battle, including its presence/absence, character, extent, integrity, state of preservation and quality. It aimed to recover unstratified metallic artefacts relating to the battle from the fields surveyed.

1.14 In accordance with the *Standard and Guidance for Archaeological Field Evaluation* (IfA 2009), the metal detector survey was designed to be minimally intrusive and minimally destructive to archaeological remains.

## *Metal Detecting Methodology*

1.15 The metal detector survey was undertaken in five phases. Phase 1 (4- 9 October 2015) focused on the fields marked 2015 in Figure 1. All survey areas were split into a series of parallel 10m transects set out across the field, which provided approximately 20 percent coverage of the fields. Transects were marked on the ground using temporary markers in the form of colour-coded flags, to ensure the detectorist did not deviate from the determined transect. All such markers were removed from site at the completion of each survey day. High specification metal detectors were used along with sub-metre GPS for recording the location of all finds and detected transects. Ten metre transects were

[8] Wing S139, unpag.; *Birch memoir*, p.35; E.329[7], p.5; Walker, p.52; LJ Vol 8, p.231; Bodleian Library, MS Tanner 60, ff.586r-587r.

deemed a sufficient intensity to locate Civil War artefacts, had the detected area been in a location where fighting had taken place. Detecting was also undertaken for non-ferrous metals only.

1.16 Artefacts were removed from the ground using a small spade and trowel. Care was taken to fill in and level all holes after the removal of material. No artefacts were removed from a depth greater than the ploughsoil (c.300mm). All finds of possible archaeological significance were plotted using sub–metre accuracy GPS.

1.17 Recovered artefacts were labelled with a unique ID number. They were stored in breathable plastic bags or wrapped in acid-free tissue, as appropriate. Artefacts of undoubted modern date were collected and bagged together to gauge the 'background noise' within the field and determine if there were any factors which may be affecting artefact recovery rates.

1.18 The survey complied fully with the provisions of the Treasure Act 1996 and Treasure (Designation) Order 2002 and the Code of Practice referred to therein. There were no finds considered to be potential treasure cases.

1.19 Follow–on surveys (Phase 2: 27-29 April 2018, Phase 3: 16-18 January 2019 , Phase 4: 14-16 January 2022 , and Phase 5: 5 November 2022) used the same methodology as the 2015 survey, though 5m and, if 5m survey was successful, 2.5m transects were used. These provided, respectively, 40 percent and 80 percent coverage of surveyed areas. Navigation grade GPS was used to mark detected areas and finds in the November 2022 survey.

1.20 The fields surveyed in 2018 and the one to their west in 2019 had recently been ploughed. All other fields surveyed in 2019 and 2022 were in pasture.

# 2. Results

2.1 This section provides an overview of the notable metal detector survey results (Figure 2). A full list of all significant recorded finds is detailed within Appendices 1–3.

2.2 A total of 37 lead bullets were recovered during the survey. Of these seven were identified only as 'probable' bullets due to the deformation they have experienced. Dr Glenn Foard in reviewing the finds commented that the 'the assemblage show[ed] an

exceptional frequency of high impact damage and that 'the degree of impact distortion is so massive on some bullets that it is likely that some of the other irregular pieces of lead recovered from the site are bullets but lacking recognisable characteristics'.

2.3 It is not always possible to precisely identify the weapon of origin for bullets during this period as they do not conform to standardised sizes. This results in a degree of overlap between calibres with the size of some bullets meaning they are located on the uncertain interface between weapon types. The impact damage observed on some bullets, which caused them to lose some of their original weight and shape due to deformation/fragmentation, also made it difficult to make judgements about the type of weapon with which they were associated. The weapon types given within this report are therefore an approximate guide and based on the calibre identifications made by Foard (2012 pp. 41-93) and Marsh (forthcoming). For these reasons, for bullet distribution purposes we have categorised bullets as 'infantry', 'cavalry', 'probable', 'sporting' and 'buck shot'. Finds were examined in detail and individually assessed for firing evidence and any other features of interest. The assessment of the bullets was based on characteristics identified in previous work by Foard (2012, pp. 94-120), Harding (2012 pp.44-83) and Sivilich (2016).

2.4 The three smallest bullets (**SF043, 59, SF098**) did not conform to calibres associated with 17th century pistols. As such they were considered likely to be the result of later sporting activity. One bullet (**SF041**) appeared to be buck shot and may have come from a buck and ball shot fired during the battle or from later sporting activity.

2.5 A further 15 bullets (**13, 15, 19, 20, 23, SF044, 46, 51, 58, 62, 63, SF088, SF096, SF1039, SF1034**) fell within the weight and, where it was available, calibre range of what might be expected for a cavalry weapon, either carbine or pistol. The overlap of the calibres associated with these weapons makes it difficult to assess precisely to which types these finds belonged, though at the end of the ranges, bullets of 30+–39 bore are likely to be pistol, whilst those of 17–19 bore, carbine. On this basis at least five of the bullets were probably associated with pistols **(19, 23, 46, 51, 66)** and three with carbines (**13, SF1039, SF1034**). Overall, ten of these bullets showed firing evidence.

2.6 Eight bullets (**9, SF040, 50, SF062, 65, 71, SF102, SF1035**) were associated with infantry weapons. Four (**9, SF040, 50, 71, SF102**) appeared to be associated with bastard muskets and the remainder with full bore muskets. One bullet (**SF062**) was badly

impacted and had lost some of its mass, but based on its diameter was probably fired from a full–bore musket. All these finds showed firing evidence and one bullet (**50**) had been double shotted as on one side there was a concave indentation where impact with another bullet had depressed the lead.

2.7 Three other bullets showed modifications typically found on Civil War battle sites. Two (**56, 79**) were slugs created by hammering a musket ball into a lozenge shape to fit down the barrel of a cavalry weapon. The other was a quartered ball of musket calibre (**53**).

2.8 Finally the seven probable bullets (**SF001,14, 28, SF064, 66, 78, SF087** had been distorted due to impact, probably with the very stoney ground found where they were located. Allocating a weapon type to these bullets was impossible.

### *Other Military related finds (Appendix 2)*

2.9 In addition to the bullets, other military related finds were also found during the survey. These included two powder caps (**SF012 and SF028**) which would have been placed over the top of a bandolier flask and secured by string passing through two loop–holes on the sides of the powder cap, remnants of which remained visible on the items recovered. A single strap fitting for a sword or dagger (**SF013**) dated to the 16/17th century was also found along with a probable gunflint (**SF1004**). A piece of gun furniture (**67**) was also uncovered, but this dated from the 18/19th century.

### *Other finds (Appendix 3)*

2.10 The majority of finds were of relatively recent date, spanning the 18th, 19th and 20th centuries. Some finds, such as irregular scraps of lead were undatable.

2.11 The only other finds of note were a 17th century seal matrix (**29**), a Henry VII gold angel coin, a William III 1698 sixpence, and a James I 1608 sixpence. Several buckles, including four of possible Civil War date (**18, 40, 43, 64**) were also found, but it was not possible to distinguish these from 17th century buckles used by civilians. Finally, a single badly worn Roman coin was also located.

## 3. Discussion

3.1 The five phases of metal detector survey recovered a total of 329 finds which included

an assemblage of 37 lead bullets, at least 33 of which appeared to be consistent with 17th century military activity. The presence of slugs, a quartered bullet and powder caps was indicative of their find locations being associated with Civil War activity. All the military replated finds were made on either side of the Evesham Road (A424) around Greenfield farm.

3.2 Overall, the numbers of Civil War military finds from the archaeological survey were limited. Nevertheless, the fields surveyed using 5m transects in 2018 had a density of lead shot finds of around 1.3 bullets per kilometre surveyed (1.5 bullets per kilometre if probable bullets are included). From the 2022 survey, field 4 (see figure 3 below) produced 0.74 bullets per kilometre surveyed (1.3 bullets per kilometre if probable bullets are included). This compares to 0.3-7.8 bullets per kilometre for various fields surveyed at Edgehill.[9] Detecting conditions and duration and intensity of combat (ie the amount of lead shot deposited in the ground over time) are obvious variables in comparing the battles of Edgehill and Stow. The latter was in all respects a much smaller affair than Edgehill and did not involve artillery firing case shot; at Edgehill case shot may have increased the concentration of finds in certain areas of the battlefield. Moreover, the fields surveyed at Stow seem to be mainly on the western flank of the armies, where predominantly a cavalry action took place. Bullet finds would be expected to be less per kilometre in this area than in the main infantry action as use of firearms generally gave way quickly to a melee in Civil War cavalry actions, particularly this late in the war. October 2023 work at Langport (1645) by the Battlefields Trust also indicated low density of lead shot per kilometre surveyed (0.66–1.27) and it is possible that Civil War battles of relatively short duration with limited numbers engaged generate this type of archaeological signature. Further work is required to test this hypothesis.

3.3 One possibility is the bulk of the finds represent the initial engagement that put the royalists to a stand. If this is correct, then the eventual royalist deployment would have been even closer to Stow, with the parliamentarians perhaps deployed on the southern edge of where archaeological finds have been made. But the nature of the initial engagement, which is likely to have been short and sharp given the dark conditions and, according to the primary accounts, focused only on the royalist rear-guard in line of march, seems unlikely to have generated the scatter of finds that have been made.

[9] For detail on fields surveyed at Edgehill see Glenn Foard, *Battlefield Archaeology of the English Civil War*, (Oxford: BAR British Series 570, Archaeopress, 2012), p.149

3.4 A more likely interpretation is that the royalists were caught in line of march on the Evesham road at a point north of the most northerly field shown as surveyed in 2022 in Figures 2, and 3, perhaps just within the Donnington part of Stow parish. Finds in this northern field may be from this initial engagement, either as over-shots or because the action involved the royalists continuing to move south to escape the attack. With the parliamentarians close by, the royalists were forced to deploy their army. Astley may have identified or been told about the gully (Figure 3), which seems to have been meadow land[10] at the time of the battle, to the west of what is now Greenfield farm which would have provided good protection for his left wing of horse. He may have deployed to leave a gap of 100m or so between the gully and his troopers further south. This would also have given his cavalry on that side of the battlefield an opportunity to charge any advancing parliamentarians as they reached the top of the gully slope. The lack of finds to the west of the fields surveyed in 2018 indicates that the action did not spill into this area, probably because the parliamentarians avoided crossing the gully during the battle. The preponderance of lead shot associated with horse arms in this area also suggests it formed a cavalry flank for both armies with the smaller number of musket shot and powder caps recovered representing parliamentarian firelocks and royalist commanded musketeers.

3.5 In this interpretation, the rest of the royalist army would have deployed eastwards reaching as far at the Foss Way. The parliamentarians, after their initial contact with the royalists also formed up in battle array and marched forward until they found the enemy deployment. Survey (2022) field 4 (Figure 3) may have covered the initial parliamentarian position. Bullet finds might be expected to be lower here because the primary accounts indicate the parliamentarians advance to attack the royalists and most royalist fire would therefore have taken place at a range much closer than the initial deployment distances. Nonetheless this would have resulted in some over-shots back into the initial parliamentarian position, and these may be represented by some of the finds made in field 4.

3.6 If this is correct, the archaeological finds indicate that the battle was fought across the Evesham Road, with the area around Greenfield farm representing the western side of the battle and, probably, the Foss Way the eastern side.

[10] Tracey Partida, *Stow-on-the-Wold Battlefield Landscape*, (Battlefields Trust: 2023) (https://www.battlefieldstrust.com/media/836.pdf accessed 16 November 2023)

## 4. Conclusion

4.1 The metal detector survey produced limited evidence of Civil War fighting, but it is consistent with what might be expected to be associated with the 1646 battle of Stow. The bullet scatter appears to reflect action on western side of the battlefield.

## 5. Project Team

5.1 Metal detecting was led by Sam Wilson, assisted by Bryn Gethin, Dom Barker, Simon Marsh, Trevor Parsons, Colin Parkman, Hilde van der Heul, Will Reid, and David Beaumont.

5.2 Particular thanks go to all the landowners who graciously gave permission for surveys to take place on their land. The survey was funded by The Battlefields Trust and generous grants from the Hintze Family Charitable Foundation and the Arms and Armour Heritage Trust.

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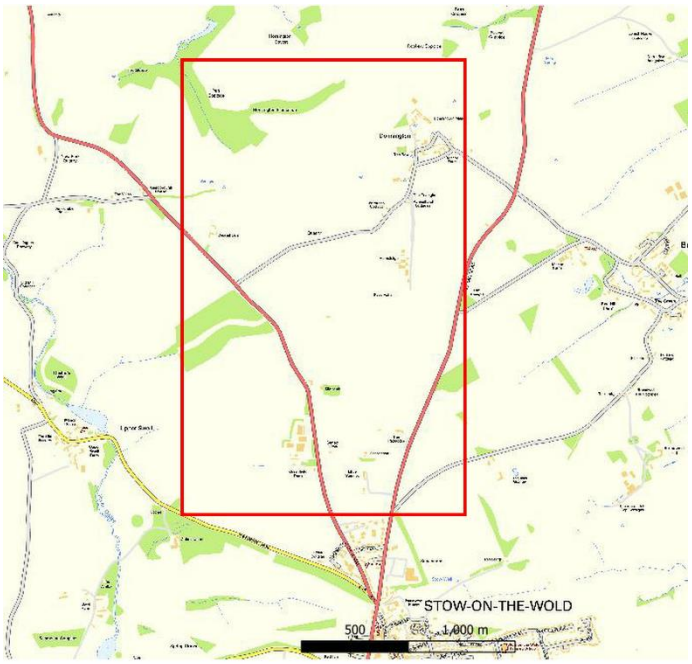
# Appendix 1 - Bullets

| MD No. | Date | Type | Material | Provisional period | Mass (g) | Diameter (mm} | Fired/ unfired | Military Type | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 9 | 27/04/2018 | bullet | pb. | civil war | 27.43 | | fired | Infantry | |
| 13 | 27/04/2018 | bullet | pb. | civil war | 23.41 | 16.37 | fired | Cavalry | |
| 14 | 27/04/2018 | probable bullet | pb. | civil war? | 8.703 | | fired | Probable | |
| 15 | 27/04/2018 | bullet | pb. | civil war | 20.12 | 15.46 | fired | Cavalry | |
| 19 | 27/04/2018 | bullet | pb. | civil war | 13.46 | 12.58 | fired | Cavalry | |
| 79 | 27/04/2018 | bullet - slug | pb. | civil war | 55.9 | 13.35 | fired | Cavalry | Recovered from junk. Coord randomised |
| 20 | 28/04/2018 | bullet | pb. | civil war | 20.04 | 21.2 | fired | Cavalry | |
| 23 | 28/04/2018 | bullet | pb. | civil war | 15.57 | 13.51 | unfired | Cavalry | |
| 28 | 28/04/2018 | probable bullet | pb. | civil war? | 14.17 | | fired | Probable | |
| 46 | 28/04/2018 | bullet | pb. | civil war | 13.89 | 13.64 | fired | Cavalry | |
| 50 | 28/04/2018 | bullet - double shot | pb. | civil war | 31.18 | 17.72 | fired | Infantry | |
| 51 | 29/04/2018 | bullet | pb. | civil war | 13.04 | 13.36 | fired | Cavalry | |
| 53 | 29/04/2018 | bullet - cut | pb. | civil war | 12.75 | 17.68 | unfired | Infantry | |
| 56 | 29/04/2018 | bullet - slug | pb. | civil war | 33.45 | 15.07 | fired | Cavalry | |
| 58 | 29/04/2018 | bullet | pb. | civil war | 22.19 | 15.67 | fired | Cavalry | |
| 59 | 29/04/2018 | bullet | pb. | civil war | 9.15 | 11.78 | fired | Sporting | |
| 62 | 29/04/2018 | bullet | pb. | civil war | 22.11 | 15.36 | unfired | Cavalry | |
| 63 | 29/04/2018 | bullet | pb. | civil war | 15.87 | 16.65 | fired | Cavalry | |
| 65 | 29/04/2018 | bullet | pb. | civil war | 37.33 | | fired | Infantry | |
| 66 | 29/04/2018 | probable bullet | pb. | civil war? | 15.06 | | fired | Probable | |
| 71 | 29/04/2018 | bullet | pb. | civil war | 30.61 | 17.07 | fired | Infantry | |
| 78 | 29/04/2018 | probable bullet | pb. | civil war? | 14.66 | | fired | Probable | |

| MD No. | Date | Type | Material | Provisional period | Mass (g) | Diameter (mm} | Fired/ unfired | Military Type | Comment |
|---|---|---|---|---|---|---|---|---|---|
| SF1034 | 18/01/2019 | bullet | pb. | civil war | 27.12 | 16.48 | fired | Cavalry | |
| SF1035 | 18/01/2019 | bullet | pb. | civil war | 34.77 | 17.84 | fired? | Infantry | |
| SF1039 | 18/01/2019 | bullet | pb. | civil war | 26.53 | 16.61 | | Cavalry | |
| SF001 | 14/01/2022 | probable bullet | pb. | civil war | 7.89 | | fired | Probable | |
| SF040 | 15/01/2022 | bullet | pb. | civil war | 31.25 | 18.09 | fired | Infantry | Impacted. Possible slight gas erosion on impacted side? |
| SF041 | 15/01/2022 | buck shot? | pb. | NK | 4.95 | 10.15 | NK | Buck shot | buck and ball?, casting seam visible |
| SF043 | 15/01/2022 | bullet | pb. | civil war | 10.39 | 12.92 | fired | Sporting | good evidence of set-up |
| SF044 | 15/01/2022 | bullet | pb. | civil war | 16.39 | 14.68 | fired | Cavalry | some evidence of set-up |
| SF062 | 16/01/2022 | bullet | pb. | civil war | 29.52 | 20.4 | fired | Infantry | impacted with metal loss |
| SF064 | 16/01/2022 | probable bullet | pb. | civil war | 12.64 | | fired | Probable | |
| SF087 | 16/01/2022 | probable bullet | pb. | civil war | 13.19 | | fired | Probable | |
| SF088 | 16/01/2022 | bullet | pb. | civil war | 21.65 | 15.71 | NK | Cavalry | |
| SF096 | 16/01/2022 | bullet | pb. | civil war | 21.94 | 15.79 | NK | Cavalry | casting seam visible |
| SF098 | 16/01/2022 | bullet | pb. | civil war | 9.05 | 11.64 | fired | Sporting | slight gas erosion? |
| SF102 | 16/01/2022 | bullet | pb. | civil war | 25.48 | 17.52 | NK | Infantry | diameter suggests musket bullet |

# Appendix 2 – Other military related finds

| MD No. | Date | Type | Material | Provisional period | Diameter (mm) | Military Type | Comment |
|---|---|---|---|---|---|---|---|
| 67 | 29/04/2018 | gun furniture | cu. alloy | post med | | Gun Furniture | |
| SF1004 | 16/01/2019 | Flint - possible gunflint | flint | civil war? | | Gun flint | |
| SF012 | 14/01/2022 | powder cap | pb. | civil war | ~20 | Powder cap | |
| SF013 | 14/01/2022 | Strap fitting (poss sword/baldric) | cu. | 16th/17th century | | Strap fitting | see https://finds.org.uk/database/artefacts/record/id/1032135 |
| SF028 | 14/01/2022 | powder cap | pb. | civil war | ~21.6 | Powder cap | |

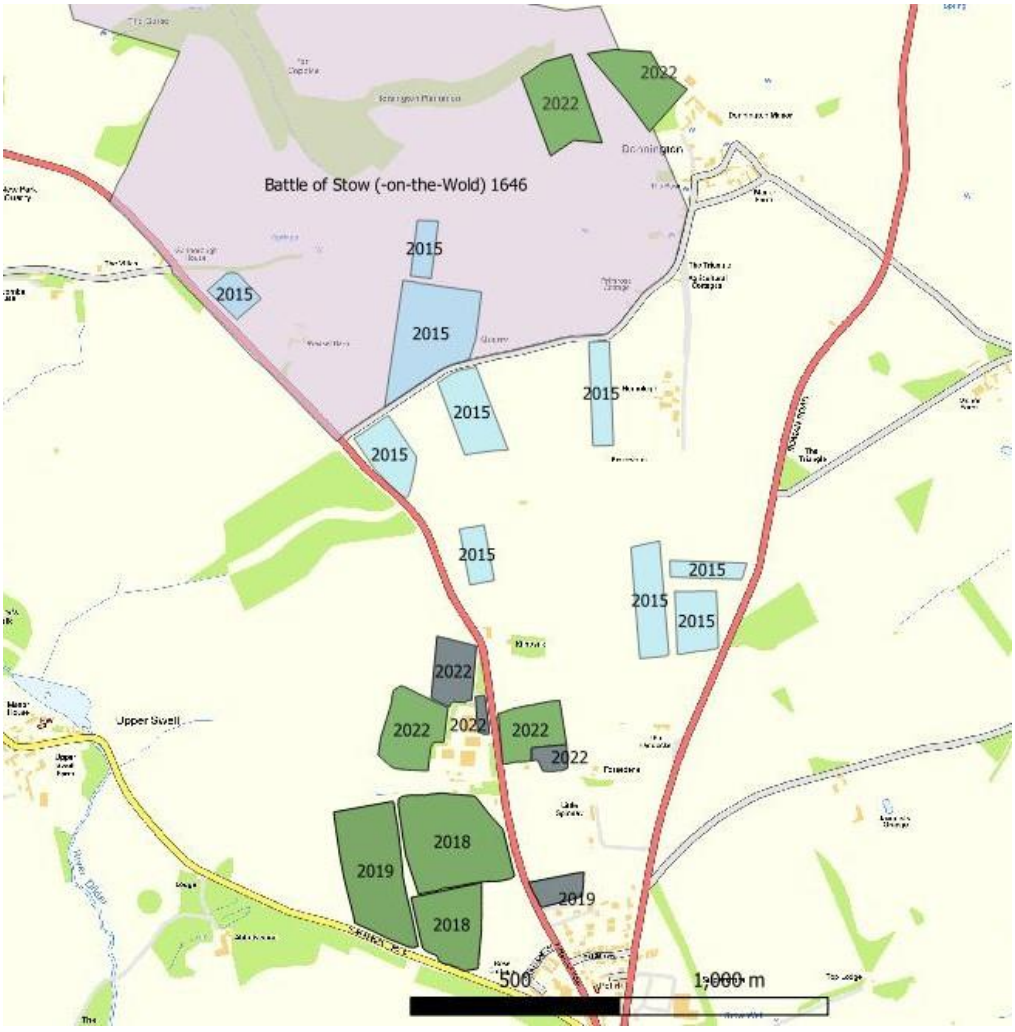




Figure 1: Site location plan. Survey areas shown surveyed using 10m transects (light blue), 5m transects (green), 2.5m transects (grey). (*Base map data © 2022 Ordnance Survey Open Data. Registered battlefield data © Historic England 2018. Both used under OGL 3.0 Licence*)

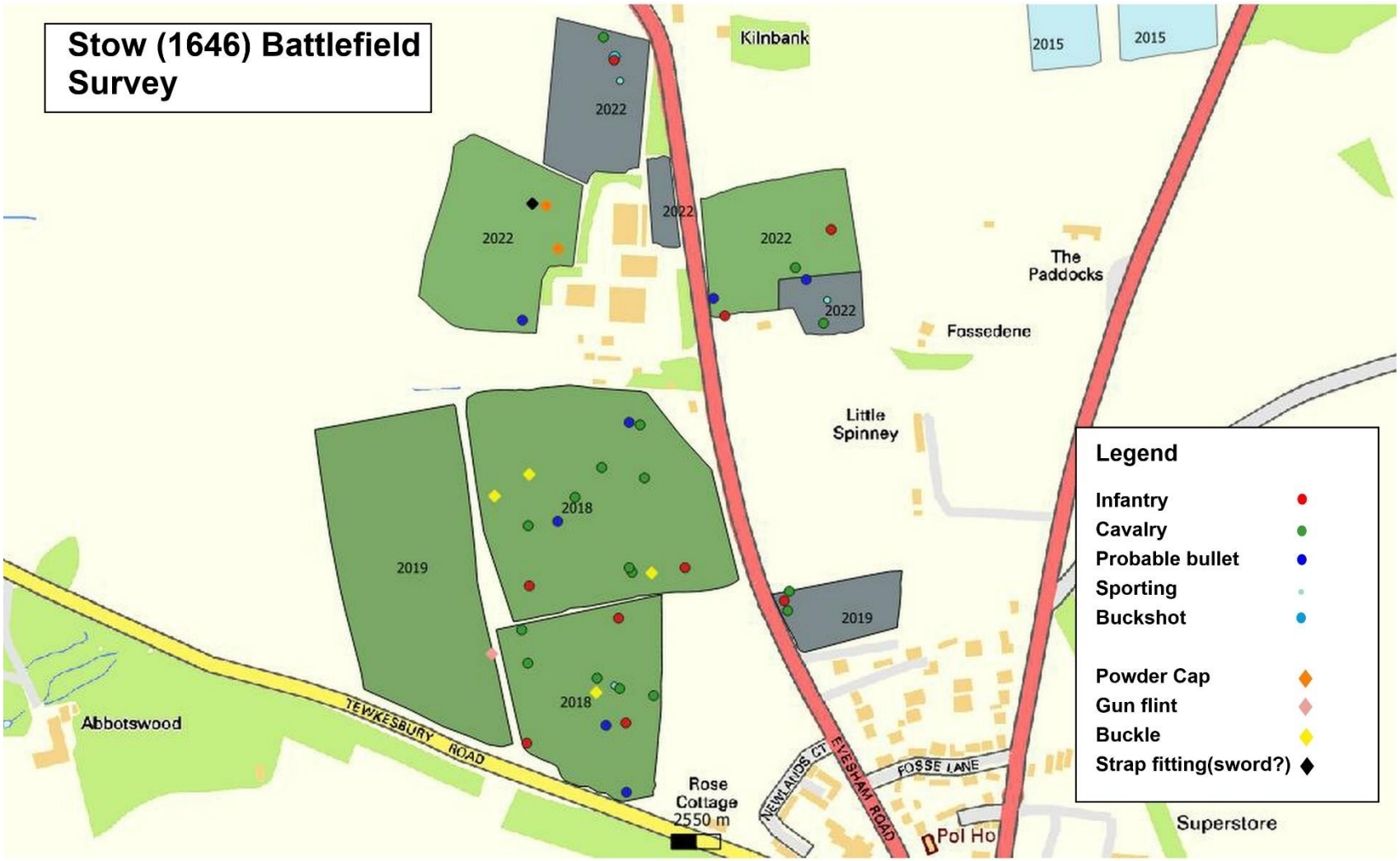
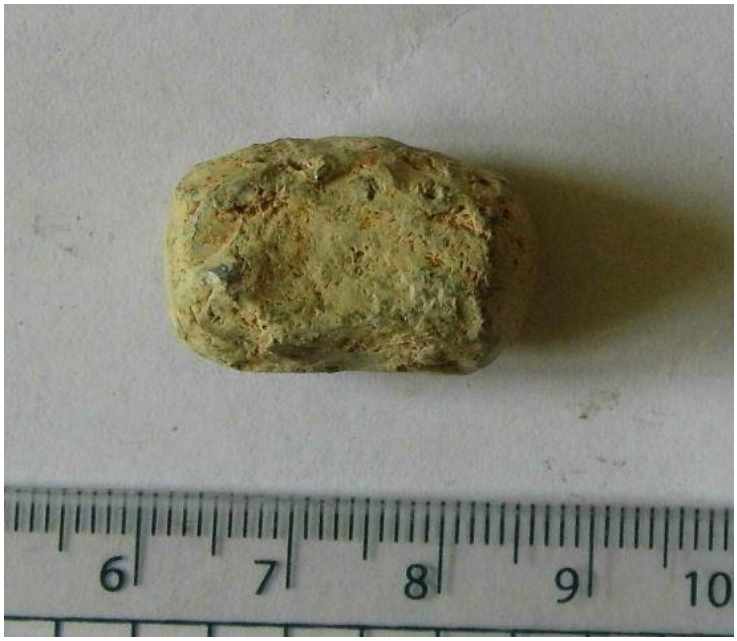



Figure 1. Military related finds (*Base map data © 2022 Ordnance Survey Open Data used under OGL 3.0 Licence)*


Figure 3. LIDAR view of the survey area showing the gully west of Greenfield farm


Photograph 1. Double shotted bastard musket shot (find 50).


Photograph 2. Quartered musket bullet (find 53).




Photograph 3. Slug bullet (find 56).


Photograph 4. Badly damaged probable bastard musket shot (find 9).


Photograph 5. Impacted probable full bore musket bullet (find SF062).


Photograph 6. Carbine/Pistol bullet with sprue mark (find SF096).


Photographs 7 & 8: 17th century seal matrix (find 29)



Photograph 9 (find SF012) & 10 (find SF028): Powder caps


Photograph 11. Sword/baldric strap fitting (find SF013)

Photograph 12. 5m transects laid out across a baseline