

First World War Military Sites Military Landscapes

Part 1: Report and Gazetteer



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Project No. G2180

Report No. 1248

Prepared for: Cadw

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Written by: Jane Kenney and David Hopewell (with a contribution by Robert Johnston)

Illustration by: Jane Kenney, David Hopewell and Neil McGuinness

Cover photograph: Postcard of Camp at Conwy Morfa 1914, with Deganwy camp
in background (postcard, owned by R Evans)

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Craig Beuno, Ffordd y Garth,
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Cadeiryddes/Chair - Yr Athro/Professor Nancy Edwards, B.A., PhD, F.S.A.
Prif Archaeolegydd/Chief Archaeologist - Andrew Davidson, B.A., M.I.F.A.

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SUMMARY

This report describes the results of a study, funded by Cadw, of First World War sites in north-west Wales coming under the theme of Military Landscapes. It focuses on training camps, practice trenches, rifle and firing ranges and prisoner of war camps. Seventy five sites were identified and included in the gazetteer (appendix II). These are also included in an Access database to assist inclusion into the HER, and there is an accompanying MapInfo table of polygons defining the limits of those sites where these could be identified. The history and background of these classes of sites is considered and detailed recording work was carried out on a rifle range near Dolgellau and practice trenches near Beaumaris, Anglesey. Issues relating to scheduling these sites are considered and specific sites proposed for scheduling are included in the confidential part 2 of this report.

1. INTRODUCTION

This project is part of a pan-Wales initiative to identify and record the most significant elements of twentieth century military architecture across the country and to inform designation and management priorities. With the centenary of the First World War, sites of this period are the focus of the project for 2014 to 2018. The 2013-14 phase of the project comprised a programme of baseline data collection and a pilot field study. From 2014 the project is to focus each year on a theme identified in the CBA publication *Modern Military Matters, Studying and managing the twentieth-century defence heritage in Britain*. These are listed as:-

- Military landscapes
- Research and Development and manufacturing
- Infrastructure and support
- Operations
- Commemoration

‘Military landscapes’ was taken as the theme for 2014-15. Within north-west Wales, First World War military landscapes are mainly associated with training, and the project concentrated on training camps and associated features such as practice trenches and rifle ranges. As training camps were often also used as prisoner of war camps these were also brought into this theme. Fieldwork for the year focused on three sites; two sets of practice trenches associated with Kingsbridge Camp near Beaumaris and a well-preserved rifle range near Dolgellau. The aim was also to identify as many sites as possible associated with this theme and compile the results onto a database.

2. METHODOLOGY

2.1. Desk Top Study

The desk-based study started with the compilation of material from the Gwynedd Archaeological Trust Historic Environment Record (HER) and National Monuments Record (NMR). These were combined into a database with grid references allowing comparison to other source material through a Global Information System (GIS), in this case MapInfo. The information in the basic database was supplemented by and checked against available primary and secondary sources.

The study of rifle ranges was hugely aided by information and photographs generously provided by Bill Flentje. He has been involved in recording ranges across the country and has an extensive knowledge of this site type. His locational information enabled otherwise unknown sites to be located on the 25 inch maps and aerial photographs. These were used to provide precise grid references, as well as to investigate the date of the ranges and to check current condition. His notes and photographs of the sites have provided valuable descriptive detail.

In the case of the Penmaenmawr ranges (PRNs 58737 and 58745) his photographs provide an invaluable record of the targets before their destruction. As Bill had information on ranges both earlier and later than the First World War that should be recorded in the HER these sites have been included in the database. Gazetteer entries were limited to ranges that were definitely or possibly used in the First World War along with a small number of early ranges, which provide context for later developments, despite being strictly outside the remit of this project.

All area sites have been defined by polygons created in MapInfo and recorded in MapInfo tables with metadata as recommended by Gwynedd HER. Figure 1 shows the location of all the sites recorded in this phase of the project across north-west Wales.

2.2. Fieldwork

Fieldwork concentrated on three sites; practice trenches at Tan y Coed and Cichle Farm near Llangoed, not far from Beaumaris, Anglesey, and a rifle range at Penmaenucha south-west of Dolgellau. This included geophysical survey and small excavations at Cichle Farm, topographic survey at Tan y Coed, and topographic survey and photographic recording at Penmaenucha.

Geophysical survey of the Cichle Farm Practice Trenches

The survey examined a large field containing the slightly sunken outlines of a series of WW1 practice trenches. These have been backfilled, probably in several stages, but their outline could be traced on both on historic aerial photographs (plate 1) and more recent aerial reconnaissance by RCAHMS (see NPRN 402773 on Coflein). The survey aimed to recover further information about the trenches and ascertain if any trenches had been backfilled or redug as part of the training process.

Methodology

The survey was carried out by David Hopewell, Rob Evans and Ewan Kennaway in late June 2014. The grass in the field was very long which impeded the survey in places and probably added a little noise to the results. The survey was carried out following the *CIfA Standard and Guidance for Archaeological Geophysical Survey 2014* (CIfA 2014a).

Instrumentation

The survey was carried out using a Bartington Grad601-2 dual Fluxgate Gradiometer. This uses a pair of Grad-01-100 sensors. These are high stability fluxgate gradient sensors with a 1.0m separation between the sensing elements, giving a strong response to deeper anomalies.

The Grad601 detects variations in the earth's magnetic field caused by the presence of iron in the soil. This is usually in the form of weakly magnetised iron oxides which tend to be concentrated in the topsoil. Features cut into the subsoil and backfilled or silted with topsoil therefore contain greater amounts of iron and can therefore be detected with the gradiometer. This is a simplified description as there are other processes and materials which can produce detectable anomalies. The most obvious is the presence of pieces of iron in the soil or immediate environs which usually produce very high readings and can mask the relatively weak readings produced by variations in the soil.

Not all surveys can produce good results as anomalies can be masked by large magnetic variations in the bedrock or soil or high levels of natural background "noise" (interference consisting of random signals produced by material within the soil). In some cases, there may be little variation between the topsoil and subsoil resulting in undetectable features. It must therefore be stressed that a lack of detectable anomalies cannot be taken to mean that there is no extant archaeology.

The Bartington Grad601 is a hand held instrument and readings can be taken automatically as the operator walks at a constant speed along a series of fixed length traverses. The sensor consists of two vertically aligned fluxgates set 1.0m apart. Their mu-metal cores are driven in and out of magnetic saturation by an alternating current passing through two opposing driver coils. As the cores come out of saturation, the external magnetic field can enter them producing an electrical pulse proportional to the field strength in a sensor coil. The high frequency of the detection cycle produces what is in effect a continuous output.

The gradiometer can detect anomalies down to a depth of approximately one metre. The magnetic variations are measured in nanoTeslas (nT). The earth's magnetic field strength is about 48,000 nT; typical archaeological

features produce readings of below 15nT although burnt features and iron objects can result in changes of several hundred nT. The instrument is capable of detecting changes as low as 0.1nT.

Data Collection

The gradiometer incorporates an on-board data-logger. Readings in the surveys were taken along parallel traverses of one axis of a 20m x 20m grid. The traverse interval in the survey was 1.0m and readings were logged at intervals of 0.25m along each traverse giving 1600 readings per grid. This is the standard resolution used for general prospection.

The survey grid was set out using a Trimble R6 GPS system to an accuracy of +/- 30mm.

Data presentation

The data is transferred from the data-logger to a computer where it is compiled and processed using ArchaeoSurveyor 2 software. The data is presented as a grey-scale plot (figure 8) where data values are represented by modulation of the intensity of a grey scale within a rectangular area corresponding to the data collection point within the grid. This produces a plan view of the survey and allows subtle changes in the data to be displayed. This is supplemented by an interpretation diagram (figure 9) showing the main features of the survey with reference numbers linking the anomalies to descriptions in the written report.

Data Processing

The data is presented with a minimum of processing although corrections are made to compensate for instrument drift and other data collection inconsistencies.

In the magnetic data high readings caused by stray pieces of iron, fences, etc. are usually modified on the grey-scale plot as they have a tendency to compress the rest of the data. The data is however carefully examined before this procedure is carried out as kilns and other burnt features can produce similar readings. Large-scale spatial variation in the background magnetic field caused by bedrock can be reduced by using a high-pass filter. Large variations of more than about 20nT cannot, however, be compensated for. Grey-scale plots are always somewhat pixelated due to the resolution of the survey. This at times makes it difficult to see less obvious anomalies. The readings in the plots can therefore be smoothed using the “graduated shade” function in ArchaeoSurveyor 2. This calculates a continuously interpolated value for every pixel. Each pixel value is calculated by generating cubic spline curves from all the data points in both the X and Y axes. This reduces the perceived effects of background noise thus making anomalies easier to see. Any further processing is noted in relation to the individual plot.

Excavation of the Cichle Farm Practice Trenches (PRN 31072)

The excavation took place between 22nd and 26th September 2014 (inclusive) and followed the *CIfA Standard and Guidance for Archaeological Field Evaluation 2014* (CIfA 2014b). It involved digging two trenches to investigate the character of the buried remains and the level of preservation. The trenches were located in relation to the 1945 aerial photograph (plate 1) and the geophysical survey to target specific parts of the trench system. Trench 1 (measuring 3m by 3m) targeted a trench around the command centre in the lower southern part of the field and trench 2 (measuring 4m by 3m) was located to investigate part of the front-line trench in the upper, north-western end of the field (figure 11). A Trimble high precision GPS was used to locate these trenches accurately.

The risk of encountering live ordnance was considered to be very low but to reduce the risk further, iron signals shown on the geophysical survey plot were avoided, as there was a small possibility that these could indicate the presence of ordnance such as hand grenades. A metal detector was used throughout the opening of the trenches by machine to detect any non-ferrous objects before they could be hit by the machine bucket. No ammunition or ordnance either live or dead was found.

The excavation trenches were opened using a mini-digger to a level where the natural sub-soil appeared clear. The bulk of the obvious backfill was then removed from the practice trenches. The trenches were then cleaned by hand and recorded. Care was taken to try and identify any features such as stakeholes within the sides of the trenches. Hand digging was used to establish the edges and base of the trenches. In trench 2 the edges proved difficult to identify and after initial investigation the mini-digger was brought back in to remove more of the deposits.

When all recording had been completed the trenches were backfilled by the mini-digger.

It had been originally intended to also open two small trenches in Tan y Coed Wood. However the difficulty in identifying the edges and base of the Cichle Farm trenches meant that there was insufficient time to carry out further excavation. It was decided, in consultation with Cadw, that obtaining a thorough understanding of the trenches already opened was more important than attempting to excavate a second area.

The excavations were recorded by digital photography using a Nikon D3100 camera taking NEF and high resolution JPG files. The NEF files were converted to TIFF for long term archiving. Plans and sections of the trenches were drawn by hand at scales of 1:20 and 1:10 respectively. Deposits and cuts were recorded on GAT context sheets.

Survey of the Tan y Coed Practice Trenches (PRN 31070)

Tan-y-Coed WWI practice trenches lie in overgrown semi-mature deciduous woodland on an east facing slope centred on SH59277900. The trenches have not been backfilled and appear to have been abandoned and left undisturbed since their last use. A 1945 aerial photograph (RAF 106G UK 655, frame 3042, 13th August 1945) shows that the trenches were in scrubby open country when in use. The land has since been uncultivated and a mixed woodland of sycamore, ash blackthorn, oak, and holly with a dense understory of brambles, ferns and wild garlic has become established.

Some of the undergrowth was cleared from the trenches to allow access. Three survey stations were set up in clearings using a Trimble high precision GPS surveying system. The rest of the survey was carried out using a total station. Printouts of the survey were then taken back to the site and measured details, annotations and written descriptions were added by hand. A photographic record was made using a digital SLR. The location of each photograph was marked on a plan and this is included in the photographic archive.

Survey of the Penmaenucha rifle range (PRN 58671)

The remains of a well-preserved rifle range survive on land owned by Penmaenucha Farm to the south-west of Dolgellau. The target butts were recorded as part of a training event for volunteers. The butts were cleared of vegetation so that the details could be clearly seen. Over two days notes were made, photographs were taken of the site and a hand-drawn plan was produced. The work was carried out by the volunteers with close supervision by professional archaeologists. The plan was pulled together and completed by an archaeologist. A high precision Trimble GPS was used to locate the plan and to record other detail in the area. The area over which the firing points were located was inspected on the ground to search for remains of the positions.

2.3. Report

This report describes the background and methodology of the project, the results of the fieldwork, and provides recommendations for scheduling and future research. The report incorporates a gazetteer of sites (appendix II), which has been generated from the project database. An Access database accompanies this report and is designed to aid input into the HER.

2.4. Archiving

The digital archive generated from the project will be archived with the RCAHMW, who share with Historic Scotland a facility for the active curation of files.

2.5. Public engagement

The public were invited to visit or become involved with the recording of these sites at various points within the project. On 16th May a guided walk, starting from Llangoed, was led by Rob Evans to look at the site of the Kingsbridge Training Camp and the practice trenches visible in Tan y Coed wood. This was well attended and included handouts showing photographs and drawings of the camp and its activities.

Both the practice trenches and the Penmaenucha Rifle Range were featured in displays at the Merioneth Show in August.

The excavations at the Cichle Farm practice trenches were carried out with the aid of a small team of experienced volunteers. A site tour was held for the general public, during the excavations, on 25th September, which was attended by 9 people.

The recording of the target butts at the Penmaenucha Rifle Range was carried out as a training exercise for volunteers, which 7 people attended. This took place over two days (11th and 12th October), and provided training in photography, site recording through notes and sketch plans, and detailed site planning. It introduced the CBA Home Front Legacy project for collecting records of First World War sites and looked at the recording form used by the project.

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3. RESULTS

3.1. Training camps

Introduction

The Boer War or South Africa War (1899-1901) highlighted weaknesses in traditional military organisation, including the need for sufficient trained troops. The Territorial Army was formed in 1908, in order to maintain a body of trained men without introducing conscription. This was not a completely new innovation as there were already local Volunteer Corps established across the country, which had been formed following the Crimean War (1853-1856). The Territorial Army built on this foundation (Beattie 2014, 3). Training was achieved by requiring all Reservists, Territorials and Yeomanry to attend training camps for 12 or 14 days each year, usually in the summer (Beattie 2014, 4).

When the First World War began on 28 July 1914 Britain had a small regular army of about 250,000 men, supported by Reservists, Territorials and Yeomanry. A major campaign was started to encourage men to volunteer, but most new recruits had no previous military experience and required extensive training (Beattie 2014, 12-3). The existing Volunteer Corps training camps were obvious locations to set up more permanent camps and some were leased directly by the War Office, whereas they were previously leased by the local town council. Volunteer Corps, the forerunner of the Home Guard, still continued to operate and trained in their drill halls and rifle ranges as well as establishing summer camps (Beattie 2014, 23-4). Some of these seem to have been in new locations as the former training camps were fully occupied with training the regular army. Conscription was brought in on 27th Jan 1916 (Beattie 2014, 42), leading to an even larger demand for the training of new recruits.

Most of the training camps used in the First World War in north-west Wales were therefore existing camps that had previously been used for summer training for Volunteers and Territorial Army units. Prior to the war and at its start there was no attempt to keep the location of camps secret and postcards were often produced for men to send home while they were away training. There seems to have been a particularly large number of postcards produced of the camp at Conwy Morfa, many of which can be seen on the website oldukphotos.com. These postcards give the best evidence for the location and layout of these camps, and several sites in this study have been located entirely from this evidence. However very few postcards are dated later than August 1914, when there seem to have been more restrictions on their production. Evidence for the use of the camps during the war is therefore largely reliant on newspaper reports. Activities at the camps were still reported in some detail throughout the war and this source is very useful in establishing when camps were dismantled at the end of the war. Most in north-west Wales seem not to have continued as training camps after the First World War, with Second World War camps being set up on new sites.

The physical remains of these camps are generally very slight or non-existent. Where tents alone were used archaeological evidence is unlikely except possibly in the form of rubbish dumps or pits and perhaps artefacts scattered over the field, which might be detected by metal detectors. Some of the larger sites had huts and latrine blocks built, often on concrete foundations which can survive. The large camp on Conwy Morfa (PRN 58676), which had a number of permanent buildings, has been entirely destroyed by the construction of the A55, housing, business developments and a caravan park, but concrete hut bases do survive in the site of the Kingsbridge camp (PRN 31076) near Beaumaris.

Surviving archaeological features are more likely in relation to training facilities associated with the camps. Most camps had a rifle range and remains of these survive in many cases. The construction of trenches was often also part of the training and although usually backfilled these can sometimes still be located. These specific elements of training are looked at separately below. In 1919, after the end of the war, many of the training camps were used for prisoners of war. This was a result of the lengthy process involved in the return of prisoners, which continued throughout 1919. These camps are also considered separately below.

The only exception to these relatively small training camps that concentrated on small arms and sapper training is the firing range at Bronaber, Trawsfynydd. This is a very extensive area that continued in use through the Second World War and beyond and is a true military landscape. This area is being studied in detail by Sheffield University and a statement of the progress of their research, obtained from Robert Johnston, has been included below. The current project has not duplicated effort by carrying fieldwork or extensive documentary research on this site. There are many records on the NMR for practice trenches in this area. These have not been individually included in the present database and gazetteer as the records were generated by an upland survey project, which did not have the benefit of the detailed recording and background research of the Sheffield University project. The interpretation of many of these sites may change as a result of the more detailed work so it was considered better not to incorporate the NMR records into the GAT HER before the full results of the Sheffield University project are released.

Conwy Morfa (PRN 58676) and Deganwy (PRN 58686) Camps

A training camp for local Volunteer units was set up in the sand dunes of Conwy Morfa, just outside the town of Conwy (figure 2). The area had been used as a golf course since 1868 and use of this course continued through to the present day, despite the use of the area for training camps (Golfclubatlas.com). A plan of the camp (figure 3) shows golf greens amongst the tent pitches, but golf seems not to have been played here for the duration of the First World War.

The camp was set up by Conwy Town Council, who spent a considerable sum laying out the camp and hired it out to the Territorial units (Welsh Coast Pioneer 2nd June 1910, p6). The site is shown on OS maps from 1888, when it is labelled as a camp for the 2nd Volunteer Battalion Royal Welsh Fusiliers. It is still shown on the 6 inch map in 1938, when a holiday camp had been added. A camp fenced off from the golf course but not labelled as either military or holiday camp is shown on the 1953 map, surveyed in 1948. The date of origin of the camp has not been established by this project but it was in use from 1881 or before. In June of this year the schoolmaster at the school in Penmaenmawr recorded a poor attendance as pupils missed classes to see a "Volunteer review at Conway Marsh" (Roberts and Watson Jones 2014, 92). A non-timetabled station was opened in 1895 on the railway to serve the training camp (disused-stations.org.uk).

The Conwy Morfa camp was a particularly large camp with tented accommodation, as can be seen in the many photographs of this camp (plates 2 and 3). When war broke out there were 7000 men at the Conwy Morfa and associated camp in Deganwy on routine annual training (Adrian Hughes, North Wales Daily, 06/02/2014). The camp was immediately used for training for war. On 28th August 1914 the North Wales Chronicle (p6) reported "On Saturday morning about 4500 Territorials, representing the 4th, 5th, 6th and 7th battalions of the Royal Welsh Fusiliers, came from Carnarvon and elsewhere to Conwy, to undergo strict military training on the Morfa. There are about 800 horses with guns, and transport wagons, and the camp is fully equipped with ambulance and Army Medical Corps." Training includes "long tramps over the mountains" and "all kinds of manoeuvres" and "flag signalling" on the Morfa. A postcard of the camp sent by Willie Thorman of the 13th Royal Welch Fusiliers in 1915 suggests that the connection with the Welsh Fusiliers continued through the war (Conwy Archive Service CP2 95/3). The War Office leased the land in May 1915 to make it a regular army camp (North Wales Chronicle, 21st May 1915, p8).

The camp had a rifle range (PRN 58760) on the northern part of the Morfa, which would be used for small arms training. Soldiers at the camp also used a site on the edge of Conwy for digging practice trenches (PRN 58760).

The camp was used until 1919 when it was decommissioned and huts and other items were sold off (North Wales Chronicle 31st October, p1 and 14th November 1919, p5). The map evidence suggests that the site continued to be used, perhaps purely as a holiday camp.

The camp ran along the full width of the southern part of Conwy Morfa from immediately adjacent to the Conwy Union Workhouse (Conwy Hospital) (PRN 7983) to the coast, as is shown by the many postcards of the camp and by a detailed plan of the site dating to 1910, with annotations dated to 1912 (Conwy Archive CP/Maps and Plans 23/2/287). This plan identifies the use of the permanent buildings on the site, most of which were latrines, and shows how the tents were laid out. Although parts of the rifle range still survive, the site of the camp has been almost entirely destroyed by the construction of the A55, new housing, business developments and a caravan park (figure 4). Only a small area of dunes remains undisturbed and this seems to have no remains from the camp within it.

A related camp was established at Deganwy. This is not marked on the maps and has been difficult to locate accurately but some postcards exist of it that allow it to be approximately located, although its full limits have not been accurately established. It was located on the edge of the Vardre (figure 5) across the river from the Conwy Morfa Camp, and seems to have been an almost entirely tented camp. The date of the camp's first use has not been established but like Conwy Morfa it was a Volunteer training camp before the war and there are postcards of the York and Durham Brigade of the Territorial Army at the camp (plate 4). In 1916 the camp was developed for the Royal Engineers (North Wales Chronicle 20th April 1916, p8), and their training included digging practice trenches. The camp is associated with the most extensive and complex trench system (PRN 13991) in the area, now under the Maesdu Golf Course, Llandudno. There is also a small section of practice trench (PRN 30318) on the Vardre itself, which is presumably also related to this camp (figure 5).

By late 1918, 40 army horses from the camp were being offered for sale (North Wales Chronicle 13th December 1918, p1), indicating that army training had ended here. The camp was then used to house prisoners of war (PRN 7882). Most of the area of the camp is now under housing, but the photographs suggest that some tents were pitched on the area of the Vardre, which is still open parkland. Some traces might survive in this area.

Kingsbridge Camp (PRN 31076)

Near Llangoed, a couple of miles from Beaumaris (figure 6), a training camp was set up for the Royal Anglesey Royal Engineers. The Engineers were formed from the Anglesey Militia in 1877. Again this camp significantly preceded the First World War as it was opened in 1902. From 1911, army engineer reservists were trained at the camp, which was enlarged in 1914 to cater for the hundreds of soldiers sent there for specialist training during the First World War (Jones 2012, 7). The other units that trained at the camp included the London Electrical Engineers Searchlight Division in 1918 (Anglesey Archives WDAB/4). The site was closed as a training camp at the end of the war but was reused for a short period as a prisoner of war camp, before all saleable material was sold off in 1919 (National Library of Wales Sale Catalogues Angl. 118) (Evans 2008).

Once the war had started the increased demand meant that men had to stay in barracks in Beaumaris (North Wales Chronicle 18th September 1914, p6), but by January 1915 a large number of huts were being erected to provide additional accommodation (North Wales Chronicle 15th January 1915). The men were trained for 18 months at the camp in siege warfare tactics, including trench building and deployment of barbed wire, before being sent to the front (Dalton 2013, 4, 13; Parry in Wakelin and Griffiths (eds.) 2008, 254-55). This included digging practice trenches in nearby fields one of which was on a sloping hillside (PRNs 31070 and 31072) (figure 6). These trenches have been investigated in some detail and are described below. They possibly also used the rifle range at Parc Pentir near Penmon (PRN 58743), as this is the closest known range to the camp and rifle practice was included in the training (Anglesey Archives WDAB/4).

Men are reported as leaving the camp for demobilisation in January 1919 (North Wales Chronicle 17th January 1919, p4), and although prisoners of war were brought to the camp in June 1919, the camp was closed down "to a nominal establishment" in August (North Wales Chronicle 29th August 1919, p8). Some of the huts were already being sold off at this time; five were bought by the Normal College, Bangor as laboratories and were re-erected in their grounds (North Wales Chronicle 15th August 1919, p8). The remaining huts, cook house and latrines were sold off in December 1919 (North Wales Chronicle 21st November 1919, p1), when assorted other items from the camp were also offered for sale, including bedding, beds, mirrors, chairs and tables and culinary utensils (North Wales Chronicle 19th December 1919, p1).

The camp had tent and hut accommodation (plate 5), as well as stables, a cookhouse and a 'wet' bar. Further barrack accommodation was provided in nearby local properties and in Beaumaris (Dalton 2013, 12). The camp was laid out around the central parade ground with barrack huts to the west and the cookhouse and stables to the east (Anglesey Archives, WDAB/38). In 1917 a daily expenditure of £1 18s 0d was spent on field rations for the occupants of the camp, which included exotic items such as pineapple (presumably tinned) as well as the more standard camp food (Anglesey Archives, WDAB/4). A number of occupants of the camp died in the flu outbreak of 1918 (Anglesey Archives, WDAB/7) (Evans 2008).

The site is now covered by a caravan park, and none of the original huts survive, the last having been demolished in the 2000s. This was a timber framed hut with concrete support walls and a corrugated iron roof (Dalton 2013, 14). Concrete hut floors do still survive, including some within the woods around the present camp site, and some of the original roads are also under the turf (Dalton 2013, 14). The physical remains are rather sparse but are complemented by a significant documentary and photographic archive (Dalton 2013, 14; Evans 2008) (plate 6).

Other small training camps

Several smaller training camps have been identified across north-west Wales, mainly located from contemporary postcards or from newspaper reports. These appear to have been entirely temporary tented camps used by local Volunteers before the First World War. In some cases proof of use into the war has not been found, but news reports show that local Volunteer Corps continued to train during the war. As some of their camps had been converted to war use they sometimes used new areas to set up temporary camps, but it is likely that any camps not used to train the regular arm continued in use by Volunteers. The chance of any remains surviving at any of these sites seems to be slim but some may have had permanent latrines or other structures.

There was a tented training camp on flood plain to east of Dolgellau (PRN 58750), used by the 4th Battalion of the Royal Welsh Fusiliers. The exact location of the camp (centred on SH 7372 1808) has been identified from postcard supplied by Bill Flentje (plate 7). This camp was established in the late 19th century as there was training there in May 1896 when there was an accident at the rifle range. This may have been a rifle range on the camp site rather than the Penmaenucha range (PRN 58671) (Manchester Guardian, p6, 25th May 1896, cutting supplied by Bill Flentje). It is not known if it was used during the First World War, although this seems likely, it was certainly in use in 1912 when the postcard was produced.

Photographs have also been used to identify the location of camps (PRNs 58753 and 58754, centred on SH57253934 and SH57443907 respectively) at Porthmadog on both sides of the Cambrian Railway Line. The photographs, posted on Flickr by Martin Pritchard, are dated 1913 and 1914, and at these dates the camps were used by Territorial Army units from across Wales. When the war started on 28 July 1914 G company of the Brecknockshire Territorial Battalion were planning to go to their annual camp at Porthmadog a couple of days later (North Wales Chronicle 30th July 1914, p8). The camps were of a considerable size as about 3500 men from the South Wales Infantry Brigade of the Territorial Army had planned to stay there in July and August 1914 (North Wales Chronicle 13th March 1914, p2). It has not yet been established if this training went ahead as planned once the war started but it was to have involved "manoeuvres in Snowdonia". The troops would have used the rifle range (PRN 33601) that ran parallel to the railway.

There was a tented training camp (PRN 58677) used seasonally at Coed Helen near Caernarfon (centred on SH47506236), again established as a Territorial Army training camp. This camp was certainly used in the First World War as a letter dated 13th Oct 1916 (Caernarfon Record Office XM/1408/3) states that there were between 2000 and 2500 soldiers at the camp in the summer of 1916. The YMCA also held a concert at the Coed Helen Camp in August 1915 (North Wales Chronicle 27th August 1915, p6) and supplied writing materials for soldiers to write home; with "well over 1000 letters written weekly by the soldiers at the YMCA tent". The Royal Engineers were using the camp in June 1917, as one of the sappers from the camp was reported as being found AWOL in Caernarfon (North Wales Chronicle 22nd June 1917, p6). The camp was also in use before the war as the Manchester Regiment trained there in May 1914 (North Wales Chronicle 1st May 1914, p8).

The Caernarvonshire Volunteer Regiment is reported as having a training camp for a week at Penrhyn Bay in August 1917 (North Wales Chronicle 24th August 1917, p7). This is probably the camp (PRN 58759) reported to have been held on the Little Orme, Penrhyn Bay (North Wales Chronicle 17th August 1917, p8). It is hard to see where they could have camped except for in the fields to the north of Ty Uchaf (centred on SH816822), although no traces of a camp can be seen.

The North Wales Chronicle (21st August 1914, p3) reports that the Marquis of Anglesey offered the “canvas camp in the Park” at Plasnewydd for the use of the Admiralty, who accepted it. Where this was located in the Park and whether it was used is not yet known. It sounds as if this was an existing camp, possibly for local volunteers but no further information has been found about it.

While not a training camp, evidence was found of a small camp or guard station having been established at Porth Tre Castell/Cable Bay (PRN 58714) during the First World War. This was presumably to guard the point at which the telegraph cable from Ireland came to land. Information on the existence of the camp came from D Owen whose family lived at Porth Tre Castell and he owns a scrapbook containing a song about guard duty at this site (information via Andrew Davidson).

The song below was written by a soldier at Tre Castell and was to be sung at a concert on Christmas night at the camp. It seems unusual now that Welsh soldiers should identify their country as England.

*We are guarding, guarding, guarding night and day,
Waiting for the Germans to land at Cable Bay;
Corporal Morris is in charge,
But he'd sooner be at large
In his busy workshop at Llangejni.*

*We are willingly serving our country and our King,
Though we are less in number, our lads have gone to Tring;
With my carbine in my hand
I do sentry on the sand;
Every able man should be a soldier.*

*We are homely together, all feel in the pink;
We are all teetotallers, “camp coffee” is our drink;
When the stars are shining bright,
We go roaming out at night
Round the silvery sandpaths of Rhosneigr.*

*We are never downhearted, our country's bound to win;
We'll hoist the flag of England some morning in Berlin;
Kaiser Bill will have no nerves
When he'll see our brave reserves,
Men who manned the guns for “England's glory.”*
(from family scrapbook of David Owen, Rhydydefaid)

Bronaber Camp (PRN 33339) and Firing Range (PRN 58761)

Bronaber camp with its extensive firing range is probably the best known and most visible of the training camps, and probably the largest and most complete military landscape in the GAT area (figure 7, plate 8). It has not been studied for this project as it is the subject of on-going research by the University of Sheffield. The following is a summary of the work by Robert Johnston, senior lecturer at the University of Sheffield.

Summary of research undertaken on the military archaeology of the Trawsfynydd Ranges, 2008-2013
Robert Johnston

1. Overview

During 2008-2013 staff and postgraduate students from the University of Sheffield undertook research-led archaeological surveys within the landscape of the former Trawsfynydd Ranges. The project was in collaboration with and was part-funded by Snowdonia National Park Authority (SNPA). The aim of the fieldwork was to use non-invasive methods to learn more about the landscape history of the area. The results are intended to be useful to those responsible for managing the landscape and to anyone interested in its history. We see the project as complementing the RCAHMW's Uplands Initiative.

The methodology was a simple one. We began with rapid survey, following the RCAHMW model, using 30m transects and collecting basic information about each site. This work began in 2008 and continued to 2012 and adjoined a survey of a much larger area conducted by ArcHeritage and funded as part of the Uplands Initiative. Following the rapid survey, we identified a series of thematic surveys and studies of specific sites/areas

(completed manually and using survey instruments). These included stock management, farmsteads, military features, mining, and prehistoric structures. Several locations were chosen for large-scale surveys either as a consequence of the thematic surveys or because their complexity seemed to benefit from more detailed investigation.

The project covered all periods, from later prehistory to the recent past. This summary provides an overview of the fieldwork on the military sites.

2. Historical Background

The range at Trawsfynydd (PRN 58761) was established in the Military Manoeuvres Bill 1900. By 1913, Trawsfynydd was identified as one of the Royal Artillery's main practice ranges together with Lark Hill, West Down, Okehampton. It is said that the landscape played a role in determining the location of the range at Trawsfynydd. The low rolling hills and the hidden valley of Cwm Cain formed perfect training for the new tactics of long-range artillery barrage beyond line of sight. Its remoteness, low density population and close access to the railway, must also have played a part. The extent of the range initially covered just over 8000 acres, before being extended slightly to the south by 1923, and then extended to over 13,000 acres in the early 1950s.

The camp serving the ranges was first located near the train station at Bryn Goleu, to the north. In 1905 the camp moved to Bronaber, on the land below Rhiw Goch, with the seventeenth-century house (PRN 12462) used as the officers' mess.

There was a proposal to extend the range by 5,000 acres in 1948, which led to a public inquiry held in Dolgellau in November 1949. Some protests against the extension followed in 1951, although they did not prevent training in the extended area. The ranges were closed in 1957/8, the land was returned to the original owners and some was purchased by the Forestry Commission. A portion of the camp was retained and used by the construction workers on the nearby nuclear power station at Trawsfynydd.

3. Rapid survey

The rapid surveys of the ranges completed by the University of Sheffield and ArcHeritage complement fieldwork completed by Keith O'Brien, a resident of Trawsfynydd. Keith mapped and took photographs of many of the military features – particularly the sentry positions, posts for warning flags, signage, a field telegraph system, splinter-proof shelters, gun parks etc. The surveyed infrastructure can be compared with range maps available for 1911 and 1923. There are also good vertical aerial photographs dating from 1948. The University of Sheffield and ArcHeritage rapid survey data was integrated and submitted to the RCAHMW for inclusion in Coflein.

4. Bronaber Camp (PRN 33339)

The layout of the camp survives intact across much of its extent, with the concrete bases of buildings, roadways and additional infrastructure either preserved on grazed land or beneath the footprint of the holiday village. We began a survey of the camp in 2010 at a scale of 1:1000 using both manual methods (measuring from hard detail such as cabins within the holiday village) and GPS. Detailed photographs and a written description were completed of all the identified features. Around 60-70% of the camp has been surveyed thus far, and the aim is to complete the survey during the next 12-18 months. In addition, searches in the National Archives identified two detailed plans of the camp: one is undated but seemingly quite early, and the second is from c.1957, shortly before the camp's handover.

5. First World War trenches on Mynydd Bach (PRN 58756)

There are a wide variety of military features in the wider landscape of the ranges. One particularly interesting area is Mynydd Bach, where there are clusters of First World War practice trenches. These were first identified during the ArcHeritage survey, and subsequently mapped as a project by a University of Sheffield student, Chris Atkinson.

The trenches were surveyed at landscape scale: 1:2500. This demonstrated their distribution around the hill and their morphology, with three types of feature represented: a scatter of small infantry fire trenches, possible mortar positions (equally spaced rectangular-oval trenches), and three groups of First World War (c.1916 onwards) zig-zag practice trenches – communication trenches and L-shaped forward firing positions and machine gun emplacements. Two sections of the First World War Trenches were the subject of analytical survey by Chris Atkinson at a scale of 1:100.

There are small practice firing positions for infantry training located across many areas of the ranges, with particular concentrations in the northwest, on the slopes around Llyn Gelli Gain. A thematic study of a selection of these features was completed in 2008, including an analytical survey (1:500) of one cluster of stone-built firing positions.

6. Splinter-proof shelters

There are shelters and observation positions distributed throughout the range. They are marked on the 1911 and 1923 range maps as 'splinterproof shelters' and many can be located on the ground as archaeological structures. Their construction varies from substantial stone and earth-built structures, such as the examples at Hafod-y-garreg and an observatory on high ground above Dol Gain, to smaller timber, earth and corrugated sheeting structures as at Dol-y-moch. One splinter-proof shelter, high on the valley-side east of Llyn Gelli Gain, was recorded by GAT in 2007 and subsequently renovated by SNPA.

University of Sheffield students completed two projects on the splinter-proof shelters. The first, in 2011, involved the recording of all the identifiable examples within Cwm Cain using photography, written descriptions, and large-scale measured survey (1:100 to 1:200). This identified considerable variety in the construction methods and locations of the 'shelters'. This was followed by a GIS-aided study of the siting of the 'shelters' in comparison with the artillery impact areas as noted from survey work and from range maps. This confirmed that some of the structures functioned as observation posts for the artillery firing, while others make more sense as shelters.

7. Farmsteads

Artillery fire into the heart of the valley did not, obviously, sit easily alongside the valley as a working, agricultural landscape. As with other training areas in the UK, including Sennybridge, the War Office requisitioned farms and land and moved the inhabitants elsewhere. The history of this process in Cwm Cain can be gleaned from published oral histories and contemporary newspaper accounts.

As part of the University of Sheffield research, the students completed large-scale surveys of all the well-preserved farmsteads and associated field systems, principally at scales of 1:1000 and 1:2000, with more detailed plans of elevations of selected buildings. Alongside this, complementary archival research was completed using the Tithe records and census. While a key aim of this work was to understand the nineteenth-century and earlier landscape history, it has also been possible to more fully document the impact of militarisation on the local population of Cwm Cain.

8. Ongoing and future work

There remains some research to be completed in the University of Sheffield's programme of investigations. The survey of Bronaber Camp is incomplete, and we will work over the next 12-18 months to complete this, along with a survey of the grenade range that lies on the west side of the A470.

An evaluation of the relevant collections in the National Archives, in NLW and in local archives has identified a wide variety of valuable sources. There is scope for a more thorough study of these materials, and we intend to complete this alongside the survey of the camp.

There is potential to collect and study oral histories both from local people and from servicemen who trained on the Trawsfynydd Ranges. We have discussed some means for progressing this with SNPA, but only a very limited amount of work has been done.

3.2. Practice Trenches

Practice Trenches across the GAT region

The use of trench warfare was anticipated for the First World War and practice in constructing and using trenches was considered to be of high importance for soldiers. A trench training system was used nationally and designed by Colonel Corry in 1915, based on his experiences in the Boer War and the Western Front in 1914 (Dawson 2007, 179). This redesigned system was an improvement on the methods recommended in the British General Staff Manual (Solano 1914). Practice trenches provided low-cost training to the million volunteers and later conscripts who served in the British Army. They were also seen as a propaganda tool, showing the level of preparedness of the army (Brown 2004).

Nine areas of practice trenches have been identified within the GAT area, most of which are associated with specific training camps. These trenches often represent the most archaeologically visible part of the training carried out at the camps.

The most extensive area of trenches known in north-west Wales (PRN 13991) is under Maesdu Golf course between Deganwy and Llandudno (figure 5). These trenches were created by trainee engineers from the Deganwy camp (PRN 58686). The North Wales Chronicle (22nd October 1915, p3) reports that the Royal Engineers training at Deganwy were inspected, and the inspecting officer visited the training ground and saw "officers and sappers engaged in trench construction, the preparation of wire entanglements, and other operations". An aerial photograph (Anglesey Archives WM 2010/1) dating to 1918 survives showing the trenches soon after they were dug (plate 9). This shows a complex of intercutting trenches with crenelated front line trenches and zig-zag communication trenches. Some of the front line trenches seem to be opposing each other, suggesting that they may have been designed to practice storming the enemy's trenches. These trenches are now entirely filled in but can be seen as parch marks from the air in favourable conditions (Driver 2003, 71) (plate 10).

Presumably also related to the Deganwy camp is a short, isolated trench on the Vardre (PRN 30318) (figure 5, plate 11). This has a length of crenelated front-line trench with an access trench running behind it. It is only about 50m long, but is still visible as a slight earthwork (Kenney 2009, 17).

Soldiers training at the Conwy Morfa Camp (PRN 58676) may have used the Deganwy trenches but some seem to have used trenches on the edge of Conwy. A postcard dated 1915 (plate 12) shows trenches dug in Maes y Porth Gardens on the edge of Conwy by the 15th Service Battalion of the Lancashire Fusiliers. This unit were also known as 1st Salford Pals and were training at Conwy Morfa Camp between 28th Dec 1914 and May 1915 (wartimememoriesproject.com). The approximate location has been estimated from the postcard image, but nothing can be seen on lidar data at this location.

The practice trenches (PRN 58756) on Mynydd Bach, near Trawsfynydd are part of the extensive landscape related to the Bronaber camp (PRN 33339). These are clustered around the top of the hill (centred on SH74603123) and include small infantry-fire trenches, possible mortar positions, and three groups of practice trenches, with communication trenches, L-shaped forward firing positions and machine gun emplacements. These have been mapped by a University of Sheffield student, Chris Atkinson (see above).

The two sets of practice trenches associated with the Kingsbridge camp at Cichle Farm (PRN 31072) and Tan y Coed (PRN 31070) are discussed below (figure 6). The zig-zag line of what appears to be a practice trench (PRN 58727) was spotted from the air next to the rifle range on Penrhosfeilw Common, Holy Island by Toby Driver of RCAHMW (plate 13). It is likely that this was dug by the Volunteers who used the rifle range (PRN 38290) that also runs across the common. This trench appears well-preserved if overgrown.

Practice trenches are also reported to have been dug on the Little Orme (Clive Hughes pers. com.). All likely locations on the Little Orme were investigated on 21/03/2015 but no traces of trenches were seen. It is assumed that the trenches were located within the farmed fields and have been entirely infilled. However, there are some small areas that are very over grown and might possibly conceal remains of practice trenches.

A series of crenelated and zig-zag trenches (PRN 34158) in short, unconnected fragments rather than a coherent system can be seen on 1941 aerial photographs close to the beach at Barmouth (centred on SH60631652) (plate 14). These are presumably practice trenches but they appear very fresh on the 1941 photographs, and must have been recently dug when the photographs were taken. They must therefore be Second World War practice trenches. The fragmentary nature does distinguish them from First World War practice trenches that generally try and replicate a section of a realistic trench system. The area is now under residential housing estates and no trace of the trenches survives (Parry 2006). Similarly trenches at Tywyn (PRN 58673) were visible on 1940s aerial photographs but have also since been built over.

Cichle Farm and Tan y Coed Practice Trenches

Some of the best preserved trenches in north-west Wales are associated with the Kingsbridge Training Camp (PRN 31076) near Beaumaris, Anglesey. There are two separate areas; one near Cichle Farm is extensive but has been largely infilled, whereas the other in woods near Tan y Coed is a smaller simpler set of trenches that has been largely left open and only infilled by erosion (figure 6).

The trenches (PRN 31070) to the west of Tan y Coed are a remarkably complete set consisting of a front line, or 'fire trench' down slope and service and zig-zag access or communication trenches running up a fairly steep slope behind it towards a support trench, linking both to a rear or reserve line (Evans 2008). Although within woodland today this area is not shown as wooded on the 1919 or earlier 25 inch maps (figure 6), so no clearance of trees would have been necessary to create the trenches.

The trenches in a field on Cichle Farm (PRN 31072) have been considered to be of a Second World War date, as they appear on aerial photograph 1066/UK 655 3041, taken on 13th August 1945 (plate 1). This photograph has been interpreted as showing open trenches. However there is no fresh earth visible and in some areas gorse has overgrown the trenches, suggesting that they had not been recently dug. It is likely that these were in fact partly backfilled and had stabilised after their abandonment at the end of the First World War. There is no reason in style or other evidence to attribute these to the Second World War and plenty of evidence for trench digging in the area in the First World War. This trench system has a deep line of access trenches from the rear service trenches and a crenelated front line trench with a probable command centre in the rear. These are set in a fairly gently sloping field and use the topography to provide protection for the supply trenches and command centre. Although largely infilled the trenches are just visible as hollows on the field surface, especially from the air (see NPRN 402773 on Coflein).

It is not thought likely that offensive and defensive military tactics were taught at either of these trench systems. It seems that they were used purely for instruction in trench layout and construction for the engineers at Kingsbridge camp (Medwyn Parry *pers. comm.*).

Due to the preservation of the trenches these two areas were chosen for detailed investigation and recording. This included a geophysical survey and test excavations of the Cichle Farm trenches and a detailed topographic survey of the Tan y Coed wood trenches.

Geophysical survey of the Cichle Farm Practice Trenches

An area of 300m x 180m was surveyed. Background noise levels were fairly low and most anomalies were of a low intensity. The data was clipped to ± 7 nT (figure 8).

The survey detected a complex series of linear anomalies of varying intensity and character. The grey-scale plot has been optimised to show the greatest range possible. The interpretation diagram (figure 9) shows numbered transcriptions of most of the anomalies. The central south-eastern area (around feature 5) appears to contain an overlapping tangle of curvilinear trenches suggesting several phases had been dug and backfilled. The results were not clear enough to allow transcription of all features in this area.

Many of the trenches detected in the survey are visible on the aerial photograph. These features are shown on figure 10 in red for comparison. The geophysical survey detected some additional details. Most obvious are a series of discrete anomalies (1 to 4) of very high intensity (from 50 to over 3000nT) that are characteristic of either ferrous material or very high intensity burning. In this case a ferrous origin seems most likely. They are all on the line of trenches and are best interpreted as fittings, or other emplacements within the trenches. They are regularly spaced and produced relatively small discrete anomalies and are probably made from iron or steel. They could however be caused by a wide range of objects ranging from mounting points to corrugated iron sheets.

The trenches transcribed from the aerial photographs correspond closely to the anomalies in the north-western end of the field. The south eastern end is considerably more complex. Of note is a cluster of trenches and at least two rectangular anomalies (5). This could be a headquarters with rectangular dug-outs. There seems to be another concentration of possibly multiphase trenches to the north of this (6) and perhaps to the north-west (7). The practice trenches are distinctively irregular with frequent changes of direction. A series of other linear features of a different character were also detected (e.g. 8 and 9, shown in brown on figures 9 and 10). It seems likely that these are former field boundaries dating from before the current arrangement of large fields that probably date from 18th or 19th century estate improvements.

Comments

The practice trenches only produced slight anomalies, presumably as a result of being mostly backfilled with the material that was excavated from them and therefore being magnetically very similar to their surroundings. The grey-scale plot shows faint traces of trenches in several places that do not appear on the aerial photograph, and these may indicate that some trenches were backfilled and redug during the training. It should also be noted that

quickly backfilled features are likely to be undetectable by the gradiometer because the fill will be exactly the same as the surrounding soil.

Excavation of the Cichle Farm Practice Trenches

The trenches were positioned in relation to the results of the geophysical survey and the transcription of the aerial photographs (figure 11). The excavations were carried out with the aid of volunteers (plate 15). See appendix I for a detailed list of contexts recorded.

Trench 1 (Figures 12 to 14, plates 16 to 18, and 22)

Trench 1 (centred on SH 59869 79041), which measured 3m by 3m, was positioned to investigate one of the trenches that formed part of the command centre in the lower part of the field.

It was initially thought that there were stake-holes along the edge of the practice trench but closer inspection showed that the holes were probably animal burrows and that the edge of the trench had not been reached and further digging clarified this. The base of the trench was very difficult to identify as the lower fills were almost identical to the natural. They could only be differentiated by very subtle changes in colour and the slightly firmer nature of the natural. The base of the trench therefore had to be found by hand excavation which involved digging through some very heavy clay. The base was only exposed at the northern end of the evaluation trench.

When fully excavated it could be seen that the practice trench [104] had near vertical sides and a flat base. It was between 1.4m and 1.0m wide and 1.35m deep. A band of sand in the natural substrata caused a small area to be over-dug during archaeological excavation but two apparent steps cut in the western side of the trench appeared to be genuine. The lower of these was curved, and they were both quite well-defined with a flat surface and steep sides. The eastern side of the trench also seemed to step in slightly near the southern end of the evaluation trench to give a flat step 0.14m wide. The steps in the western side were up to 0.2m wide and could have been used either to aid access into the trench from that side or for stepping on to see out of the trench. It is more normal to have a fire step, a broad step running along the length of the trench to enable the soldiers to see out of the trench and to fire from it. There was no trace of such a fire step, and it is possible that the non-regulation small steps were just temporary features for use during the digging of the trench.

Traces of timber revetting were found in this trench (plate 22). The decayed remains of one piece of timber (SF1) was found *in situ* against the western side of the trench. This was 0.38m long and 0.05m thick. As it was merely a mud cast of a timber no attempt was made to recover it as it would have been impossible to lift. In the middle of the trench at about the same level was another similar piece of timber (or timber cast) (SF2) with a nail projecting through it. This was clearly not *in situ* but had presumably fallen away from the edge of the trench as it was being backfilled.

The lowest fill (130) was a very firm red-brown clay with occasional angular stones. The difference between this and the natural clay was slight with the latter being firmer and less malleable, with more stones. Deposits of firm red-brown sandy clay (127 and 128) occurred on each side of the trench but barely met in the middle. The way these sloped down the sides of the trench suggested that bank material had been thrown back into the trench. A lump of soily material (129) between these could also have been a lump of turf or topsoil from a bank, thrown into the base of the trench.

Trenches often had a bank in front to defend from fire (the parapet) and one behind (the parados) to protect from blasts of shell that fell behind the trench (War Office, 1997). These banks would have been created from the natural clay dug from the trench. Deposits 127 and 128 were so similar to the lower part of the natural clay that it seems likely that they had formed part of the parapet and parados that had then been pushed back into the trench. A malleable yellow brown clay with occasional stones (126) sloping down the trench sides above this probably represents some erosion of the upper sides of the trench and perhaps the remains of the bank. A mid brown, clayey silt with occasional stones (103) formed the main fill above this.

These backfilling and erosion events, which probably happened soon after the trench was abandoned, left a hollow up to 0.6m deep that was then filled by other deposits. In the northern end of the evaluation trench this upper fill was a ploughsoil-like deposit (105) and at the southern end a series of clayey lenses (119-123).

It is suggested that the lower fills represent deliberate backfilling of the trenches soon after their abandonment, although (126) probably represents natural erosion, perhaps over a considerable time. The trenches were then left in this partially filled but stable state and this is what is shown on the 1945 aerial photograph. In the 1950s

the current farmer's father further backfilled the trenches and used ploughsoil and other material from elsewhere to fill the trenches and this appears as layer (105) and the other upper fills.

Trench 2 (Figures 15 to 17, plates 19 to 21, and 23)

Trench 2 was located at SH 59754 79150 to investigate the front-line trench. This test trench proved to be particularly problematic. Hand digging established the western side of the trench and the base was fairly easily defined and the mini-digger removed much of the fill down to the base. However the eastern side of the trench proved to be very difficult to identify. The sections through the trench were drawn but the eastern side was not very convincing. Much of it was composed of a soft, loose brown clay deposit (208) that contained pieces of limestone, which is not present in the immediate area. The identity of this deposit proved to be very difficult to establish. After some consideration and hand digging it was decided that this must be trench backfill and the mini-digger was called back to remove the deposit. After further cleaning and investigation and the continued failure to find a convincing edge it was conceded that this deposit must be natural boulder clay. It was thus presumed that excavation had been overcut and that the genuine trench edge was closer to the line of the initial excavation. The final conclusion was that the trench [203] was 0.7m wide at the base (though wider at the top) and about 1.5m deep, much the same as in trench 1. No firing step was seen, although the cut of the north-western side of the trench was only exposed in two sondages next to the sections.

The main fill was a firm mid orange brown clayey silt (204), with a blue-grey silty clay (205) towards the base of the trench. Within (205) were two pieces of unworked branches (206) about 0.9m long and up to 0.04m in diameter (plate 23). These were lying horizontally and may have formed part of a wattling lining to the trench that had moved away from the trench edge and were resting within the fill. There was a stony deposit (209) in the very base of the trench, which may have been the result of the base being trampled in use, or possibly some stone that was laid down to make the base firmer.

The trench was positioned just where one of the crenulations of the front line turned a corner and the start of this corner could be seen against the north-east facing section of the evaluation trench. The fill in this trench was less suggestive of the presence of a bank than in trench 1. Also the different phases of filling were less clear. It is possible that this trench was not backfilled at the end of the war but was left to silt up; giving deposit (205). The main backfill, possibly including much of the bank material, was then pushed in by the farmer in the 1950s, resulting in a more homogenous fill.

Discussion

The two trenches investigated were quite similar despite being in very different parts of the trench system. Trench 1 had some evidence of banks, probably both a parapet and parados, which were subsequently pushed into the abandoned trench. This was not clearly seen in trench 2, which may have been left open for longer. Trench 1, at least, appears to have been largely backfilled soon after abandonment. Subsidence of this backfill then created a clear linear hollow of some depth. It is suggested that these partially infilled trenches are what is shown on the 1945 photograph (plate 1). Some of the trenches, especially on the front line may not have been backfilled. The aerial photograph does show some banks still surviving so not all had been levelled into the trenches by that date. There is some evidence that the backfilling was done by German prisoners staying at the Kingsbridge Camp. The North Wales Chronicle reported on 20th June 1919 that the prisoners were "employed at the camp filling up trenches". As no trenches are known actually at the camp itself it is assumed that this refers to the Cichle Farm trenches.

Survey of the Tan y Coed Practice Trenches

The practice trenches (PRN 31070) in Tan y Coed woods were surveyed in detail. The results of the survey are shown on figure 18. Labels A to O provide links to the descriptions in the text. The site comprises a series of trenches of varying depths and design running for 70m down a fairly steep, uneven east-facing slope. The ground level drops by about 25m along the length of the site and the trenches extend for 40m along the slope.

The trenches functioned as training for engineers and as such are not a functioning full size trench system. Various elements can however be identified by reference to the diagrams on pages 88 and 89 of *British Trench Warfare 1917-1918* (War Office 1997) (figures 19 and 20).

The trenches occupy the western end of a former field and the lines are approached from the western end and run down the slope. There is one 15m long isolated fragment on the north-western edge that appears to have been started and then abandoned (A). The main system, on the southern side, initially comprises a 35m length of communication trench (B) with a crenelated plan more often found in front-line firing-trenches. The

westernmost part of this is rock cut, about 1.0 to 1.2m wide, and 0.9m deep with close to vertical sides (plate 24). It is presumed that this represents something close to the original form of the trenches. Further to the east the trench is cut into earth and is up to 2.0m wide and 0.6 to 0.7m deep with variable sloping sides. The topsoil and glacial substrate that the trench is cut into is fairly soft and the sides of the trenches have presumably eroded to a gentler slope over the last 100 years. This is now mostly colonised by undergrowth and is thus stable. There is a short L-shaped branch (C) on the northern side leading to a natural terrace.

The first of the trenches running along the line of the slope (D) could perhaps be interpreted as the reserve line. It is however only 0.4m deep and 1m wide and appears to be unfinished (or possibly backfilled) (plate 25). This can be traced for about 16m to the north before it peters out. It is slightly sinuous with a low upcast bank on the eastern side. A short length of crenelated-plan communication trench then leads to a second short L-shaped branch (E) that terminates in a small platform terraced out onto the slope. The function of this is unclear although the platform could simply be a flattened pile of upcast. A second branch, in the form of a 0.8m deep and 10m long, slightly sinuous trench with a substantial upcast bank on the southern side, leads to a roughly rectangular dugout with dimensions of 4.5m x 3.0m (F). This is dug into soil and the sides have eroded to 45 degree slopes. It is currently 1.4m deep but was presumably originally deeper. This is behind the front line and supervision trenches and could therefore be the officers' shelter.

A sinuous 11m length of communication trench (G) runs down the slope to the second line of trenches, presumably the supervision/support trenches. The main trench (H) here is almost straight, 1.1 to 1.3m deep with a substantial upcast bank on the lower side. A narrow rock-cut, L-shaped trench runs to the north leading to a well-preserved rock-cut dugout shelter (I) (plate 26). The floor of the shelter is currently covered with an accumulation of leaf mould and water. Probing suggests that the shelter is about 1.4m deep. It is sub-square in plan with dimensions of 4.1m x 4.2m. A small shallow L-shaped branch runs off the corner of the access trench.

Two 6m lengths of sinuous communication trench (J-K) lead to the front line, it should be noted that the recommended length for this connection is "a minimum of 25 yards" (General Staff, War office 1997, 88). The front line (L) has a somewhat irregular crenelated plan and is up to 2.0m deep. The central part is rock-cut and appears to be revetted with the excavated stone in places (plate 27). It runs along the slope for 35m. There is no visible evidence for firing steps although it should be noted that the bottom of the trench is almost certainly full of eroded soil and leaf-mould that could obscure features in the lower part of the trench. Both the supervision and front lines have well-defined upcast banks on their lower side only. These raise the front of the trench to the same height as the rear in compensation for the fall of the natural slope. There is a clear break in the front of the trench at the southern end leading to a well-defined platform terraced out on to the slope in front of the line (M - see below for discussion). A second break (N) is less well-defined and could be a result of more recent erosion.

An isolated excavation (O), now much disturbed by a badger set, on the north edge of the trench system and behind the possible reserve line appears to be the remains of another dug-out shelter. This could be interpreted as the command centre.

Discussion

Tan y Coed Trenches are a particularly well-preserved set of practice works. The general layout of a typical trench system can be recognised. This however survives as a compressed fragment of a typical system due to the limited area and lengthways foreshortening of the various elements by reducing the recommended runs of communication trenches. This presumably reflects their function as training in the practical construction of trenches for engineers as opposed to the construction of mock-up trenches for exercises.

Their location on a fairly steep slope could be an attempt to provide training in more difficult terrain away from the more usual lowland areas. Notable adaptations to the terrain consist of the necessity for rock-cuttings and the construction of upcast banks on the lower side of the trenches. The trench elements are mostly standard with sinuous communication trenches, designed to limit line of fire along the trenches and a crenelated (in plan) front line with firing bays. The crenelated communication trenches at the rear are anomalous but could be an adaption for training purposes or even an attempt to reduce erosion on the slopes.

There are two unusual short L-shaped branches. Both lead to level areas, one of which is a clearly artificial terrace. A further terrace is present in front of a break in the front line. These may be unfinished elements; the break in the front line could, for example, be the beginning of a forward listening post. They do however seem to be deliberately constructed. L-shaped trenches commonly housed latrines but the functional ends of the examples at Tan y Coed are in line with the assumed direction of enemy fire and open out onto the slope. The

terraces could perhaps have functioned as sandbagged machine gun emplacements or lookouts over the slopes below. The unfinished elements, in particular the shallow reserve trench again emphasize the function of the trenches for training engineers as opposed to training troops for combat.

3.3. Rifle Ranges

Rifle Ranges across the GAT region

The identification of rifle ranges, especially those that have been largely destroyed, requires knowledge not normally possessed by professional archaeologists. This has resulted in very few ranges being previously identified and recorded on the HER or NMR. Even those with prominent features are often not identified correctly in the record unless early maps are consulted. Indeed, the best way to identify rifle ranges is by reference to 25 inch OS maps, on which many of the ranges are clearly shown. However not all ranges are shown on the maps, with Afonwen Range (PRN 58755) on the Penychain Peninsula being a good example. Although constructed in 1914 (CRO XD/35/194) and used into the Second World War it is not shown on any contemporary maps and first appears on modern digital mapping where it is shown as a disused rifle range. However a map with annotations dating to 1911 ((Caernarfon Record Office XD35/503) shows the proposed alignment of the range and evidence on the ground proves that it was built close to this alignment (figure 21). The identification of rifle ranges for this project has relied almost entirely on the work of Bill Flentje, a member of the Altcar Rifle Club and an enthusiast for old rifle ranges, who has carried out years of work identifying and recording ranges across Britain. He has given his permission for a summary of his information including photographs to be placed in the public domain through this project so dramatically enhancing the Gwynedd HER on this site type. He has also provided advice, background and historical information and educated the present author in technical terms.

Twenty three rifle ranges have been identified that date to the First World War or before; this includes ranges on different alignments in the same area. Four of the ranges (PRN 58736, 58742, 58746 and 58751) are shown on maps dating to 1900 or earlier but do not appear on 1913 or 1914 maps or are shown as disused. It is assumed that these were not in use during the First World War and no evidence has been found during this project to suggest otherwise, although their use cannot be entirely ruled out. There is mention in the North Wales Chronicle (06/10/1860) of a rifle range at Garth Goch near Bala (PRN 58733), but this is likely to have closed when the 1st Merionethshire (Bala) Volunteer Rifle Corps were disbanded in 1864, and it appears on no maps. A rifle range at Yr Aelgerth above Llanberis (PRN 58747) is identifiable only by the iron markers' huts that survive and also appears on no maps. The marker huts suggest an early date. This range was replaced by PRN 58748 but the later range was probably not constructed until the Second World War, so it is not impossible that PRN 58747 continued in use in the First World War in its earlier form.

A probable rifle range has been identified at Gwastadros, Llanycil (PRN 58735), which is again not shown on OS maps. This had previously been confusingly recorded on the NMR, with one firing point even listed as a pillow mound. This appears to be a well-preserved range and documentary evidence suggests a First World War date for it. This is another example of a range that appears to have been used in the First World War that does not appear on OS maps. The current work has raised the importance of sites previously assumed to be late in date. Not all ranges have available records but some are quite extensively documented including details of when they were built and the processes of leasing land, planning and inspecting the range. Both Afonwen and Pantglas (PRN 9927) are well documented, the latter with documents preserved in the Caernarfon Record Office (XD/35/201), including a plan of the proposed line of the range dated 1898 (figure 22).

All the ranges in use in the First World War in north-west Wales had been constructed prior to the start of the war, many before the Boer War, and were for training by local Volunteer units. The range at Abergwyngregyn (PRN 58731) is a good example as this was used in the 1860s by the Bangor Company of Volunteers (North Wales Chronicle 25/05/1861 and 11/10/1862), when it had an iron target. It was converted to a gallery range with penetrable targets in 1911 and was formally accepted as a training range in 1913, in time for use in the First World War (CRO XD/35/193). The ranges generally reverted to use by local Volunteers after the end of the war. Some continued in use through the Second World War and beyond. The rifle range at Tywyn (PRN 7287) was heavily rebuilt, probably during the Second World War, but continued on much the same site. Other ranges probably also continued in use, but as this project is limited to the examination of the archaeology of the First World War the histories of the ranges after that period were not followed up in detail.

Many, although not all, of the rifle ranges in north-west Wales were gallery ranges or variations on these. An important part of the design of a range, related to the need for someone (the marker) to record the entry of the

bullet into the target and to relay the score. The marker was also required to record the fall of bullets missing the targets, and to change targets as they became too filled with bullet holes. The markers obviously had to be protected during the firing and gallery ranges were designed to achieve this. The different parts of a gallery range are as follows. The stop butt, positioned behind the targets, catches the bullets. The markers would be in a gallery in front of the target. They were protected from the line of fire by an earthen bank called a mantlet. The gallery wall is usually made of brick or concrete, though in earlier examples it is often stone. Seats for the markers are fitted into the gallery wall and the gallery has a roof, supported on brackets to prevent ricocheting bullets falling into the gallery. Gallery ranges were generally used with Hythe pattern, or similar, target frames which allowed the targets to be raised and lowered so that new targets could be painted or pasted onto the wooden boards (plate 28). These target frames were set in a trench, which had to be properly drained. There was often a target store at one end of the gallery. The firing points from which the soldiers shot at the targets were positioned at 100 yard intervals and had to be high enough so that the firing could see the mantlet and targets from a prone position. Depending on the lie of the land some firing positions were built up to a considerable height whereas some needed only to be marked on the ground. Firing trenches were sometimes also provided at the 100 to 300 yard points to simulate firing from a trench or other cover. Even during the First World War it was normal to provide a telephone for communication and flag staffs were used to warn when firing was taking place (Ministry of Defence 2011, chapt 15; Bill Flentje).

The targets used in gallery ranges were penetrable targets, usually made of wood, designed for the bullets to penetrate directly through them. However, earlier ranges used solid targets often of iron. Bullets before the introduction of .303 bullets were much softer and “splashed” on striking the targets. The much harder .303 bullets ricocheted off the hard targets making this design dangerous, so requiring the use of penetrative targets. Early ranges also had marker huts instead of the mantlets and galleries. These huts might be built of stone but could also be of iron, reinforced with a bank of earth (Bill Flentje). Examples of these earlier marker huts still survive in north-west Wales but they are very rare and are rarely identified for what they are. There is an early range (PRN 58746) in Cwm Dwythwch above Llanberis, with a small stone mantlet. The mantlet is well-preserved (plate 29) and it is likely that some remains of the firing points still exist if they are searched for amongst the heather and bog. This site probably had iron targets and may have been abandoned in favour of more accessible ranges further down the valley.

Iron targets can be reused within the later construction if a range is upgraded to a gallery range. Surviving iron targets are very rare but several were reused in a mantlet at the Pantglas range (PRN 9927) (plate 30). Iron markers' huts are also often reused, recycled or moved from their original location so very few survive. There are iron markers' huts at Pantglas but these have been moved from their original positions (plate 31). The only example in this area of iron marker huts or mantlets largely *in situ* is at Yr Aelgerth (PRN 58747) above Llanberis (plate 32). This is a good example of the problems in identification of these sites. This area was subjected to a survey as part of the RCAHMW's Upland Archaeology Initiative. This survey was carried out by Oxford Archaeology North (Schofield 2008) and the aim was to record all archaeological features of all periods. Few professional archaeologists, the present author included prior to this project, would be able to identify an iron marker's hut. In this case sites adjacent to the huts were recorded, with the huts actually appearing in the photographs but no record was made of the huts themselves. This highlights the value of encouraging amateurs who are specialists in this field to carry out recording and to contribute their information to the Historic Environment Records, so that these sites can be identified and preserved. It also highlights the vulnerability of the site because with no understanding of the importance of the markers' huts they could be easily removed by the farmer or otherwise disturbed.

The vulnerability of rifle ranges is demonstrated by the two ranges at Penmaenmawr (figure 23), which until a few years ago were amongst the best preserved ranges in north-west Wales and probably had the earliest original target frames intact. The long range (PRN 58737) with firing points to 600 yards had a single target butt with an iron Jeffries Patent Wimbledon Target Frame (plate 33). This type of target frame is similar to the Hythe Pattern frame, as recorded at Penmaenucha Range (see below), but has chains instead of cables and a different target carrier. It also pre-dates the Hythe frame. At the back of the frame stood a corrugated iron shed to store targets, and in front of it was a stone mantlet, strengthened by an earth bank. This was roofed and had seating to provide shelter for the marker. The short range (PRN 58745) targets were similar but less well preserved when recorded in 2005 (plate 34). Some time since 2005 the mantlets have been demolished to obtain the neatly knapped Penmaenmawr granite from which they were made and all other target features have been lost as well (plate 35). However the firing points and other features survive in good condition, including a fine 600 yard firing point of stone (PRN 58749) (plate 36) and a magazine and troop shelter (PRN 56324) set into the 400 yard firing point (plate 37).

In some cases continuous use of the range has resulted in the loss of early features. The range at Tywyn (PRN 7287) has a well-preserved back-stop, gallery and mantlet, but these date to the Second World War at the earliest and possibly later. The earlier targets may have been buried under the back-stop, but otherwise little of the First World War range remains. The Afonwen Range (plate 38) is well-preserved but until this project it was not realised that the surviving features dated to the First World War, because there is also later military activity on the Penychain peninsula.

Despite being used until well after the Second World War the Penrhosfeilw Common Range (PRN 38290) is poorly preserved and largely overgrown. Traces of the target butts at the First World War range in Parc Pentir (PRN 58743) seem to have survived on the edge of the new fish farm complex but they are behind a fence and not easily accessible. The Conwy Morfa Rifle Range (PRN 58729) is quite typical in that some features survive although largely difficult to interpret and separated from their context. Parts of the linear mantlet survive along with a long bank that marked the 600 yard firing point that can be seen amongst the golf course features. The mantlet and stop-butt at Aber Range (PRN 58731) are fairly well-preserved considering the effects of coastal erosion (plate 39) and some of the firing points may just be visible in the salt marsh. This is a prominent site close to a footpath that is well-used by the local community but there is no information about it and little awareness of its function. The present author has passed this site many times and has even gone for a close look but was unaware of its function until the present project.

The Porthmadog Range (PRN 33601) has been completely lost. There was little surviving of the massive stop-butt (PRN 58444) on this range before the construction of the Porthmadog Bypass in 2010, which removed that last remains. At least there was a small excavation to try and recover any surviving evidence (Parry 2013). There are also documentary records of the target butts held in Caernarfon Record Office (XD35/508) (figure 24). This range, built in 1865, was preceded by at least one earlier range on a different alignment, but had to be rebuilt when the Cambrian Railway cut across the area (North Wales Chronicle 1861 to 1865).

Nothing seems to have survived of the ranges in the Breakwater Quarries at Holyhead (PRNs 58730 and 58742), although a more detailed inspection of the area might find some slight remains. Nor is there much to see at Cemaes Bay (PRN 58740) (plate 40) except for the possible effects of lead pollution from the bullets causing the cliff used as a back-stop to be lacking in moss or algae cover.

In general, threats are from vandalism and erosion by livestock. Sites by the shore, such as the Abergwyngregyn Range (PRN 58731) are at risk from sea erosion, and those sites with surviving iron artefacts, such as target frames or in the case of Pantglas (PRN 9927) early iron targets and mantlet, are at risk from metal theft and reuse by farmers due to a lack of awareness of the importance of the objects. As seen at Graiglwyd (PRNs 58737 and 58745) even stone can be worth collecting for sale or reuse leading to damage to sites. Ignorance of the nature of the site or its importance would seem to be the biggest threat.

Penmaenucha Rifle Range (PRN 58671)

The best preserved rifle range is to the south of Dolgellau, on land owned by Penmaenucha Farm, and close to the Tal y Waen cottages (figure 25). This range has been recorded by the RCAHMW (NPRN 419815) and was highlighted for its good preservation. This range was therefore selected for detailed recording in this project and the recording of the target butts was carried out with assistance of volunteers (plate 41).

The history of the range is uncertain. Research by Bill Flentje in the War Office Records and Returns produced relatively little information, but it is likely that it has early origins. The 2nd Merionethshire Rifle Volunteer Corps was formed at Dolgellau on 15 May 1860. A rifle volunteer corps had to have a viable rifle range at least 300 yards long it is likely that their range was on this site. Two markers' huts are shown on the 1901 25 inch map, indicating that this was an early range (figure 26). If it belonged to the Dolgellau Volunteers it was probably opened in about 1860. The Dolgellau Corps was disbanded and last seen on the Army List in 1872, but training camps were still held at Dolgellau and the range may have continued in use (Bill Flentje). Whether the Volunteers had their range on this site or not it seems to have been used in 1893 for the 3rd and 4th Battalions of the Royal Welsh Fusiliers. The range was only temporary in 1893 but seems to have been converted to a permanent range in 1894 (Cambrian News and Merionethshire Standard, 10 August 1894 (Supplement), p4).

In 1896 an accident occurred at a rifle range in Dolgellau. It is far from certain that this was the Penmaenucha range as the report describes a 200 yard range and there is no evidence that Penmaenucha was ever such a short range. The 200 yard range may have been at the training camp nearer Dolgellau (PRN 58750). New magazine rifles were being used, which were much more powerful than those used before, and one of the bullets penetrated the earth bank of the marker's shelter and entered the shoulder of the marker himself. The bullet had

to be removed but the marker survived (Manchester Guardian, p6, 25th May 1896, cutting supplied by Bill Flentje).

As the 1889 25 inch map shows no trace of the range, it would appear that it was not used before 1893, but it is shown as disused on the 1901 map. This is confusing as the official Rifle Range Returns record that in 1902/04 the range had two canvas targets and it was numbered <NW 200> (NW = North Western District) (Bill Flentje). The range was presumably redeveloped in the first years of the 20th century and that was when the linear mantlet and marker gallery, were built to replace the markers' huts. If this was done around 1902 it is not known what target frames were used as Hythe frames did not exist until about 1910, so the likely choice of frame would have been either Jeffries' 'Wimbledon' or the Ralston's 'Dual Canvas' frame, which were later replaced by the 6 Hythe pattern frames that still survive. These frames may have been installed early in the First World War, when rifle ranges were urgently needed, although they could date to after the First World War (Bill Flentje).

Target butts (PRN 58762)

The target butts are located adjacent to a pre-existing minor road (figure 26, plate 42), which must have been closed whenever the range was used. To the south of the butts is a layby dug into the hill slope. It was considered that this may have been dug to provide a back-stop for the butts. However when this was surveyed it could be seen to be aligned on the road and not on the butts, so it is assumed that this hollow was originally constructed as a passing place on the road and is only near the butts by coincidence. The hill slope must have been used as a backstop and it is likely that most bullets that may have been embedded in it were removed when the layby was created.

The ground slopes down from south to north and the target butts are north of and lower than the road (figure 27). Six almost complete Hythe pattern target frames survive behind a linear mantlet (plate 42). The target frames are set in a trench, 0.8m wide and more than 0.7m deep. This trench exits into drains at either end. The steeply embanked earthen mantlet has a stone wall, 2.3m high, on its southern side, constructed of unshaped local field stone (plate 43). There is a concrete capping on top of this wall and small patches of mortar between the stones. It is probable that the wall originally had weak, sandy mortar which eroded out. The wall was subsequently sealed and strengthened by the addition of the concrete capping and some attempt was made to replace some of the mortar, explaining the odd patches of stronger mortar. The western end of the mantlet wall is vertical and has larger stones forming the corner (plate 44). The eastern end is battered into the slope and lacks larger stones (plate 45). There are drainage pipes, 0.1m on diameter, set within the mantlet wall. Also set within the mantlet wall is an alcove measuring 0.7m by 0.55m and up to 0.3m deep (plate 46). This has a sawn slate lintel 0.04m thick and may have been lined with asbestos tiles as some of these lie on the floor under the alcove. This was presumably for a telephone to communicate with the firing points.

The mantlet wall is built on the edge of a concrete plinth, which acts as a platform projecting c.1m south of the wall. At the eastern end of the plinth the casts of shuttering used when pouring the concrete can still be seen. This plinth forms the northern side of the target frame trench, and the southern side of this trench is also of concrete so it is probable that the trench itself is concrete lined, although it was not fully emptied to prove this.

Six iron brackets are set into the face of the mantlet wall, towards its top, to support a protective roof over the markers (plate 47). One piece of wood that formed part of the roof is still attached to the easternmost bracket. At a level of 0.3m above the platform are the tops of 7 smaller brackets that would have supported seats for the markers. Some of the screws that formerly held the benches still survive. The brackets are in three groups and it is possible that there were three separate benches rather than one long bench along the full length of the platform.

Hythe pattern target frames

There are 6 Hythe pattern target frames (plate 49) and by comparing them to the blue-print for a target frame (plate 28) it can be seen that very little is missing from them. All have both target carriages, although in most cases one or both are within the trench at the base of the frame and have been hidden in vegetation. None of the frames have the wire rope that would have raised and lowered the target carriages and in some a chain hanging from the top of the frame is missing. Only frames 3, 5 and 6 retain the metal arm with a curled end, from which was hung the paste pot used when replacing paper targets (plate 48). Otherwise the frames are very complete.

Firing points

The 1901 OS 25 inch map shows the location of the 300, 400 and 500 yard firing points (figure 26). These are just detectable on the lidar data (figure 28). The 300 yard firing point (PRN 58763) appears as a trench with a

bank on the southern side, towards the targets. This feature measures about 15 by 5m. The 400 yard firing point (PRN 58764) is seen as a slight scarp in the hill slope. The 500 yard firing point (PRN 58765) is a very slight linear mound measuring about 15m by 2.5m. An initial site visit failed to find these features as the 300 and 500 yard firing points are heavily overgrown with marsh vegetation and the 300 yard trench was not distinguishable from the drainage trenches in the area. The 400 yard position is in a field with short grass but was indistinguishable from other slight scarps running across the field. A low sub-oval mound (PRN 58766) found near the 500 yard position is probably a peat mound and not related to the range. A low linear mound close to the 300 yard firing point (at SH 70188 17200), measuring 25m by 8m and c.0.5m high is aligned north-west to south-east, rather than across the axis of the range and is therefore also unlikely to be related to firing on the range.

Range boundary

The exact boundary of the range is unclear and may not have been fenced. It must have cut across some of the existing field boundaries. A short section of wire fencing survives between SH 70066 17045 to SH70067 17045. This is formed of thick unbarbed wire and fairly thin barbed wire supported on an iron post and wrapped around two trees. The trees have grown over the wire until it is very well-embedded. The unbarbed wire seems thick enough to possibly date to the First World War. The barbed wire seems too thin but may have been replaced in the Second World War. The section of fencing makes little sense with other boundaries in the area and could be a short section of the range boundary. There are traces of similar fencing on the eastern side of the range at about SH 70252 16968, so it is possible that temporary wire fencing supported by iron posts identified the limits of the range, cutting across some existing boundaries.

3.4. Prisoner of War camps

Camps in north-west Wales

At the start of the war most of the people held in prisoner of war camps were civilians or merchant seamen; often Germans already living in Britain suddenly considered to be enemy aliens. When military prisoners first started to arrive there were no existing prison camps so army barracks and training camps were used. By the end of 1917 there were more than 150,000 prisoners of war in Britain, almost all German, and after July 1918 the number of prisoners increased significantly (Wilson and Hammerton 1919, 401-414).

The general shortage of labour meant that in 1917 prisoners of war started to be used for work outside the camps, and by 1918 all prisoners, other than officers and the physically unfit, were put to work. They got paid for this work at the same rate as British soldiers and the work could not be excessive or related to the war (Wilson and Hammerton 1919, 401-414; Memorandum on the Treatment of Interned Civilians and of Prisoners of War in the United Kingdom, in Roxburgh 1915, xi). For agricultural work, prisoners were generally divided into small groups in camps scattered around countryside and sent out to work on farms from there (Beattie 2014, 106). Employers were charged for the use of prisoner labour, allowing the prisoners to be paid and their food and accommodation to be paid for (Wilson and Hammerton 1919).

In Wales Frongoch near Bala was the principal prisoner of war camp and smaller affiliated work camps were spread across the country. The work was mainly agricultural but this could include large scale drainage works. In Talsarnau German prisoners of war erected groins on the shore to protect farmland from flooding (North Wales Chronicle 2nd May 1919, p6), and drained land at Llanfrothen, in order to increase the land under cultivation (North Wales Chronicle 30th November, p6).

Prisoners also worked in quarries, most notably at Penmaenmawr. Austrian and German prisoners were held at Graiglwyd Hall, Penmaenmawr (PRN 7875) (SH7231375633) (figure 23) and worked in the nearby quarries (Hitches 2013). The use of prisoners was discussed by the quarry workers union but objections that were raised were dropped and the union did not oppose their introduction (CRO XPEN/761). There were also protests made in the Penmaenmawr Council (North Wales Chronicle 9th November 1917). The newspaper report mentions the employment of 144 prisoners and that the place where they would be billeted would be fenced with barbed wire. As these complaints had been dropped or assuaged by January 1918 the first prisoners probably arrived in the early part of that year. It has not yet been determined whether the prisoners lived in the hall or in tents or huts in the grounds.

A path (PRN 58758) was created from the Hall to the quarries enabling the prisoners to go to work without having to walk through the village (figure 23). This path was noticed by Samuel Hazzledine Warren while researching Neolithic stone axe production in 1921 and is described by him as “a comparatively new path...for the use of German prisoners of war working in the quarries” (Warren 1922, 2). He marked the path on his sketch

map of sites in the area (Warren 1922, fig 1) (figure 29), and labelled it as "German prisoner's path". His plan allows this path to be accurately located and it can be seen on the lidar data, showing that most of the route still survives as an earthwork, and it is one of the few surviving features directly related to the prisoner of war camps.

There were agricultural camps on Anglesey including one at Llanerchymedd (PRN 7876), where the old workhouse was used (Prisoner of War Information Bureau; List of Places of Internment, Wales 1919). The site of a prisoner of war camp in Llangaffo (PRN 7877) has not been established but documentary records show that this camp, also known as "Maltraeth Marsh" camp, affiliated to Frongoch, opened by June 1919, and held 39 prisoners (National Archives, London FO383/206). The prisoners worked on the harvest and a large drainage scheme on the Malltraeth Marsh (Jones 2012, 9). In May 1918 three prisoners escaped from this camp but were recaptured before they could leave Anglesey (Jones 2012, 9, 65, 68; North Wales Chronicle 31st May 1918, p2).

Brynkir Hall, Dolbenmaen (SH5227443658) was also used for a work camp (PRN 7878) and was again affiliated to Frongoch (Williams 2014, p68, 69). This was opened by June 1919 and held 36 prisoners, who carried out agricultural work (National Archives, London FO383/206). On 29th October 1919 50 prisoners of war were transferred from Brynkir Hall to Frongoch, presumably because the Brynkir camp was being closed down (CRO XM/148/3).

Agricultural Group prisoner of war camps were opened at Llanbedr (PRN 7880) and Tywyn (PRN 7879) in June and July 1919. Llanbedr held 62 prisoners and Tywyn 58 (National Archives, London FO383/206). A similar camp was also opened on the Llŷn Peninsula at Llanengan (PRN 58759), the exact location of which is not yet known (National Archives, London FO383/206). The North Wales Chronicle (21st May 1915, p2) discusses a proposal to use Caernarfon Pavilion to inter "alien enemies", but this did not go ahead and the pavilion continued to provide entertainment during the war (<http://www.carnarvontraders.com/pavilion.shtml>).

Some of the army training camps were converted into prisoner of war camps at the end of the war, when they were not required for training. Repatriating the German prisoners took time and the camps were used throughout much of 1919. The Kingsbridge training camp (PRN 31076) was reused in 1919 to hold prisoners from Frongoch camp. The first prisoners arrived at the prisoner of war camp (PRN 58752) on 26th May 1919, and by June that year there were 100 German prisoners of war in total. They were housed in huts and tents (National Archives, London FO383/206) and were put to work "repairing roads, filling up trenches, and doing clearing-up work" (North Wales Chronicle 30th May 1919, p8), i.e. they were used to backfill the practice trenches at Cichle Farm (Dalton 2013, 13).

The training camp at Deganwy (PRN 58686) was also used as a prisoner of war camp (PRN 7882) and opened in March 1919. There were 197 German prisoners housed in tents. The prisoners were employed in reclaiming entrenched land for agriculture and were paid 1d per hour (National Archives, London FO383/206). Deganwy was affiliated to the Penmaenmawr Camp and prisoners arriving there in May 1919 are specifically reported as being employed "filling up the field works of the R.E.'s at Deganwy" (North Wales Chronicle 28th March 1919). This makes it clear that they backfilled the Maesdu practice trenches (PRN 13991). German prisoners of war are also recorded as "at work on Bryn Lupus Hill" 13 June 1919 (North Wales Chronicle). Bryn Lupus Hill is presumably the hill at SH7853 80300 as the large house at the foot of the hill was called Bryn Lupus before being renamed as Llanrhos Grange, but it is not known what work the prisoners were carrying out. Part of the Bronaber Range (PRN 33339) seems to have been used as a prisoner of war camp (PRN 7881) but this project found no further evidence about this or its exact location.

Many of these camps are difficult to locate precisely and remains are generally unlikely, although many seem to have used huts rather than tents, so some traces are possible. The hut bases surviving at Kingsbridge could have been related to huts used by both the training camp and the prisoners.

Frongoch Internment Camp (PRN 7883)

Frongoch Camp, north of Bala, was set up to take German prisoners in 1915. The German prisoners were moved out for a short period in 1916 and replaced by Irish prisoners (Huey 2013). The Germans returned in 1917, when Frongoch acted as a parent camp under which affiliated work camps for prisoners across Wales were organised (Prisoner of War Information Bureau – List of Places of Internment – Wales, information supplied by Roger Thomas, English Heritage; National Archives, London FO383/206). In June 1919 there were 2106 prisoners, divided between the north and south parts of the camp (National Archives, London FO383/206). The site has been studied by Leona Huey of Bangor University (Huey 2013).

The camp is particularly significant because in 1916 it housed 1800 Irish prisoners held after the Easter Rising. The Easter Rising started on Easter Monday, 24th of April 1916 and lasted for 6 days before a general surrender on the 29th April. Several republican militia groups joined forces to attack Dublin and occupied the General Post Office, law courts, the Surgeon's College and the park of St Stephens Green. On their surrender a large number of men were taken prisoner and deported to prisons in England, mostly without trial. Many of these were sent to Frongoch Camp. The first Irish prisoners arrived at Frongoch on the 9th of June 1916. The interment was fairly short lived and 1200 prisoners were released in August 1916, with the remaining prisoners being released on December 23rd 1916. This site is of considerable significance in Irish history as the freedom that the prisoners were allowed within the camp enabled many contacts to be formed and essentially led to the creation of the Irish Republican Army. The prisoners were able to discuss tactics, methods of bomb making, recruitment and political objectives, so that Frongoch became known in Ireland as the 'University of Revolution' (O'Mahony 1987). This makes Frongoch a site of international importance but one that is marked only by a small plaque on the roadside (plate 50).

The camp was composed of two parts (figure 30). The southern camp was within a building built as a distillery for Welsh Whiskey in 1889. The northern camp consisted of 27 wooden huts in the adjacent field. The distillery building was demolished in 1934, and a school and houses have been constructed on the site, although foundations and rubble from the original building appear to still survive in places. The north camp site has no surviving identifiable features, and as huts stood on blocks rather than having concrete bases and paths were not surfaced it is likely that very little survives beneath the soil (Huey 2013). A storage hut from the camp still survives, although only one wall is original. This may have originated in the south camp and has been moved away from the site to be used as a garden shed. Another largely collapsed hut (PRN 58739) (plate 51) is grade 2 listed by Cadw as a survival from the camp but Huey (2013, 31-35) believes that it is more likely to have been moved from the flooded village of Capel Celyn in the Tryweryn Valley, demolished in 1965 when a dam was built. This hut was formerly used by the Women's Institute.

4. DISCUSSION

Seventy five sites have been included in the database for the Military Landscapes phase of this project. Forty of these had not previously been included on the HER. All those sites already on the HER have been reinterpreted, had additional information added and/or had more accurate grid references provided. This provides a significant addition to the understanding of First World War sites in the Gwynedd Archaeological Trust area, despite these sites being difficult to find and locate on the ground. Polygons have been provided to the HER to allow the limits of these sites to be accurately reflected for planning queries and other purposes.

The use of documentary evidence, particularly newspaper reports and photographs or postcards, has proved critical in identifying the location of these sites and dating their use. Many of these sites have relatively little surviving on the ground and others have been entirely destroyed, but some have significant features upstanding and others may have buried remains. Those sites with upstanding remains can be very vulnerable, especially the better preserved rifle ranges. The vulnerability is increased by the general lack of knowledge about these sites by both members of the public and the archaeological profession. The inclusion of these sites in the HER and potentially the scheduling of some of them should at least raise their profile. The complete or partial destruction of several of these sites will have raised the rarity value of those that survive.

As recent sites, now just outside personal memory but well within local oral history, these sites have a high communal value, one of the criteria for scheduling (Cadw 2011). The interest raised by the current commemorations of the First World War demonstrates this communal value. While some of the better preserved sites are on private land and are not easily accessible some, particularly the Penmaenucha rifle range that is immediately adjacent to a public road, are very visible, and can act as a focus for local interest about the period.

The First World War has been massively under-represented in both the HER and in the type of monuments that are scheduled. It is hoped that the present project might go some way to correcting that. Specific recommendations for scheduling are included in the accompanying confidential report.

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6.6. Aerial photographs

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7. APPENDIX I: CONTEXTS FROM CICHLE FARM PRACTICE TRENCH EXCAVATIONS

7.1. Trench 1

Context no.	Type	Description	Interpretation
101	Layer	Grey brown slightly malleable loam with occasional small stones	Topsoil
102	Fill	Malleable brown loam with gravel and small rounded stones	Upper-most fill of practice trench [104]
103	Fill	Mid brown, slightly malleable clayey silt with occasional small and medium stones	Fill of practice trench [104]
104	Cut	Straight linear cut with steep, near vertical sides and a flat base (although base was only exposed at N end of the trench)	Cut of practice trench
105	Fill	Mid brown friable loamy silt with occasional stones	Fill of practice trench [104]
106	Fill	Firm yellow brown silty clay	Lens in upper fill of practice trench [104]
107	Layer	Yellow brown malleable silty clay with small stones and gravel. Mottled and variable in colour. More yellow near surface and red-brown further down.	Natural boulder clay
108	Fill	Mid brown friable silt	Fill of [1009]
109	Cut	Small cut feature with vertical sides and flat base seen only in section	Probable agricultural feature
110	Cut	Circular cut 0.13m in diameter with tapering base	Probable animal burrow within practice trench fill
111	Cut	Roughly circular cut, 0.28m diameter.	Probable animal burrow Probable animal burrow within practice trench fill
112	Cut	Oval cut 0.26m in diameter with flat base	Probable animal burrow within practice trench fill
113	Cut	Oval cut measuring 0.16 by 0.14m with narrow base.	Over-digging into sandy layer in natural. Not a genuine feature.
114	Fill	Red-brown sandy silt, same as natural band of sand	Supposed fill of feature [113] but actually natural band of sand.
115	Cut	Irregular shaped feature with vertical sides.	Disturbance within the fill, possibly collapse of a section of fill.
116	Fill	Brown clayey silt with few stones	Fill of [115], part of trench fill.
117	Layer	Mid brown clayey silt with occasional small rounded stones.	Early (pre-20 th century) ploughsoil
118	Layer	Yellow brown silt with occasional small rounded stones.	Upper ploughsoil
119	Fill	Firm yellow brown clayey silt	Lens in upper fill of trench [104]
120	Fill	Firm grey brown clayey silt	Lens in upper fill of trench [104]
121	Fill	Firm yellow brown clayey silt	Lens in upper fill of trench [104]
122	Fill	Firm yellow brown clayey silt with grit and small pebbles	Lens in upper fill of trench [104]
123	Fill	Firm yellow brown clayey silt with occasional small cobbles	Lens in upper fill of trench [104]

Context no.	Type	Description	Interpretation
124	Fill	Firm grey brown clayey silt	Fill of trench [104], basically the same as (103)
125	Fill	Friable mid brown silt with few stones	Fill of burrows [110], [111], [112]
126	Fill	Malleable yellow brown clay with occasional stones, contains pieces of wood (SF2)	A lower fill of trench [104], possible slumping from the sides
127	Fill	Firm red-brown sandy clay with abundant small stones	A lower fill of trench [104], possible collapse/backfill from a bank
128	Fill	Firm red-brown sandy clay with abundant small stones	A lower fill of trench [104], possible collapse/backfill from a bank
129	Fill	Brown sandy loam with few stones	Lump of soily deposit in middle of trench [104]. Possibly turf or topsoil fallen or thrown in.
130	Fill	Very firm red-brown clay with occasional angular stones	Lowest fill of [104]. Possible erosion deposit.
131		Cast of a piece of wood 0.38m long, 0.05m wide composed of very soft grey brown clay with occasional timber fibres	In situ remains of timber revetting.

7.2. Trench 2

Context no.	Type	Description	Interpretation
201	Layer	Mid grey brown sandy silt with occasional small stones	Topsoil
202	Layer	Mid orange brown clayey silt with occasional small stones	Ploughsoil
203	Cut	Very steep sided cut with flat base. Slight curve of south-eastern side to south where change in alignment of trench is starting to take place.	Cut of practice trench
204	Fill	Mid orange brown clayey silt with occasional small stones	Upper fill of practice trench [203]
205	Fill	Plastic blue-grey silty clay with occasional small stones	Lower fill of practice trench [203]
206	Structure	2 0.9m long lengths of thin branches lying roughly parallel to each other and the side of the trench some distance from the side of the trench in the fill	Possible remains of wattle trench lining
207	Layer	Firm yellow-brown silty clay with occasional stones	Natural boulder clay
208	Layer	Soft red-brown silty clay with small to medium stones, some of which are limestone	Part of natural boulder clay, but very soft lower down, resembling fill
209	Fill	Firm orange-brown silty clay with numerous small and medium stones	Thin layer in base of practice trench, possibly trample or deliberate surface

8. APPENDIX II: GAZETTEER OF MILITARY LANDSCAPE SITES

8.1. Artillery Range

PRN 58732 **NPRN 407232**

Bronaber, Firing Range

NGR: SH73463156

Location: Trawsfynydd, Gwynedd

HER Description

NMR Description

Remains of firing range, comprising a concrete bunker standing at the grid reference of the record, set in against a quarry or cliff face, with shooting butts to the south on the north side of the Afon Gain river. There are other earthworks in the vicinity which require a more thorough investigation. T. Driver, RCAHMW, 8 Jan 2008.

Notes for current project

Remains of a firing range, comprising a concrete bunker with shooting butts on the north side of the Afon Gain river, recorded by RCAHMW. It is not clear whether this is a rifle range or whether it belongs to the WW1 phase of the Trawsfynydd Ranges. The work by Sheffield University should clarify this and identify other ranges on the site used in the First World War.

Sources

8.2. Military Camps

PRN 31076

Kingsbridge Army Training Camp

NGR: SH6050578505

Location: Beaumaris, Ynys Mon

HER Description

NMR Description

Notes for current project

A military training base for the Royal Anglesey Royal Engineers opened in 1902. In 1914 it became a training camp for sappers and engineers (Jones 2012, 7). The camp was asset stripped and sold off in 1919, but a significant documentary and photographic archive survives. Now covered by a caravan park. One hut survived until recently and some concrete hut floors still survive on the site (Dalton 2013, 14).

North Wales Chronicle 18th September 1914, p6: Royal Anglesey Royal Engineers training at Kingsbridge, but stay in barracks in Beaumaris. By 15th January 1915 the Chronicle is reporting that a large number of huts are being erected on the camp to accommodate men.

Men are reported as leaving the camp for demobilisation in January 1919 (North Wales Chronicle 17th January 1919, p4).

5 of the huts from the camp were bought by the Normal College, Bangor as laboratories and were re-erected in their grounds (North Wales Chronicle 15th August 1919, p8)

Remaining huts, cook house and latrines were sold off in December 1919 (North Wales Chronicle 21st November 1919, p1).

Assorted items from the camp were offered for sale in December 1919. These included bedding, beds, mirrors, chairs and tables and culinary utensils (North Wales Chronicle 19th December 1919, p1).

North Wales Chronicle 29th August 1919, p8: paper reported that the camp is "closing down to a nominal establishment" and that it will be much missed in the town.

Other units also trained at the camp. A letter written in 1979 mentions the London Electrical Engineers Searchlight

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PRN 33339 **NPRN 415282**

Bronaber Camp

NGR: SH7170031900

Location: Trawsfynydd, Gwynedd

HER Description

Collection of buildings associated with Bronaber. All other buildings in 'Tin Town' now demolished. Pitched roof buildings. (Batten, 2011)

NMR Description

The Trawsfynydd Camp was established in 1906 after the Boer War. Some remains exist of the service buildings and the 'Ranges' are mainly forested. The camp is depicted on the Ordnance Survey six-inch fourth edition map for Merionethshire, dated 1953 - 1954. The main site is now used as a holiday village.

Source: David Gwyn & Merfyn Williams (1996) 'A Guide to the Industrial Archaeology of North West Wales'. Association

for Industrial Archaeology. Claire Parry, RCAHMW, 21 November 2011.

Notes for current project

The camp serving the Trawsfynydd ranges was first located near the train station at Bryn Goleu, to the north. In 1905 the camp moved to Bronaber, on the land below Rhiw Goch, with the seventeenth-century house used as the officers' mess. When the ranges were closed in 1957/8 a portion of the camp was retained and used by the construction workers on the nearby nuclear power station at Trawsfynydd.

The layout of the camp survives intact across much of its extent, with the concrete bases of buildings, roadways and additional infrastructure either preserved on grazed land or beneath the footprint of the holiday village (Bob Johnston, Sheffield University, pers. com.)

Sources

Batten, A., 2011. Understanding Corrugated Iron Buildings in north west Wales

PRN 58676

Conwy Morfa Army Training Camp

NGR: SH76447842 C

Location: Conwy

HER Description

NMR Description

Notes for current project

A military training camp and 1000 yard rifle range. The camp site itself has been destroyed by the A55 and suburban development, but traces of the associated rifle range survive. The site is shown on OS maps from 1888, when it is labelled as a camp for the 2nd Volunteer Battalion Royal Welsh Fusiliers. It is still shown on the 6 inch map in 1938, when a holiday camp has been added and a camp now fenced off from the golf course but not labelled as either military or holiday camp is shown on the 1953 map, surveyed in 1948. The date of origin of the camp has not been established by this project but it was in use from before 1881 when it is mentioned by the schoolmaster of Penmaenmawr school (Roberts and Watson Jones 2014, 92). Postcards of the camp show that it ran from immediately adjacent to the Conwy Union Workhouse (Conwy Hospital) (PRN 7983) along the full width of the southern part of Conwy Morfa. A 1910 plan of the site (Conwy Archive CP/Maps and Plans 23/2/287) confirms the limits of the site and shows that most of the huts shown on the 1913 25 inch OS map are latrines. This plan and a copy with additional 1912 annotations shows detail of tent areas and the use of permanent huts. It also shows golf greens amongst the tent pitches.

The North Wales Chronicle (21st May 1915, p8) reported that the Conwy Morfa camp had been leased by the War Office for seven years. The camp had previously been owned by Conwy Town Council, who spent a considerable sum laying out the camp and presumably hired it out to the Territorial units (Welsh Coast Pioneer 2nd June 1910, p6).

North Wales Chronicle 28th August 1914, p6: "On Saturday morning about 4500 Territorials, representing the 4th, 5th, 6th and 7th battalions of the Royal Welsh Fusiliers came from Carnarvon and elsewhere to Conwy, to undergo strict military training on the Morfa. There are about 800 horses with guns, and transport wagons, and the camp is fully equipped with ambulance and Army Medical Corps." Training includes "long tramps over the mountains" and "all kinds of manoeuvres" and "flag signalling" on the Morfa.

Huts and other items from the camp were sold off in September and November 1919 (North Wales Chronicle 31st October, p1 and 14th November 1919, p5)

Soldiers training at the camp used a site on the edge of Conwy for digging practice trenches (PRN 58760).

Sources

Roberts, D. J. and Watson Jones, J. (eds), 2014. The Collected Works of Ivor E Davies, Penmaenmawr Historical Society and Museum; Photograph Conwy Archives CP/54; CP 311/1 (35); Conwy Archive CP/Maps and Plans 23/2/287; North Wales Chronicle: 21st May 1915, p8; 28th August 1914, p6; 31st October 1919, p1; 14th November 1919, p5; Welsh Coast Pioneer 2nd June 1910, p6

PRN 58677

Coed Helen Tented Training Camp

NGR: SH47506236

Location: Caernarfon, Gwynedd

HER Description

NMR Description

Notes for current project

A tented training camp used seasonally in the early part of the 20th century, particularly WW1. Little evidence of the camp is thought to survive as there were no known permanent structures associated with it, but remains of a possible rifle range can be seen (PRN 58744).

Proof that the camp was used in the First World War is provided by a letter dated 13th Oct 1916 (CRO XM/1408/3).

This states that there were 2000 and 2500 soldiers at the camp in the summer of 1916.

North Wales Chronicle (1st May 1914, p8) states that "the first batch of Territorials (Manchester Regiment) will arrive in town for camping on 31st May". Showing that it was a TA training camp set up prior to WW1.

The YMCA also held a concert at the Coed Helen Camp in August 1915 (North Wales Chronicle 27th August 1915, p6) and supplied writing materials for soldiers to write home. With "well over 1000 letters written weekly by the soldiers at the YMCA tent".

The Royal Engineers were using the camp in June 1917 as one of the sappers from the camp was reported as being found AWOL in Caernarfon (North Wales Chronicle 22nd June 1917, p6).

Sources

Caernarfon Record Office XM/1408/3; North Wales Chronicle: 1st May 1914, p8; 27th August 1915, p6; 22nd June 1917, p6

PRN 58686

Deganwy Camp

NGR: SH77977954 C

Location: Conwy

HER Description

NMR Description

Notes for current project

A camp for training Volunteers and TA units before WW1, but during the war it was used by the Royal Engineers for training, including digging practice trenches. The camp is associated with trench systems at Maes Du, Llandudno (PRN 13991).

Located on the lower slopes of the Vardre, in an area now built over. The exact limits of the camp are uncertain and photos show some huts within the present open area of the Vardre.

North Wales Chronicle 20th April 1916, p8: A new military camp is described as being built for the Royal Engineers at Deganwy.

By late 1918 40 army horses from the RE camp at Deganwy were being offered for sale (North Wales Chronicle 13th December 1918, p1), so army training had ended here but the camp then became a prisoner of war camp (PRN 7882).

Sources

Photograph Conwy Archives CP3 95/5/8; photograph oldukphotos.com (Caernarfonshire, Deganwy, York and Durham Brigade Camp.jpg); North Wales Chronicle: 20th April 1916, p8; 13th December 1918, p1

PRN 58714

Army camp/guard station, Porth Trecastell

NGR: SH33267056 A

Location: Aberffraw, Ynys Mon

HER Description

NMR Description

Notes for current project

A copy of a poem in a scrap book suggests that a guard was placed on Cable Bay to defend against German landings or attack on the telegraph cable. The scrapbook is owned by D Owen whose family lived at Porth Trecastell (information from Andrew Davidson).

Sources

PRN 58750

Army camp, Dolgellau

NGR: SH73721808

Location: Dolgellau, Gwynedd

HER Description

NMR Description

Notes for current project

Tented camp on flood plain to east of Dolgellau. Exact location identified from photograph supplied by Bill Flentje.

This camp was probably used by the 4th Battalion of the Royal Welsh Fusiliers.

Sources

PRN 58753

Army training camp I, Porthmadog

NGR: SH57253934

Location: Porthmadog, Gwynedd

HER Description

NMR Description

Notes for current project

Training camp 1913 Porthmadog, shown on a photograph posted on Flickr by Martin Pritchard.

(<https://www.flickr.com/photos/63164772@N05/6011453162/>)

North Wales Chronicle 30th July 1914, p8: G company of the Brecknockshire Territorial Battalion "departed for their annual training in camp at Portmadoc".

North Wales Chronicle 13th March 1914, p2: the South Wales Infantry Brigade of the TA were to train at Porthmadog in July and August for the first time. About 3500 men would be housed in tents and would carry out manoeuvres in

Sources

North Wales Chronicle: 30th July 1914, p8; 13th March 1914, p2; photograph posted on Flickr by Martin Pritchard. (<https://www.flickr.com/photos/63164772@N05/6011453162/>)

PRN 58754

Army training camp II, Porthmadog

NGR: SH57443907

Location: Porthmadog, Gwynedd

HER Description

NMR Description

Notes for current project

South Wales Infantry camp 1914 Porthmadog, shown on a photograph posted on Flickr by Martin Pritchard. Photo courtesy of Jones family Traeth Mawr farm Porthmadog (<https://www.flickr.com/photos/63164772@N05/6681244471/in/set-72157644439702636>) also

Sources

PRN 58757

Volunteer Corp camp, Little Orme

NGR: SH816822 A

Location: Llandudno, Conwy

HER Description

NMR Description

Notes for current project

Caernarvonshire Volunteer Regiment is reported as having a week's training camp at Penrhyn Bay (North Wales Chronicle 24th August 1917, p7), this is probably the same camp as one report on the Little Orme, Penrhyn Bay. North Wales Chronicle 17th August 1917, p8 reports that "A good number of the members of the local Volunteers Corp are this week in camp on the Little Orme, Llandudno". It is hard to see where they could camp except for in the fields to the north of Ty Uchaf, so this is the likely location for this camp, although no traces of it can be seen. Practice trenches are also reported to have been dug on the Little Orme (Clive Hughes pers. com.). All likely locations on the Little Orme were investigated on 21/03/2015 but no traces of trenches were seen. It is assumed that the trenches were also located within the farmed fields and have been entirely in filled. However there are some small areas that are very over grown and might possibly conceal remains of practice trenches.

Sources

North Wales Chronicle: 17th August 1917, p8; 24th August 1917, p7

8.3. Practice Trenches

PRN 13991 NPRN 308518

Practice trenches, Maesdu Golf Course

NGR: SH77838022

Location: Llandudno, Conwy

HER Description

System of 1st World War practice trenches, centred at NGR but extending to the north, discovered as parchmarks in golf course during RCAHMW aerial reconnaissance in 15th July 2003. <1>

NMR Description

System of 1st World War practice trenches, centred at NGR but extending to the north, discovered as parchmarks in golf course during RCAHMW aerial reconnaissance on 15th July 2003. Neg. ref. 2003/5114, 64-67.

Notes for current project

North Wales Chronicle 22nd October 1915, p3: Royal Engineers training in N Wales were inspected. The inspecting officer visited the training ground and saw "officers and sappers engaged in trench construction, the preparation of wire entanglements, and other operations". It is not specified that this refers to the Maesdu trenches but the reference to the Royal Engineers, based at the Deganwy camp, makes this likely.

Sources

North Wales Chronicle 22nd October 1915, p3; Driver, T., 2003. 'RCAHMW Aerial Reconnaissance, 2003', Archaeology in Wales vol 43, 71

PRN 30318

WWI Practice Trenches, Degannwy

NGR: SH7836279297

Location: Conwy

HER Description

The trenches run for c. 50m and are 8m across. They are visible as a narrow trench forming a series of regular conjoined

squares, with a bank on the north-west side and what appears to be an access trench on the south-east side. Cross trenches appear to form entrances into the main zig-zag trench. This pattern is typical of First World War practice trenches as were recorded by aerial photographs on the Maesdu golf course (PRN 13991) (Kenney 2009).

NMR Description

Notes for current project

Sources

Kenney, J., 2009. Degannwy Castle, Degannwy, Conwy: Report on an archaeological assessment, unpublished GAT report 781

PRN 31070

WW1 Practice Trenches, Tan y Coed

NGR: SH5927079010

Location: Beaumaris, Ynys Mon

HER Description

A remarkably complete system of First World War practice trenches. The area surrounding the trenches is heavily wooded, therefore a complete impression of the trench system is difficult to obtain. The system lies on a slope above an escarpment which falls away to the south east towards a stream. However it appears that there is a front line down slope and service and access trenches running up-slope behind it. A possible field bank defines the southern limits of the trench workings, and there is no evidence that the system extended beyond the current wooded area. The wooded area drops away sharply south eastwards beyond this point, where no evidence for trench workings have been located.

This is a site of national importance in terms of its significance as a training camp associated with First World War trenching methods and field tactics and administration training, and should be considered for Scheduling. It may also be connected with the entrenchments to the south of Tan y Coed (Feature 3). It is comparable in importance to the scheduled practice trenches at Penally, Pembrokeshire and Bodelwyddan, Flintshire (Parry in Wakelin and Griffiths (eds.) 2009, 254-255), and even the Bustard trenches on Salisbury Plain (Saunders 2007, 206-207). They survive as reminders of the horror and squalor endured by soldiers who served on the battlefields of France and Flanders during the Great War.

Aerial photographs show that the site was less densely wooded earlier in the 20th century, and a certain amount of clearance must have taken place during its use as a military training area. Scrubland has developed in this area. (Evans 2009)

NMR Description

Notes for current project

WW1 Practice Trenches associated with Kingsbridge Camp, Llanfaes. They are within woodland close to the former Tan y Coed farm, and are very well-preserved, surviving as earthworks almost to full depth. These trenches were surveyed in detail for project G2180. These trenches were not constructed in woodland, the woods have expanded subsequently.

The trenches are a compressed fragment of a typical trench system due to the limited area. Some parts of the trenches are cut into rock. The trench elements are mostly standard with sinuous communication trenches and a crenelated (in plan) front line with firing bays. The crenelated communication trenches at the rear are anomalous but could be an adaption for training purposes or even an attempt to reduce erosion on the slopes.

There are two unusual short L-shaped branches. Both lead to level areas, one of which is a clearly artificial terrace. A further terrace was constructed in front of a break in the front line. L-shaped trenches commonly housed latrines but the functional ends of the examples at Tan y Coed are in line with the assumed direction of enemy fire and open out onto the slope. The terraces could perhaps have functioned as sandbagged machine gun emplacements or lookouts over the slopes below.

Sources

Evans, R., 2008. Land at Tan y Coed, Beaumaris, Anglesey: archaeological assessment, unpublished GAT report 838; Dalton, M., 2013. Defending Anglesey, Folly Books, Monkton Farleigh, p12

PRN 31072 NPRN 402773

WW1 Practice Trenches, Cichle Farm

NGR: SH59867908

Location: Beaumaris, Ynys Mon

HER Description

Extensive complex of trenches with front line, access trenches and rear support trenches and command area, set within a relatively level field. They appear to be entirely contained within the field formerly known as Cae Slatters. The trenches are shown on aerial photograph 106G/UK 655 Frame 3041 taken 13th August 1945 (Fig. 9) as still open, and clearly had been in recent use. This does not preclude earlier, probably First World War, origins although no direct evidence for this can be found. Medwyn Parry (pers. comm.) states that the morphology of the trenches is entirely Second World War in character, although suggests that there may be ephemeral evidence for earlier entrenchments. The distance between the front line and the rear trenches is considerable, which is the normal practice in Second World War trenches. They were probably dug as part of anti-invasion training in the early years of the war, as they would have been strategically redundant later on in the war. The location of the camp at which the soldiers were billeted during the Second World War when carry out this training is not known, but soldiers were housed at both Baron Hill and Henllys Hall during the Second World War. This trench system has previously been considered a First World War system, and whilst this cannot be ruled out, it was clearly in use in the Second World War. Along with Feature 1, the trenches form part of an important military training landscape, which if used contemporaneously, suggests that different topographic areas were used to train entrenching in different conditions. The author is not aware of any other examples of relatively small, self-contained training entrenchments in such close

proximity to each other. The setting of the trench system will be impaired by the log cabin development to the north and west, as the area forward of the front line may have formed part of the training area. It would certainly have formed an integral part of the landscape within which the training was carried out. (Evans 2009)

NMR Description

System of first world war practice trenches, preserved within the extents of a field of pasture measuring approximately 311m NW-SE by 156m SW-NE, recorded during RCAHMW aerial reconnaissance on 3rd March 2005. The field is bounded by a country lane on all sides except the south-west. Research by John Rowlands identified the local name of the field as 'Cae Trenches'. This is one of the few surviving earthworks of First World War practice trenches in Wales, the other sites including those at Bodelwyddan (NPRN 268142), Penally (NPRN 268143) and a set buried beneath the golf course at Maesdu, Degannwy (NPRN 308518).

Trenches were built in parallel lines, (usually three), linked by communications trenches. Two frontline trenches were supported by a third reserve trench, although, as artillery power strengthened and increased in range during the war, changes were to the standard layout. The saw-toothed trench plan prevented shell and bomb blasts travelling along the trench. This also made it impossible to see more than 10 metres along a trench, maintaining the security of the trench system even if the enemy infiltrated one particular part.

Part of the Kingsbridge Camp, Llanfaes, near Beaumaris, Anglesey, which was established in 1902 by the British Army as a training centre for the Royal Anglesey Royal Engineers, and was closed at the end of the First World War. T Driver, RCAHMW, 22nd Sept 2009.

Notes for current project

Former WW1 practice trenches associated with Kingsbridge Camp, Llanfaes. In improved pasture field, and now visible as slight hollows or as parch marks.

This trench system has a deep line of access trenches from the rear service trenches and a crenelated front line trench with a probable command centre in the rear. These are set in a fairly gently sloping field and use the topography to provide protection for the supply trenches and command centre.

A geophysical survey was carried out across the field and two small trenches were dug to investigate parts of the practice trenches.

The trenches were previously thought to be Second World War because they appear fairly fresh on a 1945 AP.

However there is nothing on this to suggest they were recently in use and growth of gorse over the trenches suggests otherwise. It is likely at least some of the trenches were partially infilled on this photograph. The trenches fit much better with the First World War when it was known that practice trenches were dug and backfilled in this area.

Sources

Evans, R., 2008. Land at Tan y Coed, Beaumaris, Anglesey: archaeological assessment, unpublished GAT report 838; Dalton, M., 2013. Defending Anglesey, Folly Books, Monkton Farleigh, p12

PRN 34158

Practice Trenches, Former Site of, Barmouth

NGR: SH60631652

Location: Barmouth, Gwynedd

HER Description

An aerial photograph taken in 1941 shows a system of trenches close to the beach at Barmouth. Centred on SH60631652. The area is now the site of residential housing estates. (Parry 2006)

NMR Description

Notes for current project

A series of crenelated and zig-zag trenches in short, unconnected fragments rather than a coherent system. These are presumably practice trenches but they appear very fresh on the 1941 photographs, and must have been recently dug. They must therefore be Second World War practice trenches. The fragmentary nature does distinguish them from First World War practice trenches that generally try and replicate a section of a realistic trench system.

Sources

Parry, M., 2006, WWII Defences on the Shores of the Mawddach Estuary, RCAHMW, DBA and Field Visit; Aerial photographs: Lib No. 4115 (M2963), sortie S/439, frames 40, 41, C40 45, C41 46, C42 47, date 24/08/1941

PRN 58673

Tywyn WW1 Practice Trenches

NGR: SH5800600431

Location: TOWYN, Gwynedd

HER Description

NMR Description

Notes for current project

A system of WW1 practice trenches, seen on 1940s RAF APs, but subsequently built over as part of suburban

Sources

PRN 58727 NPRN 402769

Penrhyn Mawr Practice Trenches

NGR: SH2154179972

Location: Trearddur, Ynys Mon

HER Description

NMR Description

Earthworks of zig-zag practice trenches, possibly of First or Second World War date, surviving in heathland on Penrhyn Mawr. Originally identified by Medwyn Parry, RCAHMW, on historic vertical aerial photographs from the 1940s, aerial reconnaissance on 20 March 2005 confirmed the survival of at least one line of zig-zag trenching. T. Driver, RCAHMW, 2005.

Notes for current project

The zig-zag lines of what appears to be a practice trench (PRN 58727) were spotted from the air next to the rifle range on Penrhosfeilw Common by Toby Driver of RCAHMW. It is likely that this was dug by the Volunteers who used the

Sources

PRN 58756

Practice trenches on Mynydd Bach

NGR: SH74603123 C

Location: Trawsfynydd, Gwynedd

HER Description

NMR Description

Notes for current project

A cluster of First World War practice trenches distributed around the hill. Mapped by a University of Sheffield student, Chris Atkinson. There are three types of feature represented: a scatter of small infantry fire trenches, possible mortar positions (equally spaced rectangular-oval trenches), and three groups of First World War (c.1916 onwards) zig-zag practice trenches, communication trenches and L-shaped forward firing positions and machine gun emplacements.

Sources

Bob Johnston

PRN 58760

Practice trenches, Maes y Porth Gardens

NGR: SH779773 A

Location: Conwy

HER Description

NMR Description

Notes for current project

David Mortimer-Jones of Conwy sent a postcard of practice trenches in Maes-y-Porth Gardens, Conwy to GAT. The approximate location has been estimated from the postcard image. Nothing can be seen on the Lidar data at this location. The postcard dates the trenches to March 1915 and states that the trenches were dug by the 15th Service Battalion of the Lancashire Fusiliers. This unit were also known as 1st Salford Pals and were training at Conwy Morfa Camp between 28th Dec 1914 and May 1915.

<http://www.wartimemoriesproject.com/greatwar/allied/lancashirefusiliers-15btn.php>

Sources

<http://www.wartimemoriesproject.com/greatwar/allied/lancashirefusiliers-15btn.php>

8.4. Prisoner of War Camps

PRN 7875

Prisoner of War Camp, Site of,

NGR: SH7231375633

Location: Penmaenmawr, Conwy

HER Description

None

NMR Description

Notes for current project

PoW camp for Austrian and German soldiers in WWI. Soldiers worked in the quarries and were held at Graiglwyd Hall. The prisoners probably arrived early 1918 as quarry workers union had raised and then dropped objections to the use of prisoners by January 1918 (CRO XPEN/761).

North Wales Chronicle 9th November 1917: Protests were made in the Penmaenmawr Council against the use of prisoners in the quarries. The employment of 144 prisoners is mentioned. The report also mentions that the place where the prisoners would be billeted would be fenced with barbed wire.

North Wales Chronicle 28th March 1919: a new batch of prisoners is due to arrive at the Penmaenmawr camp and they are to be employed "filling up the field works of the R.E.'s at Deganwy", (i.e. they backfilled the practice trenches associated with the Deganwy camp).

Sources

Caernarfon Record Office: XPEN/761; North Wales Chronicle: 9th November 1917, p5; 28th March 1919, p8

PRN 7876

Prisoner of War Camp, Site of, Llanerchymedd

NGR: SH4203084882 A

Location: Llanerchymedd, Ynys Mon

HER Description

WWI/II

NMR Description

Notes for current project

Listed in Prisoner of War Information Bureau; List of Places of Internment, Wales 1919 as being at The Workhouse, Llanerchymedd, although this is a postal address rather than where the prisoners were held (information from Roger Thomas).

Sources

Prisoner of War Information Bureau; List of Places of Internment, Wales 1919

PRN 7877

Prisoner of War Camp, Site of, Malltraeth

Marsh/Llangaffo

NGR: SH44366846 A

Location: Llangaffo, Ynys Mon

HER Description

WWI/II

NMR Description

Notes for current project

A work camp affiliated to Frongoch and opened by June 1919. It held 39 prisoners carrying out agricultural work (National Archives, London FO383/206). Geraint Jones (2012) records a camp at Llangaffo where German prisoners of war were housed and they worked on the harvest and drainage on the Malltraeth Marsh. This would seem to be the same camp as referred to as "Maltraeth Marsh" in National Archives FO383/206, a report on prison camps by the Swiss Legation in London. In May 1918 3 prisoners escaped from this camp but were recaptured (Jones 2012, 9). This escape is reported in the North Wales Chronicle 31st May 1918, p2, which refers to the "internment camp at Llangaffo". The actual location of this camp is not yet known.

Sources

National Archives, London FO383/206; Jones, G., 2012. Anglesey at War, The History Press; North Wales Chronicle 31st May 1918, p2

PRN 7878

Prisoner of War Camp, Site of, Brynkir Hall

NGR: SH5227443658

Location: Dolbenmaen, Gwynedd

HER Description

WWI/II

NMR Description

Notes for current project

A work camp affiliated to Frongoch and opened by June 1919. It held 36 prisoners carrying out agricultural work. (National Archives, London FO383/206)

On 29th October 1919 50 PoWs were transferred from Brynkir Hall to Frongoch, possibly because the Brynkir camp was being closed down (CRO XM/148/3).

John Dilwyn Williams (2014, p68, 69) briefly confirms that the PoW camp was at Plas Bryncir and not in the village of Bryncir.

Sources

National Archives, London FO383/206; Caernarfon Record Office XM/148/3; Williams, J. D., 2014. 'The families of Wern and Brynkir', in Baker, M. and Beale, S., (eds) 2014. Plas Brynkir, Dolbenmaen, Love My Wales, p51-69

PRN 7879

Prisoner of War Camp, Site of, Tywyn

NGR: SH58500900 A

Location: Llangelynin, Gwynedd

HER Description

WWI/II

NMR Description

Notes for current project

The camp was opened on 19th July 1918 and held 58 German prisoners of war. It was an Agricultural Group camp so presumably the prisoners did agricultural work. (National Archives, London FO383/206)

Sources

National Archives, London FO383/206

PRN 7880

Prisoner of War Camp, Site of, Llanbedr

NGR: SH5921927487

Location: Llanbedr, Gwynedd

HER Description

NMR Description

Notes for current project

A work camp affiliated to Frongoch and opened by June 1919. It held 62 prisoners carrying out agricultural work (National Archives, London FO383/206). Listed in Prisoner of War Information Bureau; List of Places of Internment, Wales 1919 as being at Penyllt Hall, Llanbedr, although this is a postal address rather than where the prisoners were held (information from Roger Thomas).

Sources

National Archives, London FO383/206; Prisoner of War Information Bureau; List of Places of Internment, Wales 1919

PRN 7881

Prisoner of War Camp, Site of, Trawsfynydd

NGR: SH71713174 A

Location: Trawsfynydd, Gwynedd

HER Description

WWI/II

NMR Description

Notes for current project

Part of the firing range site seems to have been used as a prisoner of war camp but no further evidence was found on this for this project and its location is not known.

Sources

PRN 7882

Prisoner of War Camp, Site of, Deganwy

NGR: SH77977954

Location: Conwy

HER Description

WWI/II

NMR Description

Notes for current project

The PoW camp is recorded as having been opened in March 1919, but it is assumed that it was on the site of the training camp, which is probably correct as the PoW camp is described as being between Deganwy and Llandudno.

There were 197 German prisoners. They were housed in tents. The prisoners were employed in reclaiming entrenched land for agriculture and were paid 1d per hour (National Archives, London FO383/206). It is assumed they were backfilling the Maesdu practice trenches (PRN 13991).

German POWs are recorded as "at work on Bryn Lupus Hill" 13 June 1919 (North Wales Chronicle). Bryn Lupus Hill is presumably the hill at SH7853 80300 as the large house at the foot of the hill was called Bryn Lupus before being renamed as Llanrhos Grange, but it is not known what work the prisoners were carrying out.

Sources

National Archives, London FO383/206; North Wales Chronicle 13 June 1919, p5.

PRN 7883

Frongoch Internment Camp

NGR: SH9045539196

Location: Llandderfel, Gwynedd

HER Description

None

NMR Description

Notes for current project

Frongoch Camp was set up to take German prisoners in 1915. The German prisoners were moved out for a short period in 1916 and replaced by Irish prisoners (Huey 2013). The Germans returned in 1917, when Frongoch acted as a parent camp under which affiliated work camps for prisoners across Wales were organised. In June 1919 there were 2106 prisoners, divided between the north and south parts of the camp (National Archives, London FO383/206).

The camp is particularly significant because in 1916 it housed 1800 Irish prisoners held there after the Easter Rising. The first Irish prisoners arrived at Frongoch on the 9th of June 1916, and 1200 prisoners were released in August 1916, with the remaining prisoners were released on December 23rd 1916. This site is of considerable significance in Irish history as the freedom that the prisoners were allowed within the camp enabled many contacts to be formed and essentially led to the creation of the Irish Republican Army. The prisoners were able to discuss tactics, methods of bomb making, recruitment and political objectives, so that Frongoch became known in Ireland as the 'University of Revolution' (O'Mahony 1987).

The camp was composed of two parts; the southern camp was within a building built as a distillery for Welsh Whiskey in 1889. The northern camp consisted of 27 wooden huts in the adjacent field. The area has been studied by Leona Huey of Bangor University (Huey 2013). The distillery building was demolished in 1934, and a school and houses have been constructed on the site.

Sources

National Archives, London FO383/206; Huey, L. M., 2013. Frongoch 1916, unpublished B.A History and Archaeology dissertation, Bangor University; O'Mahony, S. 1987. Frongoch: University of Revolution. Dublin. FDR Teoranta

PRN 58739 NPRN 408351

IRA Prison Camp/Women's Institute Hut, Frongoch, Bala

NGR: SH90253944

Location: Llandderfel, Gwynedd

HER Description

NMR Description

Hut assumed to have been part of Frongoch Internment camp and later used by the Women's Institute. This hut is the only surviving building from the Frongoch (North) Camp. Built as a 'concentration camp' for German prisoners of war, the Frongoch North and South camps were used for the internment of Irish republicans following the Easter Rising of 1916. In all 1,000 prisoners were kept at the South camp (a former whisky distillery) and 850 were held at the North camp. The latter consisted of rows of weather-boarded huts with barbed wire perimeter fencing, and the huts are clearly visible in contemporary photographs and drawings.

Amongst the leaders of the Irish Republican Brotherhood held at the Frongoch camp were Michael Collins and Desmond Ryan, whose 'flying columns' were devised and organised here. It is thought that the name Irish Republican Army originated here.

It is a rectangular timber-studded hut with horizontal weatherboarding and a felt roof with plain bargeboards. It is raised up on brick piers. The main (road-facing) side has a central entrance with paired openings whilst that to the right is now boarded-up. It also has a four-panel door which is flanked by two four-pane windows on each side, with tilting upper sections. There are two further windows to the NW gable end and one window each to the SE gable and rear elevation. It was listed for its special interest as the only surviving hut from the Frongoch Camp, where Irish republican prisoners were held after the 1916 Easter Rising. Source:- Cadw listed buildings. NJR 16/10/2008

Notes for current project

Huey (2013) argues that the hut is too small to be an accommodation hut and has significant differences to a confirmed hut from the camp. It does not appear on 1946 aerial photographs and Huey considers that it is more likely to have originated from Tryweryn and to have been moved to its present site when the village was demolished in 1965 in advance of the flooding of the valley for a reservoir.

The hut is currently very dilapidated and largely collapsed.

Sources

Huey, L. M., 2013. Frongoch 1916, unpublished B.A History and Archaeology dissertation, Bangor University

PRN 58752

Kingsbridge Prisoner of War Camp

NGR: SH6050578505

Location: Beaumaris, Ynys Mon

HER Description

NMR Description

Notes for current project

The training camp was reused in 1919 to hold prisoners from Frongoch camp. First prisoners arrived 26th May 1919. There were 100 German PoWs in total. They were housed in huts and tents (National Archives, London FO383/206). North Wales Chronicle 20th June 1919 "Fifty German prisoners of war are employed at the camp filling up trenches, etc. On Tuesday they marched through the streets of Beaumaris for exercise, and their appearance created much interest."

Sources

North Wales Chronicle: 20th June 1919, p7; 30th May 1919, p8; National Archives, London FO383/206

PRN 58758

Prisoner of War Path, Graig Lwyd

NGR: SH7179975722 C

Location: Penmaenmawr, Gwynedd

HER Description**NMR Description****Notes for current project**

Prisoners of War held at Graig Lwyd Hall and working in the quarries cut a path across the eastern face of Graiglwyd to allow them to access the quarries without passing through the village. Samuel Hazzledine Warren records this path on his sketch map of sites in the area dated 1921 (Warren 1922, fig 1). He labels it as "German prisoner's path". His plan allows this path to be accurately located and it can be seen on the Lidar data, showing that most of the route still survives as an earthwork.

Sources

Penmaenmawr Museum, 2014. Stories in Stone

(<http://www.penmaenmawrmuseum.co.uk/English/images/PanelsFINAL.pdf>)

Warren, S. H., 1922. 'The neolithic stone axes of Graig-lwyd, Penmaenmawr', *Archaeologia Cambrensis* 77, 1-32

PRN 58759

Prisoner of War Camp, Site of, Llanengan

NGR: SH29422701 A

Location: Llanengan, Gwynedd

HER Description**NMR Description****Notes for current project**

Prisoner of war camp affiliated to Frongoch. Opened in June 1919 (National Archives, London FO383/206). Exact location unknown.

Sources

National Archives, London FO383/206

8.5. Rifle Ranges**PRN 7287 NPRN 525491**

Rifle Range, Tywyn

NGR: SN5862498765

Location: TOWYN, Gwynedd

HER Description

"These red-brick, concrete and earth shooting butts, target range and shelter form part of Tywyn camp. <1>These may have been re-used in WWII but were built between 1891 and 1901 they are on the 1901 OS 25 map. <2>The target area of a rifle range survives on the east edge of the dunes. It consists of two parts. First a long target area with brick wall fronted by a bank and a pentice-roofed protected walkway at the rear. Second a rectangular brick-built command post with a concrete flat roof (Fig. 10). The dunes at this point have been dug out around the targets and built up into a high bank at the west to provide a protective screen at the seaward side. The area is currently used as a cattle feeding point and is very trampled. The rifle range dates to between 1891 and 1901 but in 1901 was just a line of targets, probably that still present. The additional building seems to have been added during a period of re-use in about 1940.

The survival of a 19th century military feature is unusual and is certainly of local and probably of regional importance and is worthy of recording. <3>The original construction may have been associated with a local militia, at about the time of the Boer Wars. Its connection with Esgun Hall indicates that some reference to it may be found in the history of that house. The range could have been used during the First World War but the additions were all of WWII date. (Berks & Smith 2005)"

NMR Description

A rifle range is marked on OS 2nd edition leading away northeast from the targets shown at this location. The remains are reported to demonstrate three phases of construction- the earliest was a short target butt, 18.42m (60ft) long without a walkway; a second butt built, to the north of, and continuing the line of and imitating the size and style of the first butt; and the third phase being the gap between the two butts bricked-in rather crudely and a covered walkway built along the whole length. The whole has been built into a terrace excavated in the sand dune.

Sources include: Gwynedd Archaeological Trust HER Ref: 29512; NAW aerial photography 2006-9; OS 2nd edition 25in mapping date 1901. Maritime Officer, RCAHMW, July 2013.

Notes for current project

Shown on 1901 25 inch map but not earlier. Firing positions to 800 yards. Marker hut and targets shown on 1901 map, and these continue to be shown without alteration on the 1953 6 inch map. The existing backstop and linear mantlet are late additions and first appear on the 1970s mapping, although the range was disused about 1970.

The range listed in 1903 by the War Office as volunteer range. In the 1880s and later visiting volunteer artillery companies trained in Towyn with big guns. From the end of the 1890s Towyn created its own volunteer company, which formed F-Company of the '5th Battalion South Wales Borderers' and this range was probably built in connection with the formation of this company (Bill Flentje).

Sources

PRN 9927

Pantglas Rifle Range, Nantcyll Isaf

NGR: SH4857746808

Location: Clynnog, Gwynedd

HER Description

A series of 6 features in a straight line running in a NE direction astride the path from stepping stones near Nantcyll Isaf to middle slopes of Mynydd Graig Goch. 4 lower features are rectangular, stone built foundations, measuring 7m NW-SE x 3m, up to max height of 0.7m, with local knowledge suggesting they are WWI shooting platforms, associated with military training. The upper 2 features represent the target and backstop and although outside the immediate survey area, were also recorded. <1>

NMR Description

Notes for current project

Rifle range shown on 1900 and 1917 25 inch maps but not earlier. 100 yard firing positions are marked up to 500 yards with some intermediary points. A flagstaff is marked SE of the targets.

The land for the range was leased in 1898 and the range was laid out. It was in use through until at least 1918 and the lease was due to run out in May 1919 but there is no record of whether this was renewed. In 1918 the range is described as No. 109 on the official list of authorised ranges; an 800 yard range and is in good order. It is used in peace time by the Territorial Company and volunteers from Penygroes (CRO XD/35/201). The 25 inch maps only show firing points to 500 yards. The range was listed in 1903 as "NW216", but in 1913 that had changed to "W109" (Bill Flentje).

An iron mantlet survives, standing iron targets have been reused as part of a later mantlet with an earthen bank and there is also a line of raised firing points visible as stone-built platforms. There is a surviving target plate and a second iron mantlet at Nantcyll Isaf Farm. A target pit behind the earthen mantlet would have housed two target frames capable of displaying penetrable targets.

The iron targets were presumably used when the range was first established in 1898, the range being later adapted for penetrable targets. There may have been two separate iron targets, one for short and another for long distances. This would explain the existence of two iron mantlets here, made redundant by the penetrable targets and the new earth mantlet. The range had penetrable targets by 1903 as these are recorded in the WO Rifle Range Returns (information from Bill Flentje).

Sources

Caernarfon Record Office XD/35/201

PRN 14701 NPRN 65699

Possible rifle range, Llechwedd Quarry

NGR: SH7107447710

Location: Ffestiniog, Gwynedd

HER Description

NMR Description

Mound, subrectangular, 37 x 12m and 4m high - mortared stone building runs parallel to this 21 x 5m - now flooded. Use uncertain.

Notes for current project

Visited as part of an Upland Survey in 2000 and described as a sub-rectangular mound 4m high with a stone building at one end. APs show that the mound is faced with stone on SW side. Bill Flentje considers that this structure is likely to be the mantlet of a firing range but nothing is shown on any maps. No firing positions can be seen on the APs and none were noted during the upland survey. This structure is not shown on the 1920 or 1953 1:10560 maps.

Cambrian News & Merionethshire Standard 18th June 1915 mentions a rifle range at Blaenau Ffestiniog and states that 200 to 250 men will be billeted in the town for musketry training once rifles are available. This shows that there was a rifle range in this area in the First World War.

Sources

Cambrian News & Merionethshire Standard 18th June 1915

PRN 29512

Target Butt, Rifle Range, Tywyn

NGR: SN5863598777

Location: Towyn, Gwynedd

HER Description

Built into a terrace excavated into the coastal dunes. The excavated sand has been built into a bank on the west side of the targets, to provide extra safety. The butt itself is 33.00m (40ft) long and 4.30m (14ft) wide overall. It is solid brick-built, of two bricks thickness except for the rear wall, the lower part of which is of three bricks thickness. The rear wall is built with a

slight batter and the end walls slope down to the front, which has a low enclosing wall. The space inside the walls is filled with sand, sloped up to the top of the rear wall. Attached to the rear wall is a roofed walkway, 0.9m (3ft) wide allowing safe access along the rear of the targets. The walkway has a concrete roof, topped supported on T-section steel girders at 1.83 (6ft) intervals.

The overall structure has three phases of construction:

- a. The earliest was a short target butt, 18.42m (60ft) long without a walkway. Shown on the 1901 OS map.
- b. A second butt was built, to the north of, and continuing the line of and imitating the size and style of the first butt.
- c. The gap between the two butts was bricked-in rather crudely and the covered walkway was built along the whole length. (Berks & Smith, 2005)

NMR Description

Notes for current project

Shown on 1901 25 inch map but not earlier. Marker hut and targets shown on 1901 map, and these continue to be shown without alteration on the 1953 6 inch map. The existing backstop and linear mantlet are late additions and first appear on the 1970s mapping, although the range was disused about 1970. It is possible that the earlier targets are buried under the backstop.

Brick mantlet support wall survives but no frames. The building referred to as a "command centre" in Berks and Smith (2004) would actually have served as troop shelter/target shed/workshop. The brackets on the mantlet support wall would have held a roof (Bill Flentje).

Sources

Berks, T. & Smith, G., 2004, Aberdyfi to Dysynni Flood Alleviation Scheme - Penllyn Marshes, Tywyn, GAT report 612

PRN 31511

Concrete blocks, Afonwen Rifle Range

NGR: SH4316035433

Location: Llannor, Gwynedd

HER Description

There are four concrete blocks now loose on top of pebbles within a few meters of landside of beach. Each block has the remains of a metal post embedded in it centrally at the top surface. Possibly railings of some kind.

NMR Description

Notes for current project

These blocks are almost certainly related to the Afonwen Rifle Range, but it is not clear what their function was.

Sources

PRN 31512

300 yard firing point, Afonwen Rifle Range, Morfa Abererch

NGR: SH4298335473

Location: Llannor, Gwynedd

HER Description

Shooting point 1, distance from target banks 200m (approx). Long sides at right angle to sea. Made up of what could be described as a concrete box. This area was part of HMS Glendower Training Facility. 1943 bullet found at this site. Concrete wall is 0.25m wide. Interior is filled with local pebbles and covered in grass/turf. .303 cartridge recovered from the immediate area, mark on percussion cap shows that it was fired from a Bren Light Machine Gun. Site probably represents 300 yard shooting stand.

NMR Description

Notes for current project

300 yard firing point on main rifle range. Located on the beach. Part of original 1914 layout of the range.

Sources

Caernarfon Record Office XD/35/194, Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 31513

200 yard firing point, Afonwen Rifle Range, Morfa Abererch

NGR: SH4307235448

Location: Llannor, Gwynedd

HER Description

Distance from target banks 150m (approx). Long side at right angle to sea. Made up of what could be described as a concrete box. This area was part of HMS Glendower training facility. Concrete wall is 0.25m wide. Interior is filled with local pebbles and covered in grass/turf. Concrete in generally good condition, some cracks and damage to edges. Site probably represents 200 yard shooting point.

NMR Description

Notes for current project

200 yard firing point on main rifle range. Located on the beach. Part of original 1914 layout of the range.

Sources

Caernarfon Record Office XD/35/194; Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 31514

100 yard firing point, 100 yard range, Afonwen Rifle Range, Morfa Abererch

NGR: SH4311535430

Location: Llannor, Gwynedd

HER Description

Shooting point 3. Distance from target banks 50m. Long side at right angle to sea. This position seemingly consists of pebbles and soil only.

Possible shooting point, no concrete structure but of similar size to both shooting points nearby. Feature is approximately 140 yards from the target bank.

NMR Description

Notes for current project

100 yard firing point on the 100 yard range. Located on the beach. Part of original 1914 layout of the range. PRN 31517 represents the target position for this range.

Sources

Caernarfon Record Office XD/35/194; Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 31517

100 yard targets, Afonwen Rifle Range

NGR: SH4320235400

Location: Llannor, Gwynedd

HER Description

Concrete oblong block at right angle to sea and parallel to shooting points and target bank, but set off to right when facing targets from shooting points. Square holes in top of block 12cm x 12cm and 1m apart.

NMR Description

Notes for current project

Targets for 100 yard shooting were placed on the shingle at the foot of the rocks on which the main targets were constructed (CRO XD/35/194). The concrete blocks found at this location are in the right position to be the remains of these 100 yard targets. The square holes in the top of the blocks may have held the target frames.

Sources

Caernarfon Record Office XD/35/194; Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 31518

Target store (site of), Afonwen Rifle Range, Pen y Chain

NGR: SH4324735414

Location: Llannor, Gwynedd

HER Description

Site of munitions building. Building was similar to an example that still survives on the headland. Building was demolished around 2002, probably for hygiene and health & safety reasons. Structure was brick built with one door and a window. Close to firing range and probably functioned as a store for munitions and weapons.

NMR Description

Notes for current project

The location of this building suggests that it was part of the rifle range, probably the target store.

Sources

Caernarfon Record Office XD/35/194; Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 31519

Target butt, Afonwen Rifle Range, Pen y Chain

NGR: SH4325335401

Location: Llannor, Gwynedd

HER Description

Target position. Two 2.5m high sandy banks parallel to each other. Until 2000 contained remains of mechanism for raising and lowering targets, probably removed for health & safety reasons. Area is littered with .303 bullets.

NMR Description

Notes for current project

Stop butt and mantlet with markers' gallery. Not shown on 1953 6 inch map, or on earlier maps, but marked as disused on

modern digital mapping. The range was constructed in 1914, and the target butt was presumably built at that time.

Sources

Caernarfon Record Office XD/35/194; Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 31551

Rifle Butts 1, Morfa Conwy

NGR: SH7667679175

Location: Conwy

HER Description

Part of a disused shooting butt, one of a pair of almost identical concrete structures (for other see PRN 31552). The structure is constructed of cast concrete and is typical of WW2 military features. In plan the feature is L shaped, open towards the sea (NW). It has a straight back wall and a stepped (again L shaped, but in elevation) wall to the NE. The footprint of the structure measured 6.03m x 3.43m with the back wall standing to a height of 2.2m. Map regression shows that there were targets located close to these features in the area now occupied by the golf course. These are likely to have been associated with a camp for volunteers, also shown on earlier maps, presumably local militia (Berks

NMR Description

Notes for current project

Concrete block, part of linear mantlet shown on 1913 25 inch map.

Sources

Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 31552

Rifle Butts 2, Morfa Conwy

NGR: SH7658579072

Location: Conwy

HER Description

Part of a disused shooting butt, one of a pair of almost identical concrete structures (for other see PRN 31551). The structure is constructed of cast concrete and is typical of WW2 military features. In plan the feature is 'backwards L' shaped, open towards the sea (NW). It has a straight back wall and a stepped (again 'backwards L' shaped, but in elevation) wall to the SW. The footprint of the structure measured 5.76m x 2.32m with the back wall standing to a height of approximately 2.5m. Map regression shows that there were targets located close to these features in the area now occupied by the golf course. These are likely to have been associated with a camp for volunteers, also shown on earlier maps, presumably local militia (Berks et al 2012).

NMR Description

Notes for current project

Concrete block, part of linear mantlet shown on 1913 25 inch map.

Sources

Berks, T., Davidson, A., Evans, R., Hopewell, D., Parry, L. and Parry I., 2012. Arfordir Coastal Heritage Final Report, unpublished GAT report 1044

PRN 33601

Porthmadoc Rifle Range, Traeth Mawr

NGR: SH5822739190

Location: Porthmadoc, Gwynedd

HER Description

The shooting butts, shown on the OS 25" county series maps of 1889 and 1917, were at the eastern end of a rifle range extending to SH 57364 39234. Targets are marked every 100 yards up to 800 yards on the first and second edition maps but only up to 600 yards on the third edition. The rifle range was probably associated with the County Volunteers. The butts were visible on the ground as a low sub rectangular mound, and is visible on aerial photographs as a series of parallel lines. Surface finds of bullets and cartridges were picked up before and during the watching brief of the area built no structures or negative features were noted.

An evaluation trench (trench 27.01) was located to investigate the shooting butts. This found no trace of the butts but did reveal closely spaced parallel ploughmarks over part of the trench. These ran east-west and are presumably the lines that can be seen on the aerial photographs. Bullets were recovered with a metal detector during the trench excavation.

These were of .303 and .45 sizes (Parry 2014).

NMR Description

Notes for current project

Rifle range built in 1865.

A flagstaff is marked at W end of range on 1901 25 inch map and the range walled off for much of its length.

There was an earlier range, built for the Porthmadoc Rifle Volunteers in 1861 that was cut through by the Cambrian Railway, making it necessary to construct a new range in 1865 (North Wales Chronicle 1861 and 1865).

Sources

North Wales Chronicle: 18.02.1860, 16.03.1861, 23.03.1861, 02.08.1862, 09.08.1862, 22.03.1862, 18.04.1863, 24.06.1865, 08.07.1865, 15.07.1865, 19.08.1865, 02.06.1866, 19.06.1875, 31.07.1875, ; Bill Flentje; Parry, L., 2013. A487 Porthmadog, Minffordd and Tremadog Bypass: report on archaeological mitigation, unpublished GAT report 1065

PRN 38290

Rifle Range, Penrhosfeilw Common

NGR: SH2153779795

Location: Trearddur, Ynys Mon

HER Description

NMR Description

Notes for current project

Rifle Range shown on 1924 25 inch map but not on 1900 map and still in use by 1953 as it is shown on the 1:10560 map of that date. There was a target at the S end and the range extended to the NNW with firing positions at 100 yard intervals up to 500 yards. The maps show a flag pole near the target, presumably to warn when firing was taking place.

A small hut is shown near the 500 yard firing position (Kenney et al 2014).

Dalton (2013, 4) mentions that the Volunteer (Anglesey) Battalion trained with rifles and machine guns at this range suggesting that this range was in use in WW1.

Sources

Kenney, J., Parry, I. and Smith, G., 2014. Arfordir Coastal Heritage 2013-14, unpublished GAT report 1181;

Dalton, M., 2013. Defending Anglesey, Folly Books, Monkton Farleigh

PRN 58444

Shooting Butts, Site of, Porthmadog

NGR: SH5825039190

Location: Porthmadog, Gwynedd

HER Description

Shooting butts, part of the rifle range shown on the OS 25" county series maps of 1888 and 1917, probably associated with the County Volunteers. The site was visible on the ground as a low sub-rectangular mound. (Riley & Roberts,

NMR Description

Notes for current project

An undated plan, elevation and section of the stop butt shows an iron plate used in the mantlet, possibly a reused iron target, and what appears to be a Ralston target frame (CRO XD/35/508). This is almost certainly the target butt constructed in 1865 (Bill Flentje) (see PRN 33601).

The 1889 25 inch map shows a backstop, encircled on three sides by a U-shaped 'borrow pit', created when the stop butt was constructed. In front of, and to the W of the backstop stand two mantlets, probably iron mantlets; attached to each mantlet is a target on either side (Bill Flentje).

The 1901 25 inch map (1901) shows the backstop/stop butt, into the back of which a small target shed has been built; the iron targets/mantlets have been replaced by a system with penetrable targets. The target frames would have been operated from behind a linear wall or embankment - the mantlet. This may be shown on the map to the left of the backstop, but this long rectangular shape is perhaps more likely to indicate the clearance pit for the target frames (Bill Flentje).

Area excavated in 2010 (Parry 2013), (see PRN 33601).

Sources

Caernarfon Record Office XD/35/508; Roberts, R. and Riley, H., 1995, A487 Porthmadog/Minffordd and

Tremadog Bypasses, unpublished GAT report 155; Parry, L., 2013. A487 Porthmadog, Minffordd And

Tremadog Bypass: report on archaeological mitigation, unpublished GAT report 1065

PRN 54880 NPRN 511387

Firing point, Gwastadros range

NGR: SH9064635838

Location: Llany Cil, Gwynedd

HER Description

There are three of these mounds in a line 100 yards apart and these are almost certainly some sort of practice range with the trench and building recorded as NPRN 511390 (Kenney 2014).

NMR Description

Pillow mound on level ground, 12m N-S by 2.5m at the N end, 2.9m at the S end. It has a surrounding ditch and is 1m high, with some stone revetment visible on the SW side.

Recorded as part of Uplands Initiative Survey. R Hayman, H&H, 09/10/2010.

Notes for current project

Three mounds are in a line, each 100 yards apart with a military building and a trench at the western end of the line.

Despite one mound being recorded as a pillow mound, these appear to be firing points and the structure at the west end is presumably the target butt.

Sources

Kenney, J. 2014. Scheduling Enhancement: Medieval and Post-Medieval Agricultural Features in North-West Wales, unpublished GAT report 1162

PRN 56323

Building on rifle range, W of Graiglwyd Hall

NGR: SH7211575561

Location: Penmaenmawr, Conwy

HER Description

Site identified using early Ordnance Survey Maps (McGuinness, 2014)

NMR Description

Notes for current project

Near the 300 yard firing position for rifle range PRN 58745 are the remains of a building, now robbed of most of its stones and with only its foundations still standing (Bill Flentje). This is shown on the 1914 25 inch map along with other rifle range features. It appears as a substantial roofed building on the map. It is described in a newspaper report:

"A pretty corrugated iron pavilion, commodious and comfortable, has been erected at the end of the 300 yards firing point. This Pavilion is approximately equi-distant to the several other points, thus making it a convenient rendezvous for men using the ranges" (Weekly News and Visitors Chronicle for Colwyn Bay 2nd August, p2).

Sources

Weekly News and Visitors Chronicle for Colwyn Bay 2nd August, p2; McGuinness, N., 2014, Glastir Private Woodland Management Polygonisation

PRN 56324

Firing point and magazine, rifle range, SW of Graiglwyd Hall

NGR: SH7212775490

Location: Penmaenmawr, Conwy

HER Description

NMR Description

Notes for current project

400 yard firing position for rifle range PRN 58737 at Graig Lwyd. On 3rd edition 25 inch map, but not earlier. The 400 yard firing position is built on top of a concrete structure with a front wall built of local stone. To the front of this a 'veranda' type building had been erected from pre-cast concrete panels. This is now largely collapsed (Bill Flentje).

This structure is described in a newspaper report: "a roomy magazine, fitted with stout oaken chests, shelves, and doors, has been rather ingeniously placed beneath the 400 yards point" (Weekly News and Visitors Chronicle for Colwyn Bay 2nd August, p2)

In the 1960s, long after the range was out of use, it was home to Dick Bryn Iolyn, who lived as a tramp (Dennis Roberts, Penmaenmawr Historical Society).

Sources

Weekly News and Visitors Chronicle for Colwyn Bay 2nd August, p2

PRN 58671 NPRN 419815

Penmaenucha/Dolgellau/Tal y Waen Rifle Range

NGR: SH7015917260

Location: Dolgellau, Gwynedd

HER Description

NMR Description

The disused firing range lies on enclosed rough pasture about 3 km west of Dolgellau. It comprises a well-preserved target area, traces of rifle mounds and a footbridge.

The target area, which lies adjacent to a minor road, on its north side at SH70171696, consists of a bank 28m long (E-W), 6m wide and 3m high, revetted on its south side with a slightly battered dry-stone wall up to 1m thick and 2m high, capped with concrete. Attached to the wall are seven steel brackets for securing a protective awning for the markers. A small, shallow alcove is set into the wall at its west end. At the foot of the wall is a berm 1m wide, running along the entire length of the wall, which forms one edge of a concrete slit trench 0.75m wide and about 0.5m deep though now silted. This trench supports the winding gear for six target frames, still in place. Each cast-iron frame enabled a target to be raised, fired at, lowered and repaired or replaced. On the opposite side of the road, steeply rising ground will have provided a natural 'stop butt'.

About 55m in front of the targets, at SH70161724, a narrow drainage course is crossed by a footbridge of four railway sleepers, partially overgrown, measuring about 1.2m wide.

According to early editions of OS maps firing positions to the north of the targets were set at 300, 400 and 500 yards, each position shown as a linear feature. Over most of this area the ground vegetation is a dense boggy mat of molinia.

At the 300 yard position, SH70171724, was found a low bank, barely discernible, measuring 10m long (E-W), 3m-4m wide and 0.3m high. At the 400 yard position (SH70171733) no obvious trace of a mound was seen. The 500 yard position, at SH70187420, near the roadway to Maes Angharad, is marked by a low rise of firmer ground in bog, which is perhaps the

firing position. Immediately behind this, at SH 70171743, lies a bank (the upcast from a drain and shown on the early maps) which might have provided a more suitable firing position.

The date and duration of the range are uncertain. The first edition OS 25-inch map (1889) does not show it. But it is portrayed on the second edition as 'disused', in 1901. Also shown prominently are two 'markers' huts', in the target position, but which at some point were replaced by the present 'modern' arrangement of target mound and winding gear. However long the range was out of use it must have come back into use during, if not before, the First World War and probably also during the Second World War.

Modern mapping portrays the target area as it now is though still refers to it as 'Markers Huts'.

Local newspaper reports suggest that the range originated here in 1893 as a temporary arrangement for musketry practice by two battalions of the Royal Welsh Fusiliers who were to be stationed in the district for six or seven months of the year. The following year a proposal was made for a permanent range following communications with the War Office (1).

(1) Cambrian News & Merionethshire Standard, 10.08.1894. David Leighton & Medwyn Parry, RCAHWMW, 02 July

Notes for current project

A rifle range, originating in 1893 (Cambrian News and Merionethshire Standard, 10 August 1894 (Supplement), p4), but possibly with earlier origins, which probably saw its most intensive use during WW1, and was used into WW2. During WW1 the range appears to have been of 500 yards and it had Hythe pattern target frames, which still survive in remarkable condition.

The range may have been used by the 2nd Merionethshire Rifle Volunteer Corps (Bill Flentje) but was certainly used from 1893 by the 3rd and 4th Battalions of the Royal Welsh Fusiliers (Cambrian News and Merionethshire Standard, 10 August 1894 (Supplement), p4). Two markers' huts are shown on the 1901 25 inch map, indicating that this was an early range, although the 1889 25 inch map shows no trace of the range. The official Rifle Range Returns record that in 1902/04 the range had two canvas targets and it was numbered <NW 200> (NW = North Western District) (Bill Flentje), despite it being shown as disused on the 1901 25 inch map. Probably the range was redeveloped in the first years of the 20th century and that was when the linear mantlet and marker gallery, were built to replace the markers' huts, with the Hythe pattern frames possibly installed early in the First World War (Bill Flentje).

See PRN 58762 for target butts and PRNs 58763-58765 for firing points.

Sources

PRN 58729

Rifle Range, Conwy Morfa

NGR: SH7663079117

Location: Conwy

HER Description

NMR Description

Notes for current project

Rifle Range shown on 1889, 1900 and 1913 25 inch maps. On 1889 map there are just 2 small targets marked, while by 1900 there is a long bank but this seems to be carrying a track and not to be part of the range. There are three targets shown, quite widely scattered and what is probably a marker's hut. By 1913 there is a linear mantlet with flag staffs and marker huts at each end. Firing positions to 1000 yards. The 1889 map marks "old targets" at c.SH76783 79186.

The 600 yard firing position is shown on a long mound as long as the mantlet. Some of the other firing positions as shown on mounds but others are not. The concrete blocks that once framed the mantlet and are shown on the 1913 map still remain (Bill Flentje), and the 600 yard firing point is still clearly visible in the golf course.

Sources

PRN 58730 NPRN 525374

Rifle Range II, Breakwater Quarries

NGR: SH2232283576

Location: Trearddur, Ynys Mon

HER Description

NMR Description

OS 1st edition mapping shows a rifle range running approximately northwest-southeast. The range extends to 600ft, with a target and a mantlet (portable shelter) shown at the north-western end (at SH22338360). Modern aerial photography suggests that target area has been subject to recent rock fall.

Sources include: NAW aerial photography 2006-9. OS 1st edition 25in mapping. Maritime Officer, RCAHWMW, July

Notes for current project

Shown on 1st edition (1889) and 2nd edition (1900) 25 inch maps but not on 3rd edition (1924) map. Both maps mark target and mantlets. Shortened by 1900 from 600 yards to 500 to accommodate buildings in the Breakwater Quarry. Uses old quarry face as a backdrop. Range inspected in 1918 and repairs done in 1919, so clearly in use in WWI (CRO XD/35/204). Inspected by Bill Flentje, who found no remains.

Sources

Bill Flentje

PRN 58731

Rifle Range, Abergwynnregyn

NGR: SH6486873516

Location: Aber, Gwynedd

HER Description**NMR Description****Notes for current project**

Rifle Range shown on 1900 and 1914 25 inch maps but not on 1889 map. Firing positions to 600 yards with the last set out of the line. Backstop and mantlet constructed by 1914. Backstop still survives, quite well preserved. Also some remains of mantlet.

The Bangor Company of Volunteers used a range at Aber, probably on this site, from at least 1861 (North Wales Chronicle 25/05/1861 and 11/10/1862). The range is listed in 1903 as having one iron target (Bill Flentje).

In 1911 the range was converted into a gallery range with 4 penetrable targets. The range was formally accepted in 1913 (CRO XD/35/193).

Repairs were done on the range in late 1918 or early 1919 (CRO XD/35/202).

During WW2 it was still used by the Home Guard and in 1949 it is still listed as a 4-target range (Bill Flentje).

Inspected in June 2005 by Bill Flentje. The mantlet and backstop are clearly visible and possibly supported 2-4 targets. The backstop has concrete foundations on its sea-facing side, and is revetted by railway sleepers on the landward side. The whole backstop is riddled with badger holes.

Sources

North Wales Chronicle 25/05/1861 and 11/10/1862; Caernarfon Record Office: XD/35/193, XD/35/202

PRN 58733

Rifle range, Garth Goch

NGR: SH952358 A

Location: Llangywer, Gwynedd

HER Description**NMR Description****Notes for current project**

A reference was found by Bill Flentje in the North Wales Chronicle (06/10/1860) to a range used in 1860 at Garth Goch, c.2.4km east of Bala. As the 1 Merionethshire (Bala) Volunteer Rifle Corps (founded 1859) was disbanded in March 1864, this range is likely to have closed at that time. This would have been an iron target range, likely to be constructed without mantlet, as the targets would have been placed close to the rising lower slope of the hill. There would have been no raised firing points, as shooting at the time as mostly conducted from the standing position. The iron target plates would have been removed to be sold or reused, it is therefore very unlikely that anything remains on

Sources

North Wales Chronicle 06/10/1860

PRN 58735 NPRN 511390

Rifle range, Gwastadros

NGR: SH9055235812

Location: Llanycil, Gwynedd

HER Description**NMR Description**

C20 military trench (although not shown on county-series OS maps) 18m long N-S by 3m wide and 2.2m high. It has revetment walls of rubble stone, which are all battered except for the S. The trench is protected by a massive bank 25m long N-S by 13m wide. At the S end is a single-storey building, of rubble stone with bigger quoins, and flat roof of concrete slabs. The building is 5.1m N-S by 3.3m wide and 2.3m high. The entrance is a full-height doorway in the N wall, facing the trench, reached via a forecourt around the S and W sides of the building, protected by the bank. In the S wall are the blue-brick springers of a former window opening.

Notes for current project

The structure recorded here by the upland survey (NPRN 511390) is probably a mantlet with a markers hut and trench for targets. Three mounds, 100 yards apart, extend to the east. This site appears to be a firing range. It is not shown on any of the maps including the 1953 6 inch map.

Probably the range listed at Bala in the 1913 WO Rifle Range Returns, as <W173> (W=Western District), back to 500 yards with 4 (penetrable) targets (Bill Flentje).

The Hansard website lists the Bala range on 25.11.1912, so it was probably opened between 1908 and 1912 and was likely to have been closed at the end of the war; hence it was short lived and not mapped (Bill Flentje).

Sources

PRN 58736 NPRN 525411

Rifle Range, Cynifyn

NGR: SH4525861003

Location: Bontnewydd, Gwynedd

HER Description

NMR Description

OS 1st edition mapping shows two flagstaffs and three butts on this shingle ridge. Distances are marked up to 750 yards following the coast edge southwards. Nothing is now visible on modern aerial photography.

Notes for current project

Flagstaffs and butts marked with firing points to S on 1st edition 25 inch map, "Butts (disused)" on 2nd edition map, but no firing points; nothing shown on 3rd edition map. Firing points to 800 yards running around the shore of Y Foryd. The targets are position on a single spit just NW of Cynifyn. This range appears to have been out of use before the First World War. The target butt area falls within SAM CN334, scheduled for Cored Gwyrfaï medieval fish weir.

Sources

PRN 58737

Rifle Range I, Graig Lwyd, Penmaenmawr

NGR: SH7240075255

Location: Penmaenmawr, Conwy

HER Description

NMR Description

Notes for current project

Rifle Range shown on 1914 25 inch map, but not on earlier maps. Firing positions to 600 yards. The range is crossed by another (PRN 58745). PRNs 56324 and 58749 are firing positions on this range. The 500 yard firing point is also still visible as an earthwork in the woods.

This range had an 8ft wide target frame, target shed and stone built mantlet/shelter. The target frame was a Jeffries Patent Wimbledon Target Frame, similar to a Hythe pattern frame but earlier (Bill Flentje).

The ranges were used by the Royal Welsh Fusiliers 6th Battalion, K Company; Colonel Darbishire's company. The ranges were set up in 1901. (Information from Dennis Roberts, Penmaenmawr Historical Society).

The formal opening of the ranges took place on Saturday 27th July 1901 (Weekly News and Visitors Chronicle for Colwyn Bay 2nd August, p2)

However it seems that the ranges were not accepted as formal training ranges for WW1 as in 1917 the local Volunteers were using the range at Aber even though the Graig Lwyd ranges were in good order (CRO XD/35/451, p128).

The target butts survived well until at least 2006 but have since been entirely destroyed. Some of the firing positions still survive, especially PRN 58746, next to the footpath, which is largely built of Penmaenmawr Granite.

Sources

Weekly News and Visitors Chronicle for Colwyn Bay 2nd August, p2; Caernarfon Record Office XD/35/451, p128

PRN 58740 NPRN 525342

Rifle range, Cemaes Bay

NGR: SH3735393829

Location: Llanbadrig, Ynys Mon

HER Description

NMR Description

A 300 yard raffle range is shown on OS 1st edition mapping. A 'Butt' or firing target is marked on the eastern side of small headland at Pig y Barcud. The 300 yard distance is marked to the west of the road to southeast. Modern aerial photographs reveals only that the western edge of the enclosure can be traced in the difference between rough scrub and improved grazing.

Sources include: NAW Aerial photography 2006-9; OS 1st edition 25in mapping. Maritime Officer, RCAHMW, July

Notes for current project

Rifle range shown on 1889 and 1900 25 inch maps but not on 1924 map, so could have been used in WWI. Position of butts changes slightly between 1889 and 1900. Firing positions are on land and range crosses the edge of the bay to the butts in the cliff, which is used as a backstop. A post on the cliff behind the butts was presumably used to signal that the range was in use.

Visited by Bill Flentje in 2005. He noticed that the target area of the cliff had no moss or algae growth probably due to poisoning from lead washing out of bullets embedded in the cliff above. He found many .450cal bullets and a few blunt nosed .303s at the base of the cliff (information from Bill Flentje).

Sources

PRN 58742

Rifle Range I, Breakwater Quarries

NGR: SH2295583028

Location: Holyhead, Ynys Mon

HER Description

NMR Description

Notes for current project

Shown on 1st edition (1989) but not on 2nd edition (1900) 25 inch map, so pre-dates WWI. Firing positions to 400 yards.

Uses an old quarry with the quarry face as a backstop. Inspected by Bill Flentje, who found no remains.

Sources

PRN 58743

Rifle Range I, Parc Pentir

NGR: SH6285581565

Location: Llangoed, Ynys Mon

HER Description

NMR Description

Notes for current project

Rifle Range shown on 1900 25 inch map, but not earlier. By 1924 there is a redesigned range on a different alignment (PRN 58728). Firing positions at 100 yard intervals up to 500 yards. Flagstaff behind butts. Two markers' huts are shown with targets behind. Inspected by Bill Flentje, who found no remains, but the NextPerspective photos suggest that some may survive.

A letter written in 1979 mentions soldiers at Kingsbridge camp training "up at the rifle range" in 1918 (Anglesey

Archives WDAB/4). This is the closest range to the camp and is presumably the one used, although it is possible there was another range that has not yet been located.

Sources

Anglesey Archives WDAB/4

PRN 58744

Possible rifle range, Coed Helen

NGR: SH4778062127

Location: Caernarfon, Gwynedd

HER Description

NMR Description

Notes for current project

Possible rifle range backstop identified by Bill Flentje on Google Earth. There is no trace of it on the maps. Not visited on the ground but there appears to be a 'slightly winged' backstop wall, some 45 yards long, comparable with a 30-yard barrack type range. The range was partitioned by another wall, built at a right angle to the backstop wall, against which a bullet absorbing sandbank would have been heaped. Two separate firing details would have been able to shoot at the same time and at different distances, safely separated by this additional wall. The range would definitely have been used during WW2, but it may have been associated with the WW1 training camp (PRN 58677)

Sources

PRN 58745

Rifle Range II, Graig Lwyd, Penmaenmawr

NGR: SH7224475315

Location: Penmaenmawr, Conwy

HER Description

NMR Description

Notes for current project

Rifle Range shown on 1914 25 inch map, but not on earlier maps. Firing positions to 300 yards. Crossed by another range (PRN 58737). PRN 56323 is a building at the 300 yard firing point on this range.

This range had a 8ft wide target frame and a stone-built mantlet (Bill Flentje).

The ranges were used by the Royal Welsh Fusiliers 6th Battalion, K Company; Colonel Darbishire's company. The ranges were set up in 1901. (Information from Dennis Roberts, Penmaenmawr Historical Society).

The target butts survived well until at least 2006 but have since been entirely destroyed.

Sources

PRN 58746 NPRN 505813

Rifle range, Cwm Dwythwch

NGR: SH5667856975

Location: Llanberis, Gwynedd

HER Description

NMR Description

A small rectangular structure, shown on current OS mapping as 'Old Mantlet'. It is of unknown date and function but probably 20th century. The structure comprises of a three sided stone-built structure measuring 6m long by 4m wide. The walls are mortared and are constructed of double thickness quarried stones and measure 0.7m wide by 1.9m high. The structure is currently unroofed but would have originally had a flat roof. The site may be related to either water management for Llyn Dwythwch or for a possible military purpose. P.J. Schofield, OANorth, 9th October 2007

Notes for current project

Rifle range marked on 1900 25 inch map but not earlier. "Old mantlet" marked on 1914 map and the range was clearly disused by then. The three sided stone-built structure that formed the mantlet (markers hut) still survives. The 1900 map shows two free-standing targets to the SW of the mantlet. These must have been iron targets. The firing positions run to the NE and there are firing positions to 800 yards. This area has been inspected on the ground for an Upland Survey and none of the firing positions have been identified so it is presumed these do not still exist as earthworks. This range may have been used for practice only during the Boer War. The mountain itself would have provided a backstop. Inspected by Bill Flentje in 2008. He recorded that the mantlet was a U-shaped structure built from dressed stone and cement. Its overall dimensions are c. 4.65 x 2.85m, leaving an opening towards the back of about 2.70 x 1.90m. Its present height from the ground is c.1.75m. Next to the mantlet were iron objects, possibly once part of the mantlet roof. The rear of the mantlet is protected by an embankment, which remains substantially intact. About 13.5m from the mantlet bare ground shows where the two target positions were. Early .303 bullets and evidence of lead splash (from earlier softer bullets) were found on both target positions (information from Bill Flentje).

Sources

PRN 58747

Rifle range, Yr Aelgerth

NGR: SH5703658638 A

Location: Llanberis, Gwynedd

HER Description

NMR Description

Notes for current project

Two iron mantlets (markers' huts for a rifle range) (one at grid ref given, one at SH57046 58683). Not shown on any old maps. Found by Bill Flentje. For photograph of southern mantlet see NPRN 505620 on Coflein, where it is included incidentally. The northern mantlet is just shown on a photo of NPRN 505616.

Visited by Bill Flentje in 2008. The two iron mantlets had traces of mounds of earth and stone to the rear. The distance between the mantlets was about 35 yards. A number of Snider bullets and one .303cal (Spitzer) round were found. The rear walls of the mantlets were peppered with bullet holes from being used as targets during the WW2. The 5th Corps were raised at Llanberis on 5 June 1878 (becoming 'K'-Company of the 1st Flintshire and Caernarvonshire Rifle Volunteer Corps in 1880), and this may have been their range (information from Bill Flentje).

Sources

PRN 58749

Firing point, rifle range, Graig Lwyd, Penmaenmawr

NGR: SH7199075610

Location: Penmaenmawr, Conwy

HER Description

NMR Description

Notes for current project

Firing point built of earth contained in stone structure made of knapped Penmaenmawr granite. 600 yard firing point.

Sources

PRN 58763 NPRN

300 yard firing point, Penmaenucha rifle range

NGR: SH7017217238

Location: Dolgellau, Gwynedd

HER Description

NMR Description

Notes for current project

This appears on the Lidar data as a trench with a bank on the southern side, towards the targets. This feature measures about 15 by 5m overall. A site visit failed to locate it on the ground because of thick marsh vegetation.

Sources

PRN 58751

Rifle range, Bryn y Fawnog

NGR: SH7715259238

Location: Capel Curig, Conwy

HER Description

NMR Description

Notes for current project

Rifle range shown on 1889 and 1900 maps but only disused target butt on 1914 map, so presumably out of use before WWI. Marker's hut shown and firing positions to 800 yards. Flagstaff WNW of target.

Dense vegetation surrounds the hollow where the butts were and bullets have been found here (information from Bill Flentje).

Sources

PRN 58755

Afonwen Rifle Range, Pen y Chain

NGR: SH4325335401

Location: Llannor, Gwynedd

HER Description

NMR Description

Notes for current project

Rifle range not shown on 1953 6 inch map, or on earlier maps, but marked as disused on modern digital mapping.

The site was identified and the range planned out in 1913, and constructed in 1914, though it was not finally approved until 1915. In use in 1917 when 2nd Battalion Caernarvonshire Volunteers Regiment was using it for training. The range had Hythe Pattern target frames made by Jeffries of Sutton, Surrey (CRO XD/35/194).

It was a 600 yard range (CRO XD/35/503). Cambrian News & Merionethshire Standard 14th January 1914 has an advert for tenders to construct a rifle range at Penychain, near Afonwen (information from Bill Flentje). The range was listed in 1932 as <W178>, back to 600 yards with 2 targets (Bill Flentje).

It is unclear why the range never appeared on any maps when in use.

Sources

Caernarfon Record Office XD/35/194 and XD/35/503

PRN 58761

Bronaber/Trawsfynydd Firing Range

NGR: SH7533 C

Location: Trawsfynydd, Gwynedd

HER Description

NMR Description

Notes for current project

An extensive artillery firing range which originates in the early 20th century. There were two camps associated with it. There is a significant amount of surviving earthwork evidence both of firing positions, artillery parking areas and impact sites, along with remains of the camps.

The range at Trawsfynydd was established in the Military Manoeuvres Bill 1900. By 1913, Trawsfynydd was identified as one of the Royal Artillery's main practice ranges together with Lark Hill, West Down, Okehampton. It is said that the landscape played a role in determining the location of the range at Trawsfynydd. The low rolling hills and the hidden valley of Cwm Cain formed perfect training for the new tactics of long-range artillery barrage beyond line of sight. Its remoteness and low density population, with close access to the railway, must also have played a part. The extent of the range initially covered just over 8000 acres, before being extended slightly to the south by 1923, and then extended to over 13,000 acres in the early 1950s. The ranges were closed in 1957/8, the land was returned to the original owners and some was purchased by the Forestry Commission (Bob Johnston, Sheffield University, pers. com.).

Sources

PRN 58762

Target butts, Penmaenucha rifle range

NGR: SH7016916961

Location: Dolgellau, Gwynedd

HER Description

NMR Description

Notes for current project

The target butts are located adjacent to a minor road. Six almost complete Hythe pattern target frames survive behind a linear mantlet. The target frames are set in a trench, 0.8m wide and more than 0.7m deep. This trench exits into drains at either end.

The steeply embanked earthen mantlet has a stone wall, 2.3m high, on its southern side, constructed of unshaped local field stone. There is a concrete capping on top of this wall and small patches of mortar between the stones. The western end of the mantlet wall is vertical and has larger stones forming the corner. The eastern end is battered into the slope and lacks larger stones. There are drainage pipes, 0.1m on diameter, set within the mantlet wall.

Set within the mantlet wall is an alcove measuring 0.7m by 0.55m and up to 0.3m deep. This has a sawn slate lintel 0.04m thick and may have been lined with asbestos tiles as some of these lie on the floor under the alcove. This is presumably for a telephone to communicate with the firing points.

The mantlet wall is built on the edge of a concrete plinth, which acts as a platform projecting south of the mantlet wall.

The plinth is 1.2m wide but the platform only projects c.1m wide. At the eastern end of the plinth the casts of shuttering used when pouring the concrete can still be seen. This plinth forms the northern side of the target frame trench, and the southern side of this trench is also of concrete so it is probable that the trench itself is concrete lined, although it was not fully emptied to prove this.

Six iron brackets are set into the face of the mantlet wall towards its top to support a protective roof over the markers.

One piece of wood that formed part of the roof is still attached to the eastern most bracket. At a level of 0.3m above the platform is the top of 7 smaller brackets that would have supported seats for the markers. Some of the screws that formerly held the benches still survive. The brackets are in three groups and it is possible that there were three separate benches rather than one long bench along the full length of the platform.

Sources

PRN 58764

400 yard firing point, Penmaenucha rifle range

NGR: SH7017317316

Location: Dolgellau, Gwynedd

HER Description

NMR Description

Notes for current project

This appears on the Lidar data as a slight scarp in the hill slope. A site visit failed to locate it on the ground.

Sources

PRN 58765

500 yard firing point, Penmaenucha rifle range

NGR: SH7018517418

Location: Dolgellau, Gwynedd

HER Description

NMR Description

Notes for current project

This appears on the Lidar data as a very slight linear mound measuring about 15m by 2.5m. A site visit failed to locate it on the ground because of thick marsh vegetation.

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- Plate 50. Trilingual plaque by the roadside next to the site of Frongoch Internment Camp
- Plate 51. Collapsed hut (PRN 58739) formerly used by Women's Institute and listed as part of Frongoch Camp

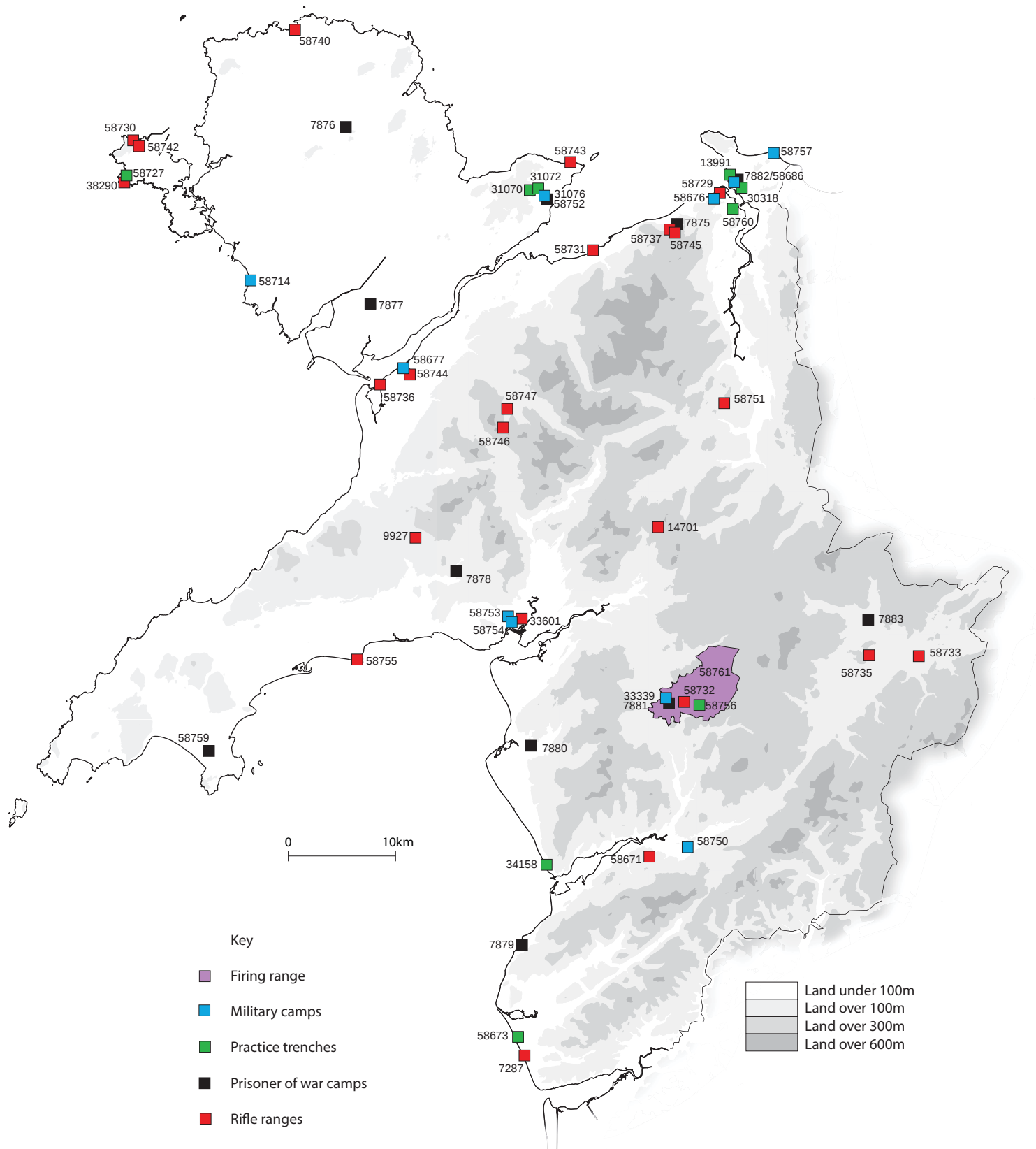


Figure 1. Distribution of First World War sites studied under the Military Landscapes theme

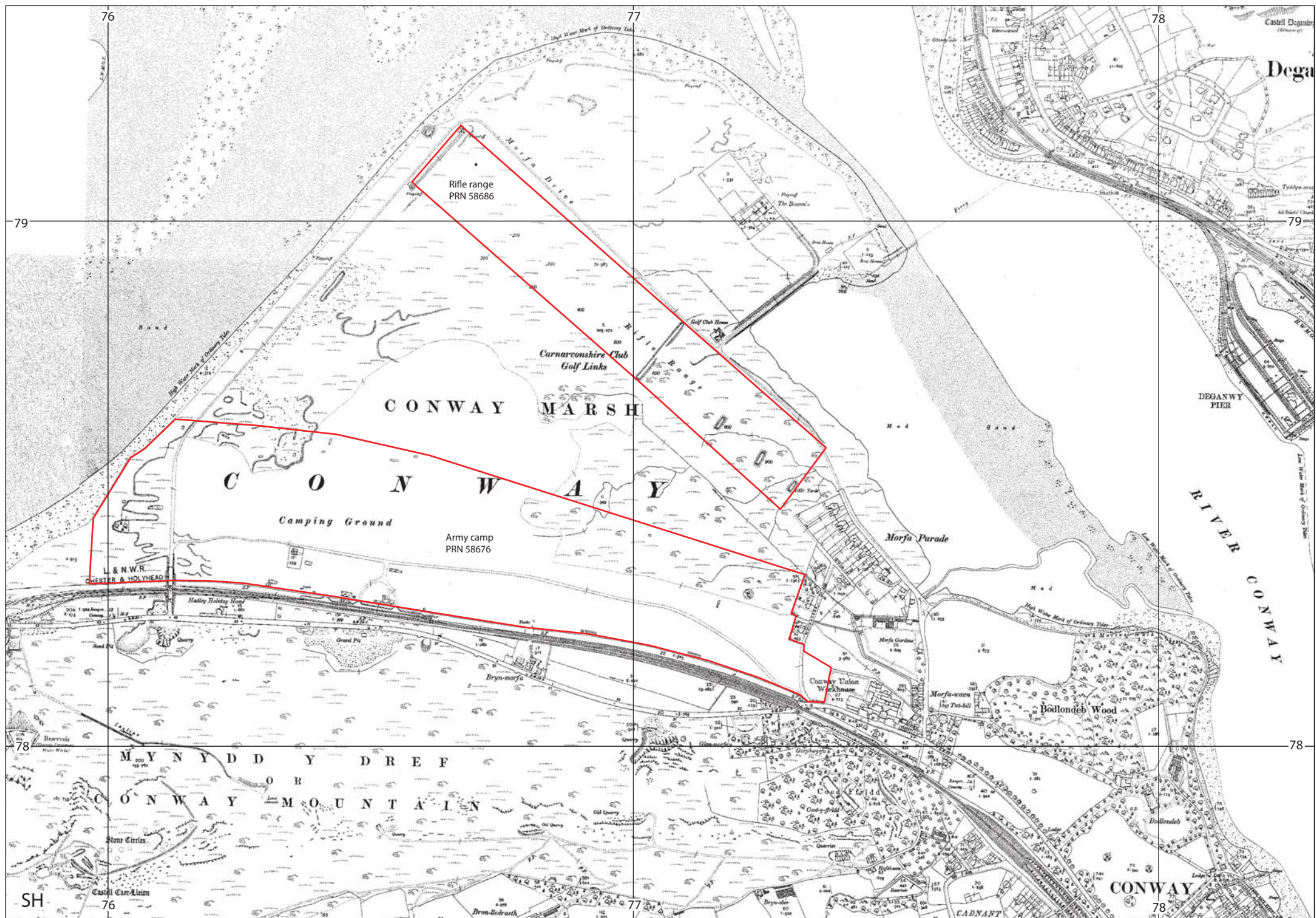


Figure 2. Location of Conwy Morfa Camp and Rifle Range shown on 1913 25 inch map (Caernarvonshire sheets IV.8 and IV.12)

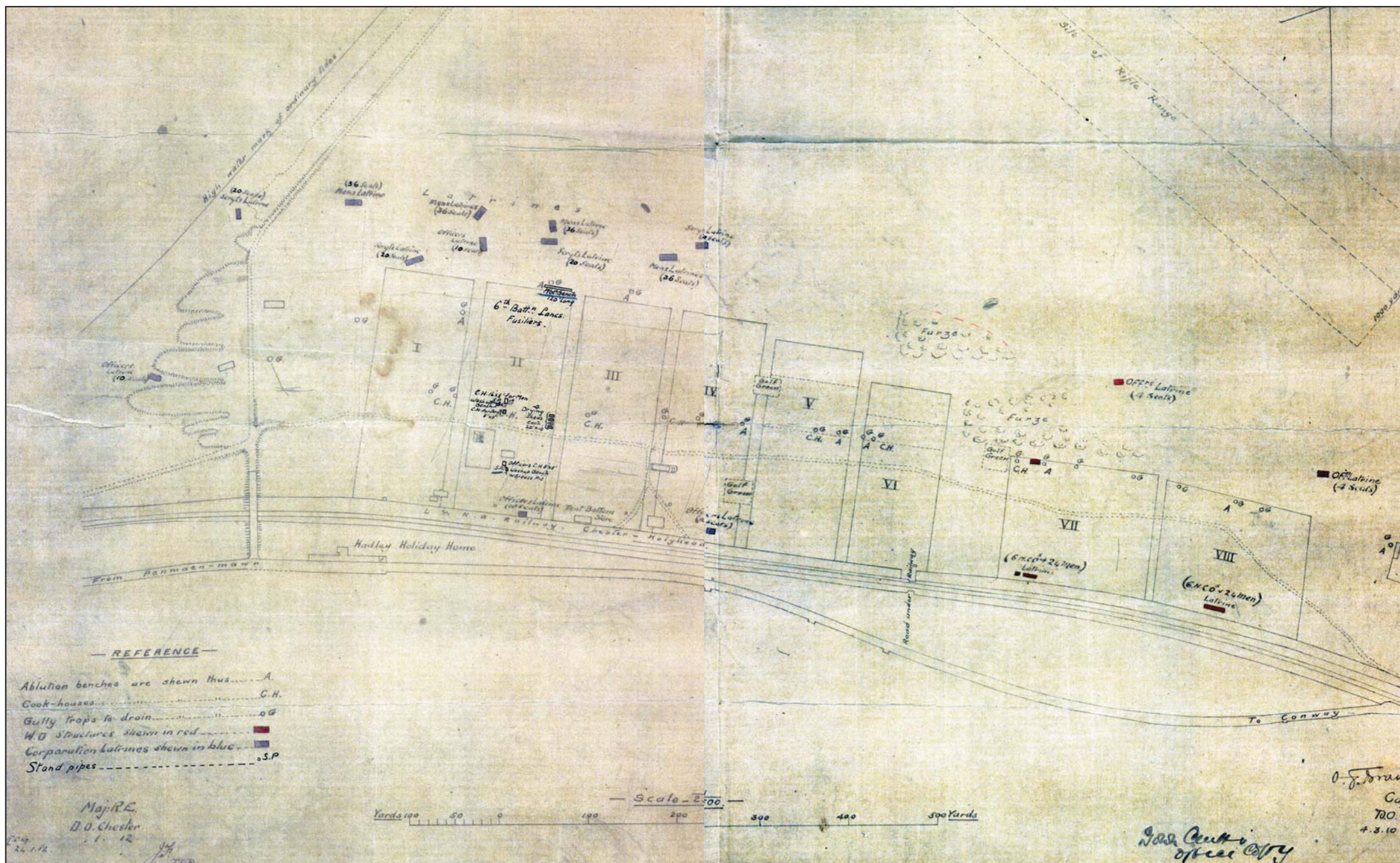


Figure 3. Plan of Conwy Morfa Camp, 1910 with additional annotations 1912 (Conwy Archives CP/Maps and Plans/23/2/287)



Figure 4. Site of Conwy Morfa Camp and Rifle Range today (© Next Perspectives. Welsh Government 2015)

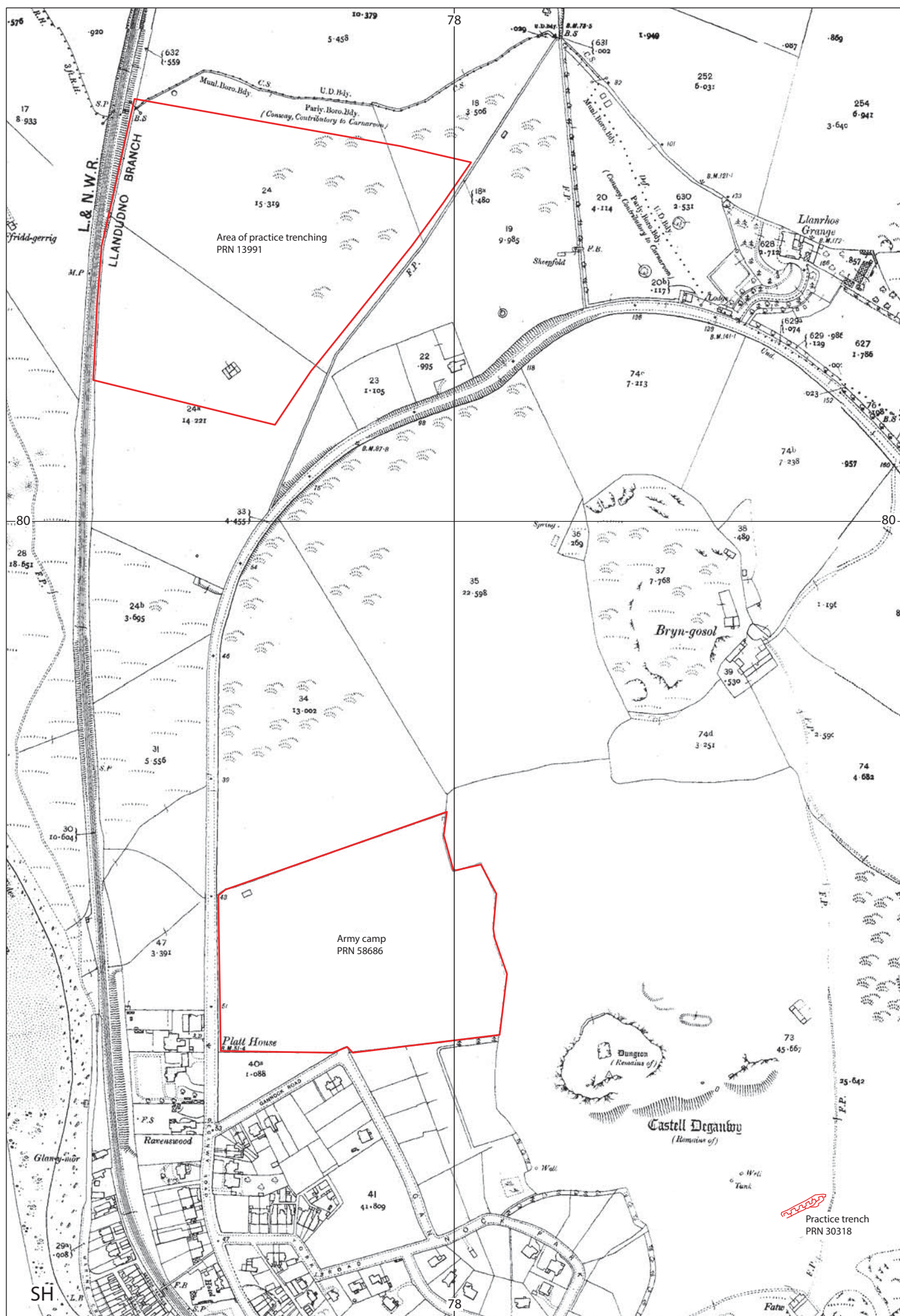


Figure 5. Location of Deganwy Camp and practice trenches shown on 1913 25 inch map (Caernarvonshire sheets IV.8 and V.5)

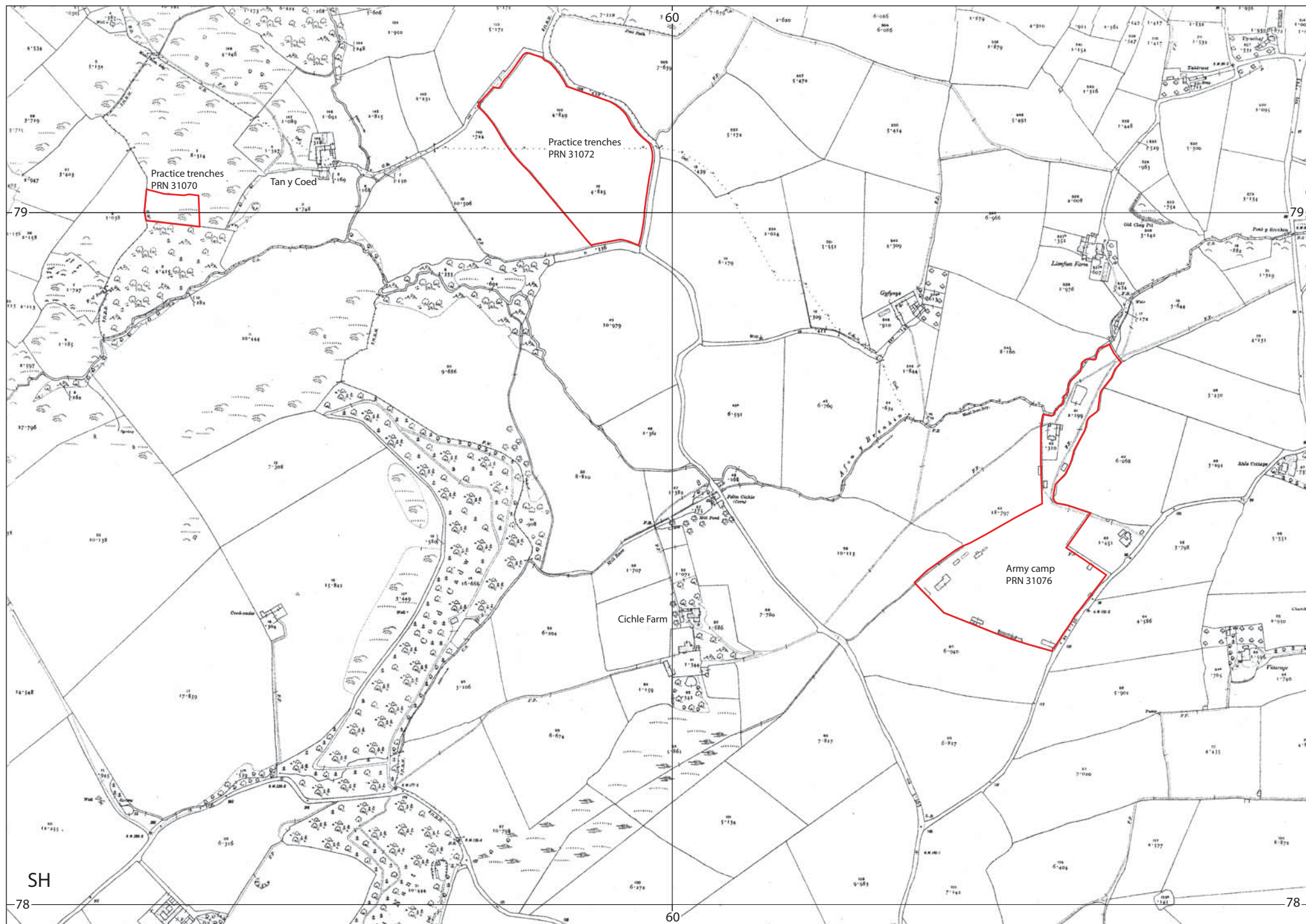


Figure 6. Location of Kingsbridge Camp and practice trenches shown on 1919 25 inch map, with some huts shown within the camp (Anglesey sheet XV.9)

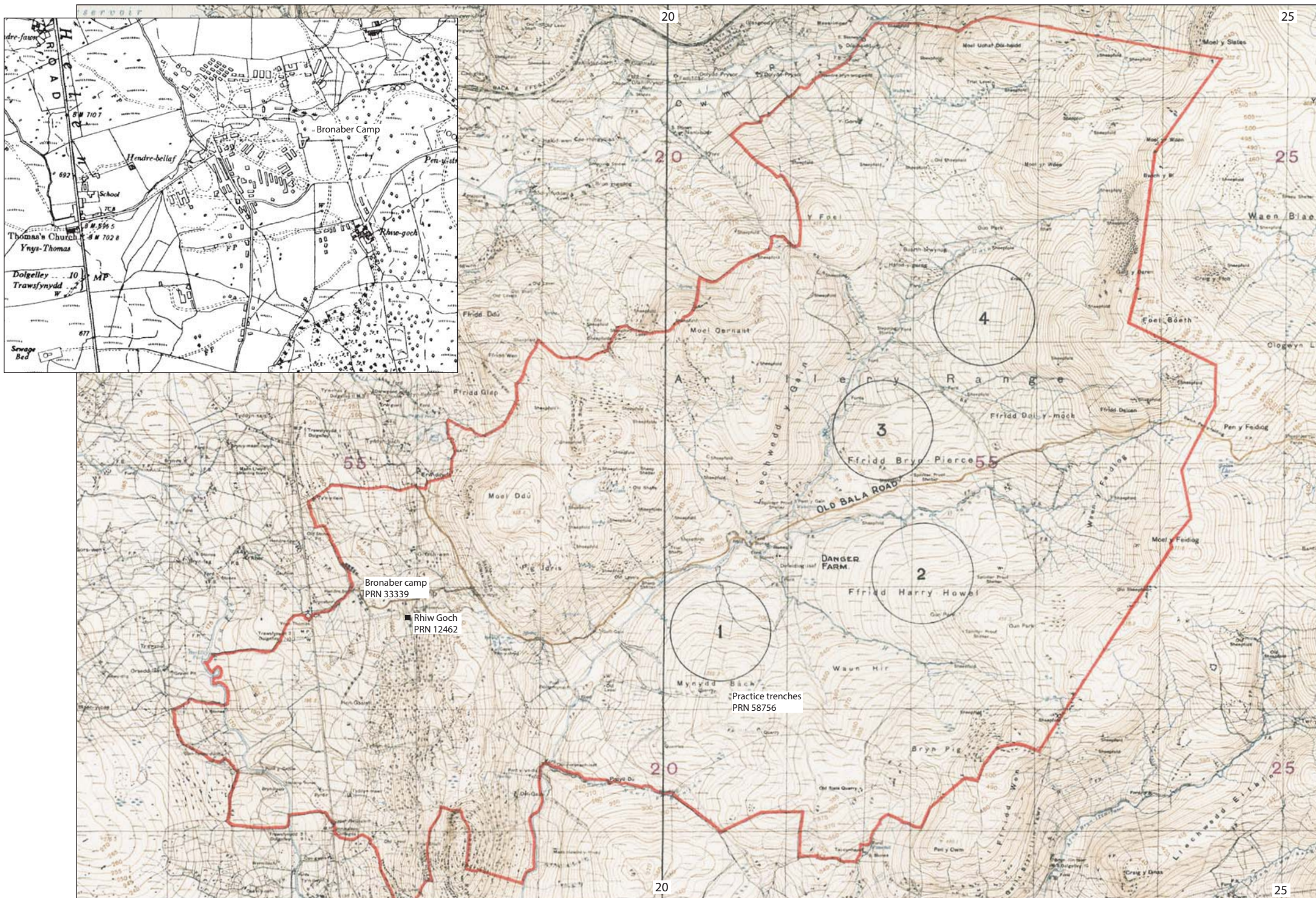


Figure 7. Limits of Bronaber Range (in red) (National Archives WO 78/4935 dated 1933) with the camp as shown on the 1953 6 inch map as inset



Figure 8. Grey scale plot of gradiometer survey of the field at Cichle Farm

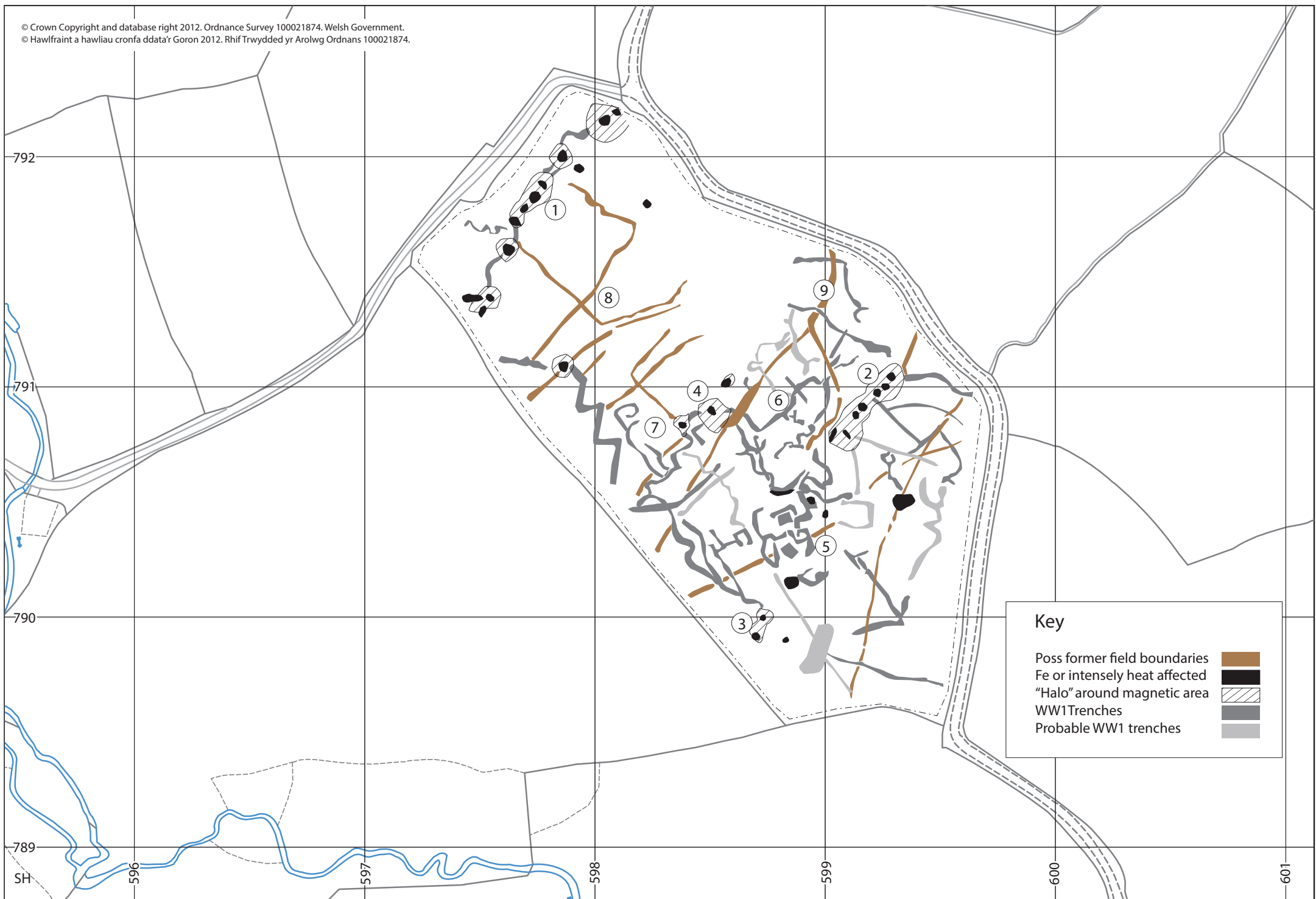


Figure 9. Interpretive plot of gradiometer survey of the field at Cichle Farm

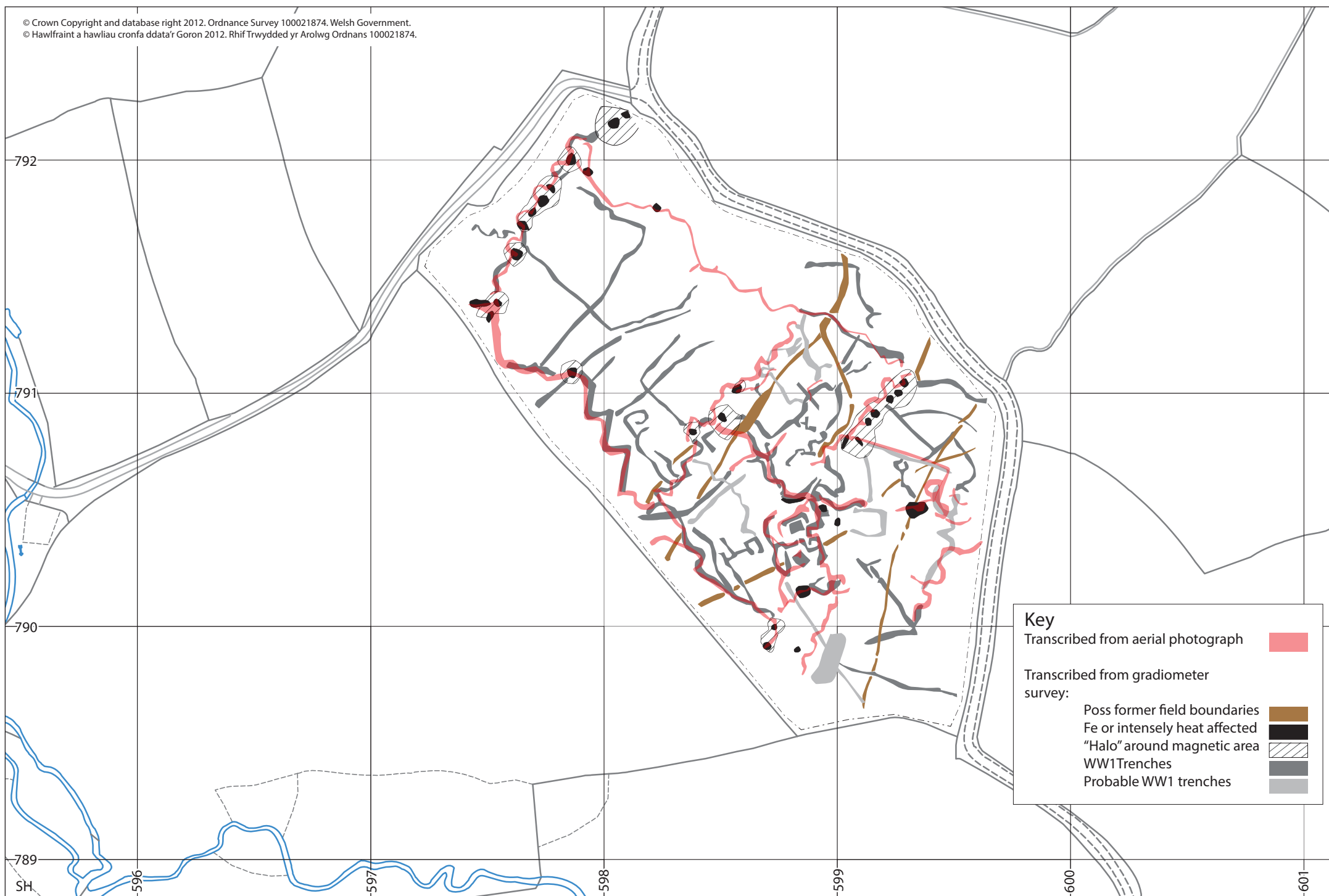


Figure 10. Interpretive plot of gradiometer survey combined with transcription of 1945 aerial photograph

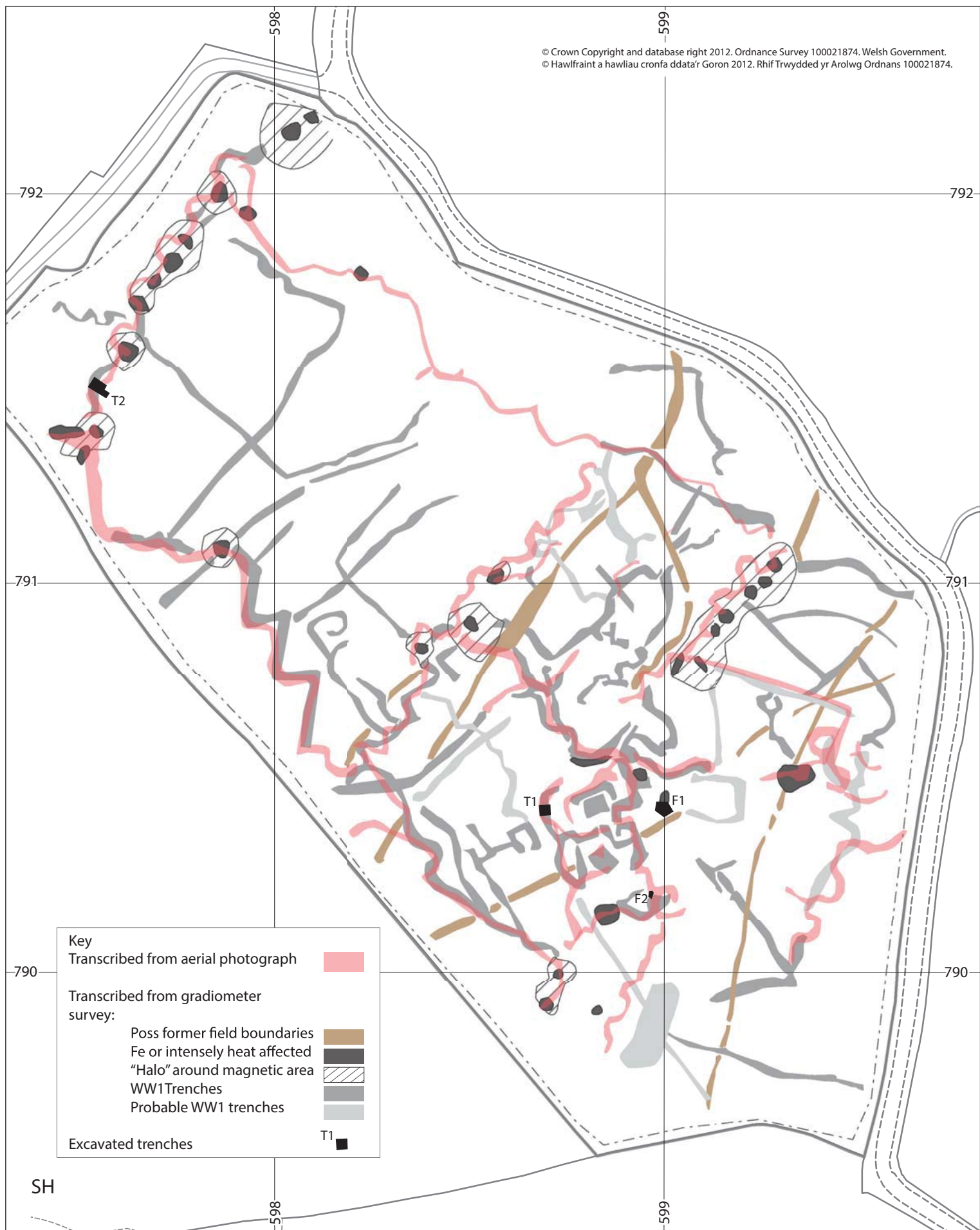


Figure 11. Location of trenches in relation to geophysics plot and aerial photograph transcription

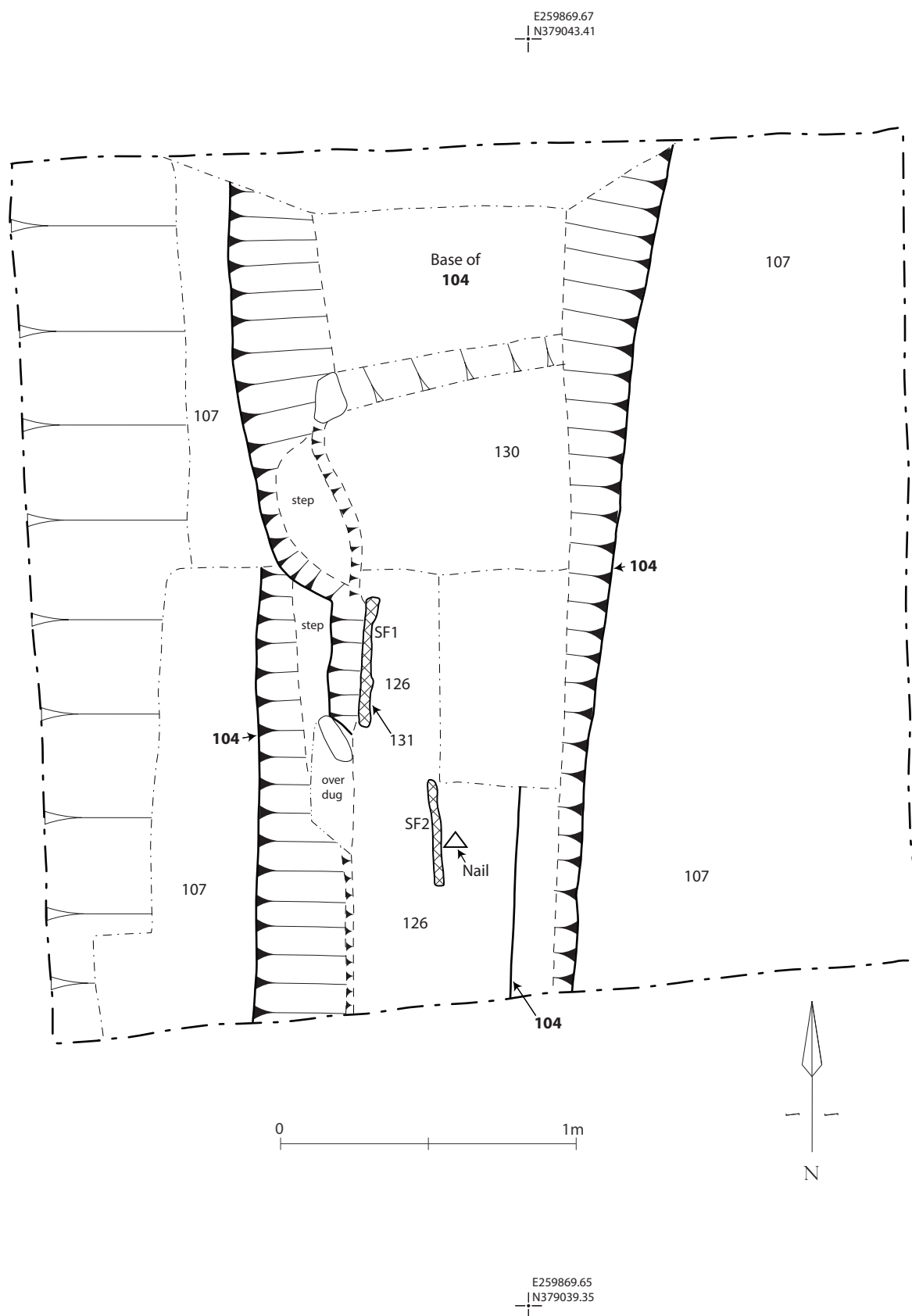


Figure 12. Plan of trench 1

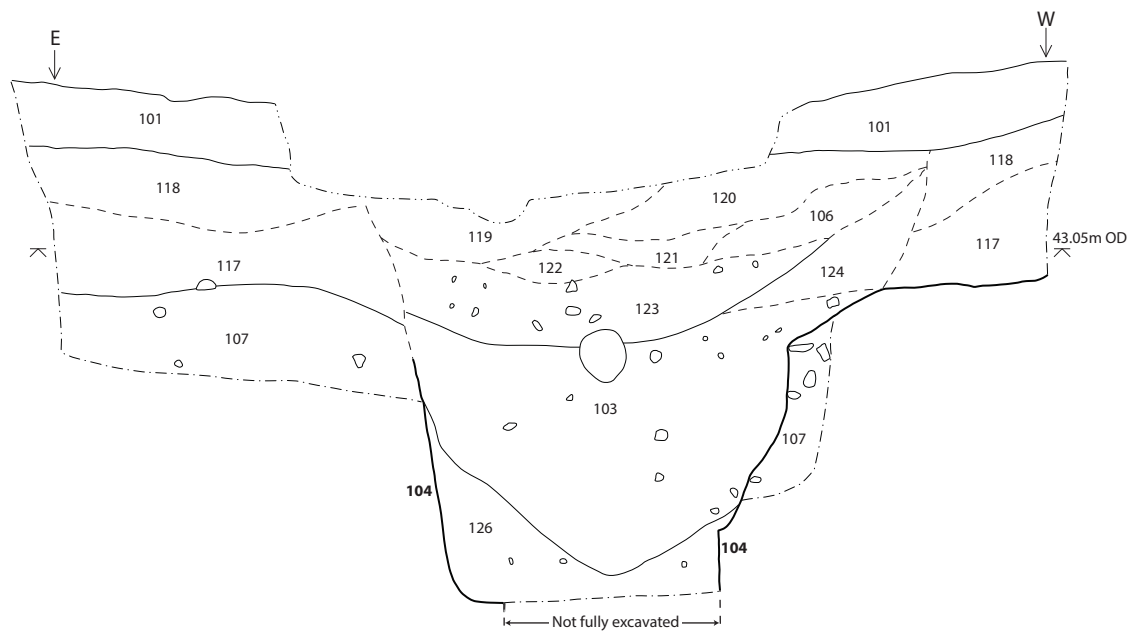


Figure 13. North facing section of trench 1

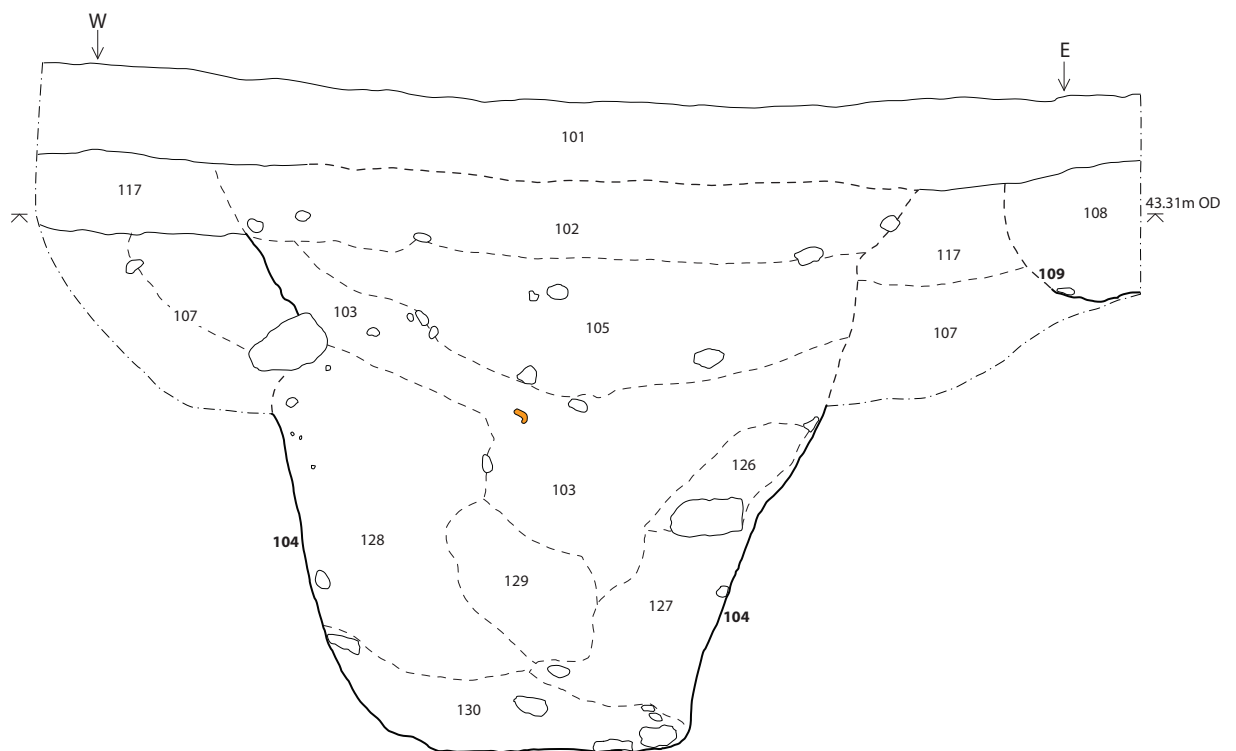


Figure 14. South facing section of trench 1

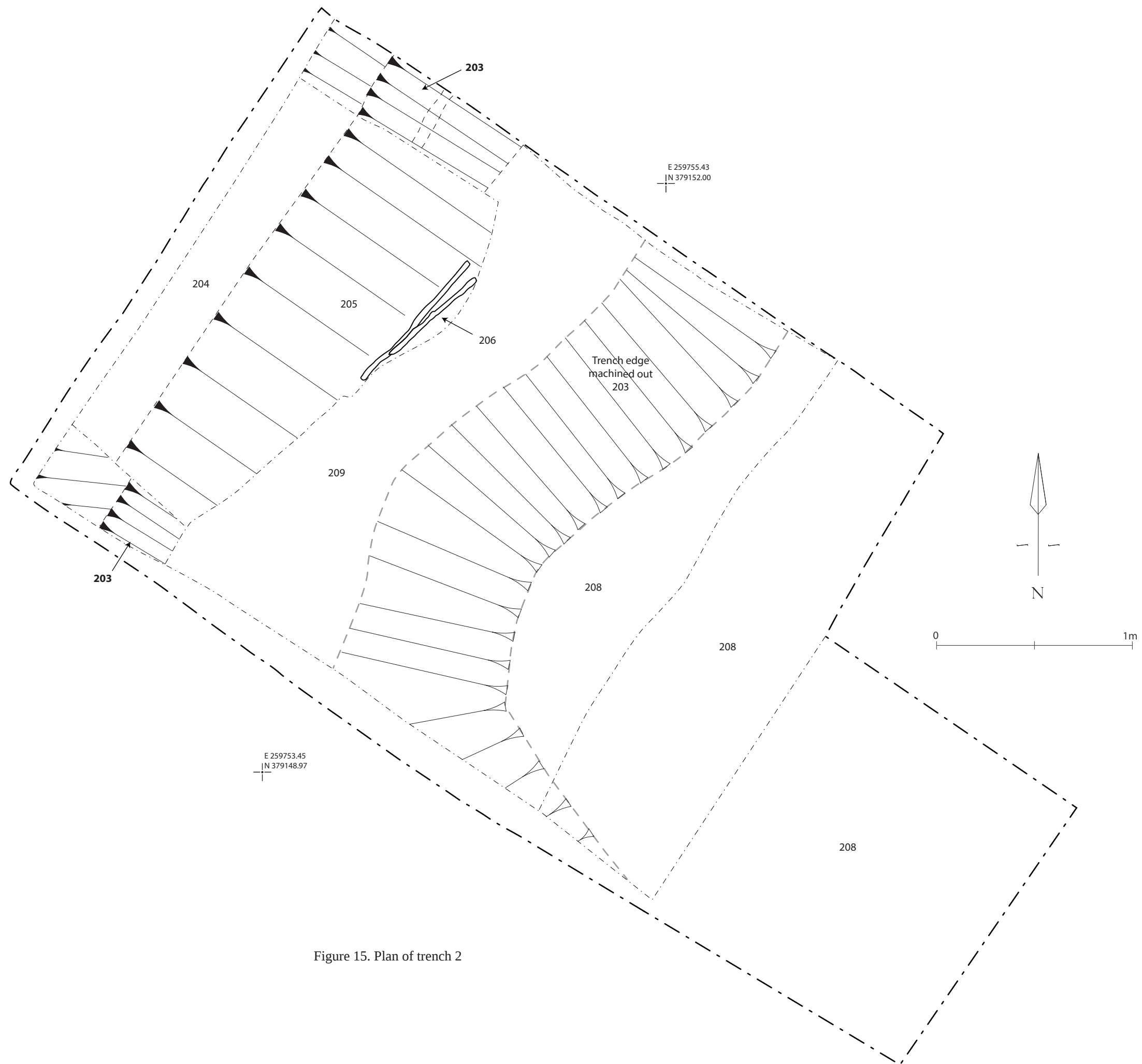


Figure 15. Plan of trench 2

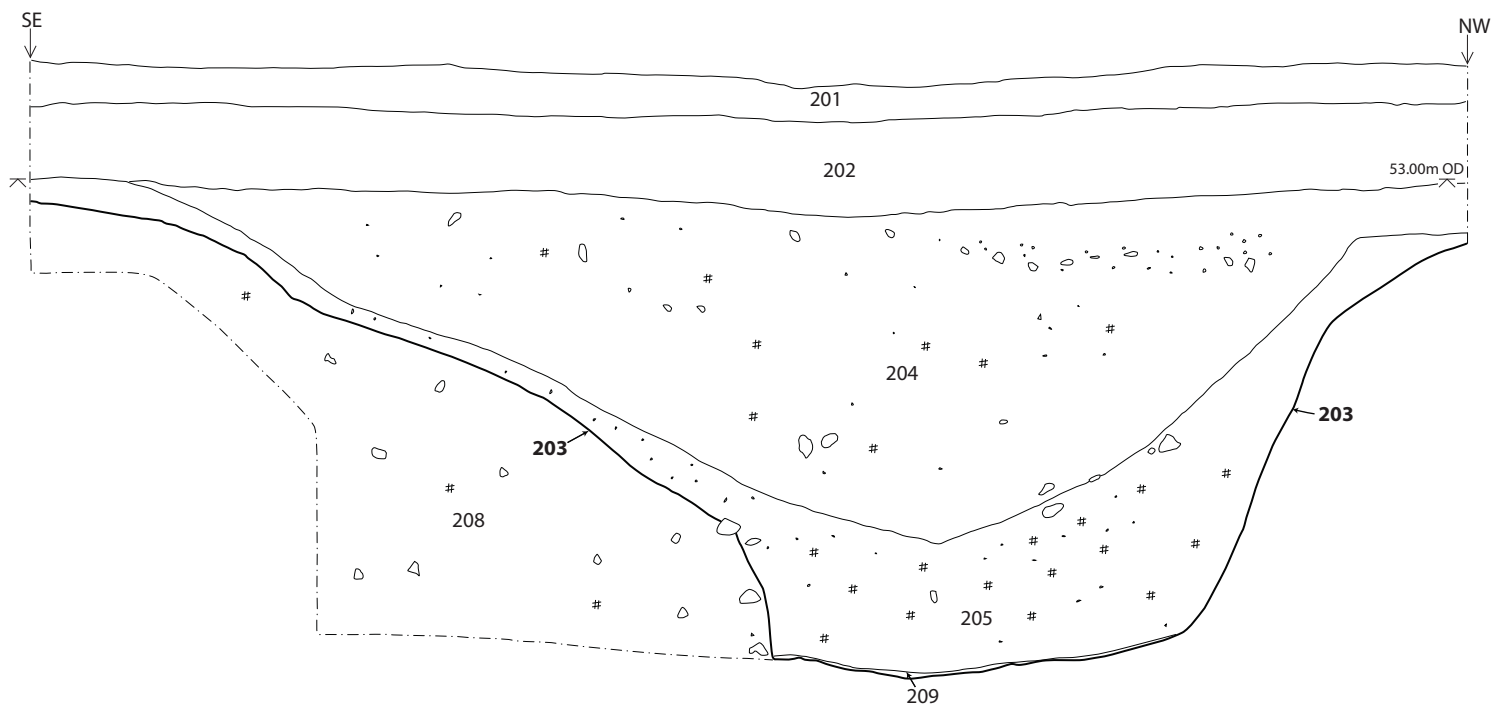


Figure 16. North-east facing section of trench 2

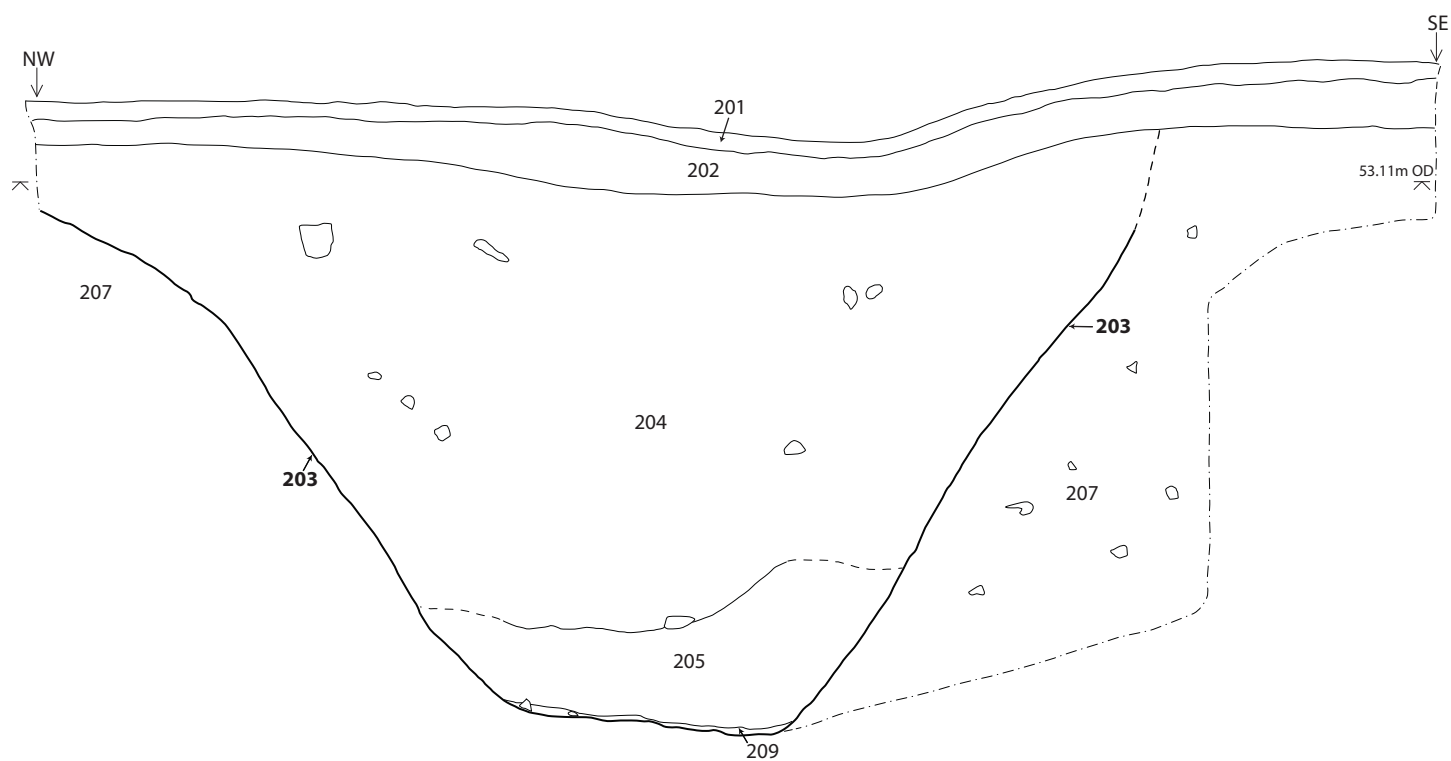


Figure 17. South-west facing section of trench 2

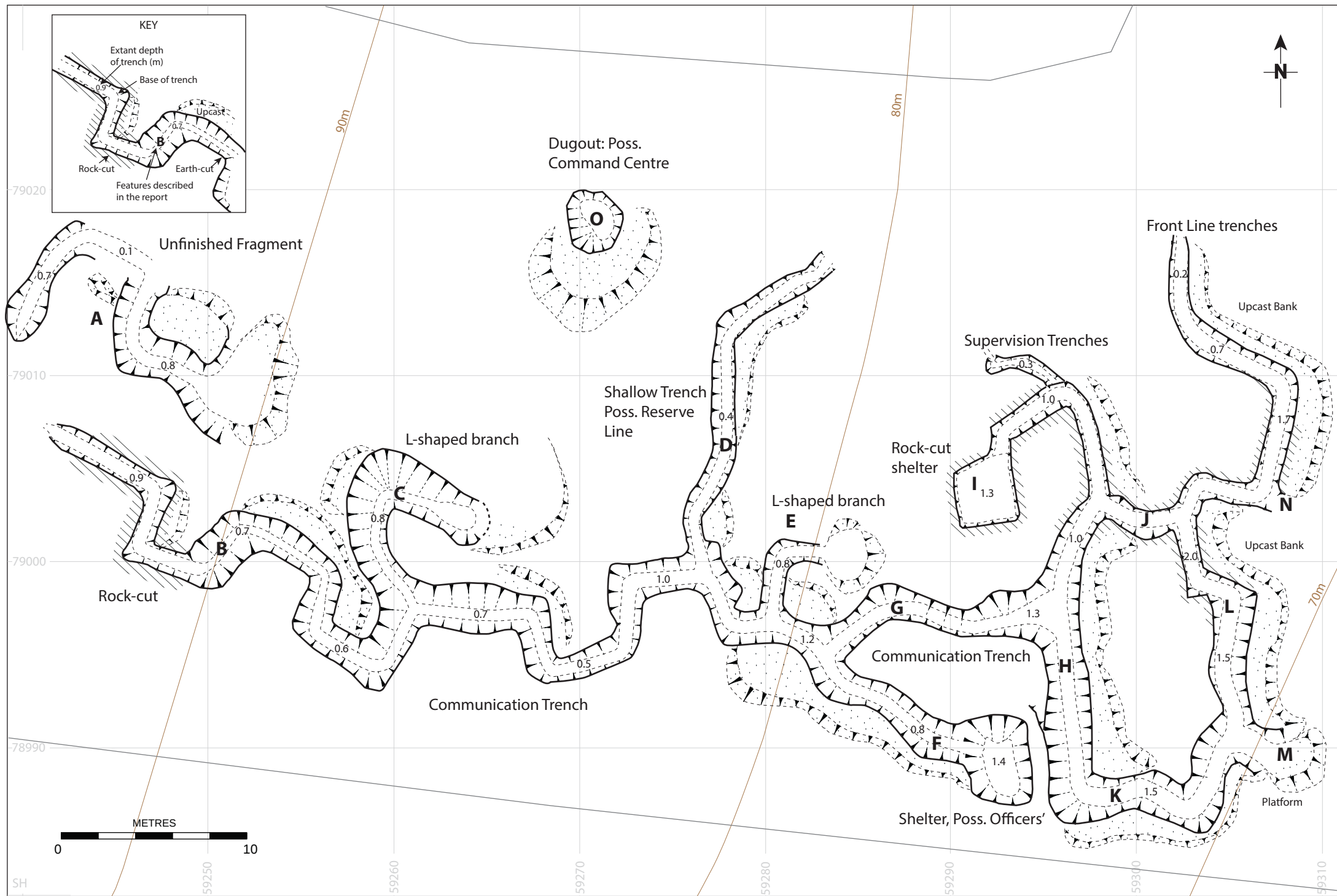


Figure 18. Survey of Tan y Coed Trenches 2015

DIAGRAMMATIC SKETCH OF PORTION OF A FRONT LINE,
WITH SUPERVISION TRENCH, LIVING DUG-OUTS AND
SHELL TRENCHES.

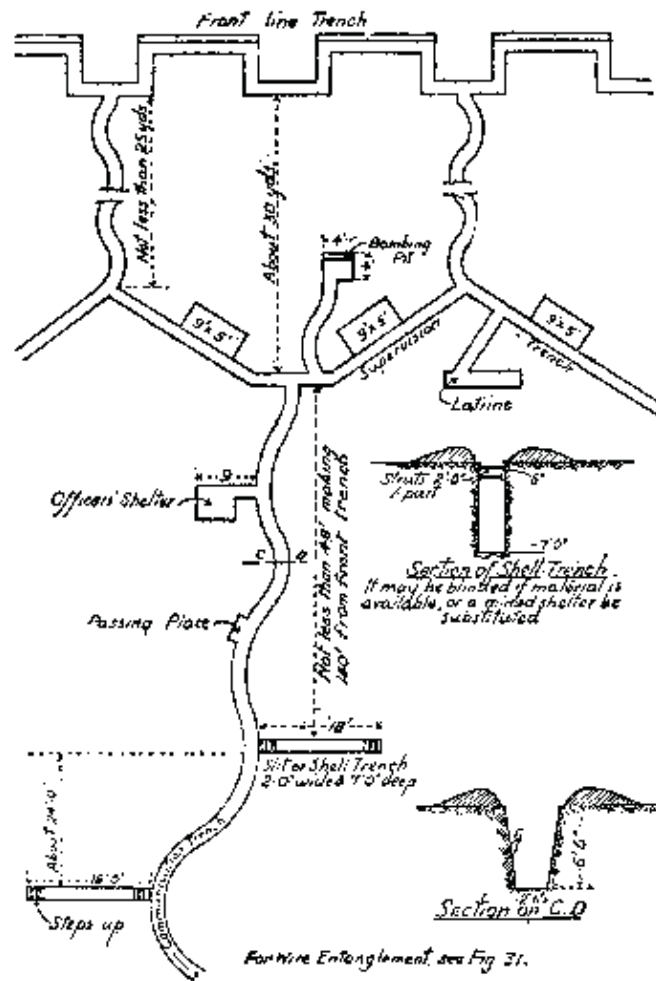


Figure 19. Diagrammatic sketch of a portion of a front line from British Trench Warfare 1917-1918

ALTERNATIVE DIAGRAMMATIC ORGANIZATION OF A FRONT LINE.

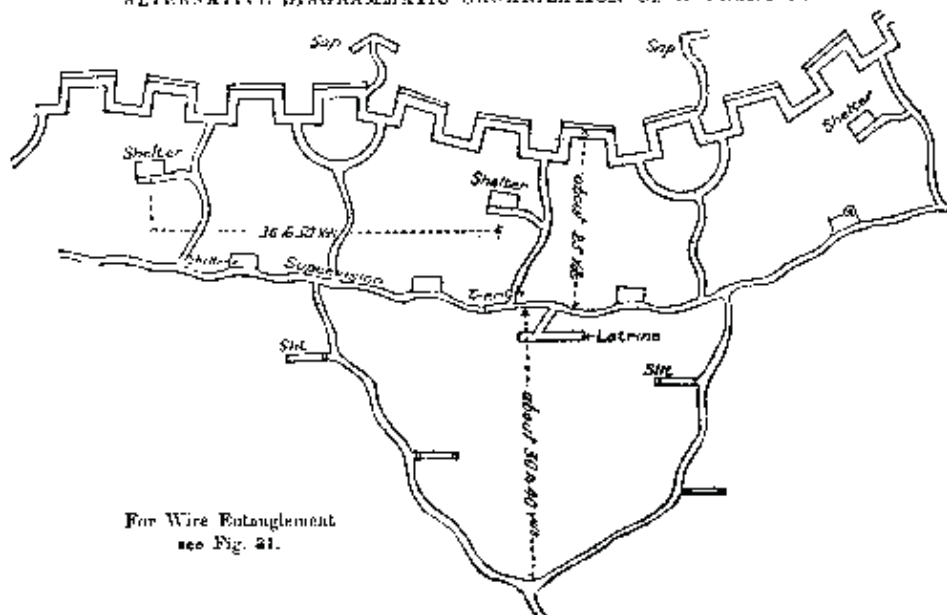


Figure 20. Alternative diagrammatic organisation of a front line from British Trench Warfare 1917-1918

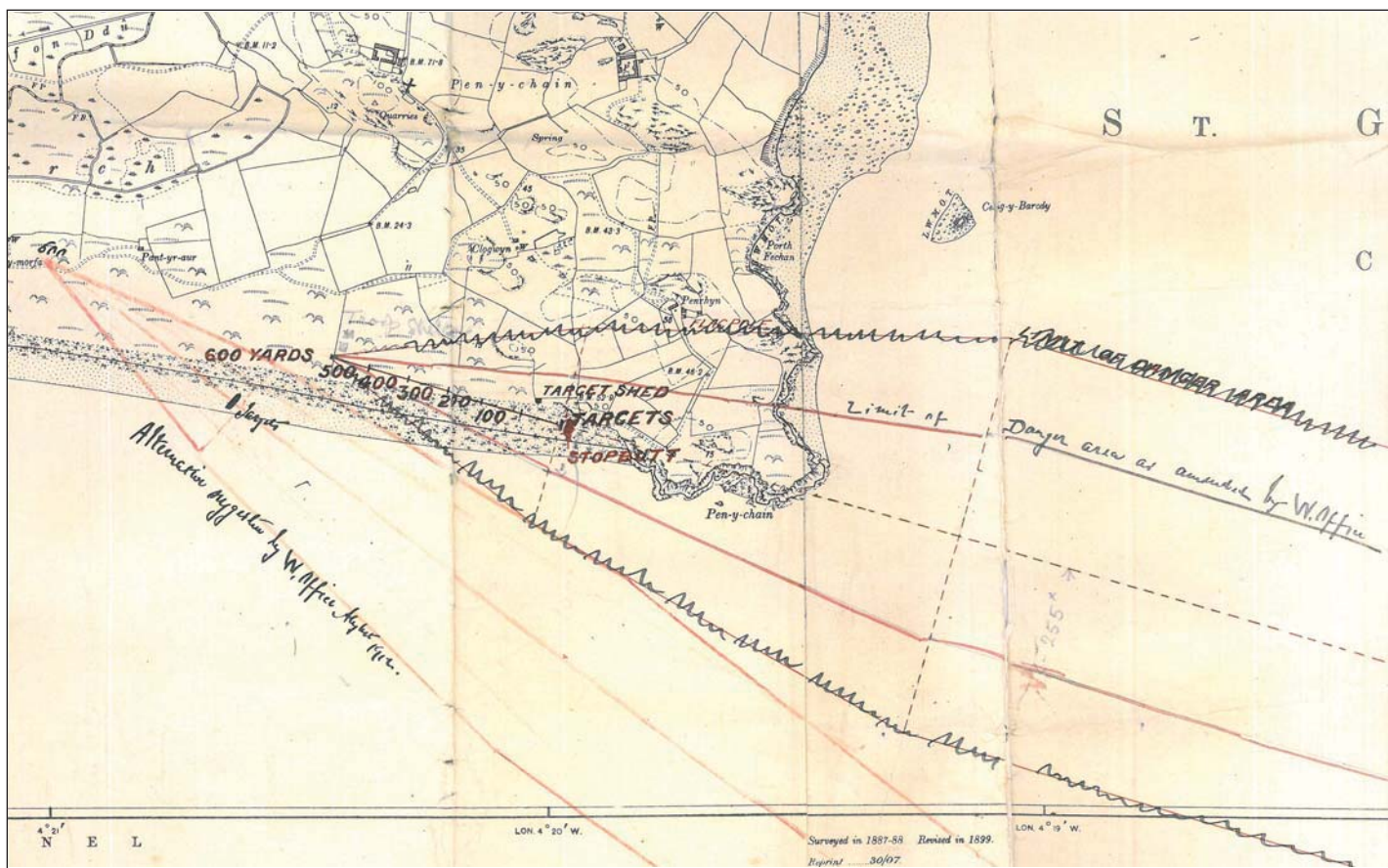


Figure 21. Plan showing proposed layout for Afonwen Rifle Range, annotations dated 23/8/1911 (Caernarfon Record Office XD35/503)



Figure 22. Plan showing proposed layout for Pant Glas Rifle Range, dated 1898 (Caernarfon Record Office XD35/201)

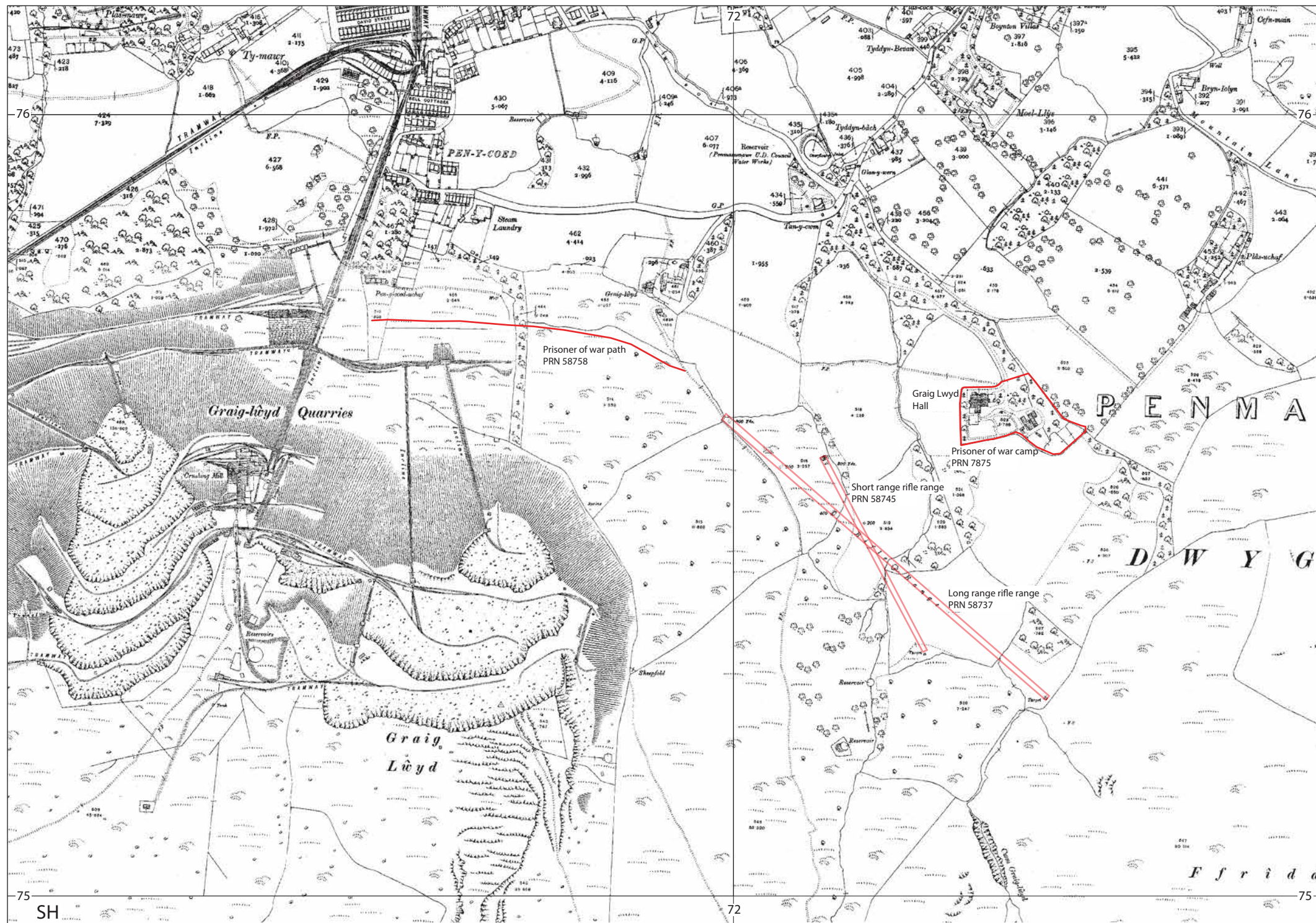


Figure 23. Location of sites at Graig Lwyd, Penmaenmawr shown on 1914 25 inch map (Caernarvonshire sheet VIII.2)

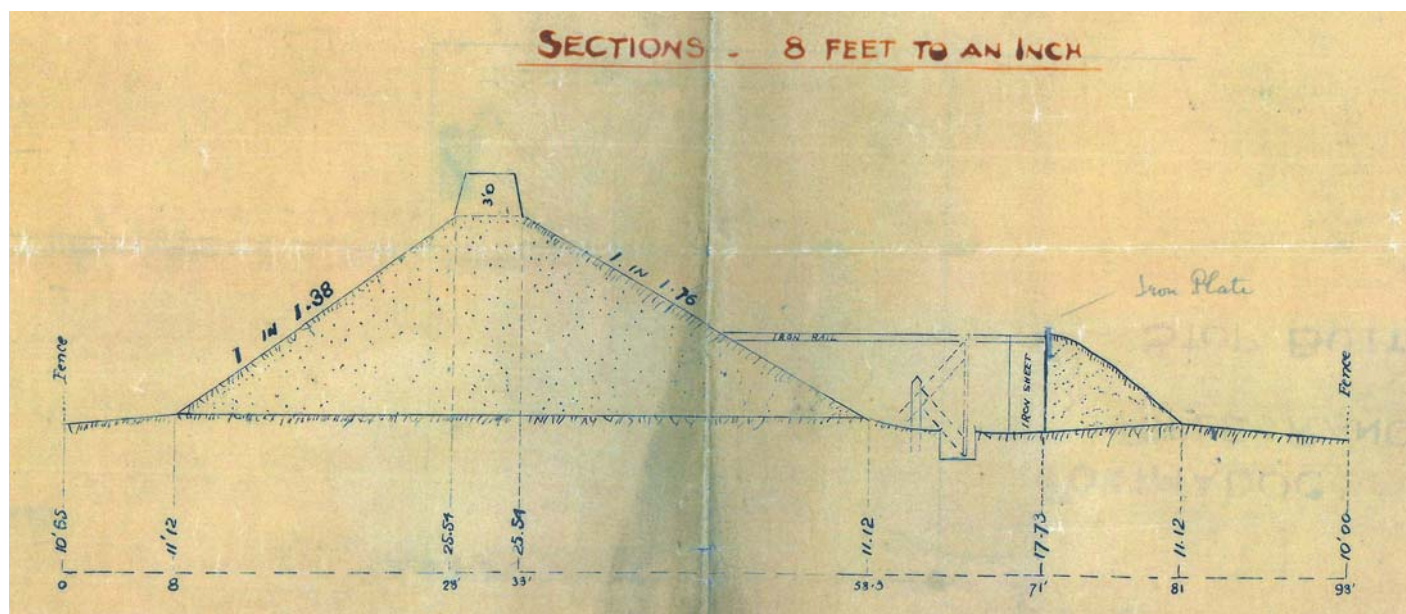
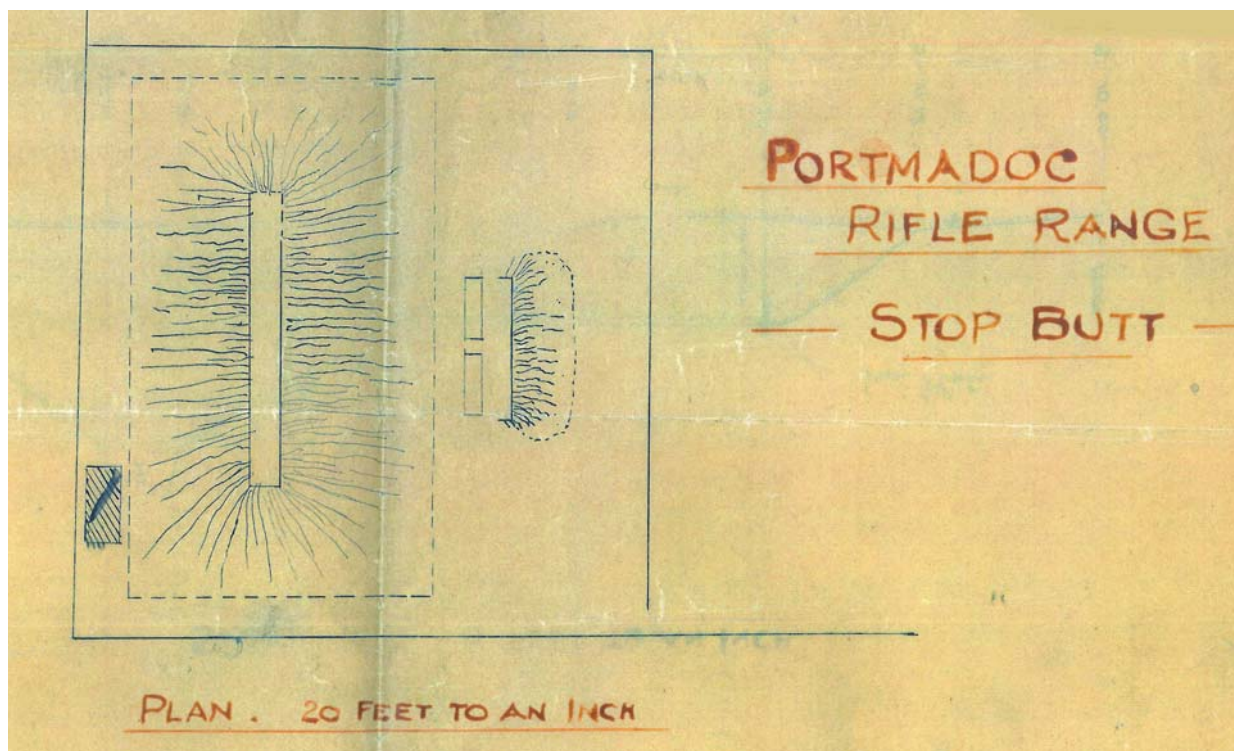


Figure 24. Plan and section of stop butt and mantlet at Porthmadog (PRN 58444)
(Caernarfon Record Office XD35/508, undated)

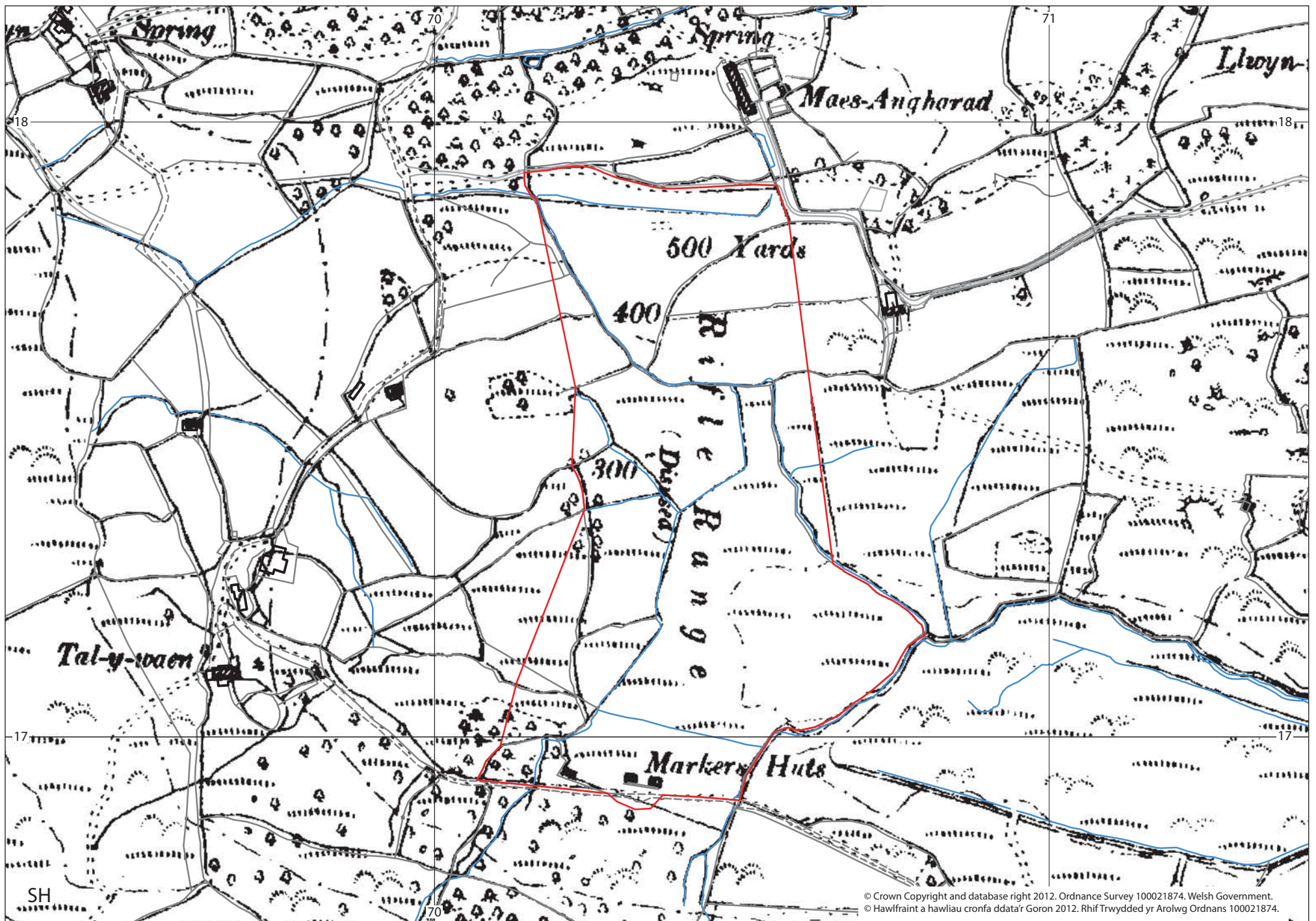


Figure 25. Location of Penmaenucha rifle range (approximate outlines in red) with modern digital mapping overlaid on 1901 6 inch map

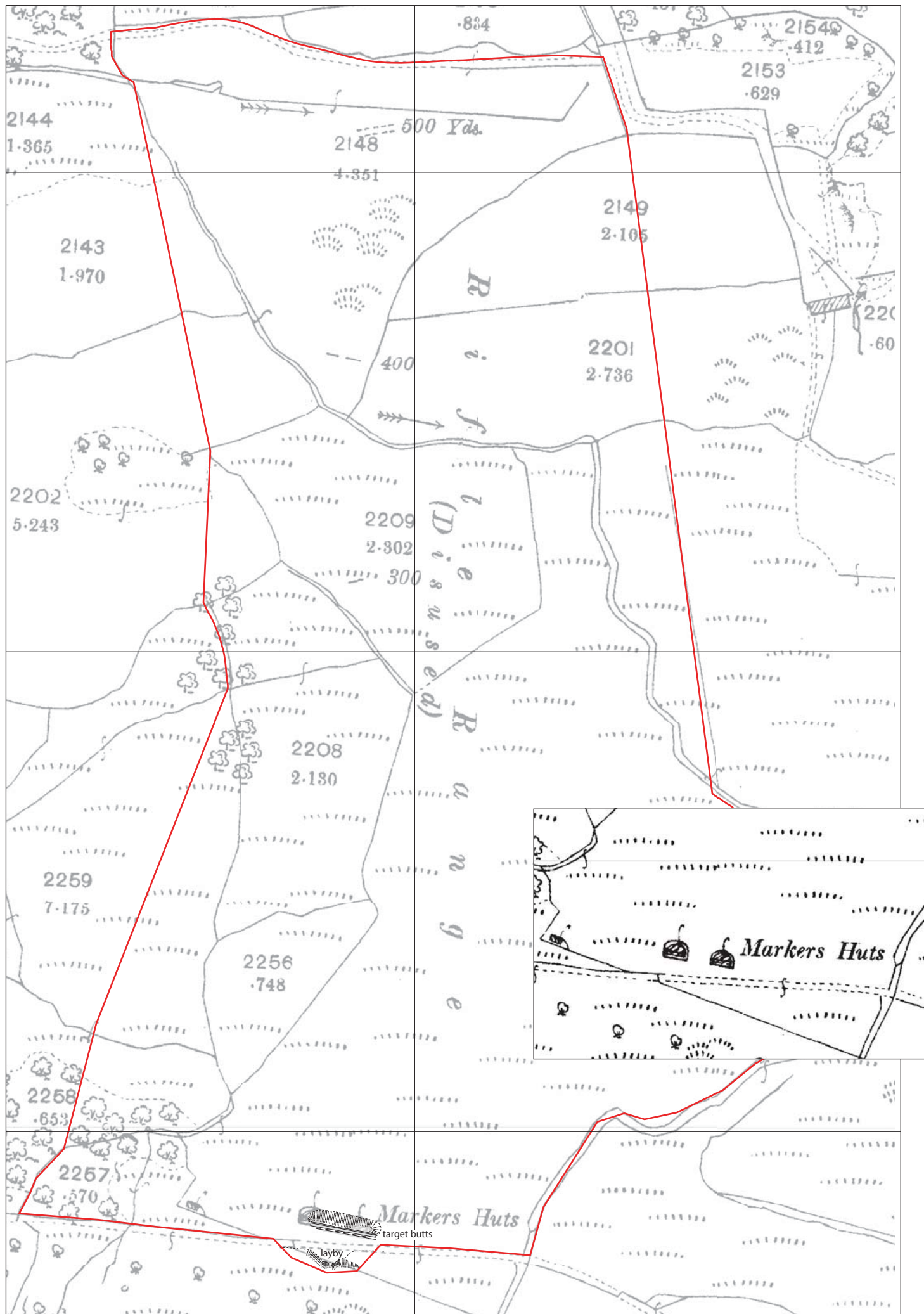


Figure 26. Rifle range shown on 1901 25 inch map (Merionethshire sheet XXXVII.02) with location of target butts and layby superimposed and inset showing marker huts

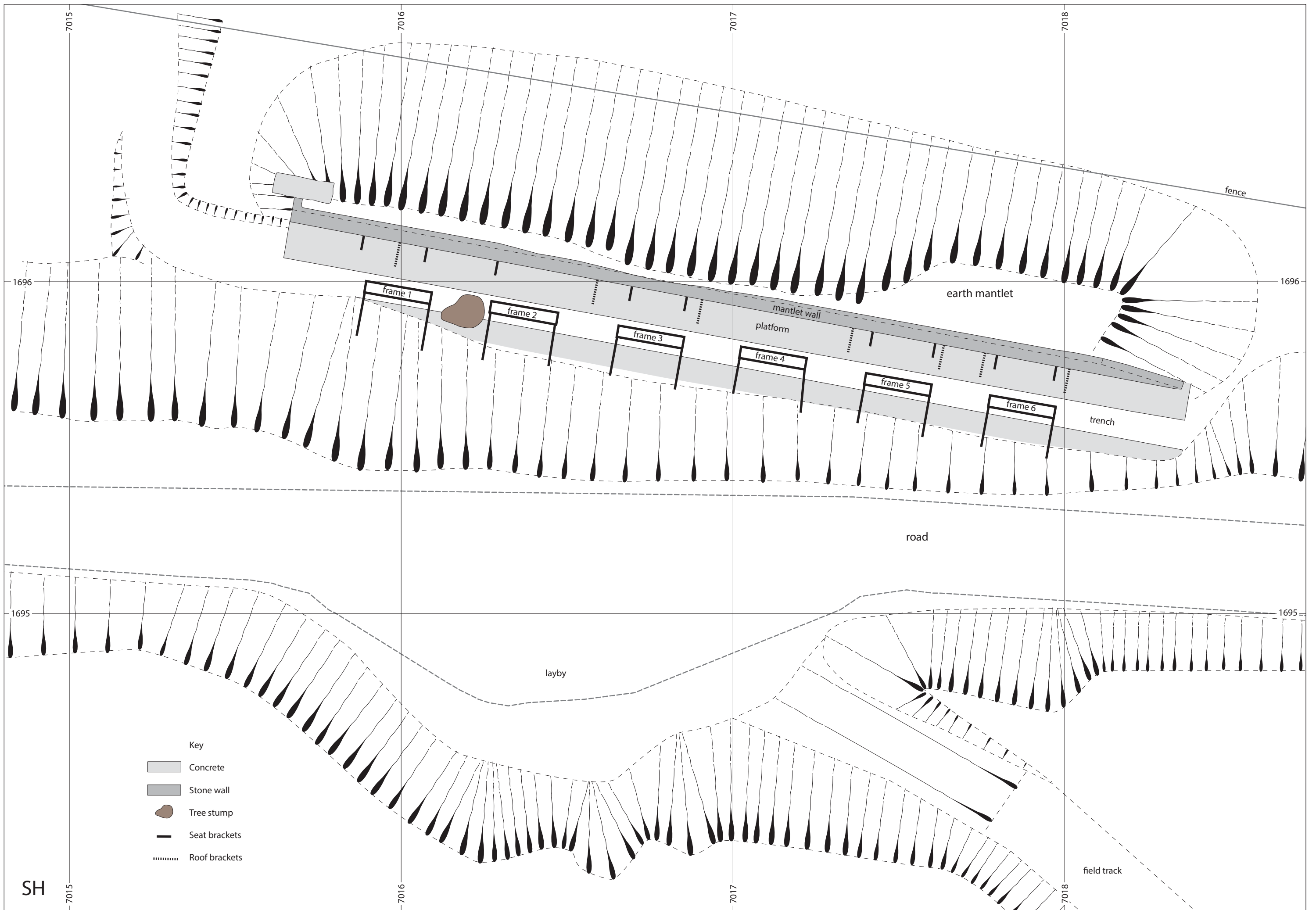


Figure 27. Detailed topographic survey of target butts (PRN 58762) on Penmaenucha rifle range (PRN 58671), partially carried out by GPS and partially by hand drawing

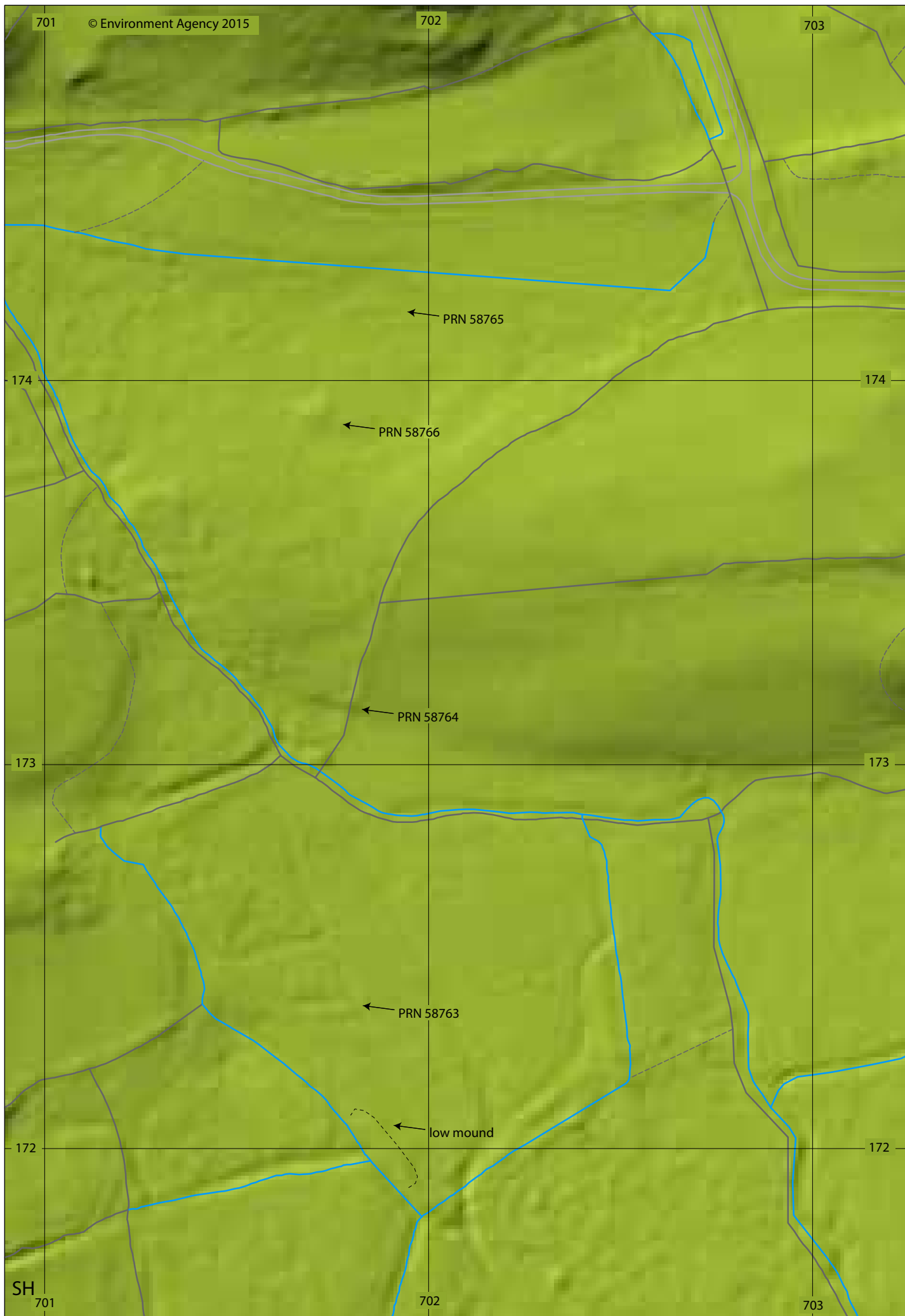


Figure 28. Terrain lidar data for northern part of the Penmaenucha rifle range (PRN 58671) showing traces of firing points

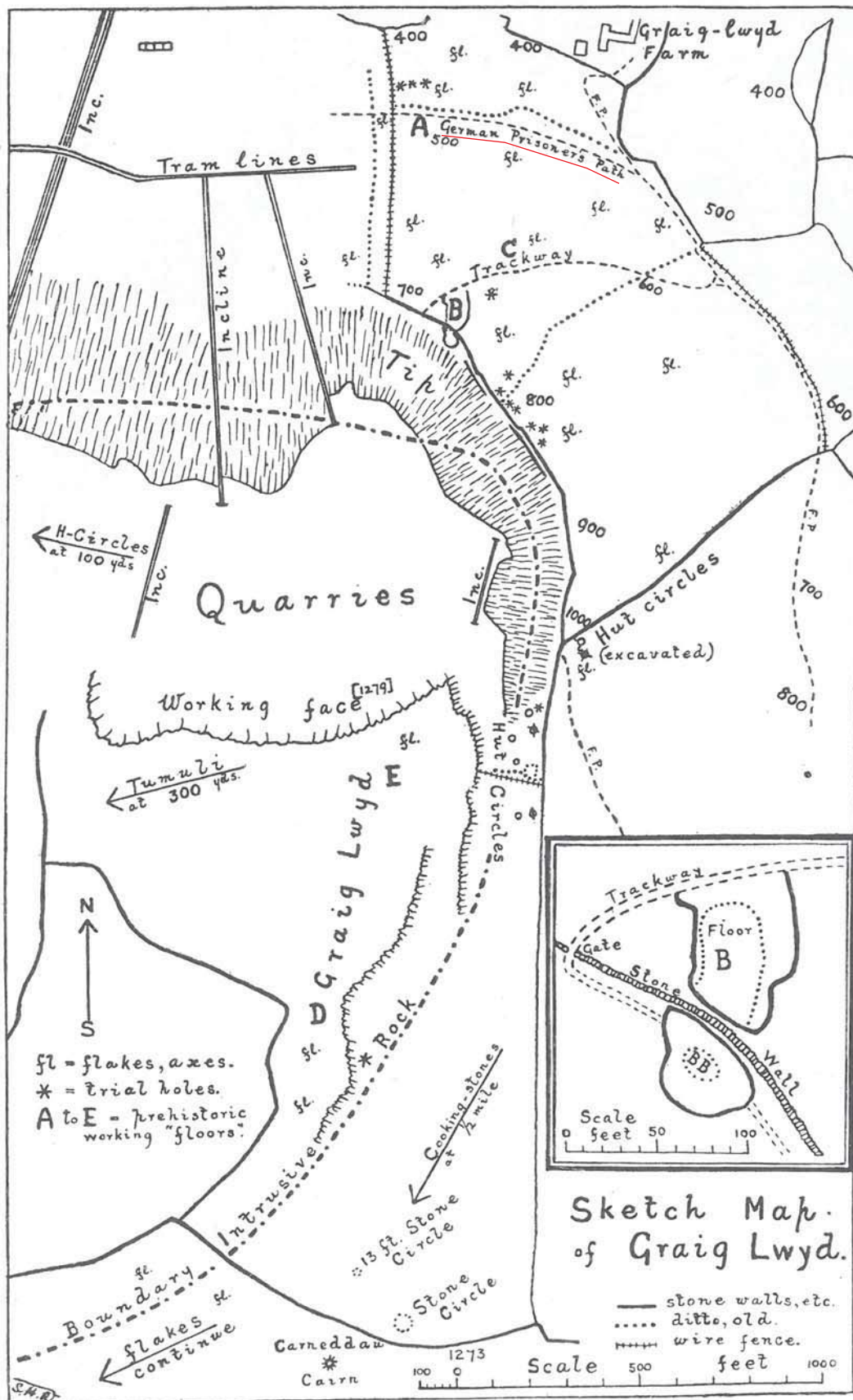


Figure 29. 1921 sketch of Graig Lwyd by Samuel Hazzledine Warren showing "German prisoner's path" (highlighted in red) (from Warren 1922, fig 1)

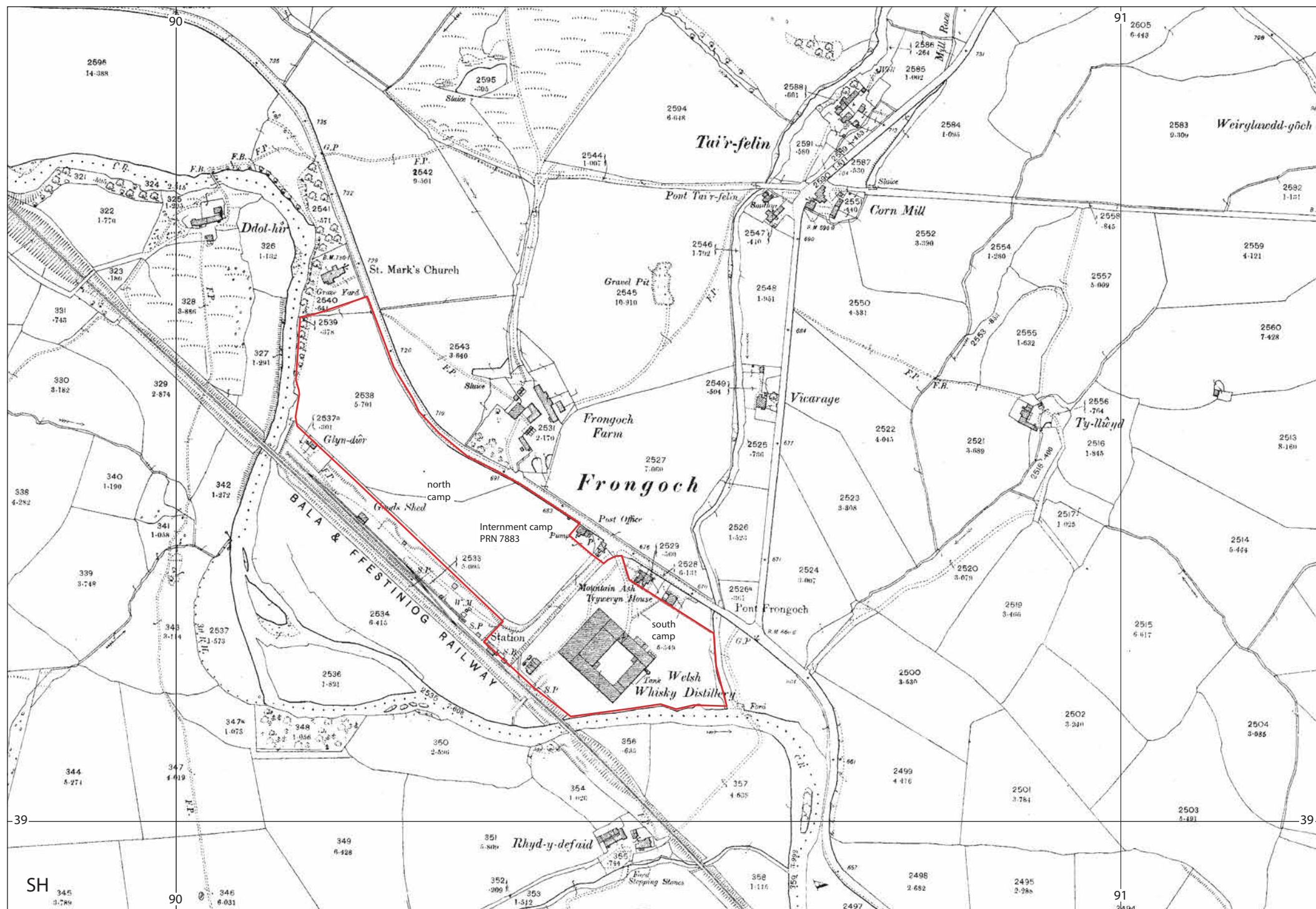


Figure 30. Location of Frongoch Camp shown on 1901 25 inch map (Merionethshire sheet XIV.10)



Plate 1. Cichle Farm trenches in 1945 (RAF 106G UK 655, frame 3042, 13th August 1945, Welsh Government copyright)



Plate 2. Volunteer Camp at Conwy Morfa, pre-WWI (Conwy Archives CP/54)



Plate 3. Camp at Conwy Morfa 1914, with Deganwy camp in background
(postcard, owned by R Evans)



Plate 4. Volunteer Camp at Conwy Morfa, pre-WWI
(Conwy Archives CP/54)



Plate 5. Postcard of Kingsbridge Camp in First World War
(Caernarfon Record Office XS1077/7/1/27)



Plate 6. A cartoon by Sapper Bernard Handley, stationed at Kingsbridge Camp, showing trench digging tools (Anglesey Archives XM 939)

Plate 7. Tented camp near Dolgellau in 1912 (postcard owned by B Flentje)

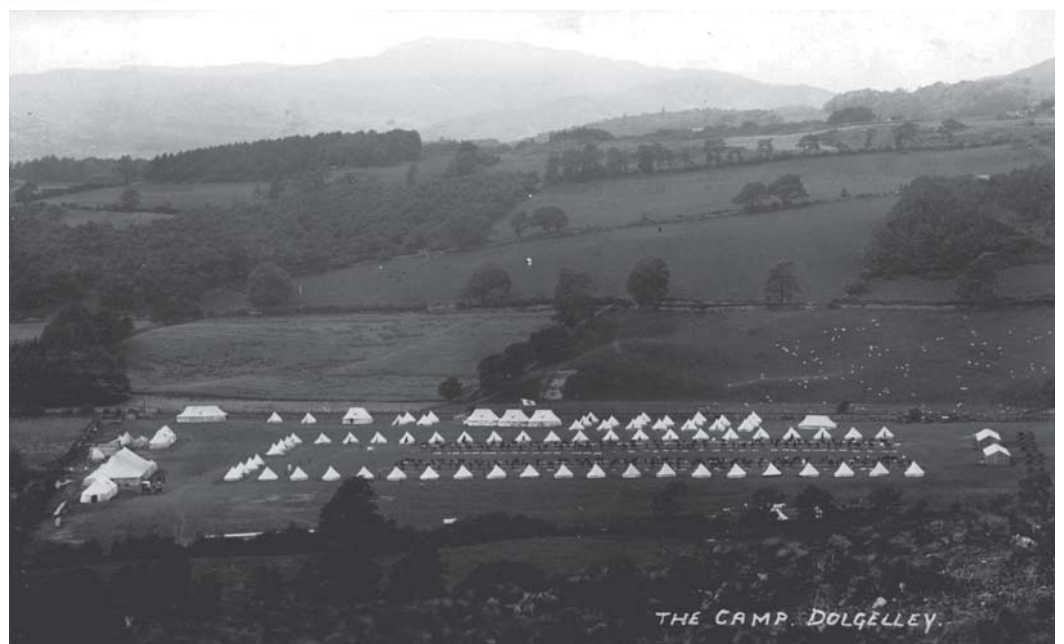
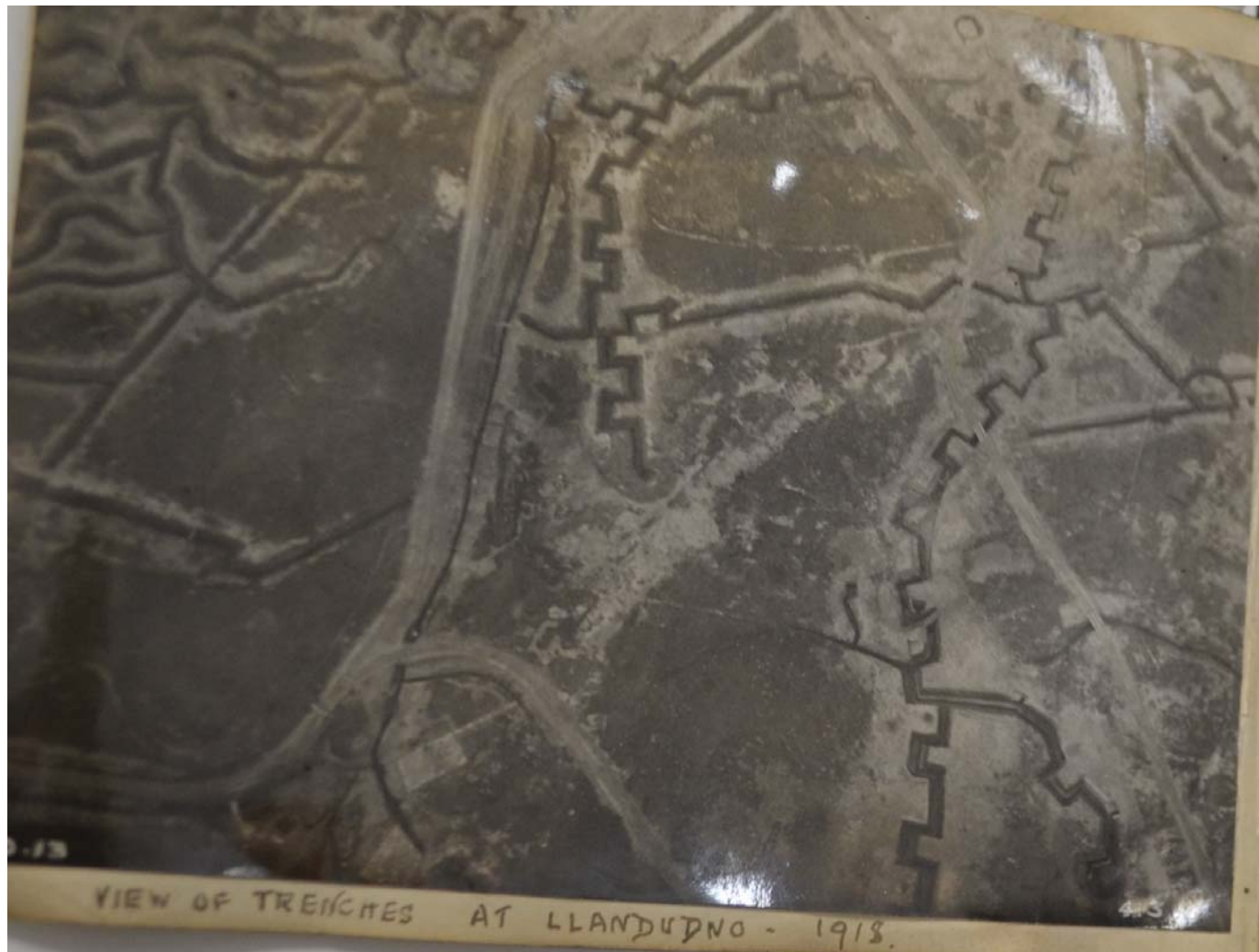


Plate 8. North Camp, Trawsfynydd (postcard owned by R Evans)



VIEW OF TRENCHES AT LLANDUDNO - 1918.

Plate 9. Aerial photograph dated 1918 of Trenches at Llandudno, presumably the Maesdu practice trenches (PRN 13991) (Anglesey Archives WM 2010/1)



Plate 10. Oblique aerial photograph of Maesdu Golf Course showing practice trenches (PRN 13991) as parch marks (2003-CS-1519 (DI2013_0901)) © Crown copyright: Royal Commission on the Ancient and Historical Monuments of Wales © Hawlfraint y Goron: Comisiwn Brenhinol Henebion Cymru



Plate 11. Small practice trench (PRN 30318) on the Vardre, Deganwy

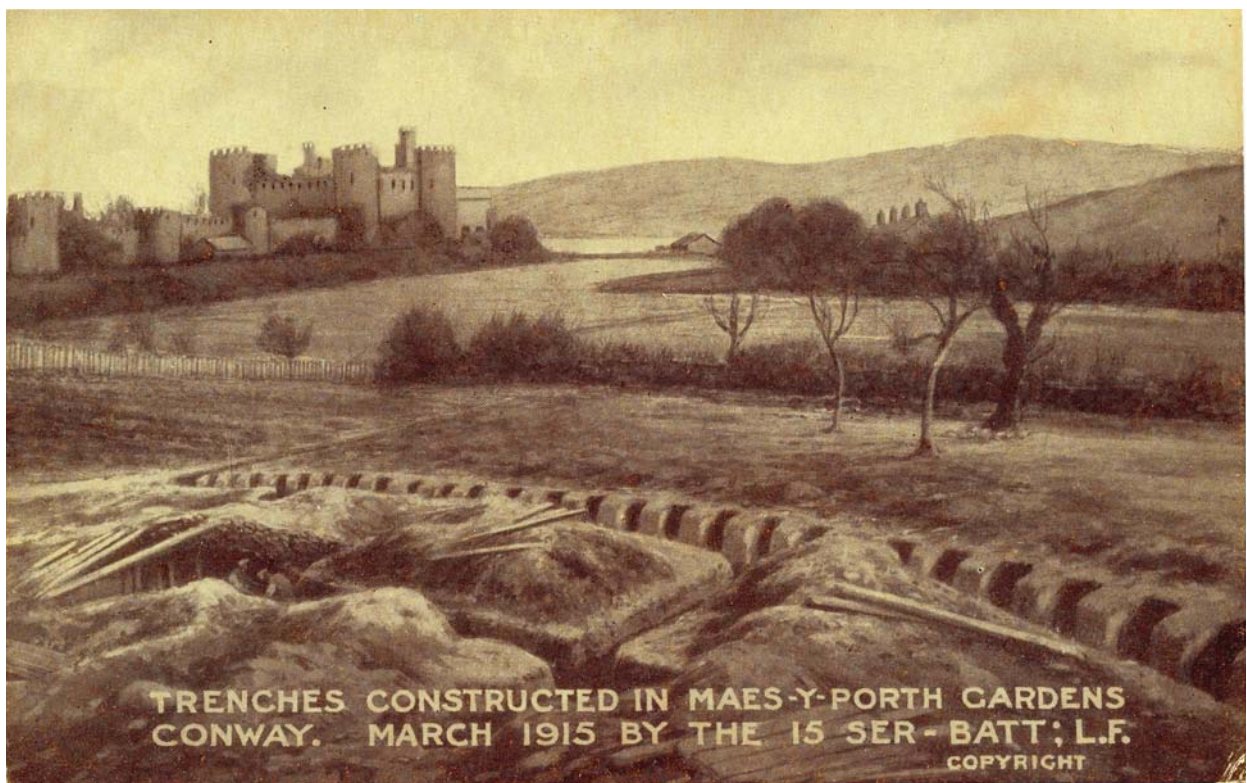


Plate 12. Postcard of practice trenches at Maes y Porth Gardens, Conwy 1915 (copy provided by David Mortimer-Jones)



Plate 13. Aerial photograph of zig-zag trench, probably a practice trench (PRN 58727) on Penrhosfeilw Common (AP_2005_0262) © Crown copyright: Royal Commission on the Ancient and Historical Monuments of Wales © Hawlfraint y Goron: Comisiwn Brenhinol Henebion Cymru

Plate 14. Practice trenches at Barmouth (PRN 34158) on 1941 aerial photograph (RAF Medenham M2963, sortie S/439, frame C41 46, date 24/08/1941), Welsh Government copyright



Plate 15. Volunteers recording trench 2 at Cichle Farm



Plate 16. Trench 1 from south



Plate 17. South facing section of trench 1



Plate 18. North facing section of trench 1



Plate 19. South-west facing section of trench 2 with some boulder clay (208) machined out



Plate 20. North-east facing section of trench 2 as originally excavated showing south-eastern side turning



Plate 21. North-east facing section of trench 2 with some boulder clay (208) machined out



Plate 22. Pieces of wood in trench 1



Plate 23. Possible wattle in trench 2



Plate 24. Rock-cut trench at the western end of Tan y Coed trench system



Plate 25. Shallow reserve trench, Tan y Coed



Plate 26. Rock-cut shelter, supervision trench-line, Tan y Coed



Plate 27. Earth-cut and rock-cut front-line trench at Tan y Coed

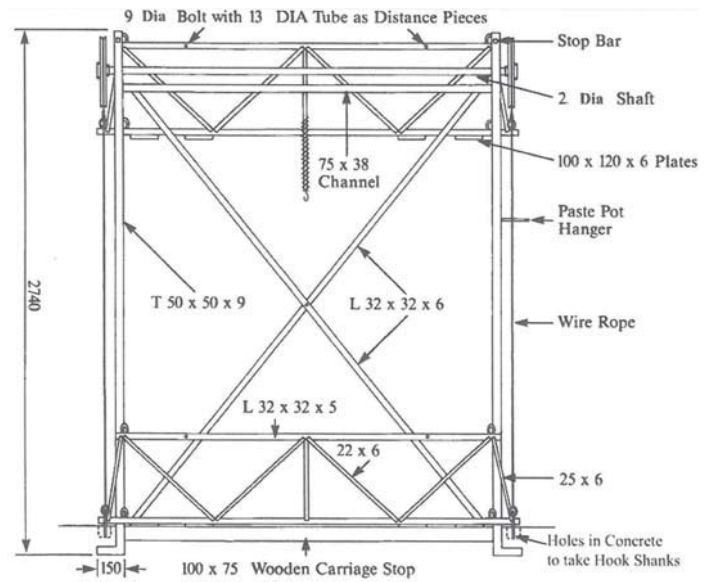


Plate 28. Left: Hythe pattern target frame at Penmaenucha rifle range (PRN 58671), right: elevation of Hythe pattern target frame (from Ministry of Defence, 2011, chapter 15, p21)

Plate 29. Stone mantlet and view down rifle range at Cwm Dwythwch (PRN 58746) (photograph by Bill Flentje 2008)



Plate 30. Iron mantlet made of reused iron targets at Pant Glas rifle range (PRN 9927) (photograph by Bill Flentje 2005)



Plate 31. Iron mantlet/marker's hut at Pant Glas (PRN 9927)
(photograph by Bill Flentje 2005)



Plate 32. Iron mantlet at Yr Aelgerth, Llanberis (PRN 58747)
(photograph by Bill Flentje 2008)



Plate 33. Long range target butts at Graig
Lwyd, Penmaenmawr (PRN 58737)
(photograph by Bill Flentje 2005)



Plate 34. Short range target butts at Graig Lwyd, Penmaenmawr (PRN 58745)
(photograph by Bill Flentje 2005)



Plate 35. Site of targets at Graig Lwyd, Penmaenmawr in November 2014 (PRN 58737, 58745)



Plate 36. 600 yard firing point (PRN 58749)
at Graig Lwyd, Penmaenmawr



Plate 37. Magazine and troop shelter in 400 yard firing point (PRN 56324) at Graig Lwyd, Penmaenmawr

Plate 38. Backstop and mantlet (PRN 31519) on Afonwen/Penychain rifle range (PRN 58755)



Plate 39. Back-stop and mantlet at Aber (PRN 58731) (photograph by Bill Flentje 2005)



Plate 40. View along line of rifle range at Cemaes Bay (PRN 58740)
(photograph by Bill Flentje 2005)



Plate 41. Volunteers helping to clear vegetation from the Penmaenucha Rifle Range target butts (PRN 58762) before recording



Plate 42. Target butts (PRN 58762) of Penmaenucha Rifle Range (PRN 58671) next to minor road



Plate 43. Combined elevation of mantlet wall



Plate 44. Western end of mantlet wall



Plate 45. Eastern end of mantlet wall



Plate 46. Communication alcove in mantlet wall



Plate 47. brackets for protective roofing and for seats for the markers



Plate 48. Paste pot hanger on side of target frame with detail of curled end



Frame 1



Frame 2



Frame 3



Frame 4



Frame 5



Frame 6



Plate 50. Trilingual plaque by the roadside next to the site of Frongoch Internment Camp



Plate 51. Collapsed hut (PRN 58739) formerly used by Women's Insititute and listed as part of Frongoch Camp



Llywodraeth Cymru
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Gwynedd Archaeological Trust
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Craig Beuno, Ffordd y Garth, Bangor, Gwynedd. LL57 2RT
Ffon: 01248 352535. Ffacs: 01248 370925. email: gat@heneb.co.uk

