

INTERIM REPORT (II) ON THE SOILS OF HOLYHEAD MOUNTAIN CIRCLE

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Part of a group of hut circles on Holyhead Mountain, Anglesey, was excavated in August, 1978, and for a longer period in 1979 (Smith, 1979). Work carried out in 1978 on soils associated with the archaeological site, has been reported previously (Keeley, 1979, Elmhurst and Keeley, 1979) and soil studies effected in 1979 are described here.

The 20 huts at Holyhead Mountain are all that remains of a formerly much larger settlement, generally dated to the Romano-British period. The present campaign of excavations is part of a long-term programme of clearance which, it is hoped, will enable the buildings to be seen within the context of the settlement as a whole, and in relation to the surrounding enclosures and ancient fields (Smith, 1979). The conventional dating of the site to the 2nd-4th centuries AD had not been supported by the present excavations and it is suggested (Smith, 1979) that the site may have been occupied over a long period, the Romano-British occupation being perhaps only its final phase. The area under investigation is shown in Figure 1. The enclosed nature of buildings S and T1 shows that the site may have had more in common with enclosed sites (such as Din Lligwy) than was previously thought (Smith, 1979). A typical structure is shown in Plate 1.

Soil Studies

A section was cut across the site from the natural outcrop adjoining wall R on the west to the beginning of cultivated ground at the foot of the slope (as shown in Plate 2). This showed that buildings S and T1, and area T2, occupy what is mainly a natural terrace (Smith, 1979), rather than a lynched ancient field as had been supposed. The eastern edge of this terrace was demarcated by the second period of wall V and elsewhere by a low rubble bank.

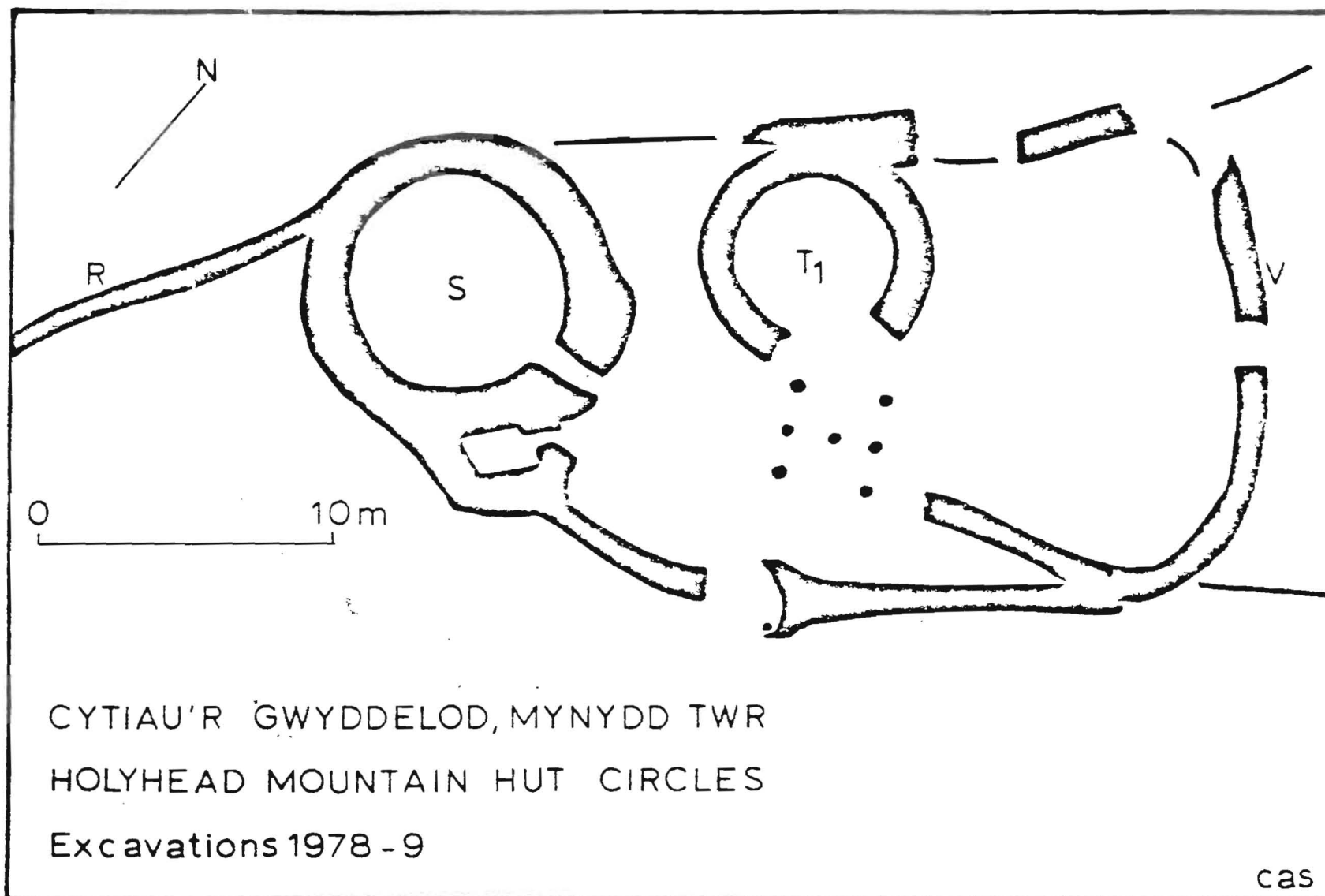


FIGURE 1.

Plate 1.



Plate 2.



Towards the bottom of the slope a well marked terrace proved to be colluvium built up against a boundary of substantial boulders, raised with rubble and drystone walling as soil accumulated (as shown in Plates 3 and 4). This section was examined in some detail and the investigation extended into the lower field by augering at approximately 10 m intervals. The soil was also examined by augering in a number of other fields, as shown in Figure 2.

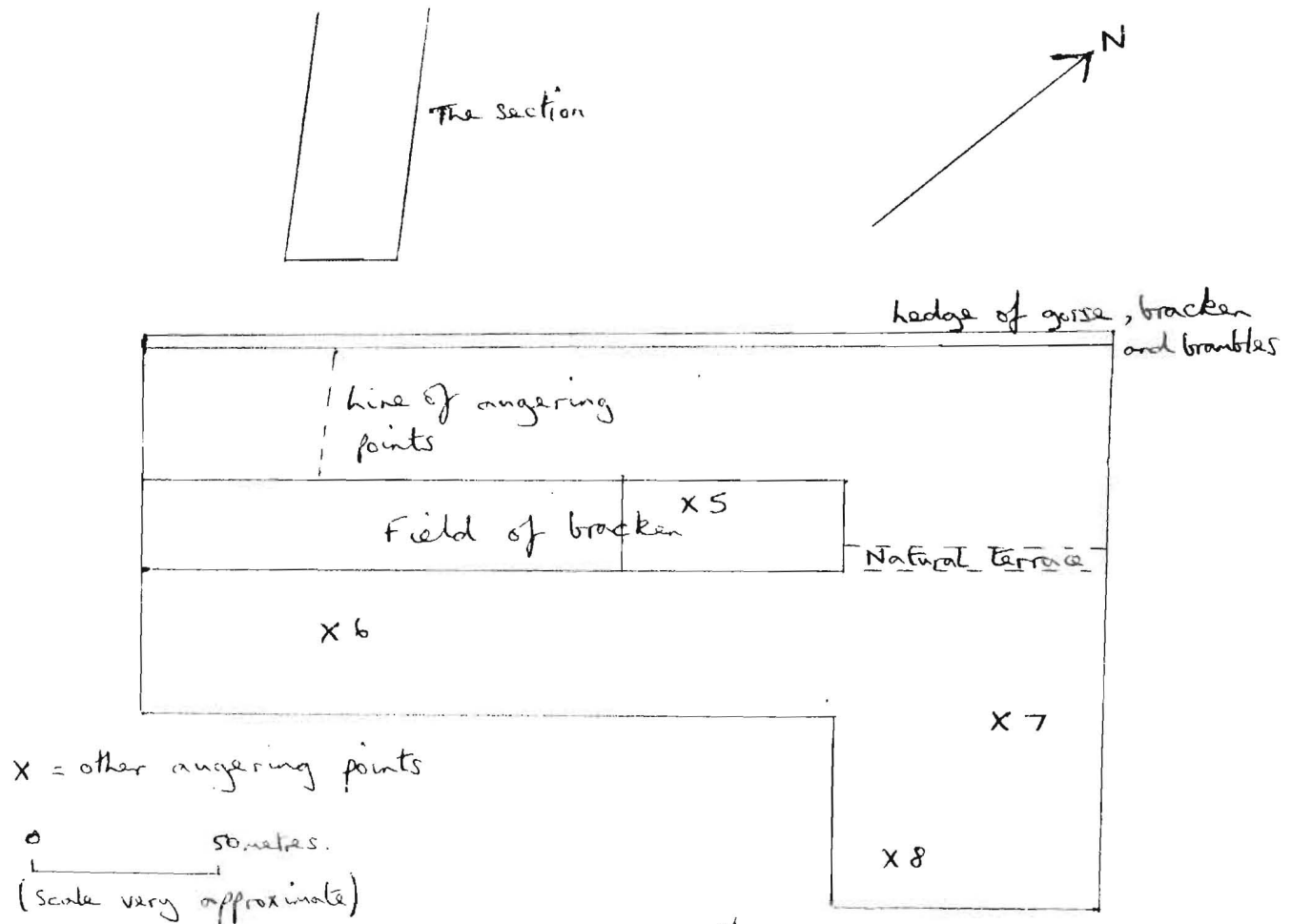


Figure 2. Sketch map to show augering points in the fields below the archaeological excavations.

The following soil profiles in the section were described:-

1. "Natural" profile near the top of the section

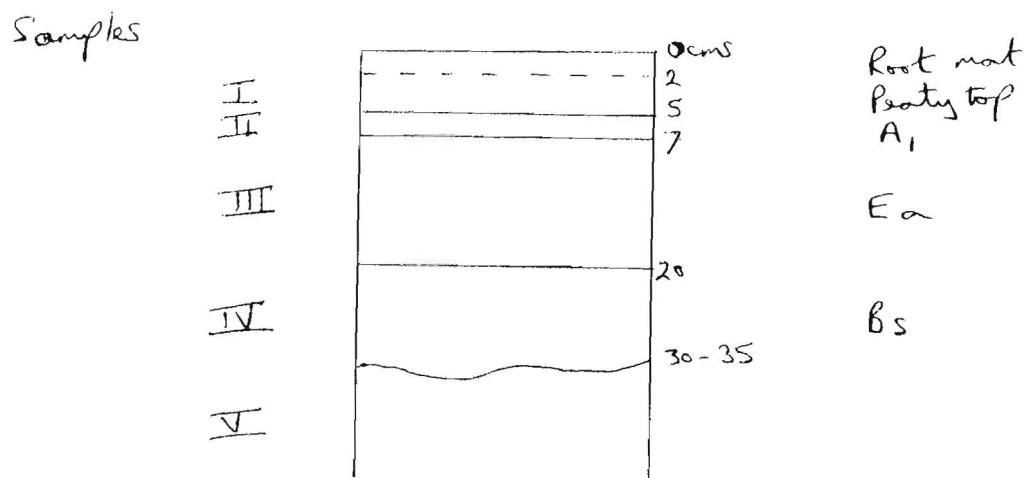
Plate 43



Plate 44



The site was flat at this point; samples I to V were collected:



0 to 5 cms was black fibrous peat.

5 to 7 cms was very dark grey (10YR3/1) humose fine sandy loam with abundant roots.

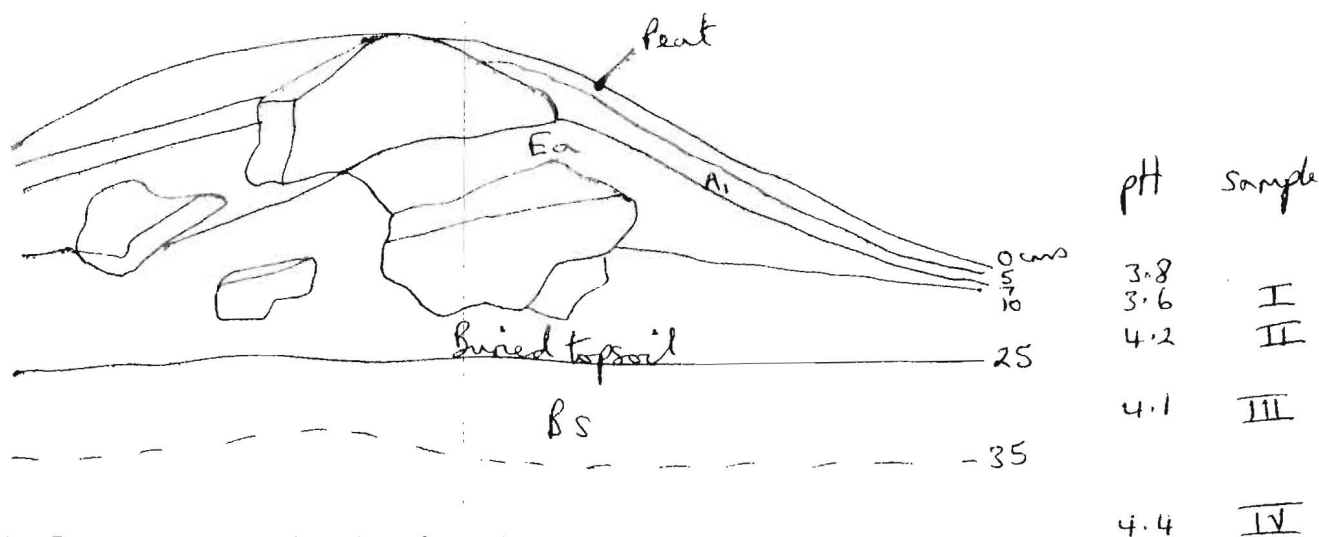
7 to 20 cms was brown/dark brown (10YR4/3) friable fine sandy loam with moderate, medium, blocky structure; containing many gravel to large stones and abundant coarse to fine fibrous roots (including many large bracken roots). Merging boundary to the B_s horizon.

20 to 30 (35) cms was strong brown (7.5YR4/6) moderately friable fine sandy loam with moderate medium blocky structure, containing many gravel to large stones and common medium to fine fibrous roots.

Below 30/35 cms was yellowish-brown (10YR5/8) moderately friable fine sandy loam with weak prismatic structure, containing abundant gravel to large stones and few fine fibrous roots. Occasional distinct rusty mottles and patches of 10YR5/4 material were noted.

2. Section through wall 74

This site was relatively flat; a buried soil was preserved beneath the wall, as shown below:-

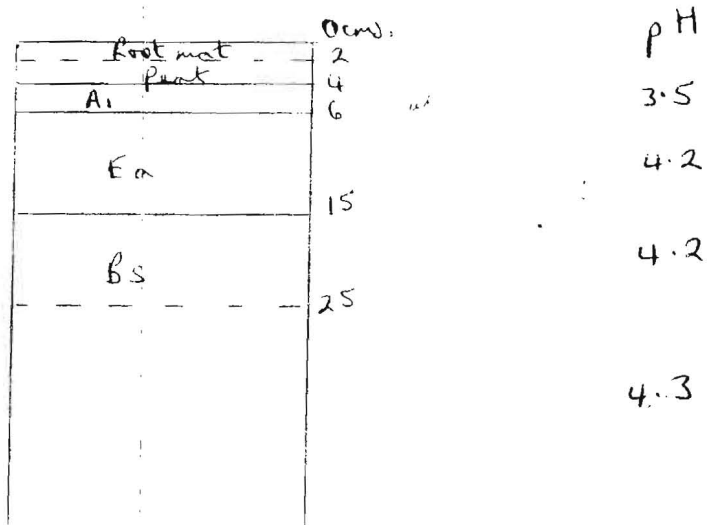


0 to 5 cms was a root mat and peat.

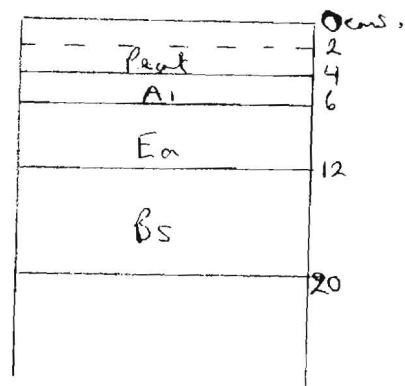
The buried topsoil was dark brown (7.5YR3/4) moderately friable fine sandy loam with moderate medium subangular blocky structure, containing fine charcoal flecks. Stones were few, gravel to small, and roots common, coarse to fine fibrous.

The remainder of the profile was similar to 1.

3. This section was on a 3° slope and was similar to section 1., although slightly shallower.

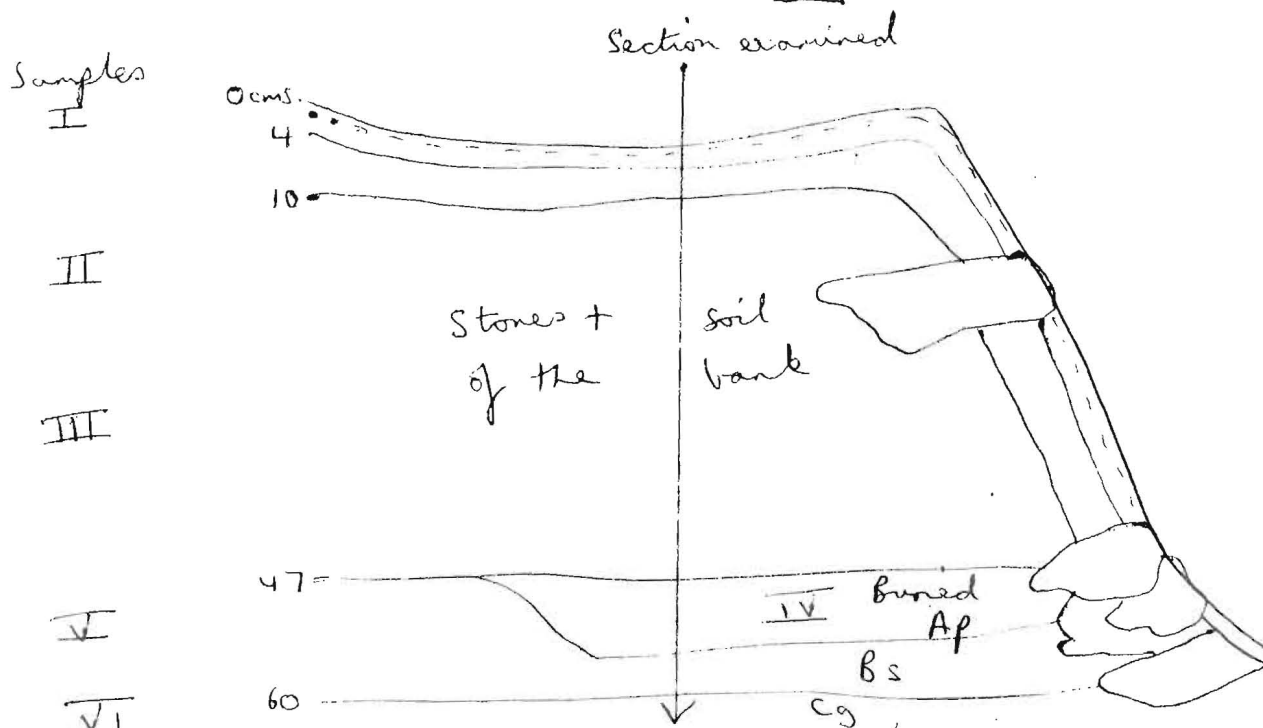


4. The slope at this point was 12° and the profile quite shallow, although similar to 1. and 3.



5. Section through the "lynchet"

67

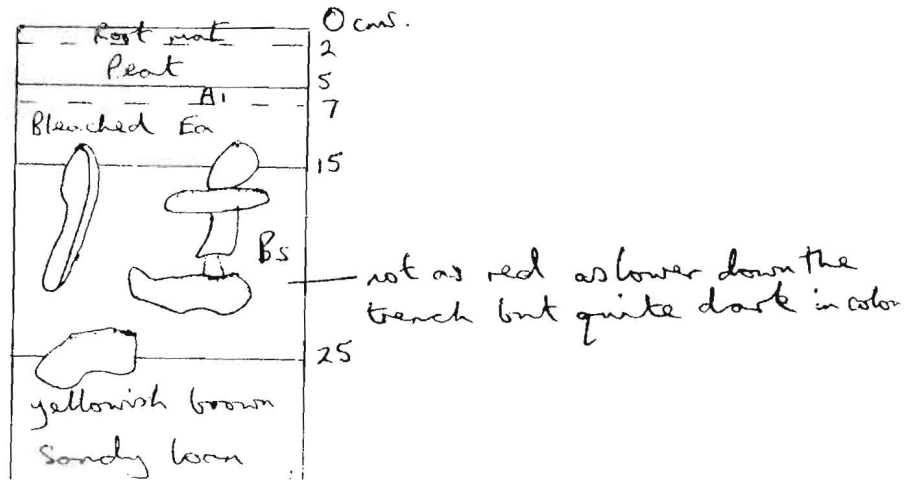


A bank had built up, against the stones of the terrace edge, consisting of soil and stones, which appeared to represent a combination of material washed downhill and deliberate stone clearance, overlying a buried soil which contained charcoal fragments. This apparently represented the original disturbed (cultivated) soil present when the terrace was built. The soil appeared to be podsolised but did not have the peaty top, A, or E_a horizons noted in present-day profiles on the site.

The trench was extended upwards, across the site and 4 profiles were examined in the section.

6. About 1 m downslope from the top of the section

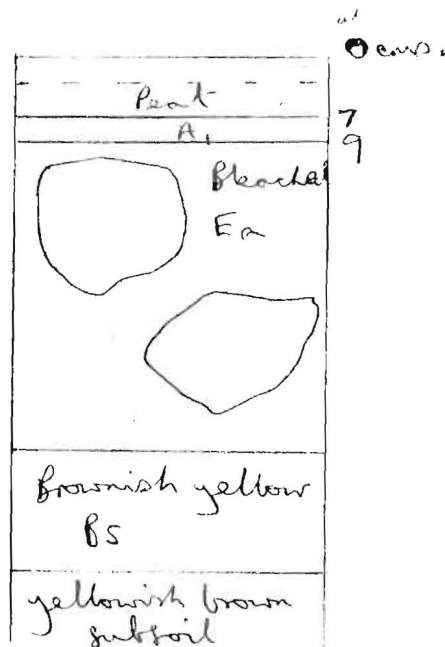
The slope at this point was approximately 8° .



The subsoil was very stony in the upper part of the trench, some of the stones being very large. The Ea horizon was more bleached than in the lower part of the section (Profiles 1 to 4). Vegetation was grasses and bracken. The Bs horizon, overlying the yellowish-brown subsoil, was not as markedly reddish in colour as further down the slope.

7. 5 m downslope from 6.

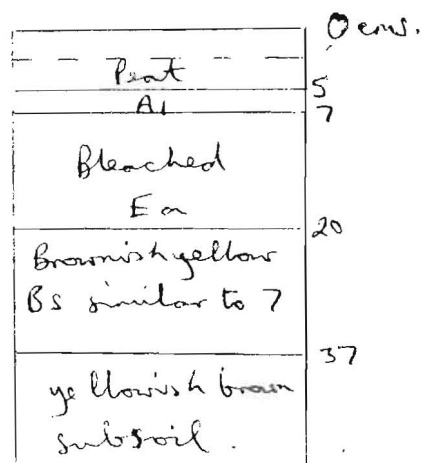
Slope was about 6° ; an increase in soil depth associated with large stones was noted.



The increased depth of the Ea horizon may be due to a build-up of colluvial material around large stones.

Over the 4 to 5 m below 7. the Bs became more reddish-brown and slope decreased to about 4° .

8. Below the E/2 concrete marker.

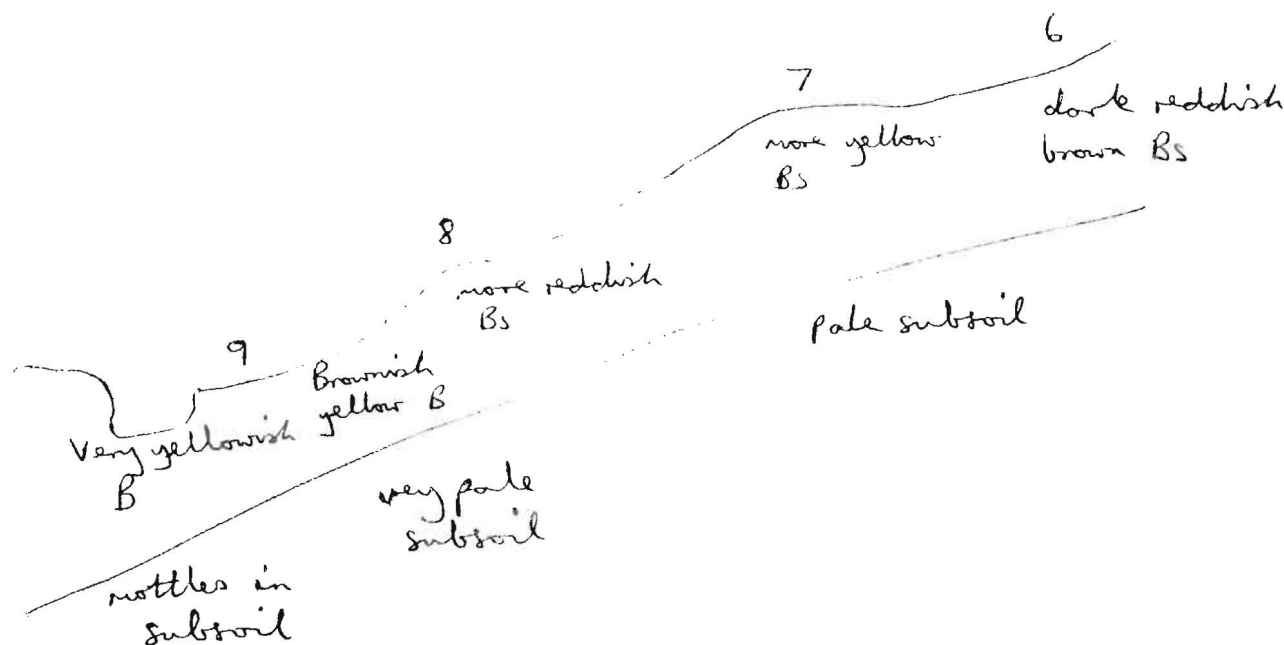


At this point slope was 2° , in the adjacent break of slope and flatter area downslope from 8. the subsoil was very pale in colour, possibly indicating poorer soil drainage than upslope.

9. Below E/1.

This profile was very similar to 8. but the Bs was slightly more reddish. The ground was flat at this point and rusty mottles were noted in the subsoil, presumably the result of impeded drainage.

Some disturbance of the soil was apparent at the lower end of the trench. Soil changes and position of described sections on the slope are shown in Figure 3:-



Results of extending the long cutting into the lower field by augering are described below:-

1. 18 m downslope from end of trench.

The Ap horizon (0-25 cms) was brown/dark brown (10YR4/3) friable fine sandy loam with moderate medium subangular blocky structure. Colour was slightly lighter (10YR5/3) in the upper 5 cms; few distinct medium strong brown mottles were noted. Roots were abundant and stones many, gravel to medium. There was an increase in the size (to large) and abundance of stones with depth. Earthworms were present.

25 to 30 cms was dark yellowish-brown (10YR4/4) and similar to above but contained fewer roots, changing to 10YR4/6 below 30 cms.

2. 28 m.

The upper 40 cms was similar to the profile at 1. but between 40 and 50 cms (10YR4/6 in colour) there was a slight increase in clay. The soil was friable and earthworms were present; some darker material from above was also noted.

50 to 58 cms was yellowish-brown (10YR5/8) moderately firm fine sandy loam with weak subangular blocky structure, changing to 10YR5/4 below 58 cms. Stones were reached at 75 cms depth (including sandstone and quartz pebbles).

3. 38 m.

A piece of modern pot was found on the surface. The top 45 cms were similar to profiles 1. and 2.; 45 to 60 cms (10YR4/6) showed the slight increase in clay noted at 2.; 60 to 70 cms was 10YR5/8 overlying yellowish-brown (10YR5/4) material, as at 2., and stones at 75 cms.

4. 44.5 m - edge of field.

This profile was similar to the others but slightly shallower, stones being reached at 65 cms.

Another profile, 11 m from the end of the trench, was examined and found similar to profile 1. It was possible to reach 60 cms before hitting stones and the lower layers were similar to other profiles described.

The top few centimetres appears to be the remains of an Ea horizon, now showing slight mottling, presumably due to slightly impeded drainage. Imperfect drainage was noted in another profile 1 m east of point 1., where patches of strong brown (7.5YR5/8) coarse sand were noted in the subsoil.

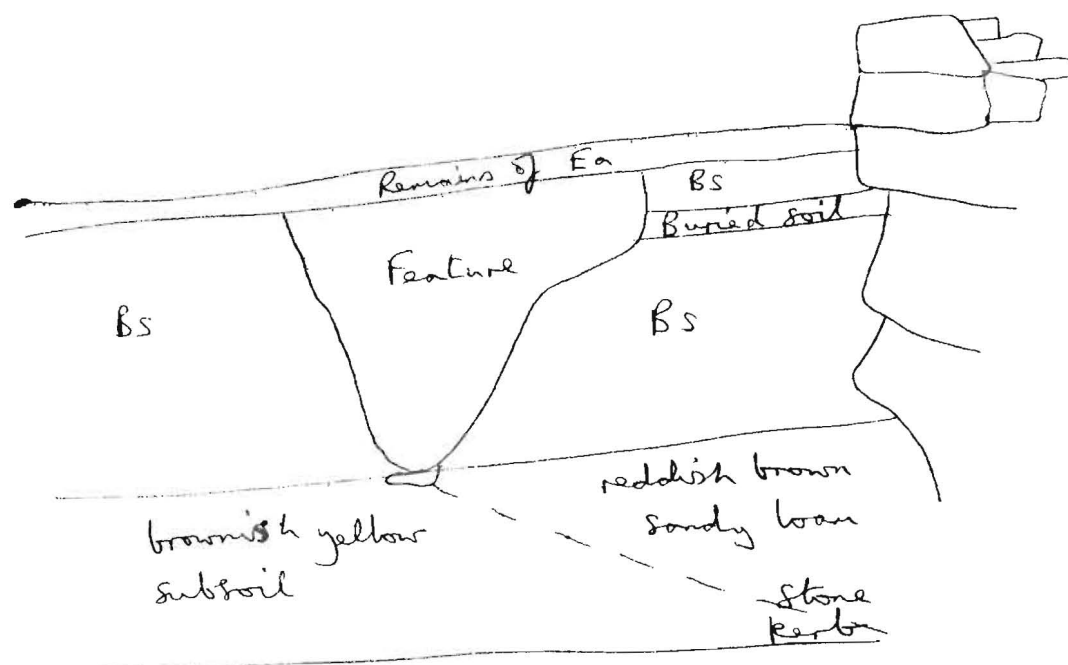
The field is flat and grassed but has been ploughed quite recently; apart from the edge of the field near the trench, soils were freely drained and all were stony.

The soil examined in the next field down, which was full of bracken (point 5) was more grey in colour than other profiles, and had a peaty top, but was otherwise similar. This is probably what soils were like in adjacent fields prior to ploughing and grass growth. In other places (points 6. to 8.) the soil was about 60 cms in depth and similar to other profiles described previously.

Phosphate testing - Feature 42.

The field spot test for P (Schwarz, 1967) indicated that concentrations in this feature were below the detection limit, ie very low.

Section through the wall (south-east of T₁).



A bank was present against the wall. Subsoil probably dug out of adjacent pits, overlay a buried soil, which may have been truncated, adjacent to which was a pale brown feature.

Comments

The underlying rocks are South Stack series - grits, sandstones and shales - and, possibly, Holyhead quartzite. Podsollic soils of the Cybi series occur around the site while Trisant series soils (gleyed brown earths) were found in the lower fields. Buried soils appeared to have been disturbed or cultivated, having an Ap horizon rather than the peaty top, A₁ and Ea horizons of the modern soil profiles, suggesting that they are brown ^dpodsollic soils rather than podso ls.

Further work on the site should include examination of additional buried soil profiles and, of prime importance, soil pollen analysis - in order to gain information about the ancient landscape.

References

- Smith, C (1979). The hut circles at Holyhead Mountain, an interim report on excavations carried out in 1978 and 1979. Unpublished Report (Welsh Office).
- Keeley, H C M (1979). Preliminary report on the soils of Holyhead Mountain Circle. Ancient Monuments Laboratory Report No 2678.
- Elmhurst, O and Keeley, H C M (1979). Report on some soil samples from Holyhead Mountain Circle, Ancient Monuments Report No 2688.
- Schwarz, G T (1967). A simplified chemical test for archaeological fieldwork. Archaeometry 10, 57-63.