A9 Dualling Programme
Killiecrankie to Pitagowan

Archaeological Metal Detecting Survey at Killiecrankie Battlefield

Project 4181

A9 Dualling Programme Killiecrankie to Pitagowan: Archaeological Metal Detecting Survey at Killiecrankie Battlefield

On behalf of: Jacobs UK Limited

NGR: NN 909 634

Project Number: 4181

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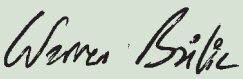
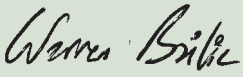
29/10/15		11/11/15	

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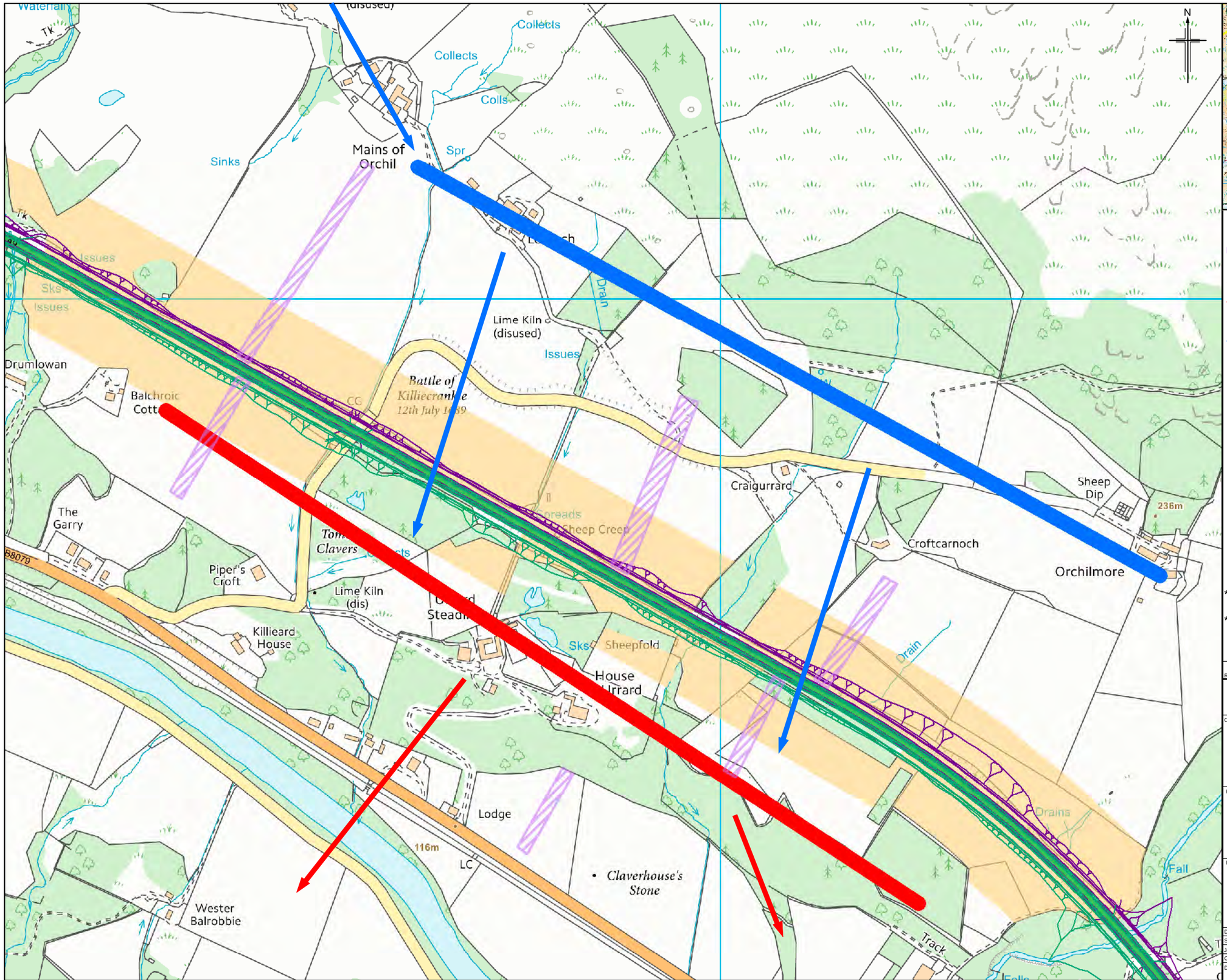

Legend

- Previous archaeological metal detector survey transects*
- Government Movement**
- Governement Lines
- Jacobite Movement
- Jacobite Lines
- North Bound Widening Option
- South Bound Widening Option
- Proposed Archaeological Metal Detector Survey Areas

* Information provided by Dr Tony Pollard, University of Glasgow

** Battlefield Deployments as Described by the Historic Scotland Inventory of Historic Battlefields in Scotland

Rev.	Rev. Date	Purpose of revision	Orig/Dwn	Checkd	Rev'd	Apprv'd
0	04/03/2015	For information	HM	DB	JD	NW

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Archaeological metal detector survey information Killiecrankie Battlefield

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Drawing number	B2140005/CH/2	Rev 0

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0 125 250 500 Metres

Figure 1: Location Map showing Jacobite and Government troop lines.

Executive Summary

1.1 A metal detecting survey (plate 1) was carried out by GUARD Archaeology Limited in collaboration with the Centre for Battlefield Archaeology, University of Glasgow, at the perceived location of Killiecrankie Battlefield to the south of Blair Atholl, Moulin Parish, Perthshire (figures 1 and 2). The work was carried out for Jacobs UK Limited on behalf of Transport Scotland to inform the cultural heritage input into the Design Manual for Roads and Bridges Stage 2 Assessment for the Killiecrankie to Pitagowan project. The survey focused on a linear stretch of land to the north and south of the existing A9 road comprising the Battlefield site. Investigations were carried out in accordance with the Project Specification (Jacobs 2015), Historic Scotland and CIfA guidelines, with the assistance of metal detecting volunteers from Detecting Scotland (DS) and Scottish Artefact Recovery Group (SARG). On-site professional archaeological guidance was provided by GUARD Archaeology with expert advice from the Centre for Battlefield Archaeology, University of Glasgow. The work was undertaken over five days between the 12th and 16th August 2015 and on 13th October 2015. Significant finds included 41 musket/carbine/pistol balls, six copper alloy buttons, two buckles, four horse shoe and horseshoe fragments, several fragments of a copper alloy bangle, a copper alloy pendant, a copper alloy harness boss and a part of the support for a sword belt.

Plate 1: Metal Detectorists in Field 13.

Introduction

2.1 This report sets out the results of a metal detecting survey at Killiecrankie Battlefield undertaken by GUARD Archaeology Limited in collaboration with the Centre for Battlefield Archaeology at the University of Glasgow. The work was carried out on behalf of Jacobs UK Limited for Transport Scotland to inform the cultural heritage input into the Design Manual for Roads and Bridges Stage 2 Assessment for the Killiecrankie to Pitagowan project. A total of 25.55ha was surveyed between the 12th and 16th August and on the 13th October (figures 2 - 6). During the course of the survey a total of 558 metal objects were recovered from topsoil deposits across the site of which 244 were retained for further analysis. Discarded finds predominantly comprised of modern fragments of metal including iron, copper alloy, wire, and aluminium fragments. Significant finds included 41 musket/carbine/pistol balls (plates 2, 3 and 4), six copper alloy buttons (plates 3 (centre) and 5), two buckles (plates 3 and 7), four horse shoe and horseshoe fragments (plates 4 and 7), several fragments of a copper alloy bangle, a copper alloy pendant, a copper alloy harness boss and a part of the support for a sword belt (plate 7).

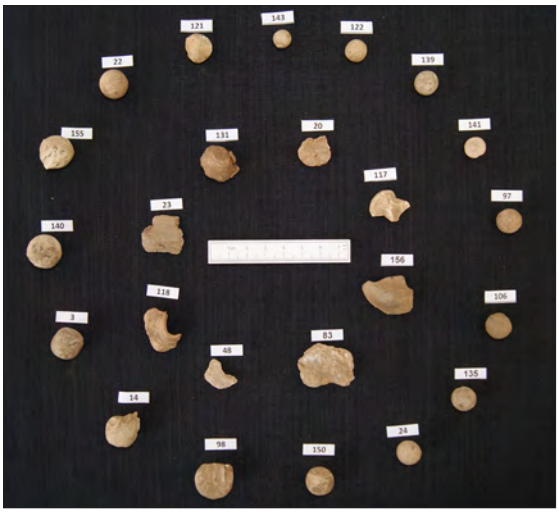

Plate 2: Lead Munition Small Finds.

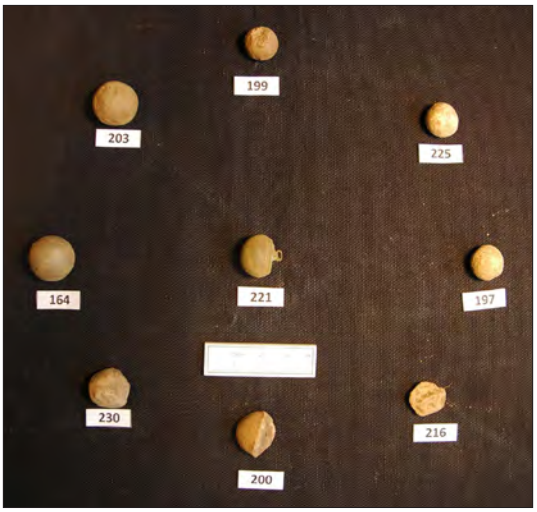

Plate 3: Lead Munition Small Finds.

Plate 4: Lead Munition Small Finds, splatter and carbine.

Plate 5: Possible seventeenth century buckle and buttons.

Plate 6: Possible seventeenth century horseshoe and horseshoe fragments.

Plate 7: Horseshoe fragment, harness boss, pendant, sword belt fitting and shoe buckle.

Site Location, Topography and Geology

3.1 Killiecrankie Battlefield lies within a steep v-shaped valley, approximately 4 km from the village of Blair Atholl which is located to the north-west. It is situated on the steep southern slopes of Creag Eallaich which rises to a maximum height of 509 metres AOD, with most of the Battle taking place on a terrace around 150 metres AOD (Banks and Pollard 2004).

3.2 Today the Battlefield site is bisected by the present A9 road and comprises predominantly of enclosed fields (referred to in this report as F1, F2 and so on.) used for both animal pasture and crop production. Several areas of forestry are also present although mostly found on the less steep southern side. They did not undergo survey (figure 2). The ground cover predominantly comprised of short grass due to animal grazing, although several areas of F7, F15 and F17 (figure 2) were very overgrown comprising rough grass and thistles on the periphery of bird feeding/ nesting areas which made survey of these areas difficult and in the case of F7 impossible. Survey was also limited in F12 due to information provided during the 2003 survey (Banks and Pollard 2004) of it comprising of made ground; an apparent man-made bund was observed at the north end of this field during the survey. Only one north-west/south-east transect was surveyed across the field which confirmed this due to the recovery of modern material, such as numerous foil cigarette papers and ringpulls which were not found elsewhere during the present survey, no artefacts of antiquity were recovered from this field. The area under survey varied between 150 and 190 m AOD with the slope generally south facing.

3.3 The underlying solid geology comprises Semipelite and Micaceous Psammite (Killiecrankie Schist), while the drift geology comprises Devensian Till deposits of sand and gravel (Jacobs, 2015).

Archaeological Background

4.1 The Battle of Killiecrankie represents the opening battle of the first Jacobite Rising in Scotland and took place on the 27th July 1689 between the government army of William of Orange and Jacobite forces led by John Graham of Claverhouse, 1st Viscount Dundee (Bonnie Dundee) under the standard of the deposed King James VII. Both armies, following a prolonged game of cat and mouse, came face to face on the slopes of Creag Eallaich whilst trying to reach Blair Atholl which they intended to use as a base. The Jacobite army, who arrived first, were located on the higher ground around the 200 metre contour and the Government army at the base of the hill. Both armies sniped and skirmished for most of the day until the evening around 8pm when the Jacobite army charged downhill in a classic Highland charge, shielded by a series of natural terraces from Government shooting. During this charge Dundee was fatally wounded although his army won the day despite heavy losses on both sides; around 800 men were lost on the Jacobite side and around 2,000 on the Government side. The rout of Government troops which followed the Battle lasted for several miles and is particularly remembered due to one Government soldier making the 'soldiers leap' across the River Garry (Historic Scotland 2015).

4.2 Following the Battle the campaign continued despite the death of Dundee with the Jacobites losing to the Government army at Dunkeld on 21st August 1689. The campaign finally ended in 1691 with William offering the Highland clans a pardon for an oath of allegiance.

4.3 In 2003, as part of the TV programme 'Two Men in a Trench' a programme of archaeological works including metal detecting, geophysical survey, excavation and topographic survey was carried out (Pollard and Oliver 2003) which mostly confirmed the contemporary written accounts of the Battle. Artefacts including personal items such as buttons and munitions including musket balls and a fragment of hand grenade were recovered from the site.

4.4 The survey also established that the Scheduled Monument known as the Claverhouse Stone (NMRS No. NN96SW2), located out with the survey area to the south, was indeed the location of the Government baggage train which was looted by the Jacobite side following the battle. The Stone is actually a prehistoric standing stone which predates the Battle by several thousand years.

4.5 The Scheduled Monument known as Tomb Clavers (NMRS No. NN96SW3) located to the south-west of the present survey area, and again out with the survey area, was believed to be the tomb of the Officers, based on the Old Statistical Account which mentions the discovery of bones. However, work in 2003 did not discover evidence of human remains and it was interpreted as a memorial site rather one of burial, and the site was de-scheduled following the results of the 2003 project. No burials have been found to date at the Battle site although the high death toll would suggest they are present. Urrard House (NN96SW46) is thought to be the most likely location due to the fighting taking place in this locale.

Aims and Objectives

5.1 The primary aim of the metal detecting survey was to inform the DMRB Stage 2 and the DMRB Stage 3 Assessments. Other aims were to:

- augment studies undertaken by Historic Scotland to inform the inventory of Historic Battlefields and the archaeological investigations undertaken in 2003 (Pollard and Oliver 2003);
- engage with the public through using a metal detecting group or society. Where feasible they were to be from communities local to the battlefield or along the existing A9;
- disseminate the results of the archaeological metal detecting survey through the deposition of an ordered archive and detailed report at the National Monuments Record of Scotland (NMRS) and
- disseminate the results through one or more of the following means via the A9 newsletter, Transport Scotland's website, social media or through a press release. This work will be undertaken by the consultant and shall be based on the report prepared by GUARD Archaeology Limited.

Methodology

6.1 Archaeological metal detecting survey was undertaken within the survey areas shown on Figure 2.

6.2 Only high performance metal detectors, which had a discrimination mode to allow non-ferrous, ferrous or all metals to be targeted, was employed for the duration of the survey.

6.3 Running from south to north, each field was allocated a unique identification number (e.g. F1). Within each field the archaeological metal detecting survey was undertaken in linear transects tied into the National Grid using a sub-cm GPS (accurate to +/- 0.1m relative to established control). Transects did not extend beyond the boundary of the survey area. As this sample size is suitable for prospection, 10 m transects were used. The exceptions to this were F5, F6, F8 where due to their small size the whole field was metal detected, and F11, F13, F14, F15 and F11 where transects were at 5 m intervals. The latter areas were surveyed in this manner due to the concentration of finds identified during the initial survey or that it was in these areas that much of the fighting is thought to have taken place (Banks and Pollard 2004), and therefore additional metal detecting was undertaken to meet the aims and objectives of the survey.

6.4 All readings were investigated but any object potentially buried at a lower depth than the topsoil was not recovered. In order to investigate a reading the sod was removed and left to one side. The required amount of topsoil was then removed to establish what the reading was. Once the reading was investigated and recorded the excavated topsoil was then replaced, compacted and the sod restored.

6.5 The location of each metal detector reading where an object had been recorded and/or where the object remains buried beneath the topsoil was recorded to Ordnance Survey datum and National Grid (accurate to +/-0.1m relative to established control). Each reading or object that

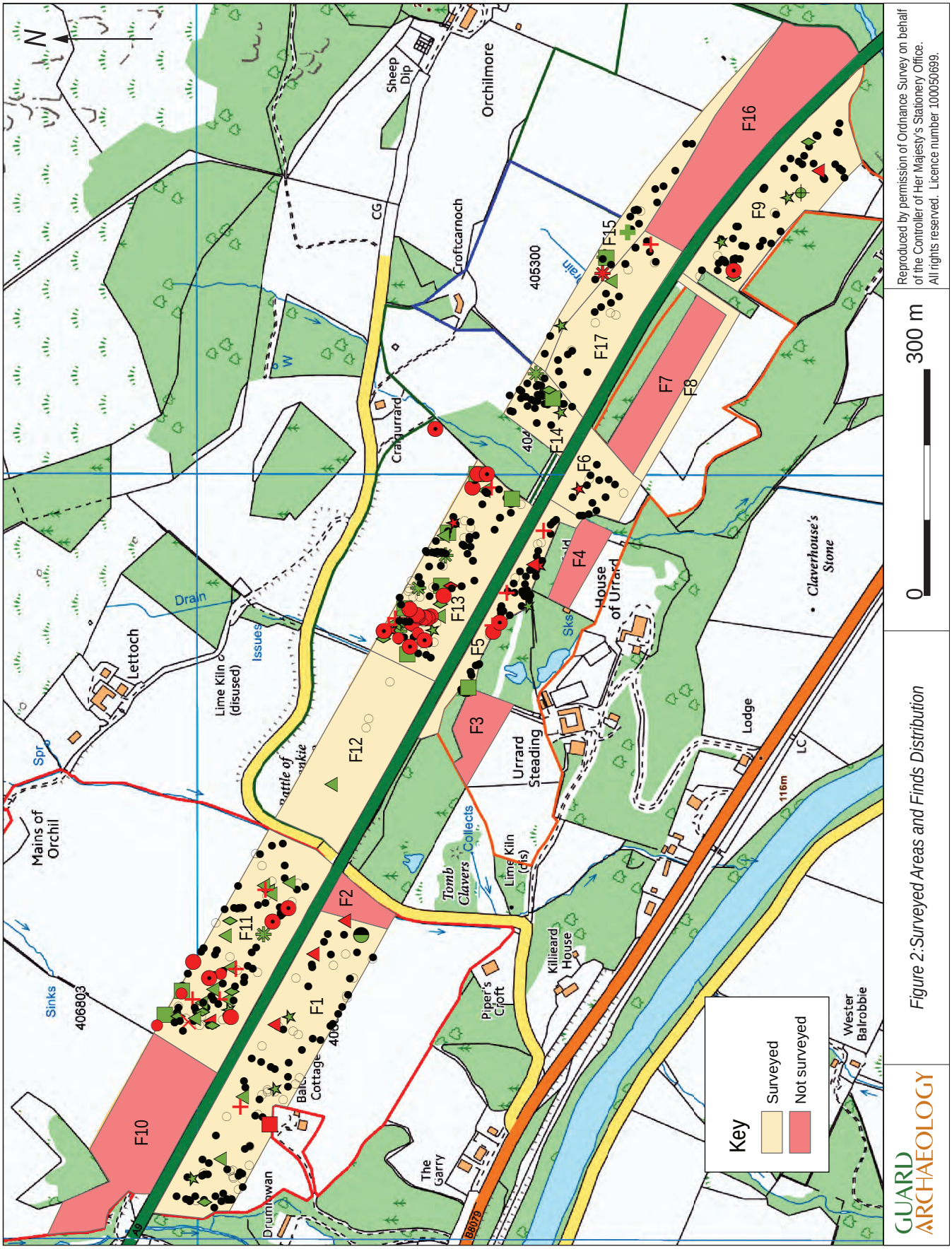

Figure 2:Surveyed Areas and Finds Distribution

was recorded was allocated a unique identification number by GUARD Archaeology, which incorporates the field identification number and the transect identification number. Items that were deemed by the Battlefield expert and GUARD Archaeology Field Director to be modern and not therefore significant in the interpretation of the battle, were left in situ after recording.

6.6 All artefacts recovered were retained and removed from site by GUARD Archaeology for assessment by an appropriately experienced finds specialist. GUARD Archaeology sought advice from a suitably qualified conservator with regard to the appropriate storage of materials of recovered metalwork. All recording, cleaning, storage and conservation of finds was in accordance with advice of the Conservator and the Chartered Institute for Archaeologist's Standard and Guidance for the collection, documentation, conservation and research of archaeological materials (CIfA 2014b).

Results

7.1 All fields are referred to using the abbreviated form F1 for Field 1, while all finds are referred to in the text using the abbreviation SF (Small Find). Figures 3 - 5 depict the small finds as numbers only, due to space being limited. The results from the 2003 Metal detecting survey are overlain on the 2015 survey for comparison in Figure 6. The results of the 2015 survey are described collectively and as three separate parts, north-west end, central area and south-east end for ease of discussion. How these results compare with the 2003 results is then discussed.

7.2 During the course of the survey a total of 558 metal objects were recovered from topsoil deposits across the site of which only 244 were retained for further analysis. Following preliminary investigation, 56 objects are of possible battle origin and/or of similar date (figures 3-6). These include musket/carbine/pistols balls (SF 3, 14, 20, 22, 23, 24, 48, 83, 97, 98 106, 117, 118, 121, 122, 131, 135, 139, 140, 141, 143, 150, 155, 156, 160, 161, 164, 172, 174, 175, 177, 178, 182, 183, 197, 199, 200, 203, 216, 225 and 230), horse shoe and horse shoe fragments (SF 13, 17, 89 and 165), two buckles (SF 72 and 176), six buttons (SF 9, 18, 57, 67, 71 and 221), a pendant SF 191, a harness boss SF 206 and a part of the supporting strap for a seventeenth century sword belt SF 220 (Natasha Ferguson and Stuart Campbell, Treasure Trove Unit (TTU) pers. comm.). Other items of interest include a fragmentary copper alloy bangle of unknown date (SF 85), a possible sharpening implement (SF 8) and a nineteenth century copper alloy household livery button of the Murray family of Blair Atholl (SF 47) (Natasha Ferguson, TTU pers. comm.).

7.3 Finds such as modern wire, aluminium, iron bolts, screws, nails and agricultural machinery fragments were not retained and left in the ground where they were found and their position recorded. These discarded stray finds were found throughout the survey area with less recovered from field F17 (figure 2), where the vegetation was longer, resulting in a much reduced detection depth. Field F7 was not surveyed due to the vegetation being very thick and at head height, intended for bird shelter in winter.

7.4 The results of the survey have been divided into three areas for ease of description encompassing the north-west end (fields F1, F10 and F11), the central area (fields F3, F4, F5, F12 and F13) and the south-east end (fields F6, F7, F8, F9, F14, F15, F16 and F17). The surveyed areas encompass the full north-west/south-east extent of both Jacobite and Government lines (figure 1) although prior to battle commencing both troop lines were positioned further to the north and south of the survey area. The Jacobite soldiers were positioned on the high ground on the north side of the glen, around the 200 m contour line, and the Government troops to the south on a terrace just to the north of Urrard House (Banks and Pollard 2004).

7.5 The North-West End

7.5.1 The north-west area encompassed three grass covered fields (F1, F10 and F11) used for animal grazing. Their topography sloped downwards towards the south with at least four visible terraced areas present in F11, although only the lowest was incorporated into the survey area (plate 8). This terrace was located in the south-eastern area of the field, with the western area more topographically even with little undulation and with a southern gradient (plate 9). A further terraced area was noted in F1 to the south of the A9 in the north-west area. The rest of

this field was relatively even, again with a southern gradient. At least three clusters of finds were present within the north-west area, at its-western end, central area and eastern end (plate 10). The finds included 13 munitions shots, four of which were impacted, a part of the supporting strap for a seventeenth century sword belt (Stuart Campbell and Natasha Ferguson, TTU pers. comm.) (SF 220) and a possible seventeenth century button (SF 221; plate 3 (centre)). Other finds included two coins and a buckle (figure 3). F10 was not surveyed due to the presence of livestock comprising cows and calves. The south-east end of F11 was also not surveyed due to waterlogging and marshy conditions.

Plate 8: Field 11 from the north-west.

Plate 9: Field 11 from the east.

Plate 10: Metal Detectorists in Field 11.

7.5.2 Of the 13 lead munitions or their impacted remains located in the north-west area, all but one were found in F11. These included the remains of musket, carbine and pistol balls. Of these, three were located along the raised terraced area in the south-east corner of F11 (SF's 131, 155 and 156) and nine in the non-terraced, more topographically even area to its west (SF's 135, 139, 140, 141, 143, 150, 216, 225 and 230). One other, comprising the 'splattered' remains of unidentifiable shot, was found to the south of the A9 in F1 and was located in the terraced area in the western side of the field (SF 48). No munitions were found in the central and eastern areas of F1 which were topographically even, although three copper alloy buttons of possible seventeenth century date were located in this area (SF 57, 67 and 71). A small copper alloy buckle (SF 72) was also found in the southern area on slightly raised ground adjacent to the present farm building of Balchroic cottage. Four horseshoe fragments were recovered from this area with three located to the south of the road and one to the north. All except SF 41 were located on ground of lesser gradient (SF's 53, 61 and 150) and all were found in the western half of this area. Unfortunately all horseshoes from this area post-dated the battle and were therefore unrelated. Seven other copper alloy buttons were also found in the north-west area but like the horseshoes are of probable post-seventeenth century date.

7.6 The Central Area

7.6.1 The central area comprised four fields F3, F4, F5, F12 and F13 and one garden area. F12 and F13 were located to the north of the A9 and were used for growing silage crop. This had recently been cut and removed from the field leaving only stubble remnants. Both fields sloped quite

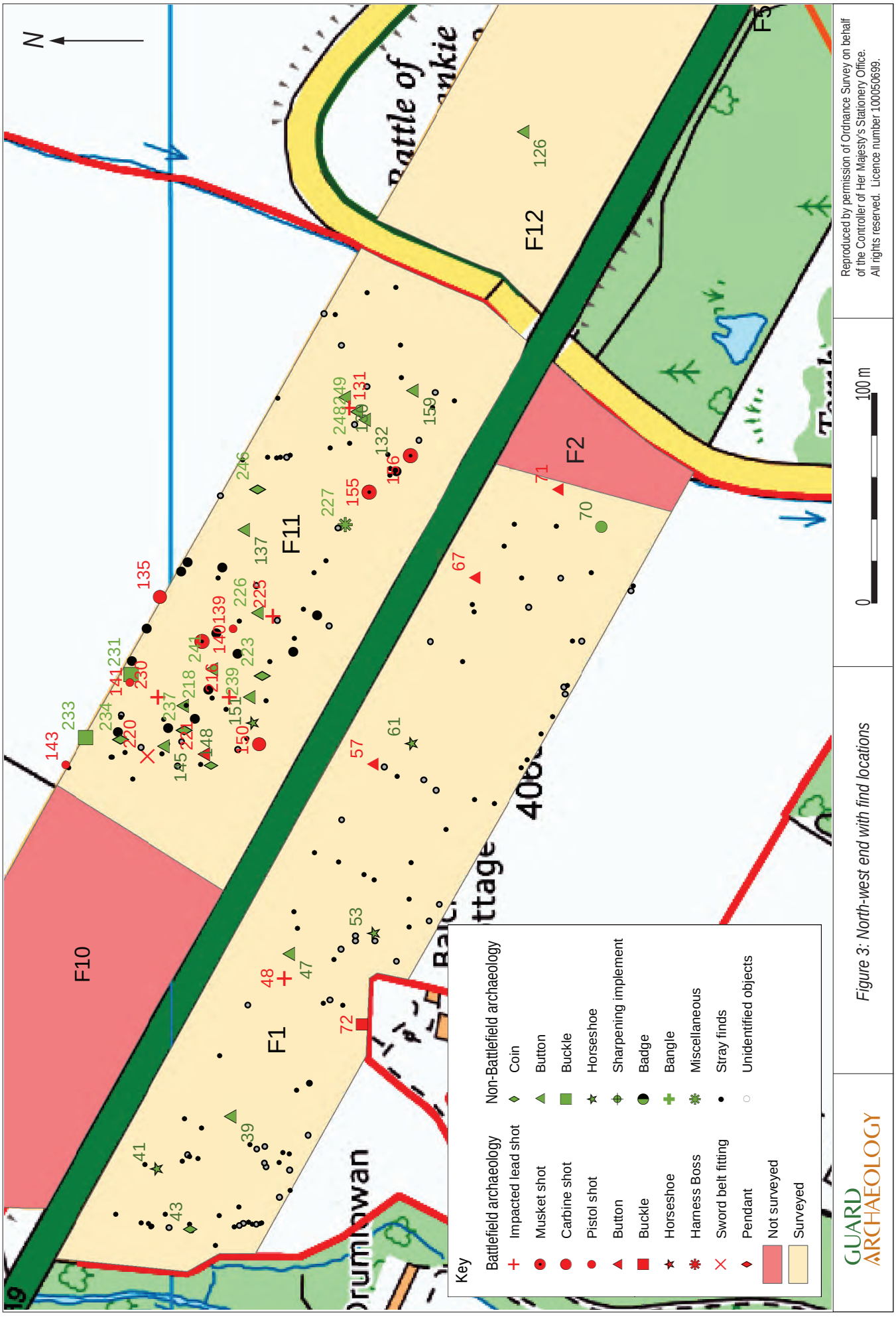

Figure 3: North-west end with find locations

steeply towards the A9 with terracing evident in F13 although this was to the north and out with the survey area. Only one north-west/south-east transect was surveyed in F12 due it being made ground (Tony Pollard and Iain Banks pers. comm.), an artificial bund is apparent to the north of F12 which substantiates this fact. F5 to the south of the road was a long, narrow strip of ground bounded by the A9 and its artificial embankment to the north and strips of woodland and the walled garden of Urrard House to the south. This area was under pasture with a covering of short grass. F4 was not surveyed due to it being within Urrard House walled garden and neither was F3 at Urrard Steadings due to the presence of horses.

7.6.2 In total 24 munitions, six horse shoe fragments (three of possible seventeenth century date (SF17, 89 and 165)), one button (SF18), a buckle (SF176) and a copper alloy pendant (SF 191), all of possible seventeenth century date were recovered. Several other artefacts were also retrieved but were later in date (figure 4). The munitions were found in two main clusters in the western and eastern extent of F13. The western cluster may continue through to F5 (figure 4). The western side contained two pistol shots (SF's 117 and 122), three musket balls (SF's 22, 118 and 121) and seven carbine shot, one unknown shot (SF 24) and the remains of three splattered munitions (SF 23, 20 and 172). In the eastern extent one pistol/carbine shot (SF 97) and one musket ball (SF 98) and again an unknown munitions that had splattered on impact (SF 14) as well as an impacted musket ball SF200 in F13. A copper alloy pendant (SF 191) of possible seventeenth century date was also recovered here. F12 produced only four finds of no significance including a copper alloy button (SF126) of modern date. A musket ball (SF203) was also recovered from an area to the north of the survey area (figure 4).

7.7 The South-East End

7.7.1 This area comprised of eight separate fields F6, F7, F8, F9, F14, F15, F16 and F17 located to the north and south of the A9. Area F7 was not surveyed due to its extremely long vegetation (plate 11) and F16 due to the presence of young bullocks. Topographically the area was similar to those areas to the north-west and centre comprising a south facing slope. However, it appeared to lack the obvious terracing which the other areas contained, although was still quite undulating in places, particularly area F14. Finds were also fewer and more sporadic and probably reflected the very coarse, long grass which occupied this area, particularly F17 which proved difficult to survey (plate 12). Fields 6, 9 and 14 had relatively short grass and yet, fewer finds were recovered in these areas than those areas in the north part of the survey area (figure 5).

Plate 11: Field 7 with overgrown vegetation.

Plate 12: Field 17 with overgrown vegetation.

7.7.2 F14 to the north of the road produced several unrelated finds which post date the Battle including a horse shoe (SF 77), buckle (SF 76) and a coin (SF 74). Field 17 to its immediate east produced one significant find an unidentified munition splatter (SF 83) and several possible unidentified objects of probable post-seventeenth century date. F15 produced two significant finds, a fragmentary bangle SF 85 of unknown date, a post-seventeenth century horseshoe (SF79) and an intricate copper alloy harness boss SF206.

7.7.3 F6 to the south-west produced a complete horseshoe characteristic of the period and therefore, a significant find. While F9 produced one solitary musket ball (SF 3) in its south-west corner and a copper alloy button (SF 9) of possible seventeenth century date. Other finds appeared post-

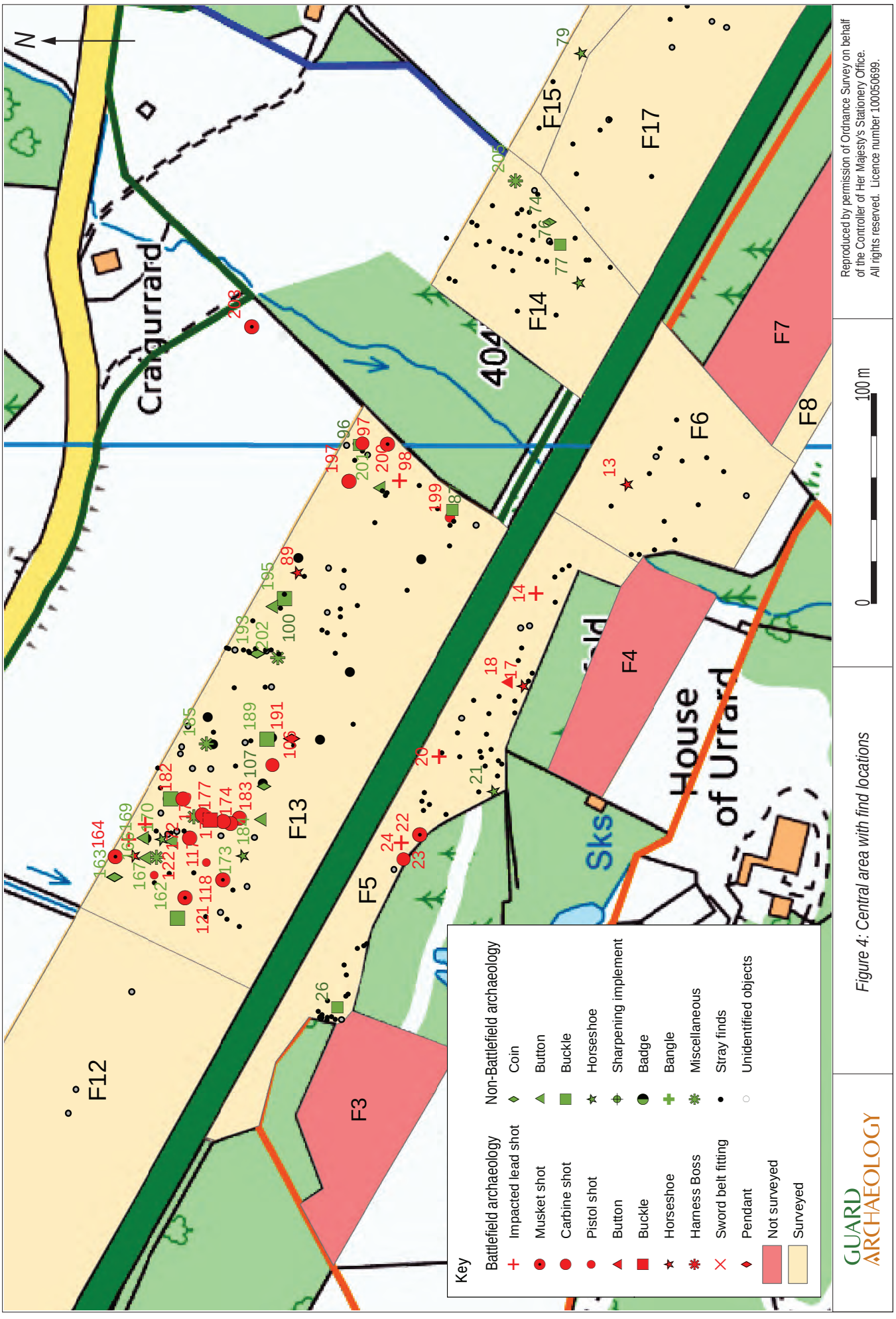

Figure 4: Central area with find locations

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Figure 5: South-east end with find locations

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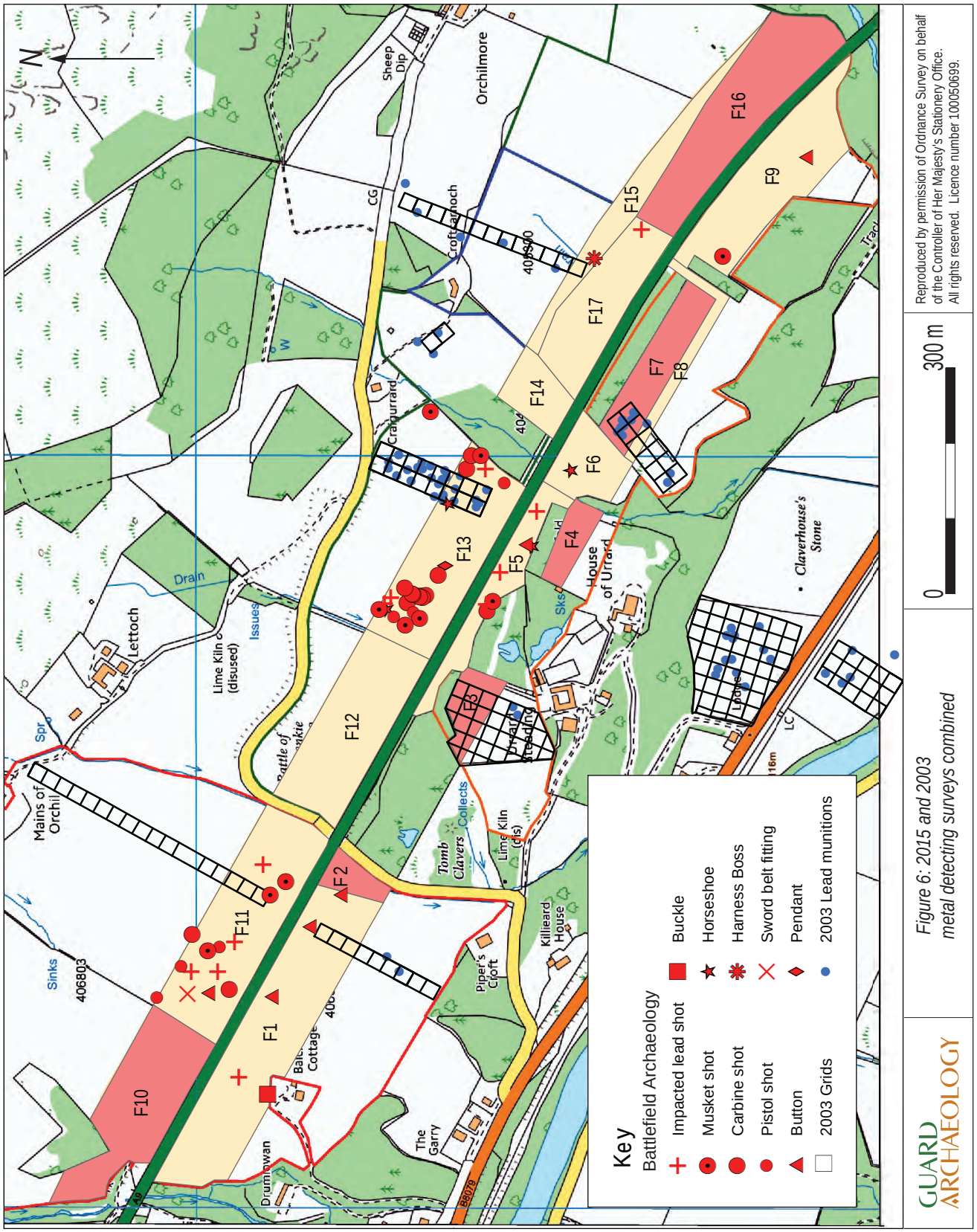

Figure 6: 2015 and 2003 metal detecting surveys combined

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seventeenth century in date including two coins (SF 2 and 10), two horse shoe fragments (SF 5 and 7) and a possible sharpening implement of unknown date (SF 8).

7.7.4 A large number of artefacts were recovered which were not retained and left in topsoil deposits where they were found. These finds (given SF 500 prefix) were located quite regularly throughout the survey area and are generally modern in date. The fact that quite a few were still found in those areas which were difficult to survey, such as F17, would suggest that despite the vegetation cover overall detection capability was not completely inhibited. However, several of these fields, such as the aforementioned F17 and F15 do not appear to have undergone agricultural ploughing. No plough marks such as rig and furrow were evident on the surface and it could suggest the possibility that these fields may have remained relatively undisturbed over the last few centuries.

Archaeological Interpretation

8.1 The material recovered from the battlefield supports the identification of the site made in 2003 by the Two Men in a Trench project (Banks and Pollard, 2004). The distribution of material across the survey area indicates the widespread nature of the battlefield, and indicates the high level of survival of material remains relating to the battle. This is emphasized by the recovery of 41 lead projectiles while using 10 m transects in most areas, except those areas nearest Urrard House which were 100% surveyed. The finds suggest that a much larger quantity of material might survive and would provide data for ever more effective interpretation. The results from F11/F1 and F13/F5 are particularly interesting due to the high number of munitions in each area, collectively equating to almost 80% of the total assemblage recovered during these recent surveys. Over 56% of the munition assemblage was recovered from F13/F5 and 31 % of the munitions were recovered from F11/F1. This high number of munitions might be due to the heavy fighting which is thought to have occurred around Urrard House during the battle. These figures can be interpreted using the accounts of the battle and the previous findings from the 2003 survey for Two Men in A Trench.

8.2 The Battle of Killiecrankie is a site of national significance, shown by its inclusion in the Inventory of Scottish Battlefields, because of its key role in the first Jacobite rising of 1689. While a Jacobite victory, the loss of Viscount Dundee in the fighting deprived the Jacobites of an effective and charismatic leader, and the rising faltered after the failure to take Dunkeld, finally coming to an end on the Haughs of Cromdale the following year. The material recovered from the current survey is considered here with the material from the 2003 project to enhance understanding of the choreography of the battle, and will not be considered in isolation.

8.3 The recovery of projectiles was greater on the Jacobite left flank than on the right (Blair Atholl rather than Pitlochry), which is in agreement with the results of the 2003 project and the account of General Mackay (http://digital.nls.uk/scotlandspages/timeline/1689.html). In his account of the battle, Mackay was dismissive of his experienced troops on the government left flank, who he said barely fired a shot. MacKay's account describes his troops as fleeing the field, *"so that in the twinkling of an eye ... our men, as well as the enemy, were out of sight, being got doun pall mall to the river where our baggage stood"*. The results of the 2003 survey supported this account, with very little in the way of lead munitions recovered on the supposed Jacobite right flank. The present survey recovered 58% of all projectiles on the position of the Jacobite left flank, as opposed to 32% of the same assemblage on the Jacobite right flank. In addition to the statements by Mackay about the government left, he also reported that the majority of the 800 Jacobite casualties were on the Jacobite left (i.e. closest to Pitlochry). This means that the Pitlochry side of the battlefield would be expexted to have a higher concentration of munitions than the Blair Atholl side, an interpretation that was thoroughly supported by the 2003 results as well as these most recent surveys in 2015.

8.4 The 2003 survey had shown, albeit using specific targeted grids covering 48, 400 m² (4.84 hectares), that there was a higher incidence of munitions in the areas north, south and east of Urrard House (figure 6), with the highest concentration recovered from the grid directly NNE of Urrard House; 25 lead munitions were recovered from this 6,400 m² area. During the 2003

survey a total of 14, 13 and five lead munitions were recovered from the areas to the east, south and extreme south of Urrard House respectively (figure 6), further substantiating the interpretation that the fighting concentrated around Urrard House. A total of five lead munitions were recovered from the area east of the Lagnabuaig farmstead, possible representing the engagement with those in the sniper position in Mackay's account. In the linear transect west of the A9 underpass only two lead munitions were recovered on the south side of the road with a single lead munition recovered from the Urrard Steading fields, corresponding to F3 in the 2015 survey area. It should be noted that the survey in 2003 was conducted on a grid system where each 400 m² (20 m by 20 m) grid was 100% surveyed, not the transect system used most recently. From the total of 64 munitions recovered in 2003, 39 % were recovered from the grid which coincides with F13 in the most recent survey. What could not be said in 2003, due to the limited scope of the survey area, was that there are two clusters in this area leading north to south across the line of the A9, as observed in paragraph 7.7 above. The most recent survey therefore, in pursuing even statistical coverage, has enhanced the interpretations drawn from the 2003 data, showing that the distribution of munitions in this area is real and not manufactured by targeted grids.

Discussion

9.1 The metal detecting survey at Killiecrankie Battlefield site has produced a number of significant finds relating to the battle including musket/carbine and pistol balls. Significant finds included 41 musket/carbine/pistol balls, copper alloy buttons, two buckles, four horse shoe and horseshoe fragments, several fragments of a copper alloy bangle, a copper alloy pendant, a copper alloy harness boss and a part of the support for a sword belt.

9.2 The highest density of these finds appears to be in the central area and to a lesser extent in the north-western area of the survey, with fewer artefacts recovered in the south-east area. This dearth of finds in the south-east is likely to be due to the main focus of the battle being in the central and north-west areas, in the direction of Blair Atholl which the Government army was attempting to reach. The north-west and central areas were particularly steep with natural terracing along the hillside which would have afforded cover to the Jacobite troops as they made their way down the valley sides, dipping in and out of view, towards the Government soldiers on the day of the battle (Banks and Pollard 2004). The recovery of artefacts such as musket, carbine and pistol balls from these areas provides information on the route the soldiers took during the battle and the possible areas of close combat where personal items such as buttons and buckles were lost.

9.3 Interestingly most of the recovered munitions appear to be on the north side of the A9 and on those areas which are more topographically even despite the southern gradient. The presence of the pistol balls in particular would suggest close quarters fighting as the effective range would be 25 -30 m; carbines and pistols were used by cavalry in the main, while pistols were also largely a weapon used by officers (Iain Banks, pers. comm.). Many of the recovered munitions revealed evidence of use, with several containing surface indentations (SF 98), whilst others appeared completely flat (SF 83) having lost their spherical shape (plate 13). Lead is a very soft, malleable metal with a low melting point of only 327 degrees centigrade. When a lead ball is shot through a weapon the firing velocity and temperature increases making this already soft metal more malleable. The result is that on impact the ball can easily deform, at times completely losing it shape, becoming a 'splatter'. However, the low melting properties of lead had an advantage in the field in that the balls could be easily manufactured over a domestic fire (Shopland 2005). Once molten the lead was then poured into a 2-part cavity mould and following solidification the excess lead along the mould seam and 'sprue' were trimmed. Evidence of the mould seam and sprue is still observable on pistol shot SF 143 (plate 14) which could suggest that this munition ball has not been fired. During the confusion of battle it could easily have been dropped. A part of the support for a seventeenth century sword belt SF220 (plate 7) was recovered from F11 during the most recent survey, this object was identified at short notice with assistance from Natasha Ferguson and Stuart Campbell, TTU. No other weaponry related items were recovered during the present work programme; any weapons presumably were removed following the battle to be re-used at a later date.

Plate 13: Splattered and Impacted Munitions SF 83 and SF 98.

Plate 14: Pistol Shot SF 143 with casting sprue remnant.

9.4 Few horse shoes were also located and only four of possible Killiecrankie date (plates 6 and 7). In the seventeenth century horse shoes tended to be larger and heavier than earlier periods with nail holes around the whole shoe including the toe area (Shopland 2005). Unfortunately due to corrosion it was difficult to observe the shape and position of many of the holes. However, the 'keyhole' shape of horse shoe SF 13 would indicate that it is of earlier date (Shopland 2005, Iain Banks pers comm.). The three horseshoe fragments were found in relative close proximity in fields F5, F6 and F13. From historical accounts the cavalry is said to have moved downhill, across the central area of the survey area, which does not appear to be as steep as those areas further to the north-west.

9.5 Most of the buttons recovered comprised of copper alloy and were roughly circular in shape (plates 3 and 5) with remnants of a pin at the rear with SF 221 being almost spherical with an eyelet on the reverse. According to Iain Banks (per comm.) the morphology and design of these buttons would suggest that they are of an earlier, probable seventeenth century date. The pendant recovered from F13 may be of seventeenth century date but will require comparison with similar material to confirm this. The harness boss recovered from F15 is also interpreted as of the correct period, again this could be further substantiated with the comparison of the item with similar objects of the period.

9.6 In combining the results from the 2003 survey results, while acknowledging the variability in terms of survey technique and targeting, the account of Mackay does appear to reflect the pattern of distribution in the munitions and other finds. The munitions concentrations continue southwards beyond Urrard House, perhaps reflecting the direct line of retreat downslope towards the River Garry before the surviving soldiers fled along with Mackay to Stirling.

Acknowledgements

10.1 GUARD would like to thank Johnny Dempsey, Ed Danaher and Fergus Allan of Jacobs UK Limited, Sarah Winlow of Perth and Kinross Heritage Trust and Mrs Price and Mr Muirhead for their kind help. Thank you to Dr Iain Banks and Dr Tony Pollard of the Centre for Battlefield Archaeology Glasgow University for collaborating with us on the project, for supplying information on their surveys of 2003, for on-site expertise, post-survey analysis and interpretation. Thank you to Dr Natasha Ferguson and Stuart Campbell of the Treasure Trove Unit for identifying the Murray livery button and sword belt fitting at short notice. Thank you to Erica Villas, Dairmuid O'Connor and Juan Ignacio de Vicente for their hard work in rugged terrain. Thank you to the metal detectorists from Detecting Scotland - James Crombie, Mark Urquhart, Euan Kennedy, Peter Burgess, Tommy Baxter, Allan Butler, John McRobbie and Gerry Clifford, Grant Maxwell, Hugh Clifford Ian Gowan, Alastair Barrie, David Struthers, Alastair Milne, Stuart Brown, Ian Macadam and Rob Cairney. SARG detectorists were - Hilary Maxtone, Alex Reston, Tommy McBride, Bill Cooper, Graham McKerran, Douglas Whittrick, Gary Mitchell, Des Donnelly, Margaret McMillan and David McMillan for their hard work and on site dedication. Technical support was from Aileen Maule. On-site survey was conducted by Dairmuid O'Connor. The illustrations were produced by Dairmuid O'Connor. The report was desk top published by Gillian McSwan. The project was managed for GUARD by Warren Bailie.

A9 Dualling Programme Killiecrankie to Pitagowan: Archaeological Metal Detecting Survey at Killiecrankie Battlefield

Section 2: Appendices

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Appendices

Appendix A: Bibliography

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Appendix B: List of Finds

Find No.	Field No.	Transect No.	Context No.	No. of Pieces	Material	Type	Description
1	F9	T41	001	1	Metal	Iron	nail
2	F9	T43	001	1	Metal	Cu	1912 coin
3	F9	T44	001	1	Metal	Lead	impacted musket ball
4	F9	T46	001	1	Metal	Cu alloy	cylindrical metal frag
5	F9	T47	001	1	Metal	Iron	horseshoe frag
6	F9	T51	001	1	Metal	?Steel	lump
7	F9	T53	001	1	Metal	Iron	horseshoe frag
8	F9	T54	001	1	Metal	Iron	possible sharpening implement
9	F9	T57	001	1	Metal	Cu alloy	button, possible 17th century date
10	F9	T61	001	1	Metal	Cu alloy	George V coin (1910?)
11	F5	N/A	001	1	Metal	Cu alloy	heart shaped brooch (post-17th century)
12	F5	N/A	001	1	Metal	Cu alloy	plate fragment
13	F6	N/A	001	1	Metal	Fe	horseshoe,possible early date
14	F1	T2	001	1	Metal	Lead	splatter (munition)
15	F1	T2	001	1	Metal	Cu alloy	possible object
16	F1	T2	001	1	Metal	Lead	lead plate
17	F5	N/A	001	1	Metal	Fe	horseshoe (part of), possible early date
18	F5	N/A	001	1	Metal	Cu alloy	Button – no decoration, possible 17th century date
19	F1	T5	001	1	Metal	Cu alloy	possible object
20	F1	T5	001	1	Metal	Lead	splatter (munition)
21	F5	N/A	001	1	Metal	Iron	horseshoe (later in date)
22	F5	N/A	001	1	Metal	Lead	musket ball
23	F1	T6	001	1	Metal	Lead	splatter (munition)
24	F5	N/A	001	1	Metal	Lead	carbine/pistol ball
25	F1	T2	001	1	Metal	Fe	bullet (0.22)
26	F5	N/A	001	1	Metal	Fe	buckle (later in date)
27	F1	T13	001	1	Metal	Lead	tube (flat)
28	F1	T15	001	1	Metal	Fe	metal object
29	F1	T2	001	1	Metal	Cu alloy	circular object
30	F1	T2	001	1	Metal	Fe	frag? object
31	F1	T2	001	2	Metal	Fe	harness/harness chain link (later in date)
32	F1	T3	001	1	Metal	Fe	nail (square head)

Find No.	Field No.	Transect No.	Context No.	No. of Pieces	Material	Type	Description
33	F1	T5	001	1	Metal	Fe	file/blade
34	F1	T5	001	1	Metal	Fe	nail
35	F1	T5	001	1	Metal	Fe	nail (square)
36	F1	T6	001	1	Metal	Fe	large nail (square)
37	F1	T6	001	1	Metal	Fe	large nail
38	F1	T6	001	1	Metal	Cu alloy	bullet casing
39	F1	T7	001	1	Metal	Cu alloy	Button – no decoration
40	F1	T5	001	1	Metal	Fe	hammer?
41	F1	T5	001	1	Metal	Fe	frag of horseshoe
42	F1	T2	001	2	Metal	Fe	possible objects
43	F1	T2	001	1	Metal	Cu alloy	coin
44	F1	T9	001	1	Metal	Fe	machinery key
45	F1	T13	001	1	Metal	Fe	ring (twisted metal)
46	F1	T15	001	1	Metal	Alloy	frag
47	F1	T15	001	1	Metal	Cu alloy	19th century livery button of Murray family
48	F1	T14	001	1	Metal	Lead	splatter (munition)
49	F1	T16	001	1	Metal	Lead	lead pipe
50	F1	T16	001	1	Metal	Alloy/Lead	possible vessel fragment (unknwn date)
51	F1	T16	001	1	Metal	Lead	pipe frag
52	F1	T16	001	2	Metal	Cu alloy	button
53	F1	T16	001	1	Metal	Fe	horseshoe frag (later in date)
54	F1	T17	001	1	Metal	Cu alloy	plate (sheet)
55	F1	T18	001	1	Metal	Fe	nail head
56	F1	T22	001	1	Metal	Fe	tweezer object
57	F1	T25	001	1	Metal	Cu alloy	button (possible 17th century date)
58	F1	T25	001	1	Metal	Cu alloy	cylinder
59	F1	T24	001	1	Metal	Cu alloy	modern button
60	F1	T24	001	1	Metal	Fe	buckle/harness frag
61	F1	T26	001	1	Metal	Fe	horseshoe frag
62	F1	T31	001	1	Metal	Alloy	possible object
63	F1	T28	001	1	Metal	Fe	nail frag
64	F1	T29	001	1	Metal	Lead	frag
65	F1	T31	001	1	Metal	Fe	ring (twisted metal)
66	F1	T34	001	1	Metal	Fe	bar
67	F1	T34	001	1	Metal	Cu alloy	button – no decoration (possible 17th century date)
68	F1	T33	001	1	Metal	Fe	object frag
69	F1	T34	001	1	Metal	Cu alloy	cut sheet fragment
70	F1	T37	001	1	Metal	Alloy	badge with 'Pitlochry' stamp
71	F1	T39	001	1	Metal	Cu alloy	button (possible 17th century date)
72	F1	T12	001	1	Metal	Cu alloy	part of buckle (possible 17th century date)
73	F1	T13	001	1	Metal	Fe	large nail
74	F14	T136	001	1	Metal	Cu alloy	halfpenny coin
75	F14	T135	001	1	Metal	Fe	wedge
76	F14	T135	001	1	Metal	Cu alloy	part of buckle
77	F14	T133	001	1	Metal	Fe	horseshoe fragment (not enough surviving to date)
78	F17	T141	001	1	Metal	Fe	unknown object
79	F15	T145	001	1	Metal	Fe	horseshoe (18-19th century in date)
80	F17	T145	001	1	Metal	Fe	unknown object
81	F17	T146	001	1	Metal	Fe	large lump, unknown object
82	F17	T146	001	1	Metal	Fe	bolt
83	F17	T155	001	1	Metal	Lead	splatter (munition)

Find No.	Field No.	Transect No.	Context No.	No. of Pieces	Material	Type	Description
84	F15	T160	001	1	Metal	W/zinc	unknown object
85	F15	T157	001	3	Metal	Cu alloy	fragments of bangle/buckle
86	F13	T127	001	1	Metal	Fe	unknown object
87	F13	T124	001	2	Metal	Fe	buckle (later in date)
88	F13	T123	001	1	Metal	Fe	Object/nail
89	F13	T121	001	1	Metal	Fe	horseshoe fragment (possible seventeenth century date)
90	F13	T121	001	1	Metal	Fe	Plate and handle
91	F13	T120	001	1	Metal	Cu alloy	Strap stud hook
92	F14	T138	001	1	Metal	Lead (?)	fragment
93	F17	T153	001	1	Metal	Fe/Alloy	strip
94	F17	T152	001	1	Metal	Fe	strip/bar
95	F13	T127	001	1	Metal	Lead	unknown object
96	F13	T127	001	1	Metal	Cu alloy	buckle? bridal fragment (later in date)
97	F13	T127	001	1	Metal	Lead	carbine/pistol shot
98	F13	T127	001	1	Metal	Lead	musket ball
99	F13	T119	001	1	Metal	Fe	ring (bull ring)
100	F13	T119	001	1	Metal	Aluminium/ Ag	Button compass etch
101	F13	T117	001	1	Metal	Cu alloy	machine made circular fragment
102	F13	T117	001	1	Metal	Fe	unknown fragment
103	F13	T115	001	1	Metal	Fe	small squat nail
104	F13	T113	001	1	Metal	Steel	modern button
105	F13	T112	001	1	Metal	Lead	fragment
106	F13	T111	001	1	Metal	Lead	carbine shot
107	F13	T110	001	1	Metal	Cu alloy	coin
108	F13	T111	001	1	Metal	Fe	bullet (modern)
109	F13	T111	001	1	Metal	Fe	bullet (modern)
110	F13	T112	001	1	Metal	Cu alloy	hook/strap end?
111	F13	T112	001	1	Metal	Fe	iron ring (modern)
112	F13	T108	001	1	Metal	Fe	modern bullet
113	F13	T108	001	1	Metal	Alloy	modern bullet
114	F13	T108	001	1	Metal	Fe	unknown object
115	F13	T108	001	1	Metal	Fe	unknown object
116	F13	T109	001	1	Metal	Cu alloy	modern fragment
117	F13	T106	001	1	Metal	Lead	pistol ball splatter
118	F13	T105	001	1	Metal	Lead	musket ball
119	F13	T105	001	1	Metal	Lead	unknown object
120	F13	T104	001	1	Stone?	?	unknown object
121	F13	T104	001	1	Metal	Lead	musket ball
122	F13	T106	001	1	Metal	Lead	pistol shot
123	F12	T100	001	1	Metal	Fe	unknown object
124	F12	T100	001	1	Metal	Lead	unknown object
125	F12	T100	001	1	Metal	Lead	unknown object
126	F12	T100	001	1	Metal	Cu alloy	button
127	F11	T96	001	1	Metal	Lead	unknown object
128	F11	T95	001	1	Metal	Lead	fragment
129	F11	T93	001	1	Metal	Lead	fragment
130	F11	T92	001	1	Metal	Cu alloy	button (later in date)
131	F11	T92	001	1	Metal	Lead	munition ball deformed through use
132	F11	T91	001	1	Metal	Cu alloy	button stamp on reverse (later in date)
133	F11	T91	001	1	Metal	Cu alloy	modern sheet fragment
134	F11	T89	001	1	Metal	Fe	modern machinery fragment
135	F11	T83	001	1	Metal	Lead	carbine shot
136	F11	T87	001	1	Metal	Lead	fragment

Find No.	Field No.	Transect No.	Context No.	No. of Pieces	Material	Type	Description
137	F11	T87	001	1	Metal	Cu alloy	button
138	F11	T84	001	1	Metal	Cu alloy	fragment
139	F11	T82	001	1	Metal	Lead	pistol shot (or small carbine)
140	F11	T81	001	1	Metal	Lead	musket ball
141	F11	T79	001	1	Metal	Lead	pistol shot with sprue
142	F11	T78	001	1	Metal	Fe	object
143	F11	T75	001	1	Metal	Lead	pistol shot with sprue
144	F11	T76	001	1	Metal	Fe	fragment (used)
145	F11	T76	001	1	Metal	Cu alloy	button
146	F11	T76	001	1	Metal	Cu alloy	object handle
147	F11	T75	001	1	Metal	Lead	fragment
148	F11	T75	001	1	Metal	Cu alloy	coin
149	F11	T76	001	1	Metal	Lead	fragment
150	F11	T76	001	1	Metal	Lead	carbine shot
151	F11	T77	001	1	Metal	Fe	horseshoe (later in date)
152	F11	T82	001	1	Metal	Lead	object (not related to battle)
153	F11	T82	001	1	Metal	Cu alloy	fragment
154	F11	T87	001	1	Metal	Cu alloy	unknown object
155	F11	T88	001	1	Metal	Lead	musket ball with sprue
156	F11	T89	001	1	Metal	Lead	musket ball
157	F11	T90	001	1	Metal	Fe	iron ring
158	F11	T93	001	1	Metal	Lead	fragment
159	F11	T93	001	1	Metal	Cu alloy	button
160	F13	T193	001	1	Metal	Lead	fragment (deformed
161	F13	T194	001	1	Metal	Lead	imparted shot- carbine
162	F13	T189	001	1	Metal	Cu Alloy	buckle/ fastening
163	F13	T191	001	1	Metal	Cu alloy	coin
164	F13	T192	001	1	Metal	lead	muskett ball
165	F13	T192	001	1	Metal	Iron	horse shoe frag
166	F13	T192	001	1	Metal	Cu alloy	button
167	F13	T192	001	1	Metal	iron	strip/bar ?
168	F13	T193	001	1	Metal	iron	nail ?
169	F13	T193	001	1	Metal	Cu alloy	button
170	F13	T193	001	1	Metal	iron	horse shoe/ nail ?
171	F13	T193	001	1	Metal	Cu alloy	coin/button
172	F13	T193	001	1	Metal	lead	rifle bullet carbine
173	F13	T192	001	1	Metal	fe	horse shoe frag
174	F13	T194	001	1	Metal	lead	carbine shot
175	F13	T194	001	1	Metal	lead	carbine shot
176	F13	T194	001	1	Metal	Cu alloy	buckle
177	F13	T194	001	1	Metal	lead	carbine shot
178	F13	T194	001	1	Metal	lead	carbine shot
179	F13	T194	001	1	Metal	iron	collar
180	F13	T195	001	1	Metal	Iron	frag
181	F13	T195	001	1	Metal	Iron	clasp/buckle/harness frag ?
182	F13	T195	001	1	Metal	Cu alloy	bullet carbine
183	F13	T194	001	1	Metal	Cu alloy	bullet carbine
184	F13	T194	001	1	Metal	Cu alloy	button
185	F13	T198	001	1	Metal	Iron	hook
186	F13	T198	001	1	Metal	lead	small frag
187	F13	T196	001	1	Metal	lead	small frag
188	F13	T198	001	1	Metal	lead	sheet
189	F13	T198	001	1	Metal	Iron	buckle
190	F13	T199	001	1	Metal	Iron	frag

Find No.	Field No.	Transect No.	Context No.	No. of Pieces	Material	Type	Description
191	F13	T198	001	1	Metal	Cu alloy	pendant
192	F13	T198	001	1	Metal	alloy	frag
193	F13	T202	001	1	Metal	Cu alloy	coin
194	F13	T201	001	1	Metal	fe	splatter ?
195	F13	T205	001	1	Metal	fe	buckle
196	F13	T207	001	1	Metal	fe	nail ?
197	F13	T211	001	1	Metal	fe	pistol shot carbine
198	F13	T207	001	1	Metal	fe	ring?
199	F13	T209	001	1	Metal	pb	pistol shot carbine
200	F13	T211	001	1	Metal	pb	musket ball (deformed)
201	F13	T211	001	1	Metal	Cu alloy	button/ coin
202	F13	T202	001	1	Metal	alloy	seal
203	F13	OFF T	001	1	Metal	pb	musket ball
204	-	-	-	-	-	-	VOID
205	F14	T223	001	1	Metal	copper	seal ?
206	F15	T225	001	1	Metal	pb	harness boss
207	F15	T227	001	1	Metal	pb	buckle
208	F15	T227	001	1	Metal	iron	pick head
209	F17	T229	001	1	Metal	copper	bracelet frag? (modern)
210	-	-	-	-	-	-	VOID
211	F17	T228	001	1	Metal	iron	rusty iron
212	F17	T226	001	1	Metal	iron	nail
213	F17	T224	001	1	Metal	lead	brooch
214	-	-	-	-	-	-	VOID
215	-	-	-	-	-	-	VOID
216	F11	T173	001	1	Metal	lead	frag shot
217	F11	T173	001	1	Metal	lead	frag shot
218	F11	T173	001	1	Metal	alloy	button
219	F11	T176	001	1	Metal	alloy	spoon (tea) ?
220	F11	T170	001	1	Metal	Cu alloy	Part of support for sword belt- 17th C
221	F11	T170	001	1	Metal	Cu alloy	button (jacket)
222	-	-	-	-	-	-	VOID
223	F11	T174	001	1	Metal	Cu alloy	coin (hammered)
224	F11	T175	001	1	Metal	lead	frag
225	F11	T177	001	1	Metal	Lead	pistol shot (flattened)
226	F11	T177	001	1	Metal	Cu alloy	button
227	F11	T179	001	1	Metal	Cu alloy	ring
228	F11	T182	001	1	Metal	lead	lump
229	F11	T176	001	1	Metal	fe	frag metal with spike
230	F11	T173	001	1	Metal	fe	musket ball
231	F11	T174	001	1	Metal	fe	iron buckle
232	F11	T175	001	1	Metal	pb	frag
233	F11	T171	001	1	Metal	Cu alloy	bracket/ buckle ?
234	F11	T171	001	1	Metal	Cu alloy	halfpenny coin
235	F11	T171	001	1	Metal	unknown	unidentified object
236	F11	T171	001	1	Metal	lead	frag
237	F11	T171	001	1	Metal	Cu alloy	coin (King George III)
238	F11	T172	001	1	Metal	lead	fragment
239	F11	T173	001	1	Metal	Cu alloy	button
240	F11	T177	001	1	Metal	lead	lump
241	F11	T174	001	1	Metal	alloy	button
242	F11	T175	001	1	Metal	Lead	splatter
243	F11	T178	001	1	Metal	Lead	frag
244	F11	T178	001	1	Metal	alloy	frag

Find No.	Field No.	Transect No.	Context No.	No. of Pieces	Material	Type	Description
245	F11	T178	001	1	Metal	Lead	frag
246	F11	T181	001	1	Metal	Cu alloy	coin
247			001	1	Metal	lead	splatter ?
248	F11	T185	001	1	Metal	Cu alloy	button
249	F11	T185	001	1	Metal	Cu alloy	button

Appendix C: Table of Discarded Finds

Find No.	Context No.	No. of Pieces	Material	Type	Description
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Aluminium	stray find (can frag.)
500	001	1	Metal	Iron	stray find
500	001	1	Metal	Lead	stray find (battery – modern)
500	001	1	Metal	Cu alloy	stray find (lid – modern)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (gate frag?)
500	001	1	Metal	Cu alloy	stray find (key – modern)
500	001	1	Metal	Iron	stray find (bracket)
500	001	1	Metal	Iron	stray find (bracket)
500	001	1	Metal	Iron	stray find (burning mat)
500	001	1	Metal	Iron	metal bar SF
500	001	1	Metal	Cu alloy	stray find (jeans button)
500	001	1	Metal	Iron	stray find (modern plough frag)
500	001	1	Metal	Iron	stray find (pipe frag?)
500	001	1	Metal	Iron	stray find (latch)
500	001	frags	Metal	?Steel	stray find (steel frags)
500	001	1	Metal	?Steel	stray find (steel frags)
500	001	1	Metal	Iron	stray find (lock – modern)
500	001	1	Metal	Iron	stray find (strap)
500	001	1	Metal	Cu alloy	stray find (hinge – modern)
500	001	1	Metal	Cu alloy	stray find (bead)
500	001	1	Metal	Fe	stray find (iron nail)
500	001	1	Metal	Fe	stray find (iron lump)
500	001	1	Metal	Iron	stray find (slag)
500	001	1	Metal	Iron	stray find (frag)
500	001	1	Metal	Cu alloy	stray find (key)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Zinc	stray find (zinc plate)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Cu alloy	stray find (watch)
500	001	1	Metal	Iron	stray find (wire)
500	001	1	Metal	Iron	stray find (wire)
500	001	1	Metal	Iron	stray find (plate)
500	001	1	Metal	Iron	stray find (wire)
500	001	1	Metal	Iron	stray find (plate)
500	001	1	Metal	Iron	stray find (plate)
500	001	1	Metal	Iron	stray find (tip of plough)

Find No.	Context No.	No. of Pieces	Material	Type	Description
500	001	1	Metal	Cu alloy	stray find (lid)
500	001	1	Metal	Cu alloy	small, modern fragment
500	001	1	Metal	Cu alloy	stray find (no.6)
500	001	1	Metal	Iron	stray find (wire)
500	001	1	Metal	Iron	stray find (plate)
500	001	1	Metal	Cu alloy	stray find (strap)
500	001	1	Metal	Iron	stray find (wire)
500	001	1	Metal	Fe	stray find (cart ring)
500	001	1	Metal	Fe	stray find (wire)
500	001	1	Metal	Fe	stray find (iron bolt)
500	001	3	Metal	Fe	stray find (strapping)
500	001	1	Metal	Fe	stray find (iron hook)
500	001	1	Metal	Aluminium	stray find
500	001	1	Metal	Fe	stray find (plough frag)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (strap)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (bar)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (wire)
500	001	1	Metal	Fe	stray find (plate)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Cu alloy	stray find
500	001	1	Metal	Fe	stray find (nail)
500	001	1	Metal	Fe	stray find (nail)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (nail)
500	001	1	Metal	Tin	stray find (sheet)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (frag of modern tube)
500	001	1	Metal	Fe	stray find (ring)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (nail)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Iron	stray find (metal sheet)
500	001	1	Metal	Iron	stray find (base plate)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (plate)
500	001	1	Metal	Fe	stray find (buckle)
500	001	1	Metal	Fe	stray find
500	001	1	Metal	Fe	stray find (nail)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (keyhole)
500	001	1	Metal	Fe	stray find (trap frag)
500	001	1	Metal	Fe	stray find (modern shotgun cartridge)
500	001	1	Metal	Fe	stray find (trap frag)
500	001	1	Metal	Fe	stray find (modern shotgun cartridge)

Find No.	Context No.	No. of Pieces	Material	Type	Description
500	001	1	Metal	Fe	stray find (wire)
500	001	1	Metal	Fe	stray find (metal bar)
500	001	1	Metal	Fe	stray find (nail – modern)
500	001	1	Metal	Fe	stray find (nail – modern)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Cu alloy	stray find
500	001	1	Metal	Aluminium	stray find (tube frag)
500	001	1	Metal	Fe	stray find (frag only)
500	001	1	Metal	Fe	stray find (modern plate)
500	001	1	Metal	Cu alloy	stray find (modern machine-made hinge)
500	001	1	Metal	Fe	stray find (nail – modern)
500	001	1	Metal	Fe	stray find (nail – modern)
500	001	1	Metal	Fe	stray find (frag – flat strip)
500	001	1	Metal	Fe	stray find (modern plate)
500	001	1	Metal	Fe	stray find (screw and bolt)
500	001	1	Metal	Fe	stray find (plate frag)
500	001	1	Metal	Fe	stray find (agricultural implement)
500	001	1	Metal	Fe	stray find (round headed nail)
500	001	1	Metal	Fe	stray find (machine part)
500	001	1	Metal	Fe	stray find (strip)
500	001	1	Metal	Fe	stray find (strip)
500	001	1	Metal	Fe	stray find (bolt)
500	001	1	Metal	Fe	stray find (agricultural equipment (modern)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (nail frag)
500	001	1	Metal	Fe	stray find (lump)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Alloy	stray find (frag)
500	001	1	Metal	Fe	stray find (strap)
500	001	1	Metal	Fe	stray find (bolt)
500	001	1	Metal	Cu alloy	stray find (machine-made frag)
500	001	1	Metal	Fe	stray find (plate frag)
500	001	1	Metal	Fe	stray find (machine frag)
500	001	1	Metal	Fe	stray find (nail – modern)
500	001	1	Metal	Fe	stray find (modern screw nail)
500	001	1	Metal	Fe	stray find (plate)
500	001	1	Metal	Steel	stray find (pin)
500	001	1	Metal	Fe	stray find (modern pin)
500	001	1	Metal	Alloy	stray find (small modern buckle)
500	001	1	Metal	Alloy	stray find (modern pipe frag)
500	001	1	Metal	Brass	stray find (machine-made cylinder)
500	001	1	Metal	Fe	stray find (frag/lump)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (lump)
500	001	1	Metal	Fe	stray find (lump)
500	001	1	Metal	Fe	stray find (sheet)
500	001	1	Metal	Fe	stray find (machine-made frag)
500	001	1	Metal	Fe	stray find (modern steel)
500	001	1	Metal	Fe	stray find (lump)
500	001	1	Metal	Fe	stray find (modern steel plate)
500	001	1	Metal	Fe	stray find (modern steel plate)
500	001	1	Metal	Fe	stray find (agricultural machine part)
500	001	1	Metal	Fe	stray find (lump)

Find No.	Context No.	No. of Pieces	Material	Type	Description
500	001	2	Metal	Fe	stray finds (frags, bar)
500	001	1	Metal	Fe	stray find (plate)
500	001	1	Metal	Fe	stray find (plate)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (bar)
500	001	1	Metal	Fe	stray find (bar)
500	001	1	Metal	Fe	stray find (flat steel piece)
500	001	2	Metal	Fe	stray find (machine-made agricultural machinery)
500	001	1	Metal	Alloy	stray find (modern button)
500	001	1	Metal	Fe	stray find (machine-made metal ring)
500	001	1	Metal	Fe	stray find (steel frag)
500	001	1	Metal	Fe	stray find (flat steel frag – modern)
500	001	1	Metal	Aluminium	stray find (modern tin)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (frag)
500	001	1	Metal	Fe	stray find (wire)
500	001	1	Metal	Aluminium	modern tube
500	001	1	Metal	Fe	bolt head
500	001	2	Metal	Fe	bolt head
500	001	1	Metal	Fe	modern tube
500	001	1	Metal	Fe	wire
500	001	1	Metal	Cu alloy	cap (cartridge)
500	001	1	Metal	Fe	bolt head
500	001	1	Metal	Cu alloy	cap (cartridge)
500	001	1	Metal	Fe	agricultural implement
500	001	1	Metal	Fe	lump
500	001	2	Metal	Fe	2 x wire
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump
500	001	3	Metal	Fe	wire
500	001	4	Metal	Fe	metal fence hook
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump (wire)
500	001	1	Metal	Fe	lump (wire)
500	001	1	Metal	Fe	lump (wire)
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	bullring (?)
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	nail (modern)
500	001	1	Metal	Fe	lump
500	001	2	Metal	Fe	nail and lump
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	agricultural implement
500	001	1	Metal	Fe	drain pipe fragment
500	001	1	Metal	Fe	iron Bar (fence) SF
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	modern screw
500	001	1	Metal	Fe	lump

Find No.	Context No.	No. of Pieces	Material	Type	Description
500	001	1	Metal	Fe	bolt head
500	001	1	Metal	Cu alloy	cartridge cap (modern)
500	001	1	Metal	Fe	lump
500	001	1	Metal	Fe	strap/bar (modern)
500	001	1	Metal	Aluminium	sheet
500	001	1	Metal	Aluminium	fragment
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	chair casters
500	001	1	Metal	Fe	bar
500	001	1	Metal	Aluminium	can
500	001	1	Metal	Fe	chain link
500	001	1	Metal	Fe	modern hinge
500	001	1	Metal	Fe	sheet
500	001	1	Metal	Fe	Sheet
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	modern metal ring
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	handle (modern)
500	001	1	Metal	Fe	fragment SF
500	001	1	Metal	Fe	fragment SF
500	001	1	Metal	Fe	fragment SF
500	001	1	Metal	Aluminium/tin	bullet capsule (mod)
500	001	1	Metal	Fe	bolt head
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail (modern)
500	001	1	Metal	Fe	modern hook
500	001	1	Metal	Fe	nail (square)
500	001	1	Metal	Fe	nail (modern)
500	001	1	Metal	Fe	modern hinge
500	001	1	Metal	Fe	nail (modern)
500	001	1	Metal	Fe	nail (modern)
500	001	1	Metal	Fe	nail (modern)
500	001	2	Metal	Fe	fragments
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	threaded bolt
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe/plastic	modern gun cartridge
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	modern washer
500	001	1	Metal	Fe	modern gun cartridge
500	001	1	Metal	Fe	machine made washer
500	001	1	Metal	Fe	modern chain link
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail
500	001	1	Metal	Aluminium	fragment
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	fence hook
500	001	1	Metal	Fe	nail (modern)
500	001	1	Metal	Fe	flat machine made fragment
500	001	1	Metal	Fe	nail and washer
500	001	1	Metal	Fe	nail fragment
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail

Find No.	Context No.	No. of Pieces	Material	Type	Description
500	001	1	Metal	Fe	modern bar
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	fence pin
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	Modern screw
500	001	1	Metal	Fe	pipe
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	bolt
500	001	1	Metal	Fe	bolt
500	001	1	Metal	Fe and Pb	object
500	001	1	Metal	Fe	nail
500	001	1	Metal	Cu alloy	wire
500	001	1	Metal	Fe	nail
500	001	1	Metal	Cu alloy	thimble
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	screw
500	001	1	Metal	Fe	bolt
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	agricultural tool
500	001	1	Metal	Fe	modern fragment
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	large bolt
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	modern lock
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	bullring
500	001	1	Metal	Cu alloy	keyring fragment
500	001	1	Metal	Cu alloy	modern button
500	001	1	Metal	Fe	fragments
500	001	1	Metal	Fe	wire
500	001	1	Metal	Fe	fragment sheet
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	fragment
500	001	1	Metal	Fe	nail
500	001	1	Metal	Fe	bolt
500	001	1	Metal	Fe	modern agricultural part
500	001	1	Metal	Fe	bar (modern)
500	001	1	Metal	Aluminium	bottle top
500	001	1	Metal	Fe	iron washer
500	001	1	Metal	Fe	modern fragment
500	001	1	Metal	Fe	modern fragment
500	001	1	Metal	Fe	modern fragment
500	001	1	Metal	Fe	modern fragment

Appendix D: List of Photographs

File 1

Shot Number	Area	Details	Taken from
1	5	Shot of field alongside wood	SE
2	6	Gen. Shot of sub-rectangular field to E of sheepfold	N
3	6	Gen. Shot of sub-rectangular field to E of sheepfold	NW
4	6	Eastern field working shot	NW
5	6	Eastern field working shot	NW
6	9	Eastern field working shot	NW
7	9	Eastern field working shot	NE
8	7	Overgrown field to W of eastern field	NE
9	7	Overgrown field to W of eastern field	NE
10	8	Overgrown field - Strip to south	NW
11	7	Overgrown field - Strip to south	SW
12	7	Overgrown field - Strip to south	SE
13	6	Field to East of sheepfold	NW
14	6	Field to East of sheepfold	NW
15	6	Field to East of sheepfold	N
16	5	Strip to N of walled garden	SE
17	5	Strip to N of walled garden	SE
18	5	Strip to N of walled garden	NW
19	5	Strip to N of walled garden	NW
20	5	Land strip N of walled garden	SE
21	5	Shot of S-Side field in woodland	W
22	11	Gen. Shot of western field	W
23	1	Gen. Shot of western field	W
24	1	Gen. Shot of western field	SE
25	1	Gen. Shot of western field	NE
26	1	Gen. Shot of western field	SE
27	1	Gen. Shot of western field	E
28	1	Gen. Shot of western field	SW
29	1	Gen. Shot of western field	E

File 2

Shot Number	Area	Details	Taken from
1	14	General shot of field F14	SW
2	14	General shot of field F14	SW
3	14	General shot of field F14	NE
4	17	General shot of field F17	SW
5	17	General shot of field F17	SW
6	14	General shot of field F14	N
7	14	General shot of field F14	NW
8	14	General shot of field F14	NW
9	14	General shot of field F14	NE
10	15	General shot of field F15	W
11	15	General shot of field F15	E
12	17	General shot of field F17	N
13	17	General shot of field F17	NW
14	15	General shot of field F15	W
15	15	General shot of field F15	SE
16	17	General shot of field F17	NE
17	16	General shot of field F16	NW
18	16	General shot of field F16	NW
19	13	General shot of field F13	NW

Shot Number	Area	Details	Taken from
20	13	General shot of field F13	N
21	13	General shot of field F13	NE
22	13	General shot of field F13	NE
23	11	General shot of field F11	E
24	11	General shot of field F11	SE
25	12	General shot of field F12	W
26	11	General shot of field F11	S
27	11	General shot of field F11	SW
28	11	General shot of field F11	SW
29	10	General shot of field F10	SE
30	10	General shot of field F10	SE
31	10	General shot of field F10	SE
32	10	General shot of field F10	SE

Appendix E: Discovery and Excavation Scotland Entry

LOCAL AUTHORITY:	Perth and Kinross
PROJECT TITLE/SITE NAME:	A9 Dualling Programme Killiecrankie to Pitagowan: Killiecrankie Battlefield Metal Detecting Survey Report
PROJECT CODE:	4181
PARISH:	Moulin
NAME OF CONTRIBUTOR(S):	Maureen C. Kilpatrick and Warren Bailie
NAME OF ORGANISATION:	GUARD Archaeology Limited
TYPE(S) OF PROJECT:	Metal Detecting Survey
NMRS NO(S):	N/A
SITE/MONUMENT TYPE(S):	Battlefield
SIGNIFICANT FINDS:	Musket/pistol balls, copper alloy buttons, sword belt fitting, harness boss
NGR (2 letters, 6 figures)	NN 909 634
START DATE (this season)	12th August 2015
END DATE (this season)	13th October 2015
PREVIOUS WORK (incl. DES ref.)	--
MAIN (NARRATIVE) DESCRIPTION: (May include information from other fields)	A metal detecting survey was carried out by GUARD Archaeology Limited in collaboration with the Centre for Battlefield Archaeology, University of Glasgow, at the perceived location of Killiecrankie Battlefield to the south of Blair Atholl, Moulin Parish, Perthshire (figures 1 and 2). The work was carried out for Jacobs UK Limited on behalf of Transport Scotland to inform the cultural heritage input into the Design Manual for Roads and Bridges Stage 2 Assessment for the Killiecrankie to Pitagown project.. The survey focused on a linear stretch of land to the north and south of the existing A9 road comprising the Battlefield site. Investigations were carried out in accordance with the Project Specification (Jacobs 2015), Historic Scotland and CIfA guidelines, with the assistance of metal detecting volunteers from Detecting Scotland (DS) and Scottish Artefact Recovery Group (SARG). On-site professional archaeological guidance was provided by GUARD Archaeology with expert advice from the Centre for Battlefield Archaeology, University of Glasgow. Significant finds included 41 musket/carbine/pistol balls, six copper alloy buttons, two buckles, four horse shoe and horseshoe fragments, several fragments of a copper alloy bangle, a copper alloy pendant, a copper alloy harness boss and a part of a sword belt fitting.
PROPOSED FUTURE WORK:	Possible
SPONSOR OR FUNDING BODY:	Transport Scotland
CAPTION(S) FOR ILLUSTRS:	Figure 1: Location Map showing Jacobite and Government troop lines Figure 2: Surveyed Areas and Finds Distribution
ADDRESS OF MAIN CONTRIBUTOR:	GUARD Archaeology Ltd, 52 Elderpark Workspace, 100 elderpark Street, Glasgow, G51 3TR
EMAIL ADDRESS:	bob.will@guard-archaeology.co.uk
ARCHIVE LOCATION (intended/deposited)	NMRS and Perth and Kinross Archaeological Trust

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