

# Fort Burgoyne, Dover

## Watching brief report

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**Frontispiece** Machine excavation of Test pit1 in the ditch, looking west

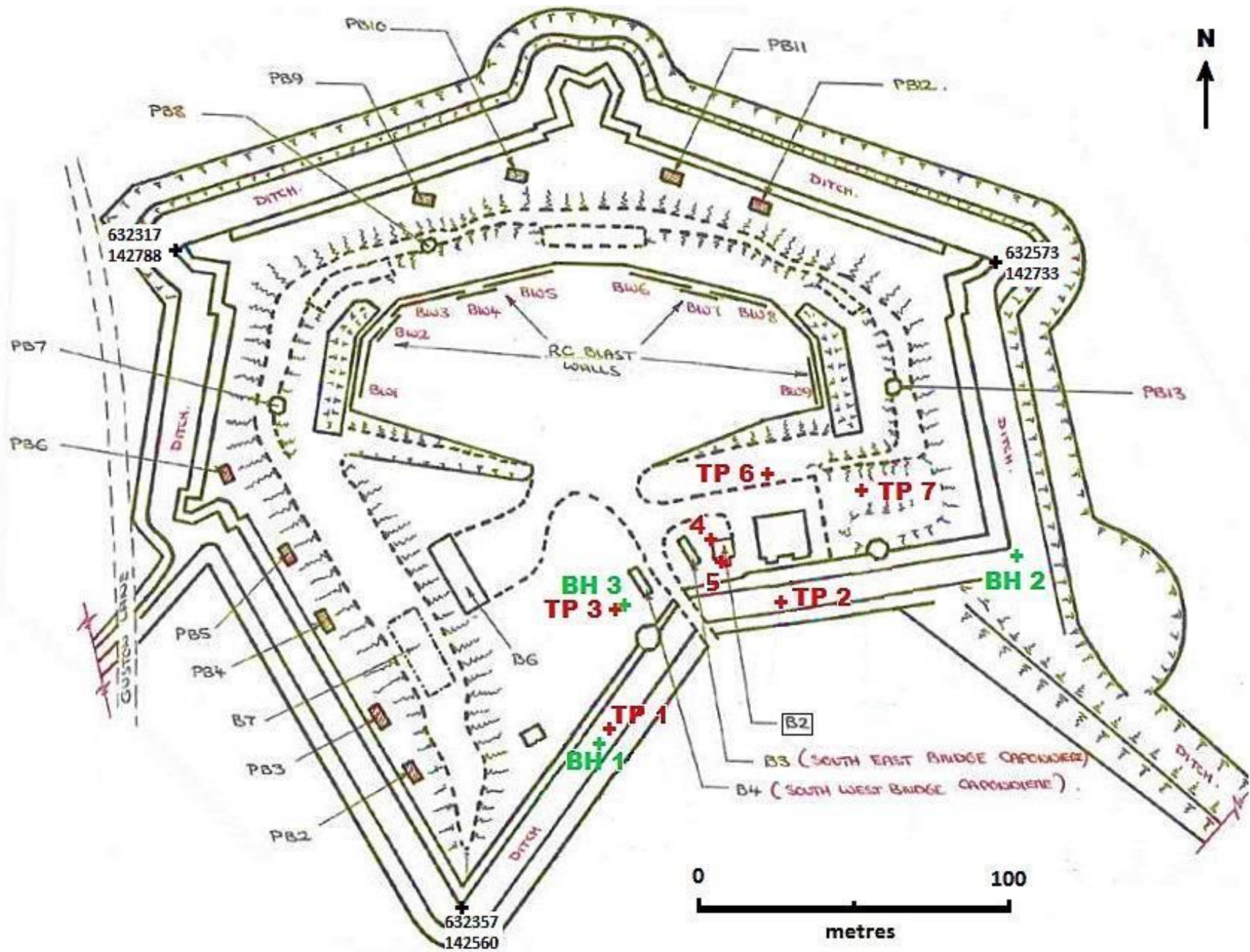


Fig. 1 Outline plan of Fort Burgoyne showing location of Test pits (TP 1-7) and boreholes (BH 1-3)

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# Fort Burgoyne, watching brief March 2016

## 1. Summary

Observation of seven soil test pits and three boreholes cut at various points around Fort Burgoyne, north of Dover Castle (NGR 63243 14272, centred) was carried out in March 2016. This allowed some limited observation of the buried archaeology of the fort. In Test pit 6, the north of the stable block the base of a demolished brick wall was located, together with the surfacing of an early fort roadway. Traces of pre-fort clay deposits were noted in Test pits 3, 4 and 6. No artefacts of archaeological interest were recovered during the course of the investigations. No unauthorised damage to the structure of the fort occurred.

## 2. Introduction

**2.1** In connection with a programme of ground investigation works being undertaken at Fort Burgoyne north of Dover Castle (NGR 63243 14272, centred), Canterbury Archaeological Trust was commissioned to undertake a watching brief during March 2016.

**2.2** The works were undertaken at various points within the southern half of the fort complex (Fig. 1) in order to address specific problems relating to site drainage and building subsidence (Parfitt and Valduis 2016). These limited new excavations provided an opportunity to archaeologically examine something of the buried archaeology of the fort, with the potential to extend the results of similar observation work (Parfitt 2013).

**2.3** The fort was built during the 1860s to defend the high ground overlooking the castle. It is now Scheduled as an Ancient Monument (No. 467988; Kent HER Ref. No. TR34 SW81) and represents a significant site within the sequence of historic artillery defences surviving at Dover. Moreover, the fort appears to have been partially erected across the site of an earlier earthwork, 'Oliver's Mount', perhaps of medieval date and related to the French siege of the castle in 1216–17 (Parfitt 1995).

**2.4** The fort is situated within the historic parish of Guston and, in topographical terms, occupies a near-level plateau lying to the north of Dover Castle. The ground within the fort is fairly level and stands at an elevation of between 120 and 130m above OD, which is around 15 metres higher than the ground occupied by the keep of Dover Castle located some 800 metres to the south. The Citadel of the Western Heights fortress, another key element of Dover's nineteenth-century defences, lies about 2.75km to the south-west.

**2.5** The natural subsoil in the area of the fort comprises a superficial drift deposit of heavy Clay-with-flints resting on Upper Chalk of the Seaford Formation. Typically in the area, the Clay-with-flints does not rest on a level chalk surface but occupies numerous localised hollows and pipes in the top of the chalk bedrock, some of which can be of considerable depth.

**2.6** The fieldwork generated an archive comprising thirty recorded contexts, a test pit location plan, seven sections and fifteen digital photographs. No artefacts were recovered. All the field records have been checked and indexed. They are currently held by CAT (Dover Office).

## 3. Historical background

**3.1** Originally known as Castle Hill Fort, Fort Burgoyne is of polygonal design, surrounded by a 10 metre (36 feet) wide ditch and flanked by two redoubts, the Eastern and Western Outworks, which

were connected to the main fort by ditches. Construction work started in June 1861 and was mostly finished by 1868 but the fort was not finally completed until December 1873 (Saunders 2007, 11).

**3.2** A full, detailed history of the fort has yet to be prepared, although Andrew Saunders has produced a valuable overview (Saunders 2007). The main fort was defended by one double and three single projecting caponiers, each of two tiers. The gorge ditch forms a re-entrant with casemated flanks for guns and musketry. The fort was provided with a *chemin des rondes* below the crest of the rampart as well as a covered way on the scarp of the ditch. Twenty-nine guns could be mounted on the ramparts, of which six were set in Haxo casemates. Two earth ramps leading up from the interior of the fort gave access to these ramparts. Twenty-six smaller guns were to be placed in the caponiers and flanking batteries.

**3.3** At the centre of the main fort is a parade ground surrounded on three sides by casemented, bomb-proof barracks protected by a covering of earth under the main ramparts. These rooms provided accommodation for seven officers and 270 men. Further interest and importance to the site is provided by the presence of additional defence works belonging to both the First and Second World Wars (Saunders 2007, 31).

**3.4** The overall importance of Fort Burgoyne is two-fold. Firstly, it constitutes an important and well preserved representative of a later nineteenth-century polygonal fortification in Britain, containing a number of unusual features. Secondly, it forms an essential part in the sequence of Dover's surviving artillery defences. It was particularly relevant to the castle's fortifications in making good a long perceived weakness in the event of enemy occupation of the high ground to the north. The fort was also intended to cover the northern front of the major Western Heights fortifications on the opposite side of the valley (notes from Saunders 2007).

## **4. The excavated test pits (TPs 1 to 7) and boreholes (BHs 1 to 3)**

**4.1** The 2016 investigations provided some limited opportunity to archaeologically examine several specific parts of the fort and some useful results were obtained. Seven test pits were dug in all (Fig. 1; TPs 1–7). Three of these were cut by mini-excavator (TPs 1, 2 & 6) and four by hand. The hand-dug ones were all less than 0.50m square.

### **4.2 *Test pits in the base of the ditch (TPs 1 & 2)***

Two small, machine-cut test pits were dug in the base of the southern fort ditch (Fig. 1; TPs 1 & 2), with a borehole subsequently drilled adjacent to TP 1. These excavations were carefully monitored because they offered some potential to reveal finds, deposits, and features occupying the base of the ditch. In the event, they produced nothing of special archaeological interest and the general impression gained was that the base of the ditch in this area had been subject to a certain amount of disturbance in relatively recent times.

#### **4.2.1 *Test pit 1*** (Figs 1 & 2)

This was cut in the base of the ditch some 35 metres south-west of the main entrance bridge. The pit measured about 0.75m by 1.50m and was taken to a maximum depth of 1.80m. It was found that there had been significant recent dumping of spoil here, probably associated with the construction of a vehicular access ramp into the ditch at the extreme south-west corner of the fort complex (see below).

At the base of the exposed sequence was solid chalk bedrock (Fig. 2; Context 1/5). The surface of this was reached at a depth of 1.40m below present ground level. It was sealed by a 0.30m thick layer of dark grey loam and loose chalk rubble (Context 1/4), seemingly representing early collapsed material accumulated in the base of the ditch. Above this, another 0.30m thick layer of dark grey loam containing some yellow brick fragments had accumulated (Context 1/3). This would appear to be a soil formed on the base of the ditch during the late nineteenth and early twentieth century, after its sides had been stabilised.

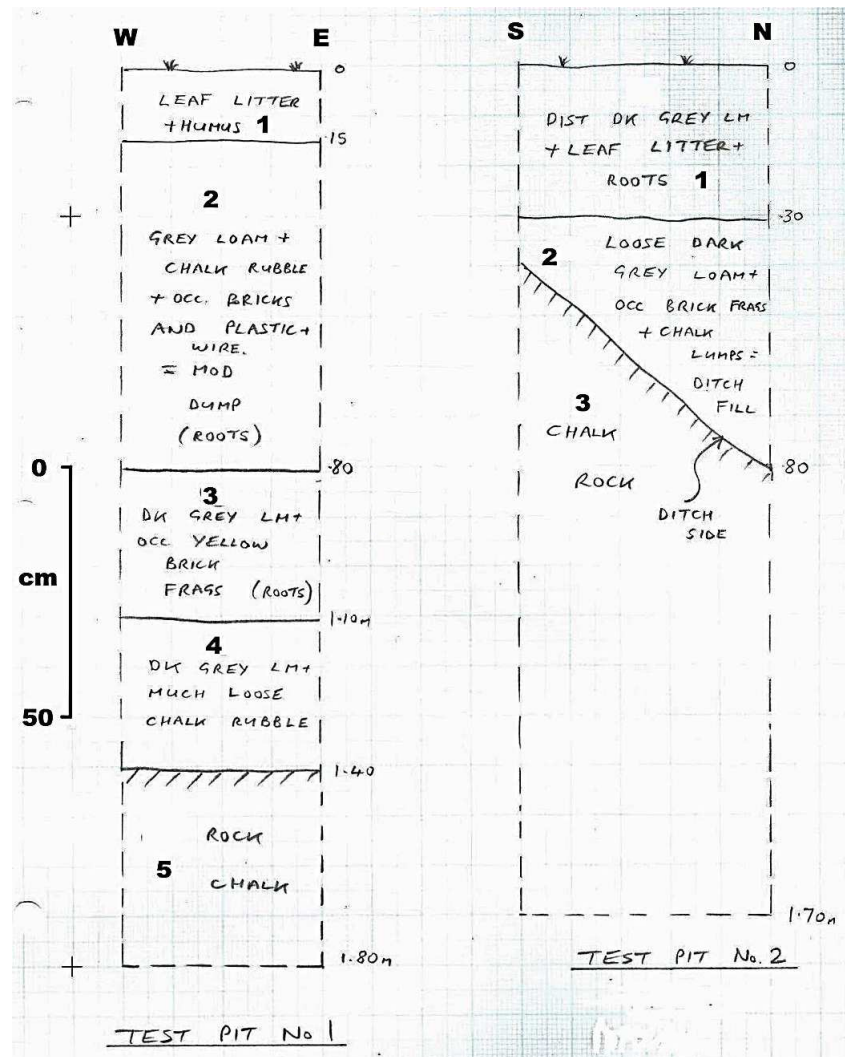
Next, a 0.65m thick dump of soil and chalk rubble was deposited (Fig. 2; Context 1/2). This contained a few pieces of plastic and tin cans and clearly dated to the second half of the twentieth century. Fairly certainly, it represents the tail of a spread of material dumped at the south-western corner of the ditch system in order to create a vehicular access ramp into the ditch, probably during the 1970s. It was covered by a thin layer of modern leaf litter and humus (Context 1/1).

#### 4.2.2 Test pit 2 (Figs 1 & 2)

This was cut in the bottom of the ditch at a point some 30.50m east of the main entrance bridge. The pit measured about 0.50 by 1.50m and was taken to a maximum depth of 1.70m. In terms of precise location, this pit was cut at the foot of the counterscarp slope of the ditch and revealed the sloping side of the chalk-cut ditch, sealed by up to 0.80m of soil and recent debris (Fig. 2).

Solid chalk bed-rock (Fig. 2; Context 2/3) was reached at a depth of between 0.40 and 0.80m below existing ground level. This was sealed by a layer of loose dark grey loam with some chalk rubble and occasional brick fragments (Context 2/2), which must represent largely undisturbed debris accumulated in the bottom of the ditch. It was sealed by a 0.30m thick layer of recent dark soil, humus and leaf litter (Context 2/1).

No trace of the trench for the main sewer leading out of the fort, known to run along the base of the ditch here, was revealed.



**Fig. 2** Field drawings of deposits exposed in Test pits 1 and 2

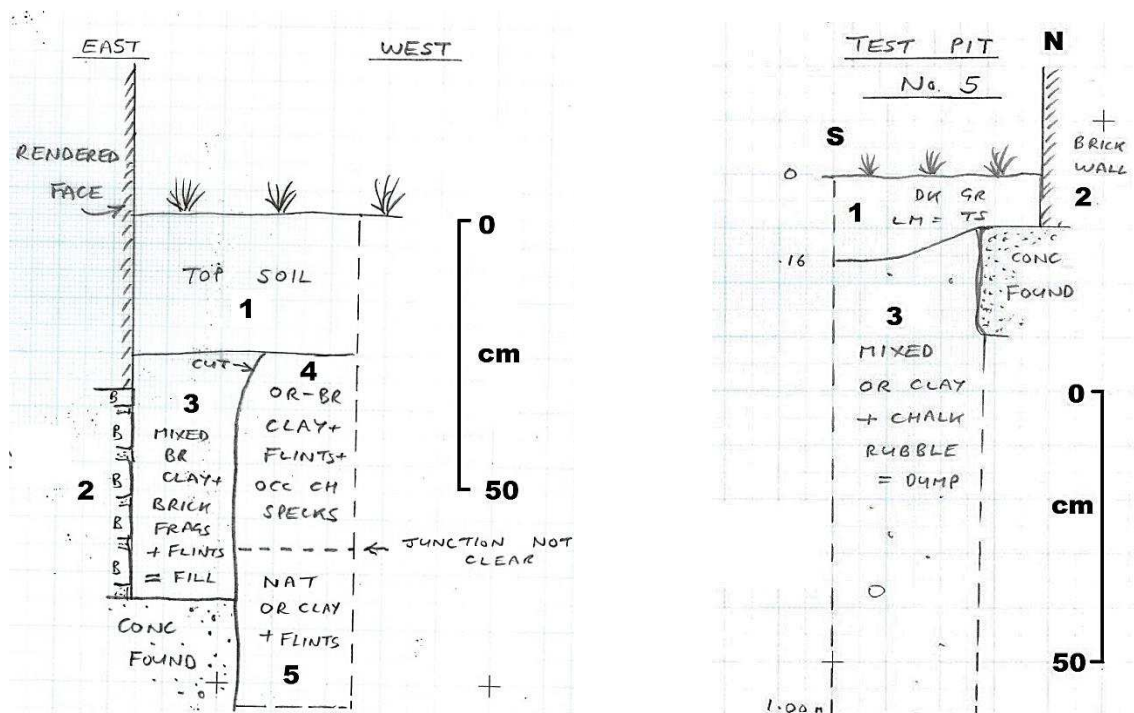
### 4.3 Test pits around Building 2 (TPs 4 & 5)

Trial Pits 4 and 5 were cut against the walls of Building 2 (Fig. 1). This building was originally constructed in 1880–81 as the officers' stables but it was subsequently converted into an office and stores – a function that continues today. The building itself, however, is now displaying some significant cracking of the walls, implying potential problems with structural integrity that require investigation and correction. Trial Pits 4 and 5 were accordingly cut around the outside of the building, intended to examine the depth and character of the building's foundations.

#### 4.3.1 Test pit 4 (Figs 1 & 3)

This was cut down the face of the west wall of the building, close to its north-west corner. The pit measured about 0.20m by 0.40m and was taken to a maximum depth of 0.90m (Fig. 3). In the base of the excavation, the top of the natural Clay-with-flints was exposed at a depth of around 0.60m (Fig. 3, Context 4/5). The natural clay was overlain by a deposit of orange-brown clay containing some flints and occasional chalk specks (Context 4/4). This was about 0.35m thick and appeared to be an undisturbed, pre-fort soil layer, very similar to a deposit revealed in Test pit 3, some 50 metres to the south-west (Context 3/3 – see below).

Cutting from the top of Context 4/4 was the foundation trench for Building 2. This was about 0.70m deep and in its base was the pebble concrete footing supporting the main west wall of the building, and about 0.20m thick (Context 4/2). The foundation trench had been backfilled with mixed brown clay containing fragments of yellow brick and flint (Context 4/3). This trench fill and the earlier soil (Context 4/4) were sealed by a 0.25m thick layer of modern topsoil and turf (Context 4/1).



**Fig. 3** Field drawing of deposits exposed in Test pit 4 (south face) and Test pit 5 (west face)

#### 4.3.2 Test pit 5 (Figs 1 & 3)

Less than 0.50m square, this was cut on the south side of the main building, at the junction with a later out-house butted onto the south-east corner. The pit revealed the concrete foundation of the main wall, buried at a depth of about 0.10m below present ground level (Fig. 3). This foundation was 0.20m thick and rested upon a 0.85m (min.) thick dump of mixed orange-brown clay and chalk rubble (Context 5/3), most probably representing infill over the underground gun-rooms covering the



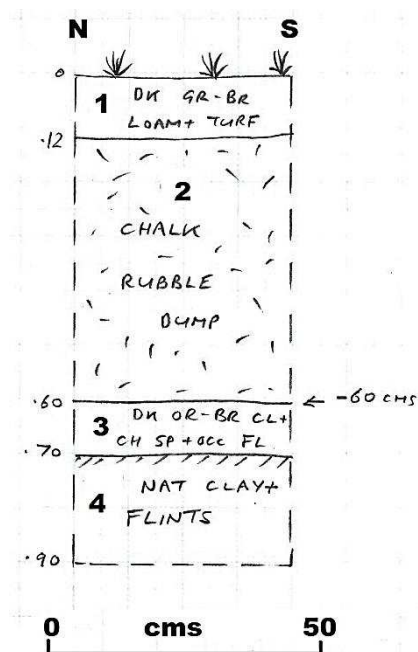
approach to the main entrance of the fort.

#### 4.4 Test pits in the interior of the fort (TPs 3, 6 & 7)

##### 4.4.1 Test pit 3 (Figs 1 & 4)

This was cut on the open grassed area west of the main fort entrance, some 12 metres north-west of the Second World War pillbox that occurs on the rampart here (Fig. 1). The available evidence suggests that this open area has always been grassed, constituting part of the soft open rear of the fort facing Dover Castle. An image from 1897 shows a tented community on this area possibly part of large-scale manoeuvres, which the military undertook at intervals during the fort's history.

The excavated pit was only about 0.35m across and was taken to a maximum depth of 0.90m. In the base, natural Clay-with-flints was revealed at a depth of 0.70m below present ground level (Fig. 4; Context 3/4). Directly above this was a deposit of dark orange-brown clay with chalk specks and occasional flints (Context 3/3). This was about 0.10m thick and appeared to be a largely undisturbed pre-fort soil layer, possibly colluvium derived from the very slightly higher ground to the north. Any original topsoil above was missing and this layer was sealed by a 0.50m thick layer of dumped



**Fig. 4** Field drawing of deposits exposed in Test pit 3 (east face)

chalk rubble (Context 3/2), fairly certainly relating to the construction of the fort. Above this was a thin layer of dark topsoil and the modern turf (Context 3/1)

##### 4.4.2 Test pit 6 (Figs 1 & 5)

This machine-cut trench was excavated some 16 metres to the north of the stable block adjacent to the brick retaining wall of the eastern access ramp leading up to the *terre-plein* (Fig. 1). The trench was about 2 metres in length and 0.50m wide. It unexpectedly revealed the base of a narrow yellow brick wall towards its southern end, which was briefly recorded and left *in situ* (Fig. 5).

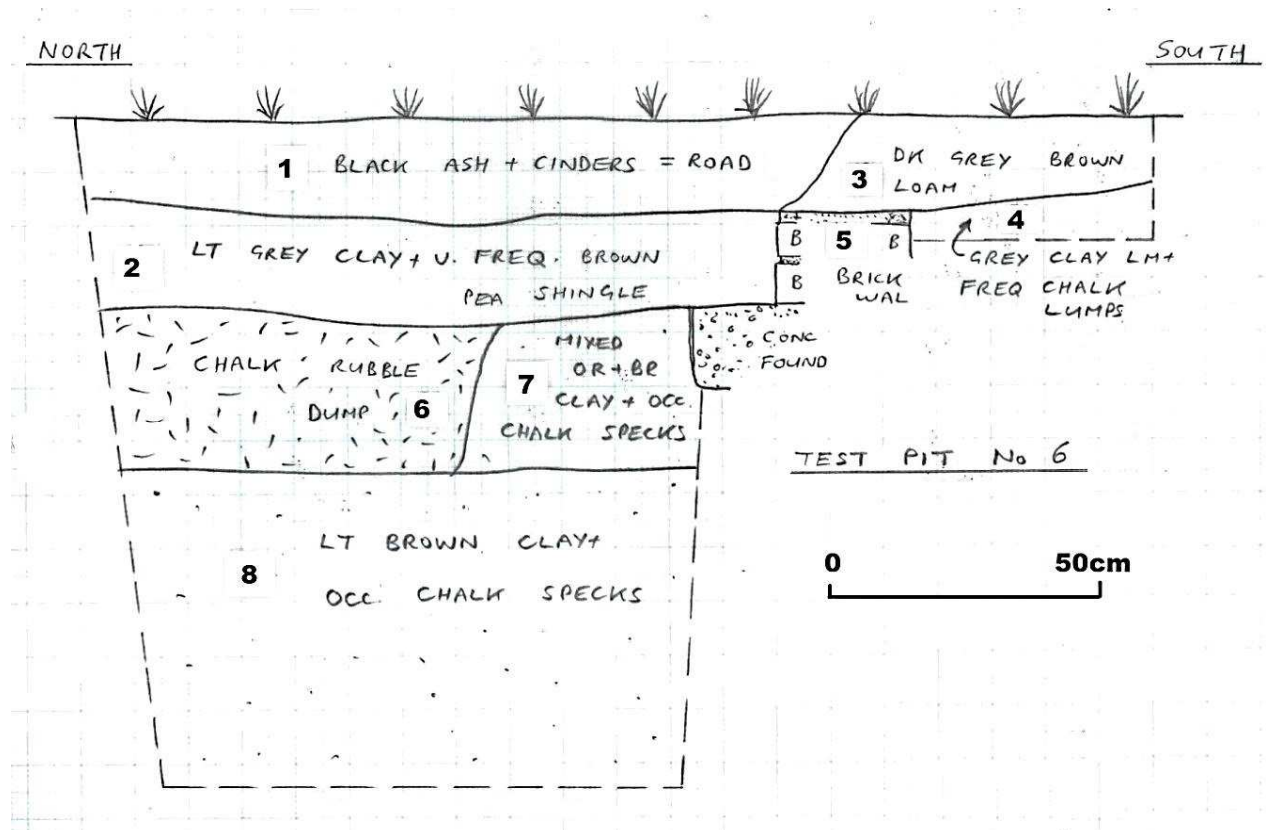
The trench was taken to a maximum depth of 1.20m and revealed an undisturbed sequence of deposits for the full depth (Fig. 5). Towards the base was a substantial deposit of light brown clay with occasional chalk specks (Fig. 5, Context 6/8). This was at least 0.60m thick and appeared to be broadly similar to deposits 3/3 and 4/4 in adjacent test pits, apparently representing pre-fort soil (see

above). Most probably, deposit 6/8 rested directly on top of the natural Clay-with-flints but this was not exposed here.

Above Context 6/8 were two deliberate dump deposits relating to the construction of the fort, one of chalk rubble (6/6) and one of mixed orange-brown clay (6/7). Cutting into the clay dump at the south end was the 0.15m concrete footing for a narrow brick wall (Fig. 5). The wall itself (Context 6/5) was 0.25m thick and survived to a height of about 0.15m (2 courses) and comprised yellow stock bricks set in a cream-yellow sandy mortar.

Abutting the northern side of the wall was a deposit of light grey clay containing much pea-shingle (Context 6/2). This was up to 0.20m thick and fairly certainly represents metalling of an early roadway, as shown on early maps of the fort. Directly above, a layer of black ash and cinders (Fig. 5, 6/1) was fairly certainly a later road surface. Dark topsoil lay on the south side of this later surfacing (Context 6/3), and modern turf sealed the surface after it had gone out of use – no doubt being replaced by the concrete and tarmac road lying immediately to the south.

The map evidence suggests that the section of buried walling found may relate to the edging of a dung pit associated with the stables.



**Fig. 5** Field drawing of deposits exposed in Test pit 6 (east face)

#### 4.4.3 Test pit 7 (Fig. 1)

This was cut on an old dumping area east of TP 6. It was taken to a maximum depth of 0.80m but revealed only leaf mould and dark loam, with some building rubble (Context 7/1). Judging by the levels of adjacent undisturbed areas within the fort, up to 2 metres of recent debris may cover the original ground-level in this area.

#### 4.5 Boreholes

In addition to the seven test pits, a small *terrier*-type drilling rig was employed to test the depth of the chalk at three points on the site (Fig. 1). Two boreholes were cut in the ditch (BHs 1 & 2) and one in the interior (BH 3). Observation of these borings yielded a few further pieces of useful information.

#### 4.5.1 Borehole 1 (Fig. 1)

This was drilled adjacent to Test pit 1 in the ditch and revealed no additional information of archaeological interest, beyond the fact that solid natural chalk here was at least 6 metres thick.

#### 4.5.2 Borehole 2 (Fig. 1)

This was cut at a new site in the base of the ditch, situated at the south-east corner by the junction of the main fort ditch with spur ditch leading out to the Eastern Outworks on Edinburgh Hill. Natural chalk bedrock was revealed at a depth of just 0.30m below present ground level, sealed by a layer of grey chalky loam. This layer contained frequent chalk lumps and apparently represented weathered material and debris that had accumulated in the base of the ditch over the years.

#### 4.5.3 Borehole 3 (Fig. 1)

This was drilled within the interior of the fort, on the grassed area about 1 metre east of Test pit 3. It established that the natural Clay-with-flints recorded in this area was about 0.30m thick and rested directly on natural chalk bed-rock.



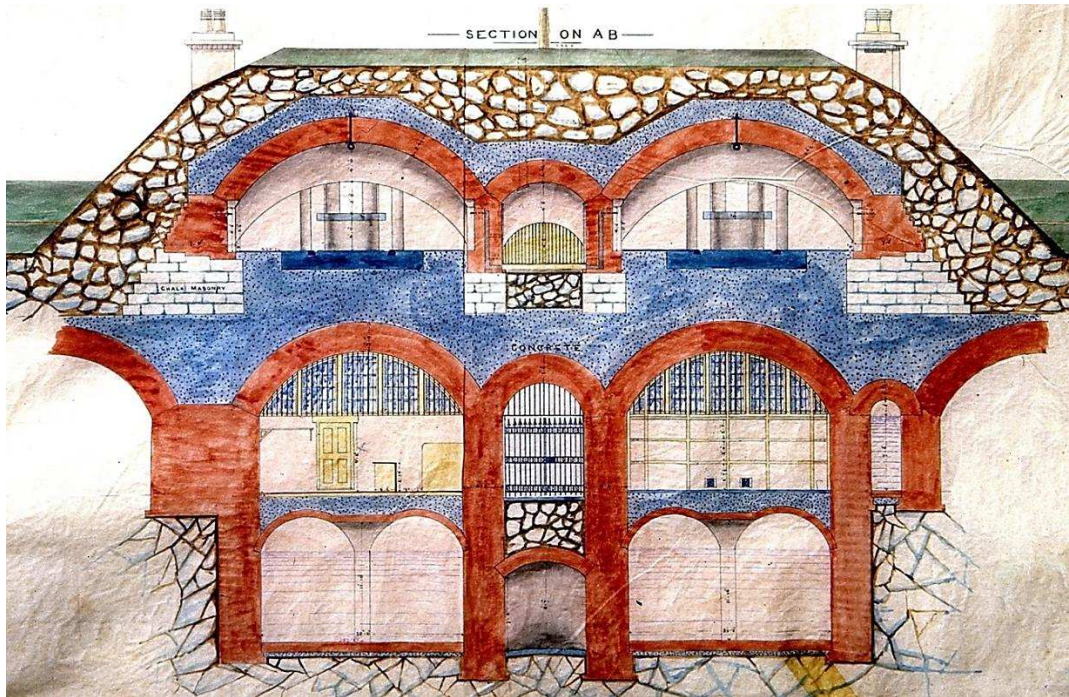
**Fig. 6** Drilling Borehole 3, looking north

## 5. Water cistern (Figs 7 & 8)

**5.1** As an additional piece of investigation work, an underground water cistern below Room 44 (former Canteen; Fig. 7) was partially emptied of water to allow inspection. After a full day of pumping, about 7/8 of the water was removed. The base of the chamber lay at about 4.50m below floor level. The water was reduced down to -3.70m, allowing a brief inspection from the top by torchlight (Fig. 8). This indicated that there was little of archaeological interest contained within the

cistern: a white plastic toilet seat and several pieces of wood, iron rod/pipe were all that was obvious on the bottom. It was noted that the walls of the structure were in very good condition (Fig. 8).

5.2 According to Victorian records, the water tank under the canteen was supplied direct from Dover Castle, whilst another one under an adjacent room was filled by fort-collected rainwater, filtered through porous artificial stone (Fig. 7).



**Fig. 7** Late nineteenth-century elevation drawing showing the underground water cisterns



**Fig. 8** General view of the western water cistern, part emptied (*photo, John Daniel*)

## 6. Conclusions

**6.1** The limited excavation work undertaken at the fort in 2016 has provided a good opportunity to make archaeological observations on an important military site that has previously seen very little below ground investigation. A number of useful details were recorded.

**6.2** Most valuable was the evidence suggesting that the open ground in the southern (rear) half of the fort has been little disturbed and that pre-fort clay deposits exist across a broad area here (although whether continuously cannot be confirmed at present). The pre-fort deposits rested directly on the natural Clay-with-flints and may represent colluvial material derived from the area further north. No artefacts were recovered from these layers, although activity in the region during any period prior to the construction of the fort may have occurred.

**6.3** The discovery of a brick wall foundation in TP 6, perhaps part of the lining of a dung pit, serves to demonstrate that remains relating to demolished structures within the fort may still survive below ground level.

**6.4** The cracks noted in the walls of Building 2 did not appear to the writer to be directly connected with failing foundations. It was, however, noted that the south side of the building rested on disturbed ground that is quite possibly associated with the backfilling of the construction pit for the underground gun rooms that face the main entrance into the fort.

**6.5** The test pits cut in the bottom of the fort ditch showed that there had been a certain amount of recent dumping here and no deposits of particular archaeological interest were identified.

**6.6** Overall, the works undertaken have provided some useful information. Any further such investigation works are likely to be equally informative and should also be carefully monitored.

**6.7** No further study of the recorded information is presently required, although the recorded details might usefully feed into any future archaeological investigations being planned for the site.

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