

THE CLWYD-POWYS ARCHAEOLOGICAL TRUST

Dolaucothi Forestry, Carmarthenshire

ARCHAEOLOGICAL SURVEY



CPAT Report No 828

Dolaucothi Forestry, Carmarthenshire
ARCHAEOLOGICAL SURVEY

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December 2006

Report for Forestry Commission Wales

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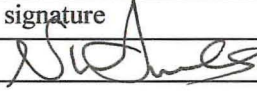
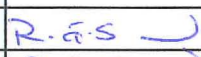
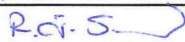
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1 INTRODUCTION

- 1.1 In May 2006 the Field Services Section of the Clwyd-Powys Archaeological Trust (CPAT) was invited by Mr D Rees, Forestry Commission Wales (FCW), to prepare a specification and quotation for undertaking an archaeological survey within several compartments of forestry plantation near Dolaucothi, Carmarthenshire.
- 1.2 The areas to be examined were defined on a map of the Archaeological Survey Area provided by FCW and dated 5 May 2006. This identified eleven blocks of forestry, comprising fourteen compartments, focused around the valley of the Afon Cothi (Fig. 1).
- 1.3 An initial survey of the areas had been undertaken during the 1990s as part of the Welsh Heritage Assets project. This was essentially a rapid survey comprising a desk-based study which was largely restricted to examining the Ordnance Survey 1st and 2nd edition 6" mapping, followed by field visits to those sites which had been identified. The present study has extended the desk-based research coupled with further field survey, again targeted at known sites.

2 METHODOLOGY

- 2.1 The first stage of the survey comprised a desk-based study which involved the examination of readily available primary and secondary cartographic sources held by the following repositories: the National Trust; the county Historic Environment Record (HER) held by Cambria Archaeology at Llandeilo; the National Library of Wales, Aberystwyth; and the National Monuments Record (NMR), Aberystwyth.
- 2.2 For forestry blocks that had been planted since the 1950s, early vertical aerial photography taken by the RAF between 1946 and 1948 was consulted at the NMR where this was available. This proved most productive for the Allt Cwmhenog area where a complex of early mine workings lie within the forestry. Examination of the photographs using a stereoscope allowed a number of important features to be plotted which were difficult to trace on the ground.
- 2.3 An intermittent programme of field survey and trial excavation had been undertaken at a number of sites related to the Dolaucothi gold mines by the late Professor Barri Jones. Although unpublished and uncatalogued, the archive had been deposited with the NMR and was accessed as part of the desk-based study, although no useful information was retrieved.
- 2.4 Records were created for all newly identified sites using the Mapinfo 7.8 Geographical Information System (GIS) software, the format for which was based on digital data provided by FCW for archaeological sites recorded during the Welsh Heritage Assets survey. The enhanced data have been converted into a format compatible with that currently used by FCW, a copy of which was provided to the client. The Primary Record Number (PRN) assigned to each site is that recorded in the regional HER, with new numbers being allocated where appropriate through consultation with the HER Officer.
- 2.5 The second stage involved a programme of field survey to assess and record all known archaeological sites. A small number of newly identified sites were recorded during the field visits to known sites, although no systematic prospecting survey was conducted as experience indicates that such an approach is not possible or productive in many coniferous woodlands.
- 2.6 All visits were undertaken by a two-man field team and sites were located as accurately as possible on base maps provided by FCW, although it must be recognised that Global Positioning Systems (GPS) are unlikely to be fully effective within forestry and the accuracy of locations cannot therefore be guaranteed.

- 2.7 Each site was recorded by written description and digital photography where possible. Owing to the nature of some of the sites and the density of planting and other vegetation it was not possible to photograph every site. The position from where the photographs were taken, and the direction of view were also recorded and entered into a separate GIS database. The written record included an assessment of type, function, form, significance, condition and management recommendations. In general, it was decided that it was not appropriate to record relict field systems and tracks, although in the case of Allt Cwmhenog some such features were recorded because of their association with the mining remains.

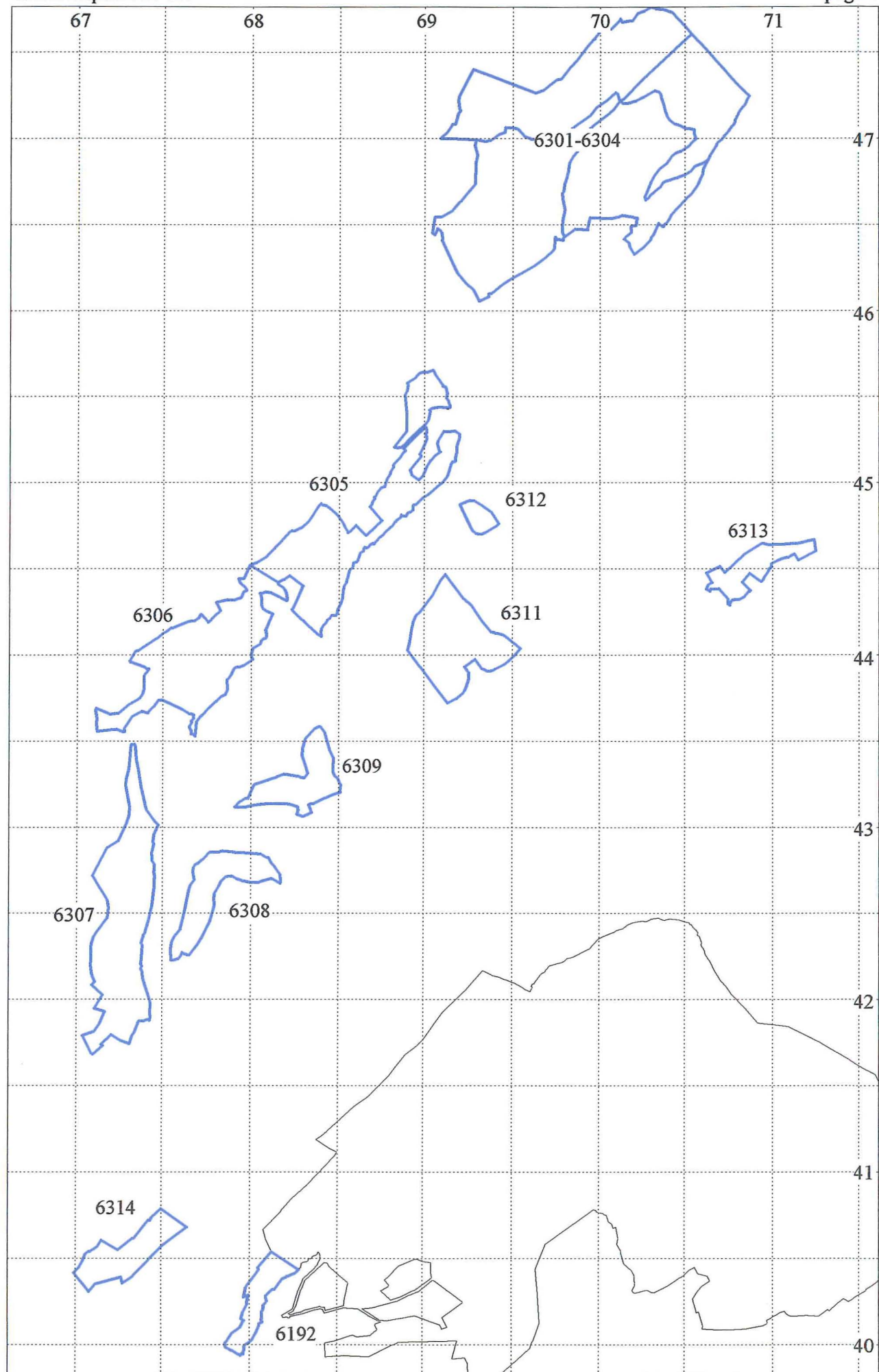


Fig. 1 Location of Forestry Compartments, scale 1:30,000

3 ARCHAEOLOGICAL SURVEY RESULTS

3.1 The results from the desk-based study and field survey for each of the forestry compartments identified in Fig. 1 are present below. For six of the forestry blocks the study has revealed no evidence for archaeological sites, although there always remains the potential for unrecorded upstanding or buried features. Many of the blocks, however, do contain elements of former field systems and trackways which have become fossilised within the forestry. During field visits to known archaeological sites it was apparent that many of these boundary banks and tracks still survive, although often they have been damaged by forestry operations. In general, these features appear to correspond to those depicted by the Ordnance Survey in the late 19th century which have already been mapped as part of the Welsh Heritage Assets programme and form part of FCW's GIS data.

3.2 Those compartments where archaeological sites were identified are described in the following sections, while those with no known archaeology are summarised immediately below.

Forestry Compartment 6192, Drysalt

3.3 There are no recorded archaeological sites within the area which appears to have been mostly deciduous woodland in the later part of the 19th century, with a field boundary running east to west which separates the woodland from more open, rough pasture to the south.

Forestry Compartment 6308, Allt Dinbeth

3.4 There are no recorded archaeological sites within the area which appears to have been deciduous woodland in the latter part of the 19th century.

Forestry Compartment 6309, Allt Aber-Mangoed

3.5 There are no recorded archaeological sites within the area, although the low earthworks of an Iron Age hillfort (PRN 52101) were identified in 2002, occupying the summit of the hill to the north-west of the forestry area (SN6774 4345). The area appears to have been woodland in the later part of the 19th century, with a single field boundary running roughly north to south towards the south-west corner of the plantation, which separated mixed woodland to the west from deciduous woodland to the east. Nothing informative shows on Tithe survey, when the area was part of the Aber Mangoed lands.

Forestry Compartment 6311, Allt yr Hebog

3.6 There are no recorded archaeological sites within the area which appears to have been largely deciduous woodland in the later part of the 19th century, through which a number of trackways passed. The 1888 1st edition of the Ordnance Survey 1:2,500 mapping shows a few small areas of rough pasture within the wooded block, and also depicts the northern tip of the area as a field rather than woodland, separated from the wood by a boundary. The eastern boundary of the block appears neither on the Tithe survey of 1840 nor the 1st edition of the Ordnance Survey, but is first recorded on the 2nd edition map of 1905. Information from the county HER indicates that two earthwork platforms have been identified immediately to the north-east of the area and this suggests that further such sites may lie within the forestry plantation.

Forestry Compartment 6312

3.7 There are no recorded archaeological sites within this small area, which appears to have been largely deciduous woodland in the later part of the 19th century, bounded to the north and east by a trackway, which is depicted on Ordnance Survey Surveyors' drawing of 1812. Another track is depicted on the 2nd edition map of 1905, cutting through the south-west corner of the area.

Forestry Compartment 6313, Allt Ty'n-y-coed

- 3.8 There are no recorded archaeological sites within the area, which appears to have been largely deciduous woodland in the latter part of the 19th century, bounded to the north and west by trackways associated with Ty'n-y-coed house, which is now ruinous. However, the line of the Roman leat carrying water from the Afon Cothi to the gold mines at Dolaucothi appears to pass in close proximity to the north-west edge of the forestry (Fig. 2) and may potentially lie within it, although its course could not be confirmed as there are no definite earthworks at this point and high river levels prevented access to the forestry at the time of the field survey.

- 3.9 In the following sections each site has been classified according to its perceived significance. The categories are those given in the Cadw: Welsh Historic Monuments draft *Archaeology and the Trunk Road Programme in Wales: a Manual of Best Practice*.

Category A sites of national importance. It is presumed that sites in this category will be preserved and protected *in situ*.

Category B sites of regional importance which are of particular importance within the region. Preservation *in situ* is the preferred option for these sites, but if loss or damage is unavoidable, appropriate detailed recording should be undertaken.

Category C sites of district or local importance which are not of sufficient importance to justify preservation if threatened, but which merit adequate recording in advance of loss or damage.

Category D minor and damaged sites which do not merit inclusion in a higher category, and for which rapid recording should be sufficient.

Category E sites whose importance can not be fully determined as a result of the assessment and may warrant further evaluation.

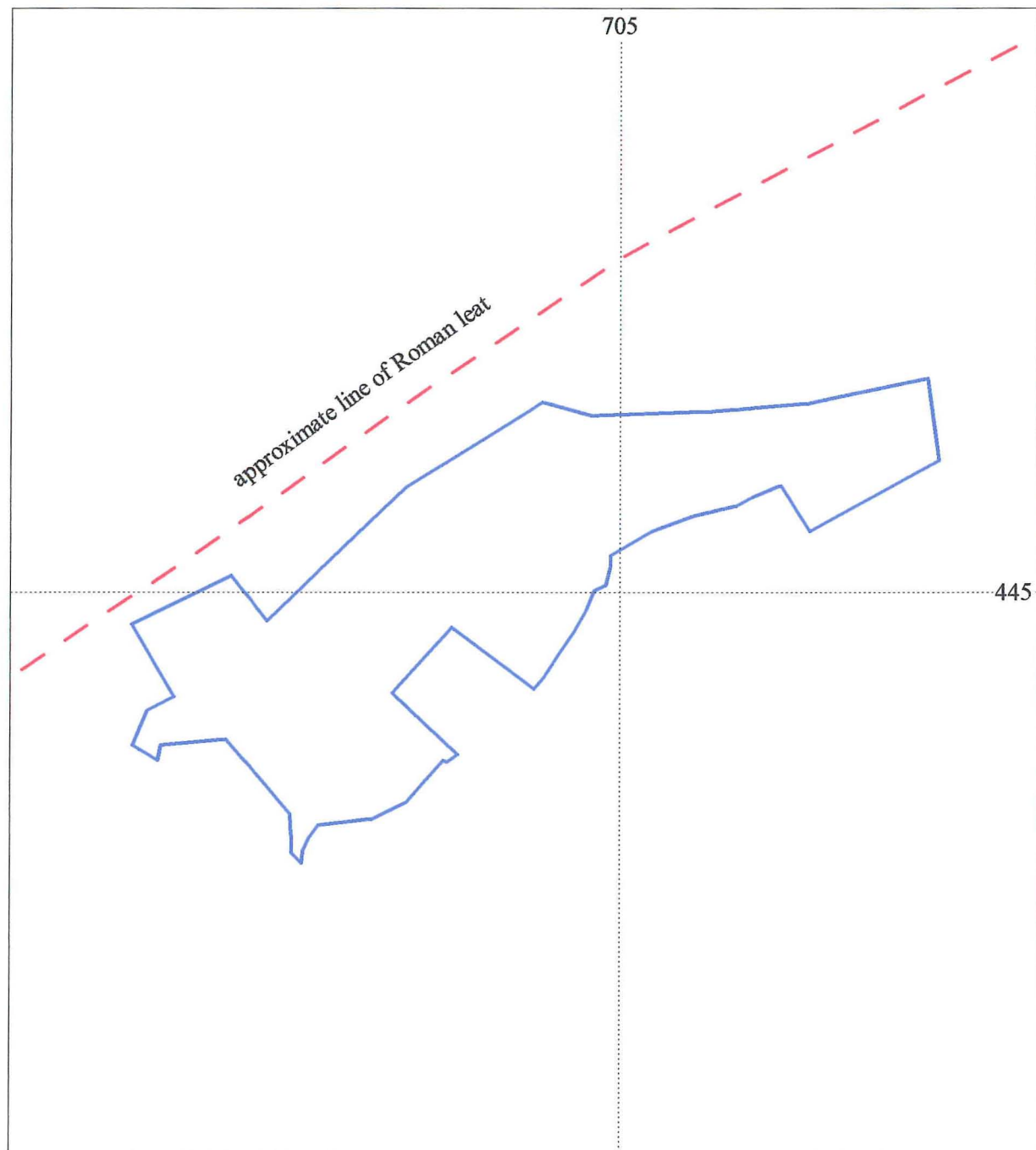


Fig. 2 Forestry Compartment 6313, Allt Ty'n-y-coed, scale 1:5,000

4 FORESTRY COMPARTMENTS 6301-04, BLAEN RHISGLOG PLANTATION (Fig. 3)

- 4.1 At the time of the Tithe survey of 1840 the area appears to have been entirely unenclosed, and by the late 19th century, although there were still large areas of unimproved rough pasture, several areas had been enclosed. The western half is depicted on the 1st edition Ordnance Survey 6" map of 1888 as a large expanse of rough ground, probably moorland, named Lan Ddu. Fields of rough pasture had been enclosed on the western edge, around Bryn Ffynnon farmstead, and also in the two valleys to the north-east and north-west of Blaen Rhisglog farmstead. The only woodland was on the slopes immediately north of, and above Blaen Rhisglog farm, where one enclosed coniferous wood is indicated.

PRN 13785

Cao Common

SN 6869946999

Type: Common land

Period: Medieval

Category: D

An area of medieval and post-medieval common land, part of which lies within the forestry area.

Management condition

None

Management recommendations

None

PRN 30179

Hen Llust House

SN69524762

Type: House

Period: Post medieval

Category: B

The field survey identified the ruins of a dry-stone walled building measuring 12.9m by 6.3m externally, with the walling surviving to a height of 1.1m. Internally the building is divided into two rooms with a lobby entrance on the south side, opposite the dividing wall which probably contained the fireplace and chimney. A short length of walling projects from the north-west corner, suggesting a lean-to which was cut into the slope. A curving holloway approaches the building from the north-east, although the main access appears to have been via a track from the south, of which there is now no trace. There is a small, walled, garden enclosure adjoining the south side of the building. The farmstead is also recorded with an overall number of PRN 36447.

Management condition

Saplings and fallen branches within building. Planting is in close proximity.

Management recommendations

Clear saplings and branches. Monitor and preserve in situ. Fence during felling operations and exclude site and wider area from replanting.



PRN 30179 Hen Llust. Photo CPAT 2282-002

PRN 36446**Hen Llust Trackway**

SN6954847574

Type: track

Period: Post medieval

Category: C

A trackway was identified by a previous survey and is depicted on the Ordnance Survey 1st edition 6" map of 1891. The present survey failed to identify the track in the vicinity of Hen Llust.

Management condition

Unknown

Management recommendations

None

PRN 36470**Blaen Rhisglog Building**

SN6970046479

Type: Barn?

Period: Post medieval

Category: D

A small rectangular building is depicted on the Ordnance Survey 2nd edition 1:2,500 map of 1905. The field survey failed to identify any structural remains in an area which has been cleared and used to store equipment and materials for Blaen Rhisglog Farm.

Management condition

Destroyed

Management recommendations

None

PRN 62317
SN69704646
Category: C

Blaen Rhisglog Barn
Type: Barn

Period: Post medieval

The field survey identified the ruins of a stone-built barn 6.8m wide and at least 8m long, comprising the southern gable with three ventilation slits, standing to 2.5m in height, with walls up to 0.8m thick. There is little evidence for the side walls and no trace of the northern gable. The barn is sited on a level platform with a steep slope below to the south-east and a former track to Blaen Rhisglog on the west. The Ordnance Survey recorded the barn in 1888, but by 1905 the northern gable end had been lost.

Management condition

Saplings and fallen branches within building.

Management recommendations

Clear saplings and branches. Monitor and preserve in situ. Exclude from future planting.



PRN 62317 Blaen Rhisglog barn. Photo CPAT 2282-008

PRN 62318
SN68934651
Category: D

Lan Ddu Quarry
Type: Quarry

Period: Post medieval

The field survey identified a small linear quarry extending north-north-east to south-south-west for around 35m, exploiting a rock outcrop. There is a level working area at the base of the quarry face, which is 2.5 high, with some spoil downslope.

Management condition

The working area at the base of the quarry face has a number of fallen trees.

Management recommendations

Clear fallen trees. Preserve in situ

PRN 62319**Bryn-ffynnon Farmstead****SN6867147117**

Type: Farmstead

Period: Post medieval

Category: B

A farmstead is depicted on the Ordnance Survey 1st edition 1:2,500 map of 1888. The field survey revealed a well-built stone house measuring 8m by 5.2m externally and standing almost to its full height at the gables. The entrance is on the eastern side, and internally the building was divided into two rooms on both the ground and first floors. On the ground floor there is a large fireplace and chimney against the southern gable and a smaller fireplace within the northern gable. A lean-to on the west side has been built into the slope.

To the north there are the ruins of a stone-built barn measuring 11.7m by 6.3m, with a small lean-to on the northern end. The earthworks of several small enclosures and tracks can also be identified.

Management condition

Site lies outside the forestry and should not be affected by any operations.

Management recommendations

None

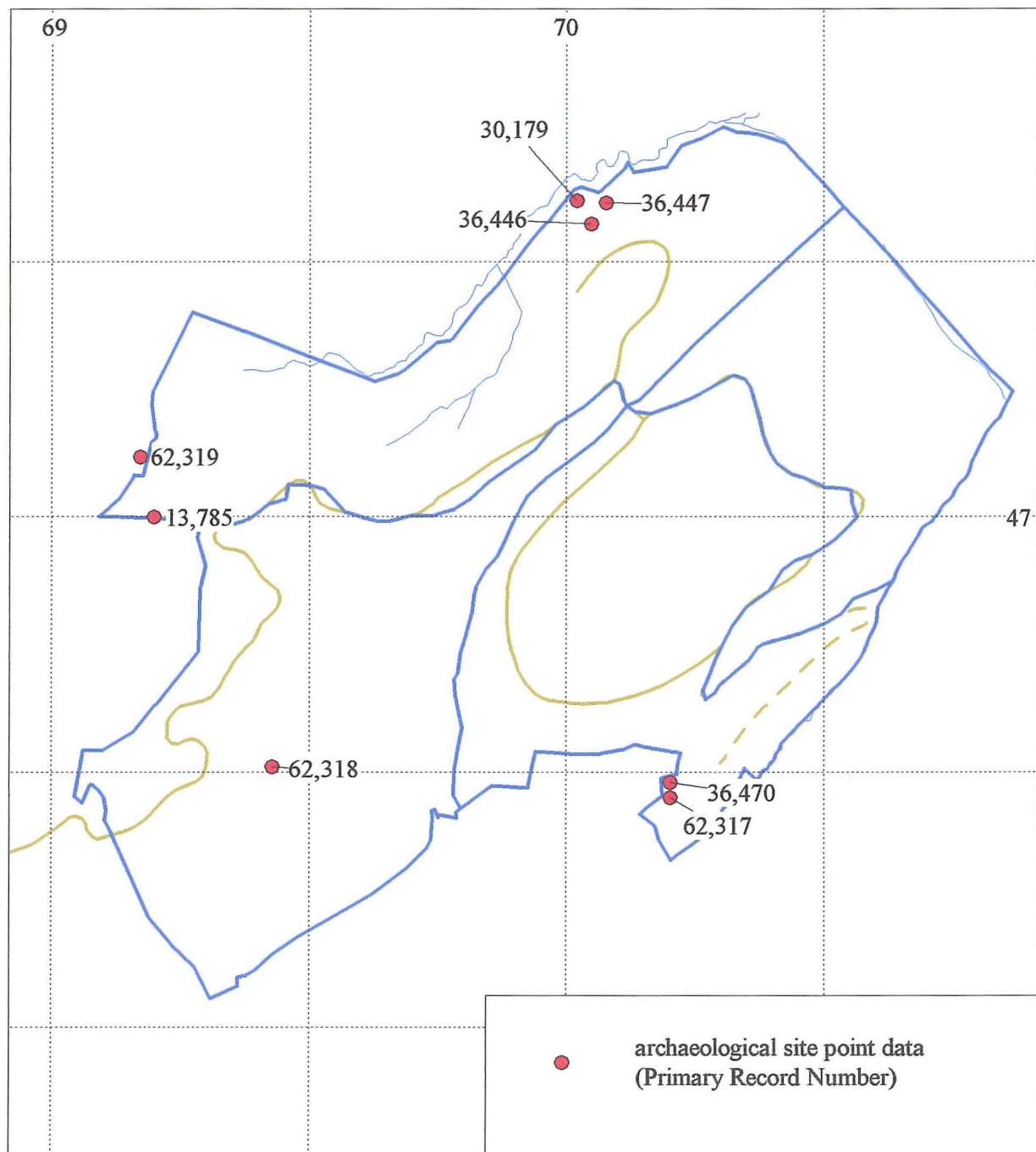


Fig. 3 Forestry Compartments 6301-04, Blaen Rhisglog Plantation, scale 1:12,500

5 FORESTRY COMPARTMENT 6305, ALLT TROED-RHIW-GELLI-FAWR

- 5.1 In the late 19th century the area included some deciduous woodland on the middle slopes of Allt Troed-rhiw-gelli-fawr and, north of this, a woodland named Allt Erw-lwyd which did not extend below (east of) the main forest track, nor as far north as the minor road to Farmers. The remainder of the area was divided into small fields, some of which were just rough pasture. Interestingly, the Tithe survey of 1840 shows far fewer land divisions in this area.

PRN 30183

Erw-lwyd House

SN 6852545275

Type: House

Period: Post medieval

Category: B

The field survey identified the ruins of a substantial stone-built farmhouse measuring 16.5m by 6m externally and divided into three bays. The house is aligned east to west and the eastern gable stands to a height of 2m above a track. Much of the walling and internal detail was obscured by rubble and vegetation.

Management condition

Fallen branches and saplings within building.

Management recommendations

Clear vegetation. Monitor and preserve site in situ. Fence off during any felling operations and exclude from future planting.



PRN 30183 Erw-lwyd and adjacent track. Photo CPAT 2282-010

PRN 62320**Erw-lŵyd building**

SN 6852045290

Type: Building

Period: Post medieval

Category: B

The field survey identified the ruins of a second building 10m to the north of Erw-lŵyd, measuring 21m by 6m externally. The western two bays appear to have been the original building, with evidence of a chimney at the western end. The eastern bay contains concrete feeding troughs and has a small brick-built lean-to against the northern wall. The original building also had a small stone-built lean-to against the northern wall.

Management condition

Fallen branches and saplings within building.

Management recommendations

Clear vegetation. Monitor and preserve site in situ. Fence off during any felling operations and exclude from future planting.



PRN 62320 Erw-lŵyd building. Photo CPAT 2282-013

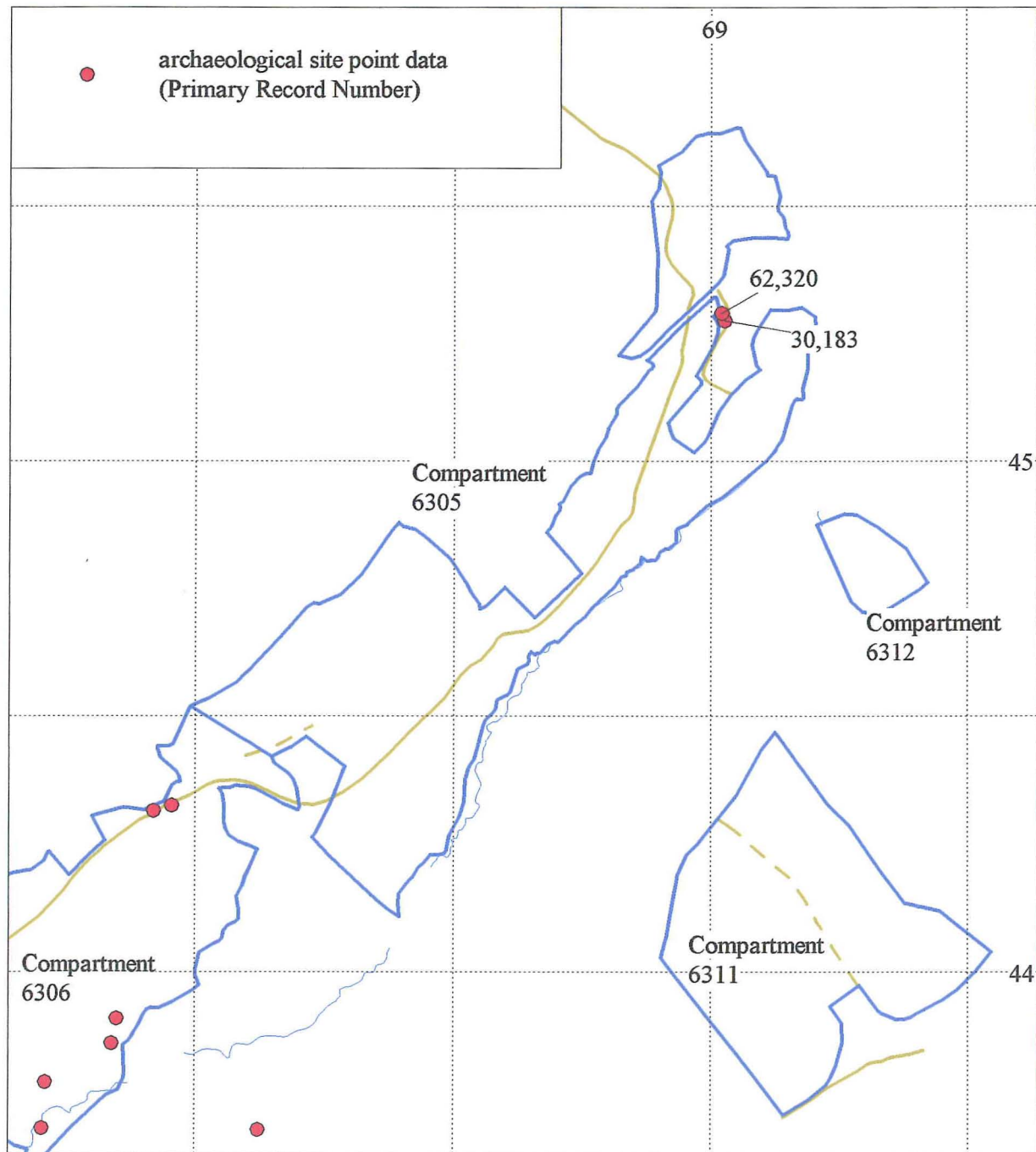


Fig. 4 Forestry Compartment 6305, Allt Troed-rhiw-gelli-fawr, scale 1:12,500

6 FORESTRY COMPARTMENT 6306, ALLT Y GROFFT

- 6.1 In the late 19th century the area had deciduous woodland on the upper slopes of Allt yr Hafod, Allt y Grofft and Allt Bwlch-y-gilwen. Below the woods a band of long, relatively narrow fields extended downslope to the valley bottom, a field pattern which had remain unchanged since the 1840s.

PRN 6965

SN 6734943909

Category: B

Waun-fawr

Type: House

Period: Post medieval

The Ordnance Survey 1st edition 1:2,500 map of 1888 records a main building with other structures on the west and east sides, all set within an enclosure. The field survey revealed the ruins of the main building, presumably the house, comprising dry-stone walls standing up to 1.2m on the west side. The building measures 8.5m by 8.0m externally and is divided into two by a substantial east-west wall towards the northern end. The room to the north of the wall appears to have been subdivided and there is a possible doorway in the north wall, towards the eastern end. There is no surviving trace of the flanking structures although the bank of the surrounding enclosure is clearly visible.

Management condition

Fallen trees on some of site. Building overgrown.

Management recommendations

Clear fallen trees and saplings. Monitor and preserve site in situ. Fence off during any felling operations and exclude from future planting.



PRN 6965 Waun-fawr. Photo CPAT 2282-015

PRN 6967

SN 6720943784

Category: B

Erw-newydd

Type: House

Period: Post medieval

The ruins of a small house with a probable barn or byre attached to the eastern side. The house measures 6.5m east to west and 5.7m north to south, with substantial stone-rubble walling standing up to 1.0m in height. The two gable walls are particularly substantial and the western gable may have included the chimney. Although no doorway is evident, the northern wall is continuous and the entrance must therefore have been from the south. The eastern structure is 11.5m long and 5.7m wide with much less substantial stone walling.

Management condition

Large oak tree at west end and some saplings in eastern part of building.

Management recommendations

Clear saplings. Monitor and preserve site in situ. Fence off during any felling operations and exclude from future planting.

PRN 21853

SN 6745544326

Category: D

Grofft House

Type: House

Period: Post medieval

The previous record had confused this site with a nearby structure (PRN 36437). There is no surviving trace of the house which has been destroyed by the construction of a forestry road.

Management condition

Destroyed

Management recommendations

None

PRN 36437

SN 6742044315

Category: C

Grofft Building

Type: Barn?

Period: Post medieval

The survey identified the ruins of a small stone-built structure, probably a barn, 6m wide externally, with the northern gable standing to 1.8m and side walls to 0.3 to 0.5m in height. The southern end of the building has been removed by the construction of a forestry road.

Management condition

Several saplings and fallen trees/branches within and close to site. Southern end destroyed.

Management recommendations

Clear fallen trees and saplings. Monitor and preserve site in situ. Fence off during any felling operations and exclude from future planting.



PRN 36437 Grofft building. Photo CPAT 2282-009

PRN 62321

Waun-fawr platform

SN67344386

Type: Platform

Period: Post medieval

Category: C

To the south of Waun-fawr there is a levelled terrace on a ridge between two small stream valleys. The terrace is cut into the slope on the north and east sides and built up on the south side, measuring 15m north to south by 10.5m east to west. At the northern end of the west side there is an obvious gully 2.6m wide and 4.5m long sloping down towards the stream. There is no trace of any building and the terrace may have been no more than a small garden plot.

Management condition

Good condition with no forestry planting.

Management recommendations

Monitor and preserve site in situ. Fence off during any felling operations and exclude from future planting.

PRN 62322

Erw-newydd footbridge

SN6720343693

Type: Footbridge

Period: Post medieval

Category: D

A footbridge is depicted on the Ordnance Survey 1st edition 1:2,500 map of 1888, with a path leading from it to Erw-newydd. The field survey failed to identify any surviving remains.

Management condition

Destroyed

Management recommendations

None

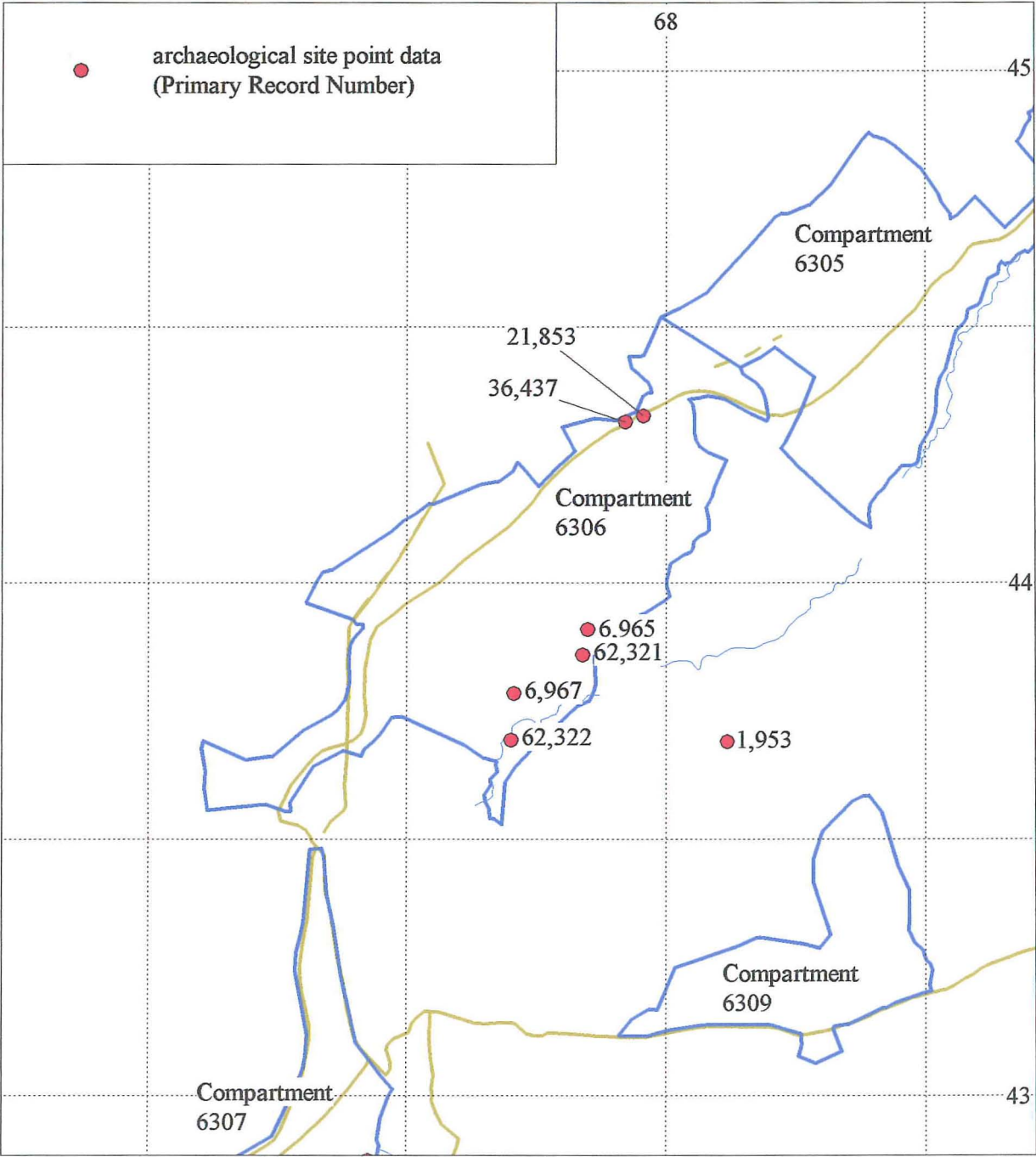


Fig. 5 Forestry Compartment 6306, Allt y Grofft, scale 1:12,500

7 FORESTRY COMPARTMENT 6307, ALLT GYRN AND ALLT CWM-DYFIOG

- 7.1 In the late 19th century the entire area appears to have been mixed woodland, with the exception of its northernmost tip, which formed part of a field. Four field boundaries running from east to west divided the area; the two southernmost divisions formed part of Allt y Gyrn, the central division was named Allt Cwm-dyfio, and the northernmost one Allt Bwlch-y-gilwen. The Tithe survey of 1840 depicts similar divisions, though it shows no division between Allt Cwm-dyfio and Allt Bwlch-y-gilwen.

PRN 62323

Cwm-dyfio house site

SN6692542873

Type: House

Period: Post medieval

Category: C

A building is depicted on the Ordnance Survey Surveyors' drawing of 1812 and also on the Tithe survey of 1840, although not on the Ordnance Survey 1st edition of 1888. The field visit revealed no structural remains for a building, although a series of earthworks were identified along the western side of an old road, some of which are probably lynchets relating to former field boundaries. One earthwork in particular gives the appearance of a possible house platform, set back from the road by 5m and comprising a prominent scarp 1.0m high, above which is a levelled area about 8m long and 6m wide. There is also a level terrace between this and the old road and it is not clear which was occupied by the building.

Management condition

Fallen trees and branches on site.

Management recommendations

Clear fallen trees. Monitor and preserve site in situ. Fence off during any felling operations and exclude from future planting.



PRN 62323 Cwm-dyfio house site. Photo CPAT 2282-021

PRN 62324**Allt y Gyrn sheepfold**

SN6660542111

Type: Sheepfold

Period: 19th Century

Category: D

A small, roughly rectangular, sheepfold is depicted on the Ordnance Survey 2nd edition 1:2,500 map of 1906. The field survey failed to identify any trace of the structure in an area which has been clear-felled.

Management condition

Destroyed

Management recommendations

None

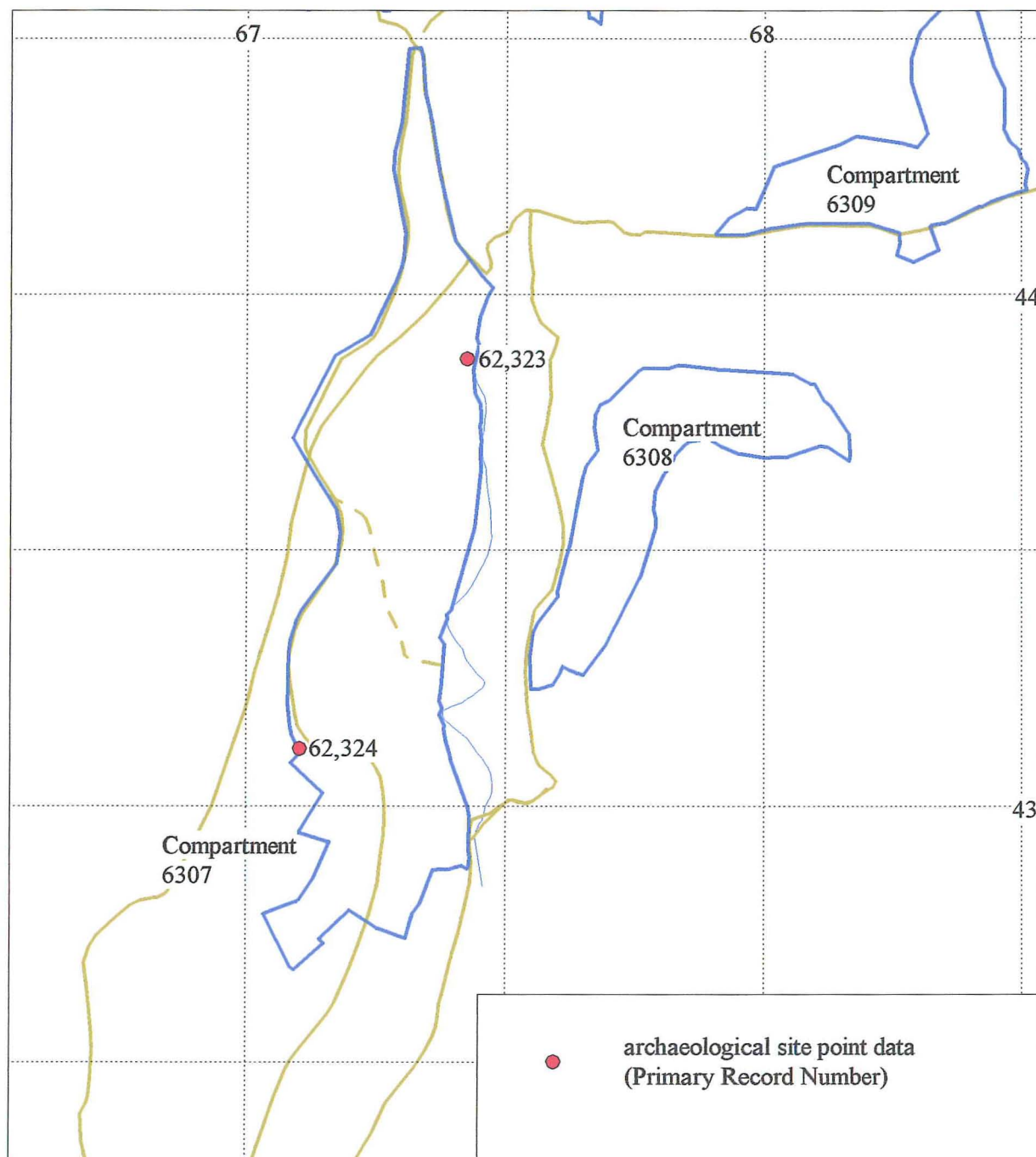


Fig. 6 Forestry Compartment 6307, Allt Gym and Allt Cwm-dyfiog, scale 1:12,500

8 FORESTRY COMPARTMENT 6318, ALLT CWMHENOG

- 8.1 The north-western slopes of Allt Cwmhenog contain a range of archaeological features relating to the mining of gold during the Roman period, and probably earlier, as well as during the 19th century. The importance of the early workings has long been recognised and the most important features are collectively protected as a Scheduled Ancient Monument (CM200 and 208). The site of the main mining activity at Dolaucothi lies outside the forestry to the south-west and is owned and managed by the National Trust. No archaeological sites were identified in the north-eastern part of the forestry.
- 8.2 Whilst late 19th and 20th century working at Dolaucothi did have an impact, the significance of the site focuses on the Roman or earlier gold mining which is comparable to similar sites in Romania and Limousin in central France (Ancel *et al.* 2000).
- 8.3 Two types of mineralisation have been exploited, the primary hard-rock gold and secondary alluvial deposits. It is the presence of a variety of features relating to Roman hydraulic mining which makes the site, and Allt Cwmhenog in particular, of national importance.
- 8.4 The main Allt Cwmhenog workings exploited hard-rock gold, both by open-cast mining (ie quarrying) and underground workings. However, the area was also worked by hydraulic energy, possibly exploiting gold-bearing alluvial deposits, after some of the hard-rock workings had been abandoned (Ancel *et al.* 2000, 49-52). Water was brought to the site by a series of leats, the longest of which drew water from Afon Cothi some 11km away. A series of reservoirs, or tanks, are sited around the open-cast workings, and also outside the forestry area. These would have held water which was used in a process known as hushing to exploit alluvial deposits rather than to exploit the hard-rock gold, on which such a process would have had no impact. At the top of the Allt Cwmhenog workings the remains of this process can be seen most clearly with the substantial earthworks of the reservoir known as Tank G, below which are a series of channels formed by the water once it had been released. Below the opencast workings there are a further series of at least five deep gullies, all of which appear to have been formed by the action of water, while to the south-west are two smaller gullies, one issuing from another reservoir, known as Tank B. As well as the Cothi leat, there are several other short sections of linear earthworks which have been identified as possible leats, although in some cases the visible earthworks may relate to former field boundaries.
- 8.5 Most of the sites had already been identified during a survey by the National Trust in 1998 (Plunkett-Dillon & Swanson 1998) and this proved to be invaluable during the present study, although the interpretation of some features must be questioned. The forestry and vegetation cover made the field survey particularly difficult and, although the main archaeological features were identified, it is likely that further features remain undiscovered. Features were located as accurately as possible using a combination of GPS and aerial photographic plotting from the 1940s coverage. Inevitably, the position of some features, and in particular their relationship to others, cannot be guaranteed and the area would benefit greatly from a more detailed survey once the trees have been felled.

General management

- 8.6 The western part of the forestry plantation on Allt Cwmhenog has already had a significant impact on the various archaeological features relating to the Roman, and possibly earlier, exploitation of gold deposits. At present parts of the plantation are densely planted with larch, within which wind-blown trees are damaging the earthwork remains. The dense planting is also a major obstacle to the survey and interpretation of a nationally important site, a situation which is particularly bad where the undergrowth is dense rhododendron.

- 8.7 Part of the area is protected as a Scheduled Ancient Monument (CM 200 and 208) and consequently advice and, if necessary, scheduled monument consent, should be sought from Cadw before any works are undertaken. The National Trust Archaeologist should also be consulted in advance of any proposed works.
- 8.8 In the short term consideration should be given to the careful felling of the plantation and clearance of undergrowth and saplings around all of the main features which have been identified to date. It should be borne in mind, however, that there are likely to be further features which have remained unidentified as a result of the vegetation, and an archaeologist should be on site during any clearance to avoid damage to the archaeology and record any new features which might be revealed.
- 8.9 From an archaeological point of view the ultimate aim would be to remove the plantation and undergrowth from the whole of the western part of the forestry block, returning the area to pasture. Such an operation would obviously need to be undertaken carefully and the use of machinery kept to a minimum to avoid damage to the earthwork remains. Following the clear-felling a measured survey should be undertaken to identify and record the archaeology, which could be used as the basis for a more informed management strategy. Any clear-felling would, however, need to leave the tree stumps in situ as their removal could cause significant damage to the archaeology.

PRN 1948
SN66744050
Category: A

Allt Cwmhenog Cothi leat
Type: Leat

Period: Roman

Part of the Roman leat which carried water to the Dolaucothi gold mines from Afon Cothi around 11km to the north-east (Plunkett-Dillon & Swanson 1998, 130, no. 80533). The leat crosses the area of opencast workings on Allt Cwmhenog (PRNs 62327-8) and is assumed to post-date them. The course of the leat has in part been fossilised by a post-medieval field boundary which defines the north-western edge of the forestry block on Allt Cwmhenog. At SN 66834061 the leat enters the forestry and can be traced south-westwards for around 150m into the area of the opencast workings. As the leat nears these workings the earthworks become more pronounced, with the best-preserved section being at SN 6674 4050 where the leat is defined by a channel 1.5m wide with a bank 2.5m across and 1.0m high on the downslope side. The leat continues through the opencast and can be traced as a level terrace, now followed by a path, to the south-western corner of the forestry at SN 66584030, and then beyond to the south where it feeds two reservoirs related to the Roman hushing system. The leat is protected as Scheduled Ancient Monument CM200.

Management condition

To the north-east of the opencast workings the leat planted with larch, although elsewhere it is unplanted and has been adopted by a footpath.

Management recommendations

Carefully remove trees and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 1948 Allt Cwmhenog Cothi leat. Photo CPAT 2282-027

PRN 62325
SN66784058
Category: C

Allt Cwmhenog Boundary 1

Type: Boundary

Period: Post medieval

The visible remains of a linear earthwork appear to be largely, if not entirely, associated with a post-medieval field boundary which takes the form of a level terrace with a slight bank on the downslope side. The feature had previously been identified as a possible leat branching from the Cothi leat (PRN 1948) where it enters the forestry (Plunkett-Dillon & Swanson 1998, 129, no. 80531). At SN 66804060, however, the earthworks are more pronounced and do give the appearance of a possible leat. The earthwork lies within the area of Scheduled Ancient Monument CM200.

Management condition

The features lies just outside the forestry.

Management recommendations

Undertake measured survey, monitor and preserve in situ.

PRN 62326
SN66574034
Category: A

Allt Cwmhenog Tank B

Type: Reservoir

Period: Roman

The remains of the reservoir comprise a level, oval platform measuring c. 12m by 7.5m south-west to north-east, with a bank 0.3m high and perhaps 1.75m wide along the north-west side. There is a possible outlet at the north-eastern corner, beyond which a track (PRN 62346) runs downslope to a platform (PRN 62344), and there is also a gap at the south-east end. At the south-western end is a linear hollow, 11.5m long, 3.5m wide and 1.4m deep, bounded on the north-western side by a large bank 2m high. The function of the latter feature is unknown, having the appearance of a trial working rather than a reservoir. There is no evidence for a leat feeding the reservoir, and although it has been suggested that the supply came from a branch of the Cothi leat (PRN 1948) the field evidence does not appear to support this (Plunkett-Dillon & Swanson 1998, 47, no. 80276). The reservoir lies within the area of Scheduled Ancient Monument CM200.

Management condition

The reservoir is planted with larch and some damage has already resulted from wind blown trees.

Management recommendations

Carefully remove larch and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62326 Allt Cwmhenog Tank B. Photo CPAT 2282-033

PRN 62327
SN66764045
Category: A

Allt Cwmhenog Upper pit
Type: Open Cast Mine

Period: Roman

The large opencast working is usually considered to be the earliest area of substantial working at Dolaucothi, pre-dating the Cothi leat. The workings measure around 70m across with a rock face up to 50m high. There is an obvious contrast between the upper workings, which contain a considerable amount of spoil and rock debris, and the later lower workings (PRN 62328), which are relatively clear of spoil. This may suggest different working methods and levels of activity (Plunkett-Dillon & Swanson 1998, 64, no. 80322). Part of Scheduled Ancient Monument CM208.

Management condition

The workings are planted with larch with some dense areas of rhododendron.

Management recommendations

Carefully remove larch, clear rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.

PRN 62328
SN66714046
Category: A

Allt Cwmhenog Lower pit
Type: Open Cast Mine

Period: Roman

Area of opencast working below the Cothi leat, containing two adits (PRN 62334-5) and a linear open working (PRN 62336) (Plunkett-Dillon & Swanson 1998, 64, no. 80322). A deep gully leads westwards below the opencast, providing access in association with a track (PRN 62342). Part of Scheduled Ancient Monument CM200.

Management condition

The workings are planted with larch with some dense areas of rhododendron.

Management recommendations

Carefully remove larch, clear rhododendron and leave unplanted. Measured survey, monitor and preserve in situ.

PRN 62329
SN66784037
Category: A

Allt Cwmhenog Tank G
Type: Reservoir

Period: Roman

The remains of the reservoir are well-preserved, particularly on the downhill side where a substantial bank survives to a height of nearly 2m. The earthworks define a roughly square reservoir which originally measured around 27m by 12m, at the northern end of which a prominent gap identifies the position of a sluice. There is some earthwork evidence to suggest a second, smaller reservoir below the outlet, beyond which the water fed into an irregular hushing channel up to 5m wide that led towards the upper opencast workings. The reservoir was fed by a feeder leat from the Annell leat and, although this no longer survives as an earthwork, its presence was confirmed by excavations in 1993 (Burnham and Burnham 2004, 217-221). There is also a possible outlet on the western side, perhaps a later modification, which may have fed another channel (PRN 62338) and possibly also the lower reservoir known as Tank Q (PRN 62330) (Plunkett-Dillon & Swanson 1998, 65, no. 80324). Part of Scheduled Ancient Monument CM208.

Management condition

The reservoir is planted with larch and some damage has already resulted from wind blown trees.

Management recommendations

Carefully remove larch and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62329 Allt Cwmhenog Tank G. Photo CPAT 2282-037

PRN 62330
SN66694041
Category: A

Allt Cwmhenog Tank Q
Type: Reservoir

Period: Roman

The remains of the reservoir are well-preserved with earthworks defining a level platform about 20m by 8m north-east to south-west, with a substantial bank along the north-west side. An outlet at the north-eastern end feeds a channel leading to the edge of the upper opencast workings. Water may have been supplied from Tank G via a channel (PRN 62338) and leat (PRN 62336), the latter also continuing to join the Cothi leat below (Plunkett-Dillon & Swanson 1998, 65, no. 80325). Part of Scheduled Ancient Monument CM208.

Management condition

The reservoir is planted with larch and red oak.

Management recommendations

Carefully remove trees and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62330 Allt Cwmhenog Tank Q. Photo CPAT 2282-034

PRN 62331
SN66704056
Category: E

Allt Cwmhenog Leat 1
Type: Leat ?

Period: Roman ?

A linear earthwork comprising a gully up to 2.5m wide and around 50m in length contours the slope, crossing one of the large channels below the lower opencast workings. The feature appears to coincide with a boundary recorded on the Ordnance Survey 2nd edition 1:2,500 map, but not on the 1st edition, although there is a slight earthwork extending into the field to the north-east, in the direction of a large reservoir known as Tank A (PRN 62332), which lies outside the forestry at SN 66734061 (Plunkett-Dillon & Swanson 1998, 68, no. 80331). It is possible that the feature is associated with the reservoir, carrying water from it to the south-west, although this could not be confirmed.

Management condition

The possible leat is planted with larch and there are areas of dense rhododendron.

Management recommendations

Carefully remove trees and rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.

PRN 62332**Allt Cwmhenog Tank A**

SN66724062

Type: Reservoir

Period: Roman

Category: A

The remains of the reservoir are well-preserved with earthworks defining a level platform in the pasture field to the north of the forestry plantation (Plunkett-Dillon & Swanson 1998, Map 2, no. 80326). Part of Scheduled Ancient Monument CM200.

Management condition

The reservoir lies in pasture, outside the forestry plantation.

Management recommendations

Undertake measured survey, preserve in situ.

PRN 62333**Allt Cwmhenog Linear Pit**

SN6672740455

Type: Open Cast Mine

Period: Roman

Category: A

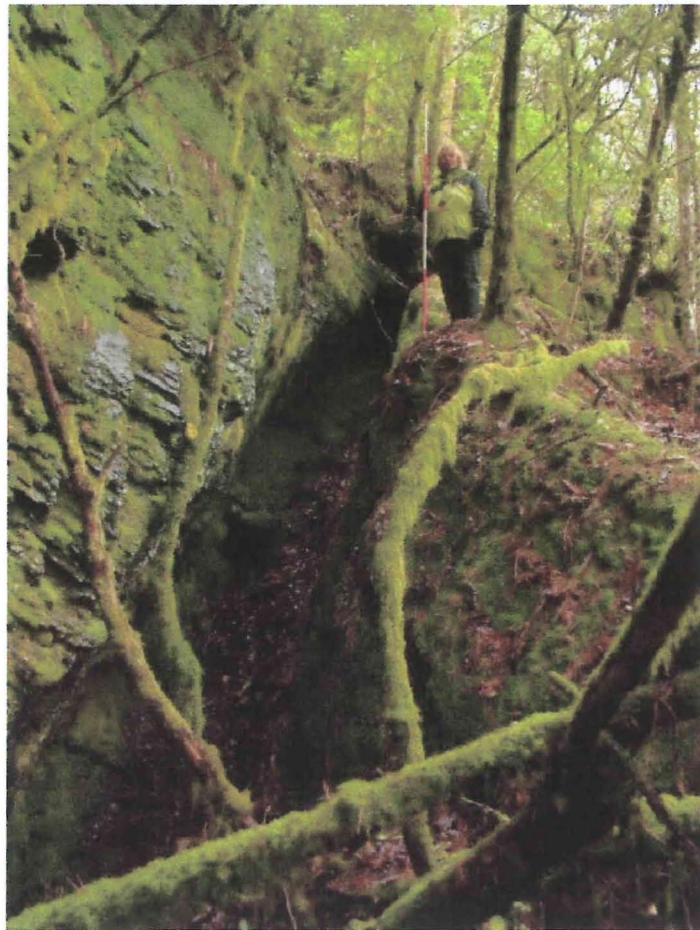
Just below the line of the Cothi leat, within the lower opencast workings, is a narrow rock-cut slot 16m long, 2m wide and up to 4.5m deep, aligned roughly north-south (Plunkett-Dillon & Swanson 1998, 85, no. 80384). Part of Scheduled Ancient Monument CM200.

Management condition

The slot is surrounded by larch and areas of dense rhododendron. The workings are potentially dangerous.

Management recommendations

Carefully remove trees and rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62333 Allt Cwmhenog linear pit. Photo CPAT 2282-028

PRN 62334
SN6673040460
Category: A

Allt Cwmhenog Adit 1
Type: Adit

Period: Roman

Below the line of the Cothi leat, within the lower opencast workings, are two adits. The eastern adit is clearly visible from the leat and comprises an irregular entrance 1.8m high and 1.6m wide which extends for 5.5m before coming to a dead-end (Plunkett-Dillon & Swanson 1998, 85, no. 80385). A linear open working 2.5m wide and 1.5m deep extends below the adit for 8m, beyond which there is a broad gully. Part of Scheduled Ancient Monument CM200.

Management condition

The adit is surrounded by larch and areas of dense rhododendron.

Management recommendations

Carefully remove trees and rhododendron and leave unplanted. Measured survey, monitor and preserve in situ.



PRN 62334 Allt Cwmhenog Adit 1. Photo CPAT 2282-029

PRN 62335
SN6673040460
Category: A

Allt Cwmhenog Adit 2
Type: Adit

Period: Roman

Below the line of the Cothi leat, within the lower opencast workings, are two adits. The western adit has an irregular entrance, 2.5m high and 1.0m wide, and extends for 15m in a south-westerly direction before it is blocked by collapse. The position of the collapse appears to coincide with a small surface opening close to the Cothi leat (Plunkett-Dillon & Swanson 1998, 85, no. 80385; p131, no. 80535). There are also several areas of very small-scale open workings, possibly trials, immediately above the adit. Part of Scheduled Ancient Monument CM200.

Management condition

The adit is surrounded by larch and areas of dense rhododendron. Both the adit and the surface opening are potentially dangerous.

Management recommendations

Carefully remove trees and rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62335 Allt Cwmhenog Adit 2. Photo CPAT 2282-040

PRN 62336
SN66704042
Category: A

Allt Cwmhenog leat 2
Type: Leat

Period: Roman

A level terrace 1.5m wide descends from midway down one of the hushing channels (PRN 62338), leading westwards past Tank Q (PRN 62330) to join the Cothi leat (PRN 1948) (Plunkett-Dillon & Swanson 1998, 88). Part of Scheduled Ancient Monument CM208.

Management condition

The leat is planted with larch.

Management recommendations

Carefully remove trees and leave unplanted. Undertake measured survey, monitor and preserve in situ.

PRN 62337
SN66704042
Category: A

Allt Cwmhenog leat 3
Type: Leat

Period: Roman

A levelled terrace around 1.5m wide descends north-north-east from just outside the forestry until it reaches the western of four hushing channels below Tank G (PRN 62329). Part of Scheduled Ancient Monument CM208.

Management condition

The leat is planted with larch.

Management recommendations

Carefully remove trees and leave unplanted. Undertake measured survey, monitor and preserve in situ.

PRN 62338
SN66734040
Category: A

Allt Cwmhenog Hush 1
Type: Hush

Period: Roman

A broad channel, c. 3m wide and 1m deep, runs downslope from the edge of the forestry plantation to the top of the upper opencast workings. At about the midpoint of the channel a sloping terrace, possibly a leat (PRN 62336), leads to the west towards Tank Q (PRN 62330) and the Cothi leat (PRN 1948). The channel appears to have been formed by the action of water and forms part of the Roman hushing system. The source of water is not clear, although it may have been Tank G (PRN 62329) (Plunkett-Dillon & Swanson 1998, 88, no. 80394). Part of Scheduled Ancient Monument CM208.

Management condition

The channel is planted with larch and there are a number of wind-blown trees.

Management recommendations

Carefully remove trees and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62338 Allt Cwmhenog Hush 1 with leat PRN 62336 lead off to the left.
Photo CPAT 2282-035

PRN 62339
SN66734040
Category: A

Allt Cwmhenog Hush 2
Type: Hush

Period: Roman

A complex of four channels lead from Tank G (PRN 62329) to the top of the opencast workings, with a further channel leading around the eastern edge of the opencast. The channels appear to have been formed by the action of water and form part of the Roman hushing system (Plunkett-Dillon & Swanson 1998, 88, no. 80395). Part of Scheduled Ancient Monument CM208.

Management condition

The channels are planted with larch and there are a number of wind-blown trees.

Management recommendations

Carefully remove trees and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62339 Allt Cwmhenog Hush 2. Photo CPAT 2282-002

PRN 62340
SN666840452
Category: A

Allt Cwmhenog Hush 3
Type: Hush

Period: Roman

A complex of at least eight channels leads downslope below the line of the Cothi leat (PRN 1948). The most prominent channels are to the north-east, which are quite substantial, being up to 4m wide and as much as 2m in depth. There are also a number of possible spoil tips in this area, although the dense nature of the forestry and undergrowth make it difficult to interpret and identify the earthworks. The channels appear to have been formed by the action of water and are likely to be associated with the Roman hushing system (Plunkett-Dillon & Swanson 1998, 89, no. 80397). The channels are currently outside the area of Scheduled Ancient Monument CM 200, although they are clearly part of the early mining complex.

Management condition

The channels are planted with larch and there are a number of wind-blown trees, as well as areas of dense rhododendron.

Management recommendations

Carefully remove trees and rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.

PRN 62341
SN66634037
Category: A

Allt Cwmhenog Hush 4
Type: Hush

Period: Roman

A single channel leads downslope, crossing the line of the Cothi leat (PRN 1948), below which it becomes larger, up to 3m wide and 1.5m deep. The channel appears to have been formed by the action of water and is likely to be associated with the Roman hushing system (Plunkett-Dillon & Swanson 1998, 90-91, no. 80401). Part of Scheduled Ancient Monument CM 208.

Management condition

The channel is planted with larch and there are areas of dense rhododendron.

Management recommendations

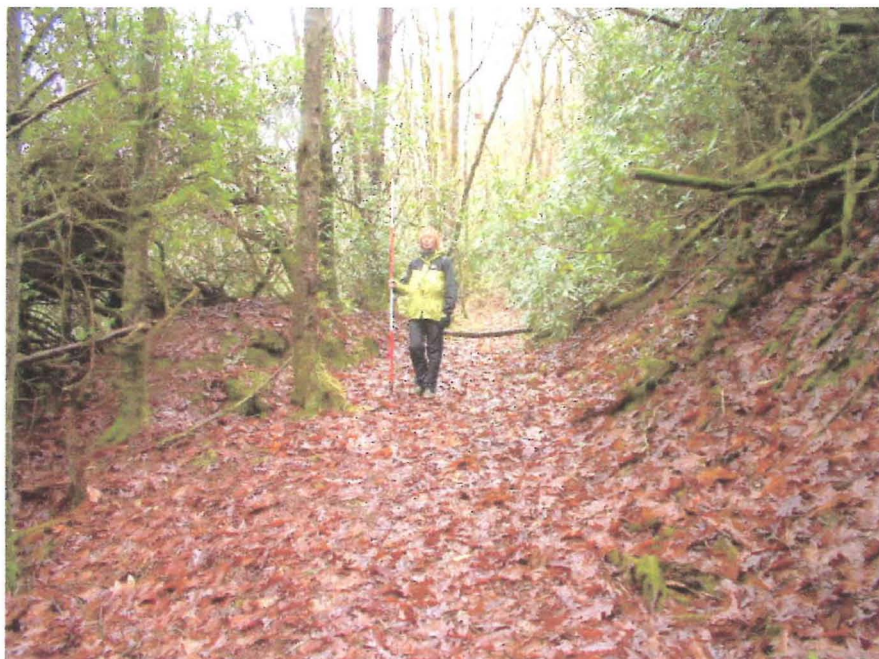
Carefully remove trees and rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.

PRN 62342
SN66734051
Category: E

Allt Cwmhenog Track 1
Type: Track

Period: Unknown

A short section of straight pathway c. 2-3m wide has been recorded as a possible leat branching from the Cothi leat (PRN 1948) above (Plunkett-Dillon & Swanson 1998, 89-90, no. 80398). The recent field survey suggests that this is likely to be part of a track which leads down from the Cothi leat, initially in zigzags, and then at a gradual angle, crossing several of the hushing channels (PRN 62340) below the opencast workings and leading to a platform (PRN 62344). At a point 30m east of the platform the track is joined by another descending from the lower opencast workings (PRN 62327). The upper part of the track lies within the area of Scheduled Ancient Monument CM 200.



PRN 62342 Allt Cwmhenog track 1. Photo CPAT 2282-023

Management condition

The track has not been planted although the larch and dense rhododendron do encroach.

Management recommendations

Carefully remove trees and rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.

PRN 62343

SN66574038

Category: C

Allt Cwmhenog Boundary 2

Type: Boundary

Period: Post medieval

A linear earthwork, c. 40m in length and 2m wide, contours the slope below Tank B (PRN 62326) and had previously been identified as a possible leat (Plunkett-Dillon & Swanson 1998, 90, no. 80399). The feature appears to coincide with a boundary recorded on the Ordnance Survey 1st edition 1:2,500 map and does not extend westwards beyond the edge of the forestry. The boundary is currently outside the area of Scheduled Ancient Monument CM 200.

Management condition

The feature is planted with larch and dense rhododendron.

Management recommendations

Undertake measured survey, monitor and preserve in situ.

PRN 62344

SN66614044

Category: E

Allt Cwmhenog Platform

Type: Platform

Period: Unknown

A levelled platform, 11m north-south by 7m east-west, sloping slightly to the north, has been built up above the natural slope by as much as 1.4m on the western side (Plunkett-Dillon & Swanson 1998, 90, no. 80400). A terrace or track (PRN 62346) around 2m wide rises diagonally upslope from the south-west corner of the platform in the direction of Tank B (PRN 62326), while another track (PRN 62342) leads upslope to the north-east towards the Cothi leat. The platform is currently outside the area of Scheduled Ancient Monument CM 200, although it is likely to be part of the early mining complex.

Management condition

The feature is planted with larch and dense rhododendron.

Management recommendations

Carefully remove trees and rhododendron and leave unplanted. Undertake measured survey, monitor and preserve in situ.



PRN 62344 Allt Cwmhenog platform. Photo CPAT 2282-022

PRN 62345
SN66654041
Category: A

Allt Cwmhenog leat 3
Type: Leat

Period: Roman

A level terrace *c.* 2.5m wide can be identified running for around 45m, parallel to but below the Cothi leat. Although it has been suggested that this fed water to Tank B (PRN 62326), there is no evidence to support this (Plunkett-Dillon & Swanson 1998, 131, no. 80536).



PRN 62345 Allt Cwmhenog leat 3. Photo CPAT 2282-042

Management condition

The leat is planted with larch.

Management recommendations

Carefully remove trees and leave unplanted. Measured survey, monitor and preserve in situ.

PRN 62346**Allt Cwmhenog Track 2**

SN66654041

Type: Track

Period: Unknown

Category: E

A terrace or track around 2m wide rises diagonally upslope from the south-west corner of a platform (PRN 62344) in the direction of Tank B (PRN 62326). The upper section of the track lies within the area of Scheduled Ancient Monument CM200.

Management condition

The track is planted with larch and there are a number of wind-blown trees as well as areas of dense rhododendron.

Management recommendations

Carefully remove trees, clear rhododendron and leave unplanted. Measured survey, monitor and preserve in situ.

PRN 62347**Allt Cwmhenog Boundary 3**

SN 6664540595

Type: Boundary

Period: Post medieval

Category: C

A curving boundary is depicted on the Ordnance Survey 1st edition 1:2,500 map of 1888 between SN 66824039 and SN 66744055. Although probably originally a wall, the remains of the boundary consist of a low turf-covered bank 2.0m wide and up to 0.5m high. The bank forms the north-eastern boundary of Scheduled Ancient Monument CM208.

Management condition

The boundary bank lies within the larch plantation.

Management recommendations

Monitor and preserve in situ.

PRN 62348**Allt Cwmhenog Well**

SN6664540595

Type: Well

Period: 19th Century

Category: C

A well is depicted on the Ordnance Survey 2nd edition 1:2,500 map of 1906. The field survey revealed a dry-stone wall revetment forming a horseshoe-shaped alcove c. 0.8m across, and up to 1.0m high where it is cut into the slope at the rear. A ceramic pipe feeds water in at the base from the south-east and a stream issues to the west, being culverted beneath the road. There is a dry gully 5m to the south-east which may be related to the water supply. The well lies 13m from the road beneath rhododendron bushes.

Management condition

Surrounded by rhododendron bushes

Management recommendations

Clear rhododendron. Monitor and preserve in situ.



PRN 62348 Allt Cwmhenog Well. Photo CPAT 2282-014

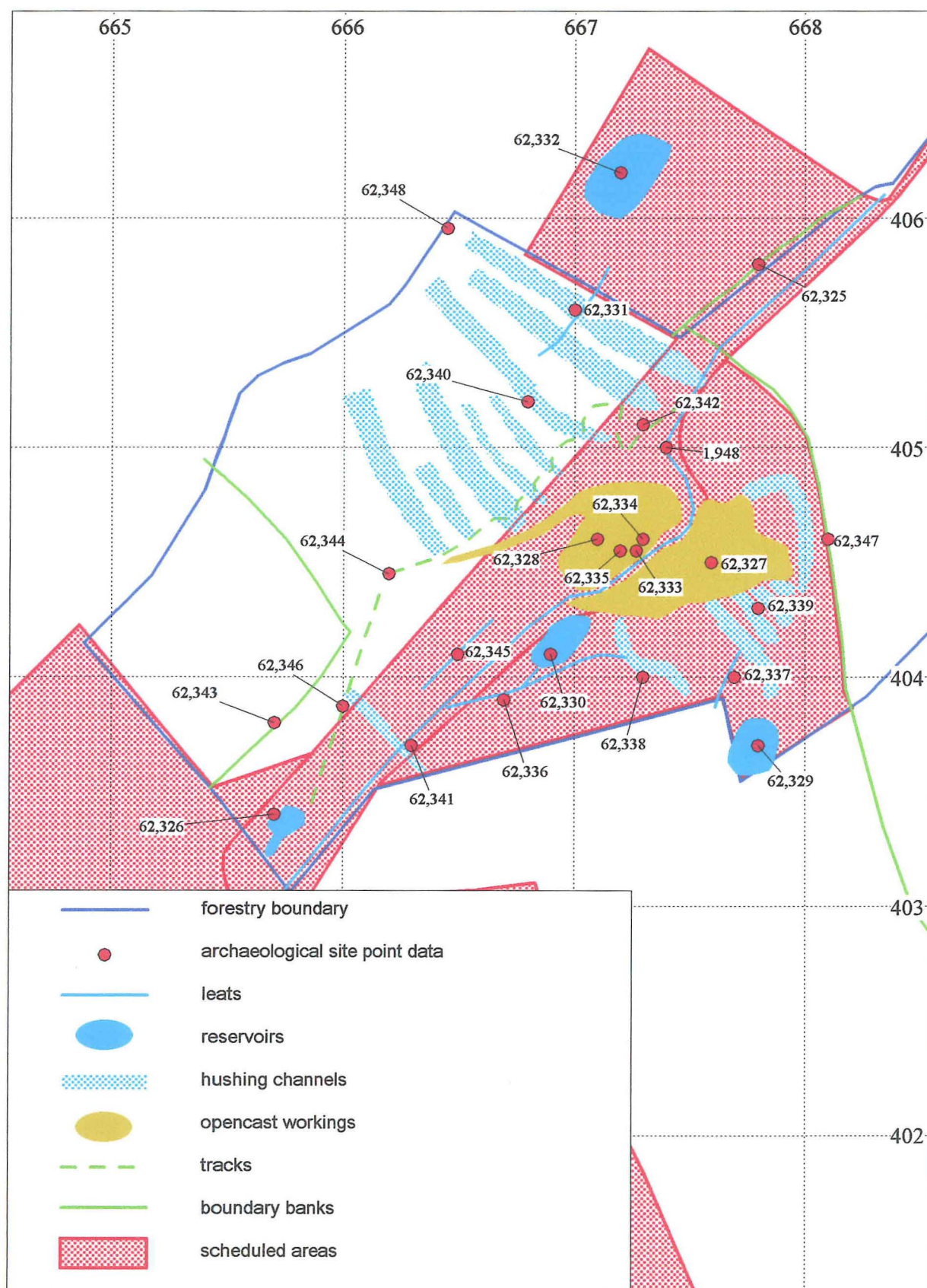


Fig. 7 Forestry Compartment 6318: Allt Cwmhenog, scale 1:2,500

9 CONCLUSIONS

- 9.1 The archaeological survey of eleven areas focused around the valley of the Afon Cothi has both enhanced the existing record and revealed a number of significant, newly recorded sites. In general, the areas occupy valley-side and hilltop locations, some of which remained either unenclosed or unimproved up to the end of the 19th century. At this time there were a number of small farmsteads, each with associated fields, tracks and enclosures, most of which later became abandoned and were incorporated into the various plantations. In most areas the archaeological remains relate to the former agricultural landscape with the ruined farmsteads, tracks and boundary banks often preserved within the forestry.
- 9.2 One area, however, has a significantly different history and the archaeological remains relate to much earlier activity. The north-western slopes of Allt Cwmhenog contain a range of archaeological features relating to the mining of gold during the Roman period, and probably earlier, as well as during the 19th century. The importance of the early workings has long been recognised and the most important features are collectively protected as a Scheduled Ancient Monument (CM200 and 208).
- 9.3 While the management of individual archaeological sites generally presents no significant problems, the mining features at Allt Cwmhenog are considered both more important and more vulnerable, since most are composed entirely of earthworks. Although the initial planting of trees has obviously had some impact on the archaeology, the present concern is that wind-blown trees are causing further damage and any forestry operations will clearly have to be undertaken with the utmost care.
- 9.4 The results from the archaeological survey provide useful baseline data and summary management recommendations which will be incorporated into FCW's GIS data to assist in the future management of the archaeology within those compartments which formed part of the survey.

10 ACKNOWLEDGEMENTS

- 10.1 The writer would like to thank the following people for their assistance during the project: Wendy Owen and Fiona Grant of CPAT; Marion Page, Historic Environment Records Officer, Cambria Archaeology, Llandeilo; Emma Plunkett-Dillon, The National Trust; the staff of the National Library of Wales, Aberystwyth; and the staff of the National Monuments Record, Aberystwyth.

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RAF vertical aerial photographs

Sortie 106G/UK/1471 frames 2205-06