

# Survey of Esclusham Mountain

**04 February 2022**

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## 1) Introduction

Esclusham Mountain (Hill Number 14375, Section 30C, OS 1:50000 Map 117, OS 1:25000 Map OL256, Grid Ref. SJ253497) is listed as a Tump (a hill with drop greater or equal to 30m) in the Database of British and Irish Hills (DoBIH). The summit position is recorded to be at the southerly end of a flat broad ridge which extends over 1km to the north. Other possibilities for an alternative summit position may exist.

The purpose of this survey was to locate the summit position of Esclusham Mountain.

## 2) Equipment used and Conditions for Survey

A Leica NA730 Professional Automatic level (X30 telescopic system)/tripod system was used for this survey.

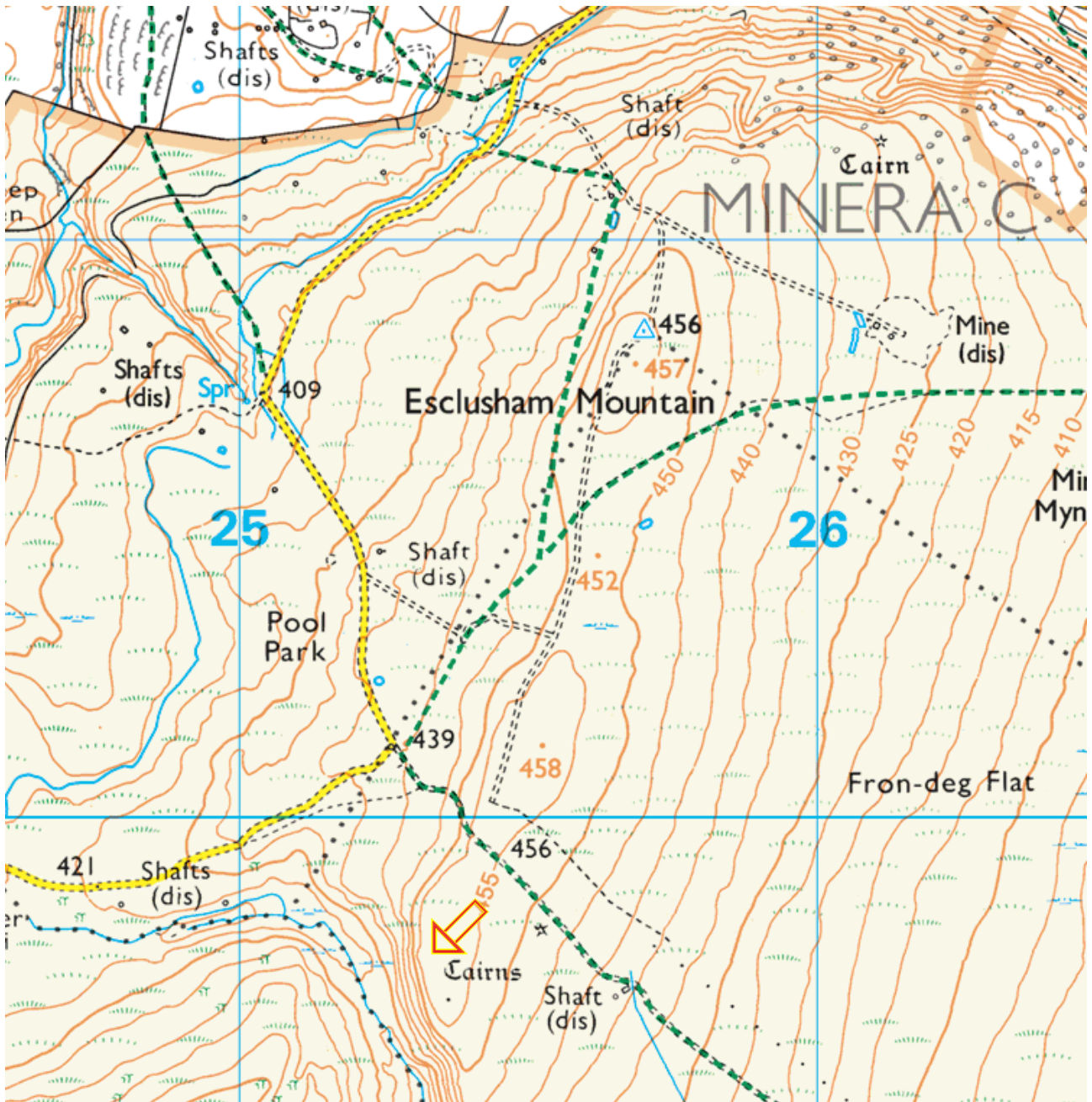
Conditions for the survey, which took place between 11.10hr and 13.00hr GMT, were fair. The weather was cold, 2 degrees Celsius, with a moderate wind which increased wind chill dramatically. There had been a fresh fall of snow the previous night. However, the cloud base was high enough to allow optical observations of several kilometres.

## 3) Character of Hill

Esclusham Mountain is part of a large area of upland moorland, known as Ruabon Mountain, and, lies about 8km NE of Llangollen. The main feature of this whole area on its western side is the limestone escarpment known as the Eglwyseg or The Panorama. The long-distance Offa's Dyke path runs from Llangollen along the whole length at the base of The Panorama before turning NW to traverse the Llandegla Forest. The area of upland moorland is known as the most important breeding ground in North Wales for the rarer Black Grouse.

An extract of the Ordnance Survey 1:25000 scale map (Crown Copyright Ordnance Survey) is presented below with the current summit position at the southern end marked by an arrow. On the 1:50000 Ordnance Survey scale map, this is marked with a spot height of 460m. Looking at the shape of the whole ridge and the 455m contour ring, one might expect the summit to be further to the NE than this 460m spot height?

Access to the southern edge is easy as there is parking on the edge of the road at the 439m spot height. The ROW leading SE takes one up to the ridge and then a short walk over rough heather to the summit area (see photograph in the Appendix). A track also leads from the ROW to the trig pillar at the northern end, but this was not used because of the thick snow and wet conditions underfoot. However, there is plenty of parking at SJ 2547 5128 and the good track from there leads directly to the trig pillar.



#### 4) The Survey

On arrival in the vicinity of the southern end of the ridge, it is clear that the ground there does rise before falling more steeply on its southern side. The highest point there was easy to locate visually. There are some scattered rocks which may have been a cairn marking the highest point. Our plan was to set up the automatic level on its tripod further to the north so that we could align the level to the highest point before carrying out optical observations. The heather in this area was so thick and springy, we found it impossible to achieve a stable tripod placement. Therefore, we were forced to move further away to the north and lower down to a grassier area to achieve a good tripod placement. This meant that the level was about 1.5m below the highest point. However, we observed that all ground to the north was lower.

We used the stadia lines on the automatic level to estimate height differences. From the grid references we calculated that the distance between the southerly summit and the trig pillar is

1150m. With a 100:1 ratio for the distance to the height, the difference between the upper and lower stadia lines represents 11.5m. (At a distance of 1150m the effect of earth curvature on height is about 0.04m and can be neglected.)

The top of the trig pillar could clearly be seen and we estimated that to be about 1m lower than the level. Generally, the flush brackets on trig pillars are about 1m below the top of the pillar. Therefore, using the flush bracket height of 456m, the southern summit is  $456\text{m} + 1.5\text{m} + 1.0\text{m} + 1.0\text{m} = 459.5\text{m}$  high and was identified as the highest point on the ridge.

To confirm the measurements, we then visited the area around the trig pillar and set up the level close to it. Unfortunately, the higher ground to the south and near the trig pillar did not give a clear view of the southern summit. Therefore, we moved the level to higher ground about 30m to the south, approximately in the position of the 457m spot height shown on the map. From here we had a clear view of all the ridge and were able to confirm that the southern summit is indeed the highest point of Esclusham mountain. Again, using an estimated 2.5m for the height difference from the stadia lines and the fact that the level was approximately 1m above the trig pillar flush bracket, the southern summit has an altitude of  $456\text{m} + 2.5\text{m} + 1.0\text{m} = 459.5\text{m}$

## 5) Discussion of Results

The estimates of height difference taken from the measurements are only approximate and we would conclude that the height of the summit is between 459m and 460m which is in agreement with the OS spot height on the 1:50000 scale map. However, even if this estimate was not quite correct, it is absolutely clear that SJ 2533 4976, the southern summit, is the highest point on Esclusham Mountain. No further surveys are planned for this hill.

## 6) Summary and Conclusions

The **summit** of **Esclusham Mountain** is at grid reference \* SJ 25334 49767 and is high ground near some scattered rocks. Its height is **495.5m $\pm$ 0.5m**.

- NB: Garmin Grid references are quoted in the summary.

John Barnard and Graham Jackson, 08 February 2022



# Appendix

The summit of Esclusham Mountain from the minor road looking SSE

