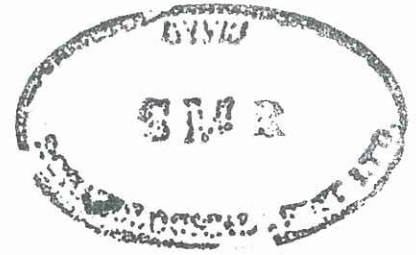


MARCH 2004



# **Dolaucothi Woodlands MPP 15**

## **Historic Environment Report**



Report No. 2003/134

Report Prepared for:  
Forestry Commission

CAMBRIA ARCHAEOLOGY

REPORT NO. 2003/134  
PROJECT RECORD NO. 49977

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Dolaucothi Woodlands  
Historic Environment Report

By

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## **INTRODUCTION**

This report is intended to provide a statement on the condition and recommended management of all known archaeological and historical sites and features on this land at the time it was visited by Cambria Archaeology. This information will be used to inform the future management of these woodlands.

### **Method Statement**

The field visit consisted of two phases:

Phase 1 was a rapid search of all readily available documentary, cartographic and published sources to try to understand the historical development of the landscape and to identify new sites of archaeological interest. New sites, or areas of interest were plotted onto a Geographical Information System based map for use during the field survey and for the final report.

Phase 2 was a site visit to assess the extent, character and current condition of the archaeological and historical sites identified during the research phase. Due to time constraints recording is rapid and consists of photographs and sites notes. Some of the sites or land parcels may not have been visited. The information gained during the visit has been used to determine their management recommendations.

## **GENERAL DESCRIPTIONS**

This application covers a number of pieces of woodland centred around the Dolaucothi goldmines (PRN 1946) which are located at grid reference SN66424022, in the community of Cynwyl Gaeo. Not all the land parcels were visited on this occasion, and this report should be used in conjunction with Forestry Commission Historic Environment 1 report (HE1) which was previously supplied. It should be noted that the electronic boundaries supplied originally were subsequently modified, and a paper copy of the new boundaries was supplied. Consequently, some of the boundaries seen on the maps attached to this report may be out-dated, and the most recent paper copy should be consulted for accurate, up-to-date information.

### **Dolaucothi Goldmines**

The area is best known for its Roman mining activity, but the history of the Dolaucothi mines extends both sides of the Roman occupation. A group of possible hut circles south of the main complex seem to be associated with small-scale mining of an exposed rock-face (Lewis and Jones:1969:p.253), which may indicate that the site was probably known and used prior to its development by the Romans.

Sporadic, small-scale extraction also seems to have taken place at intervals until the late 19<sup>th</sup> /early 20<sup>th</sup> century. At this stage the mines were re-opened more fully, and several of the Roman levels re-used (Annels and Williams:1983:p.3). During 1938-9 the site was taken on by British Goldfields but despite heavy investment and a number of exploratory shafts, Dolaucothi proved financially unviable and was abandoned by British Goldfields only a year after work had started in earnest.

A large area of the Dolaucothi complex has been designated as a Scheduled Ancient Monument (Cm208) and is therefore protected by law. Any ground intrusive activities in this area will require Scheduled Monument Consent.

### **Allt yr Hebog**

This piece of woodland covers part of the southeast facing slopes overlooking Cwrt-y-Cadno. The woodland contains traces of past land-use and settlement, and is crossed by two well-defined tracks (PRNs 49957, 49959) which are seen on historic map sources.

The 1831 Ordnance Survey Old Series map shows Allt yr Hebog with trees covering the lower slopes, but with clear ground at the base and at the top of the hillside. By 1891, when the 1<sup>st</sup> edition Ordnance Survey map was published, the tree-line was more akin to its present level, extending over the top of the hill. However, a few open patches remained on the highest ground, including one open field named on the 1906 map as Pen Allt yr Hebog. Traces of the boundary around this field remain on the ground today (PRN 49962) and tree cover in the field is less dense, although it is being colonised by vegetation from the surrounding area.

Just south of this open area, close to the western edge of the land parcel, two probable building platforms were located (PRNs 49963 and 49964) on either side of a track (PRN 49959). No buildings are shown on Ordnance Survey maps, which may indicate that these had fallen out of use prior to 1831. This area – encompassing the field boundary, building platforms and track – would all have been above the tree-line, according to the 1831 map, and would therefore have been a small settlement on open upland. A small quarry site (PRN 49961) near to the field may also be associated with the settlement.

### **Allt Dolaucothi**

Allt Dolaucothi is a 'U' shaped piece of woodland on the southwest facing slope above Pumsaint. This wood contains features of interest relating to the Dolaucothi Estate.

Dolaucothi house stands about a mile northwest of Pumsaint and was, for many years, associated with the Johnes family who were descended from the '*illustrious house of Jones of Abermarlais who traced to Sir Elidir Ddu of Crug*' (Jones,F:1987:p.56). In 1679 the house was a considerable size, containing six hearths (Cadw:2002:p.15) but later reports and letters suggest that Dolaucothi was not always well regarded. In 1780, Mr J. Davies reported that eighty rats were killed at the house, and a number still remained. Dolaucothi was also apparently an unhealthy place, damp even in the height of summer and by 1787 John Johnes commented that the '*poor place is going to decay*' (*ibid*). Considerable improvements and re-building took place in the late 18<sup>th</sup> and early 19<sup>th</sup> centuries until, in 1876, the last of the male line of the family was murdered by his butler and the estate eventually passed into the Lloyd-Johnes family (Cadw:2002:p.15). The estate reached its peak under John Johnes and his two daughters, one of whom occupied the house until 1910.

In around 1770 an estate map was produced which showed a number of leats and water channels conveying water from springs in Cae Garw (an open field at the northeast end of Allt Dolaucothi) down to Cefn Coed Mawr farm and to Dolaucothi Farm itself. Interestingly, the key to the map comments that one of the channels (outside this land parcel) was '*the new trench cut by Mr Johnes... water diverted from thence by Mr Davies [illegible] to the ancient channel*'. The mention of an 'ancient channel' implies that there had been a long tradition of water management on this hillside. It is interesting to speculate that this tradition may have its roots in the Roman period, when long, carefully engineered leats supplied water to the Dolaucothi gold mines. Traces of some of the 18<sup>th</sup> century water channels are seen as faint earthworks in the wood (PRNs 49967, 49970 and 49971) and these are significant survivals from the landscape organisation associated with the Dolaucothi Estate.

The west side of Allt Dolaucothi has a different character, reflecting everyday land-use and settlement. Historic maps show two unwooded fields in this area, and the land manager said that these were still visible. There was also a cottage site (PRN 49966) in the vicinity, though this was not found on the day of the visit. A rectangular pit (PRN 49972) was also located in the western side of Allt Dolaucothi. This may be a saw-pit, but the date of the feature is unknown.

### **Sarn Helen**

A narrow strip of woodland running alongside the route of the Roman road (Sarn Helen). This piece of land has been heavily disturbed (presumably when the current road was constructed) and there are now no visible traces of the Roman road or associated features. No specific management recommendations apply.

### **Allt Dinbeth**

A small piece of woodland immediately south of Allt Dinbeth, on the Cwrt-y-Cadno road. A concern was raised that there may be traces of a Roman aqueduct (north section of the Cothi leat, PRN 1947) in this land parcel since it is clearly visible to the northeast of this wood, along Banc Llwynceiliog. There were no immediately visible traces of the leat in this land parcel. It is likely that the line of the feature is actually considerably further south, as this would allow it to follow along the contours of the hill rather than crossing them.

However, there is considerable Roman activity in this area and the wider landscape around Dolaucothi probably still contains unmapped features. If any features are noted during works on this land parcel, then please contact Cambria Archaeology.

## **MAIN MANAGEMENT RECOMMENDATIONS**

Individual recommendations for identified sites and features are given in the following gazetteer. In this section, an attempt has been made to indicate overall management priorities for the different areas of woodland.

### **Dolaucothi Goldmines**

Almost all of this land parcel is included within the Scheduled Area of SAM Cm208 – Dolaucothi Goldmines. Consequently any ground-intrusive activities would require Scheduled Monument Consent. The overall management aim for this land parcel is to ensure that the archaeology – both buried and surface – is maintained in a stable condition. This must be balanced with the needs of the site as a visitor attraction, but any future development of the site (for example new buildings or paths, or new interpretation panels, field boundaries, steps, paving, or the like) should be discussed with the National Trust's archaeologist before detailed plans are drawn up. Any such works would require Scheduled Ancient Monument consent from Cadw. Damaging, removing, repairing, altering, adding to, flooding, and tipping material onto the monument are also referred to in the Ancient Monuments and Archaeological Areas Act (1979) and would require specific Scheduled Monument Consent. Drilling would also require such consent.

Ideally, future management would look to reduce the tree cover in this area. There should be no new planting, and existing trees must be managed to ensure that they do not become liable to wind-throw. In 1998 the National Trust Archaeological Survey identified a number of priorities for the management of the woodland around the gold-mines and these recommendations (see Appendix 1) should be considered before drawing up detailed management plans.

### **Allt yr Hebog**

The main area of interest within Allt yr Hebog is the northwest corner, which contains traces of settlement (building platforms, trackway and field boundary). The principal aim here should be to maintain these features under a stable turf covering, and to ensure that buried archaeology is not disturbed. Care should be taken that features are not damaged by machinery during forest operations, and that no planting takes place on the building platforms (PRN 49963 and 49964). Some consideration should also be given to the future management of the higher reaches of Allt yr Hebog. Historically, this area has been more open than the lower slopes, and would therefore have been managed in a different way. If the higher area of this wood were, over time, thinned and opened out it would not only benefit the surviving archaeology (by helping to prevent damage from tree roots and from future harvesting and planting) but would help to maintain the historic character of the area. Light grazing of this area would help to prevent encroachment by scrub and re-colonisation by trees, and would also provide more varied habitats on these slopes.

### **Allt Dolaucothi**

There are two areas of interest in this wood. The first is the eastern part, which contains evidence of the water channels and leats associated with the Dolaucothi Estate. These have been severely damaged in the past, and the priority for future management is to limit any further disruption caused to these features. To this end, no heavy machinery should be brought into the area east of the trackway (PRN 49973) which was marked on the 1770 estate map. There should be minimal ground disturbance when working in this area, and work should not be carried out when ground conditions are very wet.

Consideration should be given to the future management of the west part of this land holding. It is, in many ways, similar to the northwest part of Allt yr Hebog in that it is indicative of land-use and settlement prior to the 19<sup>th</sup> century (the cottage site, PRN 49966, and relict field boundaries) and historic maps show it as more open than it is now. Reversion of this area of woodland to a more open, semi-wooded state, perhaps maintained by light grazing, would enhance the historic character of the area and would provide a more varied range of habitats within the wood.

### **Sarn Helen**

No specific management recommendations apply.

### **Allt Dinbeth**

There is considerable Roman activity in this area and although none was identified in this woodland on the field visit the landscape around Dolaucothi probably still contains unmapped features. If any features are noted during works on this land parcel, then please contact Cambria Archaeology.



## GAZETTEER OF SITES AND MONUMENTS

### DOLAUCOTHI GOLDMINES

PRN	1946	Site Name	DOLAUCOTHI	Grid	SN66454025
Site Type	GOLD MINE	Period	ROMAN; POST-MEDIEVAL; MODERN	Reference Site status	SAM Cm208

#### Description

The Dolaucothi goldmines. These goldmines were utilised over a long time period, and a large area of the mines has been designated as a Scheduled Ancient Monument (Cm208). For descriptions of the different parts of the main site, please see the Scheduling description in Appendix 2, attached to this report.

Dolaucothi was probably first used for gold extraction in the pre-Roman period. A small group of possible hut circles south of the main complex may be associated with small-scale mining of an exposed rock-face (Lewis and Jones:1969:p.253), indicating that the site was known prior to its development by the Romans.

The Roman phase of workings is the one for which Dolaucothi is most famous. The site is immensely complex and the precise nature and chronology of the workings is still not well understood. However, an outline understanding of the mining process can be gained by interpretation of the surface remains (principally earthworks).

Water was conveyed into the site by means of two main aqueducts – the Cothi leat (PRN 1947, SAM Cm200N) and the Annell leat (PRN 8882, SAM Cm210) – and a number of smaller leats. The Cothi leat is notable for bringing water into the site from a distance of over 7 miles! Both of the leats are carefully engineered, running along gentle gradients and charging a number of tanks along their routes. Water was crucial to the mining activities – it was used for hushing (scouring off topsoil and broken rock to reveal mineral seams and ore) and for washing tables. (these were used to settle out heavier gold particles from the waste water. The particles would be trapped in vegetation, fur or fleece, which was later burnt to recover the gold), for powering machinery and for ore washing.

Most of the mining features themselves – adits and levels as well as opencast workings – are located in this area, and a number of them are open to the public. It is supposed that the earlier mining on the site was opencast, and that as the easily accessible gold was exhausted the underground workings were put in place.

Many of the Roman features at Dolaucothi have been obscured or modified during later phases of use and it has been suggested that a crushing mill was in use at the site somewhere between 1200 and 1700 A.D (Austin and Burnham:1984:p.304 – 313). Although a Roman date could also be applied to this mill (Burnham:1997: p.325 – 336) it is possible that sporadic, small-scale extraction took place at intervals until the late 19<sup>th</sup>/early 20<sup>th</sup> century. At this stage the mines were re-opened more fully, and several of the Roman levels re-used (Annells and Williams:1983:p.3).

During 1938-9 the site was taken on by British Goldfields, and this phase of use has left very visible remains just south of this land parcel. Sadly, Dolaucothi proved financially unviable and was abandoned by British Goldfields only a year after work had started in earnest.

The visible mining remains across the whole site form a complex, multi-period landscape. The importance of the Roman elements has been recognised by the designation of the aqueducts and the central mining area as Scheduled Ancient Monuments. However, the importance of the later mining activities should not be underestimated. An understanding of the later phases of use not only contributes to a more detailed knowledge of the earlier features but also informs a more complete knowledge of the landscape as a whole and highlights its continued significance from pre-Roman times to the modern day.

*It must be borne in mind that the whole complex is of national importance, and is a complicated and fragile landscape. Although superficially robust, many of the features would be exceedingly vulnerable to damage from inappropriate management.*

#### **Recommendations**

This whole land parcel is of immense archaeological sensitivity and importance. Within the scheduled area, no ground intrusive activities can be undertaken. There should be no further tree-planting, and trees within the area need to be managed to prevent them becoming vulnerable to wind-throw. Ideally the management of this woodland should aim, over time, for a reduction in tree-cover and for the control of undergrowth and scrub to maintain an even grass covering over the earthworks. Timber extraction should be carried out with care to avoid damaging the ground surface over the monument.

Any works other than routine management should be discussed with the National Trust's archaeologist prior to being carried out.

**Site Category** A

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<b>PRN</b>	1947	<b>Site Name</b>	COTHI LEAT	<b>Grid Reference</b>	SN66654040
<b>Site Type</b>	LEAT; AQUEDUCT	<b>Period</b>	ROMAN	<b>Site status</b>	SAM Cm200

#### **Description**

This Scheduled Ancient Monument lies just to the east of the Dolaucothi woodlands. The Cothi leat brought water along the west side of the slopes of Allt Cwmhenog into the Dolaucothi mines, and eventually charged the largest tank in the complex (Tank E, PRN 49148). It probably also provided water for the washing tables (PRN 49150). The best preserved sections of the leat have been scheduled, and therefore have statutory protection.

#### **Recommendations**

Although the leat runs just outside the boundary of this land parcel, it is important to stress that no activities should be undertaken which will affect the site. Any works undertaken in the Dolaucothi complex should not have an impact on the leat – for example, thinning trees within the main complex may render trees near to the leat liable to wind throw.

**Site Category** A

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## ALLT YR HEBOG

PRN	49957	Site Name	ALLT YR HEBOG	Grid Reference	SN68914443
Site Type	TRACKWAY	Period	POST- MEDIEVAL		

### Description

A pronounced trackway leading through the woods at the eastern side of Allt yr Hebog. The National Trust survey comments that *"A local informant asserts that this trackway represents the old route along this valley, prior to the construction of the current roadway, which runs at a higher level on the western side of Allt Fron Goch."* (Plunkett Dillon and Swanson:1998:p.80).

The track is seen on the first and second edition Ordnance Survey maps (1891 and 1906). It may be substantially older – although the tithe map for this parish (Conwil Gaio, 1840) does not show the track, the map is very schematic and only depicts main roads.

The track is noticeably sunken below the surrounding ground level, and is very robust. Parts of it are rock-cut, and it is generally in a good, stable condition. It seems to still be in use, and remains passable for all of its length. Some saplings and undergrowth and becoming to colonise the northern parts of the track.

### Recommendations

Management should aim to ensure that the track remains stable and useable. Some scrub clearance in the northern section of the track would help to achieve this, and it should be ensured that saplings are not allowed to take root either on the track itself or on the banks immediately next to it.

The track is very robust, and continued use is probably the best way to ensure that it continues to be maintained. The only significant threats would seem to come from forestry operations being undertaken in the vicinity and occasional monitoring should be carried out to check whether there is any damage.

Site Category	C
National Trust no.	80370

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<b>PRN</b>	49958	<b>Site Name</b>	ALLT YR HEBOG	<b>Grid Reference</b>	SN68994458
<b>Site Type</b>	TRACKWAY; ROAD	<b>Period</b>	POST- MEDIEVAL		

#### **Description**

A track or road seen on the Ordnance Survey old series map (1831). The track runs along the boundary of Allt yr Hebog and it is not known whether it is included in this application.

#### **Recommendations**

If the track is included, then management should aim to maintain it in a stable and passable condition. However, care needs to be taken that modern machinery and vehicles do not damage this feature, and that the track is not used when the ground conditions are very wet.

Occasional monitoring should be carried out to check whether the track is being damaged by forestry operations.

**Site Category** C

<b>PRN</b>	49959	<b>Site Name</b>	ALLT YR HEBOG	<b>Grid Reference</b>	SN68834445
<b>Site Type</b>	TRACKWAY	<b>Period</b>	POST- MEDIEVAL		

#### **Description**

A substantial trackway shown on 1<sup>st</sup> and 2<sup>nd</sup> edition Ordnance Survey maps. The track survives as a clear earthwork, terraced into the hillside. It is mostly turf covered. At its west end, the track passes between two small platforms, which may be building platforms.

#### **Recommendations**

The track should be maintained as a landscape feature. It is not known whether it is still in use.

Ideally, management of these woods would look towards utilising this path, since that would help to ensure that it is clear of scrub and vegetation. At its west end, where the track passes the two building platforms, it should be ensured that the path remains on its current course and does not begin to encroach on either of the platforms.

**Site Category** C

<b>PRN</b>	49960	<b>Site Name</b>	ALLT YR HEBOG	<b>Grid Reference</b>	SN68884460
<b>Site Type</b>	MOUND	<b>Period</b>	MODERN?		

#### **Description**

A mound was noted by the National Trust at this location, which contained modern rubbish. The mound probably results from modern clearance of the forestry tracks.

#### **Recommendations**

No specific management recommendations apply.

**Site Category** D

**National Trust no.** 80454

<b>PRN</b>	49961	<b>Site Name</b>	ALLT YR HEBOG	<b>Grid Reference</b>	SN68704456
<b>Site Type</b>	QUARRY?	<b>Period</b>	UNKNOWN		

#### **Description**

A sunken hollow, around 11m in diameter, is visible on the fenceline in the northwest of Allt yr Hebog. The nature of this feature is uncertain, but it may be a small stone quarry. It appears to be in a stable condition, and no associated features (tracks, spoil heaps etc.) were identified.

#### **Recommendations**

No trees should be planted within the quarry itself, and it should not be subjected to any ground-intrusive activities or infilling.

**Site Category** C



**Plate 1** *A small depression, possibly a quarry scoop. The shape of the site is roughly marked by the bracken growing in the hollow.*

<b>PRN</b>	49962	<b>Site Name</b>	ALLT YR HEBOG	<b>Grid Reference</b>	SN68704451
<b>Site Type</b>	FIELD BOUNDARY	<b>Period</b>	POST- MEDIEVAL		

#### **Description**

The slight earthwork remains of what was probably a field boundary. The shape of the boundary is shown on the 1st and 2nd edition Ordnance Survey maps, dividing the wooded slopes of the hillsides from an open, unwooded field at the top of the hill – Pen Allt yr Hebog. The 1831 Ordnance Survey map shows this open area as being considerably larger, with the woodland not coming as high up the hillsides.

This field boundary may be associated with two possible building platforms (PRNs 49963 and 49964) just to the south. It is of significance since it provides a glimpse into the land-use and settlement pattern prior to this area becoming densely wooded.

#### **Recommendations**

The field boundary is, at present, slight but very stable and future management should aim to ensure that it remains this way. Ground intrusive activities should be avoided along the length of the boundary.

**Site Category** C

<b>PRN</b>	49963	<b>Site Name</b>	ALLT YR HEBOG	<b>Grid Reference</b>	SN68784433
<b>Site Type</b>	BUILDING PLATFORM?	<b>Period</b>	POST- MEDIEVAL?		

#### **Description**

A small platform terraced into the hillside next to a track. This feature is around 10m x 4.5m and may represent a building platform. The Ordnance Survey 1831 map does not show a building at this location, but it does indicate that the woodland did not extend to its current height at that time. If the building pre-dates this map, it would probably have been on open ground. It may be associated with a relict field boundary (PRN 49962) and another possible building platform (PRN 49964).

The platform seems to be in good condition, and is generally clear of vegetation. It is significant since it provides a glimpse into land-use and settlement prior to the area becoming densely wooded.

#### **Recommendations**

Management should aim to maintain the site under an even grass covering, and to prevent damage to buried archaeology. Damage is most likely to occur either through tree-roots penetrating the site, or through ground disturbance during forestry operations. Saplings or scrub growing up on the site should be cut off at ground level and removed, and the site should not be subjected to ground breaking activity.

**Site Category** C

<b>PRN</b>	49964	<b>Site Name</b>	ALLT YR HEBOG	<b>Grid Reference</b>	SN68804432
<b>Site Type</b>	BUILDING PLATFORM?	<b>Period</b>	UNKNOWN		

### **Description**

A small platform terraced into the hillside below a trackway. This feature is very similar to PRN 49963 (another possible building platform) and lies only a few metres away from it. It may also represent a building platform.

The Ordnance Survey 1831 map does not show a building at this location, but it does indicate that the tree-cover did not extend to its current height at that time. If the building pre-dates this map, it would probably have been on open ground, above the woodland. The platform may be associated with a relict field boundary (PRN 49962).

The platform seems to be in good condition, and is generally clear of vegetation. It is significant since it provides a glimpse into land-use and settlement prior to the area becoming densely wooded. Its date is unknown, but it may have early origins.

### **Recommendations**

Management should aim to maintain the site under an even grass covering, and to prevent damage to buried archaeology. Damage is most likely to occur either through tree-roots penetrating the site, or through ground disturbance during forestry operations.

Saplings or scrub growing up on the site should be cut off at ground level and removed, and the site should not be subjected to ground breaking activity.

**Site Category** C

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## ALLT DOLAUCOTHI

PRN	49965	Site Name	ALLT DOLAUCOTHI	Grid Reference	SN65684114
Site Type	HOLLOW WAY	Period	UNKNOWN		

### Description

A deep, well preserved hollow way. The hollow way is not seen on the tithe map (1840) but field boundaries depicted on the 1<sup>st</sup> and 2<sup>nd</sup> edition Ordnance Survey maps approximately match the route of the hollow way on the ground, and may indicate that this routeway was in existence at the end of the 19<sup>th</sup> century.

The hollow way is up to 2m deep and 3m wide, and is very robust. It leads towards a number of field boundaries shown on historic maps and is close to an old cottage site (PRN 49966). The hollow way is probably a remnant of earlier settlement and land-use in this area.

### Recommendations

This hollow way itself is very stable, and does not appear to be under any specific threats. Future management should aim to continue this situation, and care should be taken that use of the modern forestry track (which runs above and immediately east of the hollow way) does not result in spoil, debris or vegetation falling into the hollow way. Similarly, any forestry works carried out upslope of the hollow way should ensure that trees on the edge of the hollow way are not de-stabilized, rendering them liable to windthrow.

The nature and dating of this hollow way requires further investigation, to attempt to clarify its relationship with the possible cottage site (PRN 49966) and field boundaries shown on historic map sources. Future remains may come to light if the area were cleared of trees or scrub. Archaeological advice should be sought before carrying out any such works.

Site Category C

National Trust No. 80492



**Plate 2** *Part of the hollow way in the wood.*



<b>PRN</b>	49966	<b>Site Name</b>	CAE YN YGOED BACH	<b>Grid Reference</b>	SN65444099?
<b>Site Type</b>	COTTAGE?	<b>Period</b>	POST- MEDIEVAL		

**Description**

The Ordnance Survey 1831 map shows a cottage site somewhere in this vicinity, but from this map it is not possible to specify an exact location. The cottage is not seen on later maps. No remains were observed on the day of the visit.

**Recommendations**

Please contact Cambria Archaeology if anything is known of this site. Remains may come to light following clearance of trees and/or scrub in the area, and an archaeological site visit may be appropriate following any such works.

**Site Category** D

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<b>PRN</b>	49967	<b>Site Name</b>	ALLT DOLAUCOTHI	<b>Grid Reference</b>	SN66214167
<b>Site Type</b>	LEAT/CHANNEL	<b>Period</b>	POST- MEDIEVAL		

### Description

A leat or water channel marked on an estate map of Dolaucothi, thought to date to around 1770. The western end of this feature is visible as faint earthwork running through the wood. The line of the channel is then lost as it passes through an improved field just east of the woodland.

The channel seems to have supplied water to Cefn Coed Mawr farm (NT no.80439), and is one of a number of channels which were taken off springs in a field named Cae Garw. (See also PRNs 49970 and 49971)

### Recommendations

This area of woodland contains a number of channels seen on the ?1770 map, and care should be taken that the faint remains of these channels are not damaged further by forestry activities. The use of heavy machinery should be avoided as far as possible, and any major works (felling, timber extraction etc.) should be discussed with Cambria Archaeology prior to being carried out. Archaeological recording and monitoring may be appropriate whilst forestry activities are underway.

**Site Category** C



**Plate 3** *The earthwork line of the leat running towards the open ground east of Allt Dolaucothi.*

<b>PRN</b>	49968	<b>Site Name</b>	ALLT DOLAUCOTHI	<b>Grid Reference</b>	SN66224176
<b>Site Type</b>	FIELD BOUNDARY	<b>Period</b>	POST- MEDIEVAL		

**Description**

A low bank, the remains of a field boundary which was seen on an estate map (Dolaucothy Estate, ?1770). The boundary was then described as a 'hedge' – presumably what remains is the hedgebank.

Although the bank has relatively little intrinsic archaeological value, it is of interest since it is specifically marked on the ?1770 map and appears to indicate the boundary between land owned by the Johnes and the Davis families. It is also in an area which contains a number of water channels, recorded on the ?1770 map.

**Recommendations**

The use of heavy machinery along what remains of this bank should be avoided as far as possible, and any major works (felling, timber extraction etc.) should be discussed with Cambria Archaeology prior to being carried out.

**Site Category** C

<b>PRN</b>	49969	<b>Site Name</b>	ALLT DOLAUCOTHI	<b>Grid Reference</b>	SN66154184
<b>Site Type</b>	WELL	<b>Period</b>	MODERN; POST- MEDIEVAL?		

**Description**

A brick built well, now fenced off. It is not clear whether the well is included in this application or not.

The well is of interest since it represents the continuation of a tradition of using this field for local water supplies. (See PRNs 49967, 49970, 49971)

**Recommendations**

If included in this application, the well should be maintained in its current condition.

**Site Category** C

<b>PRN</b>	49970	<b>Site Name</b>	ALLT DOLAUCOTHI	<b>Grid Reference</b>	SN66204134
<b>Site Type</b>	CHANNEL	<b>Period</b>	POST- MEDIEVAL		

#### **Description**

The earthwork remains of a water channel. The channel is clearest at its north end, but is traceable along the boundary of the wood where it appears as a terrace in the slope. This channel is one of a number marked on an estate map of Dolaucothi, thought to date to around 1770 (see also PRNs 49967 and 49971). The channels were all fed from a field at the northern end of Allt Dolaucothi which contains a number of springs. The water was conveyed to Dolaucothi Farm, probably to power a water mill also seen on the ?1770 map.

#### **Recommendations**

This feature is slight, but seems to be stable. It lies in an area of archaeological sensitivity, and the use of heavy machinery should be avoided. Any major works (felling, timber extraction etc.) should be discussed with Cambria Archaeology prior to being carried out. Archaeological recording and monitoring may be appropriate whilst forestry activities are underway.

The southern section of this channel forms the boundary of Allt Dolaucothi, and runs along the base of a slope. Care should be taken that works upslope do not adversely affect the channel – for example, by causing it to become infilled with earth or debris.

**Site Category** C

<b>PRN</b>	49971	<b>Site Name</b>	ALLT DOLAUCOTHI	<b>Grid Reference</b>	SN66214146
<b>Site Type</b>	CHANNELS	<b>Period</b>	POST- MEDIEVAL		

#### **Description**

An estate map of Dolaucothi (?1770) shows a number of channels being fed by a stream in this area. These channels conveyed water to Dolaucothi Farm, and also to the farm at Cefn Coed Mawr. On the ground, this area is difficult to interpret. There are earthwork remains of watercourses, but it is not clear how many of these have been caused by the shifting course of the stream, and how many may have artificial origins.

There are a number of picnic tables set by the stream, and a short flight of steps has been put in place to lead down to the level ground at the stream's edge. There are also two footbridges, allowing visitors to walk a short circular route crossing the water.

#### **Recommendations**

No further development of the picnic area should take place, since there is the potential for buried archaeology to survive in this area. The area should continue to be maintained as it is at present – relatively free of vegetation and undisturbed.

**Site Category** C

<b>PRN</b>	49972	<b>Site Name</b>	ALLT DOLAUCOTHI	<b>Grid</b>	SN65524128
<b>Site Type</b>	SAW PIT	<b>Period</b>	POST- MEDIEVAL? MODERN?	<b>Reference</b>	

### Description

A rectangular depression or pit next to an old trackway. The feature is around 5m x 2m and its depth is unknown. It is currently partially infilled with leaves and vegetation.

This feature may be a saw-pit, where tree trunks were sawed by hand into manageable lengths, ready for extraction from the woodland.

The feature seems stable and well-preserved, and there are no immediate threats. However, it is close to an area which contains picnic benches and may present a problem in terms of health and safety.

### Recommendations

Ideally, this feature would remain in its current condition, as an open pit. Further investigation may help to establish whether its interpretation as a saw pit is correct, and suggest a date for its use. In order to alleviate potential safety issues, it is recommended that the picnic benches closest to this feature are re-located. However, if this is not sufficient, it may be necessary to fence off this feature.

**Site Category** C



**Plate 4** *The clear edges of a pit or trench – possibly a saw-pit.*

<b>PRN</b>	49973	<b>Site Name</b>	ALLT DOLAUCOTHI	<b>Grid Reference</b>	SN66204163
<b>Site Type</b>	TRACKWAY	<b>Period</b>	POST- MEDIEVAL		

**Description**

A trackway seen on an estate map of around 1770. The track still survives, but has been re-surfaced for much of its length and part of it is open as a public walk through the woods.

**Recommendations**

The future use and maintenance of this track is desirable since it represents a continuity of landscape organisation. The track should not be diverted or widened.

**Site Category** C

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## **SITE AND AREA STATUS GLOSSARY**

The following abbreviations are used in the gazetteer to refer to site and area status. These schedules, lists and registers are compiled and maintained by Cadw: Welsh Historic Monuments.

### **PRN – Primary Record Number**

The number by which sites are identified in the Regional Sites and Monuments Record

### **SAM - Scheduled Ancient Monument**

This is a statutory designation. Scheduled Ancient Monuments are protected under the Ancient Monuments and Archaeological Areas Act 1979.

### **LB1, LB2\* & LB2 – Listed Building 1, 2\* & 2**

This is a statutory designation. Listed buildings are protected under the Planning (Listed Buildings and Conservation Areas) Act 1990.

### **HLW - Historic Landscapes of Wales**

Historic Landscapes of Wales are defined by the *Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales: Part 2.1 Landscapes of Outstanding Historic Interest and Part 2.2 Landscapes of Special Historic Interest*. The register is advisory and has no statutory powers.

### **PGW - Parks and Gardens of Wales**

Parks and Gardens of Wales are defined by the *Register of Landscapes, Parks and Gardens of Special Historic Interest in Wales: Part 1 Parks and Gardens*. The register is advisory and has no statutory powers.

## REFERENCES

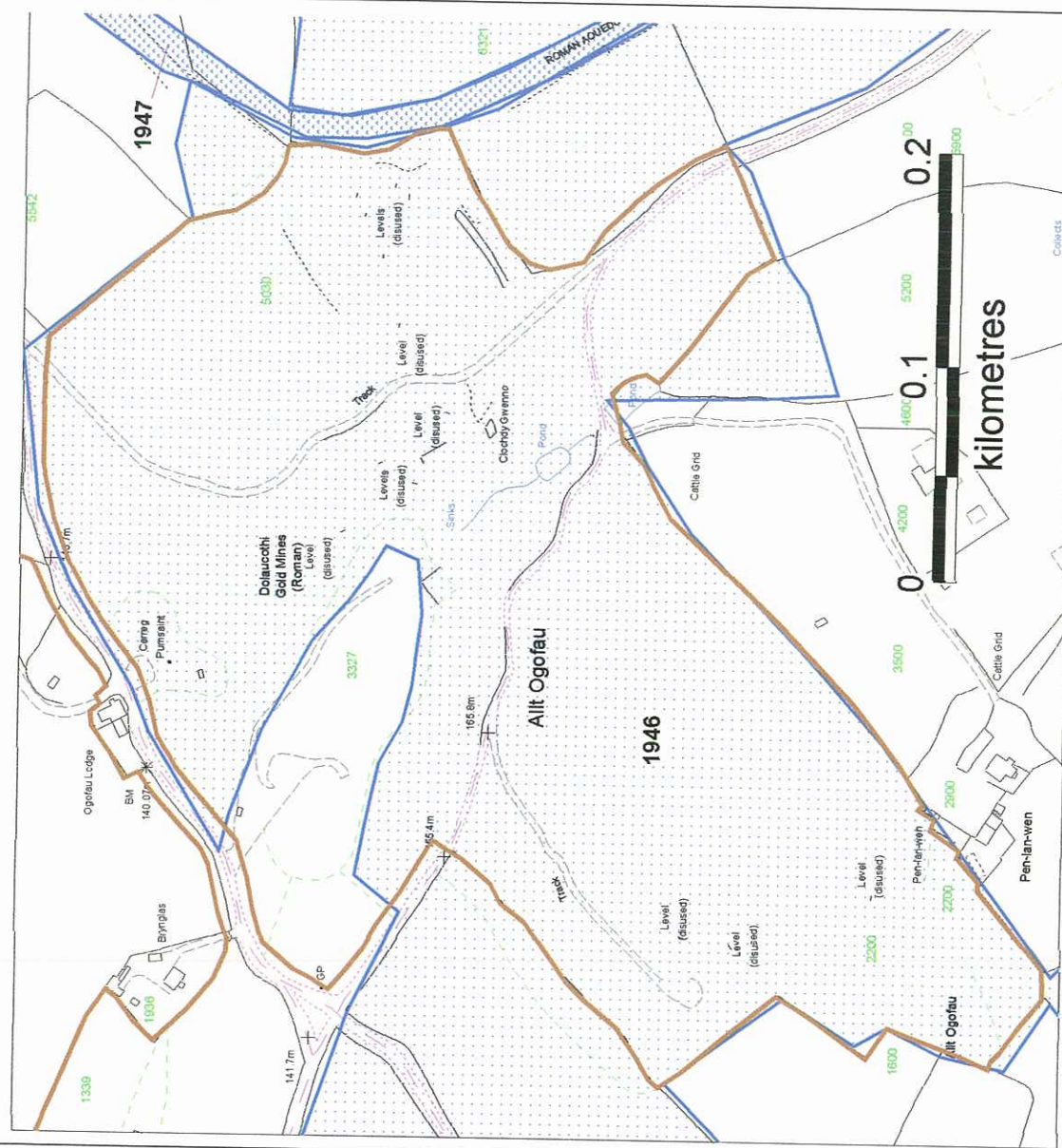
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- Ordnance Survey 1891 Carmarthenshire IX.SW
- Ordnance Survey 1907 Carmarthenshire IX.SW
- Ordnance Survey 1891 Carmarthenshire IX.NW
- Ordnance Survey 1907 Carmarthenshire IX.NW
- Map of Dolaucothi Estate c.1770, copy held in NLW
- Tithe map 1841 Cynwyl Gaeo Parish [Conwil Gaio]



**Dolaucothi Goldmines** – extent of the Scheduled Areas of the mine (SAM Cm208) and the Cothi leat (SAM Cm200)  
Forestry Commission Historic Environment Consultation  
Cambria Archaeology Reference PRN 49977  
National Grid Reference SN66454025

- Woodland Boundary
- Site Category A - National Importance
  - Scheduled Ancient Monuments
  - Grade 1 and Grade 2\* Listed Buildings
  - Sites and Buildings of National Importance without a statutory designation
- Site Category B - Regional Importance
  - Sites and Buildings of Regional Importance including Grade 2 listed buildings
- Site Category C - Local Importance
  - Sites and buildings of Local Importance
- - - Trackways
- Site Category D – Unknown Importance
  - Sites requiring further investigation and sites with no physical definition

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## Allt yr Hebog

Forestry Commission Historic Environment Consultation  
Cambria Archaeology Reference PRN 49977  
National Grid Reference SN 68894438

Woodland Boundary

Site Category A - National Importance

Scheduled Ancient Monuments

Grade 1 and Grade 2\* Listed Buildings

Sites and Buildings of National Importance  
without a statutory designation



Registered Parks and Gardens of Historic  
Interest

Site Category B - Regional Importance

Sites and Buildings of Regional Importance  
including Grade 2 listed buildings

Site Category C - Local Importance

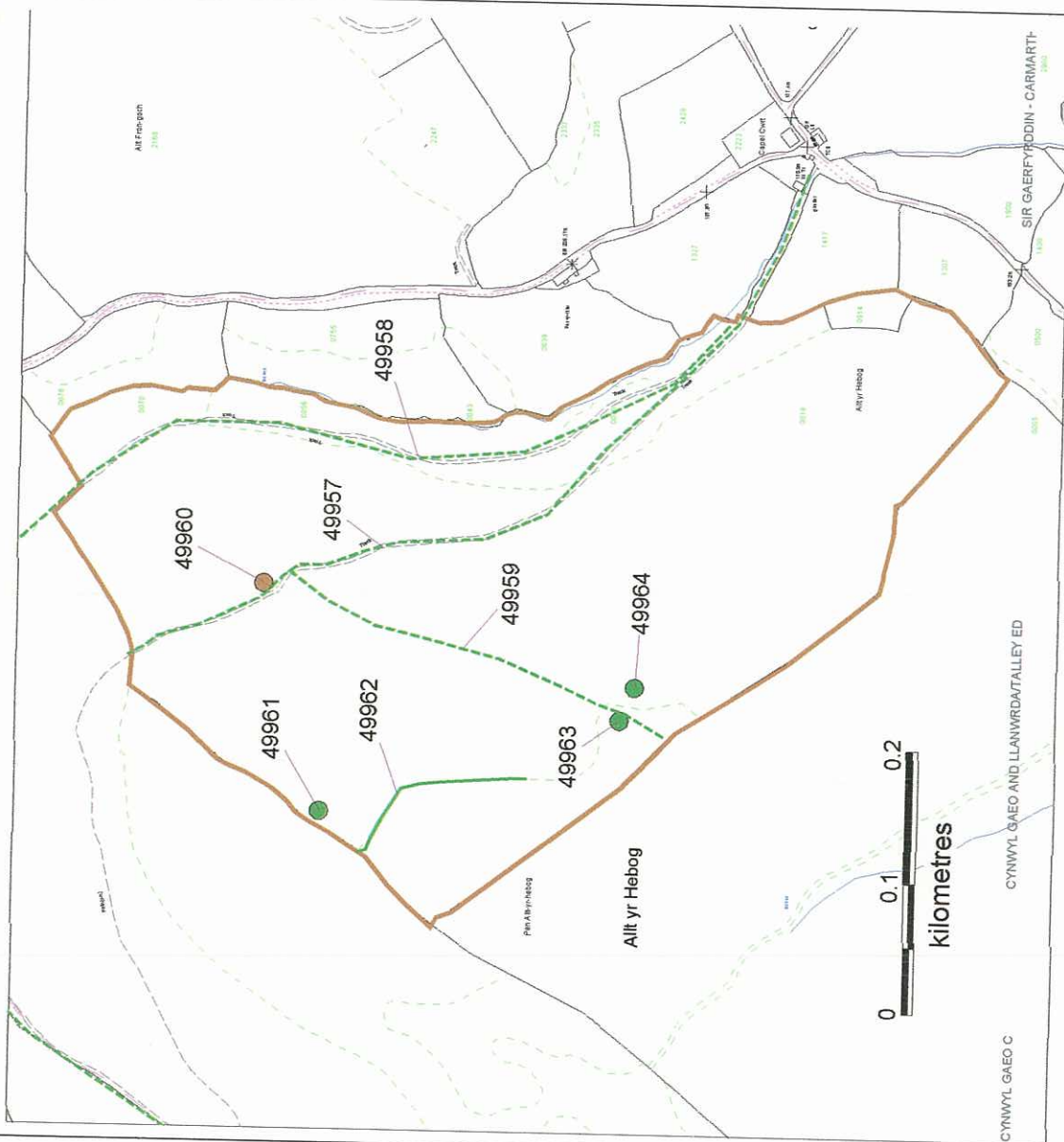
Sites and buildings of Local Importance

Trackways

Site Category D - Unknown Importance

Sites requiring further investigation and sites with  
no physical definition

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# **Allt Dolaucothi**

Forestry Commission Historic Environment Consultation  
 Cambria Archaeology Reference PRN 49977  
 National Grid Reference SN65954122

 Farm Boundary


Site Category A - National Importance

 Scheduled Ancient Monuments  
 Grade 1 and Grade 2\* Listed Buildings


 Sites and Buildings of National Importance  
 without a statutory designation


 Registered Parks and Gardens of Historic  
 Interest

Site Category B - Regional Importance


 Sites and Buildings of Regional Importance  
 including Grade 2 listed buildings

Site Category C - Local Importance

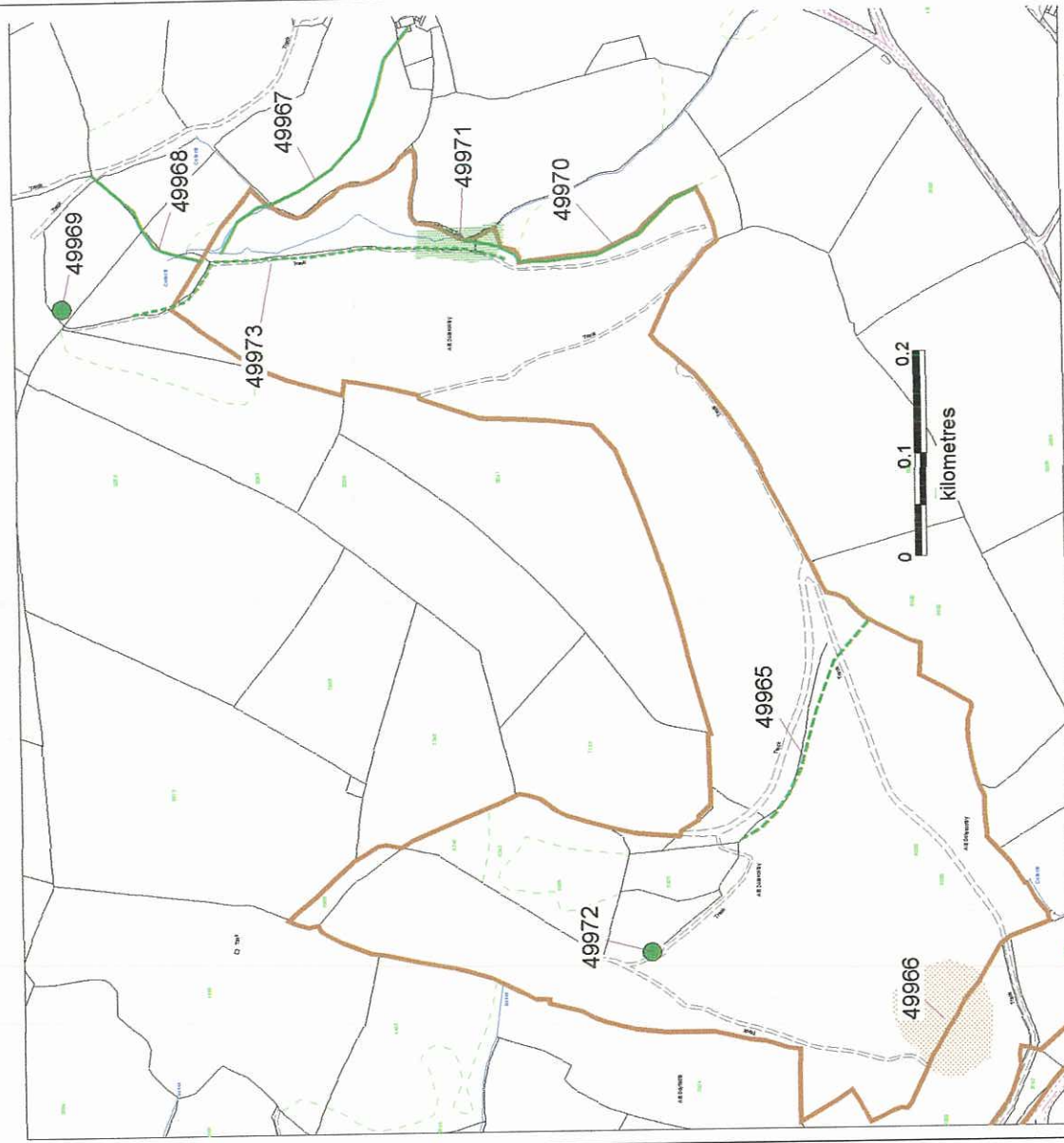
 Sites and buildings of Local Importance

 Trackways

Site Category D - Unknown Importance

 Sites requiring further investigation and sites with  
 no physical definition

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**Dolaucothi Woodlands**

**REPORT NUMBER 2003/134**

**March 2004**

This report has been prepared by Polly Groom

Position: Heritage Management Archaeologist

Signature P. Groom Date 2/4/04

This report has been checked and approved by Louise Austin on behalf of Cambria Archaeology,  
Dyfed Archaeological Trust Ltd.

Position: Principal Archaeologist (Curatorial)

Signature Louise Aust Date 2/2/04

As part of our desire to provide a quality service we would welcome any comments you may have  
on the content or presentation of this report

## **APPENDICES**

**Appendix 1:** Copy of Summary Management Recommendations from the National Trust's 1998 survey of the Dolaucothi Estate.

Relevant points highlighted.

**Appendix 2:** Copy of extract from Cadw's SAM description for Dolaucothi goldmines (SAM Cm208)

## SUMMARY MANAGEMENT RECOMMENDATIONS

Dolaucothi is a small estate typical of the numerous estates which once covered most of rural Wales but have now all but disappeared. The National Trust boundaries include part of the village of Pumsaint, nine farms, parkland surrounding the site of the original house, woodland, moorland and the Dolaucothi Goldmines.

The mines are one of the most significant archaeological sites in Trust ownership. Recent work appears to confirm that intensive mining took place in the Roman period. Documentary evidence suggests that this resumed in the middle of the 19th century but unrecorded extraction may have occurred in the intervening period. Modern goldmine production reached a peak in the 1930s but the mine closed in 1938. The surviving remains comprise of opencast pits of varying depth and morphology; tanks enclosed with earth apparently supplied with a leats one of which is at least 7 miles in length; three adits of unknown date but conventionally assigned to the Roman period and the remains of mills, adits and processing plants from the 19th and 20th centuries. All the mine and most of the associated features are scheduled. Just over half of the mine is in hand and open to the public with the remainder either tenanted or leased to the Forestry Commission

A second focus of archaeological significance is the Roman fort discovered beneath the village of Pumsaint most of which is scheduled. Nothing remains on the surface but excavation and geophysical surveying has demonstrated military occupation and associated civilian settlement. On the opposite side of the river is the site of the supposed bath house, uncovered in the 1830s. Recent excavation in the adjacent field has revealed a section of road and evidence of settlement again dating to the Roman period

The wider estate is included in the *Register of Historic Landscapes of Outstanding Importance* mainly because of the goldmines but also because manuscript sources indicate that the parish of Caeo which includes Dolaucothi was a medieval multiple estate. Dolaucothi house was demolished in 1954 as it was derelict and dangerous but farm buildings, part of the walled garden, several garden features and the parkland survive. Many of the farmhouses now in Trust ownership were remodelled in the middle of the 19th century following a single estate pattern.

## MANAGEMENT RECOMMENDATIONS

### 1. The Gold Mines

#### 1.1 Vegetation

1.1.1 It is essential that the bracken which covers most of the site is removed controlled. In summer and autumn all of the larger and many of the smaller features disappear beneath dense growth making the site all but incomprehensible to visitors.

1.1.2 Gorse and rhododendron are also a problem. Rhododendron is prevalent in the eastern part of the area open to the public, trees surrounding Carreg Pumsaint and in the area leased too the Forestry Commission. Gorse growth should be restricted with particular attention given to the slopes beneath Tank C (80283) and Tank E (80319 tenanted).

1.1.3 The sides of the main opencast are completely hidden beneath broad-leaved woodland. This masks the profile of the pit rendering its man-made origins invisible and thereby concealing the significance of this allegedly Roman feature. Ideally all the trees should be removed. However, compromise may be necessary on account of the nature conservation interest.

1.1.4 The block of land leased to the Forestry Commission and now covered with mature trees contains some of the best preserved archaeology on the estate (for example 80324, 80394, 80395). It is vital that wind blow is prevented and that harvesting is appropriately managed. Ideally the Trust should negotiate to bring this land back in hand. In the short term consultation should take place between the Trust and the archaeologist employed by the Forestry Commission.

1.1.5 The woodland to the south of the main open cast contains several sites most of which date to the more recent phases of gold extraction. Some sites, for instance the barracks (80310), would benefit from clearance of brambles and low level scrub. In addition paths could be cleared to give access to the settling ponds and dams (80307, 80524).

1.1.6 All the so called tanks located within the broad-leaved woodland should be kept free of scrub and further tree growth prevented. This includes 80263, 80264, 80265, 80274, 80289, 80293, 80347, etc

1.1.7 Concrete platforms, the foundations of processing plants, are located the main opencast (80292) and on the slopes east of Pen-lan-wen (80356, 80357). These should be kept free of vegetation as tree roots will break up the walls.

1.1.8 As the entire site is of archaeological significance trees should not be planted without first consulting the Trust's archaeologists.

1.1.9 The two ponds to the south of the main open cast (80293, 80311) were used by the 19th and early 20th century miners but are thought to be Roman in origin. One has almost silted up but the other still survives as open water. Both should be kept free of vegetation.

## 1.2. Erosion

1.2.1 At present there are no significant erosion problems on site

1.2.2 In order to ensure that this continues to be the case the Trust should ensure that the footpath followed by visitors is monitored with particular attention paid to the area around Tank C (80283) and the supposed washing tables below (80290).

1.2.3 Animals should not be fed on or near any archaeological site.

1.2.4 The banks enclosing Tank C suffered severe erosion in the late 1980s but were subsequently repaired. The site should be regularly inspected in order to monitor the effectiveness of the project and to prevent further deterioration.

1.2.5 The archaeological sites on tenanted land are all stable with no evidence of erosion. Regular monitoring is recommended to ensure that they remain in this condition and overstocking is to be avoided.

## 1.3. Main Open Cast

1.3.1 The buildings and machinery in the main opencast are in relatively good condition though a detailed appraisal of individual features within the sheds was not included in this report. A programme of regular maintenance should be instated.

1.3.2 Interpretation of this area requires further consideration and action. At the time of writing the Trust favours a presentation emphasising the latest phase of mining in keeping with the date of the buildings. Ideally the machinery should function, for instance the head frame wheels should turn.

1.3.3 Various other ideas have been suggested including cutting a link tunnel between Mill Adit and Long Adit thereby providing a more accessible alternative to the present underground tour and setting up a processing plant to give visitors an indication of the methods of gold extraction. Both were initially put forward by Department of Geology, University of Wales Cardiff. The archaeological implications of these proposals requires careful consideration.

#### 1.4 Specific Projects

Individual sites requiring attention include:

1.4.1 The back wall of the 1880s mill stands perched on the side of the main open cast (80287). It is unstable and in summer smothered in vegetation. Stabilisation is urgently required as the entire structure is in danger of toppling.

1.4.2 The outlet from Melyn y Milwyr is in poor condition. It should be surveyed and consolidated.

1.4.3 Pillow mounds on the northern edge of the Niagara open cast were damaged by tree falls in the high winds of 1987 (80337). Any remaining dead wood should be removed so the surviving parts of the site can be understood.

1.4.4 Care should be taken to avoid damaging the remains of a possible mill and associated features at present hidden in the trees behind Carreg Pumsaint (80263, 80264, 80269, 80270, etc)

1.4.5 The tramway linking the 19th century workings in Mitchell adit with the spoil heap in Roman Pit (80286) is unstable and shrouded with netting. This should be stabilised with the aim of allowing visitors to pass through and observe the relationship between the features.

1.4.6 Consideration should be given to visitor safety. Sites requiring review include Training Adit and its associated ventilation shaft (80266, 80336) and also the adits around Davies Cutting (80291, 80368, 80369).

#### 1.5 Future Work

1.5.1 Dolaucothi Gold Mines are of immense archaeological importance and are protected by scheduled ancient monument legislation. No alteration or modification should be undertaken without prior consultation with the Trust's archaeologists. This includes underground works and also seemingly minor projects such as new gateposts, fence posts, signposts, information panels etc.

1.5.2 The Trust should be aware that the floor of the main opencast is no longer contained within the protected area on the basis that the depth of the original workings is some 5 to 12m beneath the present surface. However the sides of this pit are still scheduled.

1.5.3 The chronology of Roman gold extraction and the technology employed is poorly understood. Given the immense significance of the site the Trust should support a controlled programme of research and investigation. Not only would this broaden our knowledge but it would also ensure that the appropriate management strategy could be established. This should include:

1.5.3.1 a full survey of the archaeology of the site with the primary aim of enabling the Trust to draw up an appropriate management strategy.

1.5.3.2 This should be followed by more detailed surveys concentrating on the interpretation of the surviving archaeology both below and above ground.

1.5.3.4 Strategically located, small scale excavations could progress our comprehension of the site. Collaboration with Dr Barry Burnham of the Department of Archaeology, University of Wales Lampeter has proved successful in the past, greatly enhancing our understanding of Roman goldmining. The Trust should continue to build on this relationship by supporting Dr Burnham in his research.

1.5.4 The Trust should be aware of projects suggested by Department of Geology and School of Engineering, University of Wales Cardiff. As well as the link tunnel and processing plant mentioned above the possibility of reopening the link tunnel between Upper and Lower Roman Adit (80300, 80301) has been suggested and also reopening Field Adit (80343). Both of these have archaeological implications.

1.5.5 The fields surrounding the mine are all likely to contain buried archaeology. Ideally these should all be preserved beneath pasture. Changes in the present agricultural regime should be discussed with the Trusts' archaeologists as should any major alterations such as new tracks, pipe laying, new ponds, hedge removal etc.



## 2. The Leats

The mines were supplied with water by the Cothi Leat to the north and the Gwenlais/Annell Leat to the south. a third leat has been identified on Llwyn y ceiliog farm but its links with the mines or the other leats is unknown.

2.1 The Cothi leat or aqueduct is known to pass through Troed y rhiw, Pen twyn, Llwyn y ceiliog, Glan meddyg and Gwarnoethle. Specific sections are scheduled. The intervening gaps must have originally been linked but in the opinion of Cadw there are insufficient remains on the surface to warrant designation. It is therefore the responsibility of the Trust to ensure that the fragmentary remains which undoubtedly remain below the surface are protected. The leat which survives as a step or break in slope of varying width must be protected from erosion caused by overstocking, ploughing (to include the area around the leat) and uncontrolled vegetation. These restrictions should also apply to the unscheduled areas.

2.2 The leat must cross Maes Moi though nothing is visible on the ground except just at the border with Brunant. The original route can be postulated by following the relevant contour across the farm. The line should be protected with ideally a prohibition on ploughing and tree planting. No disturbance in the form of pipe laying etc should be carried out without consulting the Trust's archaeologists.

2.3 Having crossed Brunant (not NT) the aqueduct is thought to run along the base of the forestry. Under no circumstances is this to be used to provide access for tree harvesting. Again beware erosion and no ploughing, pipe laying etc

2.4 The route of the Gwenlais/Annell leat is less clear cut. Only the section on Banc Llwyn Ceiliog (80456) is scheduled and the exact nature of this feature has been debated. Recent ploughing in the field west of this area has obliterated any surviving evidence of the continuation of the section of the leat. a well-preserved channel to the east of this scheduled area has been recorded and this must be protected from ploughing.

2.4 Lower down, close to the mine further short sections of this leat have been identified and recent excavation has confirmed the Roman date. Again the features visible on the ground and the intervening gaps should be protected from disturbance to include ploughing, overstocking, tree planting, pipe laying etc

2.5 A short section of leat above the Cothi leat on Llwn y ceiliog farm has been identified and scheduled. Again this should be protected.

2.6 Further leats may yet be discovered either by aerial photography or geophysical survey. Because of this no unimproved land should be ploughed without consulting with the Trust's archaeologists.

## 3 Roman Settlement

3.1 Most of the Roman fort beneath the village of Pumsaint is scheduled. Part was omitted to enable the Trust to develop the site of the barn and cowshed for housing. This was done on the understanding that the Trust was aware of its archaeological responsibilities and would ensure that adequate survey and investigation would precede each stage of the development.

3.2 In this scheduled area no disturbance however minor can take place without prior consent. This includes fence posts, drains, buried cables, information panels, tree removal etc.

3.3 Recent geophysical survey indicates settlement outside the eastern walls of the fort - the present day cricket pitch. This indicates two things; firstly that the cricket pitch warrants protection and under no circumstances must be ploughed, and secondly demonstrates the benefit of geophysical surveying. This technique has the potential to enable the Trust to plan future developments without damaging the archaeology buried beneath the surface.

3.4 The alleged site of the Roman bath house (80411) should also be protected and as far as possible the loose

5.6 Ruined buildings for example 80424 and 80429 should be left *in situ* and not used as a source of stone for repairs to other structures or walls without prior consultation.

5.7 Extraction from quarries should be monitored.

5.8 Site 80447 was scheduled as it was originally thought to be associated with the Annell leat. Cadw has since descheduled this structure demoting it to an upland hafod. Excavated in the 1970s it was never backfilled and now requires consolidation. a turf cover may be sufficient.

## 6 Metal Detecting

6.1 Metal detecting has so far not been a problem. However, this may change and the tenants of Dolaucothi Farm, Ynysau, and Gwamoethle should be made aware of Trust Bye Laws in connection with this activity.

## 7 Access

7.1 At the mine the Trust must balance the provision of access again the primary aim of conservation. It has been criticised in the past for opening up the site and thereby damaging archaeological deposits.

7.2 At present the correct balance seems to have been achieved. The public have the opportunity to see the central part of the mine which include examples of all the main features. The area to the south and west which are tenanted and the area to the east which is leased to the Forestry Commission (none of which are open to the public) contain further well-preserved earthworks, tanks adits etc.

7.3 Access to the site would be improved if the recommendations listed in section 1 were carried out.

7.4 An increase in access beyond the present situation must be only take place in consultation with the Trust archaeologists.

7.5 Access to the remainder of the estate has improved dramatically in the last year and continued improvements are planned. Ideally way-marked paths should follow pre-existing communication routes. For instance some use could be made of the tramway located in the modern forestry. Not only would this facilitate path creation but provide a link with past phases of land use and estate management.

## 8 Interpretation

8.1 At present interpretation takes the form of two information centres (one in the mine and one in the village), a self-guided tour and two guided tours (one above and one below ground).

8.2 Interpretation at all levels requires an urgent reassessment.

## 9. Outside Bodies

9.1 The Trust has an excellent working relationship with Cadw. It is important that this is maintained.

9.2 The Trust should build upon the well established relationship with Department of Archaeology, University of Wales Lampeter. Dr Barry Burnham has an unparalleled knowledge of the archaeology of the site gained through small scale excavation and survey. He has worked with the Trust for nearly twenty years providing

essential archaeological support.

9.3 The underground part of the site is leased from the Crown by the University of Wales Cardiff and then sub let to the Trust in the summer months so underground tours can take place. The University use Dolaucothi as a teaching resource with two buildings located in the main open cast. This lease is due for renewal in 1999. Opening up the underground part of the site has only been possible because of the input by Cardiff students and staff. Dr Alwyn Annels, Dr Alun Isaac and more recently Dr Peter Brabham have devoted considerable time to the site and it is thanks to them that we have such a clear understanding of the geology and recent history of the site.

# CADW Scheduled Ancient Monument Record

## SAM Visit Description Text

<b>SAM No:</b> CM208(CAM)	<b>SAM Name:</b> Dolaucothi Gold Mines
---------------------------	--

**Visit Date:** 11/05/83

**Visited By:** Rees S E

**Description Text:**

OS card text:

[from RCAHMW Carms 1917, 29-30] Abutting upon the south side of the open cut (on Allt Ogofau at SN 66254005) is a large artificial mound which has been formed by piling a quantity of debris upon a boss of rock. The slope of the mound continues sheer to the bottom of the open cut. The remaining sides of the mound are surrounded by a moat which starts from the edge of the cutting on either side of the mound. This is unmistakably a Norman mound-castle of which hitherto no notice appears to have been taken. The nature of the ground rendered an attached bailey or enclosure practically an impossibility.

[From Boon & Williams, JRS 56, 1966, 124] The mound 'has no bailey but remains a possibility (of being a motte).

[Visit 26.3.75] SN 66254005 A tree covered mound, situated between two open cast mines, to the NW and SE, measures 3.1m in height from the NE, and has overall dimensions of 27.0m NW-SE by 18.0m transversely. It appears to resemble other overgrown mounds of mining material, and it seems likely that this also is a spoil heap. The gully on the SW appears to be the result of mining exploitation and does not surround the mound. Excavation is required to resolve the date, period and purpose of this mound.

Sian Rees' AM12 text:

An extension of the area scheduled as 205, this area of the goldworkings covers three fields to the W of the main site and parts of three fields to the E. Fields A, B and C (see 6in map attached) are grass pasture fields presumably ploughed occasionally with some earthworks visible. Fields D, E and F are rougher, more sloping pasture fields, less frequently ploughed, in which the earthworks associated with the lower stretches of the aqueduct, the settling tanks and further waste tips may be seen.

**Visit Date:** 11/02/87

**Visited By:** Burnham H B

**Description Text:**

The gold mines at Dolaucothi consist of a complex series of opencast pits, trenches and adits, stretching both NE (Allt Cwmhenog) and SW (Allt Ogofau) from the main opencast in the gap around SN 66354025. The workings on the Allt Cwmhenog side were provided with a water supply from two aqueducts; the Anell, probably the earlier of the two, bringing water from the eastern side of the ridge (stretches of this are scheduled as Cm 211 and 210) and the Cothi, much longer and more sensitively engineered, bringing water along the western side of the ridge (Cm 200). The rather complex arrangements by which the latter entered the mines, as well as the visible traces along its course, are discussed under that number. The areas scheduled as Cm 205 (the central core of the mining complex) and Cm 208 (extensions to this area) will be discussed together, since they form a whole. The 'motte' at SN 663403, just N of the main opencast, has been discussed separately as Cm 167. It is quite probably just a spoil heap, however, and therefore part of the mining remains.

The dating of activity on the site is not easy. It has usually been assumed that the Romans began the exploitation of the mine, although the existence of some undated round huts to the S of Pen-lan-wen Farm, and traces of pitting high above fields D and E, have been suggested as pointing to earlier exploitation. It is most likely that the gold was discovered by its presence in either the tributary stream which would originally have run through the area of the main opencast, or in the River Cothi. Pre-Roman exploitation, if it occurred at all, was most likely limited to panning or streaming of these 'placer' deposits, although this cannot be conclusively proved. The best deposit of gold, the so-called 'Roman Lode'

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would have occupied the space where the western end of the main opencast now is, although there are other deposits throughout the mined area. For a detailed account of the geology of the site, see Annels and Burnham 1986. A number of features on the site are generally taken to be Roman (for more detail see below): at least some of the main opencast and the early caverns beneath it, the Allt Cwmhenog pit (SN 66754045), the Mitchell opencast and stope (SN 66554025), the 'Roman' opencast (SN 66454030), parts of Middle and Mitchell Adits. On the Ogofau side: at least some of the Niagara opencast, at least some trenching, Upper and Lower Roman Adits.

Many of these features are dated by circumstantial evidence and assumption, and it is possible that there may have been some working in medieval or even 17th century times; there is, however, no conclusive evidence for this. If it is assumed that the aqueducts were only in use in the Roman period, then workings dependent on them must be Roman, but if they could have been recommissioned in whole or in part, the later use is possible. The boundaries along parts of the line of the Cothi aqueduct look very old; it would be interesting to try to find out when the Cothi valley was enclosed.

The first written records suggest that the nature of the metal mined had been forgotten - in 1767 and 1839 it is not mentioned, although a William Jones was given permission to sink a shaft, about which we know nothing, in 1797. It is possible that the workings had attracted similar prospectors previously. In 1844 the gold was rediscovered, and short-lived ventures to exploit it took place around 1853 and 1872. It is not certain where this work took place, although there are suggestions that the 1872 work was in the vicinity of Davies cutting. More recent phases of exploitation are better recorded although the different operators now tend to re-use each other's workings. 1888-97, 1905-12 and 1933-39 were the main dates between which activity took place on the site, and Niagara Adit, Mitchell Adit, Middle Adit, Long Adit, Mill Adit and further work on Davies cutting probably date from the first two periods, while in the 1930s, very extensive underground workings were opened up, enlarging on some started in the early 20th century, and incidentally cutting into much earlier caverns presumed to be Roman. The shaft head for these workings lies at about SN 66324026, and is now sealed but still marked. The workings themselves are flooded.

As can be seen below, this leaves many features on the site for which there is no clear date, and the whole is complicated by the very nature of mining, by which later generations cover up, enlarge, re-use, modify or remove the workings of their predecessors. This leaves the archaeologist with a palimpsest in which there is little stratigraphy, let alone dating evidence. We will now examine the various areas of the site in more detail, working from NE to SW.

The most north-easterly, and probably also the earliest, of the workings are those around SN 66754045. These are now difficult to trace on the ground because of the presence of forestry and woodland in the area, and some precipitous pits and gashes, but the detail surveyed on the 25in map seems a fair expression of the traceable remains. The area appears to have been exploited by water brought to Tank G (at the SE corner of this complex) by the Annell aqueduct, which curves round the hill to the south. This water would have been used in the exploitation for hushing, the sudden release of a head of water to remove overburden, or hydraulicing, a steady flow of water used in prospecting (perhaps both at various times). It could also have been used to quench fires in the course of exploitation by firesetting. These processes, with the exception of hydraulicing, would also have been used in other areas of the site, notably the Mitchell opencast and the north-eastern part of the main opencast, as well as possibly the 'Roman' opencast. The Roman author Pliny gives an account of mining using these methods, so that it is known that they were in use during the Roman period. A more concrete piece of evidence dating

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this opencast is the fact that the Cothi aqueduct bends around its completed profile, and should therefore be later, so that if the Cothi aqueduct is Roman (as it surely must be) then so is the Allt Cwmhenog pit. There is a slight possibility that the curving line of the aqueduct is a later re-use, which would of course upset this dating (see Cm 200/n). The Allt Cwmhenog opencast is area I of Cm 208.

The main features in the area 208 J are 'Tank B', Tank C and the washing tables; these are discussed under Cm 200/n. The scheduled area of Cm 200 as marked on the maplets is not in fact the line of the aqueduct, but since this area together with Cm 208 now covers all the features of importance, it seems unnecessary to move it.

The salient features of the area to the NW of J, including Cm 167, Cm 208 G and H, and part of Cm 205 are shown on plan 1. No.1 on this plan is the 'motte' Cm 167, discussed in detail there.

No.2, the Carreg Pumsaint, is a curious object. As seen today, it is an upright stone roughly square in cross section, with hollows in each side. The stone has been moved to its present position since it was first recorded in the early 19th century. It is normally explained as a stone on which the ore was crushed by hand, presumably by slave or convict labour in the Roman period. However, it bears a considerable resemblance to stones from the tin mining areas of Devon and Cornwall, normally interpreted as medieval, and the bases of early stamp mills. A stamp mill consists of a set of vertical rods with metal shoes at the bottom, held in a casing such as to allow them to move up and down but not sideways. Beneath them lies a stone such as the Carreg Pumsaint. The stamps are raised in turn and allowed to drop using a system of levers on a rotating beam set at right angles to them, some way off the ground. Pegs or blocks on this beam engage with blocks on the stamps to lift them, and as they disengage, the stamps fall. As far as is known, this machine is a medieval development not recorded in the Roman period. Nearby in the Rhododendron bushes lies the site of a possible mill (No.10), apparently fed by a leat from Tanks Y and Z (Nos 3 and 4), and ultimately from Tank P (No.5). Excavation would obviously be required at selected points to test this hypothesis.

The area in the rhododendrons (No.6) is rather difficult to interpret because of the dense vegetation, but it seems to consist of a number of trial pits and trenches, only two of which appear to go underground. A vertical opening may be a shaft, but is more probably an area of collapse. There are considerable scatters of quartz in this area too, suggesting that quartz veins were being followed by prospectors. The trial in Tank B (No.16 - more discussion under Cm 200/n) appears to belong to this group. These trials are impossible to date and could belong to any period from Roman to modern.

No.7 on plan 1 is an area of subsidence, presumably into part of the underground complex of workings. Minex tests have shown that it has still been falling in recent years, and it is now being used as a dump for debris generated from Minex teaching and development activities. No.12 was the site of one of the escape routes of the 20th century mine. It had been covered with corrugated iron which gave way in the 1970s and has recently (1986) been more permanently blocked. No.8 is a small opencast of unknown date. It may be associated with the possible mill (No.10), and its spoil may form the 'motte'. If this is the case, it would probably be pre-19th century, but this cannot be said with any certainty. The four small hollows No.9 and the possible leat and other features (No.13) are clearly artificial, but cannot be readily explained. Tank J (No.14) is quite a clear feature, but its connection with the water supply and its relationship with other features on the site is obscure. No.11 is the 'Roman' opencast; it clearly predates the 1880s, when the dump of material (No.15) was begun, and is quite probably much older.