Ashley Walk Bombing Range

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The New Forest, located in the South of England, is one of Britain's best known National Parks. It is famous for its ponies and areas of tranquil beauty. With vast areas of tracks and trails it is a very popular area for those who love the outdoors. Now, if I were to say to you that amongst all this area of outstanding beauty, that there exists a German U-Boat pen, you would quite probably think I had lost the plot. Well I haven't and there does. I will explain more about this later, but suffice to say the former bombing range at Ashley Walk is now back to its former self, where the sky larks ascend to sing their hearts out and the ponies graze happily. However, if you went back seventy years, it was a far noisier place and not somewhere to go for a casual stroll.

The New Forest was an area that contributed much to the airborne war in 1939 - 1945. At one time there were no fewer than twelve airfields and advanced landing grounds located within its area. The airfields included such well-known names as Stoney Cross, Ibsley, Holmsley and Lymington.

On December 4th 1939 the New Forest Verderers considered a proposal submitted by the Air Ministry for a bombing range to be built, on a temporary basis, near Godshill. There was no objection in principle to the proposed range for the duration of the war. However, the Verderers asked that the proposed area be fenced off and that it should be made man and pig proof. In due course a chain link fence of some 6 ft (2 m) high was erected. There were thirteen access points to the range with the main entrance located on Snake Road. Here there was a small guardroom building located adjacent to the main gate. Although pig proof, the area did not appear to be small boy proof and there are tales of the range being much used as a playground during the wartime years by local lads.

The range came into use in 1940 and covered 5000 acres. Ashley Walk was controlled by the Armaments Squadron of the A&AEE located at Boscombe Down. The site of Ashley Walk is fairly remote and the personnel who were operating the range were billeted in purpose built huts opposite the Fighting Cocks pub in Godshill.

Ashley Walk was an impressive site and had much in the way of facilities. This is just as well as every type of air-dropped ordnance used by the RAF (with the exception of incendiary weapons) was tested here between 1940 and 1946. Along with the air-dropped ordnance, guns and rockets were also tested and evaluated. The types of bombs tested ranged from small anti-personnel types to the ultimate in air-dropped ordnance, the 22 000 lb (10 tonne) Grand Slam earthquake bomb.

The range was in two parts. One consisted of a practice range which had a diameter of 2,000 yards (1800 m). This was used for dropping inert bombs from heights of up to 14 000 ft (4300 m). The range could be used either by day or by night. When night bombing was required, the targets could be lit by a diesel generator. It appears that this part of the range was seldom used. This range was controlled by a tower located at Hampton Ridge which was known as the Main Practice Tower.

The second part of the range was known as the High Explosive Range. This had a diameter of 4 000 yards (3600 m) and was controlled by the North Tower which was located near to the road that ran between Fordingbridge and Cadnam. The High Explosive Range could be used for dropping ordnance from heights of up to 20 000 ft (6000 m).

The towers at both locations were approximately 30 ft (10 m) high with large observation windows which gave a good view of events out on the range. The entire range was under the control of the Range Office. There were two observation huts on the range, one at Amberwood which still exists and the other, a filming shelter, adjoining No 2 Target Wall.

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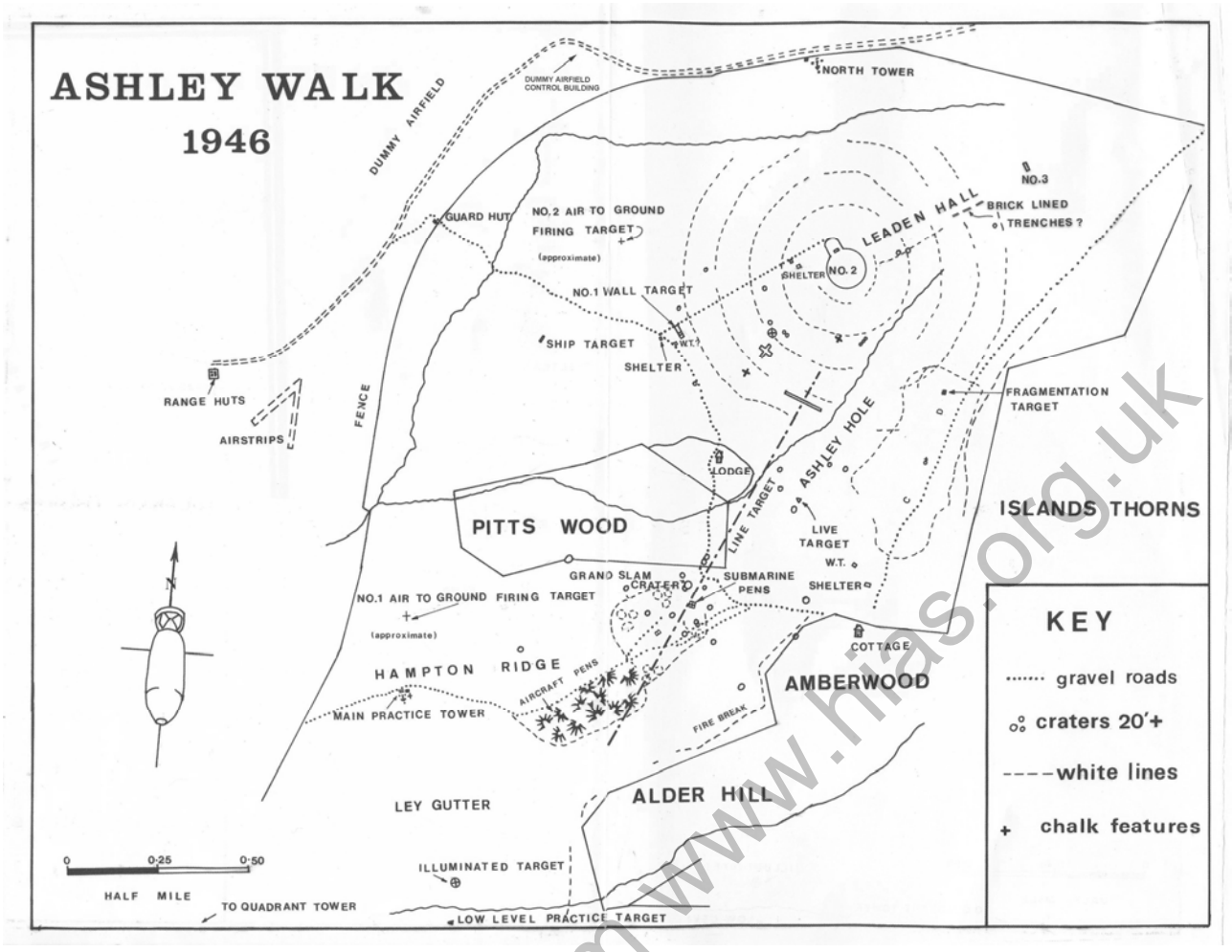


Figure 38. Map of the Ashley Walk site (by kind permission of the New Forest Research & Publications Trust)

Transport links to the range were by road but, in addition to this, two airstrips were built. The strips were 400 yards (370 m) long and were for use by small Auster-type aircraft. The strips ran south and south west from the southern edge of what is now Godshill cricket pitch.



Figure 39. The 'line target' today.

Targeting Facilities

There was a multitude of targets which included wall targets, air to ground, a line target, a ship target, a submarine pen (Ministry of Home Security Target), fragmentation targets and a range of custom targets. Evidence of many of these targets can still be found on the ground today. This is due in part to the fact that the targets were marked by chalk which is alien to the New Forest. The chalk was imported to mark targets so they could be seen from the air. Where the chalk was placed it stopped future vegetation from growing back, hence marked targets can still clearly be seen.

Air to Ground Targets

There were two air to ground targets built near the western edge of the High Explosive Range. The targets consisted of yellow and black squares and were used for guns up to 40 mm and rockets of 75 mm diameter.

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The Line Target
This target is still very evident today and consists of a 10 ft (3 m) wide line of some 2000 yards (1800 m) in length. The line ended with a white marked cross with arms of 100 yards (30 m) in length. The lines were created using chalk. The Line Target's purpose was to simulate a railway line and was used to develop techniques to attack railways (or in some cases roads) using rockets or bombs.

Wall Targets
Three Wall Targets were built at Ashley Walk and consisted of the following:

No 1 Wall Target
This target was 40 ft (12 m) wide by 40 ft (12 m) high and constructed of 9 in (230 mm) of reinforced concrete.

No 2 Wall Target
This target was the same size as No 1 Wall Target and was built on a 9 in (230 mm) concrete base which was 200 yards (180 m) in diameter. From an aerial viewpoint this target is surrounded by a series of concentric circles which were formed by bulldozing away the top soil to reveal the bleached gravel. These circles were used to provide a guide to impact distances.

No 3 Wall Target
Very different from the other wall targets, this one was constructed to test "bouncing bombs" as designed by Dr. Barnes Wallis. The wall was 8 ft 10 in (2.7 m) high, 6 ft (1.8 m) thick, and 20 ft (6 m) long. The wall was faced with 2 in (50 mm) of armour plate.

Initially the smaller Highball bomb was tested. This was carried by a De Havilland Mosquito aircraft. In August 1943 the No 3 wall was extended in length by 90 ft (28 m) to allow testing of the "Upkeep" bouncing bomb. This is the bomb that had been used during the famous Dams Raid which took place in May 1943. Specially modified Avro Lancasters were used to carry the Upkeep bomb. It is interesting to note that it was thought the Upkeep bomb was not used after the Dam Raid. However, it would appear from the tests carried out at Ashley Walk that it was. It is possible the tests were undertaken to see if the Upkeep bomb could be used to breach beach sea wall defences in France with D-Day approaching.

Ship Target
As the name suggests the target was designed to represent a ship and was located on flat ground at Cockley Plain. The target was constructed from steel plates and heavy angle iron girders. It was used to test the effectiveness and penetrating powers of 20 and 40mm cannons, air to ground rockets and the 6 pounder gun used in the Mosquito.



Figure 40. Remains of the 'ship target' visible on my visit.

Fragmentation Targets
Four areas on the range were set aside for the testing of fragmentation bombs. The areas were known as A, B, C & D. The areas were marked in chalk with their designated letters so they were visible from the air.

Sites A & B were located near Alderman Bottom. The area was used to test dispersal areas and the protection they could afford aircraft from fragmentation bombs. A number of aircraft pens were constructed in line with the design that was used by the Luftwaffe.

Sites C & D were located to the east of Coopers Hill. This area was used to test fragmentation bombs against surface targets such as trenches and command posts.

Ministry Of Home Security Target (Submarine Pen)
I have heard that this may have been built to see how well air raid shelters stood up to the effects of bombing. I have not been able to confirm this so there is some debate prevailing as to the true purpose of the target. An alternative theory has also been put forward, as below.

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It became evident that the Germans were building substantial concrete structures on the French Coast to house their U-Boats. The RAF were keen to bomb these structures but needed to evaluate how the structures could be penetrated. In order to simulate the structures, a replica was built at Ashley Walk in September 1941 at a cost of £250 000. A huge concrete raft 6 ft (1.8 m) thick and measuring 79 ft (24 m) by 70 ft (21 m) was constructed. Supported on five walls, 6 ft (1.8 m) high the structure was built on a foundation 20 in (0.5 m) thick. The outer walls were 3¼ ft (1 m) thick with the inner walls being 500 mm thick. The RAF tried many times to destroy the pen but were not successful. In fact they had quite an issue with trying to hit the target. The bombs used, 500 lb (230 kg), were also in reality rather small to make an impression on such a massively constructed structure.



Figure 41. The 'submarine pen' target today.

It would not be until later in the war that the RAF managed to penetrate the submarine pens in France. In order to do this, 12 000 lb (5.5 tonne) Tallboy bombs were used.

Improving Accuracy

Throughout the tests, bombing accuracy improved at Ashley Walk. An anecdote from the time goes as follows. Film of an inert bomb approaching a target was required. It was considered that the safest place to put the camera was target centre. This cynical approach cost the Ministry one cine camera after the bomb hit target centre fair and square.

Testing of the Big Bombs

The largest air-dropped ordnance used during the war were the 12 000 lb (5.5 tonne) Tallboy and the 22,000 lb (10 tonne) Grand Slam bombs (see back cover).



Figure 42. 12 000 lb Tallboy bomb case located outside the Battle of Britain Memorial Flight hangar at RAF Conningsby.

Both were designed by Barnes Wallis and were known as "earthquake" bombs. There is a good reason for the name as, in effect, when they landed and detonated they caused effects similar to an earthquake. Both types of bomb were tested at Ashley Walk.

Initially inert Tallboys were dropped into the range. The bombs would have been delivered by Avro Lancasters whose design allowed the carrying of such large weapons. Aside from the inert Tallboys, six live ones were also dropped. Starting in June 1944, Nos 9 & 617 Squadron (of Dambusters fame) went on to attack with Tallboys such targets as the V1 & V2 sites, U-Boat pens, the Dortmund - Ems Canal, The battleship *Tirpitz* and even Hitler's Berghof.

Following on from the Tallboy, bombs got even bigger. A series of inert 22 000 lb (10 tonne) Grand Slam bombs were dropped into Ashley Walk. The Grand Slam's development was stopped in September 1944 as it was considered that the war would be over by Christmas. However, after the failure of Operation Market Garden, development was resumed. After the inert tests, on 13th March 1945, Lancaster PB592/G flying at 18 000 ft (5500 m) above Sandy Balls, released a live Grand Slam which impacted near Pitts Wood. The bomb buried itself deep into the ground and then exploded producing a crater of 30 ft (9 m) deep by 124 ft (40 m) in diameter. The local residents were not informed prior to the test, did not see it, but would certainly have felt it as the earth moved.

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The test was deemed a success and the following day 28 Lancasters dropped Tallboys and a Grand Slam bomb in an attack on the Bielefeld and Arnsberg viaducts. The No 617 Squadron Lancaster piloted by Squadron Leader C. C. Calder dropped his Grand Slam at Bielefeld which resulted in 100 m collapsing due to the earthquake effect of the bomb. The Arnsberg viaduct was later found to be undamaged. However, the Arnsberg viaduct's luck ran out on 19th March 1945, when No 617 Squadron attacked with 6 Grand Slams which sealed its fate with a 12 m gap blown in the structure. In total 41 Grand Slams were dropped by 617 Squadron Lancasters before the war ended.

What Remains on the Ground Today?

Ashley Walk today is a very quiet place with acres of beautiful Hampshire countryside just waiting to be explored by anyone who enjoys a good walk and wants to find a piece of local history. The sounds of the Merlin and Centaurus engines are long gone. However, evidence of the wartime activities is very easy to find although some of it takes a little looking for. I have made several trips to the range and have found most of what remains. Anyone going to the range is advised to have a look at Google Earth (GE) as an aerial view does show up what sometime can be difficult to find on the ground. If you type 50 56 23 26 N, 1 42 32 75 W into the GE search box it will take you to No 2 Target Wall. The rest of what can be seen is quite evident from this view point. Another important accessory is the Ordnance Survey Explorer map **OL22** of the New Forest: OS Grid References are given where known to mark the location of remains. The following should give the reader a good idea of what is to be discovered on the ground. Visitors should be aware that occasionally live ordnance is still unearthed on the range and care should be exercised if anything suspicious does come to the surface.

Bomb Craters

Bombs craters are still very evident today and parts of the range resemble a lunar landscape. The main part of the range is littered with bomb craters, many now small ponds full of water as detailed in the photograph alongside. (Grid Reference SU 2019 1550)



Figure 43. One of the bomb craters today.

Chalk

As can be seen below, chalk is still much in evidence at the range even after all these years of closure. Today where the chalk was used, native plants will not grow, hence the reason why the target markers have not become overgrown.
(Grid Reference SU 1977 1525)

The Line Target

The Line Target is still very much in evidence although it does get a little difficult to trace after it has passed over the Submarine Pen. The target's termination is easily identifiable as a large white cross again marked by chalk. The target in its early stages resembles a long straight footpath cutting across the range. (Grid Reference SU 1995 1396)



Figure 44. Piles of chalk still visible today.

The Wall Targets

With all the Wall Targets there is no effective way to photograph the remains in a way that gives much meaning. Therefore, I have listed the Grid References and explained what can be seen on the ground.

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Figure 45. The cross centre at the termination of the line target. (Grid Reference SU 2041 1505)



Figure 46. The concrete base of the 'ship target'.



Figure 47. The Tallboy crater with the 'submarine pen' in the background.

No 1 Wall Target
Not much evidence can be seen of this target at ground level, however, from GE its base impression can still be discerned on the ground. (Grid Reference SU 1983 1532)

No 2 Wall Target
This now appears on the ground as a large circle of ground that looks out of place to its surroundings. Again GE shows the target very clearly as a large sand-coloured disk. The target is very large and there is no effective way to photograph it from ground level. (Grid Reference SU 2052 1565)

No 3 Wall Target
This now appears only as a long low mound of earth. The mound has thorn bushes growing on it and evidence of rubble. It is understood that the wall was undermined along its length and then simply pushed over and buried.

The Ship Target
The remains of this target are still visible in the form of a concrete base and some concrete foundations with metal bolts still in place. (Grid Reference SU 1927 1522)

Fragmentation Targets
A & B Target Area –
(Grid Reference SU 1964 1136)
C & D Target Area –
(Grid Reference SU 2085 1467)
All of the letters A, B, C, & D can still be seen on the ground although you need a GPS device to find some of them.

Ministry of Home Security Target
This is still very much in evidence as a large mound of earth that covers the concrete structure. The structure was massively built and it was considered that demolition was not an option after the war. It was therefore simply covered over with earth. Concrete is starting to show through where erosion of the earth is taking place. Many people walking past this mound and have no idea what its former use would have been.
(Grid Reference SU 2002 1412)

Tallboy Crater
This crater was created by the 12 000 lb (5.5 tonne) bomb and now resembles a small lake. It is often used by New Forest ponies as a watering hole. This is the most obvious crater of its type. Incidentally, the one and only live test Grand Slam crater was filled in after the war. (Grid Reference SU 1995 1407)

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Other Remains



Figure 48. Located next to the Main Practice Tower is this large white concrete direction arrow which points towards Ley Gutter where an illuminated target was located. (Grid Reference SU 1883 1359)



Figure 49. Observation hut near Amberwood which is one of the few remaining structures on the range. (Grid Reference SU 2194 1640)



Figure 50. The remains of cast concrete light boxes at the Illuminated Target location below Ley Gutter. (Grid Reference SU 1913 1279)



Figure 51. Detail of an individual light box.



Figure 52. Pieces of shrapnel can still be found on the surface.



Figure 53. North Observation Tower Direction Arrow. (Grid Reference SU 2031 1651)

In conclusion, Ashley Walk has gone from one extreme to another and then back again. Today all is quiet and nature has reclaimed its land back from the days of noise, explosions and flying shrapnel. It is hard now to consider what went on at the range but if you know where to look and you don't mind doing a bit of walking, you can still find the evidence.

Overview of Bomber Command's Campaign

In 1939, when war was declared, the sizes of bombs were a legacy from the 1914 - 18 war. 250 and 500 lb (110 kg and 220 kg) bombs were standard at the outbreak of the war but larger sizes slowly became available. Initially, Bomber Command lacked a heavy bomber. The front-line bombers available to Bomber Command were the Vickers Wellington, Armstrong Whitworth Whitley, Bristol Blenheim and Handley Page Hampden. It was not until the early months of 1941 that Bomber Command received its first operational heavy bombers, these being the Short Stirling, Avro Manchester and Handley Page Halifax. There were also some Boeing B17 Flying Fortresses on the RAF strength. Later, the Avro Manchester evolved into the Avro Lancaster which many consider to be the finest bomber to have entered service during the war.

The need for improved accuracy and increased bomb carrying capacity of aircraft soon became evident. The early years of raids by Bomber Command were by no means effective. This is in no way to belittle the courage and determination of the bomber crews who initially flew in daylight. It was believed by those who devised the tactics that modern bombers with good defensive armament, flying in formation, could put up a defence to any fighter aircraft that approached. This idea was quickly dispelled when German fighters equipped with 20 mm cannon could stay out of range of the 0.303 in machine guns of the bombers and shoot them down with ease.

This led to Bomber Command using the cover of darkness to carry out attacks. Unfortunately navigation at night was far more difficult and resulted in a loss of accuracy. To try to overcome this, saturation bombing was implemented in the hope that at least some bombs would hit their target. So a number of factors needed to be addressed to overcome the problems Bomber Command and its crews faced. Progress was rapid as the war continued with aircraft, bomb design, bomb aiming, navigation and electronic aids becoming far more effective. Ashley Walk played its part in this fast-moving arena by being the place where the aircraft tested their ordnance to ensure its design and effectiveness were such that it could be taken to war. Ultimately the biggest air-dropped ordnance of the war was tested at Ashley Walk, this being the 12 000 lb Tallboy and the 22 000 lb Grand Slam "Deep Penetration" bombs.

The bombing campaign of the RAF by night and the USAAF by day continued throughout the war and wreaked havoc on the Third Reich. There were huge losses on all sides and much controversy as to whether the campaign was justified in the way targeting was conducted. With the benefit of hindsight, the armchair critic can always say things should have been done differently. However, at the time the allies were locked in a life and death struggle and had to use all the weapons and tactics at their disposal. 125 000 aircrew served with Bomber Command during the war, 55 573 died. By anyone's standards that is a staggering loss rate and one that should not be forgotten.

Thankfully the crews have at last been recognized by the opening of the Bomber Command Memorial in Green Park London. It has been a long time in coming but at least it is here now.

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Netley Hospital



Webb's sewer gas destructor lamp



22 000 lb Grand Slam bomb

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