



Barry Buddon First World War Training Trenches

Archaeological Evaluation: Data Structure Report



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Summary

Wessex Archaeology (WA) was commissioned by Landmarc Support Services Ltd to carry out a programme of archaeological trenching on land at the Barry Buddon Training Centre, Angus. The archaeological trenches targeted sections of a trench network surviving as upstanding earthworks. These features were assumed to originate as First World War practice trenches and were thought to have been used for military training through much of the twentieth century. Within the earthwork complex was the remains of an armoured dome assumed to be an Allan Williams Turret. This feature was also investigated.

The archaeological works were undertaken by a mixed team of WA staff, DIO archaeologists, Breaking Ground Heritage staff and injured veterans.

Five archaeological trenches were excavated during ten days of fieldwork between 28/08/2017 and 08/09/2017.

The trenches ranged in depth from 0.3 m below the current ground surface to more than 1.5 m. Evidence of survived trench furniture in the form of remains of sandbags, timber and wire revetments, stakeholes for revetments and fire steps. The trenches demonstrated a range of military trench construction techniques, including the use of breastwork style parapets which have not previously been recorded in the UK.

The overall complex appears to have been carefully designed to allow multiple training activities to be completed at the same time, or at least within the area of the complex. These activities included the defence and attack of Frontline trenches, machine gun target practice, attacked machine gun pits, possibly bomb/grenade training and the movement of troops around communication and support trenches.

The excavations recovered surprisingly few finds dating prior to the 1950s, with the majority of munitions dating to later in the 20th and 21st centuries. The presence of revolver bullets in the Frontline and Machine Gun Pit trenches, along with a quantity of bullet fragments suggests that these positions were not only used to train troops in defence but also in attacking defensive positions with live ammunition during the First World War or during the Inter-war period. Evidence of the training of rifle troops during the second half of the 19th century was also recovered from the trench fills, with bullets and cartridge bases from Snider, Martini-Henry and Enfield rifles all being present. It is considered that these finds were from secondary contexts. Only one cartridge case dating to the First World War was recovered, although there were some examples dating to the years just prior to the conflict.

Excavation of the purported Allan Williams Turret suggested that this structure was in fact an armoured observation point and not a machine gun position as had been previously thought.

The archive will be deposited with Historic Environment Scotland and the Angus SMR. The final deposition of any artefacts/ecofacts will be allocated through the Treasure Trove Unit panel, with the assumption being that the Montrose Museum will be the final point of deposition.



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WA is indebted to Phil Abramson and Alex Sotheran (DIO archaeologists) for their support, advice and site work prior to and during the project.

We are also grateful to Richard Bennett of Breaking Ground Heritage, who co-ordinated the volunteers from Operation Nightingale as well as being a font of knowledge about military remains. The volunteers from Operation Nightingale were all excellent, allowing the project to uncover, investigate and record some complex and tricky archaeology successfully.

The project was managed for WA by Chris Swales (WA Scotland) and the field team was made up of Ben Saunders (WA Scotland), Sam Fairhead (WA North) and Briony Lalor (WA South). The report was compiled by Ben Saunders with graphics provided by Ian Atkins and Kitty Foster. The munitions recovered during excavation were reported on by Mark Khan.



Barry Buddon First World War Training Trenches

Archaeological Evaluation Report: Data Structure Report

1 INTRODUCTION

1.1 Project background

1.1.1 Wessex Archaeology (WA) was commissioned by Landmarc Support Services Ltd (hereafter the 'Client') to carry out a programme of archaeological trenching on land at the Barry Buddon Training Centre, Angus, (Figure 1), centred on National Grid Reference (NGR) 354796, 732758(hereafter the 'Site').

1.1.2 A Written Scheme of Investigation (WSI) was issued to and approved by the lead DIO archaeologist prior to works commencing. The WSI outlined scope of works and agreed methodologies (Wessex Archaeology 2017). The archaeological works were intended to excavate six evaluation trenches targeting sections of a trench network surviving as upstanding earthworks. These features were assumed to originate as First World War practice trenches and were thought to have been used for military training through much of the twentieth century. Within the earthwork complex were the remains of an armoured dome assumed to be an Allan Williams Turret.

1.1.3 Following discussions on Site between the WA project officer and the DIO archaeologists the location of several trenches were moved and realigned to better achieve the aims of the project. In total, five trenches were excavated (Figure 1).

1.2 The Site

1.2.1 The Site is located within the MoD owned Barry Buddon Training Camp located to the east of Monifieth, on the outskirts of Barry, Angus (Figure 1). Barry Buddon Training Camp covers an area of 930 ha of comprised of a mixture of intertidal zones, copse woodland and open fields.

1.2.2 The First World War training trenches are bounded to the north by the Carnoustie Golf Links, to the south by copse woodland and to the east and west by open fields. The monument is laid out in a rectangular plan measuring 130 m by 80 m. Within the monument are later additions such as a metal dome thought previously to be Second World War Allan-Williams Turret.

1.2.3 The underlying geology of the Site is mapped as the Scone Sandstone Formation. The superficial deposits are made up of alluvium comprising clay, silt sand and gravel (British Geological Survey 2017).

1.3 Site designations

1.3.1 The archaeological works were carried out in a Site of Special Scientific Interest (SSSI) and an EU Special Area of Conservation (SAC) as well as being a Special Protection Area (SPA) for birds under the European Birds Directive. Consents from Scottish Natural Heritage (SNH) for access to the Site were obtained prior to archaeological works commencing.



- 1.3.2 The First World War training trenches are not scheduled; however, they are a heritage asset of national significance.

2 ARCHAEOLOGICAL BACKGROUND

2.1 Introduction

- 2.1.1 No Desk-based Assessment (DBA) was available. As such the following brief archaeological and historic background was prepared using online sources with other references provided where appropriate. Input from the Historic Environment Assessment has also been included.

2.2 Prehistoric

- 2.2.1 The Angus SMR records the location of a prehistoric logboat (Angus SMR Primary Ref NO53SW0039) found embedded within a thick layer of peat when a deep drain was being excavated in around 1820, within the boundaries of the training centre.
- 2.2.2 Outside of the training camp, approximately 1.3 km to the north-east lies a series of cropmarks relating to an unenclosed settlement and enclosure (Angus SMR Primary Ref NO53NW0029) which may date to the prehistoric period. The unenclosed settlement comprises at least five roundhouses ranging from 6 m to 10 m in diameter while a possible circular timber house, old field divisions and a rectangular enclosure have also been identified from aerial photography.
- 2.2.3 Also to the north-east of the training centre the Angus SMR records the location of an enclosed settlement or fort measuring some 60 m in diameter surrounded by a 5 m wide ditch visible on aerial photographs which is likely to be prehistoric in origin.

2.3 Medieval

- 2.3.1 To the north-east of the training camp lies the purported location for the Battle of Barry. The battle is said to have been fought in 1010 between the Scots under Malcolm II and the Danes under Camus. The tradition states the Scots were victorious with both sides suffering heavy casualties. There is no evidence for such a battle having taken place and it is commonly thought to have been invented in the 16th century.
- 2.3.2 The parish of Barry is first mentioned in the early 13th century when it is bestowed to the monks of the Balmerino Abbey in Fife by Alexander II. There is no direct evidence for activity from the medieval period within the training centre, although the Angus SMR records the location of Ardestie Castle (Angus SMR Primary Ref NO53SW0002) to the north-west of the camp which may be medieval in origin. The castle remains comprise only part of its foundations which form two sides of a square. When it was visited by an Ordnance Survey team in 1958, no trace of the castle could be discerned.
- 2.3.3 Outside of the training camp, evidence for medieval activity comprises areas of rig and furrow agriculture mainly identified from cropmarks or earthworks from aerial photographs (Angus SMR Primary Ref: NO53SW0052, NO53SW0029, NO53SW0049, NO53SW0052). These features indicate the area was primarily used for farming during the medieval period.

2.4 Post-medieval

- 2.4.1 The area now occupied by the Barry Buddon Training Camp has been used for military activity since the mid-19th century. From the 1850s until the end of the 19th century the Forfarshire Rifle Volunteers, the Fife and Forfar Yeomanry, the Panmure Battery of the

Forfarshire Artillery Brigade and a Royal Naval Reserve Battery all used the area for various purposes. The Category B listed Gunnery Gymnasium (LB50983) is the earliest example of specific training exercises being carried out within the camp. The building was constructed in around 1860 to simulate the gundeck of a warship. Its external configuration of the building, which includes mock metal gunports, is similar to that of HMS Warrior, the first iron hulled ship built for the Royal Navy. HMS Warrior and the building are contemporary with each other, although both were obsolete within a decade of construction due to major technological advances in naval warships. The introduction of mastless warships such as HMS Devastation allowed guns to be mounted within rotating turrets, rather than on gundecks for broadside firing.

- 2.4.2 Aside from the military use of the area now within the training camp, the most prominent features are those of the Buddon Ness High and Low Lighthouses. The first High Lighthouse building (LB4633; Angus SMR Primary Ref NO53SW0021) was constructed in c.1820 and was later truncated and annexed to make the keeper's house. Its replacement (LB4634) was constructed in 1865-6 by the Stevenson Engineers and was paired with Low Lighthouse (LB4635) which was constructed at the same time.
- 2.4.3 Evidence in the form of numerous upright timber posts (Angus SMR Primary Ref NO53SW0089, NO53SW0088, NO53SW0087) located within the training camp indicates the area along the coast was used to catch salmon with the posts used to hold the netting in place.
- 2.4.4 Also found within the training camp are the remains of rig and furrow and an associated field system (Angus SMR Primary Ref NO53SW0065), identified during a walkover survey.
- 2.4.5 The Angus SMR also records numerous shipwrecks from this period located close to the southern tip of Buddon Ness.

2.5 Modern

- 2.5.1 During the early 20th century, the camp was used to train men for service in the trenches of the Western Front during the First World War. Practice trenches within the training camp survive as earthworks but have also been identified from aerial photography. There are several examples of the trench complexes the men were required to dig and operate within which replicated the network of frontline, second and third line support trenches and communication trenches that stretched through Belgium and France. Their morphology is particularly distinct with the frontline and second and third line support trenches all dug in a crenelated zig-zag pattern designed to minimise damage from artillery shells and to stop an attacking force being able to fire uninterrupted along long lengths of trenches. There are many examples of similar practice trenches having been dug throughout the First World War across the country both within specific training camps such as Barry Buddon or on Salisbury Plain but also in areas handed over by councils, such as Redmires near Sheffield or from wealthy landowners such as at Randalstown, Co. Antrim.
- 2.5.2 Just outside the current boundaries of the camp, a temporary landing ground (Angus SMR Primary Ref NO53SW0115) was established during the First World War for use by a small number of land-planes attached to the seaplane base at Dundee.
- 2.5.3 Also within the boundaries of the training camp lies the location of a Port War Signal Station (Angus SMR Primary Ref NO53SW0114) which was moved from nearby Carnoustie sometime after 1913. The station would alert defences further up-river as to the nature of



- any enemy ships passing by. The signal station had been removed by the middle of the 1920s.
- 2.5.4 By the Second World War, the camp had become heavily defended against the possibility of invasion. A substantial network of defences (Angus SMR Primary Ref NO53SE0059) surrounded Barry Links which included anti-tank blocks, pill boxes, artillery positions and machine gun firing positions. A steel installation thought prior to excavation to be an Allan-Williams Turret survives adjacent to the proposed excavation area.
- 2.5.5 The camp remained as an active training centre throughout the 20th century and many of the extant features, such as rifle ranges, buildings roads etc. were established during this period, although some of the rifle ranges may be earlier in date. A narrow gauge railway with an armoured locomotive has been used on the range to pull moving targets for gunnery practise.
- 2.6 Recent investigations in the area**
- 2.6.1 Oxford Archaeology North completed a GPS survey of the trench system for the DIO during 2006, identifying the range of different trench patterns (Oxford Archaeology 2006) as well as other training trenches and features across the rest of the Barry Buddon Training Camp.
- 2.6.2 Headland Archaeology were commissioned to complete a heritage risk assessment of the whole of Barry Buddon Training Camp area in 2008, which noted that there was some damage to the trench systems from livestock grazing and that the supposed Allan Williams turret within the complex was degrading (Headland Archaeology 2008).

3 METHODOLOGY

3.1 Project aim

- 3.1.1 With due regard to the ClfA *Standard and guidance: archaeological evaluation* (ClfA 2014b), the principle aim of the archaeological evaluation was to determine the character, extent, date, integrity, state of preservation and quality of any identified archaeological deposits. The works were in compliance with national guidelines (ClfA 2014a-c)

3.2 Project objectives

- 3.2.1 In furtherance of the project aim, the following objectives were defined:
- to understand the form, function and periods of use for the training trenches;
 - to gather information on the Units or individuals who used the trenches for training;
 - to identify any potential damage to the trenches and to inform future management decisions for the monument;
 - to record the location, form and condition of the Allan-Williams Turret;
 - to develop and enhance the physical, mental and social wellbeing of injured military personnel and veterans through the use of Operation Nightingale personnel; and
 - to prepare a report on the results of the archaeological works.

3.3 Fieldwork methodology

- 3.3.1 Trench locations were set out by means of a GPS system, and tied into the OS grid.



- 3.3.2 Each trench was de-turfed and excavated by hand. Topsoil and subsoil were stored separately on either side of the trench. Spoil was stored neatly at a minimum distance of 1 m from the trench edge, on terram.
- 3.3.3 Where possible the turves were stacked green side to green side, brown side to brown side. However due to the covering vegetation types, this was not always possible.
- 3.3.4 Archaeological features and deposits were investigated and stratigraphically excavated by hand. The percentage of any feature or group of features excavated was dependent on a number of factors. These included the achievement of the aims and objectives, the significance or potential of the archaeological features/deposits, the stratigraphic record and, most importantly due to the sandy nature of the deposits, health and safety considerations.

3.4 Recording

- 3.4.1 Written and drawn records were made of the stratigraphy within the areas investigated, even if no archaeological deposits have been identified. Full written and drawn records of all excavated contexts were made in accordance with best archaeological practice. Unexcavated archaeological deposits were recorded to the maximum extent possible.
- 3.4.2 Records include overall Site plans. All archaeological features were related to the Ordnance Survey datum and to the National Grid. Survey was undertaken using a GNSS system to a three dimensional accuracy of 0.05 m or better.
- 3.4.3 All archaeological deposits were recorded using Wessex Archaeology's *pro forma* recording system. This written record is hierarchically based and centred on the context record. Each context record fully describes the location, extent, composition and relationship of the subject and was cross-referenced to all other assigned records. Context numbers used in the excavation were done so on a trench basis, with the trench number as a prefix.
- 3.4.4 Each excavated context appears on at least one detailed plan at 1:50 or 1:20 scale and/or one section at 1:10 and was co-ordinated on to the overall Site plan.
- 3.4.5 A full photographic record was maintained comprising of digital images taken with a suitable camera of at least 10 megapixels in addition to 35 mm monochrome prints. The photographic record illustrates both the detail and the general context of the principal features.

3.5 Machine excavation

- 3.5.1 A rubber-tracked excavator was used to backfill the trenches once excavation and recording has been completed. This was fully monitored by WA staff and turf replaced where possible.

3.6 Specialist strategies

Artefact

- 3.6.1 Finds were treated in accordance with the relevant guidance given in the ClfA Standard and guidance: archaeological excavation (2014a), the UK Institute of Conservators Guidelines Conservation Guideline No 2 and the Museums and Galleries Commissions Standards in the Museum Care of Archaeological Collections (1994), excepting where they are superseded by statements made below.



- 3.6.2 Metal Detectors were used with the approval of the Client. Following the full excavation of the trenches, all spoil dumps along with archaeological areas were scanned.
- 3.6.3 All retained artefacts have been, as a minimum, be washed, weighed, counted and identified. Any artefacts requiring conservation or specific storage conditions have been dealt with immediately in line with *First Aid for Finds* (Watkinson and Neal 1998) and in consultation with the designated conservator.
- 3.6.4 The finds report can be found within Appendix 4 of this document.

Environmental

- 3.6.5 The excavation recovered no environmental samples for processing.

4 ARCHAEOLOGICAL RESULTS

4.1 Introduction

- 4.1.1 This section discusses the archaeological results of the excavation of five evaluation trenches within the First World War training trench system at Barry Buddon Training Camp.
- 4.1.2 Following discussions on Site between the WA project officer and the DIO archaeologists the location of several trenches were moved and realigned to better achieve the aims of the project. In total, five trenches (trench one, trench two, trench three, trench six and trench seven) were excavated (Figure 1).
- 4.1.3 The earliest finds dated to the late nineteenth century with the remaining finds and features of a twentieth century origin.

4.2 Nineteenth century

- 4.2.1 No archaeological features of confirmed early or late medieval date were present within the excavations. A small number of late 19th century bullets and cartridge casings were found within the fill of the trenches. These were, with one exception, bullets from the 1850s-1870s (the exception being a cartridge base from the 1850s). It is known that Barry Buddon was used as a training camp during this period for local volunteer regiments such as the Forfarshire Rifle Volunteers and the Fife and Forfar Yeomanry, and these finds may be evidence for this training, reworked as secondary material with the sand and soil dug out to form the trench systems which has then slumped in to backfill them.

4.3 Twentieth century

- 4.3.1 All trenches uncovered remains likely to date to the early and mid-twentieth century, as well as evidence for the ongoing use of the area for military training during the post-war period up to the 2000s.

Trench one

- 4.3.2 Trench one measured 7 m x 4 m and targeted the N-S running crenelated zigzag WWI trench (Figure 2). It was suggested that this section of the earthworks was constructed as a Frontline trench, facing out to the west. The excavated trench crossed the WWI trench roughly E-W, taking in a section of the parapet, the turn of the trench from running N-S to running E-W, a section of the traverse, the full length of the E-W run of the trench and it's turn back to a N-S alignment, along with a section of the parapet to the east (an idealised example of this trench from the 1921 Field Manual is presented in Plate 1 and Plate 2).



- 4.3.3 Below the turf and topsoil [101] there was an upper fill of the trench system made up of a mid greyish/yellowish brown loamy sand [102] which appeared to be a mix of infill from the slumping and collapse of the upper sides of the trench walls. The edges of this deposit were demarcated by a banding of thin layers of dark brownish reduced organic lenses separated by thicker bands of pale yellowish sand. In the upper parts of the excavation these bands were less regular, but became far more so as the excavation progressed down into the WWI trench, and it quickly became evident that these were the remains of sandbag, timber and wire revetments [109], which had lined the trench to prevent the friable sides falling in. These sandbags were present on all sides of the WWI trench structure (Plates 3-7). The bowing out and slumping present in the banding show the movement of the sandbags as the deposits around them began to collapse and slump.
- 4.3.4 A layer of slightly less mixed greyish silty sand [112] identified as a stabilisation layer was below [102] and directly above fill [107] of greyish yellow pale sand within the limits of the sandbags, containing slightly more fragments of organics, possibly from collapsed sandbag revetment. This immediately overlay a hardened mid grey silty sand layer [110], which appeared to be the trample or original silting up of the trenches after they had been constructed. This deposit was present across much of the base of the trench cut [106], although it was not present in the southern end of the trench.
- 4.3.5 A piece of preserved horizontal timber running N-S along the inner side of the western edge of the trench was identified as potentially a remnant of the fire step, located as it was abutting the parapet next to the traverse. Additional stakeholes, part of the sandbag, timber and wire revetment were found along the inner sides of the sandbag piles including a postpipe [111].
- 4.3.6 Cutting back through the upper layers of these sandbags it became clear that much of the height of the ground around the trenches had been built up during the construction of the trenches, in a manner similar to the breastwork trenches seen in Belgium and other areas with wet ground. The 1921 Field Manual illustration of this is presented in Plate 2. The trench system was laid out in sandbag piles built up above the previous ground surface and the spaces behind these piles was then filled in with sand excavated from the shallow (approx. 0.5 m) deep trench cut into the old land surface and with soil/material from elsewhere to build up a protective parapet and paradose without having to dig down into waterlogged soil in the case of Belgium or into soft sand in the case of Barry Buddon.
- 4.3.7 In trench one the former land surface [104] was directly behind the sandbag revetments on both sides, suggesting that the WWI trench cut [106] had in fact been excavated prior to the positioning of the sandbag revetment, which also reveted the sub-surface sides of the WWI trench cut. Above the old land surface the deposits of sand forming the paradose [103] and parapet/traverse [108] were both made up of a redeposited natural pale yellow sand with very few inclusions, suggesting it had been dumped in behind the sandbag revetments in a single event.
- 4.3.8 The trench cut [106] was dug into the sandy natural [105] and was fairly flat based, being approx. 0.5 m deep and 0.7 m wide, although it was wider at the fire step. With the added height of the breastwork above the old ground surface [104], the trench was approx. 1.5 m deep from the modern top of the parapet, and it is clear that a substantial amount of additional height has been lost as the parapet and paradose deposits have slumped and collapsed into the trench void.
- 4.3.9 The finds from trench one include the only WWI dated cartridge case (unusually for the Site this round was a .303 ball round, not a blank), as well as multiple earlier .303 blank casings

from the 1900s and 1910s. The turf and topsoil layer [101] and the upper parts of [102] were dominated by blank munitions dating to the latter half of the twentieth century and early 2000s, showing the ongoing use of the area for blank firing during the post-war period. These upper layers also included the detritus of training exercises, in the form of items from late twentieth century ration packs. Other finds from within the trench fills included a .577 muzzle loading bullet, possibly from an 1859 pattern Enfield rifle which had signs of ramrod marks on the head, a .577 Snider bullet introduced in 1868, as well as four .455 revolver bullets. Two of these are likely to be from a British Webley revolver and two from a Smith & Wesson revolver, both of which were widely used in the First World War. A number of bullet fragments were also present in the trench fills, possibly indicating that the trench systems were not only used to train defending troops but may also have been used to practice attacks, with live ammunition.

Trench two

- 4.3.10 Trench two measured 6 m x 4 m and targeted a structure identified as a Machine Gun Position (MGP), which projected out to the west from the Frontline N-S running crenelated zigzag trench investigated in trench one, connected to it by a narrow access trench (Figure 3). As shown in Plate 8, which lays out the defensive positions *behind* a Frontline trench (from the 1921 British Army Field Manual), MGPs were normally behind the Frontline, firing over the top of the trenches and allowing a secondary defence of the line. They were usually set out as a narrow access trench leading off a communication trench to a T head position, similar to a hammerhead, which would contain multiple machine guns. These machine guns could be set up at different heights depending on the requirements of a position, as shown in Plate 9.
- 4.3.11 The reason for the positioning of this MGP forward of the Frontline trench is likely to have been to allow practice target firing into the three sets of butts which are located at staged distances to the west of the MGP, while simultaneous training was being completed in the Frontline trench to the north.
- 4.3.12 Having removed the top layer of turf and topsoil [201] an infill layer of yellowish brown silty sand [202] was excavated from within the access trench, while a similar layer [207] was excavated from within the MGP. These layers were made up of the gradual collapse of the upper parts of the parapets either side of the trench and MGP, and the infilling of the depressions with windblown sand over the time following the abandonment of the complex.
- 4.3.13 A second layer of infilling [203] was present within the access trench, directly above a harder mid grey layer of silty sand [204] which appeared to be the trample/original silting up of the trench during its use. Similarly in the MGP, the base was covered in a hardened mid grey layer of trample/silt. Both had a hard upper surface, showing a clear transition, potentially due to the trample layer being exposed for a period to the weather and to the pressure of soldiers walking on it. Lying on the surface of the trample within the MGP were the remains of two-three sandbags (Plate 10) which had fallen out of the build up of sandbags, probably from those making up the front (west) wall of the MGP.
- 4.3.14 Similarly to the breastwork trench construction seen in trench one, the MGP and access trench had been cut into the old land surface and the natural yellowish orange soil with the cut of the access trench [209] being then lined with sandbags on both sides (Plate 11 with [205] to the north of the trench and [206] to the south) while the MGP had not being lined with sandbags, but had them piled up around the edge to form a parapet [211]. From the depth of the cut in the MGP (0.8 m), it is likely that the machine guns were set up to be stood at their full height, as shown in the bottom image in Plate 9. They may have been

placed on a small platform of sandbags to assist with stability. The sandbag revetments of the access trench run down along the sides and into the MGP, as shown in Plate 12. These sandbag revetments all show signs of slumping and bowing inwards due to the pressures of the deposits behind and on top of them, and have clearly been compressed as well.

- 4.3.15 The upper layers of trench two contained munitions similar to the upper layers of trench one, confirming the ongoing use of the area as a blank firing training area during the second half of the twentieth century and early 2000s, including a single .303 blank cartridge from 1960. A spent illumination parachute 2-inch mortar round had clearly impacted into the upper infill of the access trench at an unknown date between their introduction in 1937 and their phasing out in the 1980s, with the likelihood being towards the latter end of this timespan. Earlier munitions included the cartridge base from either a .577 Snider or .577/455 Martini-Henry round dating to the last 1860s or early 1870s and a .303 bullet of a type that became obsolete in 1912 at the latest. A single .455 bullet from a Smith & Wesson revolver was also found. Numerous bullet fragments were present throughout the trench, suggesting that similarly to the area in trench one, the MGP had also been used to practise attacks on defensive positions, with live ammunition.

Trench three

- 4.3.16 Trench three measured 5 m x 3 m and targeted a shallow N-S running crenelated zigzag trench (Figure 4). On removing the turf and topsoil (301) a patch of orangish yellow sand [302] was found to the west of the trench cut [305], which was interpreted as the upcast redeposited material removed when the trench was initially dug. Faint patches of similar deposits were also present on the east side of [305], but not in the quantities of [302]. On both sides of the trench cut [305] was a compacted surface on dark brown soil- [303] to the east of the cut and [304] to the west of the cut, which was interpreted as the buried former land surface, which had then been covered by the upcast material. The trench cut [305] had dug through this and down 0.35 m into the natural sand [306] below. The fully excavated trench is shown in Plate 13. The base of the trench was wide enough for one person to walk or crawl along it (approx. 0.3m wide at the base, widening to 0.6m at the top break of slope) but would never have given protection to someone not lying down in it, even with a greater height of upcast material than remained in [302]. One suggestion for this trench is that it was a practice "bomb trench", which soldiers would drop down into for protection after throwing a grenade or similar munitions. The presence of multiple small scoops roughly 5-10 m to the west close to the back of the frontline trench may be the intended targets for this, forming a small grenade range which could be used with dummy grenades or live ones.
- 4.3.17 There were no finds from trench three, other than a single bullet fragment.

Trench six

- 4.3.18 Trench six measured 6m x 4m trench and was orientated N-S, targeting the corner of a crenelated zigzag trench which was suspected to be a support trench linked to the frontline by a zigzag communication trench running to the west (full excavation shown in Figure 5, Plate 14). The removal of the turf and topsoil [601] was hampered by the presence of a highly knotted woody root system which covered the north and east part of the trench and by the presence of a small shrub on the western side of the trench cut. Both of these had clearly damaged areas of the underlying stratigraphy. Below the topsoil, turf and roots it was clear that there had been a redeposit of yellowish orange natural material on both sides of the trench cut [609] when the trench system was excavated originally, similar but on a larger scale to that in trench three. The deposit on the northern and eastern side of the trench cut [609] was allocated [602] while the deposit on the southern and western side was allocated [603]. These deposits were approximately 0.15 m thick and overlay the old land

surface of the area prior to the trenches being cut ([604] to the north and east of the trench cut and [605] to the south and west). This interface, similarly to that in trench three, was a compacted surface of mid brown sandy silt soil with relic organic matter in places. The surface had been damaged and removed in the area where the small shrub had been, as well as to the east of the trench cut where in some places it had been partially removed, possibly by agricultural activity.

- 4.3.19 The trench cut [609] was filled with a loose to firm yellowish-brown sand [608] which appeared to be a general accretion layer of sands and soils formed by a combination of windblown sand and the slumping/collapsing in of the trench sides, as seen in trenches one and two. This filled the trench cut to a maximum depth of approximately 0.3 m and was fully excavated in two slots, one at the southern edge of the trench (1 m wide) and one over the corner of the trench system at the northern end of the trench (2 m wide). Within the northern slot a pile of sandbags [606] (one sandbag thick and roughly eight sandbags high in places) running along the northern and east edge of the WWI trench and around the corner of the trench system was observed. These were stacked along the edge in a similar manner to those in the Frontline trench in trench one and in the access trench to the MGP in trench two to form a revetment to hold back the soft sediments the trench system had been cut into (Plate 15 and Plate 16). Signs of a similar revetment of sandbags [607] were present on the inner southern and east edge, although this was much less certain, and may have been a sandbag that had fallen from the main stack, as seen in the base of the MGP in trench two. The stack of sandbags had clearly slumped down into the trench over time, due to the pressure of sediments behind and above.
- 4.3.20 The sandbag revetment showed the edge of the original WWI trench cut [609] and demonstrated that the trench system in this area was approximately 1 m deep and 0.9 m wide at the base, widening slightly to 1.2 m halfway up. The wider nature of the modern profile of the trench cut, which widens to almost 1.7 m at the top was probably due to the slumping and collapsing of the trench cut sides following them going out of use.

Trench seven

- 4.3.21 Trench seven measured 2 m x 2 m and targeted the south-west quadrant of the iron/steel dome structure identified prior to excavation as an Allan-Williams turret and associated mound (Figure 6). This trench was intended to assess the overall condition of the structure and to discover how it was constructed, as well as to attempt to find some dating evidence for the structure. Below the turf and topsoil [701] was a homogeneous layer of blown sand accretion [702] which had clearly built up against the upper metal of the structure since its construction. A shallow trench-like gully running to the entrance hatch in the southern side from the southwest had no obvious cut through this sand and may well have been a result of repeated movement wearing down or compacting the material, rather than a deliberate cut.
- 4.3.22 The structure itself [704] was made up of a double skin dome approximately 1.5 m high, with each skin being made of seven partially overlapping steel plates (Plate 17 and Plate 18), bolted to a concrete base. The concrete base was made up of a smooth surfaced ring with an internal circular recess 0.4 m deep and 1.2 m wide. The ring wall on the outside was approximately 0.5 m deep and between 0.3 m and 0.4 m thick on the sides, with the external surface impressed with sandbags, which had been used to form the shuttering around it when the concrete was poured (Plate 19). The lower sides were vertical before turning in at approximately 1 m above the top of the concrete ring wall. Each side had small lugs welded on to the left edge to underlap with the sheet to the right. Several of the panels had airholes and observation points cut through to allow the people inside to view out of the structure.

The hatchway in the southern most sheet was a rectangle with rounded corners measuring 0.75 m high by 0.5 m wide, which was closed by an internal hatch 0.8 m high by 0.55 m wide, shutting on double action hinges and a cantilever arm. Two locking pins, one top and one bottom, enabled it to be locked from the inside. Both the hatch and the circular plate covering the top of the turret had been detached in the past and were found within the structure. The whole steel upperworks were bolted onto the concrete base. Internally the structure was 2.1m high from the internal concrete base to the internal centre point of the dome, while the whole structure stood 2.3 m from the internal concrete base to the top of the exterior of the cupola.

- 4.3.23 From the internal fill [703] which was a sludgy waterlogged mix of blown sand and organic matter, it was clear that the structure had been used as shelter and for cooking up rations during the post-war period, with both modern and earlier munitions found inside. These consisted of 5.56 mm blanks dating to the 1990s and 2000s, 7.62 mm blanks dating to the 1960s-1980s, two pre-1963 revolver bullets, a light machine gun fired white signal round dated 1974 and a WWI era .455 Smith and Wesson revolver bullet. Four .303 wooden bullet blank cartridge casings were also found which were probably fired from a Bren light machine gun and date to WWII or immediately before. As well as the munitions the structure contained detritus of modern army training (a Hexamine solid fuel stove, plastic bags, aluminium spikes from an individual protection kit). Modern drinks cans and other rubbish was also present inside.
- 4.3.24 Below the blown sand accretion [702] were the remains of the sandbags [705] used as shuttering for the concrete base. These, similarly to the sandbag remains in trenches one, two and six, were made up of banded layers of thin dark decomposed organics (the hessian of the sandbag material) and pale yellow sand (the sand fill of each sandbag). These surrounded the exterior of the concrete base in a doughnut shape, although the outside edge of the context was not exposed due to concerns about trench side collapse to the south and west.
- 4.3.25 The base of the concrete was recorded at 6.68 m aOD, although this may be deeper towards the centre of the structure.
- 4.3.26 It is clear that this is not an Allan-Williams turret, that was designed to rotate to allow the occupants to fire with a Bren gun at all angles. Similarly, the two other examples extant on Barry Buddon are also not Allan-Williams turrets. A number of similar structures to these are present on military installations on the north Fife coast across the Tay from Barry Buddon, including examples at Tentsmuir, Crail Airfield and Leuchars. A further example of one described as “an Igloo steel dome shelter” has been identified in an unlocated image from the Imperial War Museum showing it as a shelter for a Military Policeman directing traffic during WWII (Plate 16). The presence of fired wooden bullet Bren gun ammunition suggests that it may have been briefly used in training soldiers in firing from a turret like position, and it’s position close to the railway line to the north (in other locations training turrets looked out onto railway lines where trains would pull targets, allowing the soldiers to practise rotating the turret which firing on a moving target) may back this up. It is likely however that it was positioned within the trench system as an observer post for an officer or NCO to watch the exercises in relative safety or as an “armoured position” for training soldiers to attack.

4.4 Summary

- 4.4.1 The trenches ranged in depth from 0.3 m below the current ground surface to more than 1.5 m. Evidence of surviving trench furniture in the form of remains of sandbag, timber and



wire revetments, stakeholes for revetments and fire steps. The trenches demonstrated a range of military trench construction techniques, including the use of breastwork style parapets which have not previously been recorded in the UK.

- 4.4.2 The overall complex appears to have been carefully designed to allow multiple training activities to be completed at the same time, or at least within the area of the complex. These activities included the defence and attack of Frontline trenches, machine gun target practice, attacked machine gun pits, possibly bomb/grenade training and the movement of troops around communication and support trenches.
- 4.4.3 The excavations recovered surprisingly few finds dating to prior to the 1950s, with the majority of munitions dating to later in the 20th and 21st centuries. The presence of revolver bullets in the Frontline and Machine Gun Pit trenches, along with a quantity of bullet fragments suggests that these positions were not only used to train troops in defence but also in attacking defensive positions with live ammunition during the First World War or during the Inter-war period. Evidence of the training of rifle troops during the second half of the 19th century was also recovered from the trench fills, with bullets and cartridge bases from Snider, Martini-Henry and Enfield rifles all being present. It is considered that these finds were from secondary contexts. Only one cartridge case dating to the First World War was recovered, although there were some examples dating to the years just prior to the conflict.
- 4.4.4 Excavation of the purported Allan Williams Turret suggested that this structure was in fact an armoured observation point and not a machine gun position as had been previously thought.

4.5 Conclusions

- 4.5.1 The archaeological works have been successful in providing insight into the period of active use for the training trenches as well as in identifying the various construction techniques employed and the possible range of training exercises they were used for. The archaeological works also highlighted the ongoing damage to the earthworks by plant root systems.
- 4.5.2 The excavation failed to provide any clear phasing for the construction of the various component parts of the trench system and it is unclear as to the exact date range over which the trench complex was being constructed. The excavation also failed to identify any evidence which could be tied in to use of the training complex by specific units or individuals.
- 4.5.3 The archaeological works were particularly successful in developing and enhancing the physical, mental and social wellbeing of injured military personnel and veterans. Feedback from the participants has indicated that the project has been incredibly useful to them in their ongoing recovery.



5 RESOURCES AND PUBLICATION

5.1 OASIS and DES

- 5.1.1 An OASIS online record¹ including an entry for Discovery and Excavation in Scotland (DES) will be initiated and key fields completed on Details, Location and Creators Forms. All appropriate parts of the OASIS online form will be completed for submission and this will include an uploaded .pdf version of the entire report (a paper copy will also be included with the archive).

6 STORAGE AND CURATION

6.1 Museum

- 6.1.1 The archive will be deposited with Historic Environment Scotland and the Angus SMR. The final deposition of any artefacts/ecofacts will be allocated through the Treasure Trove Unit panel, with the assumption being that the Montrose Museum will be the final point of deposition.

6.2 Archive

- 6.2.1 The complete Site archive, which will include paper records, photographic records, graphics, ecofacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by the appropriate archive, and in general following nationally recommended guidelines (SMA 1995; Brown 2011; ADS 2013; ClFA 2014c).
- 6.2.2 All archive elements will be marked with the appropriate Accession Number issued by the recipient museum.
- 6.2.3 The site archive will be prepared for long-term storage in accordance with current guidelines (e.g. Walker 2001; MGC 1994 etc.). Provision has been made for the cost of long term storage in the post-fieldwork costs.
- 6.2.4 Until final deposition with the museum the archive will be stored at the offices of WA Edinburgh or WA Sheffield.

6.3 Storage

- 6.3.1 Until final deposition with the museum the archive will be stored at the offices of WA Edinburgh.

6.4 Discard policy

- 6.4.1 WA follows the guidelines set out in *Selection, Retention and Dispersal of Archaeological Collections* (SMA 1993), which allows for the discard of selected artefact and ecofact categories which are not considered to warrant any future analysis. Any discard of artefacts will be fully documented in the project archive.
- 6.4.2 The discard of environmental remains and samples follows nationally recommended guidelines (SMA 1993 and 1995; EH 2011).

¹ <http://oasis.ac.uk/pages/wiki/Main>



6.5 Copyright

- 6.5.1 The full copyright of the written/illustrative archive relating to the site will be retained by WA Ltd under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The Museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use shall be non-profitmaking, and conforms to the *Copyright and Related Rights Regulations 2003*.

6.6 Security Copy

- 6.6.1 In line with current best practice (e.g. Brown 2011), on completion of the project a security copy of the written records will be prepared, in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.



7 REFERENCES

7.1 Bibliography

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APPENDICES

Appendix 1: Trench and Context Registers

CX #	Type	Interpretive category	Site sub-division	Plans	Sections	Initials
Trench 1- 6m x 4m running E-W across "frontline trench" zigzag						
101	Lyr	Topsoil/turf	N/A		7, 8	BAL
102	FILL	Secondary fill of Trench 1 system	N/A		7, 8	BAL
103	Lyr	Redeposited sand on paradose	N/A	2	7, 8	BAL
104	Lyr	Buried land surface	N/A		7, 8	BAL
105	Lyr	Natural	N/A	2	7, 8	BAL
106	CUT	Cut of fire bay	N/A	2	7, 8	BAL
107	FILL	Secondary fill of trench	N/A		7, 8	BAL
108	Lyr	Redeposited sand on parapet and traverse	N/A	2	7, 8	BAL
109	STR	Remains of sandbag revetment	N/A	2	7, 8	BAL
110	FILL	Trample layer- primary fill	N/A	2	7, 8	BAL
111	CUT	Post-pipe (part of revetment)	N/A	2	7, 8	BAL
112	FILL	Stabilisation layer in trench	N/A	2	7, 8	BAL
Trench 2- 6m x 4m running roughly E-W across "Probably machine gun pit (MGP)" and access trench						
201	Lyr	Topsoil/turf	N/A		9, 10	SF
202	FILL	Upper silty fill of trench	N/A		9, 10	SF
203	FILL	Lower silty fill/slumping in trench	N/A		9, 10	SF
204	FILL	Trample layer- primary fill	East Slot	3	9, 10	SF
205	STR	Sandbags to N of trench into MGP	East Slot	3	9, 10	SF
206	STR	Sandbags to S of trench into MGP	East Slot	3	9, 10	SF
207	FILL	Lower silty fill of MGP	West Slot		9, 10	SF
208	FILL	Trample in base of MGP	West Slot	3	9, 10	SF
209	CUT	Cut of trench	East Slot	3	9, 10	SF
210	CUT	Cut of MGP	West Slot	3	9, 10	SF
211	STR	Sandbags at front of MGP	West Slot	3	9, 10	SF
Trench 3- 5m x 4m running roughly E-W across "shallow bomb trench"						
301	Lyr	Topsoil/turf	N/A		6	BJS
302	Lyr	Redeposited soil from trench cut	N/A	4	6	BJS
303	Lyr	Old land surface (east of trench)	N/A	4	6	BJS
304	Lyr	Old land surface (west of trench)	N/A	4	6	BJS
305	CUT	Trench cut	N/A	4	6	BJS
306	Lyr	Natural	N/A	4	6	BJS
Trench 6- 6m x 4m running roughly N-S across corner of "Second line trench" zigzag						
601	Lyr	Topsoil/turf	N/A		12	BJS
602	Lyr	Redeposited natural to N/E	N/A	5		BJS
603	Lyr	Redeposited natural to S/W	N/A	5		BJS
604	Lyr	Old land surface to N/E	N/A	5	12	BJS
605	Lyr	Old land surface to S/W	N/A	5	12	BJS
606	STR	Sandbag revetment to N/E	N/A	5	12	BJS
607	STR	Sandbag revetment to S/W	N/A	5	12	BJS
608	FILL	Fill of trench	N/A	5	12	BJS
609	CUT	Trench cut	N/A	5	12	BJS
Trench 7- 2m x 2m across SW quarter of "Allan-Williams turret" and associated mound						
701	Lyr	Topsoil/turf	N/A		11	BJS
702	Lyr	Subsoil/sand	N/A		11	BJS
703	FILL	Deposit inside Iron structure 704	N/A			BJS
704	STR	Iron structure and concrete base	N/A	1	11	BJS
705	STR	Sandbagging around concrete base	N/A	1	11	BJS



Appendix 2: Graphics Register

DWG #	Sheet Size	Site Div	Description	Sect/Plan	Scale	Initials	Date
1	A3	Tr.7	Plan of Trench 7	11	01:20	BJS	04/09/2017
2	A3	Tr.1	Plan of Trench 1	7, 8	01:20	BJS	04/09/2017
3	A3	Tr.2	Plan of Trench 2	9, 10	01:20	BJS	04/09/2017
4	A3	Tr.3	Plan of Trench 3	6	01:20	BJS	04/09/2017
5	A3	Tr.6	Plan of Trench 6	12	01:20	BJS	04/09/2017
6	A3	Tr.3	S Facing Section of Trench 3	4	01:10	BJS	04/09/2017
7	A3	Tr.1	NW facing section of trench 1 (two sheets)	2	01:10	MR/JH	05/09/2017
8	A3	Tr.1	SE facing section of trench 1	2	01:10	BAL	05/09/2017
9	A3	Tr.2	W Facing section of trench 2	3	01:10	SF	05/09/2017
10	A3	Tr.2	E facing section of trench 2	3	01:10	SF	05/09/2017
11	A3	Tr.7	Section of "Turret" in trench 7	1	01:10	BJS	06/09/2017
12	A3	Tr.6	Section through Trench and sandbags in Trench 6	5	01:10	BJS	06/09/2017



Appendix 3: Photograph Register

Photo #	Description	View From	Scale	Initials	Date
_IMG0001	Trench 1 after removal of (101)	E	1m	BJS	28/08/2017
_IMG0002	Trench 1 after removal of (101)	E	1m	BJS	28/08/2017
_IMG0003	Trench 1 after removal of (101)	N	1m	BJS	28/08/2017
_IMG0004	Trench 1 after removal of (101)	N	1m	BJS	28/08/2017
_IMG0005	Trench 1 after removal of (101)	W	1m	BJS	28/08/2017
_IMG0006	Trench 1 after removal of (101)	W	1m	BJS	28/08/2017
_IMG0007	Trench 1 after removal of (101)	S	1m	BJS	28/08/2017
_IMG0008	Trench 1 after removal of (101)	S	1m	BJS	28/08/2017
_IMG0009	Trench 2 after removal of (201)	W	1m	SF	28/08/2017
_IMG0010	Trench 2 after removal of (201)	W	1m	SF	28/08/2017
_IMG0011	Trench 2 after removal of (201)	E	1m	SF	28/08/2017
_IMG0012	Trench 2 after removal of (201)	E	1m	SF	28/08/2017
_IMG0013	Trench 2 after removal of (201)	S	1m	SF	28/08/2017
_IMG0014	Trench 2 after removal of (201)	S	1m	SF	28/08/2017
_IMG0015	Trench 2 after removal of (201)	N	1m	SF	28/08/2017
_IMG0016	Trench 2 after removal of (201)	N	1m	SF	28/08/2017
_IMG0017	Trench 3 after removal of (301)	N	1m	BJS	29/08/2017
_IMG0018	Trench 3 after removal of (301)	N	1m	BJS	29/08/2017
_IMG0019	Trench 3 after removal of (301)	N	1m	BJS	29/08/2017
_IMG0020	Trench 3 after removal of (301)	S	1m	BJS	29/08/2017
_IMG0021	Trench 3 after removal of (301)	S	1m	BJS	29/08/2017
_IMG0022	Trench 3 after removal of (302)	E	1m	BJS	30/08/2017
_IMG0023	Trench 3 after removal of (302)	SE	1m	BJS	30/08/2017
_IMG0024	Trench 3 after removal of (302)	E	1m	BJS	30/08/2017
_IMG0025	Trench 7 after removal of (701)	S	1m	BJS	30/08/2017
_IMG0026	Trench 7 after removal of (701)	S	1m	BJS	30/08/2017
_IMG0027	Trench 7 after removal of (701)	S	1m	BJS	30/08/2017
_IMG0028	Trench 7 after removal of (701)	S	1m	BJS	30/08/2017
_IMG0029	Trench 7 after removal of (701)	W	1m	BJS	30/08/2017
_IMG0030	Trench 7 after removal of (701)	W	1m	BJS	30/08/2017
_IMG0031	Trench 1 showing trench cut	W	1m	BJS	30/08/2017
_IMG0032	Trench 1 showing trench cut	W	1m	BJS	30/08/2017
_IMG0033	Trench 1 showing trench cut	W	1m	BJS	30/08/2017
_IMG0034	Trench 1 showing trench cut	W	1m	BJS	30/08/2017
_IMG0035	Trench 3 End of excavations	E	1m	BJS	30/08/2017
_IMG0036	Trench 3 End of excavations	E	1m	BJS	30/08/2017
_IMG0037	Trench 3 End of excavations	N	1m	BJS	30/08/2017
_IMG0038	Trench 3 End of excavations	N	1m	BJS	30/08/2017
_IMG0039	Trench 3 End of excavations	S	1m	BJS	30/08/2017
_IMG0040	Trench 3 End of excavations	S	1m	BJS	30/08/2017



Photo #	Description	View From	Scale	Initials	Date
_IMG0041	Stakes within trench 1 along edge of probable sandbagging	W	0.4m	BJS	30/08/2017
_IMG0042	Stakes within trench 1 along edge of probable sandbagging	W	0.4m	BJS	30/08/2017
_IMG0043	Stakes within trench 1 along edge of probable sandbagging	W	0.4m	BJS	30/08/2017
_IMG0044	Stakes within trench 1 along edge of probable sandbagging	W	0.4m	BJS	30/08/2017
_IMG0045	Trench 2 Slot with trample in base	W	0.4m	BJS	31/08/2017
_IMG0046	Trench 2 Slot with trample in base	W	0.4m	BJS	31/08/2017
_IMG0047	Trench 2 Slot with trample in base	W	0.4m	BJS	31/08/2017
_IMG0048	Trench 1 Sandbags (109) in situ in SE of trench	N	0.4m	BJS	01/09/2017
_IMG0049	Trench 1 Sandbags (109) in situ in SE of trench	N	0.4m	BJS	01/09/2017
_IMG0050	Trench 1 Sandbags (109) in situ in SE of trench	N	0.4m	BJS	01/09/2017
_IMG0051	Trench 1 Sandbags (109) in situ in SE of trench	N	0.4m	BJS	01/09/2017
_IMG0052	Trench 1 Sandbags (109) in situ in SE of trench	N	0.4m	BJS	01/09/2017
_IMG0053	Trench 1 Sandbags (109) in situ in SE of trench	N	0.4m	BJS	01/09/2017
_IMG0054	Trench 1 Sandbags (109) in situ in SE of trench	N	0.4m	BJS	01/09/2017
_IMG0055	Trench 2 sandbags and entrance into Machine Gun Pit	W	0.4m	BJS	01/09/2017
_IMG0056	Trench 2 sandbags and entrance into Machine Gun Pit	W	0.4m	BJS	01/09/2017
_IMG0057	Trench 2 sandbags and entrance into Machine Gun Pit	W	0.4m	BJS	01/09/2017
_IMG0058	Trench 2 sandbags and entrance into Machine Gun Pit	W	0.4m	BJS	01/09/2017
_IMG0059	Trench 2 sandbags and entrance into Machine Gun Pit	W	0.4m	BJS	01/09/2017
_IMG0060	Trench 2 sandbag remains in base of Machine Gun Pit	N	0.4m	BJS	01/09/2017
_IMG0061	Trench 2 sandbag remains in base of Machine Gun Pit	N	0.4m	BJS	01/09/2017
_IMG0062	Trench 6 after removal of (601)	N	1m	BJS	01/09/2017
_IMG0063	Trench 6 after removal of (601)	N	1m	BJS	01/09/2017
_IMG0064	Trench 6 after removal of (601)	N	1m	BJS	01/09/2017
_IMG0065	Trench 6 after removal of (601)	S	1m	BJS	01/09/2017
_IMG0066	Trench 6 after removal of (601)	S	1m	BJS	01/09/2017
_IMG0067	Trench 6 after removal of (601)	W	1m	BJS	01/09/2017
_IMG0068	Trench 6 after removal of (601)	E	1m	BJS	01/09/2017
_IMG0069	Trench 6 after removal of (601)	E	1m	BJS	01/09/2017
_IMG0070	Poorly preserved timber planking in base of E slot of Trench 2	W	0.4m	BJS	01/09/2017
_IMG0071	Poorly preserved timber planking in base of E slot of Trench 2	W	0.4m	BJS	01/09/2017
_IMG0072	Poorly preserved timber planking in base of E slot of Trench 2	W	0.4m	BJS	01/09/2017
_IMG0073	Poorly preserved timber planking in base of E slot of Trench 2	W	0.4m	BJS	01/09/2017
_IMG0074	W Facing Section of Trench 2	W	0.5m	BJS	01/09/2017
_IMG0075	W Facing Section of Trench 2	W	0.5m	BJS	01/09/2017
_IMG0076	W Facing Section of Trench 2	W	0.5m	BJS	01/09/2017
_IMG0077	W Facing Section of Trench 2	W	0.5m	BJS	01/09/2017
_IMG0078	Sandbags in edge of Trench 1	N	0.5m	BJS	01/09/2017
_IMG0079	Sandbags in edge of Trench 1	N	0.5m	BJS	01/09/2017
_IMG0080	Sandbags in edge of Trench 1	W	0.5m	BJS	01/09/2017
_IMG0081	Sandbags in edge of Trench 1	W	0.5m	BJS	01/09/2017



Photo #	Description	View From	Scale	Initials	Date
_IMG0082	Sandbags in edge of Trench 1	W	0.5m	BJS	01/09/2017
_IMG0083	Sandbags in edge of Trench 1	W	0.5m	BJS	01/09/2017
_IMG0084	Cleaned Sandbags in Trench 1	N	1m	BJS	01/09/2017
_IMG0085	Cleaned Sandbags in Trench 1	N	1m	BJS	01/09/2017
_IMG0086	Cleaned Sandbags in Trench 1	N	1m	BJS	01/09/2017
_IMG0087	Cleaned Sandbags in Trench 1	E	1m	BJS	01/09/2017
_IMG0088	Cleaned Sandbags in Trench 1	E	1m	BJS	01/09/2017
_IMG0089	Cleaned Sandbags in Trench 1	E	1m	BJS	01/09/2017
_IMG0090	Cleaned Sandbags in Trench 1	E	1m	BJS	01/09/2017
_IMG0091	Slot in north of Trench 6 with sandbags exposed	S	1m	BJS	04/09/2017
_IMG0092	Slot in north of Trench 6 with sandbags exposed	S	1m	BJS	04/09/2017
_IMG0093	Slot in north of Trench 6 with sandbags exposed	S	1m	BJS	04/09/2017
_IMG0094	Slot in north of Trench 6 with sandbags exposed	S	1m	BJS	04/09/2017
_IMG0095	Slot in north of Trench 6 with sandbags exposed	N	1m	BJS	04/09/2017
_IMG0096	Slot in north of Trench 6 with sandbags exposed	N	1m	BJS	04/09/2017
_IMG0097	Slot in north of Trench 6 with sandbags exposed	E	1m	BJS	04/09/2017
_IMG0098	Slot in north of Trench 6 with sandbags exposed	E	1m	BJS	04/09/2017
_IMG0099	Trench 1 fully excavated	W	1m	BJS	05/09/2017
_IMG0100	Trench 1 fully excavated	W	1m	BJS	05/09/2017
_IMG0101	Trench 1 detail of probable firestep	W	1m	BJS	05/09/2017
_IMG0102	Trench 1 detail of probable firestep	W	1m	BJS	05/09/2017
_IMG0103	Trench 1 detail of trench corner	S	1m	BJS	05/09/2017
_IMG0104	Trench 1 detail of trench corner	S	1m	BJS	05/09/2017
_IMG0105	Trench 1 detail of trench corner	S	1m	BJS	05/09/2017
_IMG0106	Trench 1 detail of trench corner	S	1m	BJS	05/09/2017
_IMG0107	Trench 1 detail of trench corner	S	1m	BJS	05/09/2017
_IMG0108	Trench 1 sandbag revetment	N	1m	BJS	05/09/2017
_IMG0109	Trench 1 sandbag revetment	N	1m	BJS	05/09/2017
_IMG0110	Trench 1 fully excavated	E	1m	BJS	05/09/2017
_IMG0111	Trench 1 fully excavated	E	1m	BJS	05/09/2017
_IMG0112	Trench 1 detail of probable firestep	SE	0.5m	BJS	05/09/2017
_IMG0113	Trench 1 detail of probable firestep	E	0.5m	BJS	05/09/2017
_IMG0114	Trench 1 detail of probable firestep	E	0.5m	BJS	05/09/2017
_IMG0115	Trench 1 cut section	W	0.5m	BJS	05/09/2017
_IMG0116	Trench 1 cut section	S	0.5m	BJS	05/09/2017
_IMG0117	Trench 1 cut section	S	0.5m	BJS	05/09/2017
_IMG0118	Trench 1 sandbags	W	0.5m	BJS	05/09/2017
_IMG0119	Trench 1 Section of Trench	E	0.5m	BJS	05/09/2017
_IMG0120	Trench 1 Section of Trench	E	0.5m	BJS	05/09/2017
_IMG0121	Trench 1 Section of Trench	E	0.5m	BJS	05/09/2017
_IMG0122	Trench 1 Section of Trench	E	0.5m	BJS	05/09/2017



Photo #	Description	View From	Scale	Initials	Date
_IMG0123	Trench 1 exposed stakes along edge of sandbags	E	0.5m	BJS	05/09/2017
_IMG0124	Trench 1 exposed stakes along edge of sandbags	E	0.5m	BJS	05/09/2017
_IMG0125	W Facing Section of Trench 2	W	1m	SF	05/09/2017
_IMG0126	W Facing Section of Trench 2	W	1m	SF	05/09/2017
_IMG0127	W Facing Section of Trench 2	W	1m	SF	05/09/2017
_IMG0128	W Facing Section of Trench 2	W	1m	SF	05/09/2017
_IMG0129	W Facing Section of Trench 2	W	1m	SF	05/09/2017
_IMG0130	W Facing Section of Trench 2 oblique	NW	1m	SF	05/09/2017
_IMG0131	W Facing Section of Trench 2 oblique	NW	1m	SF	05/09/2017
_IMG0132	E Facing section of Machine Gun Pit (Trench 2)	E	1m	SF	05/09/2017
_IMG0133	E Facing section of Machine Gun Pit (Trench 2)	E	1m	SF	05/09/2017
_IMG0134	E Facing section of Machine Gun Pit (Trench 2)	E	1m	SF	05/09/2017
_IMG0135	E Facing section of Machine Gun Pit (Trench 2)	N	1m	SF	05/09/2017
_IMG0136	E Facing section of Machine Gun Pit (Trench 2)	N	1m	SF	05/09/2017
_IMG0137	E Facing section of Machine Gun Pit (Trench 2)	S	1m	SF	05/09/2017
_IMG0138	E Facing section of Machine Gun Pit (Trench 2)	S	1m	SF	05/09/2017
_IMG0139	E Facing section of Machine Gun Pit (Trench 2) plus Bella the site dog	N	1m	SF	05/09/2017
_IMG0140	E Facing section of Machine Gun Pit (Trench 2) plus Bella the site dog	N	1m	SF	05/09/2017
_IMG0141	W Facing section of Machine Gun Pit (Trench 2)	W	1m	SF	05/09/2017
_IMG0142	W Facing section of Machine Gun Pit (Trench 2)	W	1m	SF	05/09/2017
_IMG0143	Northern slot in Trench 6 fully excavated (sandbags removed)	N	1m	BJS	05/09/2017
_IMG0144	Northern slot in Trench 6 fully excavated (sandbags removed)	N	1m	BJS	05/09/2017
_IMG0145	Northern slot in Trench 6 fully excavated (sandbags removed)	N	1m	BJS	05/09/2017
_IMG0146	Northern slot in Trench 6 fully excavated (sandbags removed)	N	1m	BJS	05/09/2017
_IMG0147	Northern slot in Trench 6 fully excavated (sandbags removed)	S	1m	BJS	05/09/2017
_IMG0148	Northern slot in Trench 6 fully excavated (sandbags removed)	S	1m	BJS	05/09/2017
_IMG0149	Northern slot in Trench 6 fully excavated (sandbags removed)	S	1m	BJS	05/09/2017
_IMG0150	Northern slot in Trench 6 fully excavated (sandbags removed)	W	1m	BJS	05/09/2017
_IMG0151	Northern slot in Trench 6 fully excavated (sandbags removed)	W	1m	BJS	05/09/2017
_IMG0152	"Turret" from the SW	SW	1m	SF	06/09/2017
_IMG0153	"Turret" from the SW	SW	1m	SF	06/09/2017
_IMG0154	W Facing Section of Trench 7	W	1m	SF	06/09/2017
_IMG0155	W Facing Section of Trench 7	W	1m	SF	06/09/2017
_IMG0156	E Facing Section of Trench 7	E	1m	SF	06/09/2017
_IMG0157	N Facing Section of Trench 7	N	1m	SF	06/09/2017
_IMG0158	N Facing Section of Trench 7	N	1m	SF	06/09/2017
_IMG0159	N Facing Section of Trench 7	N	1m	SF	06/09/2017
_IMG0160	N Facing Section of Trench 7	N	1m	SF	06/09/2017
_IMG0161	N Facing Section of Trench 7	N	1m	SF	06/09/2017
_IMG0162	Door of "turret" recovered from inside	N/A	1m	SF	06/09/2017
_IMG0163	Door of "turret" recovered from inside	N/A	1m	SF	06/09/2017



Photo #	Description	View From	Scale	Initials	Date
_IMG0164	Door of "turret" recovered from inside	N/A	1m	SF	06/09/2017
_IMG0165	Door of "turret" recovered from inside	N/A	1m	SF	06/09/2017
_IMG0166	Inside of Door of "turret" recovered from inside	N/A	1m	SF	06/09/2017
_IMG0167	Inside of Door of "turret" recovered from inside	N/A	1m	SF	06/09/2017
_IMG0168	Top of "turret"	N/A	1m	SF	06/09/2017
_IMG0169	Top of "turret"	N/A	1m	SF	06/09/2017
_IMG0170	Door and additional covers	N/A	1m	SF	06/09/2017
_IMG0171	Door and additional covers	N/A	1m	SF	06/09/2017
_IMG0172	E Facing Section of Trench 6	E	1m	SF	06/09/2017
_IMG0173	E Facing Section of Trench 6	E	1m	SF	06/09/2017
_IMG0174	E Facing Section of Trench 6	E	1m	SF	06/09/2017
_IMG0175	E Facing Section of Trench 6	E	1m	SF	06/09/2017
_IMG0176	E Facing Section of Trench 6	E	1m	SF	06/09/2017
_IMG0177	E Facing Section of Trench 6	E	1m	SF	06/09/2017



Appendix 4: Finds report

MILITARY ARTEFACTS REPORT

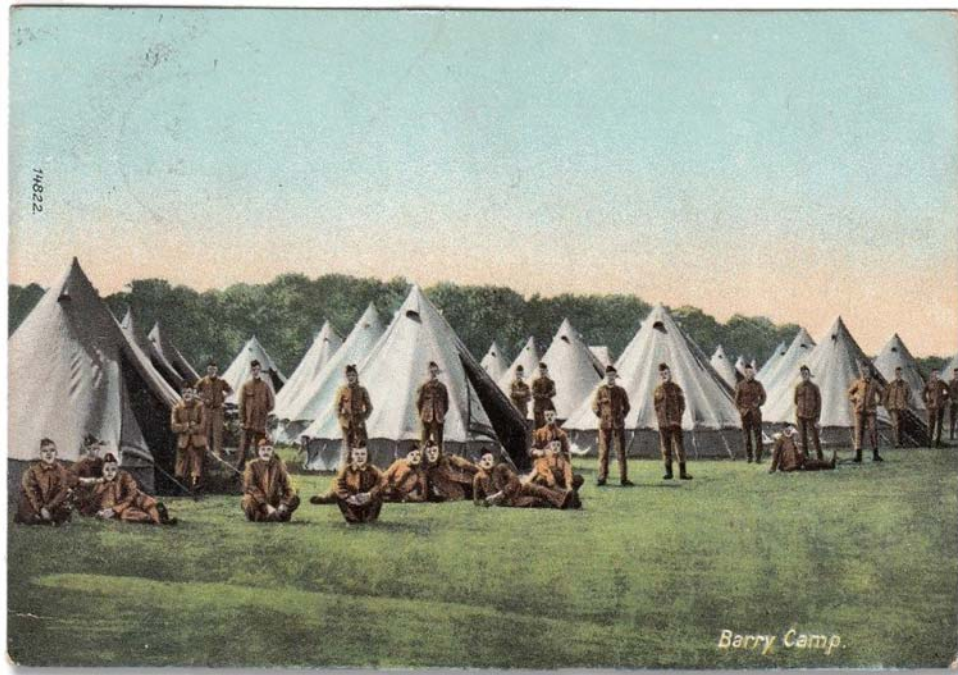
Ex Angus Holdfast - Barry Buddon



Mark Khan - September 2017

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Methodology	Page: 3
Trench One	Page: 4
Trench Two	Page: 15
Trench Seven	Page: 25
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Main Image: Barry Camp circa 1908
Front Cover: Breaking Ground Heritage
Rear Cover: The Evening Post, Saturday July 14th 1900
All other images - Mark Khan unless specified

Overview

This report has been produced for **Wessex Archaeology**. It aims at identifying the military related finds discovered during EX ANGUS HOLDFAST at Barry Buddon Camp over the period **28th August – 8th September 2017**.

The excavation took place at the site of a First World War practice trench system, acknowledged by Historic Environment Scotland (the Scottish Government's Archaeological Specialist Organisation) to be one of the most important and best preserved examples of WWI training trenches in Scotland.

The purpose of the project was to excavate a small but representative sample of the trenches with the aim of answering some fundamental questions about their use and period of utilisation as well as comparing their form and function with practice trenches that have been dug elsewhere on the MOD Estate (i.e. on Salisbury Plain and Otterburn).

Report Methodology

All artefacts supplied for analysis were initially reviewed to ascertain if they were related to military activity. Anything identified as such was then photographed, identified and any historical context analysed.

The report lists items by location (identified trench location). For items of ammunition where a cartridge headstamp is present and identifiable, representative images of each type are included in chronological order. Where possible objects are grouped by type.

British ammunition cartridge case headstamp information (dependent on date manufactured) is normally detailed by manufacture date, type of ammunition, and manufacturer identity.



Mark Khan - September 2017

Mark@commandpostmedia.com

Trench One

Trench One – Ammunition

.577 Ammunition



Type: .577 Snider bullet

Date: Unknown (introduced in October 1868).

Manufacturer: Unknown

Country of Origin: United Kingdom

Note: Bullet has clay pug in base. Nose featuring spun-over lead construction. Bullet exhibits 3 cannelures. Length 1.003 inches (25.49mm). Weight 30.5 grains. This identifies it as being fired from a 'Cartridge SA Ball Breech-loading for .577 inch Snider Rifles 2/2 DRS Mark IX'. Used in the Snider breech loading conversion of the Pattern 1853 Enfield rifle.

Trench One – Ammunition

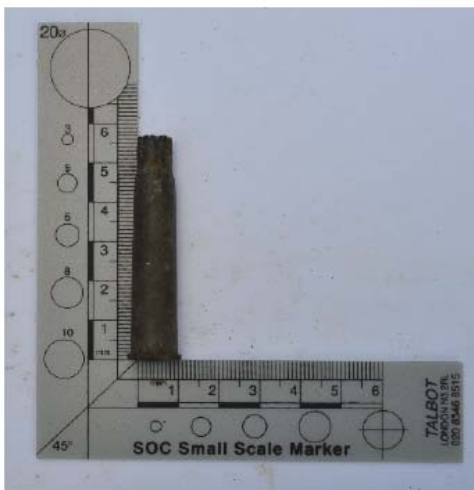
.303 Ammunition



Type: Cartridge S.A., Blank, .303-inch. With Mock Bullet (fired)

Date: Undated - Introduced 1907

Manufacturer: Royal Laboratory, Woolwich



Country of Origin: United Kingdom

Type: Cartridge S.A, Blank .303-inch.L Mark V. LNA. For carbines or rifles (fired)

Date: Undated (pre-1907).

Manufacturer: Eley

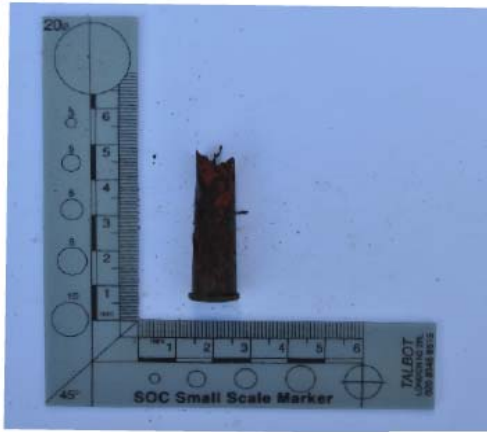
Country of Origin: United Kingdom

Note: Case marked as Cartridge, S.A., Ball .303-inch, Mark IV. C. (blank ammunition often utilised second grade or rejected cases originally made for other types of ammunition).

Trench One – Ammunition

.303 Ammunition

Type: Cartridge S.A, Blank .303-inch.L Mark V. LNA. For carbines or rifles (fired)

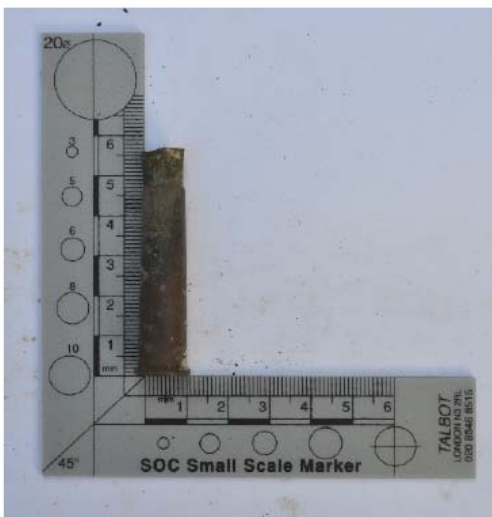


Date: 1911

Manufacturer: Royal Laboratories, Woolwich

Country of Origin: United Kingdom

Note: Manufactured using ball case. Identification as blank made from visual analysis of struck primer .



Type: Cartridge S.A, Ball .303-inch. Mark VII

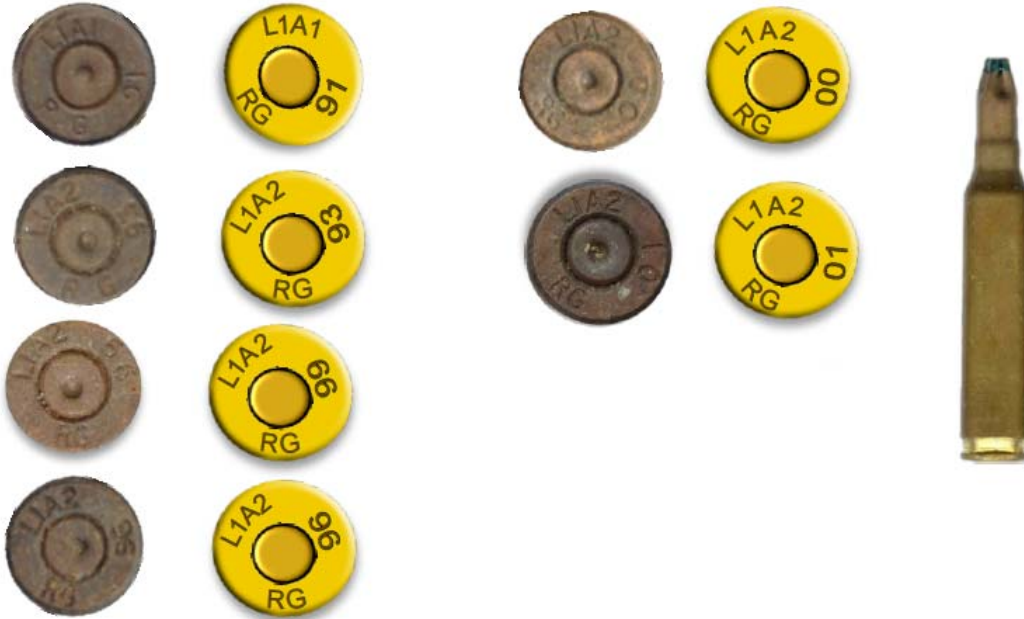
Date: 1916

Manufacturer: Royal Laboratories, Woolwich
Country of Origin: United Kingdom

Trench One – Ammunition

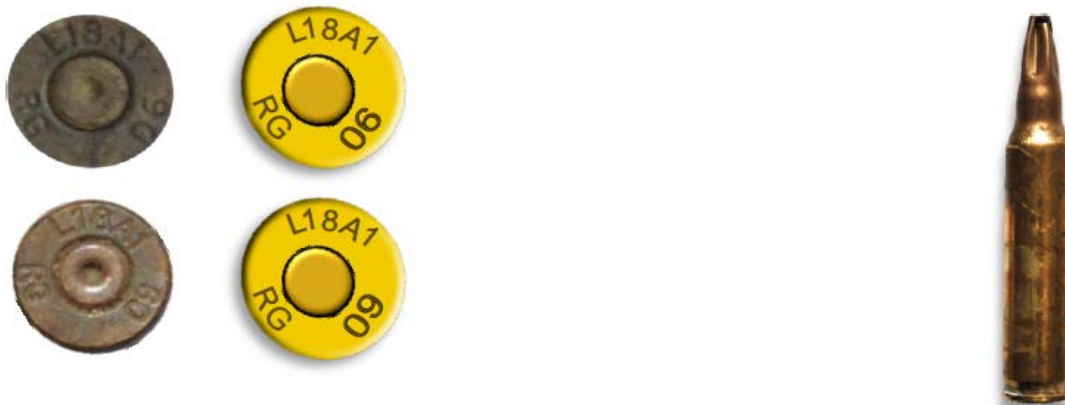
5.56 Ammunition

Type: Cartridge blank 5.56 L1A2 (fired)
Manufacturer: Radway Green*



Country of Origin: United Kingdom
Notes: Examples dated 1991 – 2001

*The Royal Ordnance Factory, Radway Green manufactures small arms ammunition for the British armed forces. It is located near Barthomley near Alsager in Cheshire. Opened in 1940 it continues to produce small arms ammunition and is currently owned by BAE Systems (Land) UK.



Type: Cartridge blank 5.56 L18A1 (fired)
Manufacturer: Radway Green

Country of Origin: United Kingdom
Notes: Examples dated 2006 - 2009

Trench One – Ammunition

7.62 Ammunition



Type: Cartridge blank 7.62 L13A1 (fired)
Manufacturer: Radway Green
Country of Origin: United Kingdom
Notes: Examples dated 1977 & 1985



Type: Cartridge blank 7.62 L13A2 (fired)
Manufacturer: Radway Green
Country of Origin: United Kingdom
Notes: Example dated 1997

Trench One – Miscellaneous Ammunition



Type: 5.56mm M200 blank (fired)

Manufacturer: Lake City Ordnance Plant, Missouri, USA

Country of Origin: USA

Note: Headstamp showing date not legible.



Type: 5.56mm M200 blank (fired)

Manufacturer: Lake City Ordnance Plant, Missouri, USA

Country of Origin: USA

Note: Headstamp showing date not legible.

Trench One – Bullets



Type: .577 calibre muzzle loading rifle bullet

Date: Unknown (consistent with the .577 Enfield bullet, pattern of 1859).

Manufacturer: Unknown (form consistent with the .577 Enfield bullet, pattern of 1859).

Country of Origin: United Kingdom

Note: Bullet features 5 groove right hand twist rifling and has a clay plug in base. Ramrod mark evidenced on nose of bullet. Whilst is not possible to categorically match this bullet to a specific rifle, the probability is that it was fired by an 1853 type muzzle loading rifle. Weight: 53.087 grains. Length 0.933 inches (23.7mm). This is consistent with the .577 Enfield bullet, pattern of 1859.



Type: Webley .455" MK I Revolver bullet

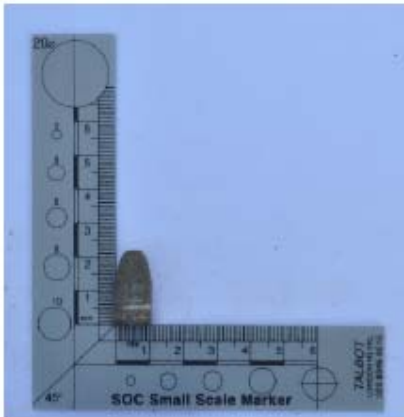
Date: Unknown (approved in July 1891)

Manufacturer: Unknown

Country of Origin: United Kingdom

Notes: Bullet evidences x7 groove right hand twist rifling. This is indicative of having been fired by a British Webley revolver.

Trench One – Bullets



Type: Webley .455" MK I Revolver bullet

Date: Unknown (approved in July 1891)

Manufacturer: Unknown

Country of Origin: United Kingdom

Notes: Bullet evidences x5 groove right hand twist rifling. This is indicative of having been fired by a Smith & Wesson Hand Ejector Model Revolver. Large numbers of these revolvers were purchased by the British government for use during the First World War.



Type: Webley .455" MK I Revolver bullets

Date: Unknown (approved in July 1891)

Manufacturer: Unknown

Country of Origin: United Kingdom

Notes: Bullet evidences x7 groove right hand twist rifling. This is indicative of having been fired by a British Webley revolver.

Trench One – Bullet Fragments



Type: Lead bullet fragments

Date: Unknown

Manufacturer: Unknown

Country of Origin: Unknown



Type: Lead bullet fragment

Date: Unknown

Manufacturer: Unknown

Country of Origin: Unknown

Trench One – Bullet Fragments



Type: Lead bullet fragments

Date: Unknown

Manufacturer: Unknown
Country of Origin: Unknown

Trench One - Miscellaneous Military Equipment

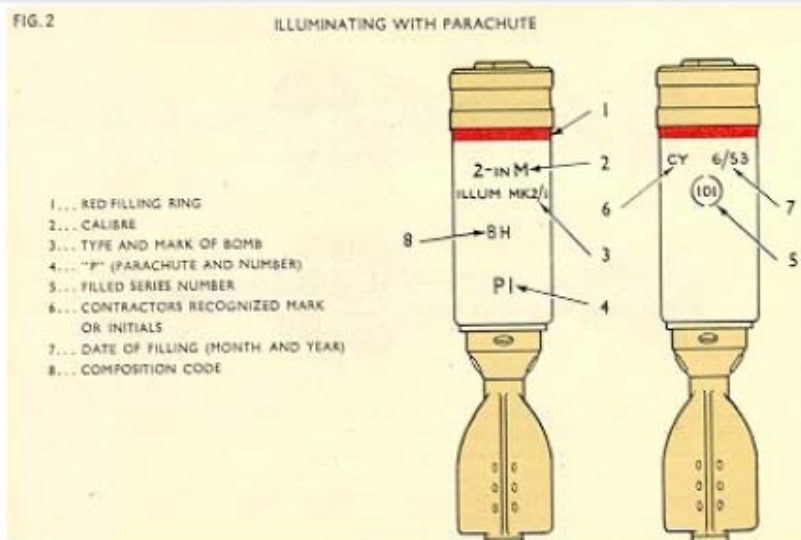


Type: x2 tubes from British Army Composite Ration Pack. One containing Plum Jam. One containing Condensed Milk
Dated: Condensed milk tube dated 1970.
Manufacturer: Unknown
Country of Origin: United Kingdom

Menu sheet from a 1973 (revised) dated 24 Hour Ration Pack. Contents including condensed milk (in tube) and jam are detailed.

Trench Two

Trench Two - Mortar Bomb



Type: Bomb,M.L.,Illuminating,with parachute. 2-inch Mortar (fired)

Date: Unknown

Manufacturer: Unknown

Country of Origin: United Kingdom

Trench Two - Ammunition

.577-.577/455 Ammunition



Type: Base of a 577 Snider or 577/455 Martini Henry cartridge

Date: Unknown (.577 Snider introduced in October 1868. .577/455 Martini Henry introduced in June 1872)

Manufacturer: Unknown

Country of Origin: United Kingdom

Trench Two - Ammunition

.303 Ammunition



Type: Cartridge S.A., Blank, .303-inch. L Mark 9 Z.

Dated: 1960

Manufacturer: Radway Green

Country of Origin: United Kingdom

Trench Two - Ammunition

5.56 Ammunition



Type: Cartridge blank 5.56 L1A1 (fired)
Manufacturer: Radway Green
Country of Origin: United Kingdom
Notes: Example dated 1987



Type: Cartridge blank 5.56 L1A2 (fired)
Manufacturer: Radway Green
Country of Origin: United Kingdom
Notes: Examples dated 1993 - 2002



Type: Cartridge blank 5.56 L1A3 (fired)
Manufacturer: Radway Green
Country of Origin: United Kingdom
Notes: Example dated 2005

Trench Two - Bullets



Type: Bullet. .303-inch Mark I.C or Mark II. C

Date: Mark 1. C introduced 1-12-1889. Obsolete: 1-9-1894 Mark II. C Introduced 1-11-1890. Obsolete: 1-9-1912

Manufacturer: Unknown

Trench Two - Bullets



ype: Webley .455" MK I Revolver bullet
Dated: Unknown (approved in July 1891)

Manufacturer: Unknown

Country of Origin: United Kingdom

Notes: Bullet evidences x5 groove right hand twist rifling. This is indicative of having been fired by a Smith & Wesson Hand Ejector Model Revolver. Large numbers of these revolvers were purchased by the British government for use during the First World War.

Trench Two – Bullet

Fragments



Type: Bullet fragments, types unknown

Date: Unknown

Manufacturer: Unknown

Country of Origin: Unknown

Trench Two – Bullet Fragments



Type: Bullet fragments (lead), types unknown

Dated: Unknown

Manufacturer: Unknown

Country of Origin: Unknown

Trench Seven

Trench Seven - Ammunition

.303 Ammunition



Type: Cartridge S.A., Blank, .303-inch. L Mark 9 Z.

Manufacturer: Radway Green

Country of Origin: United Kingdom

Notes: No Headstamp - consistent with Second World War manufacture.



Type: Cartridge S.A., Blank, .303-inch. L Mark 9 Z.

Dated: 1960

Manufacturer: Radway Green

Country of Origin: United Kingdom

Trench Seven - Ammunition

.303 Ammunition



Type: Cartridge S.A., Blank, .303-inch. L Mark 10 Z.

Manufacturer: Radway Green

Country of Origin: United Kingdom

Notes: Blue wooden bullet blank for use in the Bren Light Machine Gun. Primer evidences being struck by oblong firing pin, consistent with use in a Bren Gun

Trench Seven - Ammunition

5.56 Ammunition



Type: Cartridge blank 5.56 L1A2 (fired)

Manufacturer: Radway Green

Country of Origin: United Kingdom

Notes: Examples dated 1993 - 2001



Type: Cartridge blank 5.56 L18A1 fired & Live.

Manufacturer: Radway Green

Country of Origin: United Kingdom

Notes: Examples dated 2006 & 2009. One live example extant. Isolated from main collection for destruction.

Trench Seven - Ammunition

7.62mm Ammunition



Type: Cartridge blank 7.62 L10A2 (fired)
Manufacturer: Radway Green
Country of Origin: United Kingdom
Notes: Examples dated 1967 - 1974



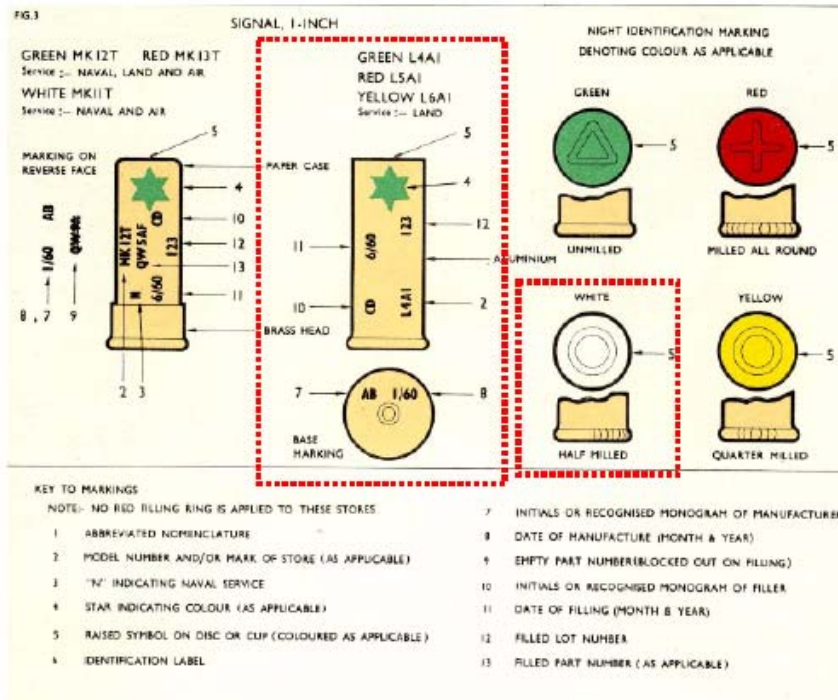
Type: Cartridge blank 7.62 L13A1 (fired)

Manufacturer: Radway Green

Country of Origin: United Kingdom

Notes: Examples dated 1976 - 1984. One 1978 example (left picture) has a Primer evidencing being struck by an oblong firing pin, consistent with use in a L4A4 Light Machine Gun

Trench Seven – Miscellaneous Ammunition



Type: Cartridge, Signal, 1- inch, White Signal (fired)

Manufacturer: Radway Green

Date: July 1974

Country of Origin: United Kingdom

Notes: Base of cartridge milled half way round, indicating white. Base of cartridge marked 'RG/7/74'

Trench Seven – Bullets



Type: Webley .455" MK I Revolver bullet

Dated: Unknown (approved in July 1891)

Manufacturer: Unknown

Country of Origin: United Kingdom

Notes: Bullet evidences x5 groove right hand twist rifling. This is indicative of having been fired by a Smith & Wesson Hand Ejector Model Revolver. Large numbers of these revolvers were purchased by the British government for use during the First World War.

Trench Seven – Bullets



Type: .380 inch revolver, MK II Revolver bullet
Dated: Unknown (pre 1963 – bullets produced after this time evidence only x1 cannelure)
Manufacturer: Unknown
Country of Origin: United Kingdom

Trench Seven - Miscellaneous Military Equipment



Type: Aluminium peg from an Individual Protection Kit

Manufacturer: Unknown

Country of Origin: United Kingdom

References

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Joint Services Ammunition and Ammunition Package Markings Handbook. Section 8. Pyrotechnics and Miscellaneous Chemical and Smoke Stores. Ministry of Defence. 1963

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The Revolver 1889-1914, A.W.F. Taylerson, Barrie & Jenkins, London, 1970

The Boxer Cartridge in the British Service. B.A.. Temple Winnum Central 4178, Australia

Detailed in The Identification of Firearms and Forensic Ballistics, Major Sir Gerald Burrard BT.,D.S.O, R.F.A (retired), London: Herbert Jenkins, 1934

British Small Arms Ammunition 1864-1938. P. Labbett, Hendon, 1993

Radway Green. A history of Royal Ordnance Factory Radway Green and Royal Ordnance plc, Radway Green 1940-1999, P.Labbett, London, 1999

Notes:

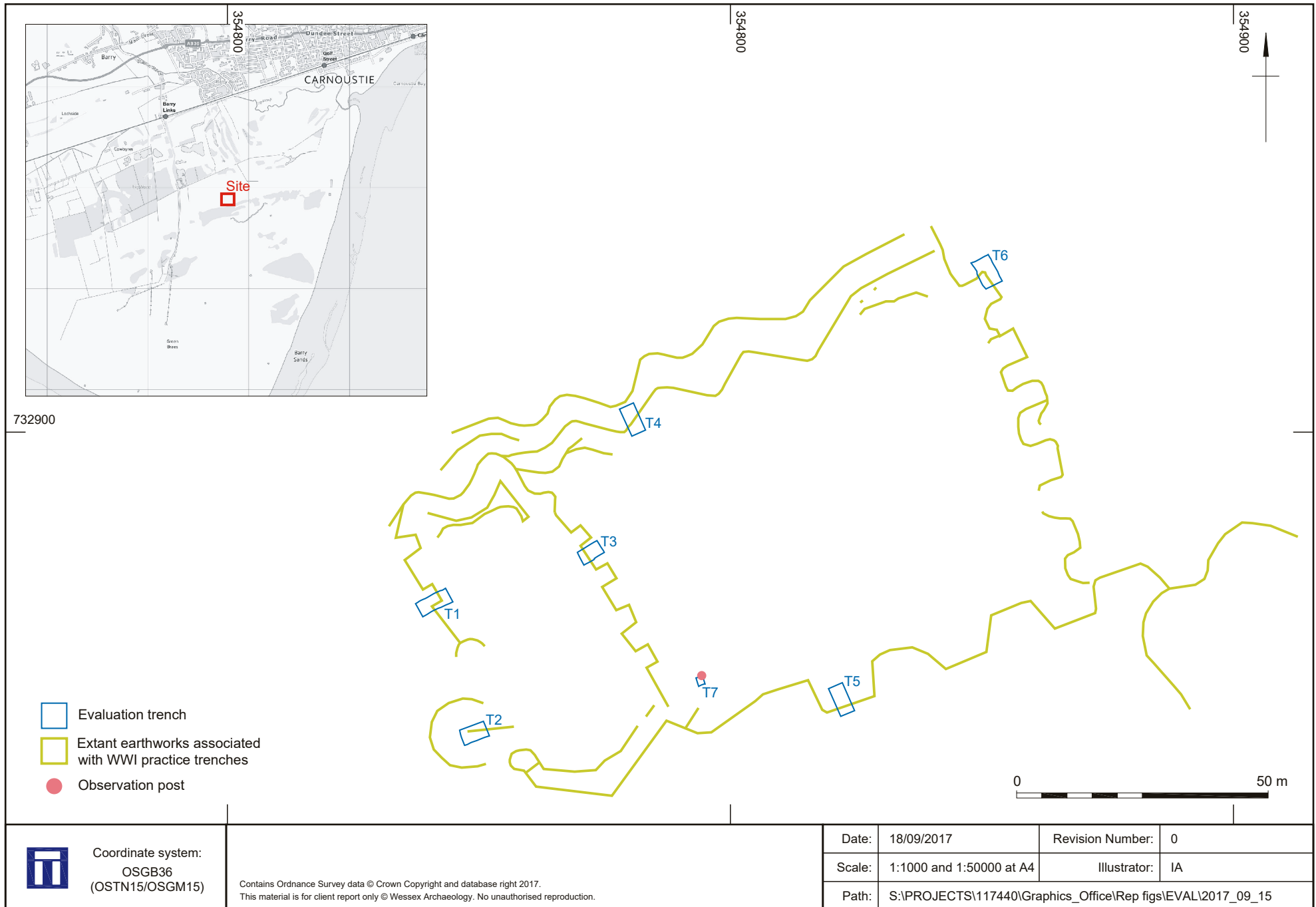
- 2) It is possible to discern between a blank & live fired cartridge, if a primer is still present. A live round is subject to high pressures when fired (with bullet) and results in primer being pushed under extreme pressure against bolt face when fired. This results in a flat surface exhibited on the primer. A blank cartridge is subject to much lower pressures when fired and as such primers exhibit a markedly more 'domed' appearance.
- 3) It is common for blank cases to have been manufactured from rejected cases or re-used fired cartridges, originally marked for other types of round. Hence a mix of headstamps not directly representing blank ammunition can be found.

British Service ammunition contains the year of manufacture from 1907. Prior to that no date of manufacture was indicated.

THE BUDDON CAMP REGULATIONS.

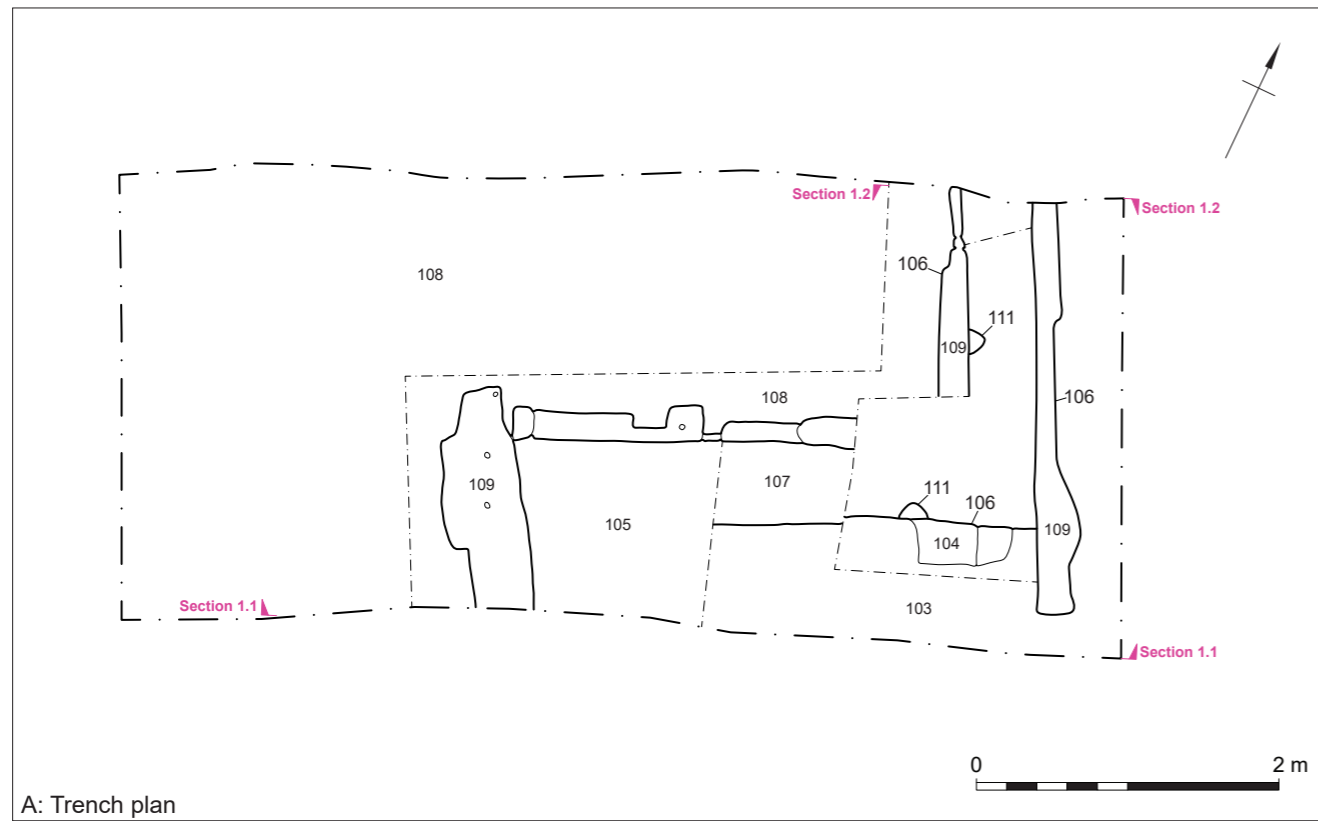


"ANY MAN seeing ball ammunition on the ground . . . must at once draw the attention of a non-commissioned officer to it, but will on no account pick it up himself."
GUNNER ATKINS (LOQUACIOUS)—"WHERE ON EARTH CAN I GET A SERGEANT?"

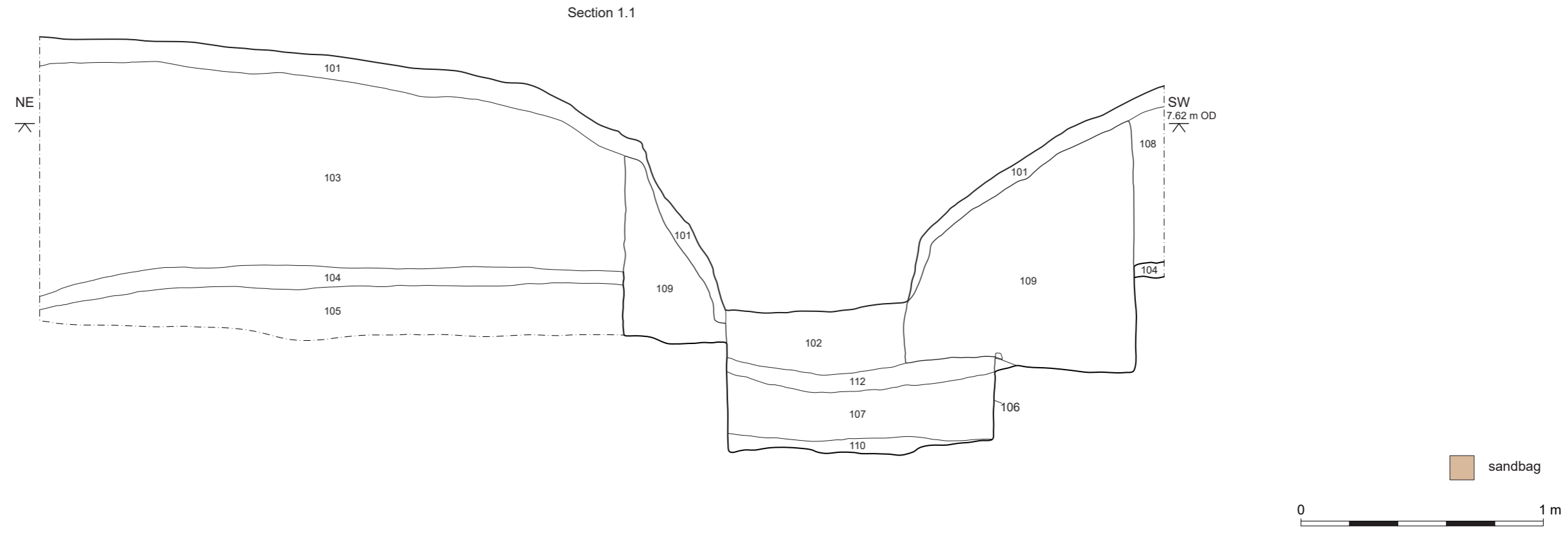
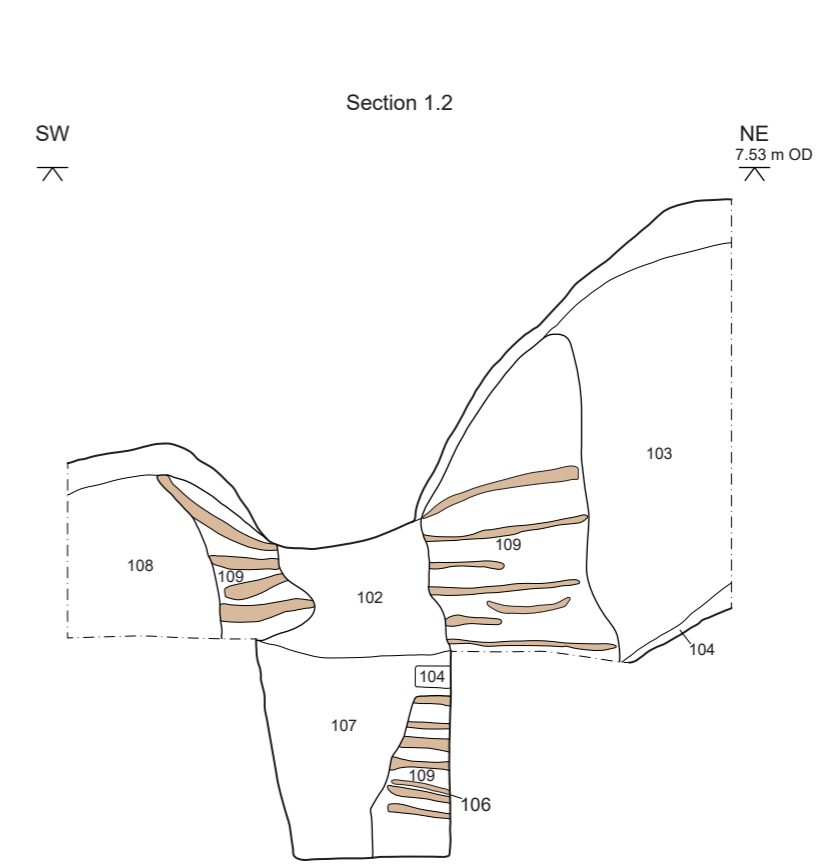


Site and trench location

Figure 1



A: Trench plan

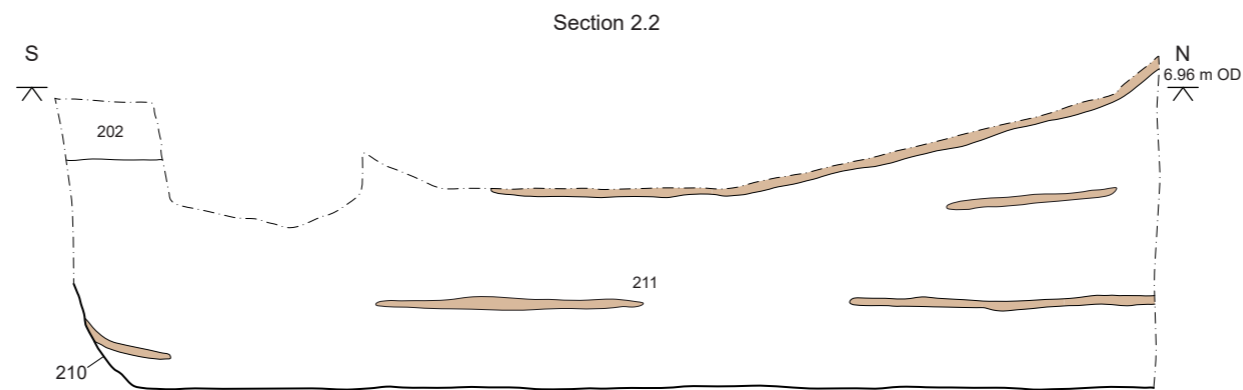
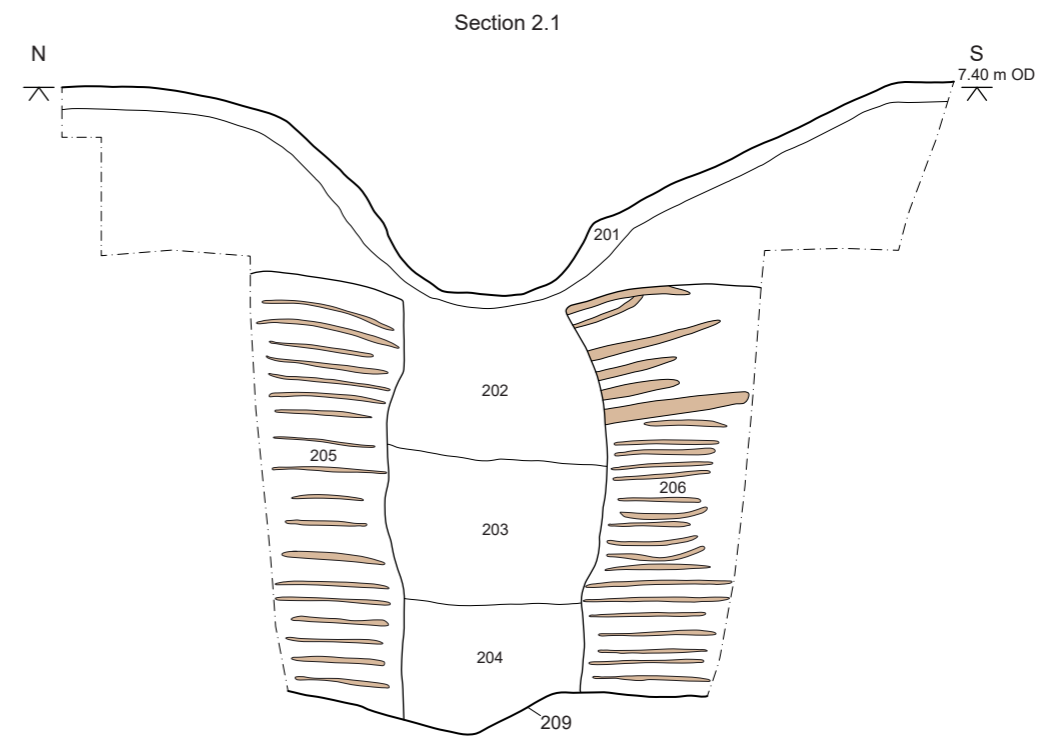
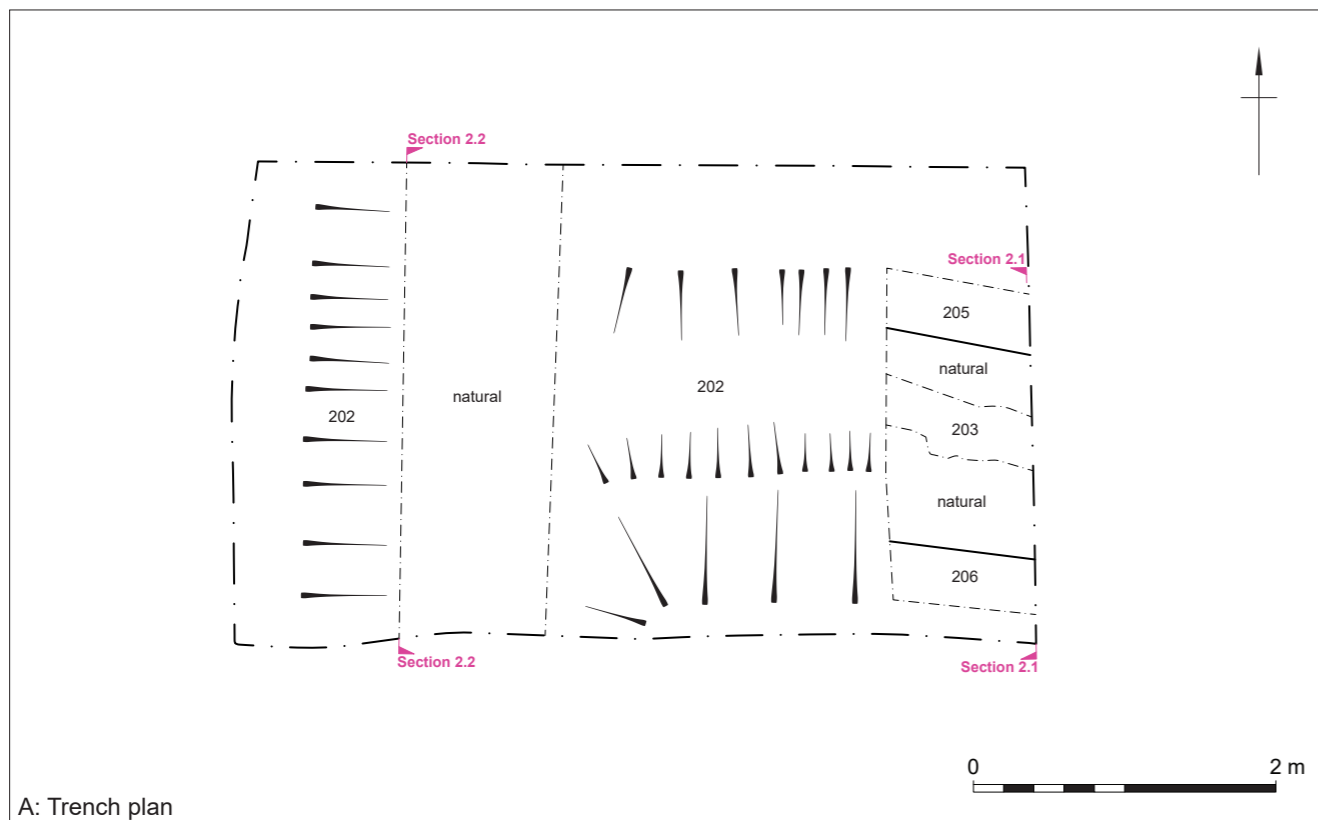


B: Sections



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■ sandbag



B: Sections

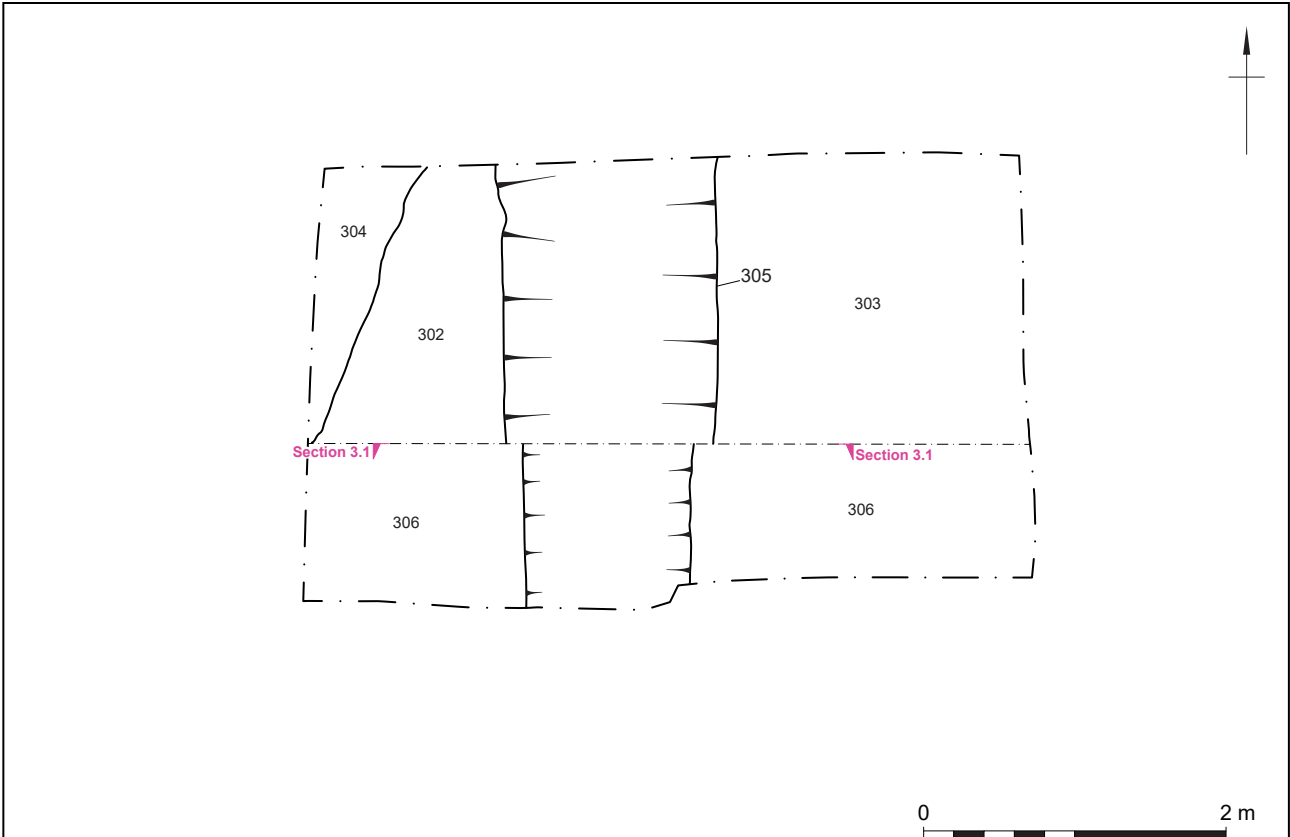


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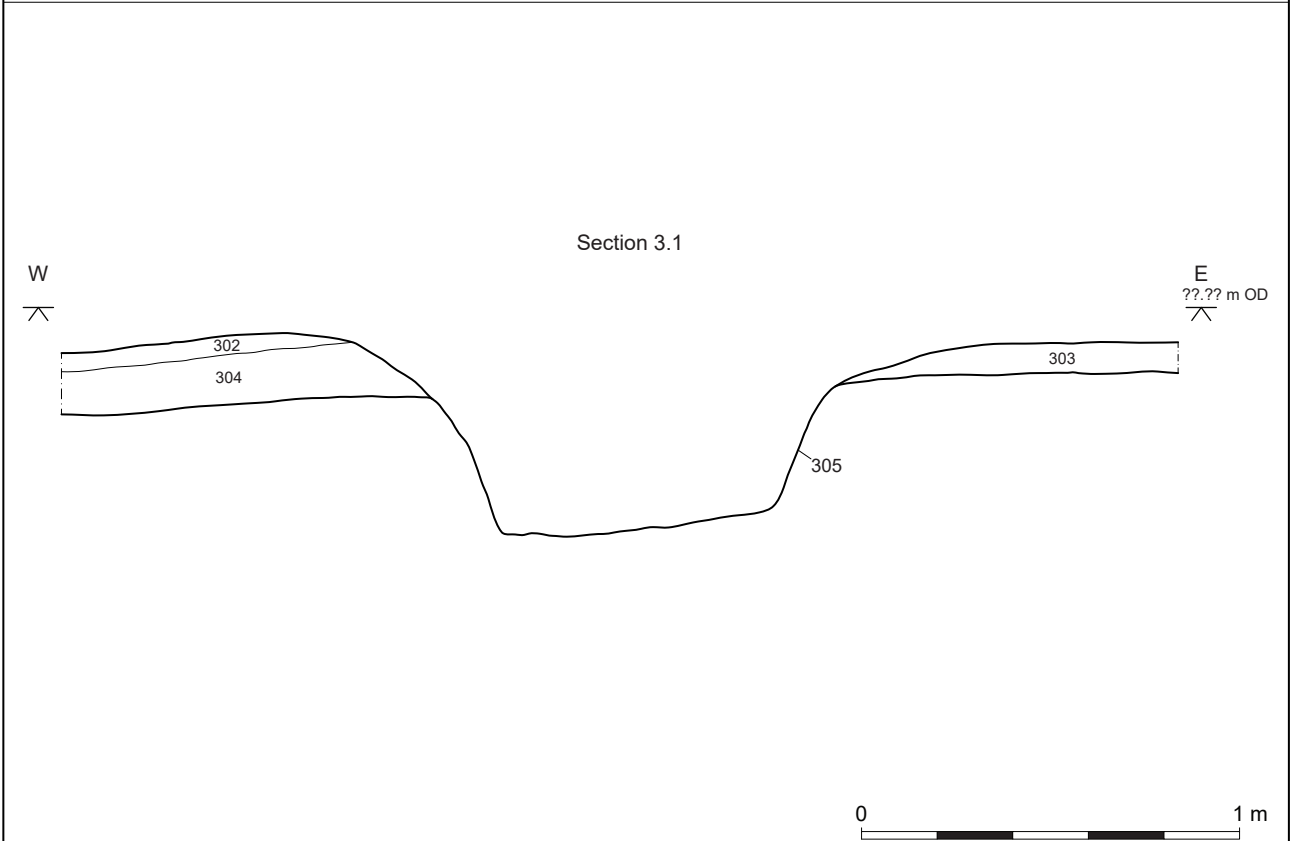
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Plan and sections of trench 2


Figure 3



A: Trench plan

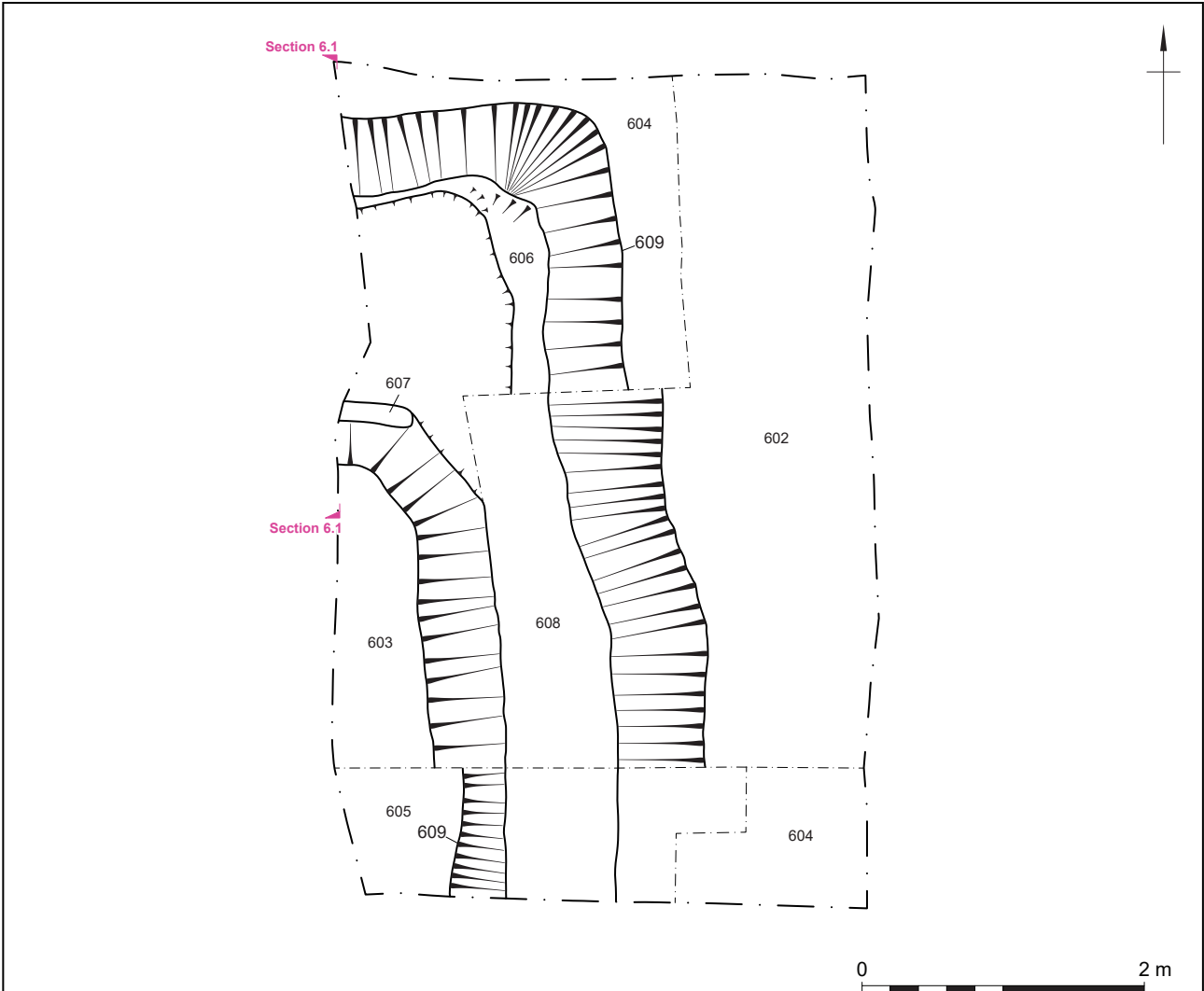


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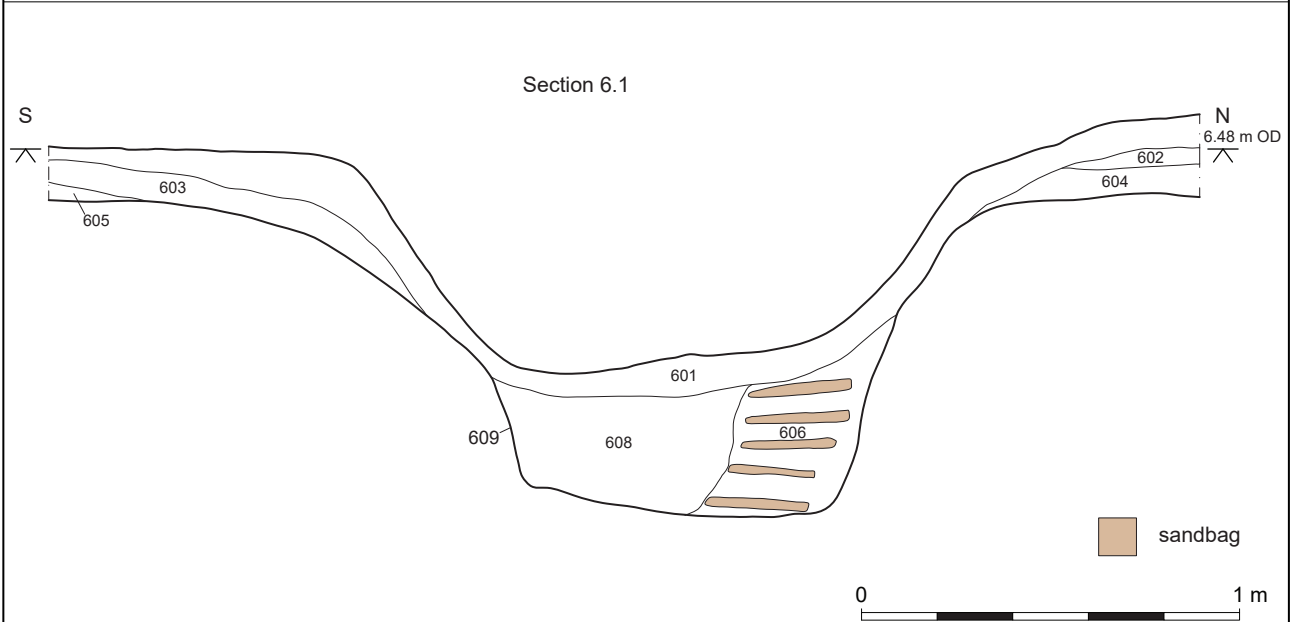
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Plan and section of trench 3

Figure 4



A: Trench plan

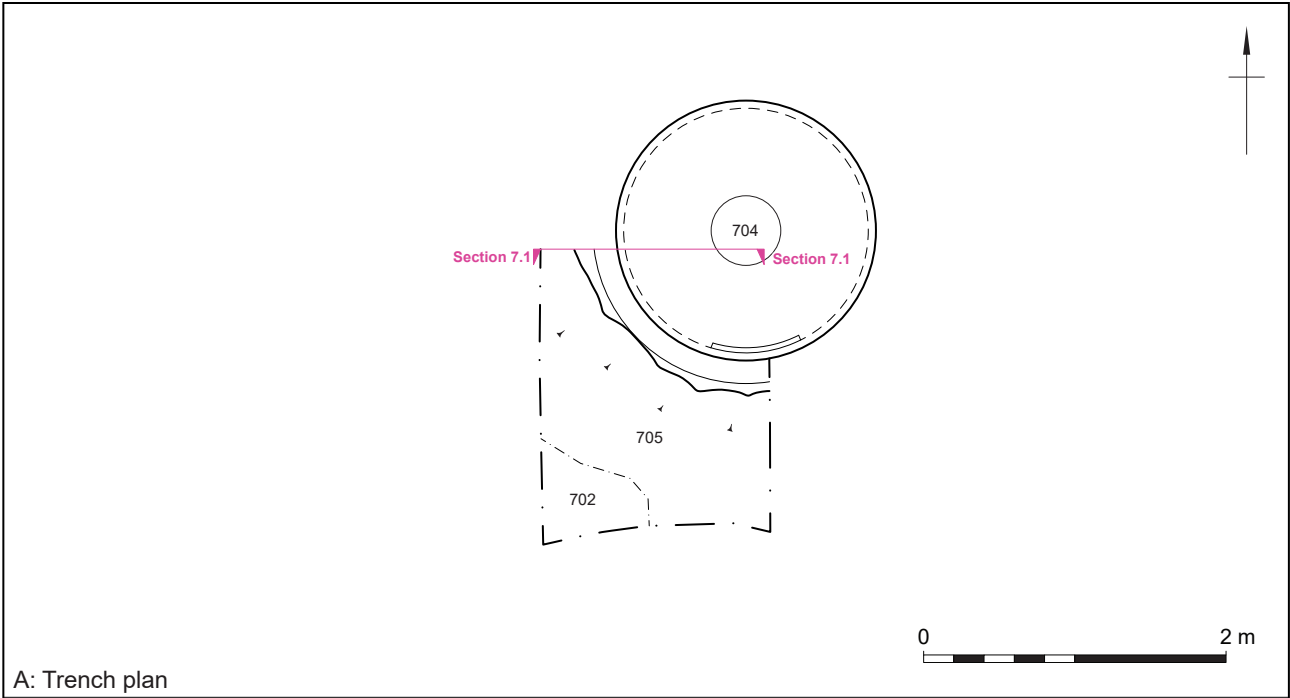


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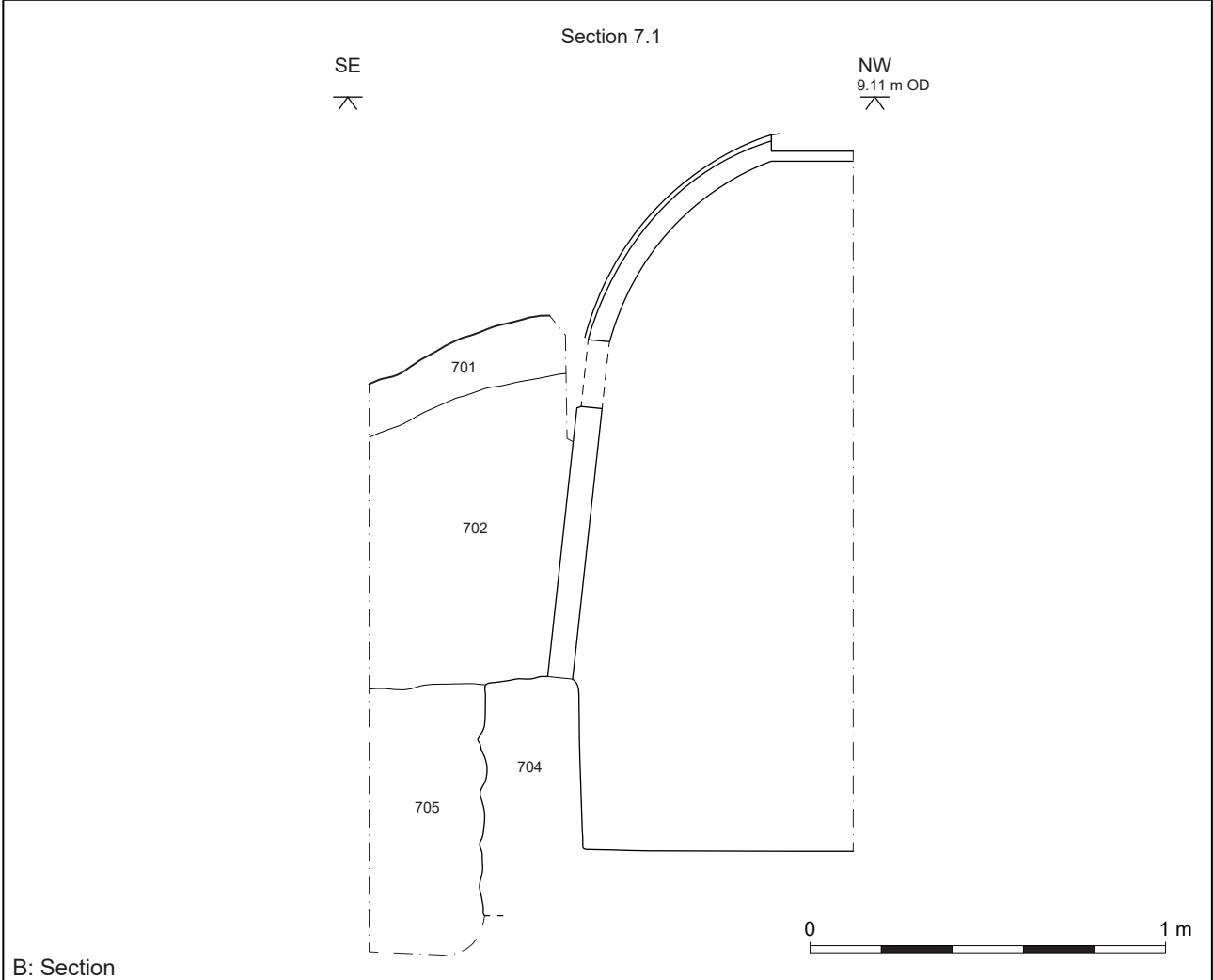
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Plan and section of trench 6


Figure 5



A: Trench plan



B: Section

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Plan and section of trench 7

Figure 6

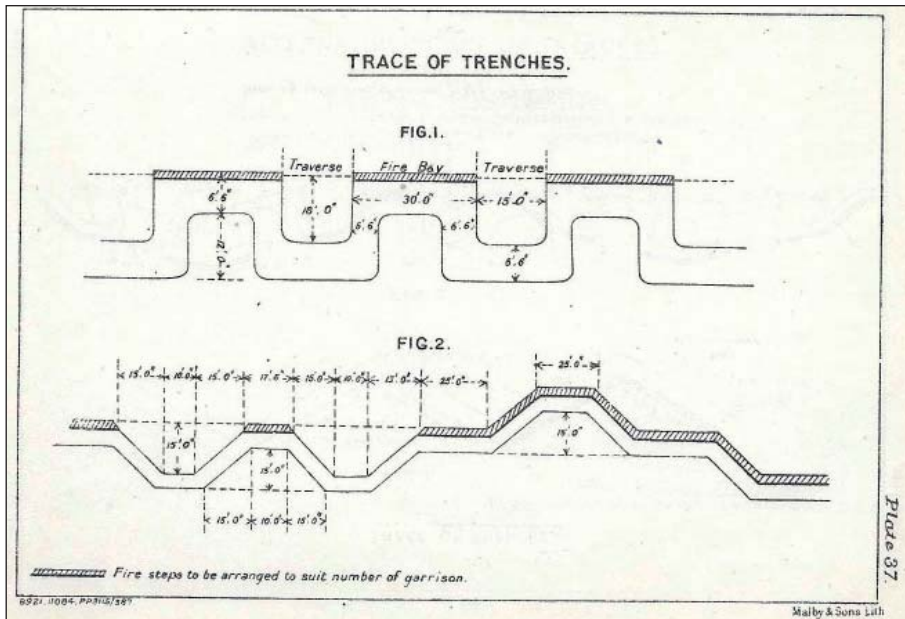


Plate 1: Schematic of Frontline trench in plan. From 1921 British Army Field Manual, Plate 37

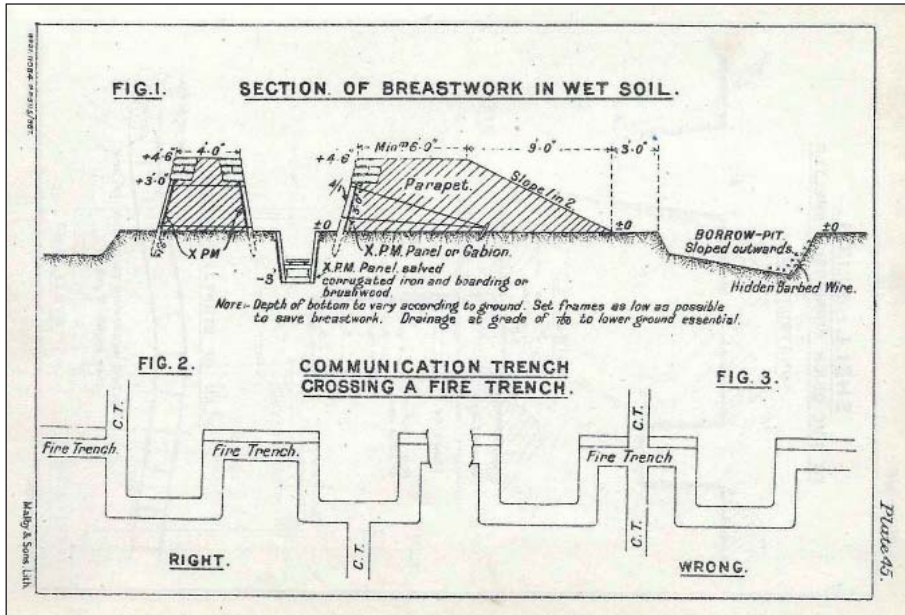


Plate 2: Cross Section through trench with breastwork (for use in wet soil). From 1921 British Army Field Manual, Plate 45

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Plate 3: Full excavation photo of trench one, looking east, with sandbag revetments showing along edge of trench. Wooden fire step fragment in bottom left corner.



Plate 4: Full excavation photograph of trench one, looking south, showing sandbag revetment, old ground surface and build-up of material to form paradose behind sandbags


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Plate 5: Full excavation photograph looking north of trench one showing sandbag revetments within trench cut [106] and infilling layers of trench



Plate 6: Close up details of sandbag revetment on eastern side of trench with old land surface and building up of paradose material. Looking east.


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Plate 7: Close up looking south of sandbag material within trench one and postpipe [111]

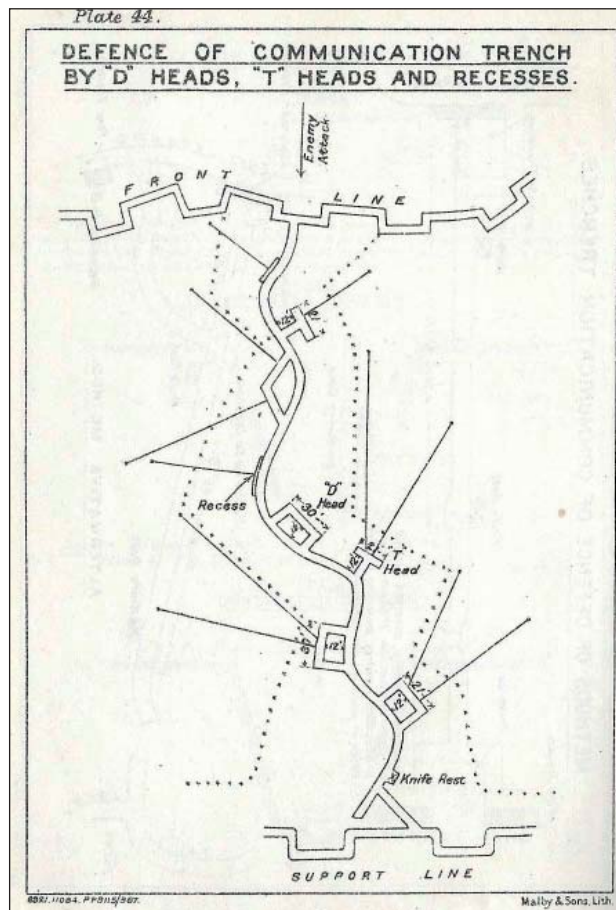



Plate 8: Defence of communication trench by "D" Heads, "T" Heads and recessed. From 1921 British Army Field Manual, Plate 44

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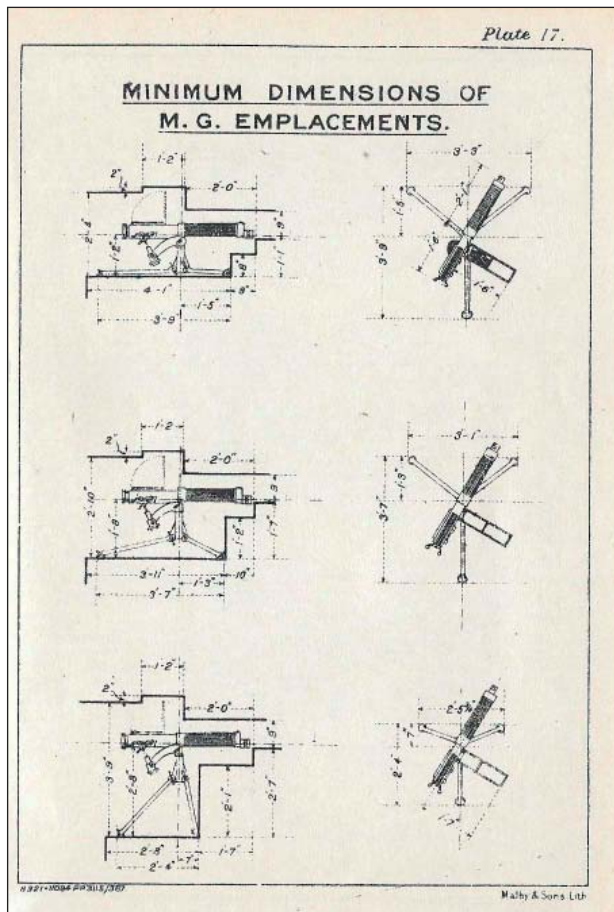


Plate 9: Minimum dimensions of M.G. emplacements.
From 1921 British Army Field Manual, Plate 17



Plate 10: Full excavation photograph of trench two, Machine Gun Pit showing base of cut into natural and sandbags on top of trample layer [208]. Looking south


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Plate 11: Full excavation photo of trench two access trench looking east showing collapsing sandbag banding, cut into natural for trench and trench infilling



Plate 12: Mid-ex of trench two Machine Gun Pit showing continuation of sandbag revetments along edge of access trench entering MGP. Looking southeast


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Plate 13: Full excavation photograph of trench three. Looking south



Plate 14: Mid excavation photo of trench six showing sandbag revetment in north eastern corner of trench base, redeposited material on parapet and old land surface. Looking south


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Plate 15: Mid excavation photograph of northern slot in trench six showing sandbag revetments along northern edge of WWI trench. Looking north



Plate 16: Full excavation photograph showing western section through WWI trench with slumped sandbag revetment along northern edge. Looking west


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Plate 17: Top view of the steel dome structure, showing overlapping steel plates, double skin and other fittings. Looking west



Plate 18: Full excavation photograph of trench seven showing steel dome structure and associated concrete base with blown sand accretion on all sides. Looking north-east



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Plate 19: Mid excavation photograph of trench seven, showing concrete base with impressed sandbags used as shuttering

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