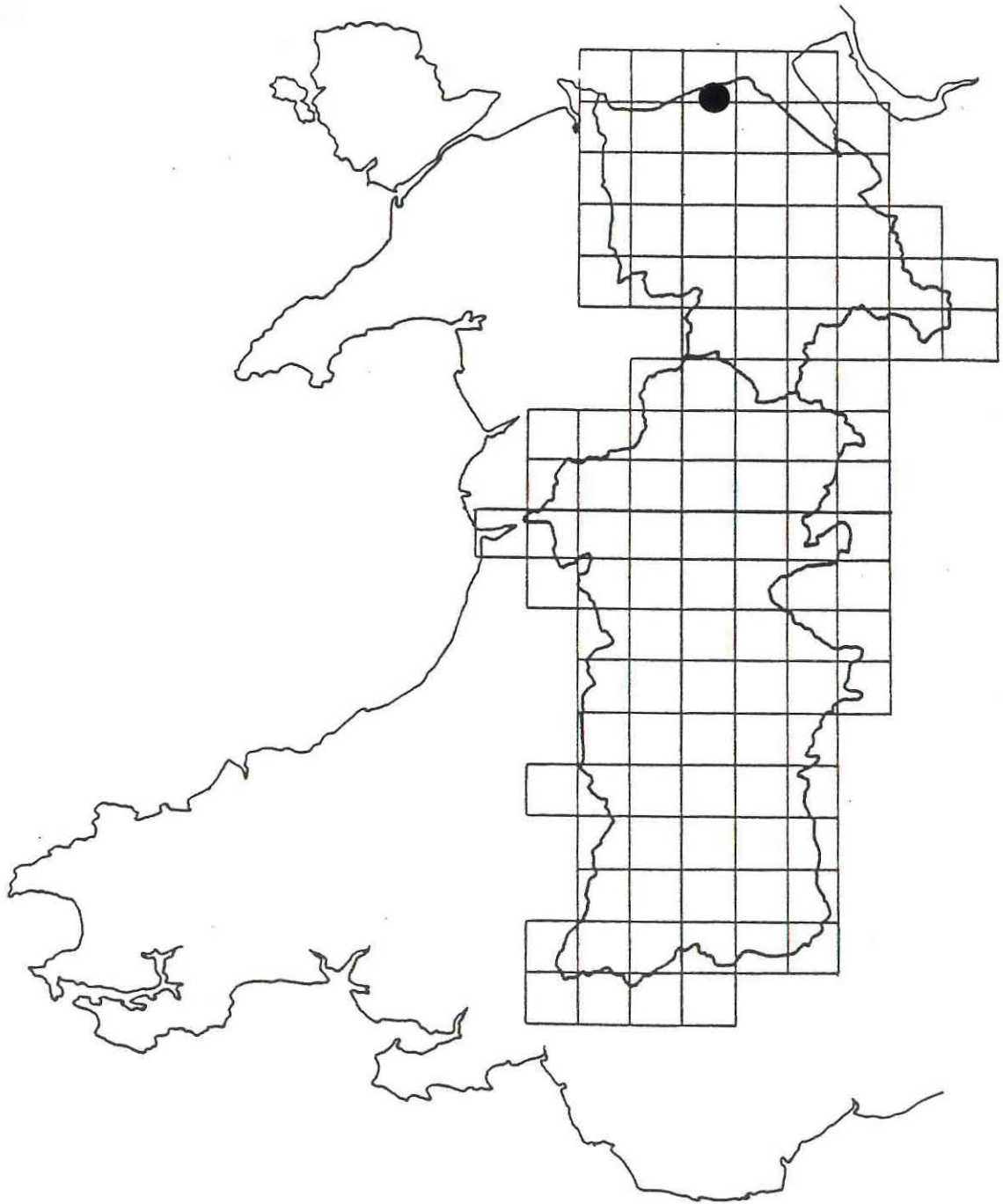


Excavations at Moel Hiraddug, Clwyd, 1992



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Report prepared for MANWEB

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EXCAVATIONS AT MOEL HIRADDUG

Introduction

The excavations on the scheduled hillfort at Moel Hiraddug, near Dyserth, Clwyd (SAM Flint 12), were carried out in December 1992 in response to the modification of the existing VHF transmitting station. The excavations were conducted by CPAT, and were funded by MANWEB as part of their Scheduled Monument Consent requirement. The site lies on the inside of the inner rampart, close to the south gate (NGR SJ 064 781) (Fig 1).

Previous excavations on Moel Hiraddug have concentrated on the northern defences of the site, in advance of quarrying activity. The material then recovered dated the occupation of the monument to between the fifth and first centuries BC, although some evidence of earlier occupation was present (Brassil *et al.* 1982, 82-87). Other unpublished excavations were carried out between 1970 and 1972 by Dr J.L. Davies on hut structures in the interior.

Excavations

The modifications to the VHF station consisted of the replacement of the mast to the south-west, and the construction of a larger radio hut on the site of the existing one. As a result, the whole area within the compound was perceived to be under threat and it was planned to excavate all the available areas. However, because of lack of time and the limited archaeological potential, the work was restricted to two areas (Fig 2, A and B).

AREA A

Area A was hand stripped of turf and modern overburden (01) to an approximate depth of 35cm to reveal a dark brown hillwash layer (02). Cut into this layer and into the bedrock below was a circular posthole, 60cm in diameter (04). The fill (05) was very similar to the overburden layer, and so is assumed to be of modern date, probably associated with the mast station.

The hillwash layer had no other features within it, and was excavated onto the natural fractured limestone bedrock (03). The deposit varied in thickness between 10-20cm, according to the underlying bedrock, and contained occasional fragments of iron slag and calcite. A stone maul, probably used for early mining activity, was also recovered. A report on this appears below, along with a report on the minerals.

The limestone bedrock showed no sign of having been artificially cut, so the deposits present in area A probably represent accumulation of hillwash within a natural bedrock hollow.

AREA B

Area B was also hand stripped of turf and modern overburden (01), to a depth of approximately 30cm, revealing a reddish-brown hillwash layer. The colour contrasted with the hillwash in area A, which is probably due to it being derived from an area with differing bedrock and mineral conditions. The only feature cut into this layer was a trench for modern ducting (08) leading to

the radio hut.

The hillwash layer contained very few coarse components, apart from occasional limestone fragments and degraded galena, a report on which appears below. This layer was approximately 20cm deep, and sealed another hillwash layer (07), between 10 and 40cm deep, which contained more limestone fragments, and degraded galena, along with a number of snail shells and some animal bone, surviving because of the alkaline nature of the soil.

As in Area A the limestone bedrock showed no sign of being artificially cut, so it is probable that the deposits represent hillwash accumulation within a natural bedrock hollow.

Discussion

The excavation of the two trenches revealed that the VHF station is situated on top of hillwash deposits lying in a natural bedrock hollow. There was no evidence of archaeological features relating to the gateway or to the rampart, nor were there any occupation horizons, and so it can be assumed that the rest of the threatened area within the compound is of limited archaeological potential.

The presence of the minerals and the stone maul, however, illustrate the importance of the hill for early mineworking, specially in regard to the outcrops of mineral-bearing limestone bedrock upslope from the excavated area, as discussed below.

THE FINDS by Mark Walters

The Hammerstone (Fig.3)

Description

A complete hammerstone was retrieved from the base of context 02, a hillwash layer, in Area A. The maximum dimensions of the hammerstone are 187x78x42 mm. The unweathered rock type is a fine grained, greyish-green sandstone which has weathered to a greyish brown on exterior surfaces. The source for the poorly rounded cobble is likely to have been either a local stream, river or even the beach deposits at Prestatyn, two miles to the north.

The cobble has clearly been utilised as a tool for hammering and/or crushing. The face of the cobble at its widest end displays distinctive pitting and spalling marks associated with repeated hammering against a hard surface. Lateral pitting on one side of the cobble together with spalling on the upper and lower edges perhaps aided the grip of the tool in the hand or may have given extra purchase to a simple hafting device. One side of the cobble has been deliberately polished smooth, presumably for comfort when hammering, although some re-use as a whetstone should not be dismissed. The face of the cobble opposite the working end narrows to a blunt point with some minor bruising through hammering and some recent spalling.

Discussion

The hammerstone from Moel Hiraddug is similar in many of its characteristics to a group of stone tools which have been associated on other sites in Wales with evidence of early mining and

mineral processing. The most notable recent discovery of such tools was at the Bronze Age copper mines on Copa Hill in Cwmystwyth, Dyfed (Timberlake 1990) where 250 examples were collected from the waste tips. Where such tools have been found in closely datable contexts they have all been assigned dates within the Bronze Age period. It has been suggested, however, that such primitive, but effective, tools could have been used for mining and ore dressing well into the historical era, though this has yet to be conclusively proved.

The Moel Hiraddug hammerstone therefore has potentially important ramifications for evidence of the earliest mining activity in the surrounding orefield. It is not beyond reason that Bronze Age mining occurred in this locality. The nearest known copper veins are located some 500 yards to the south-east of the excavation area close to the Marian Ffrith workings. Early openworkings and levels cut by hand tools have been recognised on Graig Fawr just over half a mile to the north. The inhabitants of the defended enclosure on Moel Hiraddug can hardly have failed to notice the outcropping metalliferous veins at a very early date.

The close association of the hammerstone with fragments of altered lead ore in the second excavation area (see below) might suggest that the hammerstone was being used to crush lead ore into a fine concentrate for smelting though this suggestion is pure speculation. The association with lead rather than copper might also place the hammerstone's use within a period later than the Bronze age as evidence of the use of lead in this period is wholly absent.

The Minerals

Context 06 Area B

Five fragments of weathered and altered Galena (PbS) which have oxidised to Anglesite (PbSO₄). The fragments range in size from 8 to 18mm in diameter.

Context 07 Area B

Thirteen fragments of weathered and altered Galena (PbS) which have oxidised to Anglesite (PbSO₄). The fragments range in size from 9 to 19mm in diameter.

The specimens of altered lead ore listed above were all derived from contexts interpreted as hillwash and their place of origin is undoubtedly further to the north of the excavation area. The ore source was possibly a poorly mineralised outcropping vein on the top of the hill which has since weathered out. The dominant vein mineral on Moel Hiraddug however is haematite and lead is rarely found in association. Another explanation for the presence of the lead therefore might be that the fragments have travelled downslope from a nearby processing area within the settlement. The ore fragments recovered fall within a defined size range and would be consistent with concentrate derived from manual beneficiation of mined vein material.

Acknowledgements

Thanks are due to John Townend of MANWEB, and Dr Sian Rees of CADW for their help and comments on site, and to the excavators, Richard Hankinson and Pat Frost, for their hard work in difficult conditions. Thanks also to Mark Walters for his work on the

finds.

References

Brassil, K.S., Guilbert, G.C., Livens, P.G., Stead W.H., and Bevan-Evans, M., 1982, 'Rescue Excavations at Moel Hiraddug between 1960 and 1980', Flintshire Historical Society Journal, 30, 1981-2, 13-88.

Timberlake, S. 1990 'Excavations and fieldwork on Copa Hill, Cwmystwyth, 1989', in Early Mining in the British Isles, Plas Tan y Bwlch Occ. Paper No 1.

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11th January 1993

EXCAVATION ARCHIVE

The excavation archive at CPAT consists of the following;

A Reports

1. Excavation Report.

B Site Data

1. All plan and sections of excavations at 1:20 scale
2. List and description of all contexts.

C Photographic Archive

1. Catalogue of 35mm colour transparencies.
2. Catalogue of 35mm black and white negatives.
3. Colour slides.
4. Black and white negatives and contact of prints.

D Finds stored at CPAT

1. Stone Maul. Cleaned and drawn at 1:1
2. Bone. A single bag.
3. Fragments of calcite and oxidised lead ore.

FIG 1 Moel Hiraddug fort,
with Transmitter station to the south.

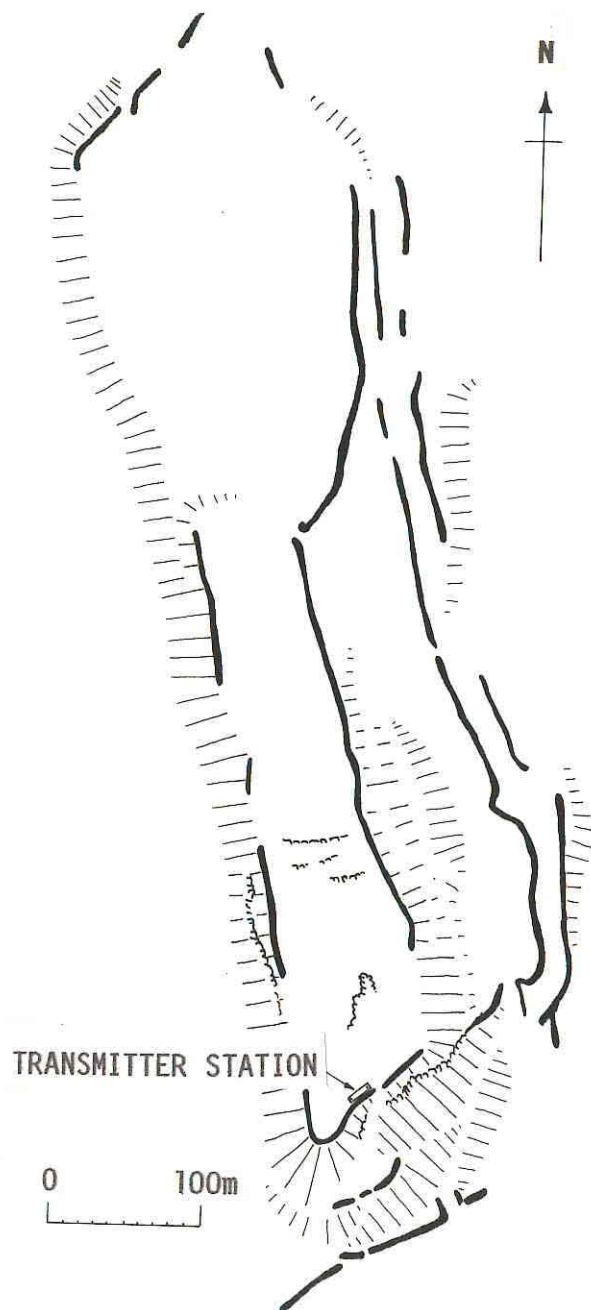
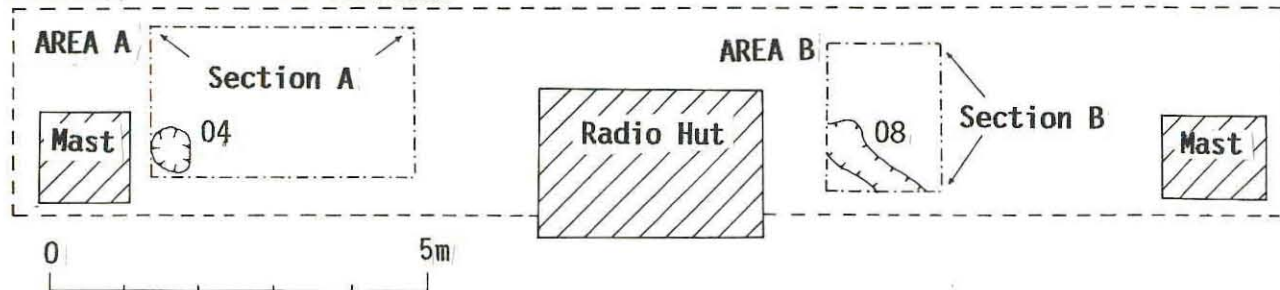
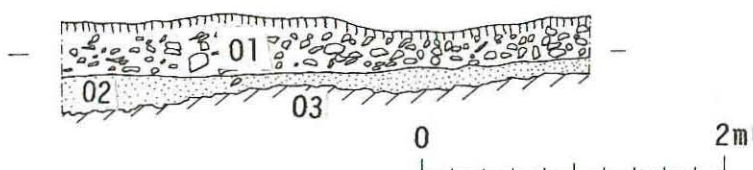


FIG 2 Plan and section of excavated areas.

TRANSMITTER STATION COMPOUND



Section A



Section B

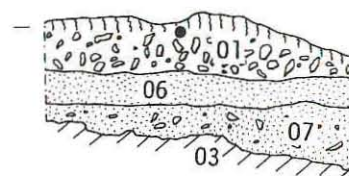


FIG 3 The maulstone recovered from area A.
(Drawn by Brian Williams); 1:2.

