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ARCHAEOLEG CAMBRIA ARCHAEOLOGY FIELD OPERATIONS

COED MAES YR HAIDD
BRYN TEG
ARCHAEOLOGICAL SURVEY

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ARCHAEOLOGICAL SURVEY
COED MAES YR HAIDD, BRYN TEG

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SUMMARY

As part of a Woodland Grant Scheme application for Coed Maes Yr Haidd, Bryn Teg, a survey of the proposed planting area was carried out to identify and assess the nature, extent and significance of the archaeological resource. A length of a leat which may have supplied water to the nearby Roman goldmines at Dolaucothi runs across the proposed planting area. The leat is a Scheduled Ancient Monument and is part of a site unique in Britain and of international importance. The line of the leat runs nearly the entire length of the site and the likelihood is that it would have to be crossed by an access track if the scheme was to proceed. Also crossing the survey area are several earth bank boundaries of probable post-medieval date. No other archaeological sites or cultural heritage remains were discovered in the course of the survey.

ACKNOWLEDGEMENTS

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INTRODUCTION

PROJECT COMMISSION AND PROPOSALS

The Forestry Authority commissioned Cambria Archaeology to carry out an archaeological survey of Coed Maes Yr Haidd as part of a Woodland Grant Scheme application for Bryn Teg, Ffarmers.

SCOPE OF THE PROJECT

The project had four main objectives:

i) To accurately locate any archaeological sites within the study area onto a base map
ii) to assess the significance of those sites in a regional and national context
iii) to assess the impact of any proposals on those sites and to develop an appropriate mitigation strategy
iv) to clearly mark those sites identified on the ground

REPORT OUTLINE

This report describes the physical environment of the study area (Section 2) before detailing the archaeological resource (Section 3) and the likely impact of the proposed scheme on that resource (Section 4). Recommendations based on the results of Sections 3 and 4 are given in Section 5. Detailed supporting data are presented in a series of appendices.

ABBREVIATIONS USED IN THIS REPORT

All sites recorded on the county Sites and Monuments Record will be identified by their Primary Record Number (PRN) and located by their National Grid Reference (NGR). Any new sites will be assigned a PRN and located by their NGR. References to primary cartographic and documentary evidence and published sources will be given in brackets, full details will be found in the bibliography.

ARCHAEOLOGICAL SURVEY RESULTS

THE STUDY AREA

Coed Maes Yr Haidd (*Barley Field Wood*) lies on a steep north facing slope of Banc Maes-yr-haidd some 7km north-east of Pumsaint. The site slopes from *c*.300m to *c*.180m OD and is variously covered by woodland and bracken.

PROJECT METHODOLOGY

The project was a combination of documentary research and walk-over survey. Searches of readily available documentary sources were carried out to try to assess the potential of the archaeological resource within the survey area. The walk-over survey was to locate any new sites and to assess the condition and vulnerability of known sites and to clearly mark those sites on the ground.

The course of the leat was marked on the ground by canes tied with barrier tape placed at sight intervals along its centre line.

SURVEY RESULTS

The leat: Physical remains (Fig 1)

The condition and visibility of the leat (PRN 8884; NGR SN 6962 4340 - SN 6911 4344; Scheduled Ancient Monument Cm200j) varies across the site. In places it survives as a clear terrace cut into the slope, but in other areas it is difficult to trace because of the bracken covering..

It is only possible to trace the line east as far as B 1 (Boundary 1 - see below for a description of the boundaries) with any degree of certainty. From B 1 to the east a narrow terrace which appears to begin to curve up-slope may be a continuation of the leat, but it becomes invisible after approximately 10m, beyond that there is no visible trace of it on the ground. A *c*.100m stretch west of B1 appears to have an upper and lower terrace and may be a double leat; multiple leats are recorded elsewhere in the Dolaucothi system (Lewis 1977).

The section between B1 and B2 is the easiest section to follow, because much of it has been incorporated into a path or track used as a haulage route for timber. This has altered its profile by making it almost twice as wide. The leat is here in sections rock-cut with the up-slope edge clearly identifiable as a cut face.

At the western end of the site the previously suggested line of the leat has been altered following the fieldwork. The course is now known to run some 5-10m further up-slope than indicated on earlier maps and plans. What was previously thought to be the line of the leat appears to be a boundary (B4) with colluvium banked up against its up-slope side giving a terrace-like effect. Not only does the new line link better with the line of the leat through the assessment area than the previously suggested line, it clearly continues through the plantation to the west as a distinct and artificial break of slope.

The whole of the course of the leat from approximately B 1 in the east to beyond the western boundary of the application area has been designated a Scheduled Ancient Monument (Cm 200j) - see Fig. 1 for location. In the vicinity of boundary B 4 the area of the Scheduled Ancient Monument was designed to protect the previously proposed line of the leat (i.e. following the course of the boundary B 4). Fortunately, the designated scheduled area was sufficiently generous to encompass the line of the leat discovered in the course of this survey.

Boundaries within the survey area (Fig 1)

Boundaries within the survey zone are few and fall into two groups, low (eroded) earth banks and modern barbed wire fences. The earth banks (B1-B6) probably have a stone core; they would originally have been quite substantial. Both B1 and B2 appear to have been cut through where they

intersect the line of the leat. However, without excavation it is not clear whether the leat cuts the boundaries, or whether they were constructed up to either side and respected the line of the leat.

This question does have implications for dating the leat and needs to be resolved. Cartographic evidence helps to a certain extent, B2 was not shown on the Ordnance Survey 1st edition 6" coverage, but the other boundaries were. This begins to raise some interesting questions, such as: does this portion of the leat post-date B2 and therefore date from the late-19th century? Were the sections of B1 and B2 across the leat removed in an attempt to re-open it during the late-19th or early 20th century? Was B2 constructed with a gap left across the line of the leat? Was the leat still carrying water when B2 was constructed?

CONCLUSIONS

Goldmining at Dolaucothi

Dolaucothi is the only known Roman goldmine in Britain and one of very few from the entire Roman world, making it a site of international importance. There is a long tradition of mining at Dolaucothi, that stretches from prehistory until the mid-20th century. The period of most intensive mining was the late-19th - early-20th century. This continuous, if sometimes sporadic, working of the mines means that much evidence of the Roman mines has been removed (Green 1986, 145), making it impossible to be certain about which parts of the present layout are Roman (McWhirr 1982, 7-8; Rees 1992, 98-101).

The section of leat running across the survey area is part of the Cothi Leat which took water from the Afon Cothi some 11km upstream from the mines. There is another, roughly parallel system on the other flank of Allt Cwmhenog called the Annell Leat. A constant supply of vast quantities of water to the mines was essential to the techniques used by the Roman mining engineers; it is estimated that the leats could have supplied approximately 13.6 million gallons per day (Frere 1987, 276). The water was channelled by the leats into tanks at the mines which were used to control the water for two similar operations, hushing and hydraulicing. For hydraulicing a constant stream of water was released from the tanks to break down and wash away soft deposits, whilst hushing involved the sudden release of a tank-full of water down a slope to wash away the already broken up material (James 1982, 33). In the latter technique the slope was broken up by pick, wedges and fire-setting - this last operation consisted of the rocks being alternately heated and quenched to crack and break them. The Cothi Leat runs into one of these tanks just to the north-west of the main mining area.

The mines at Dolaucothi have evidence for all the major processes involved in mining for gold and the leats are a fundamental element of the mine complex, a fact reflected in their status as a Scheduled Ancient Monument.

IMPACT OF PROPOSED SCHEME ON THE ARCHAEOLOGICAL RESOURCE

INTRODUCTION

The archaeological implications of forestry operations are well known, but it is felt appropriate to include a summary of the main points here.

New planting and archaeology

The processes of planting have potentially serious implications for archaeological sites. Those with the most significant implications are, i) ground preparation; ii) planting; iii) the spread of the root system. Other areas of concern include the methods of thinning and removal and the construction of roads for vehicle access.

Guidelines laid out in *Forests and Archaeology* (issued by the Forestry Authority in 1995) give clear advice on protective measures for archaeological sites within woodland plantations. Principal amongst that advice is the creation of un-planted, or buffer, zones around the archaeological site. A buffer zone is an area around a site in which no planting, or other ground breaking works should take place. They are established not only to protect sites from damage during planting and removal but also from the effects of root growth.

PLANTING AT COED MAES YR HAIDD: THE ARCHAEOLOGICAL IMPLICATIONS

Linear features such as those within the survey area are, because of their nature, difficult to manage effectively, particularly in a working, economic environment like a forestry plantation. Unlike other forms of monument which form discrete and easily definable sites, linear features criss-cross the landscape and divide the land into blocks. This is the situation within the survey area, where the leat and boundaries divide the area into blocks of land separated by archaeological monuments. The situation here is further complicated by the fact that the leat has been designated a Scheduled Ancient Monument which means that there is a wide swathe of statutory protected land across the application area.

These factors have obvious practical implications such as the creation of a wide buffer zone across the site and access for planting, management and removal. Without information regarding site access or details of the planting layout it is not possible to be definite about the implications, but it seems likely that the leat and at least some of the boundaries could be affected by the planting, machinery access and the harvesting of trees.

RECOMMENDATIONS

Careful planning will be required to minimise the impact of the proposed scheme on the archaeological resource within the survey area. The plans must take account of existing statutory constraints and they should also have due regard for the historic character of the area.

EXISTING CONSTRAINTS

The leat has statutory protection as a Scheduled Ancient Monument and as such it has defined boundaries. **The area of the Scheduled Ancient Monument must be excluded from the scheme.** Because the newly proposed line of the leat near to B 4 lies close to the boundary of the scheduled area it is recommended that a 20m wide buffer zone free of planting is also created to the south of this new line.

POSSIBLE MITIGATION MEASURES

It would appear that access can only seriously be considered from the bottom of the slope (Mr Carl Bridges, Tilhill Economic Forestry, *pers comm.*), which means that the line of the leat will have to be crossed for planting and other purposes. The mitigatory measures outlined below are only intended as a guide to possible solutions. Any works, including the implementation of the proposed mitigatory measures below, that will have an impact on the Scheduled Ancient Monument will require Scheduled Monument Consent from the Secretary of State for Wales.

The most significant problem is that of access for machinery and vehicles across the leat. There are a number of options for providing access.

1. The laying of a brushwood mat across the line of the leat.
2. The laying of a gravel or chippings track across the line of the leat.
3. The archaeological excavation of a short length of the leat to provide a single, permanent crossing point.

Each option has its merits and its faults. The laying of a brushwood mat would mean that the leat would not be not disturbed in the short term, but it would only provide a certain amount of protection against regular vehicle access. Similarly, a crossing of gravel or chippings would provide better protection, but it could still not offer long term preservation. The third option would be to archaeologically excavate a short length of the leat to provide a permanent crossing point. This would require excavation within the scheduled area and result in preservation by record.

The boundary banks are a small but nevertheless significant element of the historic landscape. It is recommended that planting should take place up to, but not over these banks. If a boundary has to be crossed for access, then a single gap should be created in the bank to provide a permanent access point. These selected access points must not be within the area of the Scheduled Ancient Monument.

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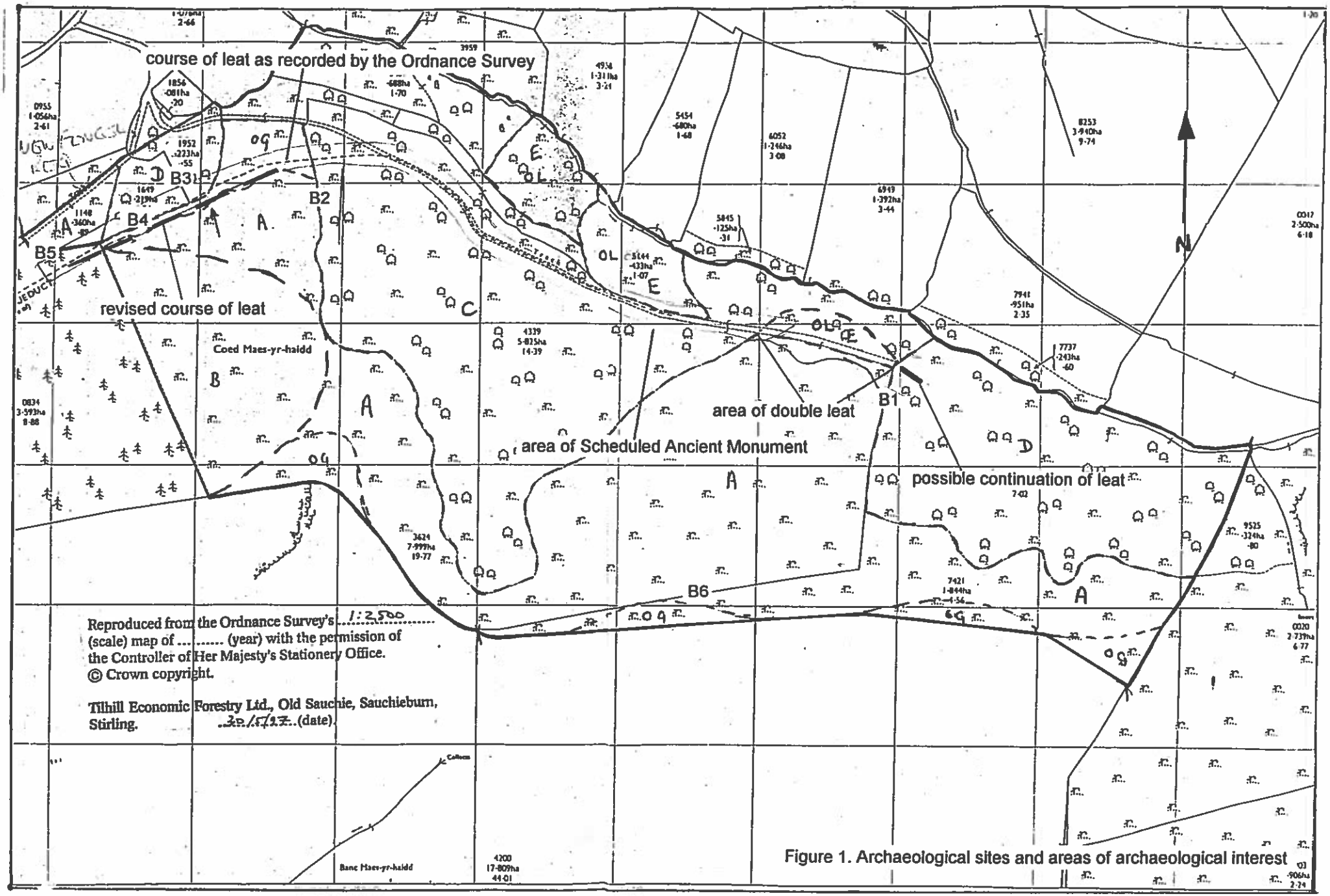

Figure 1. Archaeological sites and areas of archaeological interest

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