

# The WW1 practice trenches on Blaeberry Hill near Rothbury, Northumberland: Coquetdale Community Archaeology Excavations in 2008

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## SUMMARY

*Coquetdale Community Archaeology investigated the First World War practice trench network on Blaeberry Hill near Rothbury, Northumberland, in February and June 2008. Preliminary survey identified two areas for excavation: Area 1, the intersection of a dugout and communications trench, and Area 2, a reserve trench. This paper summarises and builds on the results of the excavation report. The aims of the project were to investigate the extent, nature and development of military training in Coquetdale, to identify the nature and survival of WW1 remains, and to identify the impact of the military on Upper Coquetdale. This paper finds that the trenches were probably constructed and re-used in trench construction training for the Tynedale 1st Pioneers Battalion in 1915, and are comparable in their layout depth and design features to both War Office specifications and Western Front trenches. While the presence of the Pioneers in Rothbury was a significant social event, these trenches and the training that occurred there did not significantly increase recruitment in the later years of the War.*

## INTRODUCTION

WITH THE CENTENARY OF THE FIRST WORLD WAR, the archaeology of Home Front war preparation is under increased scrutiny by community and professional archaeologists (e.g. Pollard and Banks 2007; Moshenska 2008; Council for British Archaeology 2014) and historians (e.g. Jones 2013). Perhaps due to a perception of the Great War as being fought ‘on foreign soil’ (Brown and Field 2009, 299), Home Front archaeology has been an under-researched area; the recent boom in WW1-related research projects has yielded numerous forgotten sites of war preparation and training, often hidden in plain sight on town commons, playing fields and patches of waste ground across the nation. This paper presents an early instance of such work: Coquetdale Community Archaeology’s (CCA) 2008 excavation of the Blaeberry Hill practice trench system near Rothbury, Northumberland.

Coquetdale Community Archaeology aimed to investigate the extent, nature and development of military training in Coquetdale; to identify which military structures were constructed in the valley and in what condition, if at all, they survive; and to identify the impact military activity had on society in Upper Coquetdale (CCA 2008). The 2008 excavation on Blaeberry Hill was their first attempt to answer these questions. This paper uses a review of the excavation findings to determine if their surviving fabric can shed light on training practice in Coquetdale, to explore the social impact of military training on Coquetdale, particularly in light of recruitment in the latter years of the War, and to determine whether the Blaeberry Hill trenches are comparable to other practice trenches in the UK and frontline trenches in Europe.

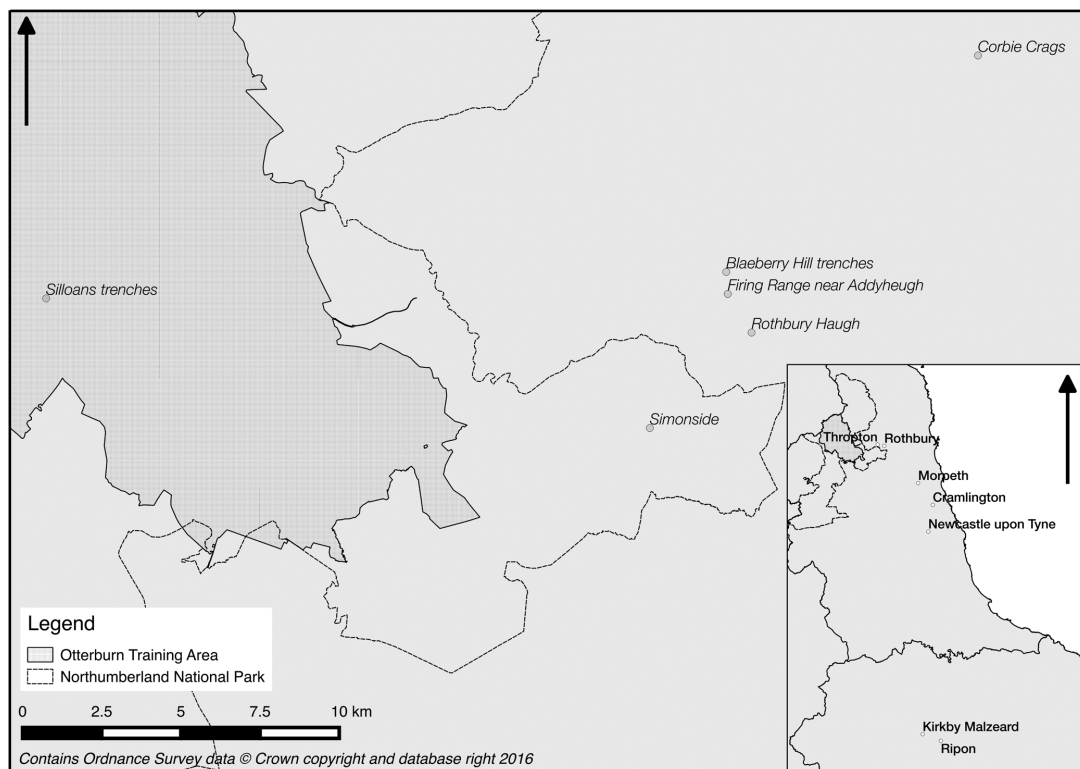


Fig. 1 Study area location and places mentioned in text. Contains data © Crown Copyright and Database Right 2016. Ordnance Survey (Digimap Licence).

The excavation was conducted over one week in June 2008, following on from several days of field survey in February of that year, under the direction of Dr Chris Burgess (Northumberland County Council Archaeologist). Krissy Moore (then working at Northumberland National Park) volunteered to complete the report using the site archive, interim reports (Burgess 2008a; 2008b) and interviews with Dr Burgess and CCA participants, during 2014–15. The full excavation report and archive are held by the CCA and copies have been provided to the Northumberland County Council Historic Environment Record.

The Blaeberry Hill practice trenches occupy an area of undulating heather moorland, on the higher ground between 225 and 240 m OD north-east of Rothbury at NU 049 034 (fig. 1). This area lies within Debdon Farm on the Armstrong Estate; the Estate has historic military connections, with the first Baron Armstrong (1810–1900) making his fortune as an arms developer and industrialist. His heir W. H. Watson-Armstrong (1863–1941), 1st Baron Armstrong of the 2nd creation, attained the rank of Major in the Northumberland Hussars in 1902, and played an active role in recruiting for the war effort in the First World War. His son the 2nd Baron Armstrong, W. J. M. Watson-Armstrong (1892–1972), served as a captain in the 7th Battalion Northumberland Fusiliers (1914–1917) (Glen *et al.* 2014). Upon the death of the 3rd Baron Armstrong, in 1987, the title became extinct (Cokayne *et al.* 2000), though the Armstrong Estate (excluding Cragside House, which is now managed by the National Trust)

survives. Since 1988, Blaeberry Hill has been used for upland grazing by Mr Turnbull and managed by Savills (formerly Smiths Gore) since 1999–2000. A Farm Environment Recording Scheme in 2005–6 first brought the trenches to the attention of Northumberland County Council (NCC) (Chris Burgess, pers. comm.). Since 2007, the farm has been managed under a Higher Level Stewardship Agreement during which time the practice trenches were first formally recorded (Andy McNaught, pers. comm.).

The terrain is generally flat but characterised by several prominent sandy knolls. The Carboniferous Fell Sandstone bedrock is 0.10 m to 1 m below the surface. Drift geology of soft sand and mostly peaty soils covers the bedrock, with large pockets of soft sand deposits found in areas around the knolls on the site (British Geological Survey 2014). The thin nutrient-poor sands and peaty soils are ideal for heather growth but are also extremely vulnerable to erosion when surface cover is removed through changes in land-management or fire (Evans and Warburton 2007, 15). The heather ground cover has historically been managed for grouse shooting and to provide sheep browse, with shooting known to have taken place up until at least 1987 (James Boulton, pers. comm.) and at least two events of managed heather burning on a ten-year rotation since 1988 (Paul Turnbull, pers. comm.).

The twentieth-century features on Blaeberry Hill consist of the WW1 trenches and associated earthworks. A nineteenth-century carriageway, mostly well built with a metalled surface, runs north out of Thropton and through the centre of the practice trench earthworks (fig. 2). The carriageway is not visible on the 1:2500 County Series First Edition map (1853–1904) but is present on the First Revision (1894–1915), and is referred to in a 1903 review of the area (Dixon 1903). It is evident that the carriageway predates the trenches, as their layout clearly respects its alignment.

A Victorian firing range (HER 27140), located 500 m to the south near Addyheugh, is of interest (fig. 1; fig. 2, inset right). Present on the 1897 and 1922 Ordnance Survey maps, the range was certainly known to the military during WW1. Photographs taken by CCA members Harry Beamish, after the range was exposed by forestry clearance in 2007, and Chris Butterworth, showing the area becoming increasingly overgrown in 2015, confirm that the small arms range butts and target mechanism survive in remarkably good condition. The local nickname of 'Bullet Hill' suggests that a large amount of evidence for small arms fire also survived (Chris Butterworth, pers. comm.). The authors agree with Knight's (2015) suggestion that this range is the one mentioned in the *Historical Records of the 18th (Service) Battalion Northumberland Fusiliers (Pioneers)*, by Lt.-Col. John Shakespear (1920), the primary historical documentation for training on this site.

## THE 1st TYNESIDE PIONEERS

The 1st Tyneside Pioneers were raised in 1914 as part of Kitchener's New Army. Lt.-Col. Shakespear led the recruitment; a speedy process, as permission to form the regiment was only granted on 2 September 1914 and the Battalion was officially formed by the Lord Mayor of Newcastle on 14 October 1914. Initially billeted in Jesmond and training at the County Cricket Ground, the Battalion transferred to Rothbury from Newcastle Central Station on 21 December 1914. The Rothbury Bell Ringers Guild's *Record Book* (cited in Glen *et al.* 2014, 41) describes their entire stay thus: 'Dec 22. Some 1300 troops came here, billeted all over, to drill and on April 21/1915 they left'.

The *Historic Records* provide rather more detail: the troops were billeted at the County Hotel, the Station Hotel, local schools, and a house let to the army; they exceeded the capacity of Rothbury and so E Company was billeted at Thropton. Cookhouses and other necessary buildings were erected to serve the troops. Their training included small arms practice at a 'miniature rifle range equipped with moving and vanishing targets', most likely the Victorian range (HER 27140), on 'Bullet Hill', as well as combat training on Simonside and Corby's Crag, alongside company drill, battalion drill and night operations (Shakespeare 1920, 21).

The Battalion was attached to the 122nd Brigade (with the 16th and 19th Northumberland Fusiliers), and on 18 February 1915, while still at Rothbury, the battalion was formally designated the 18th (Service) Battalion (1st Tyneside Pioneers) Northumberland Fusiliers. Shakespeare (1920, 8–9) describes the Pioneer as an infantryman and general engineer, builder and sapper; he then continues (1920, 9): '[Our] training now became more interesting. Lord Armstrong kindly made us free of the moorland above the town, a position on which was selected and each company was given a length of front to prepare to defend. We took to trenchmaking very kindly. Many of us were miners, and those who were not did their best to master the art of handling the pick and shovel' — 8 February 1915. Shakespeare's records therefore give a date range for the initial construction and use of the trenches from February to April 1915.

The Pioneers continued with drill and trench digging after moving to Cramlington on 21 April, and were then transferred to Ripon and thence to Kirkby Malzeard in North Yorkshire on 21 July. Here they enter the larger narrative of the First World War. The Battalion joined the Tyneside Irish and Scottish Brigades to land in Le Havre, France, in January 1916, fought at La Boisselle on the Somme in 1916 and at Arras in 1917, and spent the remainder of the war in the Ypres Salient through to the German offensives of Spring 1918 (Shakespeare 1920).

## PRACTICE TRENCHES IN CONTEXT

Stabilisation of the frontline along the Western Front between the German and Allied forces from mid-November 1914 saw the birth of 'trench warfare', the defining feature of World War One in the popular imagination (Hirschfeld *et al.* 2012, 957). Positional warfare relying on field fortifications and entrenchments had been developed by various armed forces during the Russo-Turkish War (1877–78), the Boer War (1899–1902) and the Russo-Japanese War (1904–1905) (Murray 2013), and was included in British strategy as early as 1908 in response to the firepower and range of modern artillery (Brown and Field 2009). However, the Great War saw the rise of a new kind of warfare: Hirschfeld *et al.* (2012, 307) evocatively compare the 'game warden' infantryman of 1914, armed with rifle and bayonet, to the 'industrial worker' infantryman of 1918 with his steel helmet and gas mask, and modern industrial military support from artillery, tanks and aircraft. One survivor of the First Battle of Ypres describes the trenches as '... just sort of deep ditches — they'd been dug out very roughly. There was no drainage ...' (Douglas cited in Clements 2016). By the final phases of the war the Front had become a hellish landscape of shell holes and abandoned trenches (Hirschfeld *et al.* 2012, 958), but in the intervening period the trench systems of the Western Front stood as a complex interlinking network of front and support trenches, dugouts, overhead cover and other specialised features.

There was no systematic training programme in trench construction but practice trenches across training grounds are 'surprisingly uniform' (Brown and Field 2009, 299). Many trenches were constructed on the initiative of local commanders without official regulation or record (Cocroft 2013) but War Office manuals provided clear instructions on how to construct the ideal trench network as early as 1911. Publications from 1911 to 1921 show detailed written and plan instructions for correct trench excavation and provision of auxiliary features (War Office 1911; 1914; 1916a; 1916b; 1921); the following partial review sets out what features we might expect for trenches dug between February and April 1915.

The *Field Service Pocket Book* 1914 (War Office 1914, 12) states that trenches may be grouped at intervals or set in irregular lines in accordance with the terrain, and should be traversed or recessed, of sufficient width for men to pass one another, and with a steep interior slope and adequate drainage. The castellated design of these lines broke the trenches into fire bays, small enough to be held by a single section of troops (twelve soldiers) and to provide shelter from shockwaves and enemy fire (Brown and Field 2009). Good concealment, bullet-proof parapets, and inconspicuous overhead cover were also required (War Office 1914). The front line and one or more reserve lines were connected by zig-zag communications trenches: shelter bays or dugouts extended from the communications trenches and housed command posts, shelter, aid stations and storage, and sapper's trenches were dug from the frontline to the enemy's lines to establish observation posts or staging points for further action (Brown and Field 2009).

Communications trenches were to be 3' wide at the base and 4' at the top, 4'6" deep with an additional 2'6" of height added by parapets (War Office 1914, Figure 3). Fire trench sections are shown as a simple trench 3' wide at top and bottom cut into flat terrain, with a stepped parapet extending up to 7' from one edge; two more complex designs allow for cutting into steeply sloped terrain or creating a wider stepped trench (War Office 1914, Figure 3). The *1911 Field Engineering Manual* (War Office 1911) states that dugouts are to be recessed 3' into a trench wall, separated by a step or change, and to extend 10' along the trench to provide shelter for five men. Drains, signal posts, OCs posts, telephone points, latrines, kitchens, dressing stations, water storage points, overhead cover, loopholes, firing steps and elbow rests, were required depending on trench type (War Office 1911).

The 2008 survey and excavation allowed CCA to determine whether the above design specifications were adhered to in the construction of the Blaeberry Hill practice trenches, as reviewed in the following summary of results.

## FIELDWORK: SURVEY RESULTS

The Blaeberry Hill trenches have been surveyed and mapped from aerial photographs (Knight 2015). In 2008, excavation areas of trenches were selected through HER research, walkover survey and aerial photograph analysis conducted by Dr Burgess and CCA members. Further information was obtained through Dr Burgess' informal discussions with a serving member of the armed forces (Chris Burgess, pers. comm.).

The Historic Environment Record lists three groups of trenches on Blaeberry Hill: N23931, N2872, and N23930 (fig. 2, inset right). However, observation of the trench characteristics show that there are in fact four discrete trench systems distinguished by variation in size, layout, and design features. They are reclassified here as Groups 1, 2, 3 and 4, running west to east across the hillside (fig. 2). N23931 is a discrete set of trenches, referred to hereafter as

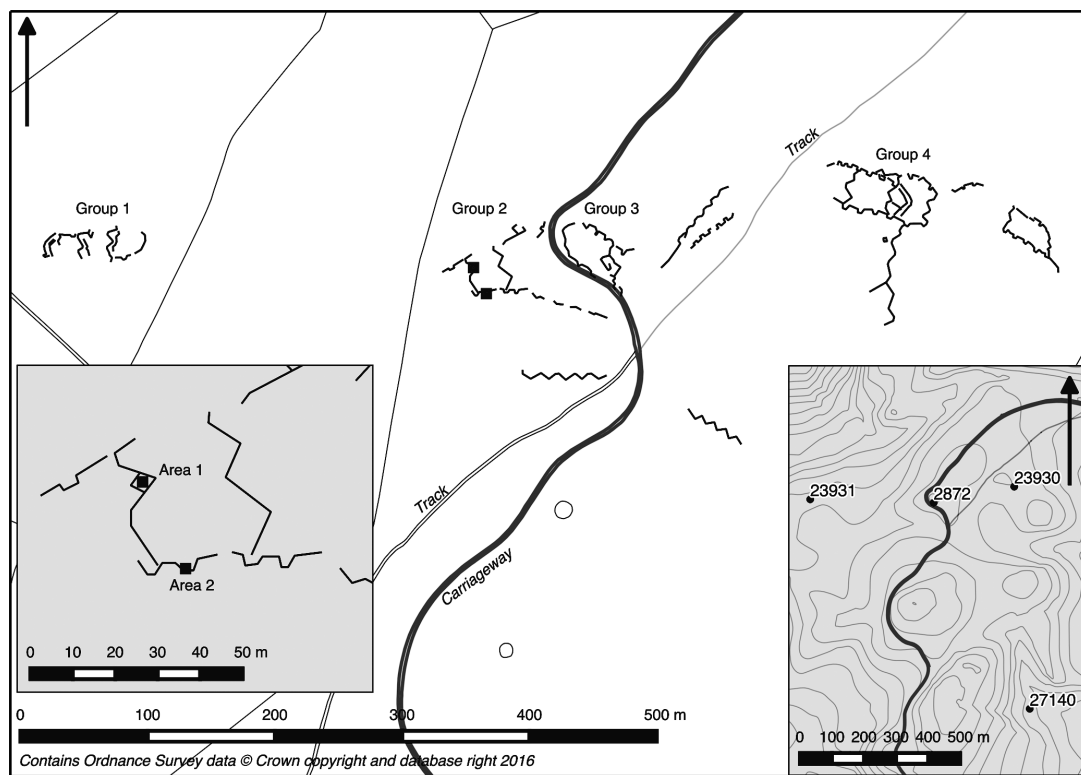


Fig. 2 Blaeberry Hill landscape analysis results comparing four trench group locations traced from aerial imagery (*main*) with HER data (*inset right*) and locations of Area 1 and Area 2 within Group 2 (*inset left*). Contains data derived from aerial imagery © DigitalGlobe, Getmapping plc, Infoterra Ltd & Bluesky, Landsat 2015 and topographic data © Crown Copyright and Database Right 2016.

Group 1. Conversely, N2872 is not a single set of trenches crossing over the carriageway, but rather two discrete sets of trenches on either side of the carriageway, now reclassified as Group 2 on the west of the carriageway and Group 3 on the east. The trenches on each side of the carriageway do not intersect: uncompleted trenches extend south from the eastern end of Group 2 rather than continuing east to join Group 3, as would be expected if these two sets of trenches represented a single linked network. Further, although the frontline trenches of Group 2 and Group 3 are on the same alignment, in Group 2 the distance from the frontline trench to the reserve trench is twice that of the same area in Group 3. The final HER record, N23930, is another discrete set of trenches hereafter referred to as Group 4.

Topographic survey was undertaken across two areas in Group 3, comprising a possible dugout and the intersection of several trenches. They were not ultimately selected for excavation but two comparable features in Group 2 were. The 2008 excavation was preceded by a preliminary metal detecting survey to check for any unexploded ordnance. The excavated areas are referred to as Area 1, a square depression identified as a dugout and an adjoining communications trench, and Area 2, the reserve trench (fig. 2, inset left).

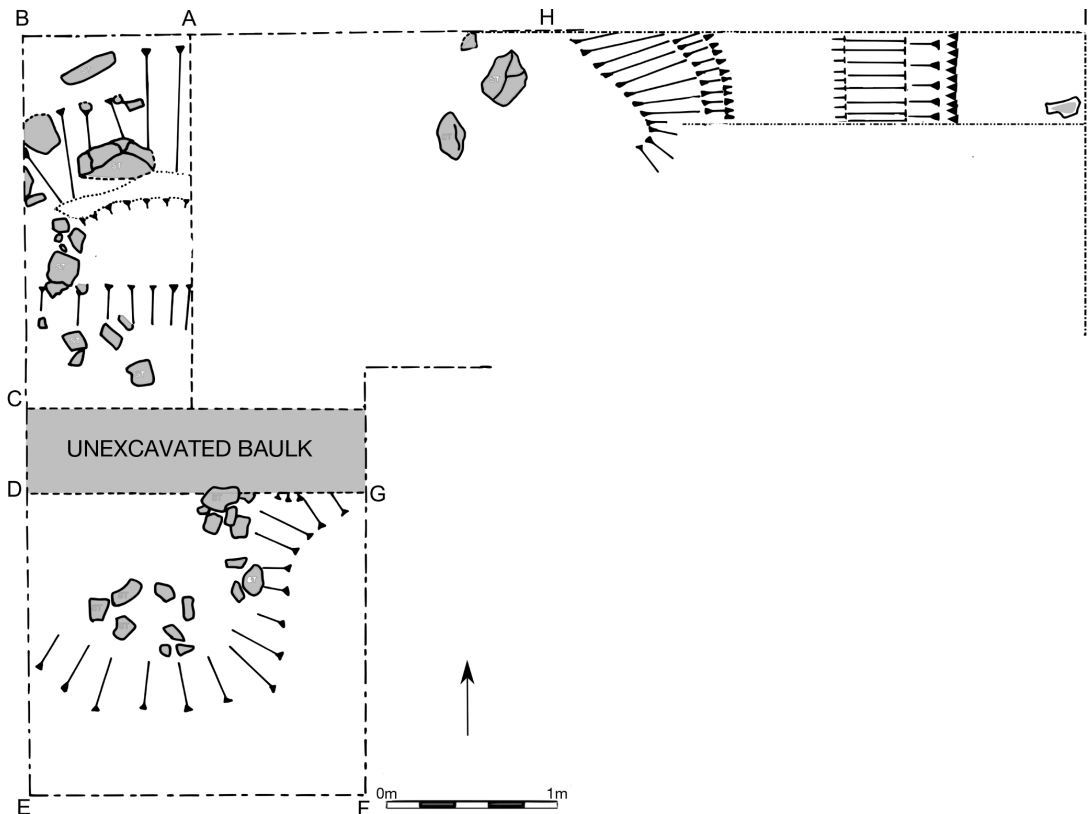


Fig. 3 Plan of excavated dugout and communications trench in Area 1, showing section locations.

### EXCAVATIONS IN AREA 1

Area 1, in the centre of Group 2, covered the intersection of a dugout and communications trench (fig. 3). In excavation Stage 1, the dugout was excavated, concentrating on the interior, walls and entrance. In excavation Stage 2, a section was extended from the corner of the dugout across the communications trench. The communications trench was first thought to be a reduced-size model no more than 1 m in depth, but was found to be 2.5 m deep (including parapet) after the removal of alluvial and aeolian sand and peaty deposits. This was consistent with the depth of trenches on the Western Front (Burgess 2008a; 2008b).

#### *Phase 0: Construction*

The dugout [67] (figs 4 and 5) and communications trench [47] (fig. 6) were cut into the natural drift sands of Blaeberry Hill. The primary fill of the communications trench is of orange sand mixed with 'natural' (46), followed by a layer of orange yellow sand with peat inclusions (45) (fig. 6); it is possible that these deposits represent rapid natural deposition from the unstable natural sand trench sides during the initial construction phase. At least

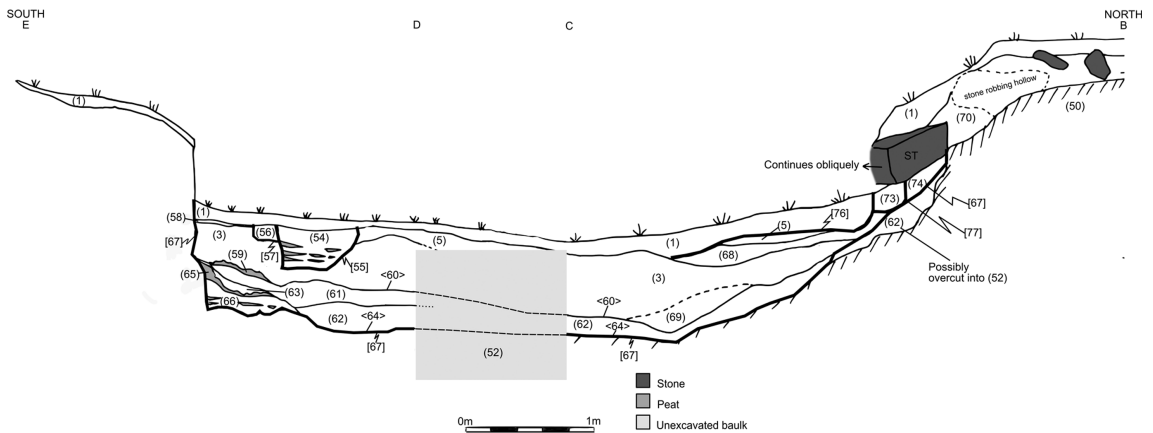


Fig. 4 Area 1 Dugout east-facing section.

three wooden posts (postholes [94, 96, 104]) were driven through the base of the dugout to support overhead cover or to hold reinforcing materials such as corrugated metal sheeting in place in the dugout; decomposing wood (93, 103) was present in the bases of the two deepest postholes [94, 104] (fig. 5). [101] was a much shallower posthole just cutting through the base of the dugout cut [67]. Given that the dugout was excavated through sand, sheeting would have been required to hold upcast sand from the initial excavation in place and to reinforce the excavated sides. Rust staining visible in section in the yellow sand (97), which comprised the primary deposit in the base of the dugout, may provide evidence for corrugated sheeting, subsequently removed.

#### *Phase 1: First abandonment*

Multiple lenses of fine aeolian or alluvial sand and sandy peats (45, 44, 43, 42, 41) filled the base of the communications trench (fig. 6). The decomposing wood (93, 94) observed in dugout postholes [94] and [104] indicated that at least the ends of the posts were left *in situ* during this abandonment, although any corrugated metal panels were removed. The distinct compact light brown sand deposited in the south end of the dugout (66), and the thick layer of mottled sand with larger peat inclusions (99) in the north end may indicate different depositional or taphonomic processes, discussed below.

#### *Phase 2: First reuse*

The communications trench was recut [40] and peat turves (37, 39) and sand/peat lens were redeposited on the trench base. The dugout was also reused, with a floor deposit <64> visible across the entire southern section on either side of the unexcavated baulk. No floor or recut was visible in the northern section, but the postholes from Phase 0 [94, 101, 104] appear to have been truncated, filled by undescribed deposits — (100) in [101], (102) sealing the decomposed wood (103) in [104] — and sealed by subsequent layers. New postholes, [91], [92] and [95] visible in the eastern dugout wall indicate that a superstructure (either overhead covering or trench-wall reinforcements) was reinstalled.



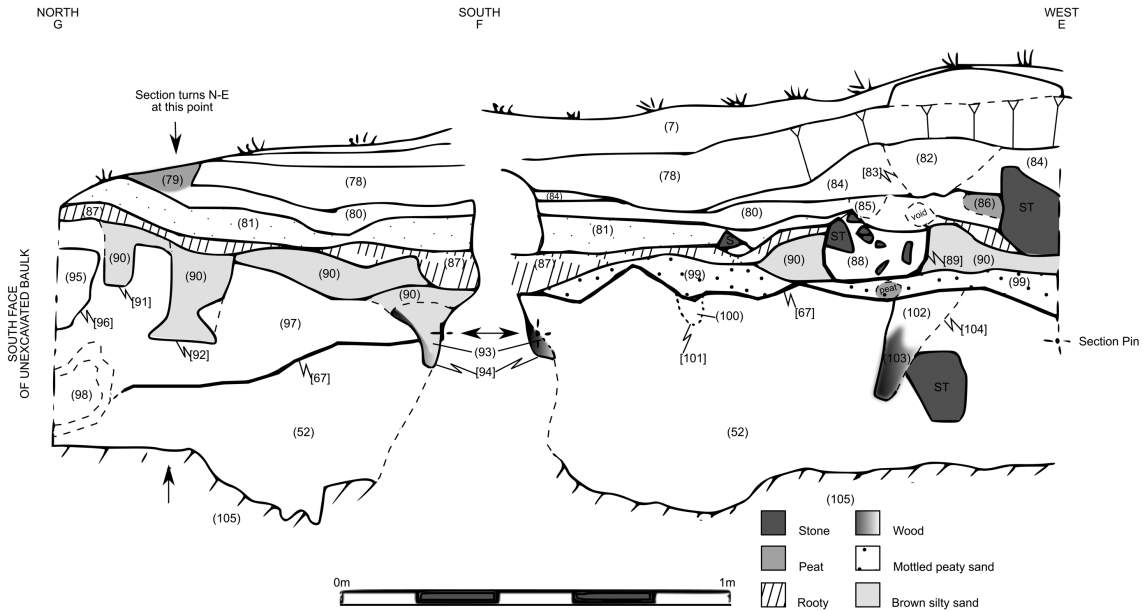


Fig. 5 Area 1 Southern area of dugout, west-facing and north-facing sections.

*Phase 3: Second abandonment*

Lenses of compact orange, yellow and beige sand deposits (34, 35, 36, 38) began to fill the communications trench during the second abandonment. In the dugout, lenses of dark compact brown sand with some peat inclusions (61, 62, 63) settled at the southern end. A brown sandy silt layer (90) then settled across the southern section, sealing these compact brown sand layers and filling the postholes [91, 92] from the previous phase; posthole [95] may have fallen out of use sooner, as it is filled with a dark brown silty sand (95) and then sealed by (90). The unclear edges and the absence of decomposed wood in these three postholes may indicate that these features represent the voids where posts were pulled out rather than truncated and left in situ like [94] and [104]. A very rooty layer (87) sealed the dugout sand/peat/silt deposits and may indicate a longer period of abandonment which allowed grass cover to re-establish.

*Phase 4: Second reuse*

The communications trench was again recut [33]. A second floor deposit, of black compact peat and sand <60>, was laid down in the southern end of the dugout. In the north-facing section, a bowl-shaped cut [89] filled with black silt and many stone inclusions (88) cut through the putative re-established turf layer (87) and brown sandy silt beneath (90). The black silt fill (88) of this pit [89] was not encountered elsewhere in the recorded contexts and may represent a specific event rather than natural deposition, but the cause cannot be established.

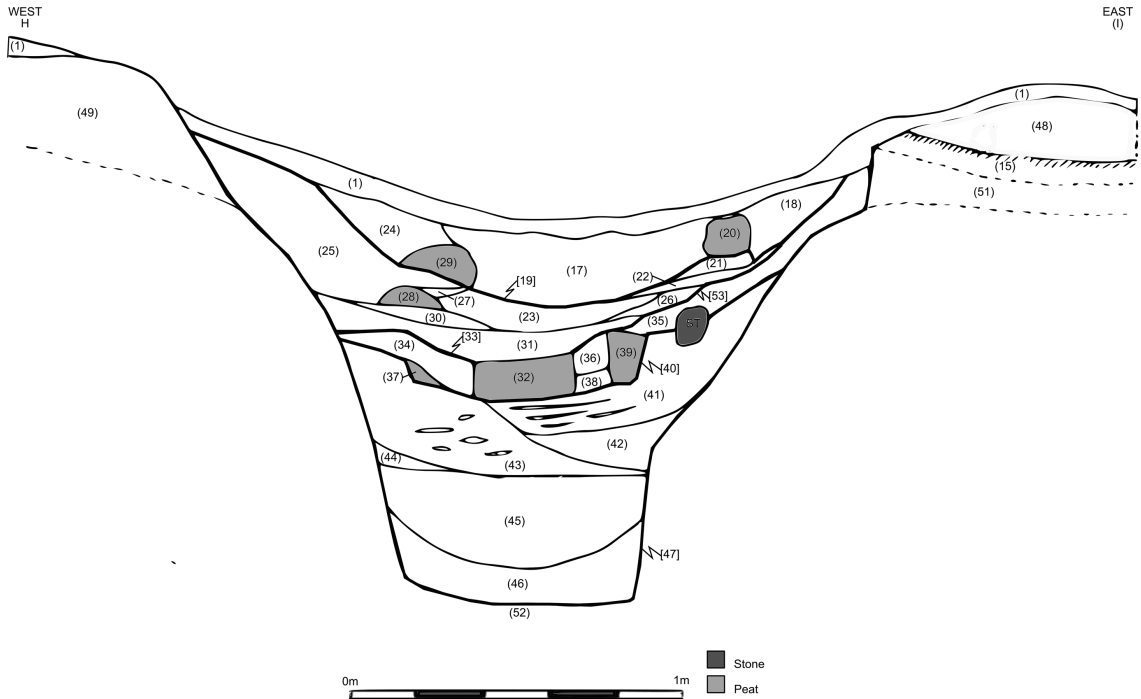


Fig. 6 Area 1 Communications trench south-facing section.

#### *Phase 5: Third abandonment*

The communications trench was again filled with lenses of fine orange and yellow sand (30, 31). A peat turf (32) fills the previous recut [33]. At this point the communications trench and dugout use phases diverge. The dugout appears to have been abandoned for a long period. Topsoil (3), thick lenses of grey black sandy silt (81), black peaty soil (80) and peat (79) infilled the dugout, and a large stone collapsed into it. These deposits were sealed by a thick sandy deposit (84).

#### *Phase 6: Third reuse of communications trench*

Although no cut could be identified in section, the thick layer of sand (84) sealing the Phase 5 dugout deposits is interpreted as upcast from the recutting of the communications trench to the north-east. In the recut trench base, two solid peat turves (28, 29) may have been used to brace the base of corrugated metal sheets used to reinforce the trench sides. A lens of sand and 'rotten iron' (27) may indicate rust staining from such a panel prior to its removal. Discrete deposits of peat and sand (24, 25) and clean silver sand (26) were also present.

#### *Phase 7: Fourth abandonment of communications trench*

During the fourth abandonment of the communications trench the peat turves were left in situ, and the base of the trench was again filled with lenses of orange sand (21, 22, 23).

*Phase 8: Fourth reuse of communications trench*

The communications trench was recut [19] and peat turves (20) and dark brown peaty sand (18) were deposited in the base. Again a layer of upcast sand (78) from this recutting was deposited over the dugout area.

*Phase 9: Fifth abandonment of communications trench*

A deposit of compact sand (17) represents the final abandonment of the communications trench.

*Phase 10: Later modification of dugout*

Several small discrete pits were excavated into the fill of the dugout; some may represent isolated events. At the southern end, pit [57] filled with dark loose brown sand and peat (56), was cut into the topsoil collapse deposit (3). This pit was truncated by pit [55], filled with light brown compact sand with peat lenses (54). Another separate and possibly more recent pit [76] was filled with topsoil (1). Other features may indicate attempts to repair the dugout: a deposit of clay (74) on the western edge may be an attempt to reconstruct the edge, immediately adjacent was cut [77], filled with grey compact sand (73).

*Phase 11: Final abandonment*

All features were sealed by the present topsoil layer.

## EXCAVATIONS IN AREA 2

The reserve trench was selected for excavation as it was better preserved than the frontline trench. The excavations revealed that the reserve trench was, unusually, dug with the 'enemy-facing' parapet upslope to the north and the friendly lines downslope to the south (Burgess 2008a; 2008b). It was excavated in two stages; Stage 1 comprised a 3.5 m × 1 m slot cut across the trench to determine its depth (fig. 7, Section J–K; fig. 8). During Stage 2 a 0.5 m wide slot to the south of Stage 1 extended the excavation slot by a further 5 m to determine the length of the parapet (fig. 7, Section K–L; fig. 9).

*Phase 0: Initial construction*

The reserve trench [9] was cut through the turf (117) and into the sandy subsoil (52) (figs. 8 and 9). The north side of the trench was cut into the bedrock (105). Parapets were constructed on both sides of the trench. On the north (uphill) side, a 'turf toe' (108) made of two stacked turf blocks was set on the trench edge and upcast material (107) was piled behind the toe to form the parapet. The south (downhill) parapet was also made of upcast material (121, 120), with particularly clayey and stony deposits (119) at its downslope end, which may have protected the parapet from erosion (fig. 9). The base of the trench was covered with sandy peat and loose peat deposits (10, 113), forming the floor of the trench. A firing step <118> was constructed with loose stone stacked at the base of the southern wall of the trench, with a drain cut into the trench floor in front of it (fig. 8). These features were both obscured by collapsed stone during excavation.

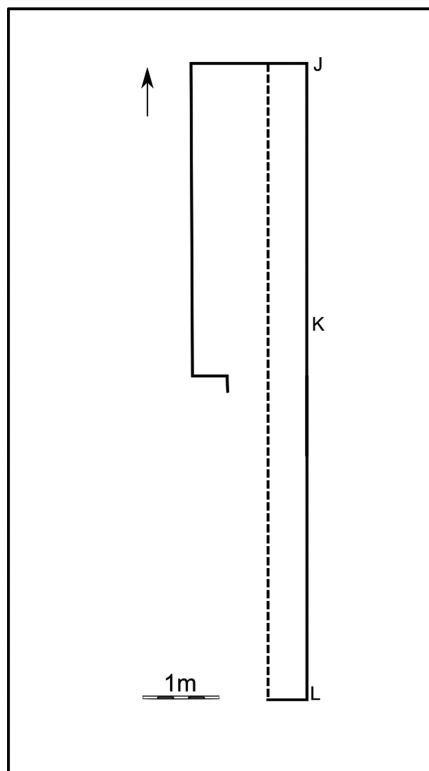


Fig. 7 Area 2, reserve trench, schematic plan of excavated area showing section locations.

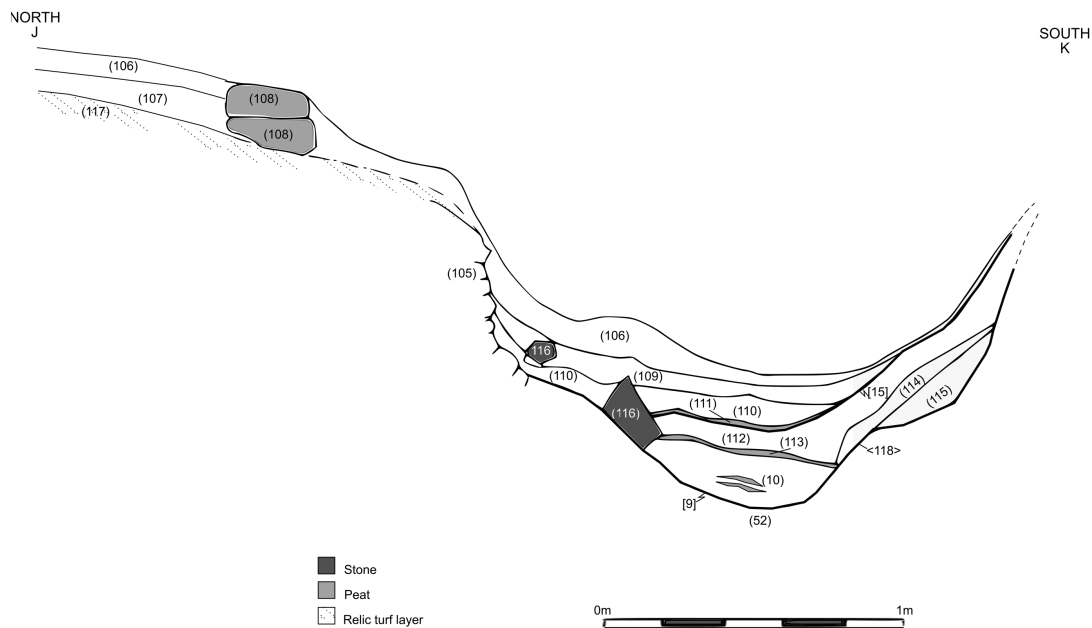


Fig. 8 Area 2, reserve trench, west-facing section (north parapet and main reserve trench).

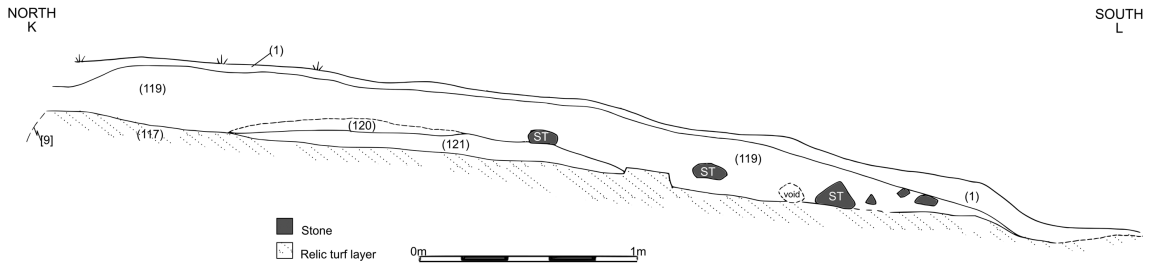


Fig. 9 Area 2, reserve trench, west-facing section (south parapet of reserve trench).

#### *Phase 1: First abandonment*

Evidence for the first phase of abandonment of the reserve trench comprised a large stone (116) collapsed from the northern trench edge overlain by a deposit of compact dark brown sand with small stone inclusions (112).

#### *Phase 2: First reuse*

The reserve trench was recut [15] and a thin lens of loose peat mixed with orange sand (111) was deposited to form a floor surface.

#### *Phase 3: Final abandonment*

The peat floor surface (110) was covered by thick deposits of dark brown sandy peats (109). These deposits, and the parapets on either side of the trench, were then sealed by a compact black peat turf and topsoil layer (106).

## DISCUSSION OF STRATIGRAPHY

Shakespeare's *Historic Records* state that the Tyneside Pioneers were set to digging on Blaeberry Hill in February 1915, and sent to Cramlington in April the same year. Is it possible that the repeated episodes of use, abandonment and reuse, separated by sufficient time for a considerable depth of natural deposition to occur, could all have occurred in this narrow window?

Exploring the interactions between the local drift geology, land management and climate may provide some answers as to deposition rates in the trenches. Despite their relatively close proximity, the two areas excavated in Group 2 were filled with very different deposits. Area 1 and Area 2 are divided by a natural boundary in Blaeberry Hill's drift geology: the trenches are dug around a natural sandy knoll, and Area 1 is directly south and downslope of that knoll, whereas Area 2 is located in an area where the bedrock is very shallow. The thin alternating lenses filling the communications trench may therefore be explained as material transported downslope from the sandy knoll, while the Area 2 backfill deposits instead consisted of alternating thin lenses of sand and fine peat.

The deposition of these different materials results from localised geomorphological processes driven by Blaeberry Hill's land management regime, drift geography and climate. Light, fine deposits like sand and peat are highly vulnerable to fluvial and aeolian transport

(Francis 1990) and erosion is a constant threat to exposed upland heather moorlands like Blaeberry Hill (Evans and Warburton 2007, 21). Delayed heather regeneration after overly-hot or incomplete burning as part of management for grouse shooting and sheep grazing, the natural dieback of unmanaged heather, wildfires, overgrazing, heavy human and animal footfall, can all lead to erosion in this environment (Evans and Warburton 2007, 21; Webb 1986). Traditionally heather is burnt in 20–30m wide strips at 8–12 year intervals, usually between mid-October and mid- to late April (Hooper and Whitby 1988, 12). The construction of the Blaeberry Hill trenches took place during this window but it is not known whether heather burning took place during or after the First World War due to an agricultural labour shortage. It is possible that one or more of the threats mentioned above left the local peat and sand deposits increasingly vulnerable to wind and rain on the exposed hillside and led to accelerated deposition while the trenches were in use, resulting in the different lenses of sand and peat observed in Areas 1 and 2. Practice trenches were sometimes deliberately backfilled by departing troops, to be recut by the new recruits: this is known from Crowborough Camp in Sussex (Brown 2004), but this would not have produced the thin lenses of sand and peat observed in section in the Blaeberry Hill trenches.

This summary does not provide an end date for the use of the trenches, but does demonstrate that natural deposition can occur very quickly in certain conditions, which may have been present on Blaeberry Hill. There is at present insufficient historical climatic data to identify whether such events occurred frequently enough between February and April 1915 to account for all of the deposition, recutting and repairs attested to in the archaeological record. Erosion due to wind, rain, surface water and frost action peaks seasonally in mid-winter and late summer (Evans and Warburton 2007) but this cycle falls outside of the documented use period for the trenches.

Further archival research could clarify whether the Blaeberry Hill practice trenches were reused for subsequent training events with new intakes of troops following the Battle of the Somme. Considering the timeline of trench use by the British Armed forces, it seems likely that the latest use of the Blaeberry Hill practice trenches predated the end of the war in 1918. This possible three-year window for trench-based training would allow time for several seasonal peaks in the erosion rate, which might account for the deeper abandonment layers and possible turf regeneration observed in Area 1 Phase 5. However, trenches were dug by British forces in Europe as late as 1938 and 1940 (though were rendered obsolete by the German use of mobile warfare and Blitzkrieg tactics from 1939 (Brown 2004, 58)) and so a date as late as 1939 cannot be discounted.

#### BLAEBERRY HILL AS PREPARATION FOR THE WESTERN FRONT

The different design elements observed in Groups 1, 2, 3 and 4 hint at the role the trenches played in training practice. Although covering far less ground than other practice trench networks (e.g. Salisbury Plain), the Blaeberry Hill trench groupings contained several important trench design elements conforming to War Office specifications. For example, the dugout was recessed at least 1 m from the communications trench, although the interface between the two areas is obscured by an un-excavated baulk, and is approximately 3 m wide, similar to the 1911 *Field Engineering Manual's* 3' (0.91 m) recess depth and 10' (3.05 m) width. The un-excavated dugout in Group 3 was between 3 m and 5 m wide; this variation may be explained by recutting or taphonomic processes. Evidence for overhead cover and reinforce-

ments was also present as postholes and rust staining. The reserve and communications trenches were close to the specified depth, with considerable effort taken to reach this depth through cutting into bedrock and constructing parapets, and the reserve trench contained a drain and firing step. In comparison, the presumed forward observation posts or sapper's trenches extending north of the frontline in Group 4 are comparatively insubstantial, which may be explained by the fact that sapper's trenches were required only to be 'just wide enough to allow one man at the face to use his tools' (War Office 1921, 64).

The four groups of trenches identified at Blaeberry Hill are characterised by a progression in size and complexity and, based on conversation with a serving member of the armed forces, it is proposed that each group met the requirements of a different military unit: Group 1, a platoon, due to its simple layout and lack of dugouts; Groups 2 and 3, with their complete layout of linked front and reserve lines with shelter bays, would have each suited a Company; and Group 4, a Battalion, with the full set of trenches, dugouts, and forward observation posts (Chris Burgess, pers. comm.). Baker (2015) describes the battalion as the British Army's basic tactical unit, comprising 1,007 men including 30 officers; its smallest unit was a Section, of twelve men; four Sections made a Platoon of 50 men commanded by a Lieutenant; a Company contained four platoons totalling 227 soldiers at full establishment, and a Battalion comprised four Companies and a Battalion HQ.

Although the differences between Groups 1, 2, 3 and 4 suggest specific training goals and linking them to unit size is a logical step, this cannot be definitively stated. Comparable trench layout variation is seen in the practice trenches at Redmires Reservoir near Sheffield (South Yorkshire). Here, one area comprises low-lying banks laid out like a trench network, another contains fragmentary sections of very shallow crenellated firing trenches; these variations may correlate to different training events by different battalions known to have used the site (the Sheffield Battalion, the Royal Engineers and the Sherwood Foresters) (Ullathorne 2006). The 2nd Tyneside Pioneers Battalion, raised barely a month after the 1st, were billeted in Morpeth and dug their practice trenches on land north of the town (Cooke 1920). Glen *et al.*'s (2014, 73) review of wartime Coquetdale states that 'soldiers from many regiments came to Rothbury to train for active service on the Western Front', including the Durham Light Infantry, but further research is needed to name particular regiments, and discover if their training took them up to Blaeberry Hill.

Shakespeare's records mention only training in trench construction on Blaeberry Hill. The archaeological record supports this: no evidence for small arms fire was found, and the *Historical Records* indicate that combat training took place considerably farther afield at Corby Craggs and Simonside. The lack of occupation debris, food waste and latrines suggests that troops did not camp there for any length of time. Artillery shell fragments found at Silloans practice trenches on the Otterburn Training Area, 22 km to the south-west of Blaeberry Hill, indicated that those trenches were used for target practice, probably by the Royal Artillery based at nearby Redesdale Camp (Nichol and Brown 2005). No artillery debris was found at Blaeberry Hill, and while field walking identified two potential shell holes near the trenches, it is unclear whether these were caused by artillery impacts or dug by hand for training purposes (Chris Burgess, pers. comm.).

Practice trenches were sometimes kept intact for the education of troops and the public (Brown 2004), both in England (e.g. Russell 1975 cited in Reznick 2004) and Germany (Brandt 2004). Lord Armstrong spoke publicly at recruiting meetings in Rothbury in 1915 and 1917 and visited his son, Captain Watson-Armstrong of the 1st/7th Northumberland Fusiliers, in

a military hospital at Boulogne after he was wounded at the Front in April 1915 (Glen *et al.* 2014, 76–77). It is tempting, considering these connections, to imagine that Lord Armstrong may have exhibited the trenches out of personal and civic pride. The carriageway bisecting the trench network would certainly have made this a straightforward matter. However, there is no evidence for intact superstructure or supporting materials being left *in situ*, although some posts (or at least post-ends) may have been left in situ in the dugout during the first phase of abandonment, so this supposition is unsupported.

The trench design elements identified through excavations and survey, when compared to War Office publications, indicate that the trenches were constructed to be a close facsimile of the trenches troops would construct and occupy on the Western Front. The Silloans trenches on the nearby Otterburn Training Area similarly contained full-scale trench features as per War Office specifications (Brown 2005). Not all practice trench networks do so: Bowden *et al.*'s (2009, 48) review of trenches on town common sites noted that while they often feature lines of probable fire trenches with occasional communications trenches, they rarely had other features set out in field manuals. For example, although the Redmires Reservoir trenches were in use at approximately the same time as Blaeberry Hill (1914–16), they were constructed as deliberately shallow, narrow trenches or as low banks. The units historically linked to Redmires (the Sheffield Battalion, the Royal Engineers and the Sherwood Foresters) (Ullathorne 2006, 24) were not Pioneer units so may not have required the detailed knowledge of trench construction provided by constructing detailed replicas. Trench construction was also an important means of improving troop fitness and building camaraderie (Brown and Field 2009), so these variations in practice trench complexity may reflect a focus on this aspect of troop training over imparting more specialist technical skills. Brown (2004, 55) uncovered a rare example of a training officer's notes detailing progression in trench training: over six weeks from mid-September 1914, the troops progressed from digging individual mounds of earth, to 'real trenches', to complex entrenchments with parapets, drains, gangways and fire steps.

It is therefore considered most likely that the Blaeberry Hill trenches were used to train troops in trench construction and were designed to follow specifications in use on the Western Front. The different layouts of Groups 1, 2, 3 and 4 would have provided a simulation of trench requirements for different unit sizes and a brief introduction to sapper trench construction, highly relevant information for a Pioneer battalion. This is supported by Shakespear's comment that '*each company was given a length of front to prepare to defence*'. The following phases of use could have resulted from trench construction and maintenance training by the same or subsequent battalions.

#### THE SOCIAL IMPACT OF THE BLAEBERRY HILL PRACTICE TRENCHES

The impact of the war was felt throughout Britain, but the social impact on Coquetdale of the practice trenches in particular is hard to quantify. A large number of local men serving as Territorial soldiers in the 7th Battalion Northumberland Fusiliers were mustered in August 1914, and throughout the war more men joined up, but while the Pioneer's arrival in Rothbury was a significant event inspiring much support from residents and Lord Armstrong, it did not translate into increased recruitment from 1915 to 1917 (Glen *et al.* 2014, 77). This poor recruitment level suggests that the presence of the Pioneers, not to mention impassioned



appeals by Lord Armstrong, was not sufficient to boost volunteer numbers. Glen *et al.*'s (2014) thorough review did not name units other than the 1st Tyneside Pioneers training at the trenches, or mention any educational visits to the trenches, so the extent of both additional military use and civilian knowledge of these entrenchments remains unclear and their impact on society in terms of boosting recruitment appears to have been minimal to low.

## CONCLUSION

The evidence for repeated recutting and reuse of the trenches discovered in the 2008 excavation hints at a more complex history of use than the historic records indicate. The presence of standard trench design features and increasingly complex trench groupings indicates that the act of constructing these trenches was intended to prepare the Pioneers for their task of strengthening the Western Front, by then already occupied for three miserable months. A thorough topographic survey is imperative to test the conclusions presented in this article, and to identify any stratigraphic relationships between trench networks and any post-1918 elements. Further excavation could also consider geomorphological processes and geoarchaeological investigation of the trench fill deposits could provide a chronology of deposition. Further historical research may shed light on whether the trenches were used in education or recruiting drives and what place they held in Rothbury's mental landscape in the post-war years. For now, a century after the war, the Blaeberry Hill practice trenches remain a persistent but enigmatic reminder of war preparation in the Coquet Valley landscape.

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