

Coed Foeldinas, Dinas Mawddwy, Gwynedd

Asesiad Archeolegol / Archaeological Assessment



Ymddiriedolaeth Archaeolegol Gwynedd
Gwynedd Archaeological Trust

Coed Foeldinas, Dinas Mawddwy, Gwynedd

Asesiad Archeolegol / Archaeological Assessment

Yr Amgylchedd Hanesyddol yn Cofnodi Prif Gyfeirnod /
Historic Environment Record Event Primary Reference Number 46505

Prosiect Rhif / Project No. G2754

Adroddiad Rhif / Report No. 1675

Wedi'i baratoi ar gyfer / Prepared for: Cyfoeth Naturiol Cymru / Natural Resources Wales

Rhagfyr 2022 / December 2022

Ysgrifenydd gan / Written by: Jane Kenney

Delwedd clawr blaen / Front Cover image:
Oddi mewn i'r coedwig, ffordd rhan o PRN 99002 (G2754_010) / In the forest, trackway part of PRN 99002 (G2754_010)

Cyhoeddwyd gan Ymddiriedolaeth Archaeolegol Gwynedd
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Published by Gwynedd Archaeological Trust
Gwynedd Archaeological Trust
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Bangor, Gwynedd, LL57 2RT

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Approvals Table				
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Reviewed by	Document Reviewer	John Roberts		15/12/2022
Approved by	Principal Archaeologist	John Roberts		15/12/2022

Revision History			
Rev No.	Summary of Changes	Ref Section	Purpose of Issue

Coed Foeldinas, Dinas Mawddwy, Gwynedd: Archaeological Assessment

Project code: G2754

EPRN: 46505

CONTENTS

CRYNODEB ANNHECHNEGOL.....	1
NON-TECHNICAL SUMMARY.....	1
1 INTRODUCTION	2
2 ARCHAEOLOGICAL & HISTORICAL BACKGROUND	3
2.1 Introduction.....	3
2.2 The Forest.....	4
2.3 The Slate Quarrying.....	4
3 METHODOLOGY	6
3.1 Desk-based assessment.....	6
3.2 Walkover Survey.....	6
3.3 Report.....	6
3.4 Dissemination and Archiving.....	8
4 RESULTS.....	9
4.1 Introduction.....	9
4.2 Gazetteer	10
4.3 Discussion	46
5 RECOMMENDATIONS.....	47
6 SOURCES CONSULTED.....	48
FIGURES AND PLATES.....	50
Figures	50
Plates	50
Appendix I: List of sites in study area.....	51
Sites in Historic Environment Record (HER).....	51
Sites in National Monument Record (NMR).....	57
Appendix II	61

Gwynedd Archaeological Trust Photographic Metadata	61
Appendix III	65
Gwynedd Archaeological Trust Written Scheme of Investigation	65

CRYNODEB ANNHECHNEGOL

Mae Ymddiriedolaeth Archeolegol Gwynedd ei dirprwy gan Gyfoeth Naturiol Cymru i ymgymryd asesiad archeolegol ac arolwg ar droed ymlaen o waith cymyniad oddi mewn Coed Foeldinad, Dinas Maddwy. Yr aneliad o'r arolwg oedd diweddarau'r cofnod o safleoedd hysbys ac ychwanegu unrhyw wybodaeth newydd nag oedd yn y cofnod ynghynt. Cafodd yr arolwg ar droed ei chyflawni ar 23ain a 24ain o Dachwedd 2022.

Roedd mynediad i ran fwyaf o'r ardal yn brin oherwydd gorchuddiad y goedwig a llethrau serth ond cafodd rhan fwyaf o'r safleoedd hysbys ei arolygu a rhai nodweddion newydd ei dynodi. Roedd nodweddion cysylltiedig gyda llwybr chwarel cadarn yn dilyn i Chwarel Minllyn ei dynodi a nodweddion eraill yn gysylltiedig gyda'r chwarel ei arolygu. Roedd amryw o nodweddion yn ffurfio rhan o lonydd eraill a llwybrau trwy'r goedwig mewn defnydd fel ffordd di chwareli llechi arall, i'r goedwigaeth gynharach a mynediad a rheolaeth coedwigaeth ddiweddar. Mae'r ddarpariaeth dwr Dinas Mawddwy yn dod o du mewn i'r goedwig, gyda ffynhonnau a chronfeydd yn dyddio i'r 19eg ganrif ddiweddar i'r presennol hefyd ei chofnodi.

NON-TECHNICAL SUMMARY

Gwynedd Archaeological Trust was commissioned by Natural Resources Wales to undertake an archaeological assessment and walk-over survey in advance of felling work within Coed Foeldinas, Dinas Mawddwy. The aim of the survey was to update the record for the known sites and add any new information not previously recorded. The walk-over survey was carried out on 23rd and 24th November 2022.

Access to much of the area was limited due to the forest cover and steep slopes but known sites were inspected and some new features were identified. Features relating to a well-built quarry path leading to the Minllyn Quarry were identified and other features connected to the quarry were inspected. Several features formed parts of other trackways and footpaths through the forest used for access to other slate mines, for the early forestry and for more recent forest access and management. The water supply for Dinas Mawddwy comes from within the forest and springs and reservoirs dating from the late 19th century to the present were also recorded.

1 INTRODUCTION

Gwynedd Archaeological Trust (GAT) has been commissioned by Natural Resources Wales (NRW) to undertake an archaeological assessment of Coed Foeldinas, Dinas Mawddwy, Gwynedd (NGR SH856146 (central point) (Figure 1)), as part of a woodland management project. The project is required to design and deliver civil engineering infrastructure within the Dyfi North forest block west of the A470 at Dinas Mawddwy to facilitate the felling of larch trees infected by *Phytophthora ramorum*, and other conifers. The works require clear felling of trees within the main part of the forest and felling of larch alone in less accessible areas at the northern and southern limits of the forest (see Figure 2). Access for the works will require the existing upper forest track to be improved and the creation of armoured platforms, turning areas and stacking bays along the track. The trees will all be felled by hand but within the clear-felled area they will be removed using skyline plant; a winch system by which trees are dragged out.

The aim of the archaeological works is to mitigate the potential for damage to archaeological remains onsite and will be undertaken both prior to and concurrent with the programme of proposed felling.

The archaeological assessment comprises a desk-based assessment to identify known sites and a field visit to inspect the condition of known sites and identify new sites as possible within the safe access limits of the forest.

Subsequent mitigation will include marking out sensitive features before activity commences to ensure they are not harmed during works and a watching brief during felling operations to monitor the demarcated areas. The scope of these works will be included in a separate written scheme of investigation.

The desk-based assessment and site visit were undertaken during November 2022. This followed the Written Scheme of Investigation (Appendix III) and the following guidance:

- *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* Version 1.1 (The Welsh Archaeological Trusts, 2018);
- *Guidelines for digital archives* (Royal Commission on Ancient and Historical Monuments of Wales, 2015).
- *Management of Archaeological Projects* (English Heritage, 1991);
- *Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide* (Historic England, 2015);
- *Standard and Guidance for the Archaeological Investigation and Recording of Standing Buildings or Structures* (Chartered Institute for Archaeologists, 2020);
- *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (Chartered Institute for Archaeologists, 2020); and
- *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020).

2 ARCHAEOLOGICAL & HISTORICAL BACKGROUND

2.1 Introduction

See Figure 1 for location of sites. Sites are identified by their Primary Reference Number (PRN) if records are kept in the Gwynedd Historic Environment Record (HER) or their National Primary Reference Number (NPRN) if the record is from the National Monuments Record (NMR) or Coflein. PRNs and NPRNs are unique record identifiers in the relevant record.

In the medieval period Dinas was a township in the parish of Mallwyd in the commote of Mawddwy. Mawddwy was originally part of Powys, only becoming part of Merioneth in 1536 (Carr and Beverley Smith 2001, 151, 153). The term “dinas” has led in the past to speculation that Dinas Mawddwy was once a significant place with possibly a castle or walled town. There is no evidence, either historical or on the ground to support this, though the village was a corporate town with a mayor and burgesses (Barnwell 1868, 202).

There is surprisingly little prehistoric archaeology known in the area, though a Bronze Age burial cist was found not far from the limits of Coed Foeldinas (PRN 4144). This cist was exposed in 1875 while digging a drain for water pipes for the then new Buckley Arms Hotel. The capstone was found in place and when this was lifted a small urn and some cremated bones were discovered. The urn was kept by Sir Edmund Buckley, the lord of the manor of Mawddwy (Anonymous 1875, 195). Two other urns were said to have been previously found in the same area (RCAHMW 1921, 157). The only other prehistoric find in the general area is a perforated stone adze (PRN 4145).

It has been suggested that part of the Roman road from Brithdir to Long Mountain (PRN 17791) ran along the route now taken by the A470. There is little surviving evidence for this, but the route is reasonable (Hopewell 2005, 101; Hayman and Horton 2013, 7). There are no records of Roman finds in the area on the Gwynedd Historical Environment Record (HER) or the National Monument Record (NMR).

There is also little evidence of medieval activity other than the township of Dinas Mawddwy itself (PRN 3191). A wooden bowl formed in a rough piece of tree trunk was found in a bog somewhere near Dinas Mawddwy in the 18th century (PRN 4143). It was considered to be possibly a rustic font and had decorations carved on the top (Anonymous 1856, 291-93). This is recorded in the HER as Early Medieval, but it seems that its date is uncertain.

The vast majority of sites recorded in the HER and NMR are post-medieval or modern and include houses, inns and chapels in Dinas Mawddwy and Minllyn. Many of the sites are associated with the quarries in the area, particularly the Carlyle Slate and Slab Works.

There has been little archaeological work in Coed Foeldinas partly due to it having been forested since the mid-19th century, making inspection for sites difficult. The Dyfi Forest Archaeological Survey for Forest Enterprise (Wales) in 1999 included Coed Foeldinas (Price and Brooks 1999, map 2), but the survey concentrated on the remains of the slate quarrying in the southern plot, due to access issues in the rest of the forest. The quarry remains were also inspected in 2012 as part of the Royal

Commission on Ancient and Historical Monuments of Wales (RCAHMW) Uplands Initiative Project (Hayman and Horton 2013, 26-28).

Some small areas that were clear felled were inspected by GAT in 1988 (Figure 1). Area FW37 was described as steep and difficult to walk, but intensive survey produced archaeological sites. It was considered unlikely that there would be sites there due to the steepness of the terrain. Area FW38 was described as gentler terrain with a deep machine cut track across its southern part (HER, Events databases, FW Areas).

2.2 The Forest

Coed Foeldinas is shown as a plantation on the first edition 25-inch OS map of 1889, when it extended all around the northern and eastern flanks of Foeldinas (Figure 3). On the 1841 tithe map this area was common land and ffridd (Figure 4), so the forest was probably planted in the mid-19th century. More in-depth historical research would be necessary to determine exactly when the forest was planted and who by, but it is likely to have involved the Buckley family. Foeldinas was described as a “pine-covered hill” in 1893 (Ashton 1893, 10).

The 25-inch maps (Figures 3 and 5) show a complex of paths or tracks running through the forest, most of which are straight and are presumably forest access tracks. In the southern part of the forest some tracks are labelled as FP (footpath) and seem to be related to the Minllyn Quarry, providing pedestrian access to the quarry from Dinas Mawddwy.

An aerial photograph from 1948 (Plate 1) shows that all the forest west of Nant Dol-hir had been felled, leaving the present main body of the plantation. There were no available maps dating from between 1900 and 1949 (6-inch map revision), so the date of this extensive felling is not known. Photographs on APU Online (<http://aerialphotos.wales.gov.uk/>) and in Plates 2 and 3 show that the present northern plot and the southern extension over the slate quarry were added after 1969 and before 1986. The trees in both areas were well-developed by 1986, so they must have been planted in 1969 or soon after. However, a large part of the main plantation had been felled by 1986 and has since been replanted.

The current track for accessing the upper part of the plantation appears to have been built in the early 1960s and the lower forest road had been constructed by 1986.

2.3 The Slate Quarrying

Minllyn slate and slab quarry is on the western side of the Dyfi valley above Minllyn, just south of Dinas Mawddwy. The forest has been extended over the lower part of the quarry workings, including slate waste tips and processing areas (see Figures 3 and 5). The quarry was in business by 1845. Edmund Buckley invested in the quarry after 1856, including building a private railway to link to the Cambrian Railway. However, the quarry failed in 1871, but was relaunched as the Carlyle Slate and Slab Company in 1872. This was more successful, and continued until 1925 (Hayman and Horton 2013, 26). The quarry produced mainly slabs. An advert of 1893 states that the Minllyn Slate Co. made “billiard table

beds, chimney pieces, lavatories, cisterns, silos, steps, window sills, table tops, head stones, dairies, wine cellars, meat safes, butter and pastry slabs, advertisement tablets, electric fittings, mangers, flagging building stones and all kinds of enamelled slate work &c" (Ashton 1893, advert). However, roofing slates may also have been produced in the earlier period.

Minllyn Quarry was linked to Cae Abaty Quarry, just over the ridge to the west, by an incline system, which ran up and over a col. The incline was lightly laid and appears to have been powered by a hand-winch (Davidson *et al* 1994, 24; Gwyn 2015, 78, 140).

The earliest workings at Minllyn Quarry were underground but some of these were expanded into open pits. The underground workings still have much machinery surviving, including a steam boiler with pump (Davidson *et al* 1994, 24). Reservoirs, inclines, pillars to support compressed air pipes, tunnels and winding houses survive as well as the main quarry pits (Hayman and Horton 2013, 27-28).

A processing mill (PRN 99016) was built below the quarry pits and was described as new in 1845. It was powered by steam, making it one of the first slate mills in Wales to use steam power. The mill had two planers and three circular saws and was an integrated mill designed to process raw material into finished products. It may have been the first integrated mill in the Welsh slate industry. The quarry had limited commercial success in this early period due to its isolated location. The investment in the mill was possibly based on the assumption that Great Western Railway would build a main line through the valley, which did not happen (Gwyn 2015, 110, 111, 122; Davidson *et al* 1995, 19, Part 2, 141; Gwyn 1997, 15). The remains of the mill survive, along with the boiler house for the steam engine and its chimney (Plates 4 and 5).

The Carlyle Slate and Slab Company built a lower mill and slate warehouse on the valley floor, both of which still survive and are in use (Richards 1991, 172-3). The lower mill became a woollen factory, and the warehouse is now the Meiron Mill, which sells woollens. The lower workings, within the forest, appear to be mainly from the time of the Carlyle Slate and Slab Company and, as well as the quarries (PRNs 8202 and 8203), include slate waste tips, an adit (PRN 8208), an incline plane for a tramway (PRN 8206) and other tramways and inclines. An explosives magazine (PRN 93760) is shown on the maps, but it is not known if evidence of this survives.

Earlier quarrying in the area has been less well researched. The first edition 25-inch OS map shows some "Old Levels" around Foeldinas and within the forest (PRNs 96491, 93751, and NPRN 527526) and a slate quarry (PRN 20458), out of use by 1889 as it had a reservoir built inside it, which also had an "old level" (PRN 93756) below it. The "old levels" are likely to be adits to underground slate mines. NPRN 527526 has been inspected on the ground and has rock-cut entrance to an adit and a trackway leading to the spoil heap. PRN 96491 (NPRN 527421) has also been investigated on the ground and has a visible adit. These slate mines are all small and probably trial mines dug before the Minllyn Quarry was developed, when the best slate in the area was being sought. It is possible that other similar remains are unrecorded within the forest. They would have predated the planting of the forest in the mid-19th century.

3 METHODOLOGY

3.1 Desk-based assessment

The desk-based research was carried out prior to the walk-over survey to identify existing sites to be inspected during the survey. Information was obtained from regional Historic Environment Register (HER) at Gwynedd Archaeological Trust and from the National Monuments Record through the Coflein website. The 25-inch to 1-mile County Series Ordnance Survey maps (Merionethshire Sheet XXXVIII.8) were inspected in detail and the 6 inch to 1-mile maps were used to extend the chronological coverage. The tithe map and schedule for the parish of Mallwyd (1841) was consulted on the National Library of Wales Welsh Tithe Maps website. The online catalogues of the National Library of Wales and of Gwynedd Record Offices were consulted and any relevant leads were followed up. Aerial photographs were consulted on APU Online and copies of aerial photographs from the National Monuments Record now held by the HER were inspected, including Second World War photographs from RAF Medmenham. Light Detection and Ranging (LiDAR) data was also obtained from the Lle Geo-Portal. Unpublished reports held in the Gwynedd HER and other secondary sources were also consulted.

3.2 Walkover Survey

The walkover survey was undertaken on 23rd and 24th November 2022 by two GAT staff for safety in the steep terrain. The survey focused on the clear-felling and thinning areas but much of the area was inaccessible due to the steepness of the ground, dense forestry plantation or other undergrowth or steep and unstable slate waste heaps. The walk-over survey was therefore generally limited to areas immediately adjacent to the forest tracks, but a public footpath also provided access up through the forest. Large areas have therefore not been inspected on the ground and while much of this is probably too steep for archaeological sites to be present it is possible that unknown slate working exist within the forest. Old tracks run extensively through the forest, but these were only recorded and included in the gazetteer where they crossed an accessible route. Unauthorized access to the water supply infrastructure was forbidden, so detailed inspections of the reservoirs and related features was not possible.

A handheld Global Positioning System (GPS) unit was used to locate sites, but where tree cover was dense this was often inaccurate and map evidence has been used to improve the grid references given. However, most grid references cannot be assumed to be very precise. A photographic record was maintained in RAW format using a digital SLR set to maximum resolution (Nikon D3100; resolution: 4608 x 3072) and a photographic metadata table has been compiled in Excel and is included in the report as Appendix III.

3.3 Report

3.3.1 Gazetteer

The data from the desk-based assessment and the walk-over survey has been used to create a gazetteer of sites (section 4.2). The gazetteer has been prepared in the following format and includes:

Feature number	
Primary Reference Number	
Site name	
National Grid Reference	
Period	
Site type	
Assessment category	
Description	
Impact	
Recommendation	
Archive Image	

All features have feature numbers to identify them on Figure 2, but the recent and minor features have not been allocated Primary Reference Numbers.

3.3.2 Categories

The following categories have been used to define the assessment category of each archaeological asset:

- *Category A - Sites of National Importance:* Scheduled Monuments, Listed Buildings of grade II* and above, as well as those that would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both. Sites that are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.
- *Category B - Sites of regional or county importance:* Grade II listed buildings and sites which would not fulfil the criteria for scheduling or listing, but which are nevertheless of particular importance within the region. Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative.
- *Category C - Sites of district or local importance:* Sites which are not of sufficient importance to justify a recommendation for preservation if threatened. Category C sites nevertheless merit adequate recording in advance of damage or destruction.
- *Category D - Minor and damaged sites:* Sites that are of minor importance or are so badly damaged that too little remains to justify their inclusion in a higher category. For Category D sites, rapid recording, either in advance of or during destruction, should be sufficient.

- *Category E - Sites needing further investigation:* Sites, the importance of which is as yet undetermined and which will require further work before they can be allocated to categories A - D are temporarily placed in this category, with specific recommendations for further evaluation.

3.3.3 Impact

The impact of the proposed works on any asset will be identified using the following impact criteria, defined either as *none, slight, unlikely, likely, significant, considerable or unknown* as follows:

- *None:* There is no construction impact on this asset.
- *Slight:* This has generally been used where the impact is marginal and would not by the nature of the site cause irreversible damage to the remainder of the asset, *e.g.* part of a trackway or field bank.
- *Unlikely:* This category indicates sites that fall within the band of interest but are unlikely to be directly affected. This includes sites such as standing and occupied buildings at the margins of the band of interest.
- *Likely:* Sites towards the edges of the study area, which may not be directly affected, but are likely to be damaged in some way by the construction activity.
- *Significant:* The partial removal of an asset affecting its overall integrity. Assets falling into this category may be linear features such as roads or tramways where the removal of part of the feature could make overall interpretation problematic.
- *Considerable:* The total removal of an asset or its partial removal which would effectively destroy the remainder of the site.
- *Unknown:* This is used when the location of the asset is unknown but thought to be in the vicinity of the proposed works.

3.4 Dissemination and Archiving

Following the completion of the walkover survey, a programme of fieldwork archiving has been completed based on following task list:

1. Pro-formas: all cross referenced and complete;
2. Photographic images: archived in TIFF format; and
3. Photographic metadata: completed in *Microsoft Excel* for internal archiving.

This data has been used as the basis for the physical and digital dataset archives. The physical archive has been stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset has been stored on a dedicated Trust server, with the location confirmed

in the Trust project database via a specific hyperlink. The following dissemination and archiving have been applied:

- A digital report has been provided to the client and GAPS;
- A digital report has been sent to the regional Historic Environment Record, along with a digital dataset comprising an Event PRN summary. The report and dataset have been submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1).

The production of a digital and paper archive for external archiving will take place after the watching brief and other mitigation have been carried out and a final report produced. The archiving will follow the selection strategy in Appendix IV.

4 RESULTS

4.1 Introduction

Features relating to slate quarrying or mining activity have been given category B, as slate quarrying was an important industry in this area and of regional importance. Even if individual features appear minor, they are of significance within the wider landscape. The rest of the sites of local (category C) or minor (category D) importance. Apart from along the current forest track the works are likely to have a fairly limited impact on the features, though no trees should be dragged across category B features if this can be avoided.

As a large part of the area to be felled could not be accessed it is possible that there are other features of importance that might be revealed during the felling.

See Figure 2 for location of the features and Figures 6 and 7 for the features in relation to the first and second edition County Series maps.

4.2 Gazetteer

4.2.1 Feature 01: Old Quarry and reservoir

Feature number	01.1
Primary Reference Number	20458 and 93758
Site name	Old Quarry, West of, Dinas Mawddwy (Slate Quarry, Targwrmoel)
National Grid Reference	SH8552214866
Period	Post-Medieval
Site type	Slate Quarry
Assessment category	B
Description	The site is listed in the regional Historic Environment Record as “Trial associated with Minllyn. Remains: In forestry”. The quarry is shown as “Old Quarry” on the 1st and 2nd edition 25-inch OS maps, so it was out of use before 1889. A covered reservoir is now built inside quarry. Visited on 24/11/2022 but no unauthorized access to reservoir area. The quarry face is still visible but heavily over-grown.
Impact	Unlikely
Recommendation	Do not fell trees into the quarry as this risks damaging the reservoir



Old quarry with covered reservoir inside from NW
(archive reference: G2754_0077)

Feature number	01.2
Primary Reference Number	93757
Site name	Reservoir, South of, Dinas Mawddwy
National Grid Reference	SH8553314869
Period	Post medieval
Site type	Reservoir
Assessment category	D
Description	A small rectangular reservoir in the base of the disused quarry is shown on both the 1st and 2nd edition 25-inch OS maps, so it was built by 1889. The reservoir has since been entirely rebuilt is now a covered reservoir that entirely fills the quarry. The reservoir is marked as disused on the OS digital mapping, but it is definitely still in use and supplies water to Dinas Mawddwy. Visited 24/11/2022 but reservoir area not accessed.
Impact	None
Recommendation	Do not fell trees into the quarry as this risks damaging the reservoir



Covered reservoir inside the old quarry from NW (archive reference: G2754_0076)

Feature number	01.3
Primary Reference Number	93756
Site name	Level, West of, Dinas Mawddwy
National Grid Reference	SH8555314900
Period	Post medieval
Site type	Quarry level
Assessment category	B
Description	Marked as "Level" on the 1st edition 25-inch OS map, and as "Old level" on 2nd edition map. The representation on the maps suggests waste tips from quarry PRN 93758, with a small three-sided structure in the middle of the heaps. Area inspected on 24/11/2022 but this site was too overgrown to see anything or to access.
Impact	None
Recommendation	None
No photographs	

4.2.2 Feature 02: Old Level

Feature number	02
Primary Reference Number	93751
Site name	Old Level, South of, Dinas Mawddwy
National Grid Reference	SH8539314623
Period	Post-Medieval
Site type	Quarry level
Assessment category	B
Description	The site is listed in the regional Historic Environment Record as “Old level marked on the 1st edition OS map 1889. Feature is also marked on the 2nd edition OS map 1900”. When the area was visited on 23/11/2022 the site was too overgrown and down too steep a slope for access to be possible. The maps show what is probably a slate quarry waste heap. Grid reference corrected to actual location shown on maps.
Impact	Likely
Recommendation	Record location and character of the site after felling if it more visible and accessible. Avoid damage to any upstanding structures during felling.
No photographs	

4.2.3 Feature 03: Springs, water supply

Feature number	03.1
Primary Reference Number	93753
Site name	Springs, West of, Dinas Mawddwy
National Grid Reference	SH8523115026
Period	Post-Medieval
Site type	Spring
Assessment category	C
Description	Natural springs shown on 1st and 2nd edition 25-inch OS maps. When the area was visited on 24/11/2022 the area was inaccessible due to being heavily overgrown. The natural springs, if they still exist, are within a fenced off enclosure. The water has been tapped as the village water supply, see PRN 98999.
Impact	Likely
Recommendation	Record location and character of the site after felling if it more visible and accessible. Avoid damage to any potential upstanding structures during felling.
No photographs	

Feature number	03.2
Primary Reference Number	98999
Site name	Spring, Coed Foeldinas
National Grid Reference	SH8525215041
Period	Modern
Site type	Spring
Assessment category	D
Description	The natural spring near this location has been constrained and covered so that it can supply water for Dinas Mawddwy. There is a brick and concrete structure with a locked hatch and a smaller concrete access point nearby. Concrete steps with guard rails lead up from the forest road to the fenced enclosure with the covering structure in the corner. Visited 24/11/2022.
Impact	Likely
Recommendations	Avoid



Structure over water intake and concrete access steps from E (archive reference: G2754_0063)

4.2.4 Feature 04: Reservoir and water treatment works

Feature number	04
Primary Reference Number	93754
Site name	Reservoir, South of, Dinas Mawddwy
National Grid Reference	SH8576814511
Period	Modern
Site type	Reservoir
Assessment category	C
Description	A small rectangular reservoir is shown on the 2nd edition 25-inch OS map but not on the 1st edition, so it was probably built just before 1900. It is marked as "reservoir (Mallwyd U.D.C. Water Works)". The reservoir appears slightly larger on the aerial photographs than on the early maps, so it has probably been rebuilt but it is still a small rectangular covered reservoir and is still in use. A water treatment works has been built below the reservoir with steps up from the works to the reservoir. Visited on 24/11/2022 but no access to see the reservoir.
Impact	Likely
Recommendation	Avoid



Water works building with steps up to the reservoir from SE (archive reference: G2754_0082)

4.2.5 Feature 05: Stone marked on maps

Feature number	05
Primary Reference Number	93755
Site name	Stone, South of, Dinas Mawddwy
National Grid Reference	SH8566114585
Period	Unknown
Site type	Stone
Assessment category	E
Description	A stone, probably a boundary marker, is shown on the 1st edition 25-inch OS map (1889), but is no longer shown on the 2nd edition map (1900). The site is on a steep slope within dense forestry and was not accessible when the area was visited on 23rd and 24th November 2022. There is only one stone marked. PRN 93784 is presumably a duplicate entry.
Impact	Likely if the stone still exists
Recommendation	Inspect area to search for the stone after felling. If the stone still survives avoid damage during felling and record location and character of the site.
No photographs	

4.2.6 Feature 06: Quarry reservoir

Feature number	06
Primary Reference Number	99000 (NPRN 527503)
Site name	Reservoir, Minllyn Slate Quarry
National Grid Reference	SH8538114016
Period	Post-Medieval
Site type	Reservoir
Assessment category	B
Description	Small reservoir shown on 2nd edition 25-inch OS map but not on the first edition. Recorded as part of RCAHMW Uplands Initiative Project in 2012 (NPRN 527503), when it was half obscured by the forestry plantation, but was measured as approximately 15m x 10m and seen to be fed by a leat from the west (NPRN 527488). When the area was visited on 23/11/2022 the vicinity of the reservoir was overgrown with forest, and it was not inspected.
Impact	Significant
Recommendation	Record location and character of the site after felling if it more visible and accessible. Avoid damage to any upstanding structures during felling.
No photographs	

4.2.7 Feature 07: Water channel and sluice

Feature number	07
Primary Reference Number	99001
Site name	Water channel, Minllyn Slate Quarry
National Grid Reference	SH8546913912
Period	Post-Medieval
Site type	Water channel
Assessment category	B
Description	A water channel with it a sluice at its western end is shown on 2nd edition 25-inch OS map but it appears to now be buried under a high waste heap. Site inaccessible when area visited on 23/11/2022.
Impact	Slight
Recommendation	Record location and character of the site after felling if it more visible and accessible. Avoid damage to any upstanding structures during felling.
No photographs	

4.2.8 Feature 08: Water Pipe

Feature number	08
Primary Reference Number	Not assigned a PRN
Site name	Water pipe, Coed Foeldinas
National Grid Reference	SH85314 14748
Period	Modern/ post medieval
Site type	Pipe
Assessment category	D
Description	Cast iron pipe about 16cm (6 1/4 inches) diameter running across forestry track next to a small stream. The 1st and 2nd edition 25-inch OS maps show the stream doing a sharp diversion here and the pipe may have carried the stream for a short distance. This was before a track was built in this location and it is not obvious from the maps why this diversion occurred. The map evidence and the pipe may be the only trace of some earlier structure here.
Impact	Considerable
Recommendation	Inspect area when improving the track for any evidence of any structure related to the pipe.



Cast iron water pipe crossing the forest track from SE (archive reference: G2754_0004)

4.2.9 Feature 09: Trackway

Feature number	09.1
Primary Reference Number	99002
Site name	Trackway, Coed Foeldinas
National Grid Reference	SH8546414510
Period	Post medieval
Site type	Trackway
Assessment category	C
Description	Part of a footpath shown on 1st and 2nd edition 25-inch OS maps. This seems to have been used as an access track when the forest was first planted but is marked on the maps as a footpath. It is much less regular than other forest tracks of this period on the maps and it seems to join the old quarries so probably originally a track for the quarries. Much of this track probably still survives but it is currently largely inaccessible in the forest. Feature 09.1 is where the modern forestry track cuts the earlier track, which can be seen benched into the hillslope and is about 3m wide. It slopes fairly steeply downhill from SSE to NNW. Stone can be felt just under the turf, so the track either has its original stone surface or was cut into bedrock.
Impact	Significant
Recommendation	Record track in more detail once vegetation has been cleared. If possible, locate using a survey quality GPS and investigate as far down the track as safely accessible once the trees have been felled.



Looking up the trackway from N

(archive reference: G2754_0006)

Feature number	09.2
Primary Reference Number	99002
Site name	Trackway, Coed Foeldinas
National Grid Reference	SH8548314423
Period	Post medieval
Site type	Trackway
Assessment category	C
Description	Part of a track shown on 1st and 2nd edition 25-inch OS maps. Used as forestry track when the forest was first planted but much less regular than other forest tracks of this period on the maps and it seems to join the old quarries so probably originally a track for the quarries. Much of this track probably still survives but it is currently largely inaccessible in the forest. Feature 09.2 is where the modern forestry track cuts the earlier track, which can be seen benched into the hillslope and is about 3m wide. It runs from this point to the south, roughly along the contours. Stone can be felt just under the turf, so the track either has its original stone surface or was cut into bedrock. There is a slight bank on the downhill side of the track.
Impact	Significant
Recommendation	Record track in more detail once vegetation has been cleared. If possible, locate using a survey quality GPS and investigate as far down the track as safely accessible once the trees have been felled.



Looking along the trackway from NE
(archive reference: G2754_0011)

4.2.10 Feature 10: Modern forest trackway

Feature number	10.1
Primary Reference Number	Not assigned a PRN
Site name	Modern forest trackway
National Grid Reference	SH8547714448
Period	Modern
Site type	Trackway
Assessment category	D
Description	Current access to the upper part of the plantation is by a recent forest track which has been benched into the hill slope and is about 3m wide, though in places where it ascends the hill it is about 6m wide. This track reuses part of the Quarry Path (PRN 99004), then ascends the hill with hairpin bends and runs along the upper part of the planation on a newly cut route that cuts across the earlier track (PRN 99002). The track curves at its northern end to finish against the boundary with the open moorland. This end is very wet. This track is shown on an aerial photograph of 1962 as a bright, newly created track, so it seems to have been built in the early 1960s.
Impact	Considerable
Recommendation	Inspection of areas to the sides of the track as vegetation is cleared to identify any features not previously visible.



Modern forest trackway showing where it cuts through a rock outcrop in the upper part of the plantation, from NE (archive reference: G2754_0009)

Feature number	10.2
Primary Reference Number	Not assigned a PRN
Site name	Rock cut drainage channel
National Grid Reference	SH85405 14095
Period	Modern
Site type	Drainage channel
Assessment category	D
Description	Rock cut channel about 1m wide and up to 1m deep, running down from NNE to SSW. Heavily over-grown. Next to this on the downhill side is a flat area. The channel carries on the line of the forestry track and the flat area is at the point of the hair-pin bend. The channel is almost certainly to drain the recent track and the flat area was presumably caused by creating machine access to dig the channel.
Impact	Significant
Recommendation	Inspection of area around the channel as vegetation is cleared to identify any features not previously visible.



Rock cut channel to drain modern forestry track, from S (archive reference: G2754_0014)

Feature number	10.3
Primary Reference Number	Not assigned a PRN
Site name	Rock cut drainage channel
National Grid Reference	SH8559614162
Period	Modern
Site type	Drainage channel
Assessment category	D
Description	Rock cut channel about 1m wide and up to 1m deep, running down from SW to NE into a small natural ravine. Heavily over-grown. Next to this on the downhill side is a flat area. The channel carries on the line of the forestry track and the flat area is at the point of the hair-pin bend. The channel is almost certainly to drain the recent track and the flat area was presumably caused by creating machine access to dig the channel.
Impact	Significant
Recommendation	Inspection of area around the channel as vegetation is cleared to identify any features not previously visible.



Rock cut channel to drain modern forestry track, from S

(archive reference: G2754_0014)

Feature number	10.4
Primary Reference Number	Not assigned a PRN
Site name	Rock cut drainage channel
National Grid Reference	SH8551113982
Period	Modern
Site type	Drainage channel
Assessment category	D
Description	A rock cut channel about 1m wide running downhill from NE to SW and emptying into the stream gorge. This is the same as the other channels draining the forestry track but stops next to the quarry path and does not join through to the forestry track, so in its present state could not drain the track. Presumably it originally continued, and this area has been backfilled, as a footpath now runs up the quarry path and the channel would have blocked that. There is too much undergrowth to confirm this.
Impact	Significant
Recommendation	Inspection of area around the channel as vegetation is cleared to identify any features not previously visible.



Rock cut channel to drain modern forestry track, from NE

(archive reference: G2754_0044)

4.2.11 Feature 11: Pathway

Feature number	11
Primary Reference Number	99003
Site name	Pathway, Coed Foeldinas
National Grid Reference	SH8553314006
Period	Post-medieval
Site type	Pathway
Assessment category	C
Description	A shallow gully runs directly down slope with low banks about 2m wide on each side. Trees grow on the banks and in the gully, but none are very old. This was initially assumed to be remains of drainage ridges from the initial plantation of the area, but it coincides with a track or path shown on the 1st and 2nd edition 25-inch maps. The path runs directly downhill at this point, and it is concluded that the gully and banks are the remains of this track or footpath. The steepness of the route suggests that this was a footpath, but it was clearly a constructed path like many in the wood.
Impact	Significant
Recommendation	Minimise damage from dragging felled trees over this area. Record route after felling.
 Pathway in forest, from SE (archive reference: G2754_0017)	

4.2.12 Feature 12: Quarry Path

Feature number	12.1
Primary Reference Number	99004
Site name	Quarry Path, Coed Foeldinas
National Grid Reference	SH8547914003
Period	Post-medieval
Site type	Pathway
Assessment category	B
Description	The 1st and 2nd edition 25-inch OS maps show a track or footpath from Dinas Mawddwy to the upper mill in the Minllyn Quarry. This has been partially cut away by the recent forestry track but beyond this survives well as a benched track about 3m wide. At SH8550613994 it ascends a steep rocky section, and presumably there were steps here that have been entirely destroyed. At SH8540813999 the maps show the route zig-zagging up the slope and a structure survives here that must be the remains of steps (see PRN 99005). The route crosses a small bridge (PRN 99006) and leads directly to the north-eastern entrance to the upper mill (PRN 99016). The presence of the zig-zags and steep stepped sections shows that this was a footpath and not a track for vehicles or a tramway, but it was wide and well-constructed.
Impact	Likely
Recommendation	Minimise damage from dragging felled trees over this area. Record route after felling.

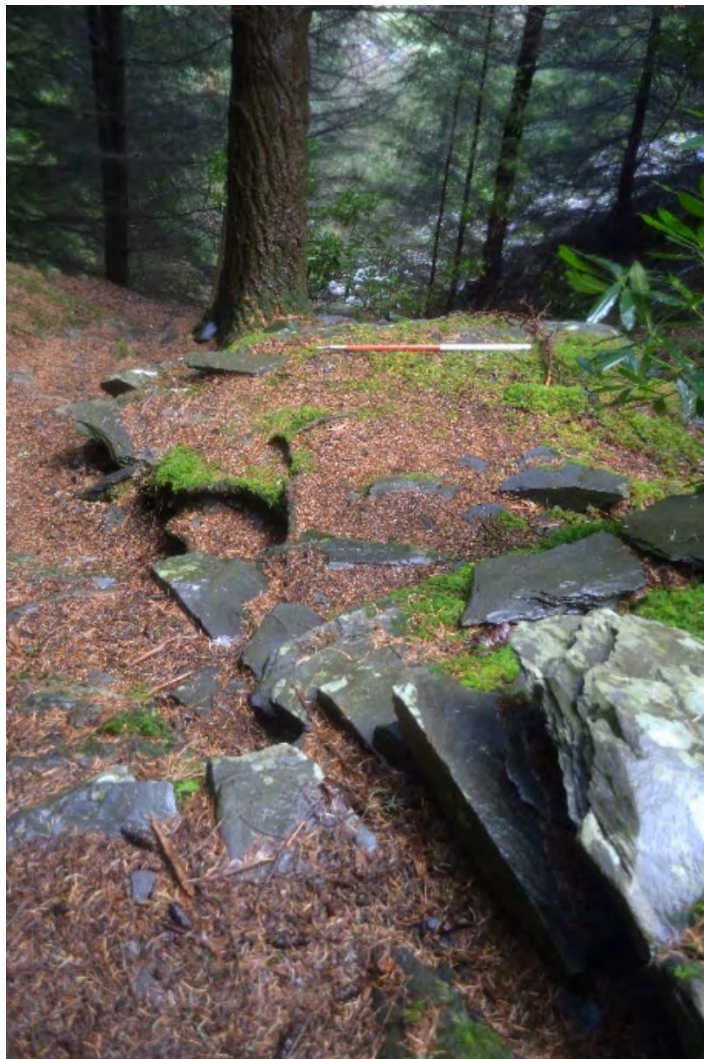


Quarry Path, from ESE
(archive reference:
G2754_0019)

Feature number	12.2
Primary Reference Number	99005
Site name	Quarry Path Steps, Coed Foeldinas
National Grid Reference	SH8540813999
Period	Post-medieval
Site type	Steps
Assessment category	B
Description	A stone structure survives built against the hill slope. It is about 3m wide, aligned W-E and is constructed of large slabs. It survives to nearly 2m high on the SW, downhill side, where the face is of fairly well-built drystone work typical of the quarry. It runs for approximately 20m then seems to end. The surviving surface steps down but no slabs that seem to have actually been used as steps were identified, so the original surface seems to have been lost. Below the structure are numerous slabs that have fallen from it. The Quarry Path (PRN 99004) runs ENE to WSW, to end just below this structure and a zig-zag to the north would be needed to join the track to this structure. Just such a zig-zag is shown on the maps and this structure is clearly part of the track/footpath (PRN 99004). The structure must be the remains of a well-built revetment to support steps ascending this steep section of the hill.
Impact	Likely
Recommendation	Avoid damage to the structure. Do not fell onto the structure or drag trees across it. Record more fully after felling.



Quarry Path steps from the side, from S (archive reference: G2754_0023)



Quarry Path steps from top, from NW
(archive reference: G2754_0021)

Feature number	12.3
Primary Reference Number	99006
Site name	Foot Bridge, Coed Foeldinas
National Grid Reference	SH8540014002
Period	Post-medieval
Site type	Bridge
Assessment category	B
Description	A narrow bridge formed by a single large slab (c.1.5m by 0.75m and 0.18m thick) placed on drystone piers. The edge of the slab is worn and scratch marks are visible, possibly from hobnails. A long thin slab is placed on the uphill side of the bridge, possibly forming a kerb. A similar kerb may have been present on the downhill side to stop pedestrians slipping off the bridge. The stream that passes under the bridge runs in a narrow ravine which is partially filled with slate waste from an adjacent tip. This runs from the reservoir (PRN 99000). The stream disappears into the slate waste below the bridge, but the maps suggest there was a channel to take the stream, which probably still exists buried under slate waste. The narrowness of the bridge and the lack of any trace of rails suggest that this was a foot bridge. The Quarry Path (PRN 99004) ran to the bridge, but the maps also show a path from the north-east, which could not be seen on the ground.
Impact	Likely
Recommendation	Avoid damage to the bridge. Do not fell onto the bridge or drag trees across it. Record more fully after felling.
 Wear on the edge of the bridge possibly from hobnail boots, from ENE (archive reference: G2754_0029)	



Bridge on the Quarry
Path, from SE (archive
reference: G2754_0028)

Feature number	12.4
Primary Reference Number	99007
Site name	Part of Quarry Path, Coed Foeldinas
National Grid Reference	SH8560714004
Period	Post-medieval
Site type	Pathway
Assessment category	C
Description	A narrow terrace about 1m wide partly cut away by the forestry track, which is about 3m below the terrace. The terrace appears to be the remains of a benched path and is likely to be part of the original quarry path that led to the upper mill (PRN 99016). However, the 25-inch maps show the quarry path as being deeply cut into the slope at this point, so it is possible that the terrace belongs to an earlier version of the path. The terrace can be seen from at least SH85580 13990 to SH85631 14031, but it is overgrown and less visible at its upper end.
Impact	Significant
Recommendation	Ideally avoid widening the forest track at this point.



Terraced pathway with forest track below, from SW (archive reference: G2754_0046)

4.2.13 Feature 13: Waste tip/tramway

Feature number	13
Primary Reference Number	8215
Site name	Waste tramway, Minllyn Slate and Slab Quarry, Mawddwy
National Grid Reference	SH85381395
Period	Post-medieval
Site type	Railway
Assessment category	B
Description	A linear waste heap on which a tramway would have run. Now forms part of an open plateau on the top of the combined waste heaps but the flat surface where the tramway would have run is still visible. This ends at SH85435 13923, where waste would have been tipped from the end of the tramway. There is a high steep tip face at this point. The route of the tramway is shown on the 1st and 2nd edition 25-inch maps, but it changed between the maps and the earlier route is buried under the tipping from the later route.
Impact	Likely
Recommendation	Minimise damage from dragging felled trees over this area. Record route after felling.



Route of waste tramway, from SW (archive reference: G2754_0039)



End of waste tip, from NE (archive reference: G2754_0040)

4.2.14 Feature 14: Waste tip/tramway

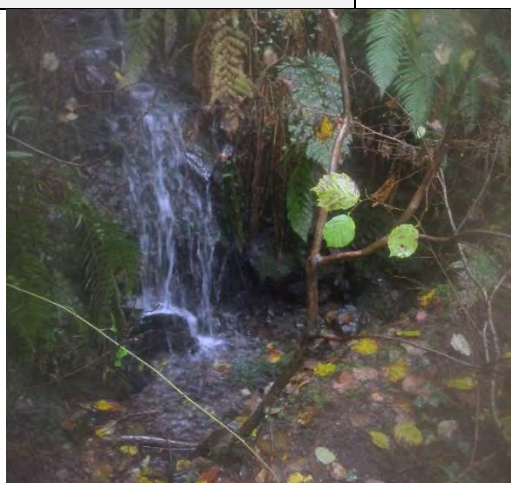
Feature number	14
Primary Reference Number	8216
Site name	Waste tramway, Minllyn Slate and Slab Quarry, Mawddwy
National Grid Reference	SH85401397
Period	Post-medieval
Site type	Railway
Assessment category	B
Description	A linear waste heap on which a tramway would have run. Now forms part of an open plateau on the top of the combined waste heaps but the flat surface where the tramway would have run is still visible. Overgrown with trees and other vegetation. The route of the tramway is shown on the 1st and 2nd edition 25-inch maps, but it changed between the maps and the earlier route is buried under the tipping from the later route.
Impact	Likely
Recommendation	Minimise damage from dragging felled trees over this area. Record route after felling.



The point at which the waste tramways PRN 8215 and 8216 merge, PRN 8216 on the right, from E (archive reference: G2754_0037)

4.2.15 Feature 15: Culvert

Feature number	15
Primary Reference Number	99008
Site name	Culvert, Coed Foeldinas
National Grid Reference	SH8563514037
Period	Post-medieval
Site type	Culvert
Assessment category	C
Description	A stream crosses under the forestry track at this point. It flows into a small dug pit from which a culvert takes it under the track. The face of the culvert is constructed of slate slabs in neat drystone work, and it appears to have a slate slab as a lintel but was too full of debris to be sure. This side of the culvert is higher than the level of the forestry track and the stream flows out the other side of the track through a concrete pipe. The culvert was probably constructed for the Quarry Path (PRN 99004), which was slightly higher than the current track. When the latter was created it would have dug through part of the culvert and the pipe was inserted to take the stream under the new track. The stream is shown on the 25-inch OS maps stopping at the path, so the culvert may have taken the stream underground for some distance.
Impact	Considerable
Recommendation	Obtain more detailed record of this feature if it is to be destroyed during the track improvement work.



Stream running into the culvert and face of culvert (archive reference: G2754_0050 and G2754_0050)



4.2.16 Feature 16: Trackway

Feature number	16
Primary Reference Number	Not assigned a PRN
Site name	Trackway, Coed Foeldinas
National Grid Reference	SH8570614128
Period	Modern
Site type	Trackway
Assessment category	D
Description	An overgrown benched track, about 3m wide, was seen at this point where it meets the forestry track. This was similar to the other earlier forest tracks that can be seen in the plantation, but an aerial photograph shows that in 1962 a forest track ran above the route of the current lower forest road, before the latter was built. This feature seems to be the early 1960s forest track. It is not shown on 25-inch OS maps but is the only track visible on the available Lidar, suggesting its late date (Figure 8).
Impact	Likely
Recommendation	None



Start of trackway, from S (archive reference: G2754_0053)

4.2.17 Feature 17: Borrow pit

Feature number	17
Primary Reference Number	99009
Site name	Borrow pit, Coed Foeldinas
National Grid Reference	SH8581214292
Period	Modern
Site type	Borrow Pit
Assessment category	D
Description	A borrow pit with a vertical face where slatey material has been dug out probably for the modern forestry track. In the section the material resembles densely packed small pieces of slate waste. It loose and has no matrix and is clearly not shaley bedrock. It is possible that the borrow pit is dug into an old slate waste tip that is otherwise invisible due to the vegetation.
Impact	Unlikely
Recommendation	Investigate area after felling to determine if there is any trace of early quarrying.



Borrow pit, possibly dug through slate waste heap, from E (archive reference: G2754_0055)

4.2.18 Feature 18: Trackway

Feature number	18
Primary Reference Number	99010
Site name	Trackway, Coed Foeldinas
National Grid Reference	SH8520815061
Period	Post-medieval
Site type	Trackway
Assessment category	C
Description	Benched track running ESE to WNW, about 3m wide. Now overgrown. One of the early forest tracks shown on the 1st and 2nd edition 25-inch maps.
Impact	Likely
Recommendation	Minimise damage while extracting trees, record after felling.



Start of overgrown trackway, from ESE (archive reference: G2754_0064)

4.2.19 Feature 19: Pathway

Feature number	19
Primary Reference Number	99011
Site name	Path, Coed Foeldinas
National Grid Reference	SH8514215017
Period	Post-medieval
Site type	Path
Assessment category	C
Description	The public footpath through the plantation runs on a slightly different line to that shown on the modern mapping. It takes advantage of the remains of one of the earlier forest paths that contours along the hillside. This forest path is shown on the 1st and 2nd edition 25 inch maps and survives as a fairly narrow benched path.
Impact	Likely
Recommendation	Minimise damage while extracting trees, record after felling.



Footpath along earlier benched path, from W
(archive reference: G2754_0067)

4.2.20 Feature 20: Pit (disused)

Feature number	20
Primary Reference Number	99012
Site name	Pit (disused), Coed Foeldinas
National Grid Reference	SH8487814975
Period	Post-medieval
Site type	Pit/quarry?
Assessment category	E
Description	The modern 1:10,000 map indicates a "Pit (dis)" in this area. This is not precisely located on the map, but a search of the area failed to reveal any convincing traces that there had ever been any quarrying work here. Some gullies running down the steep hillside appeared to be the result of natural erosion, and this had washed some slate material out on to the path by the forest but there was not enough for this to be from a slate waste tip. The 1st and 2nd edition 25-inch OS maps do not show any quarrying in this location. It is possible that the pit remains undiscovered within the forest, but this seems unlikely.
Impact	Unknown
Recommendation	None



Erosion gullies running down the hill near location of "Pit (dis)", from SW (archive reference: G2754_0073)

4.2.21 Feature 21: Pit (disused)

Feature number	21
Primary Reference Number	99013
Site name	Pit (disused), Coed Foeldinas
National Grid Reference	SH8548914988
Period	Post-medieval
Site type	Pit/quarry?
Assessment category	E
Description	The modern 1:10,000 map indicates a "Pit (dis)" in this area. This is not precisely located on the map, but a search of the area failed to reveal any convincing traces that there had ever been any quarrying work here. The area is however heavily wooded and overgrown. The 1st and 2nd edition 25-inch OS maps do not show any quarrying in this location. It is possible that the pit remains undiscovered within the forest.
Impact	None
Recommendation	None
No photographs	

4.2.22 Feature 22: Pit (disused)

Feature number	22
Primary Reference Number	99014
Site name	Pit (disused), Coed Foeldinas
National Grid Reference	SH8490815088
Period	Post-medieval
Site type	Pit/quarry?
Assessment category	E
Description	The modern 1:10,000 map indicates a "Pit (dis)" in this area, but the 1st and 2nd edition 25-inch OS maps do not show any quarrying here. Other sites labelled in this way in the forestry but lacking evidence from the 25-inch maps have been investigated and no quarrying found, so it is suspected that there is nothing here.
Impact	Unknown
Recommendation	Inspect area after felling to determine if there is a quarry pit here.
No photographs	

4.2.23 Feature 23: Pit (disused)

Feature number	23
Primary Reference Number	99015
Site name	Pit (disused), Coed Foeldinas
National Grid Reference	SH8557414305
Period	Post-medieval
Site type	Pit/quarry?
Assessment category	E
Description	The modern 1:10,000 map indicates a "Pit (dis)" in this area, but the 1st and 2nd edition 25-inch OS maps do not show any quarrying here. Other sites labelled in this way in the forestry but lacking evidence from the 25-inch maps have been investigated and no quarrying found, so it is suspected that there is nothing here. However, the suggestion that there may be a slate waste heap below this point (see PRN 99009) means that this area is worth inspecting for quarrying evidence.
Impact	Unknown
Recommendation	Inspect area after felling to determine if there is a quarry pit here.
No photographs	

4.3 Discussion

The degree of undergrowth and fallen trees means that it is not immediately obvious which features are modern and which relate to earlier phases of forest management or to the quarrying. The location of very overgrown drainage channels (features 10.1 to 10.4) showed that they were related to the modern forestry track and are not early features. However, there are several features relating to the earlier Quarry Path (feature 12), part of which has been removed by the forest track, but part survives well. The remains of a revetment for steps (feature 12.2) and a small footbridge (feature 12.3) add to the understanding of how the landscape functioned when the Minllyn Quarry was working. The Quarry Path leads directly to the north-eastern entrance of the upper mill (PRN 99016) in the Minllyn Quarry. This entrance was for the removal of mill waste (Gwyn 2015, 111), but was presumably also used for access by the quarrymen, who walked up from Dinas Mawddwy. The steep zig-zag steps and a lower steep section, which presumably also had steps, shows that this route was for pedestrians and was not used to remove the slate waste, despite the route being well built and in places resembling an access track for vehicles.

Known and possible locations of slate mines within the forest could not be investigated so these must be recorded once felling has improved access.

Early forest tracks are of interest to show how the forest was managed in the 19th century, but they are well represented on the maps. Some damage to these during felling will not significantly reduce their archaeological value. However, a track in the upper part of the forest (feature 09) appears likely to have been used to access the trail slate mines before the forest was planted. This would be worth further recording and inspection near its route to identify any other features currently obscured by trees.

The water supply system for Dinas Mawddwy and its origin in the late 19th century is of local interest. The walk-over survey made it clear how the water from the springs was collected and fed to the reservoirs and down to the water treatment works. Water collection was done on a smaller scale in the 19th century, but these water supply sites are still being used for their original function.

5 RECOMMENDATIONS

A survey of archaeological sites in the Dyfi Forest in 1999 stated that “Analysis of the archaeological record in Wales indicates that there is a serious deficiency in archaeological knowledge in forest areas. This is a legacy of extensive planting in the post-war period before the creation of the Sites and Monuments Records and at a time when there was little systematic archaeological survey” (Price and Brooks 1999, 1). Their survey helped to correct this, but the presence of dense plantation means that identification of archaeological sites is still problematic within Coed Foeldinas. This assessment has identified previously known sites and others that are relatively easily seen within the plantation. It could not identify all sites that might be visible on the ground surface once an area is cleared, never mind those that are buried.

Identified sites that are at risk of damage during the felling works should be marked by an archaeologist before felling takes place. The sites that are worth marking in this way are those relating to the Quarry Path (feature 12). An archaeological watching brief should take place on groundworks extending beyond the current limit of the modern forest track (feature 10), but it is unlikely that new features will be visible until after trees have been felled and removed. Time should be spent inspecting accessible areas after felling to identify new sites, rather than continuously monitoring the felling work. When the trees have been felled it will be possible to locate sites more precisely as GPS units will work more accurately. If detailed Lidar data is available this will allow historic tracks and paths to be plotted without having to do detailed survey on the ground.

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County Series 25-inch to 1 mile map Meirionethshire sheet XXXVIII.12 First (1889) and Second (1900) Edition Ordnance Survey maps

6-inch to 1 mile map Meirionethshire sheet XXXVIII NE (1954)

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Coflein (The National Monuments Record online): <https://coflein.gov.uk/en/>

Welsh Tithe Maps (National Library of Wales): <https://places.library.wales/>

Lle Geo-Portal: <http://lle.gov.wales/home>

FIGURES AND PLATES

Figures

Figure 1. Location of Coed Foeldinas and HER and NMR sites in the area

Figure 2. Features identified within the forestry and felling areas

Figure 3. First edition 25-inch County Series map, part of Merionethshire sheets XXXVIII.8 and XXXVIII.12, 1888 and 1889

Figure 4. Tithe map of the parish of Mallwyd in the Counties of Merioneth and Montgomery (1841) (Welsh Tithe Maps, National Library of Wales <https://places.library.wales>)

Figure 5. Second edition 25-inch County Series map, part of Merionethshire sheets XXXVIII.8 and XXXVIII.12, 1901

Figure 6. Features identified compared to first edition 25-inch map

Figure 7. Features identified compared to second edition 25-inch map

Figure 8. 1m DTM (digital terrain model) Lidar from Lle Geo-Portal covering Coed Foeldinas (forestry boundary in red)

Plates

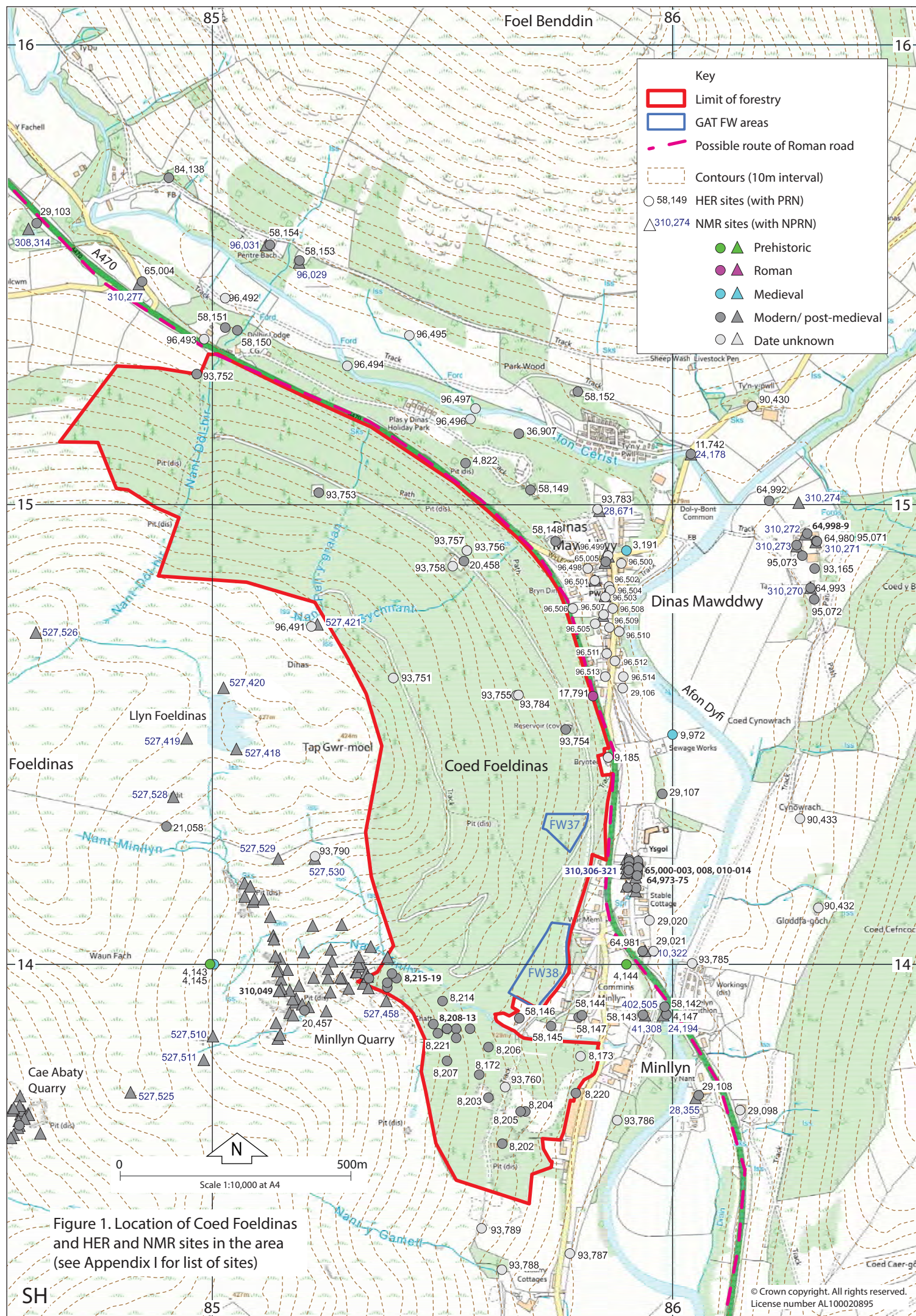
Plate 1. Aerial photograph from 1948 showing Coed Foeldinas, north to left (Welsh Government Library No. 4801, sortie no. 540 RAF 25, date 06/05/1948)

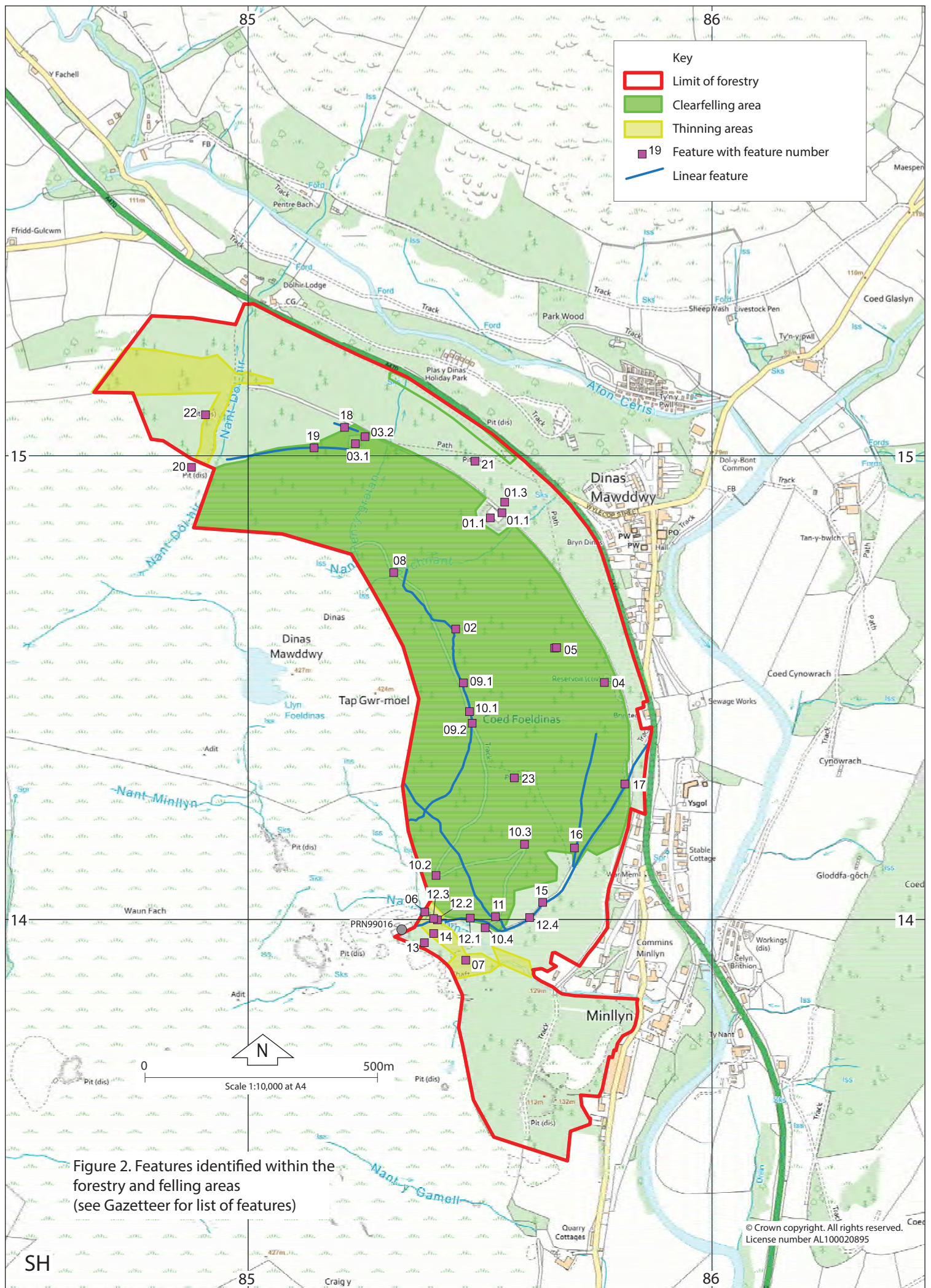
Plate 2. Aerial photograph from 1962 showing Coed Foeldinas, north to left (Welsh Government Library No. 6208, sortie no. 58 RAF 5165, date 06/06/1962)

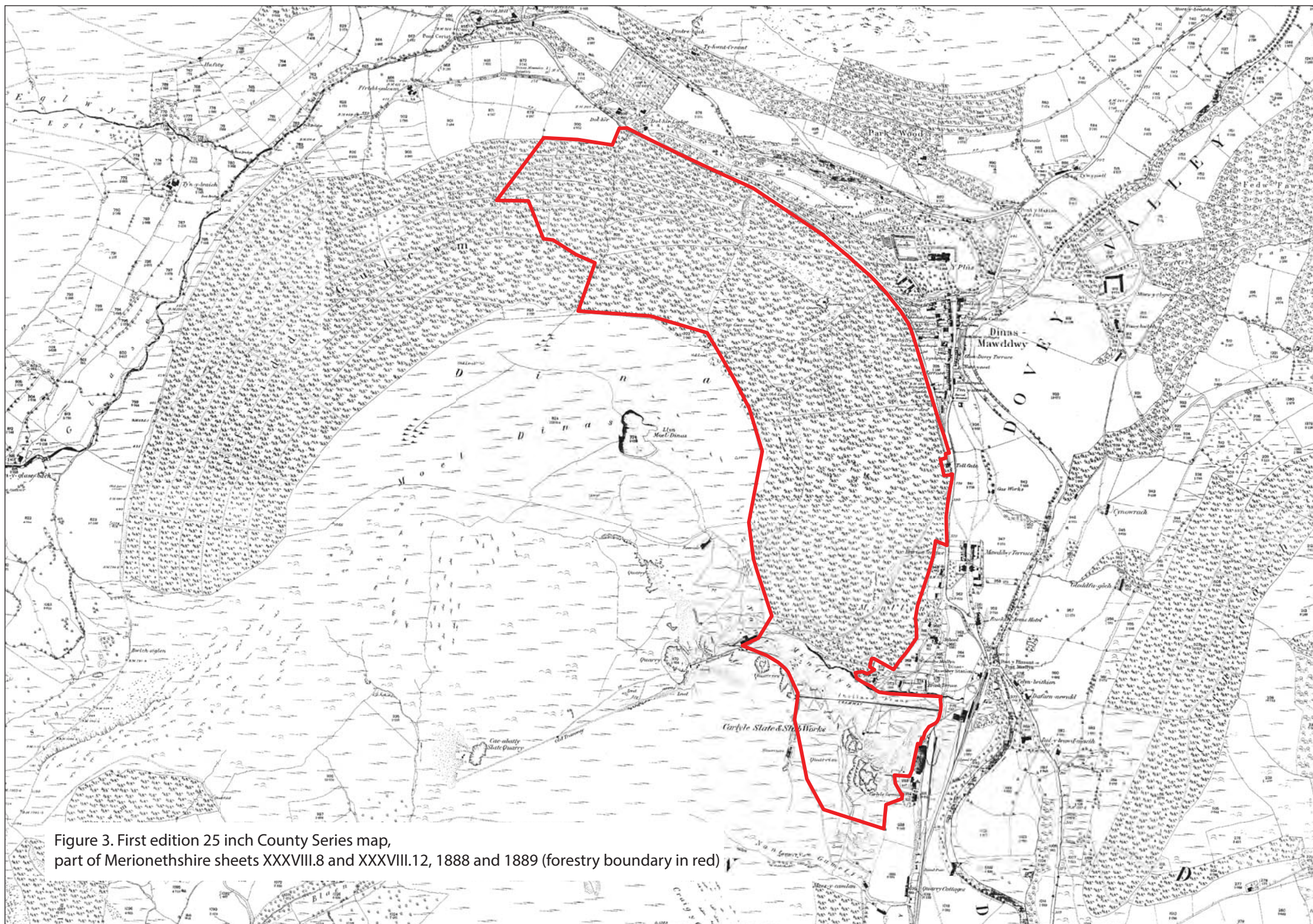
Plate 3. Aerial photograph from 1986 showing Coed Foeldinas, north to left (Welsh Government Library No. 8606, sortie no. J A Story, date 01/10/1986)

Plate 4. Slate processing mill PRN 99016 from east-north-east (archive reference: G2754_0030)

Plate 5. Slate processing mill PRN 99016 with chimney behind from south-south-east (archive reference: G2754_0036).







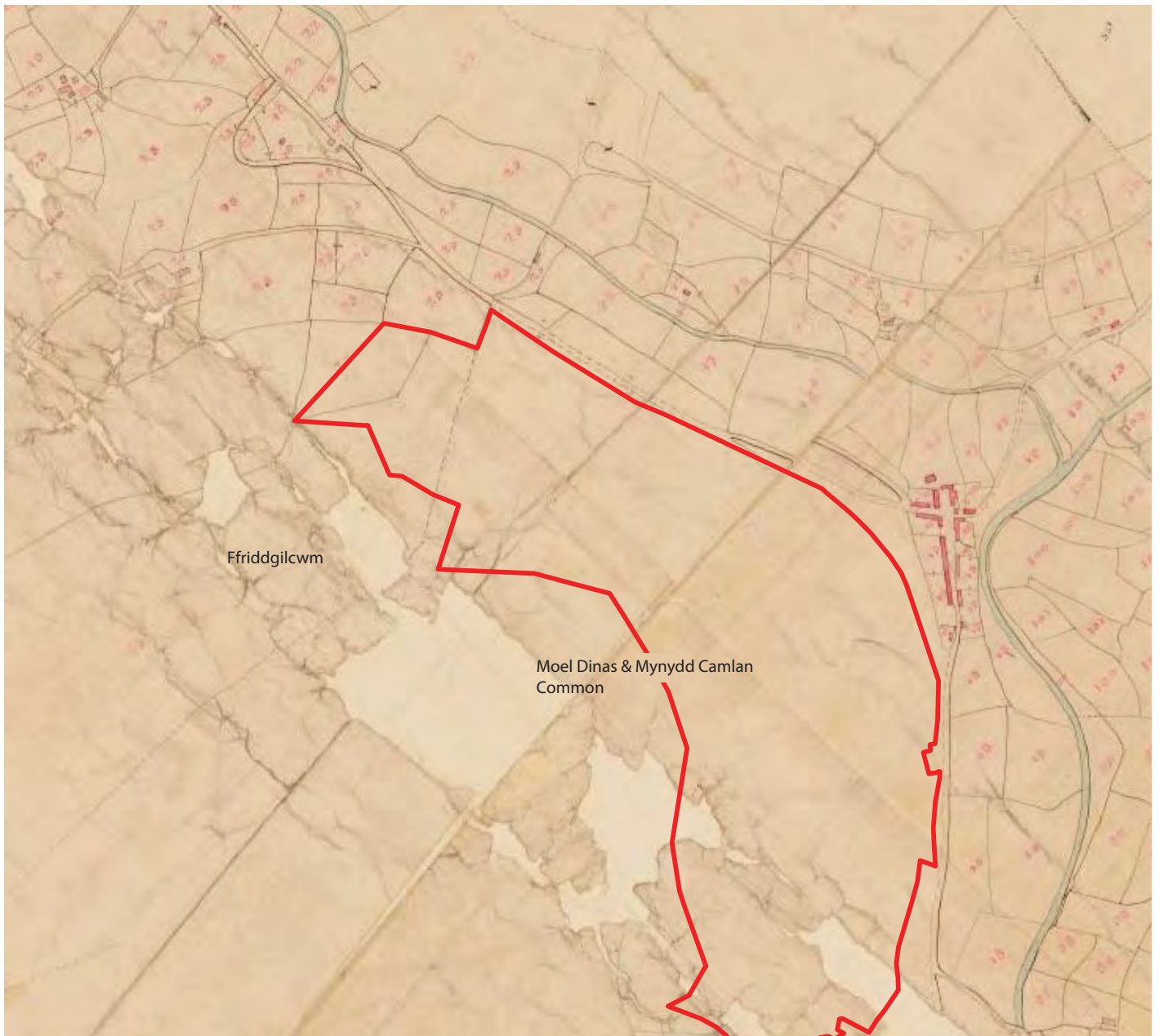


Figure 4. Tithe map of the parish of Mallwyd in the Counties of Merioneth and Montgomery (1841)
(red line marks approximate limit of modern forestry)
Welsh Tithe Maps, National Library of Wales <https://places.library.wales>

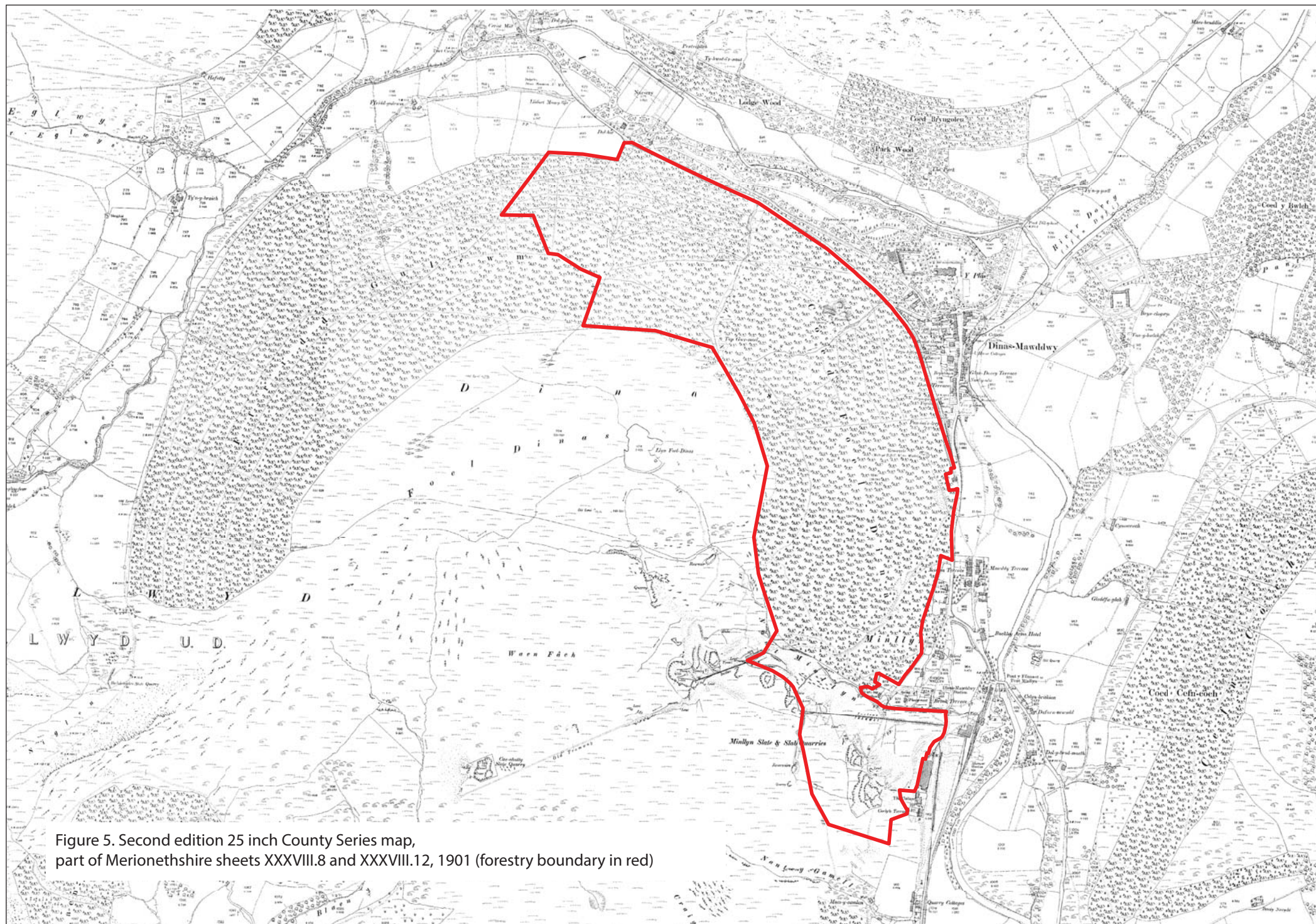
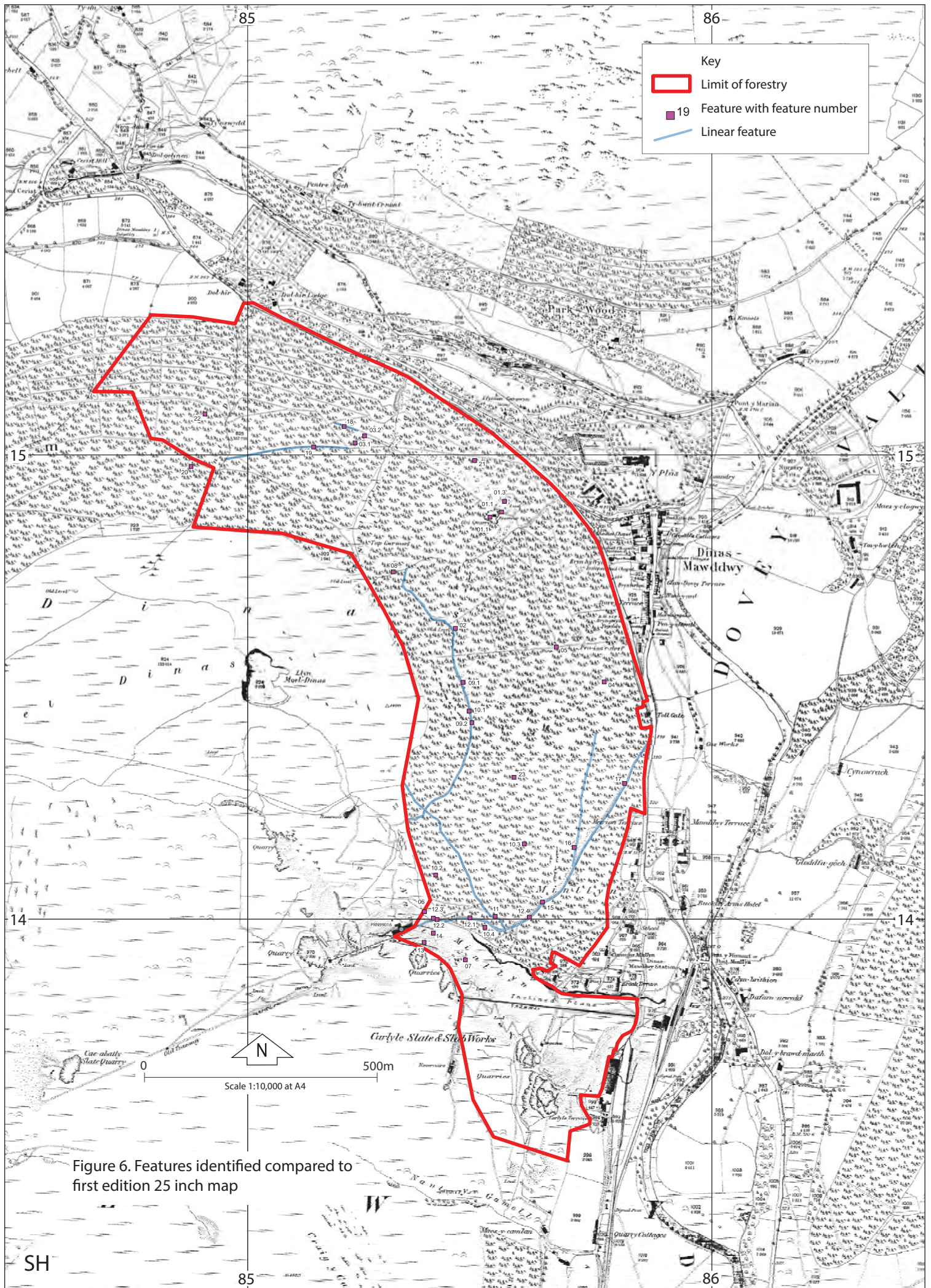


Figure 5. Second edition 25 inch County Series map, part of Merionethshire sheets XXXVIII.8 and XXXVIII.12, 1901 (forestry boundary in red)



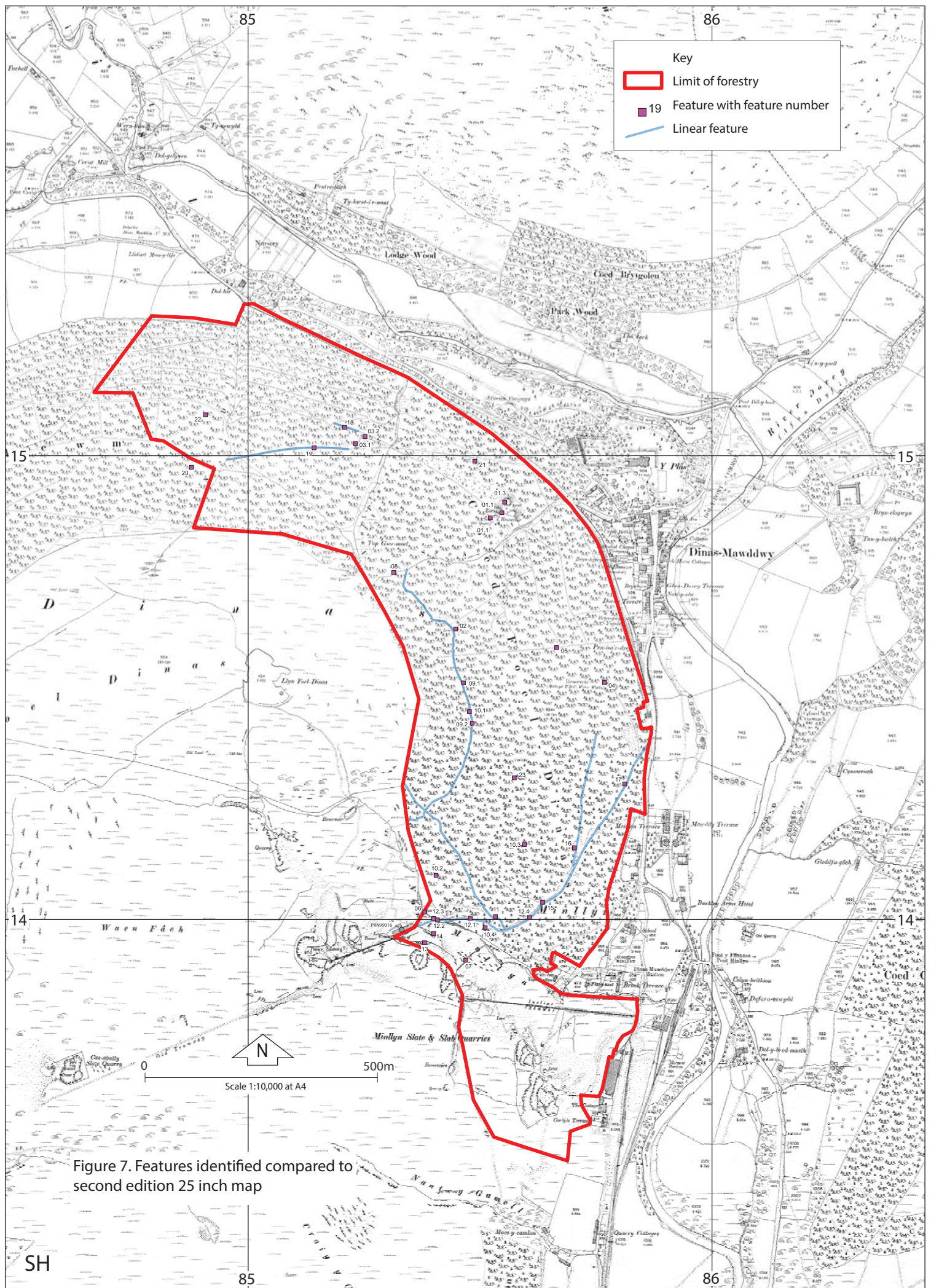
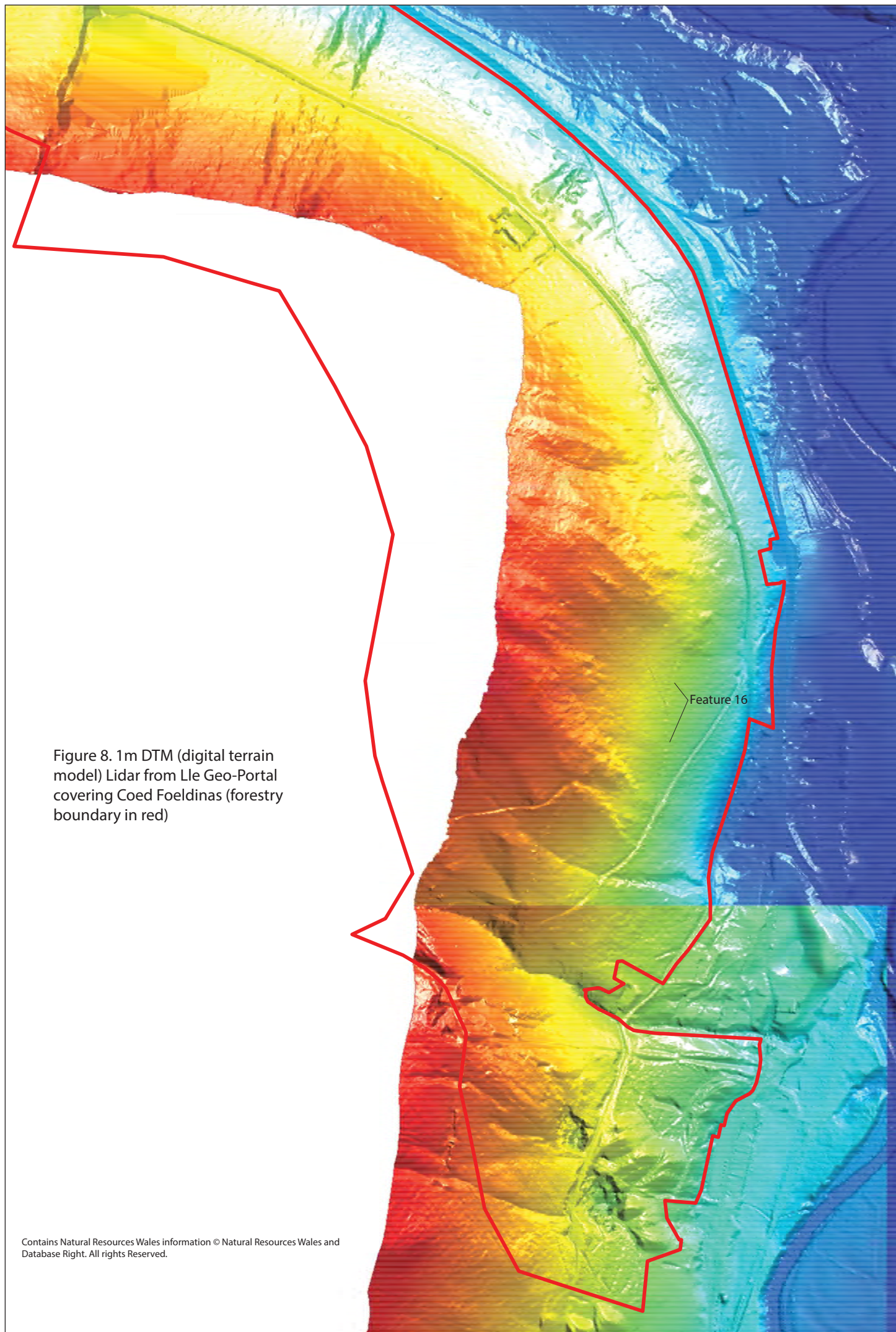


Figure 8. 1m DTM (digital terrain model) Lidar from Lle Geo-Portal covering Coed Foeldinas (forestry boundary in red)



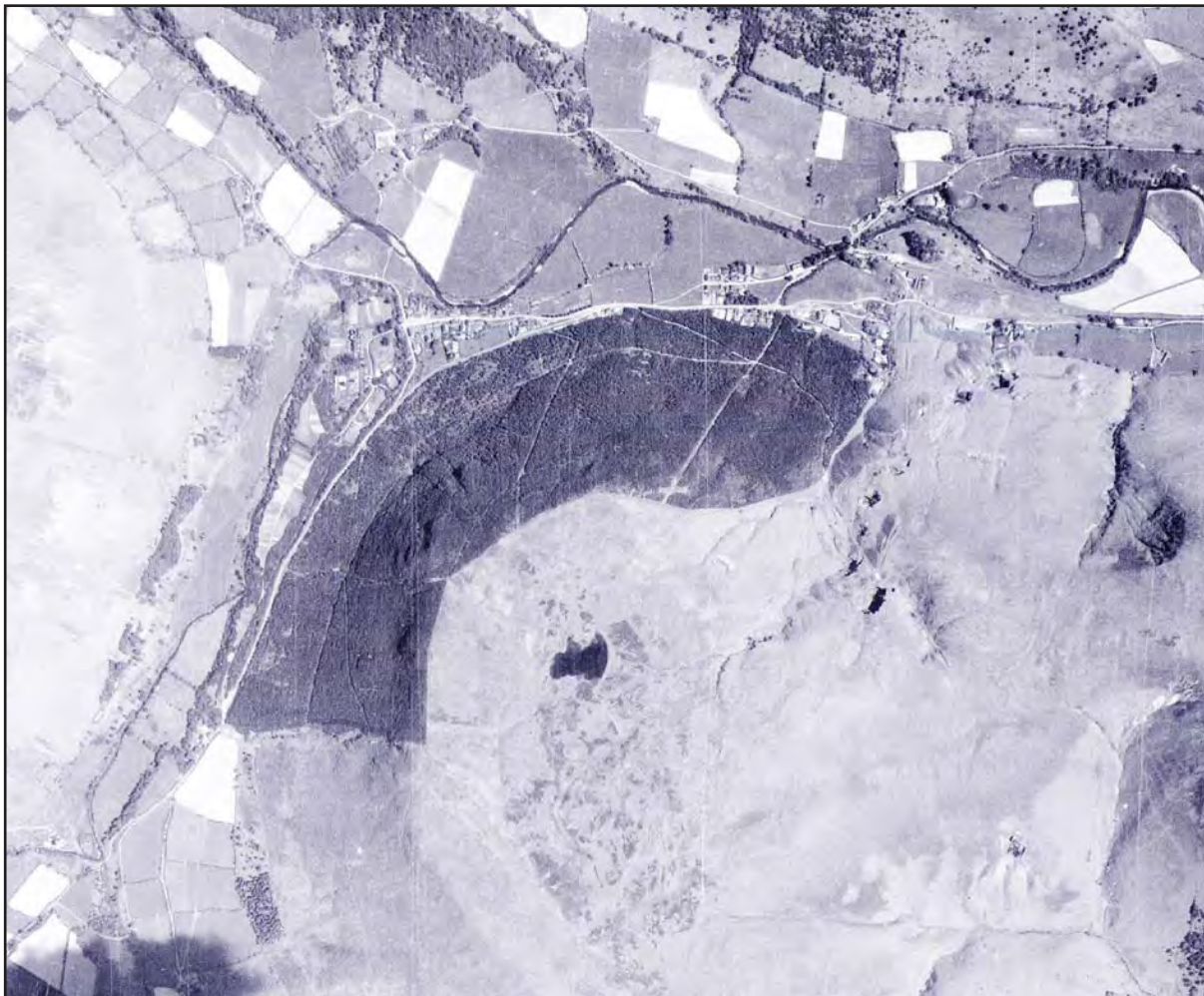


Plate 1. Aerial photograph from 1948 showing Coed Foeldinas, north to left (Welsh Government Library No. 4801, sortie no. 540 RAF 25, date 06/05/1948)



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Plate 3. Aerial photograph from 1986 showing Coed Foeldinas, north to left (Welsh Government Library No. 8606, sortie no. J A Story, date 01/10/1986)



Plate 4. Slate processing mill PRN 99016 from east-north-east (archive reference: G2754_0030)



Plate 5. Slate processing mill PRN 99016 with chimney behind from south-south-east (archive reference: G2754_0036).

APPENDIX I: LIST OF SITES IN STUDY AREA

See Figure 1

Sites in Historic Environment Record (HER)

PRN	Site Name	Site Type	Period	Designation	Grid Reference
3191	Dinas Mawddwy Township, Mawddwy	Town	Medieval		SH859149
4143	Oak Log Vessel, Findspot, Nr. Dinas Mawddwy	Findspot	Early medieval		SH8514
4144	Cist with Burial, Cloddfa Goch	Cist	Bronze age		SH859140
4145	Perforated Stone Adze, Nr Dinas Mawddwy	Findspot	Prehistoric		SH8514
4147	Pont Minllyn Bridge, Dinas Mawddwy	Bridge	Post medieval	Listed Building Scheduled Monument	SH8598713891
4822	Ffynnon Cae Gwyn, Well	Holy well	Post medieval		SH85551509
8172	Minllyn Slate and Slab Quarry, Mawddwy	Landscape	Modern		SH85581376
8173	Urns, Findspot, Plas-y-nant	Findspot	Unknown		SH858138
8202	Minllyn Slate and Slab Quarry, Mawddwy	Quarry	Modern		SH85631361
8203	Minllyn Slate and Slab Quarry, Mawddwy	Quarry	Modern		SH85601371
8204	Minllyn Slate and Slab Quarry, Mawddwy	Spoil heap	Modern		SH85681368
8205	Minllyn Slate and Slab Quarry, Mawddwy	Level	Modern		SH85671368
8206	Minllyn Slate and Slab Quarry, Mawddwy	Inclined plane	Modern		SH85601382
8207	Minllyn Slate and Slab Quarry, Mawddwy	Spoil heap	Modern		SH85511379
8209	Minllyn Slate and Slab Quarry, Mawddwy	Level	Modern		SH85531386
8210	Minllyn Slate and Slab Quarry, Mawddwy	Trackway	Modern		SH85531384
8211	Minllyn Slate and Slab Quarry, Mawddwy	Spoil heap	Modern		SH85561386
8212	Minllyn Slate and Slab Quarry, Mawddwy	Inclined plane	Modern		SH85481387
8213	Minllyn Slate and Slab Quarry, Mawddwy	Tramway	Modern		SH85491385
8214	Minllyn Slate and Slab Quarry, Mawddwy	Spoil heap	Modern		SH85501392
8215	Minllyn Slate and Slab Quarry, Mawddwy	Railway	Modern		SH85381395
8216	Minllyn Slate and Slab Quarry, Mawddwy	Railway	Modern		SH85401397

PRN	Site Name	Site Type	Period	Designation	Grid Reference
8217	Minllyn Slate and Slab Quarry, Mawddwy	Railway	Modern		SH85391398
8218	Minllyn Slate and Slab Quarry, Mawddwy	Railway	Modern		SH85381396
8219	Minllyn Slate and Slab Quarry, Mawddwy	Railway	Modern		SH85341397
8220	Minllyn Slate and Slab Quarry, Mawddwy	Tramway	Modern		SH85791372
8221	Minllyn Slate and Slab Quarry, Mawddwy	Quarry	Modern		SH85511386
9185	Coed Foel-dinas, Mawddwy	Building	Unknown		SH85861445
9972	Dinas Medieval Township, Mawddwy	Township	Medieval		SH860145
11742	Pont Dol-y-bont Bridge, Dovey Valley	Bridge	Post medieval	Listed Building, Grade II (4760)	SH8604015110
17791	Part of Roman Road, Brithdir to Long Mountain	Road	Roman		SH85821458
20457	Minllyn Slate Quarry, Mawddwy	Slate quarry	Post medieval		SH852139
20458	Slate Quarry, Targwrmoel	Slate quarry	Post medieval		SH8554714877
21058	Level, Llyn Foel Dinas	Level	Post medieval		SH849143
29020	Building/Structure, Mawddwy	Building; structure	Unknown		SH8595014096
29021	Steps, Possible, Buckley Pines Hotel	Steps	Unknown		SH8595914029
29098	Building, East of Dolbrawdmaeth Hotel	Building	Unknown		SH8614713683
29103	Corn Mill, Cerist Mill, Mawddwy	Corn mill	Post medieval		SH8461815612
29106	Building/Structure, South of Llwyn-Onn	Building; structure	Unknown		SH8589214601
29107	Gas Works, North of Ysgol Gynradd	Gas works	Post medieval		SH8597814371
29108	Dol-y-brod maeth, Mawddwy	Building; hotel	Post medieval		SH8605713715
36907	Mill Race, NE Ffynnon Cae Gwyn, Mawddwy	Mill race	Post medieval		SH8566615154
58142	Pont y Ffynnant, Mawddwy	Bridge	Post medieval		SH8598313908
58143	Station House, Dinas Mawddwy Railway Station	House	Post medieval		SH8593613890
58144	Building 2, N of Brook Terrace	Building	Post medieval		SH8580313889
58145	Plas Nant, S of Bryn Awel	Dwelling	Post medieval		SH8573613866

PRN	Site Name	Site Type	Period	Designation	Grid Reference
58146	Top Minllyn, W of Plas Nant	Dwelling	Post medieval		SH8566713883
58147	Building 1, N of Brook Terrace	Building	Post medieval		SH8579613885
58148	Buildings within Walled, Square Enclosure, SW of site of Y Plas Mansion	Building complex	Post medieval		SH8574614920
58149	Glasshouses, W of site of Y Plas Mansion	Glasshouse	Post medieval		SH8569115032
58150	Building, N of Dolhir Lodge	Building	Post medieval		SH8505415379
58151	Building, NW of Dolhir Lodge	Building	Post medieval		SH8502815385
58152	The Park, NW of Pont Dol-y-bont	Dwelling	Post medieval		SH8579415246
58153	Ty-hwnt-i'r-nant, Mallwyd	Building	Post medieval		SH8518915531
58154	Pentre-bach, Dinas Mawddwy	Building	Post medieval		SH8512515565
64973	Isfryn	House	Post medieval	Listed Building, Grade II (22585)	SH8590614224
64974	Llys Gwalia	House	Post medieval	Listed Building, Grade II (22587)	SH8590514212
64975	Cefn Coed	House	Post medieval	Listed Building, Grade II (22599)	SH8592514220
64980	West farmyard range at Tan-y-bwlch	House	Post medieval	Listed Building, Grade II (22610)	SH8627014912
64981	Buckley Pines Hotel	Hotel	Post medieval	Listed Building, Grade II (22613)	SH8593514029
64991	Ty Gwyn	House	Post medieval	Listed Building, Grade II (22588)	SH8590514205
64992	Garden walls at Tan-y-bwlch	Garden wall	Post medieval	Listed Building, Grade II (22618)	SH8621015008
64993	Tan-y-bwlch Farmhouse	House	Post medieval	Listed Building,	SH8630014819

PRN	Site Name	Site Type	Period	Designation	Grid Reference
				Grade II (22607)	
64997	10, Mawddwy Terrace, Minllyn, Dinas Mawddwy	House	Post medieval	Listed Building, Grade II (22596)	SH8592414207
64998	North range of farm buildings at Tan-y-bwlch	House	Post medieval	Listed Building, Grade II (22609)	SH8629314937
64999	East range of farm buildings at Tan-y-bwlch	House	Post medieval	Listed Building, Grade II (22608)	SH8631214921
65000	Gwelfryn	House	Post medieval	Listed Building, Grade II (22600)	SH8592514225
65001	Nos 1, 2 and 3 Mawddwy Cottages	House	Post medieval	Listed Building, Grade II (22582)	SH8592114166
65002	Gwynfa	House	Post medieval	Listed Building, Grade II (22584)	SH8590614228
65003	Nos 4, 5 and 6 Mawddwy Cottages	House	Post medieval	Listed Building, Grade II (22583)	SH8590214167
65004	Milepost	Milepost	Post medieval	Listed Building, Grade II (22626)	SH8484715485
65005	Rhydyfelin, formerly known as 1 Wyle Cop	House	Post medieval	Listed Building, Grade II (22604)	SH8585514876
65008	12, Mawddwy Terrace, Minllyn, Dinas Mawddwy	House	Post medieval	Listed Building, Grade II (22598)	SH8592514215
65010	Tydecho	House	Post medieval	Listed Building, Grade II (22593)	SH8592314193
65011	Trigfan	House	Post medieval	Listed Building, Grade II (22597)	SH8592514211

PRN	Site Name	Site Type	Period	Designation	Grid Reference
65012	Merion House	House	Post medieval	Listed Building, Grade II (22589)	SH8590414199
65013	3, Mawddwy Terrace, Minllyn, Dinas Mawddwy	House	Post medieval	Listed Building, Grade II (22586)	SH8590614218
65014	9, Mawddwy Terrace, Minllyn, Dinas Mawddwy	House	Post medieval	Listed Building, Grade II (22595)	SH8592414203
65018	Arosfa	House	Post medieval	Listed Building, Grade II (22594)	SH8592414198
84138	Ty-newydd, Dinas Mawddwy	House	Post medieval		SH8490515711
90430	Ty'n-y-pwll, Dinas Mawddwy	Building	Unknown		SH8617315214
90432	Gloddfa-goch, Dinas Mawddwy	Dwelling	Unknown		SH8631714123
90433	Cynowrach, Dinas Mawddwy	Dwelling	Unknown		SH8627714317
93165	Farmstead, Tan-y-bwlch	Farmstead	Post medieval		SH8630914861
93751	Old Level, South of, Dinas Mawddwy	Level	Unknown		SH8539314623
93752	Enclosure, North-West of, Dinas Mawddwy	Enclosure	Modern		SH8496615284
93753	Springs, West of, Dinas Mawddwy	Spring	Modern		SH8523115026
93754	Reservoir, South of, Dinas Mawddwy	Reservoir	Modern		SH8576814511
93755	Stone, South of, Dinas Mawddwy	Stone	Unknown		SH8566114585
93757	Reservoir, West of, Dinas Mawddwy	Reservoir	Unknown		SH8555314900
93758	Old Quarry, West of, Dinas Mawddwy	Quarry	Unknown		SH8552214866
93760	Magazine, South of, Minllyn	Magazine	Unknown		SH8562714840
93783	Y-Plas, Mawddwy	Building; fountain	Unknown		SH8583714990
93784	Stone, South of, Dinas Mawddwy	Stone	Unknown		SH8566514586
93785	Sheepfold, East of, Minllyn	Sheep fold	Unknown		SH8604314002
93786	Signal Post, South-West of, Minllyn	Signal box	Unknown		SH8588013661
93787	Signal Post, South of, Dinas Mawddwy	Railway signal	Unknown		SH8577713371

PRN	Site Name	Site Type	Period	Designation	Grid Reference
93788	Well, South of, Dinas Mawddwy	Well	Unknown		SH8562913336
93789	Level, South of, Dinas Mawddwy	Level	Unknown		SH8558513426
93790	Reservoir, South of, Dinas Mawddwy	Reservoir	Unknown		SH8522314235
95071	Farm buildings, Tan-y-bwlch	Farm building	Post medieval		SH8631414920
95072	Farm buildings, Tan-y-bwlch	Farm building	Post medieval		SH8630814794
95073	Farm buildings, Tan-y-bwlch	Farm building	Post medieval		SH8628214889
96491	Old Level, Mawddwy	Level	Unknown		SH8521514735
96492	Nursery, Mawddwy	Nursery garden	Unknown		SH8502815449
96493	Buildings, Dol-Hir, Mawddwy	Building complex	Unknown		SH8498215360
96494	Footbridge, Mawddwy	Footbridge	Unknown		SH8529315302
96495	Building, Mawddwy	Building	Unknown		SH8542815368
96496	Sluice, Mawddwy	Sluice	Unknown		SH8556115186
96497	Weir, Mawddwy	Weir	Unknown		SH8557215209
96498	Building, Nags Head Inn, Mawddwy	Inn	Unknown		SH8581614861
96499	Building, Mawddwy	Lodge	Unknown		SH8586014889
96500	Building, Red Lion Inn, Mawddwy	Inn	Unknown		SH8588914872
96501	Chapel, Mawddwy	Chapel	Unknown		SH8583114835
96502	Buildings, Mawddwy	Building complex	Unknown		SH8586214822
96503	Chapel, Mawddwy	Chapel	Unknown		SH8585414799
96504	Buildings, Mawddwy	Building complex	Unknown		SH8586514814
96505	Chapel House, Mawddwy	Chapel house	Unknown		SH8583214741
96506	Building, Bryn-Hyfyrd, Mawddwy	Building	Unknown		SH8578314774
96507	Chapel, Mawddwy	Chapel	Unknown		SH8585014761
96508	Terraced House, Black Horse Cottages, Mawddwy	Terraced house	Unknown		SH8587014774
96509	Terraced House, Bryntirion, Mawddwy	Terraced house	Unknown		SH8586314733
96510	Terraced House, Glan-Dovey, Mawddwy	Terraced house	Unknown		SH8588414724
96511	Terraced House, Dovey Terrace, Mawddwy	Terraced house	Unknown		SH8585714676
96512	Building, Hen Durnpike, Mawddwy	Terraced house	Unknown		SH8587514660
96513	Building, Smithy. Mawddwy	Blacksmith's workshop	Unknown		SH8585414626

PRN	Site Name	Site Type	Period	Designation	Grid Reference
96514	Burial Ground, Mawddwy	Funerary site	Unknown		SH8589314626

Sites in National Monument Record (NMR)

NPRN	Site Name	Site type	Period	Grid Reference
8557	Ebeneser Welsh Independent Chapel, Dinas Mawddwy	Chapel	Post Medieval	SH8584914759
8561	Bethel Chapel (Welsh Calvinistic Methodist), Dinas Mawddwy	Chapel	Post Medieval	SH8583114836
8564	Dinas Wesleyan Methodist Chapel, Dinas Mawddwy	Chapel	Post Medieval	SH8585314802
24178	Pont Dol-y-Bont	Bridge	Post Medieval	SH86041511
24194	Pont Minllyn (Old Bridge); Pont-y-Ffynnant	Footbridge	Post Medieval	SH85981389
28339	Dinas Mawddy (Cottage In)	House	Post Medieval	SH8514
28355	Dol-Y-Brod Maeth; Dolbrawdmaeth Hall	Dwelling	Post Medieval	SH86051371
28671	Y Plas; Plas Buckley; Plas-yn-Dinas; Plas Dinas Mawddwy	Mansion	Post Medieval	SH8584114987
41308	Dinas Mawddwy Railway Station	Railway station	Modern	SH85941389
96029	Ty-Hwnt-i'r-Nant, Mallwyd	Building	Post Medieval	SH8518815527
96031	Pentre-Bach, Dinas Mawddwy	Building	Post Medieval	SH8511715565
265200	Y Plas or Plas Buckley, Grounds and Gardens, Dinas Mawddwy	Country house garden	Post Medieval	SH8585614894
308314	Felin Cerist; Cerist Corn Mill, Dinas Mawddwy	Corn mill	Post Medieval	SH846156
310049	Minllyn Slate and Slab Quarry	Slate quarry	19th Century	SH8514513943
310051	Cae-Abatty Slate Quarry	Slate quarry	Post Medieval	SH84581365
310269	Rhydyfelin, No. 1 Wyle Cop, Dinas Mawddwy	House	Post Medieval	SH8585314874
310270	Tan y Bwlch Farmhouse, Dinas Mawddwy	Farmhouse	Post Medieval	SH86301482
310271	Tan y Bwlch, East Range of Farm Buildings, Dinas Mawddwy	Farm building	Post Medieval	SH8631114919
310272	Tan y Bwlch, North Range of Farm Buildings, Dinas Mawddwy	Farm building	Post Medieval	SH8628814936
310273	Tan y Bwlch, West Range of Farm Buildings, Dinas Mawddwy	Farm building	Post Medieval	SH8627014910
310274	Tan Y Bwlch Kitchen Garden Walls; Plas Dinas Kitchen Garden Walls	Garden	Post Medieval	SH8627415005
310277	Milepost near Pont Cerist, Dinas Mawddwy	Milepost	Post Medieval	SH84841548
310306	Mawddwy Cottages, 1, 2, 3; Minllyn Cottages, 1, 2, 3, Minllyn	House	Post Medieval	SH85921416
310307	Mawddwy Cottages, 4, 5, 6, Minllyn	House	Post Medieval	SH85901417
310308	Gwynfa; Mawddwy Terrace, 1, Minllyn	House	Post Medieval	SH85901423

NPRN	Site Name	Site type	Period	Grid Reference
310309	Isfryn, Mawddwy Terrace, 2, Minllyn	House	Post Medieval	SH85901422
310310	Mawddwy Terrace, 3, Minllyn	House	Post Medieval	SH85901422
310311	Llys Gwalia, Mawddwy Terrace, 4, Minllyn	House	Post Medieval	SH85901421
310312	Merion House, Mawddwy Terrace, 6, Minllyn	House	Post Medieval	SH859142
310313	Ty Gwyn, Mawddwy Terrace, 5, Minllyn	House	Post Medieval	SH859142
310314	Tydecho, Mawddwy Terrace, 7, Minllyn	House	Post Medieval	SH85921419
310315	Arosfa, Mawddwy Terrace, 8, Minllyn	House	Post Medieval	SH85921420
310316	Mawddwy Terrace, 9, Minllyn	House	Post Medieval	SH85921420
310317	Mawddwy Terrace, 10, Minllyn	House	Post Medieval	SH85921420
310318	Trigfan, Mawddwy Terrace, 11, Minllyn	House	Post Medieval	SH85921421
310319	Mawddwy Terrace, 12, Minllyn	House	Post Medieval	SH85921421
310320	Cefn Coed, Mawddwy Terrace, 13, Minllyn	House	Post Medieval	SH85921422
310321	Gwelfryn, Mawddwy Terrace, 14, Minllyn	House	Post Medieval	SH8592614225
310322	Buckley Pines Hotel; Buckley Arms Hotel, Minllyn	Hotel	Post Medieval	SH85941403
402505	Minllyn Village	Village	General	SH859139
402506	Dinas Mawddwy Medieval and Later Borough	Town	General	SH8587314881
409492	Y Plas; Plas Dinas Mawddwy, Lodge	Lodge	Post Medieval	SH8586114888
527418	Llyn Foel Dinas, Dam	Dam	Modern, Post Medieval	SH8505214469
527419	Llyn Foel Dinas, Leat	Leat	Modern, Post Medieval	SH8494414492
527420	Llyn Foel Dinas, Bank	Bank (earthwork)	Modern, Post Medieval	SH8502414602
527421	Foel Dinas, Trial Mine	Trial mine	Post Medieval	SH8522814740
527458	Minllyn Slate Quarry, Quarry I	Quarry	Post Medieval	SH8537813921
527459	Minllyn Slate Quarry, Building I	Building	Post Medieval	SH8532813959
527460	Minllyn Slate Quarry, Slate Mill I	Slate mill	Post Medieval	SH8533413982
527461	Minllyn Slate Quarry, Stone Block	Stone block	Modern	SH8533713974
527462	Minllyn Slate Quarry, Tramway Tunnel	Tunnel	Post Medieval	SH8528313970
527463	Minllyn Slate Quarry, Quarry II	Quarry	Modern	SH8529613948
527464	Minllyn Slate Quarry, Wall	Wall	Modern	SH8531213984
527465	Minllyn Slate Quarry, Tramway I	Tramway	Post Medieval	SH8531413984
527466	Minllyn Slate Quarry, Engine and Boiler House	Engine house	Post Medieval	SH8532613996
527467	Minllyn Slate Quarry, Chimney Stack	Chimney	Post Medieval	SH8531714002
527468	Minllyn Slate Quarry, Pipeline	Pipeline	Post Medieval	SH8531814017
527469	Minllyn Slate Quarry, Spoil Tip I	Spoil tip	Post Medieval	SH8534414039

NPRN	Site Name	Site type	Period	Grid Reference
527470	Minllyn Slate Quarry, Shelter I	Shelter	Post Medieval	SH8526014007
527471	Minllyn Slate Quarry, Quarry III	Quarry	Post Medieval	SH8525714033
527472	Minllyn Slate Quarry, Quarry IV	Quarry	Post Medieval	SH8522013972
527473	Minllyn Slate Quarry, Tramway Tunnel II	Tunnel	Post Medieval	SH8525113971
527474	Minllyn Slate Quarry, Inclined Plane I	Inclined plane	Post Medieval	SH8527813972
527475	Minllyn Slate Quarry, Inclined Plane II	Inclined plane	Post Medieval	SH8525613940
527476	Minllyn Slate Quarry, Shelter II	Shelter	Post Medieval	SH8525113991
527477	Minllyn Slate Quarry, Spoil Tip II	Spoil tip	Post Medieval	SH8524713899
527478	Minllyn Slate Quarry, Shelter III	Shelter	Post Medieval	SH8520913908
527479	Minllyn Slate Quarry, Inclined Plane Winding House I	Winder house	Post Medieval	SH8518013918
527480	Minllyn Slate Quarry, Shelter IV	Shelter	Post Medieval	SH8518213926
527481	Minllyn Slate Quarry, Shelter V	Shelter	Post Medieval	SH8516813895
527482	Minllyn Slate Quarry, Spoil Tip III	Spoil tip	Post Medieval	SH8517513890
527483	Minllyn Slate Quarry, Crane Base	Pit	Post Medieval	SH8517413925
527484	Minllyn Slate Quarry, Building II	Building	Post Medieval	SH8516813944
527485	Minllyn Slate Quarry, Quarry V	Quarry	Post Medieval	SH8514513943
527486	Minllyn Slate Quarry, Inclined Plane III	Inclined plane	Post Medieval	SH8514913968
527487	Minllyn Slate Quarry, Tramway II	Tramway	Post Medieval	SH8516313989
527488	Minllyn Slate Quarry, Leat I	Leat	Post Medieval	SH8519914027
527489	Minllyn Slate Quarry, Spoil Tip IV	Spoil tip	Post Medieval	SH8521814085
527490	Minllyn Slate Quarry, Quarry VI	Quarry	Post Medieval	SH8507014177
527491	Minllyn Slate Quarry, Spoil Tip V	Spoil tip	Post Medieval	SH8508214170
527492	Minllyn Slate Quarry, Slate Mine I	Mine	Post Medieval	SH8507014148
527493	Minllyn Slate Quarry, Spoil Tip VI	Spoil tip	Post Medieval	SH8508814137
527494	Minllyn Slate Quarry, Shelter VI	Shelter	Post Medieval	SH8509114143
527495	Minllyn Slate Quarry, Path	Path	Post Medieval	SH8511114142
527496	Minllyn Slate Quarry, Spoil Tip VII	Spoil tip	Post Medieval	SH8512614104
527497	Minllyn Slate Quarry, Spoil Tip VIII	Spoil tip	Post Medieval	SH8513214063
527498	Minllyn Slate Quarry, Tramway III	Tramway	Post Medieval	SH8513414055
527499	Minllyn Slate Quarry, Spoil Tip IX	Spoil tip	Post Medieval	SH8514714013
527500	Minllyn Slate Quarry, Shelter VII	Shelter	Post Medieval	SH8514313991
527501	Minllyn Slate Quarry, Inclined Plane Winding House II	Winder house	Post Medieval	SH8514113986
527502	Minllyn Slate Quarry, Leat II	Leat	Post Medieval	SH8528114087
527503	Minllyn Slate Quarry, Reservoir I	Reservoir	Post Medieval	SH8538114016
527504	Minllyn Slate Quarry, Slate Mine II	Mine	Post Medieval	SH8519513914
527505	Minllyn Slate Quarry, Slate Mine III	Mine	Post Medieval	SH8518813954
527506	Minllyn Slate Quarry, Quarry VII	Quarry	Post Medieval	SH8513714018
527507	Minllyn Slate Quarry, Shelter VIII	Shelter	Post Medieval	SH8514913948
527508	Minllyn Slate Quarry, Slate Mine IV	Mine	Post Medieval	SH8514213839
527509	Minllyn Slate Quarry, Spoil Tip X	Spoil tip	Post Medieval	SH8514713847
527510	Waen Fach, Quarry I	Quarry	Post Medieval	SH8500113844

NPRN	Site Name	Site type	Period	Grid Reference
527511	Waen Fach, Inclined Plane	Inclined plane	Post Medieval	SH8498113793
527512	Cae Abaty Slate Quarry, Spoil Tip I	Spoil tip	Post Medieval	SH8458213714
527513	Cae Abaty Slate Quarry, Tunnel I	Tunnel	Post Medieval	SH8458113693
527514	Cae Abaty Slate Quarry, Building I	Building	Post Medieval	SH8456813688
527515	Cae Abaty Slate Quarry, Inclined Plane Winding House	Winder house	Post Medieval	SH8458313675
527516	Cae Abaty Slate Quarry, Spoil Tip II	Spoil tip	Post Medieval	SH8456313683
527517	Cae Abaty Slate Quarry, Building II	Building	Post Medieval	SH8458813683
527518	Cae Abaty Slate Quarry, Crane Base	Crane	Post Medieval	SH8459913676
527519	Cae Abaty Slate Quarry, Quarry I	Quarry	Post Medieval	SH8460113673
527520	Cae Abaty Slate Quarry, Platform I	Platform	Post Medieval	SH8459113665
527521	Cae Abaty Slate Quarry, Inclined Plane	Inclined plane	Post Medieval	SH8457913660
527522	Cae Abaty Slate Quarry, Quarry II	Quarry	Post Medieval	SH8457713645
527523	Cae Abaty Slate Quarry, Building III	Building	Post Medieval	SH8456813630
527524	Cae Abaty Slate Quarry, Spoil Tip III	Spoil tip	Post Medieval	SH8456213623
527525	Waen Fach, Inclined Plane Winding House	Winder house	Post Medieval	SH8482213722
527526	Foel Dinas, Slate Mine	Mine	Post Medieval	SH8461614722
527527	Foel Dinas, Spoil Tip	Spoil tip	Post Medieval	SH8462613633
527528	Nant Minllyn, Quarry	Quarry	Post Medieval	SH8491514365
527529	Nant Minllyn, Leat	Leat	Post Medieval	SH8514314231
527530	Minllyn Slate Quarry, Reservoir II	Reservoir	Post Medieval	SH8522214231
527531	Minllyn Slate Quarry, Tramway IV	Tramway	Post Medieval	SH8533913949
527534	Minllyn Slate Quarry, Quarry VIII	Quarry	Post Medieval	SH8513813873

APPENDIX II

Gwynedd Archaeological Trust Photographic Metadata

Photo Record Number	Core PRN	NGR	Description	Scale(s)	View From	Creator of Digital Photo	Date of Creation of Digital Photo
G2754_0001		SH85225 14795	End of forest track at hill access	1m	S	Jane Kenney	23/11/2022
G2754_0002		SH85294 14794	View along upper forestry track	Rob	NE	Jane Kenney	23/11/2022
G2754_0003		SH85294 14794	View downslope into moss covered forest		SW	Jane Kenney	23/11/2022
G2754_0004		SH85314 14748	Water pipe	1m	SE	Jane Kenney	23/11/2022
G2754_0005		SH85377 14703	Recorded as possible track going fairly steeply uphill, but doesn't correspond with anything on the maps and probably not a feature	1m	SE	Jane Kenney	23/11/2022
G2754_0006	99002	SH85464 14510	Trackway, original forest/quarry track	1m	N	Jane Kenney	23/11/2022
G2754_0007		SH85468 14485	Cable from TV aerial on hill (disused)	1m	E	Jane Kenney	23/11/2022
G2754_0008		SH85477 14448	Upper forestry track, showing where it is cut into the rock	1m	NE	Jane Kenney	23/11/2022
G2754_0009		SH85477 14448	Upper forestry track, showing where it is cut into the rock	1m	NE	Jane Kenney	23/11/2022
G2754_0010	99002	SH85483 14423	Trackway, original forest/quarry track	1m	NE	Jane Kenney	23/11/2022
G2754_0011	99002	SH85483 14423	Trackway, original forest/quarry track	1m	NE	Jane Kenney	23/11/2022
G2754_0012		SH85405 14095	Rock cut drainage channel at upper hair-pin bend in forestry track	1m	SW	Jane Kenney	23/11/2022
G2754_0013		SH85405 14095	Rock cut drainage channel at upper hair-pin bend in forestry track	1m	SW	Jane Kenney	23/11/2022
G2754_0014		SH85405 14095	Rock cut drainage channel at upper hair-pin bend in forestry track	1m	S	Jane Kenney	23/11/2022
G2754_0015		SH85596 14162	Rock cut drainage channel at middle hair-pin bend in forestry track	1m	NE	Jane Kenney	23/11/2022
G2754_0016		SH85596 14162	Rock cut drainage channel at middle hair-pin bend in forestry track	1m	SW	Jane Kenney	23/11/2022
G2754_0017	99003	SH85533 14006	Trackway running directly down the hill slope	1m	SE	Jane Kenney	23/11/2022
G2754_0018	99003	SH85533 14006	Trackway running directly down the hill slope	1m	SE	Jane Kenney	23/11/2022
G2754_0019	99004	SH85479 14003	Quarry Path	1m	ESE	Jane Kenney	23/11/2022

Photo Record Number	Core PRN	NGR	Description	Scale(s)	View From	Creator of Digital Photo	Date of Creation of Digital Photo
G2754_0020	99005	SH85400 14002	Top of steps/revetment	1m	NW	Jane Kenney	23/11/2022
G2754_0021	99005	SH85400 14002	Top of steps/revetment	1m	NW	Jane Kenney	23/11/2022
G2754_0022	99005	SH85424 14000	Looking up steps/revetment	1m	SE	Jane Kenney	23/11/2022
G2754_0023	99005	SH85422 13995	Side view of steps/revetment	1m	S	Jane Kenney	23/11/2022
G2754_0024	99005	SH85422 13995	Side view of steps/revetment	1m	S	Jane Kenney	23/11/2022
G2754_0025	99006	SH85400 14002	Bridge on Quarry Path	1m	SE	Jane Kenney	23/11/2022
G2754_0026	99006	SH85400 14002	Bridge on Quarry Path	1m	WSW	Jane Kenney	23/11/2022
G2754_0027	99006	SH85400 14002	Bridge on Quarry Path	1m	SW	Jane Kenney	23/11/2022
G2754_0028	99006	SH85400 14002	Bridge on Quarry Path		SE	Jane Kenney	23/11/2022
G2754_0029	99006	SH85400 14002	Worn edge of slab forming bridge		ENE	Jane Kenney	23/11/2022
G2754_0030	99016	SH85332 13977	Minllyn Quarry, mill with quarry beyond		E	Jane Kenney	23/11/2022
G2754_0031	99016	SH85332 13977	Mill interior		NE	Jane Kenney	23/11/2022
G2754_0032	99016	SH85332 13977	Entrance to mill		NE	Jane Kenney	23/11/2022
G2754_0033	99016	SH85332 13977	Minllyn Quarry, mill with quarry beyond		NE	Jane Kenney	23/11/2022
G2754_0034	99016	SH85332 13977	Minllyn Quarry, mill with quarry beyond		NE	Jane Kenney	23/11/2022
G2754_0035	99016	SH85332 13977	Mill interior		SW	Jane Kenney	23/11/2022
G2754_0036	99016	SH85332 13977	Mill interior and chimney for steam engine		SE	Jane Kenney	23/11/2022
G2754_0037	8215, 8216	SH85399 13973	Waste heaps SE of the mill		E	Jane Kenney	23/11/2022
G2754_0038	8215	SH85400 13953	Linear slate waste tip showing surface that a tramway would have run on.		NE	Jane Kenney	23/11/2022
G2754_0039	8215	SH85400 13953	Linear slate waste tip showing surface that a tramway would have run on.		SW	Jane Kenney	23/11/2022
G2754_0040	8215	SH85435 13923	Looking down end of waste tip		NE	Jane Kenney	23/11/2022
G2754_0041	8215	SH85435 13923	Looking back along waste tip from its end		SW	Jane Kenney	23/11/2022
G2754_0042	99004	SH85506 13994	Steep, rocky section on quarry 'road'	Rob + 1m	NW	Jane Kenney	23/11/2022
G2754_0043	99004	SH85506 13994	Steep, rocky section on quarry 'road'		SE	Jane Kenney	23/11/2022

Photo Record Number	Core PRN	NGR	Description	Scale(s)	View From	Creator of Digital Photo	Date of Creation of Digital Photo
G2754_0044		SH85511 13982	Rock cut drainage channel on lowest bend on forest road (very difficult to photograph)	1m	NE	Jane Kenney	23/11/2022
G2754_0045	99007	SH85607 14004	Remaining part of old quarry road	1m	SW	Jane Kenney	23/11/2022
G2754_0046	99007	SH85607 14004	Remaining part of old quarry road	1m	SW	Jane Kenney	23/11/2022
G2754_0047	99008	SH85635 14037	Culvert under old quarry road, original face	1m	W	Jane Kenney	23/11/2022
G2754_0048	99008	SH85635 14037	Culvert under old quarry road, original face	1m	W	Jane Kenney	23/11/2022
G2754_0049	99008	SH85635 14037	Culvert under old quarry road, original face	1m	W	Jane Kenney	23/11/2022
G2754_0050	99008	SH85635 14037	Culvert under old quarry road, original face	1m	W	Jane Kenney	23/11/2022
G2754_0051	99008	SH85635 14037	Stream running down to culvert		SW	Jane Kenney	23/11/2022
G2754_0052	99008	SH85635 14037	Stream running down to culvert		SW	Jane Kenney	23/11/2022
G2754_0053		SH85706 14128	Modern forest trackway with coppiced hazel	1m	S	Jane Kenney	23/11/2022
G2754_0054	99009	SH85812 14292	Borrow pit	1m	E	Jane Kenney	23/11/2022
G2754_0055	99009	SH85812 14292	Borrow pit	1m	E	Jane Kenney	23/11/2022
G2754_0056	99009	SH85812 14292	Borrow pit showing slate material it cuts into. Is this slate waste from a quarry?	1m	E	Jane Kenney	23/11/2022
G2754_0057	99009	SH85812 14292	Borrow pit	1m	E	Jane Kenney	23/11/2022
G2754_0058		SH85041 15145	Turning circle at end of lower forestry road		SW	Jane Kenney	24/11/2022
G2754_0059		SH85041 15145	Lower forestry road		NE	Jane Kenney	24/11/2022
G2754_0060	98999	SH85252 15041	Cover over spring	1m	ENE	Jane Kenney	24/11/2022
G2754_0061	98999	SH85252 15041	Cover over spring		WNW	Jane Kenney	24/11/2022
G2754_0062	98999	SH85252 15041	Adjacent access cover		WNW	Jane Kenney	24/11/2022
G2754_0063	98999	SH85252 15041	Steps up to spring and gate into fenced area		E	Jane Kenney	24/11/2022
G2754_0064	99010	SH85208 15061	Trackway	1m	ESE	Jane Kenney	24/11/2022
G2754_0065		SH85142 15017	View down through woods from footpath at SH85142 15025		S	Jane Kenney	24/11/2022
G2754_0066		SH85142 15017	View up through woods from footpath at SH85142 15025		N	Jane Kenney	24/11/2022
G2754_0067	99011	SH85142 15017	Footpath, reusing earlier path		W	Jane Kenney	24/11/2022
G2754_0068	99011	SH85142 15017	Footpath, reusing earlier path	Rob	E	Jane Kenney	24/11/2022
G2754_0069		SH84926 14969	View from the top of the wood down Nant Dol-hir		SSW	Jane Kenney	24/11/2022

Photo Record Number	Core PRN	NGR	Description	Scale(s)	View From	Creator of Digital Photo	Date of Creation of Digital Photo
G2754_0070		SH84893 14983	View into plot to NW of Nant Dol-hir		SSW	Jane Kenney	24/11/2022
G2754_0071	99012	SH84878 14975	Rock outcrop investigated looking for "pit (dis)" as shown on the map		E	Jane Kenney	24/11/2022
G2754_0072	99012	SH84878 14975	Lumps and bumps in hillslope investigated looking for "pit (dis)" as shown on the map		S	Jane Kenney	24/11/2022
G2754_0073	99012	SH84878 14975	Channels and ridges in hillslope investigated looking for "pit (dis)" as shown on the map		SW	Jane Kenney	24/11/2022
G2754_0074	99012	SH84878 14975	Stream running down hillslope investigated looking for "pit (dis)" as shown on the map, probable source of erosion gullies		NE	Jane Kenney	24/11/2022
G2754_0075		SH85490 15005	Small borrow pit		NE	Jane Kenney	24/11/2022
G2754_0076	93757, 93758	SH85523 14892	Covered reservoir constructed in old quarry		NW	Jane Kenney	24/11/2022
G2754_0077	93757, 93758	SH85523 14892	Covered reservoir constructed in old quarry		NW	Jane Kenney	24/11/2022
G2754_0078	93757, 93758	SH85523 14892	Gate to reservoir with no access signs		NW	Jane Kenney	24/11/2022
G2754_0079	93754	SH85800 14485	Water treatment works below lower reservoir		S	Jane Kenney	24/11/2022
G2754_0080	93754	SH85800 14485	Sign on water treatment works		S	Jane Kenney	24/11/2022
G2754_0081	93754	SH85800 14485	Water treatment works with steps going up to reservoir		SE	Jane Kenney	24/11/2022
G2754_0082	93754	SH85800 14485	Water treatment works with steps going up to reservoir		SE	Jane Kenney	24/11/2022
G2754_0083	93754	SH85800 14485	Water treatment works with steps going up to reservoir		SE	Jane Kenney	24/11/2022
G2754_0084		SH85899 13778	Meirion Mill		NE	Jane Kenney	24/11/2022

APPENDIX III

Gwynedd Archaeological Trust Written Scheme of Investigation

DINAS MAWDDWY, GWYNEDD (G2754)

WRITTEN SCHEME OF INVESTIGATION FOR ARCHAEOLOGICAL ASSESSMENT

Prepared for Natural Resources Wales, October 2022

1	INTRODUCTION	6
1.1	Monitoring Arrangements	8
1.2	Historic Environment Record	9
2	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND.....	10
3	METHODOLOGY	11
3.1	Introduction	11
3.2	Desk-based Research.....	12
3.3	Walkover Survey	14
3.4	Gazetteer of Features	15
3.5	Working Project Archive Selection Strategy and Data Management Plan	18
4	PERSONNEL.....	21
5	HEALTH AND SAFETY	22
6	SOCIAL MEDIA	23
7	INSURANCE.....	24
7.1	Public/Products Liability	24
7.2	Employers Liability	24
7.3	Professional Indemnity	24
8	SOURCES CONSULTED.....	25
	FIGURE 01.....	26
	Location Plan, based on Ordnance Survey Sheets SH81. The thinning/felling areas are outlined in Figure 03. Scale 1:15000@A4.	26
	FIGURE 02.....	27
	Reproduction of Natural Resources Wales Location Plan detailing contract area. Scale: as shown.....	27
	Figure 03	28
	Reproduction of Natural Resources Wales Operations Plan detailing clearfelling and thinning areas. Scale: as shown.	28
	Figure 04	29
	Reproduction of the First Edition Ordnance Survey Meirionethshire County Series 25-mile to 1-inch Map Sheet XXXVIII.8 (published 1889). Scale: 1 to 15000@A4. The thinning/felling areas are outlined in Figure 03.	29
	FIGURE 05.....	30

Reproduction of the Second Edition Ordnance Survey Meirionethshire County Series 25-mile to 1-inch Map Sheet XXXVIII.8 (published 1901). Scale: 1 to 15000@A4. The thinning/felling areas are outlined in Figure 03.	30
Figure 06	31
Location of known assets. Based on Ordnance Survey 1:10000 County Series Map Sheet SH81. Scale: 1 to 15000@A4. © Crown copyright. All rights reserved. License number AL100020895. The thinning/felling areas are outlined in Figure 03.....	31
APPENDIX I	32
Gwynedd Archaeological Trust basic recording pro-forma	32
APPENDIX II	33
Gwynedd Archaeological Trust photographic metadata pro-forma	33
APPENDIX III	34
Gwynedd Archaeological Trust Selection Strategy	34

1 INTRODUCTION

Gwynedd Archaeological Trust Contracts Section (GAT) has been commissioned by Natural Resources Wales (NRW) to undertake an archaeological assessment near Brynlllys, Dinas Mawddwy, Gwynedd (NGR SH85311499; postcode SY20 9JD; [Figure 01](#)), as part of a woodland management project. The project is required to design and deliver civil engineering infrastructure within Dyfi north forest block west of the A470 at Dinas Mawddwy to facilitate the felling of infected larch trees (*Phytophthora ramorum*) and other conifers. The ability to proceed with the felling is via an amendment made to the Forest Development Plan/Forestry Research Programme proforma in order to comply with a statutory plant health notice (SPHN) order. A SPHN is a notice that requires the destruction of the trees within a defined time period; due to the nature of the SPHN, the works are unplanned and therefore do not meet the prerequisite of programmed timber sales and associated infrastructure improvements often delivered by NRW's Integrated Engineering teams (formally Forest Civil Engineering). In addition, due to the roadside risk of treefall and increased profile of the project within a National Park setting, Projects and Programme Delivery (PPD) have been approached to deliver the works. The delivery of appropriate civil engineering infrastructure such as, tracks, armoured platforms, turning areas and stacking bays will allow NRW's harvesting contractors to safely work the complex sites by means of harvester/forwarder and skyline plant. The woodland is as defined in [Figure 01](#), with the management area defined in yellow in [Figure 02](#) and the clearfelling and thinning areas defined in [Figure 03](#).

The aim of the project is to reduce an immediate environmental and health and safety liability to NRW, whilst providing infrastructure for future forest operational works. The aim of the archaeological works is to mitigate the potential for damage to archaeological remains on-site and will be undertaken both prior to and concurrent with the programme of proposed felling. The archaeological assessment will comprise:

- an archaeologist to mark out sensitive features before activity commences (especially felling) to ensure they are not harmed during works – this would need to include an initial desk-based review of historic asset data and site visit so known assets can be located on the ground; and
- a field visit to demarcate assets.

Subsequent mitigation will include a watching brief during felling operations to monitor the demarcated areas. The scope of these works will be included in a separate written scheme of investigation.

The desk-based review of historic asset data and site visit and will be undertaken during November 2022, with the demarcation and watching brief to be undertaken at a later date. The following guidance will be applied:

- Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1 (The Welsh Archaeological Trusts, 2018);
- Guidelines for digital archives (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
- Management of Archaeological Projects (English Heritage, 1991);
- Management of Research Projects in the Historic Environment: The MoRPHE Project Managers' Guide (Historic England, 2015);
- Standard and Guidance for an Archaeological Assessment; (Chartered Institute for Archaeologists, 2020);
- Standard and guidance for the collection, documentation, conservation and research of archaeological materials (Chartered Institute for Archaeologists, 2020); and
- Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives (Chartered Institute for Archaeologists, 2020).

Gwynedd Archaeological Trust is certified to ISO 9001:2015 and ISO 14001:2015 (Cert. No. 74180/B/0001/UK/En) and is a Registered Organisation with the Chartered Institute for Archaeologists.

1.1 Monitoring Arrangements

The archaeological mitigation will be monitored by the Gwynedd archaeological Planning Service (GAPS) and the Snowdonia National Park Archaeologist (SNPA); the content of this specification and all subsequent reporting by the archaeological contractor (Gwynedd Archaeological Trust) must be approved by GAPS and SNPA prior to final issue.

1.2 Historic Environment Record

In line with the Gwynedd Historic Environment Record (HER) requirements, the HER will be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the HER and follows the guidance set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (The Welsh Archaeological Trusts, 2018). The HER will be informed of the project start date, location including grid reference, estimated timescale for the work, and further relevant information associated with the project.

The HER Enquiry Number Enquiry number for the project is **GATHER1736** and the Event Primary Reference Number (PRN) is **46505**. The HER will be responsible for supplying Primary Reference Numbers (PRN) for any new assets identified and recorded, including those identified during the initial site walk-over survey and the subsequent monitoring of felling operations.

Prior to submission of data to the HER on completion of the project, a bilingual event summary document will be prepared in *Microsoft Word* based on the format defined in section 4.2 of *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

There is known archaeological activity within the woodland and surrounding area. Activity includes various assets associated with post medieval industrial activity including mining, slate quarries and associated infrastructure such as cottages and farmsteads (cf. [Figure 06](#)). Assets include Minllyn Slate Quarry (Primary Reference Number (PRN) 20457; NGR SH85201390) located to the south of the woodland a range of structures located within the proposed thinning/felling area, including a level (PRN 93751; NGR SH85391462), a quarry (PRN 93758; NGR SH85521486), a reservoir (PRN 93757; NGR SH85551490), a magazine (PRN 93760; NGR SH85621484) all located on the first edition Meirionethshire County Series 25-mile map Sheet XXXVIII.8 (published 1889), as well as Targwrmoel slate quarry (PRN 20458; NGR SH85541487).

Earlier archaeological assets in the area include the route of the Brithdir to Long Mountain Roman Road (PRN 17791; NGR SH85821458), postulated to run along the eastern boundary of the woodland coupe.

A brief examination of the Meirionethshire County Series 25-mile map Sheet XXXVIII.8 First (1889) and Second (1900) Edition Ordnance Survey maps (Figures [04](#) and [05](#) respectively), show the woodland as already established, with the Minllyn Slate Quarry clearly visible to the south. In the first edition, the quarry is called the *Carlyle Slate & Slab Works* but is called the *Minllyn Slate & Slab Works* in the second edition, published eleven years later; in both the incline tramway, plane, levels and quarry are visible. Within the woodland, the first edition both editions show a series of paths or trails, as well as an old quarry, levels and reservoir, with the second edition providing more detail on the extent of the quarry workings; the second edition also shows a reservoir belonging to the *Mallwyd U.D.O. Water Works*

3 METHODOLOGY

3.1 Introduction

The programme of archaeological works will mitigate the potential for damage to archaeological remains on-site and will be undertaken both prior to and concurrent with the programme of proposed felling. The work involves felling of infected larch trees and will include the delivery of appropriate civil engineering infrastructure such as tracks, armoured platforms, turning areas and stacking bays will allow NRW's harvesting contractors to safely work the complex sites by means of harvester/forwarder and skyline plant. The desk-based review of historic asset data and site visit and will be undertaken during November 2022, with the demarcation and watching brief to be undertaken at a later date (GAPS and SNPA to be informed as appropriate).

3.2 Desk-based Research

The desk-based research will include a study of the following resources:

1. The regional Historic Environment Register ((HER) Gwynedd Archaeological Trust, Craig Beuno, Ffordd y Garth, Bangor, Gwynedd LL57 2RT) will be examined for information concerning the mitigation area as detailed in Figure 01. Examination of the core HER will be undertaken, including the 25-mile to 1-mile County Series Ordnance Survey maps (Merionethshire Sheet XXXVIII.8) and any secondary information held within the HER. This will include the following reports and sources:
 - Davidson, A., Dutton, D., Flook, H. & Gwyn, D. Rh., 1995, Gwynedd Slate Quarries: An Archaeological Survey 1994-5;
 - Davidson, A., Dutton, D., Flook, H. & Gwyn, D. Rh., 1995, Gwynedd Slate Quarries: An Archaeological Survey 1994-5. Appendix 1 Part 1;
 - Davidson, A., Dutton, D., Flook, H. & Gwyn, D. Rh., 1995, Gwynedd Slate Quarries: An Archaeological Survey 1994-5. Appendix 1 Part 2;
 - Davidson, A., Gwyn, D. Rh., Jones, G. P. & Riley, H., 1994, Gwynedd Quarrying Landscapes: Slate Quarries;
 - Gwyn, D., 2015, Welsh Slate: Archaeology and History of an Industry
 - Richards, A. J., 1991, A Gazetteer of the Welsh Slate Industry; and
 - Roberts, J. G., 2002, Archaeological Potential of Ancient and Semi-natural Woodland.

All identified features will be mapped, described and added to a gazetteer of sites;

2. The National Monuments Record of Wales (Royal Commission on the Ancient and Historical Monuments of Wales, Plas Crug, Aberystwyth SY23 1NJ) and the online catalogue of the National Library of Wales (Penglais Rd, Aberystwyth SY23 3BU) will be examined checked for any sites additional to the HER;
3. Aerial photographs from the National Monuments Record of Wales (Royal Commission on the Ancient and Historical Monuments of Wales, National Monuments Record of Wales, Plas Crug, Aberystwyth SY23 1NJ) will be examined for potential features. This will include 1946 RAF vertical aerial photographs;
4. Archive data, including primary and secondary sources, historic maps and estate maps will be examined at the regional archives, if open and accessible. Archive data will include historic mapping such as the local tithe map and schedule;

5. Light Detection and Ranging (LiDAR) data will be examined from the Lle Geo-Portal at <http://lle.gov.wales/home> for information on potential surface features using digital terrain modelling and digital surface modelling;

3.3 Walkover Survey

A walkover survey will be undertaken the area outlined red in [Figure 01](#) and paying particular attention to the felling and thinning areas highlighted in [Figure 03](#). The aim will be to visit known assets and add any new information not previously recorded. The assets will be mapped and located in advance as part of the desk-based assessment, using a combination of historic and GIS based data; this information will then be used to prepare a list of known assets; these lists will include the Primary Reference Number (PRN), Site Name, Site Type and National Grid Reference co-ordinate for each asset. Whilst the archaeological features identified in previous work are recorded on the Historic Environment Record, their spatial extents may not have been mapped in detail and the walkover survey will aim to enhance this record.

A handheld GPS unit will be used during the walkover survey and a photographic record will be maintained in RAW format using a digital SLR set to maximum resolution (Nikon D3000; resolution: 3,872 × 2,592 [10.2 effective megapixels]) and photographic metadata table will be completed and included in the report. Photographic images will be archived in TIFF format; the archive numbering system will start from G2754_001.

To inform the monitoring strategy, the archaeological assets will be added to a gazetteer and their relative importance defined, along with any newly identified assets. Any additional assets not previously identified will also be included.

Further to the desk-based research and walkover survey, GAT will work with NRW to mark out any archaeological features at threat of disturbance from felling activity, in advance of felling works commencing. The archaeological contractor will then attend the site during the felling operations to monitor works and ensure that this is not having an adverse impact on archaeological remains (the scope of this will be defined in a separate written scheme of investigation); GAPS and SNPA will be kept updated of the timetable as part of the monitoring process.

3.4 Gazetteer of Features

A gazetteer will be compiled for any existing and newly identified sites, based on information sourced from the desk-based assessment and walkover survey; the gazetteer will be prepared in the following format and will include:

Feature Number	
Site name	
PRN number	
Grid reference	
Designation	
Period	
Site type	
Assessment category	
Description	
Impact	
Recommendation	

The following categories will be used to define the assessment category of each archaeological asset:

Category A - Sites of National Importance.

Scheduled Monuments, Listed Buildings of grade II* and above, as well as those that would meet the requirements for scheduling (ancient monuments) or listing (buildings) or both. Sites that are scheduled or listed have legal protection, and it is recommended that all Category A sites remain preserved and protected *in situ*.

Category B - Sites of regional or county importance.

Grade II listed buildings and sites which would not fulfil the criteria for scheduling or listing, but which are nevertheless of particular importance within the region. Preservation *in situ* is the preferred option for Category B sites, but if damage or destruction cannot be avoided, appropriate detailed recording might be an acceptable alternative.

Category C - Sites of district or local importance.

Sites which are not of sufficient importance to justify a recommendation for preservation if threatened. Category C sites nevertheless merit adequate recording in advance of damage or destruction.

Category D - Minor and damaged sites.

Sites that are of minor importance or are so badly damaged that too little remains to justify their inclusion in a higher category. For Category D sites, rapid recording, either in advance of or during destruction, should be sufficient.

Category E - Sites needing further investigation.

Sites, the importance of which is as yet undetermined and which will require further work before they can be allocated to categories A - D are temporarily placed in this category, with specific recommendations for further evaluation.

The impact of the proposed works on any asset will be identified using the following impact criteria, defined either as *none, slight, unlikely, likely, significant, considerable or unknown* as follows:

None:

There is no construction impact on this asset.

Slight:

This has generally been used where the impact is marginal and would not by the nature of the site cause irreversible damage to the remainder of the asset, *e.g.* part of a trackway or field bank.

Unlikely:

This category indicates sites that fall within the band of interest but are unlikely to be directly affected. This includes sites such as standing and occupied buildings at the margins of the band of interest.

Likely:

Sites towards the edges of the study area, which may not be directly affected, but are likely to be damaged in some way by the construction activity.

Significant:

The partial removal of an asset affecting its overall integrity. Assets falling into this category may be linear features such as roads or tramways where the removal of part of the feature could make overall interpretation problematic.

Considerable:

The total removal of an asset or its partial removal which would effectively destroy the remainder of the site.

Unknown:

This is used when the location of the asset is unknown, but thought to be in the vicinity of the proposed works.

3.5 Working Project Archive Selection Strategy and Data Management Plan

As stated in *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (Chartered Institute for Archaeologists, 2020), para. 3.3.1, “Project specifications, research designs or similar documents should include a project- specific Selection Strategy and a Data Management Plan. The Chartered Institute for Archaeologists states that “(I)t is widely accepted that not all the records and materials collected or created during the course of an Archaeological Project require preservation in perpetuity. These records and materials constitute the Working Project Archive which will be subject to Selection, in order to establish what will be retained for long-term curation” (<https://www.archaeologists.net/selection-toolkit>). The working project archive in this instance will comprise digital data including photographic data, documentation and written data, as well as paper records, including project pro-formas. The Data Management Plan will be stored on a project specific form in the GAT project database (format: *Microsoft Access*) and the Selection Strategy will be based on a GAT pro-forma (format *Microsoft Word*; cf. [Appendix III](#)) that will be appended to the final report.

This working project archive data will be processed as follows:

1. Pro-formas: all cross referenced and scanned for digital archiving;
2. Photographic Metadata: cross-referenced with all pro-formas and completed in *Microsoft Excel*;

Information from these will be used to compile the project report. The physical archive will be stored in a designated project folder and the location confirmed in the Data Management Plan; the digital dataset will be stored on a dedicated Trust server, with the location confirmed in the Data Management Plan via a specific hyperlink. External datasets for the HER and RCAHMW are as defined in the dissemination strategy below.

The project report will include the following:

1. Front cover;
 2. Inner cover;
 3. Figures and Plates List;
 4. Non-technical summary (Welsh/English);
 5. Introduction;
 6. Methodology;
 - i. Archaeological mitigation;
 - ii. Field survey;
 7. Results;
 - a. Desk-based assessment;
 - b. Field survey;
 - c. Gazetteer of features;
 8. Conclusions
 9. Acknowledgements;
 10. Bibliography;
 - a. Primary sources;
 - b. Secondary sources;
 11. Figures; inc.:
 - location plan;
 - historic mapping;
 - location plan with identified features.
 12. Plates; inc.
 - Illustrative examples from the field survey
 13. Appendix I (approved specification);
 14. Appendix II (Sites listed on GAT Historic Environment Record);
 15. Appendix III (Photographic metadata - field survey);
 16. Appendix IV (Selection Strategy)
- Back cover.

Illustrations will include plans of the location of the study area and archaeological sites. Historical maps, when appropriate and if copyright permissions allow, will be included.

The following dissemination and archiving of the report and digital dataset will be applied:

- A digital report will be provided to the client, GAPS & SNPA (draft report then final report);
- A digital report will be provided to the regional Historic Environment Record; this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMW Guidelines for Digital Archives Version 1*. The dataset will be prepared in the format required by RCAHMW and will include:
 - o Photographic metadata (Microsoft Access);
 - o Photographic archive (TIFF format);
 - o Project Information form (Excel);
 - o File Information form (Excel) – Microsoft Word report text final;
 - o File Information form (Excel) – Photographic metadata (general);
 - o File Information form (Excel) – Adobe PDF report final; and
 - o File Information form (Excel) - Photographic metadata (detail).

4 PERSONNEL

The project will be managed by John Roberts, Principal Archaeologist GAT Contracts Section with attendances on-site undertaken by a GAT Project Archaeologist(s). The Project Archaeologist will be responsible for following:

- All archaeological mitigation duties on site;
- Client/Felling contractor liaison;
- GAPS/SNPA liaison, with regular updates;
- Completing all on site pro-formas and the fieldwork archive itemised above, including the digital project register;
- Sourcing Primary Reference Numbers (PRN) from the GAT HER for any new features identified;
- Completing an event summary and creating or updating PRN data, dependent on results; and
- For submitting a draft final report for project manager review and approval, to then be submitted as per the arrangements defined above.

5 HEALTH AND SAFETY

Copies of the site-specific risk assessment will be supplied to the client prior to the start of the field survey. All GAT staff attending will be issued with required personal safety equipment, including high visibility jacket, steel toe-capped boots and safety helmet.

Due to the location and terrain, specific allowance will need to be made and appropriate control measures applied, including for the following:

- Access on foot only, with frequent overgrowth, over uneven terrain
- Steep drops;
- Intermittent phone signal; and
- Adverse weather.

6 SOCIAL MEDIA

One of the key aims in the GAT mission statement is to improve the understanding, conservation and promotion of the historic environment in our area and inform and educate the wider public. To help achieve this, GAT maintains an active social media presence and seeks all opportunities to promote our projects and results. With permission, GAT would like the opportunity to promote our work on this scheme through our social media platforms. This could include social media postings during our attendance on site as well as any postings to highlight results. In all instances, approval will be sought from client prior to any postings.

7 INSURANCE

7.1 Public/Products Liability

Limit of Indemnity- £5,000,000 any one occurrence and in the aggregate in respect of Product Liability

INSURER Ecclesiastical Insurance Office Plc.

POLICY TYPE Public/Products Liability

POLICY NUMBER UN/000375

EXPIRY DATE 21st June 2023

7.2 Employers Liability

Limit of Indemnity- £10,000,000 any one occurrence.

INSURER Ecclesiastical Insurance Office Plc.

POLICY TYPE Employers Liability

POLICY NUMBER 24765101 CHC / UN/000375

EXPIRY DATE 21st June 2023

7.3 Professional Indemnity

Limit of Indemnity- £5,000,000 in respect of each and every claim

INSURER Hiscox Insurance Company Limited

POLICY TYPE Professional Indemnity

POLICY NUMBER PL-PSC10002389775/00

EXPIRY DATE 22/07/2023

8 SOURCES CONSULTED

1. Chartered Institute for Archaeologists, 2020, Standard and guidance for archaeological assessment (Chartered Institute for Archaeologists, 2020);
2. Chartered Institute for Archaeologists, 2020, Standard and guidance for the collection, documentation, conservation and research of archaeological materials;
3. Chartered Institute for Archaeologists, 2020, Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives;
4. Chartered Institute for Archaeologists, 2020, Standard and guidance for the archaeological investigation and recording of standing buildings or structures;
5. Davidson, A., Dutton, D., Flook, H. & Gwyn, D. Rh., 1995, Gwynedd Slate Quarries: An Archaeological Survey 1994-5;
6. Davidson, A., Dutton, D., Flook, H. & Gwyn, D. Rh., 1995, Gwynedd Slate Quarries: An Archaeological Survey 1994-5. Appendix 1 Part 1;
7. Davidson, A., Dutton, D., Flook, H. & Gwyn, D. Rh., 1995, Gwynedd Slate Quarries: An Archaeological Survey 1994-5. Appendix 1 Part 2;
8. Davidson, A., Gwyn, D. Rh., Jones, G. P. & Riley, H., 1994, Gwynedd Quarrying Landscapes: Slate Quarries;
9. English Heritage, 1991, Management of Archaeological Projects (MAP2)
10. Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs) Version 1.1 (The Welsh Archaeological Trusts, 2018);
11. Guidelines for digital archives (Royal Commission on Ancient and Historic Monuments of Wales, 2015);
12. Gwyn, D., 2015, Welsh Slate: Archaeology and History of an Industry
Richards, A. J., 1991, A Gazetteer of the Welsh Slate Industry;
13. Historic England, 2015, Management of Research Projects in the Historic Environment (MoRPHE);
14. Roberts, J. G., 2002, Archaeological Potential of Ancient and Semi-natural Woodland; and
15. Royal Commission on Ancient and Historic Monuments of Wales, 2015, Guidelines for digital archives.

FIGURE 01

Location Plan, based on Ordnance Survey Sheets SH81. The thinning/felling areas are outlined in Figure 03. Scale 1:15000@A4.

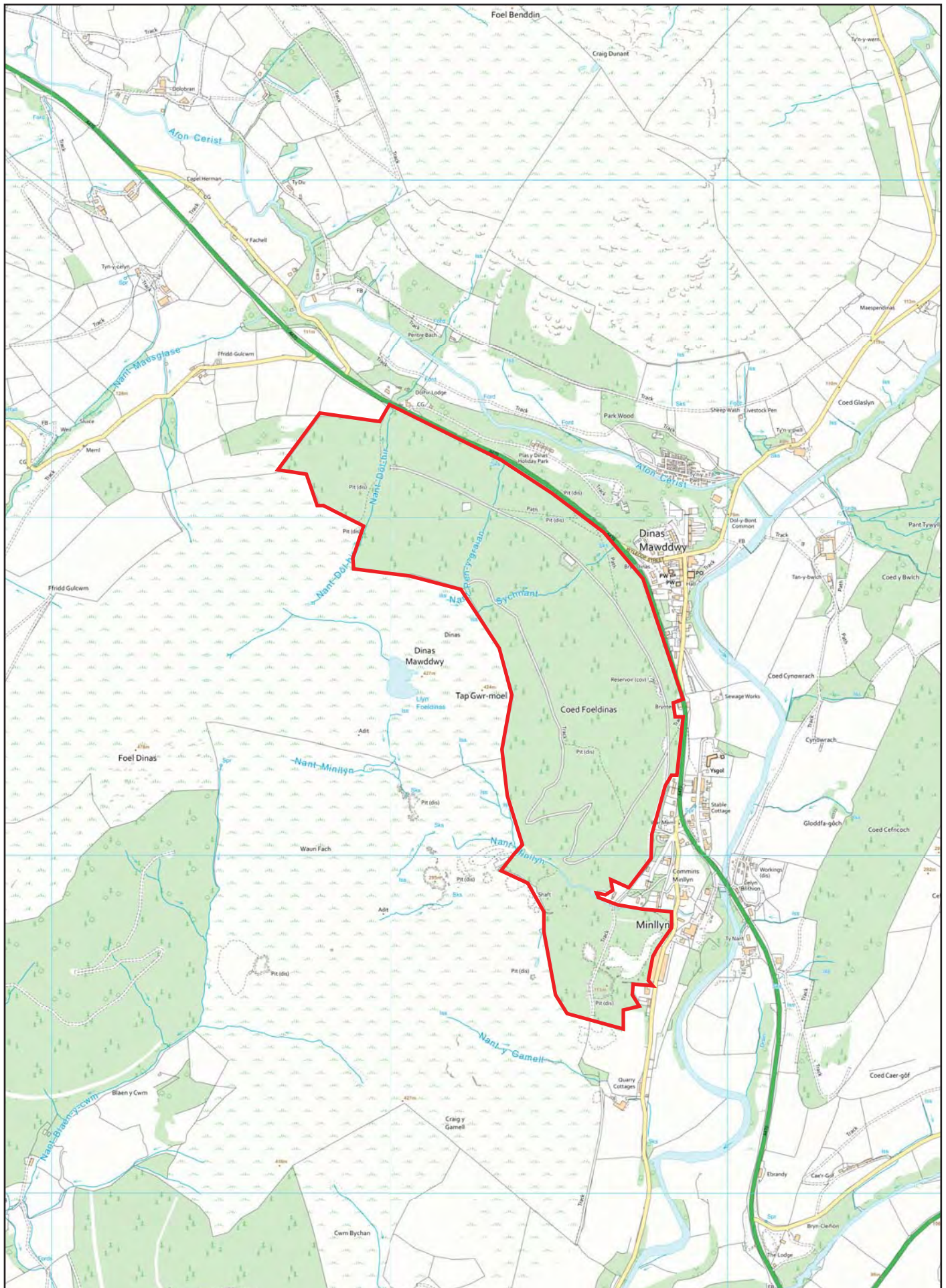
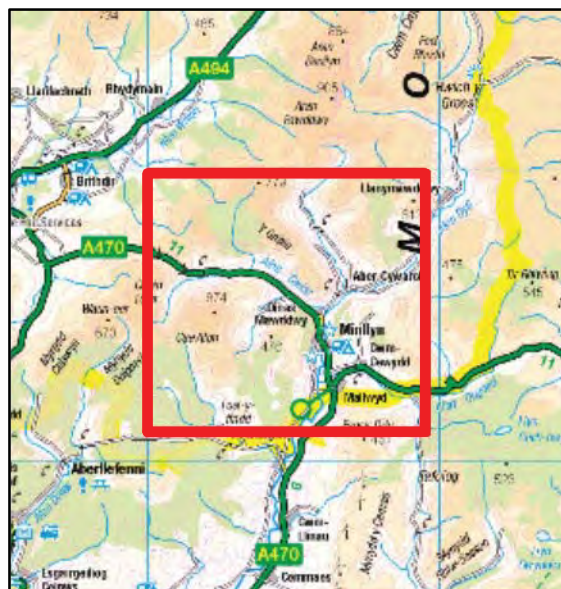
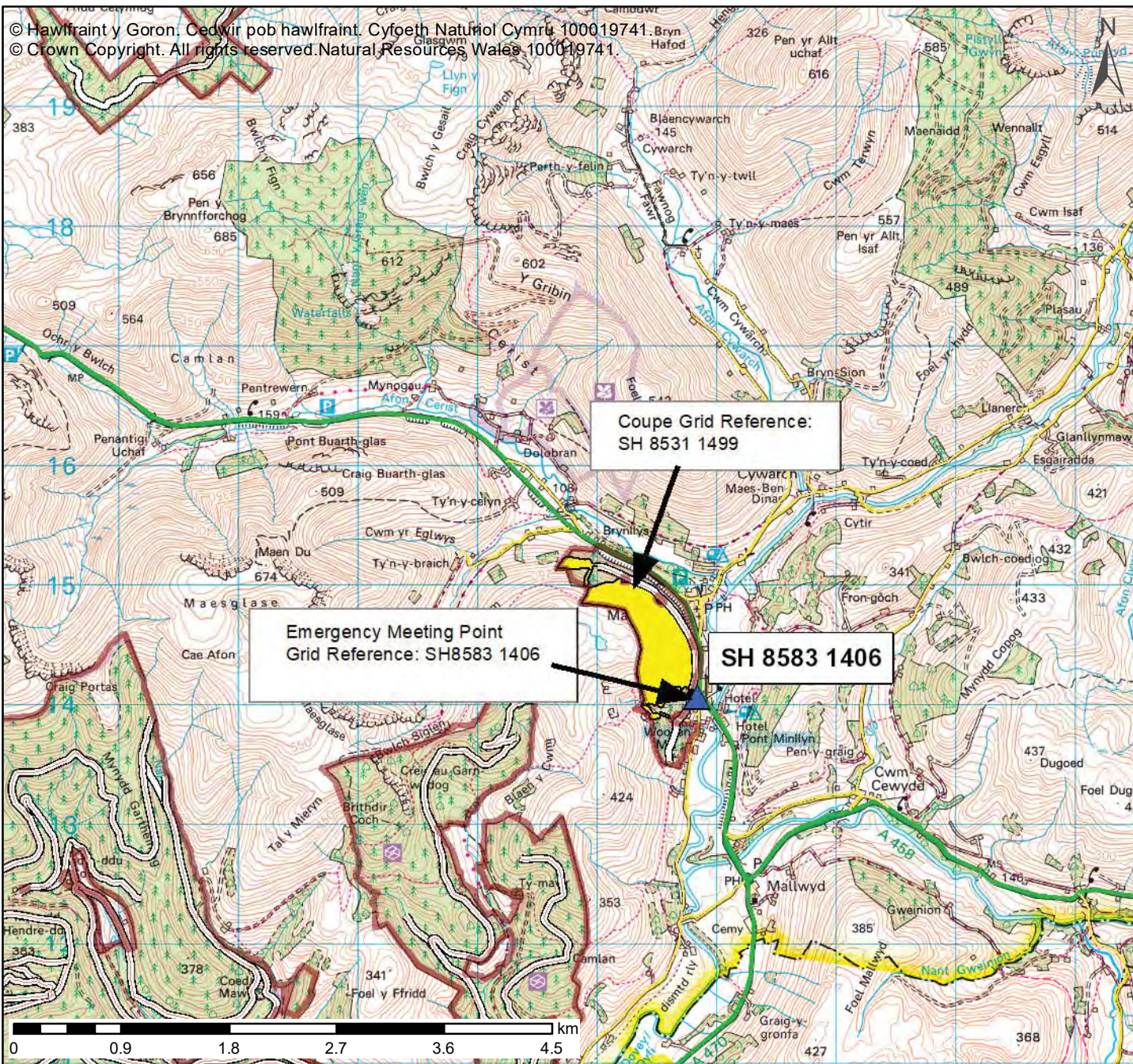


FIGURE 01: Location Plan, based on Ordnance Survey Sheets SH81. The thinning/felling areas are outlined in Figure 03. Scale 1:15000@A4.

FIGURE 02

Reproduction of Natural Resources Wales Location Plan detailing contract area. Scale: as shown.



1. Location

A4 Scale:
1:50,000

Contract Type:	Service - Harv - Fell, Thin and Extract
Forest District:	NRW Estate
Contract Name:	Projects Delivery
Contract No:	Dinas Mawddwy Phytophthora
Framework/ Service Contract:	
Extent Name:	Dinas Mawddwy SPHN Location map
Prepared By:	Iwan Parry
Date Prepared:	14/01/2022
Contract Manager:	Iwan Parry
Contract Status:	Open

1. Location

Projects Delivery
Dinas Mawddwy Phytophthora

Access Points

 Access Points

Forest Road Access Route

 Forest Road Access Route

 NRW Legal Boundary

OS Open Roads

 Motorway

 A Road

 B Road

 Minor Road

 Local Road

 Local Access Road

 Restricted Local Access Road

 Secondary Access Road

Forest Roads

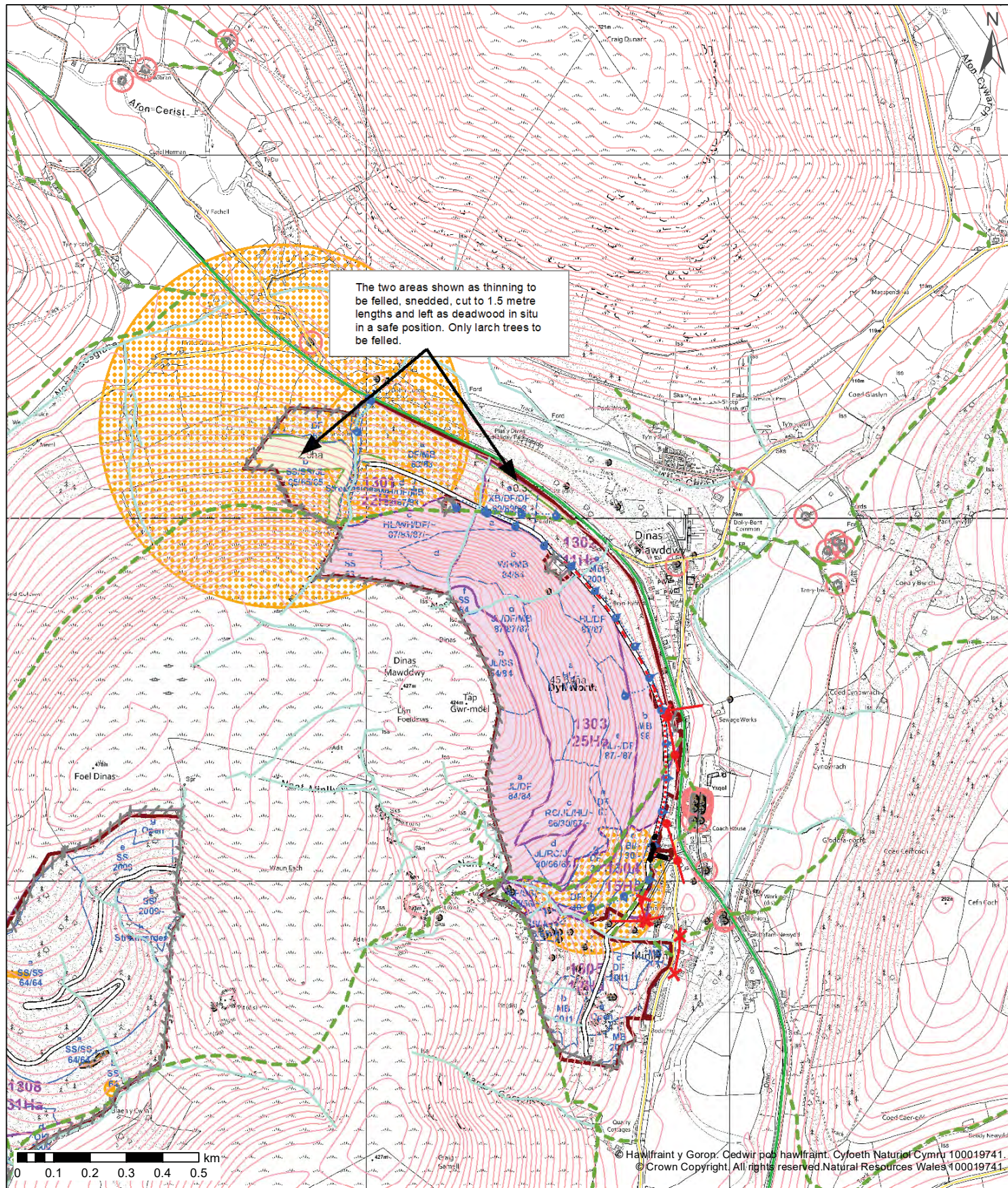
 Forest Roads

Contract Areas

 Contract Areas

FIGURE 03

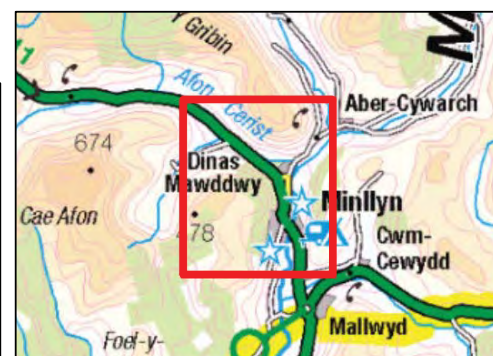
Reproduction of Natural Resources Wales Operations Plan detailing clearfelling and thinning areas. Scale: as shown.



4. Operations

A3 Scale: 1:10,000

Forest District:	NRW Estate	Contract Type:	Service - Harv - Fell, Thin and Extract
Contract Name:	Projects Delivery	Prepared By:	Iwan Parry
Contract No:	Dinas Mawddwy Phytophthora	Date Prepared:	14/01/2022
Framework/ Service Contract:		Contract Manager:	Iwan Parry
Extent Name:	Dinas Mawddwy SPHN Ops map	Contract Status:	Open



Forest Road Access Route

 Forest Road Access Route

Communications

 Overhead telephone or fibreoptic

 Underground telephone or fibreoptic

Water Pipelines

 Water Pipelines

Fences

 Fences

Powerline (UG)

 Powerline (UG)

Powerline (OH)

 Powerline (OH)

Public Rights of Way

 Public Rights of Way

Watercourses

 Watercourses

Forest Roads

 Forest Roads

OS Open Roads

 Motorway

 A Road

 B Road

 Minor Road

 Local Road

 Local Access Road

 Restricted Local Access Road

 Secondary Access Road

 OS Terrain 50 Contours

 NRW Legal Boundary

Compartments

 Compartments

Sub-compartments

 Sub-compartments

Conservation Sites

 Conservation Sites

Heritage

 Heritage

Heritage Designations (for CM)

 Battlefield

 Listed Building

 Other

 Park and Garden

 Scheduled Monument

Heritage Designations Impact Zone (for CM)

 Heritage Designations Impact Zone (for CM)

Blocks

 Blocks

Contract - Clearfelling

 Contract - Clearfelling

Contract - Thinning Area

 Contract - Thinning Area

Contract Areas (Contract Outline)

 Contract Areas (Contract Outline)

Conservation Impact Zones

 Conservation Impact Zones

FIGURE 04

Reproduction of the First Edition Ordnance Survey Meirionethshire County Series 25-mile to 1-inch Map Sheet XXXVIII.8 (published 1889). Scale: 1 to 15000@A4. The thinning/felling areas are outlined in Figure 03.

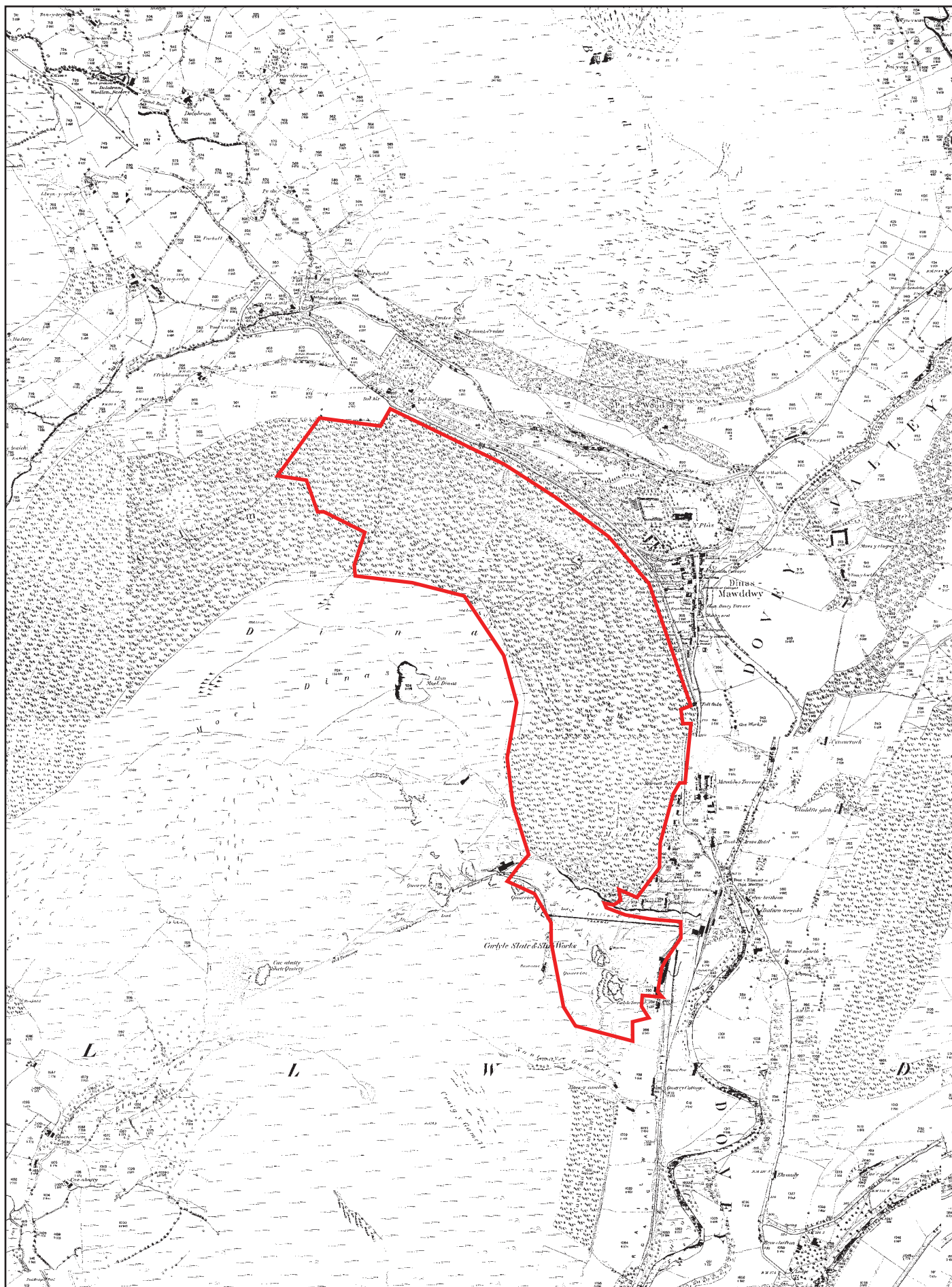


FIGURE 04: Reproduction of the First Edition Ordnance Survey Meirionethshire County Series 25-mile to 1-inch Map Sheet XXXVIII.8 (published 1889). Scale: 1 to 15000@A4.
The thinning/felling areas are outlined in Figure 03.

FIGURE 05

Reproduction of the Second Edition Ordnance Survey Meirionethshire County Series 25-mile to 1-inch Map Sheet XXXVIII.8 (published 1901). Scale: 1 to 15000@A4. The thinning/felling areas are outlined in Figure 03.

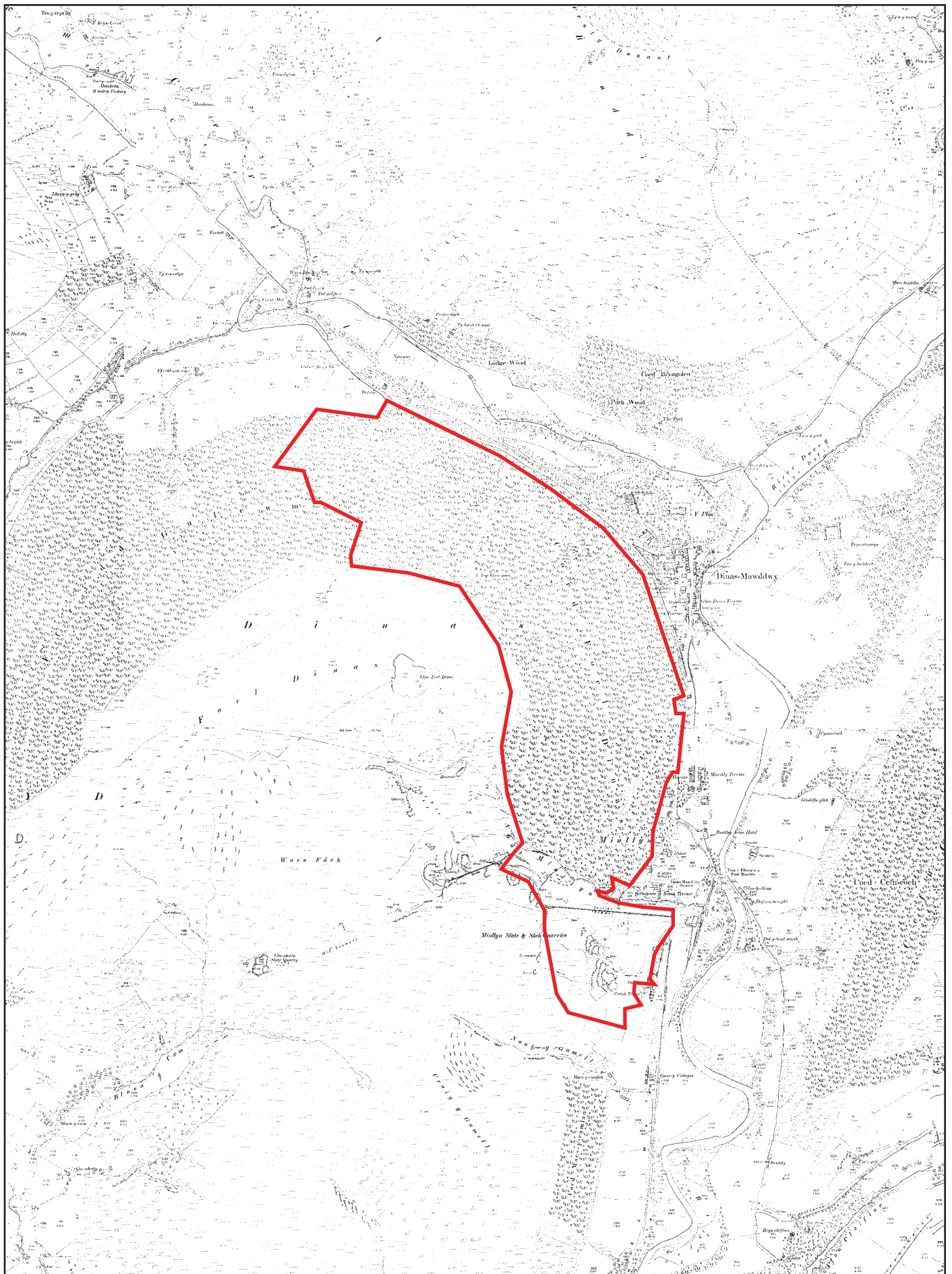


FIGURE 05: Reproduction of the Second Edition Ordnance Survey Meirionethshire County Series 25-mile to 1-inch Map Sheet XXXVIII.8 (published 1901). Scale: 1 to 15000@A4.
The thinning/felling areas are outlined in Figure 03.

FIGURE 06

Location of known assets. Based on Ordnance Survey 1:10000 County Series Map Sheet SH81. Scale: 1 to 15000@A4. © Crown copyright. All rights reserved. License number AL100020895. The thinning/felling areas are outlined in Figure 03.

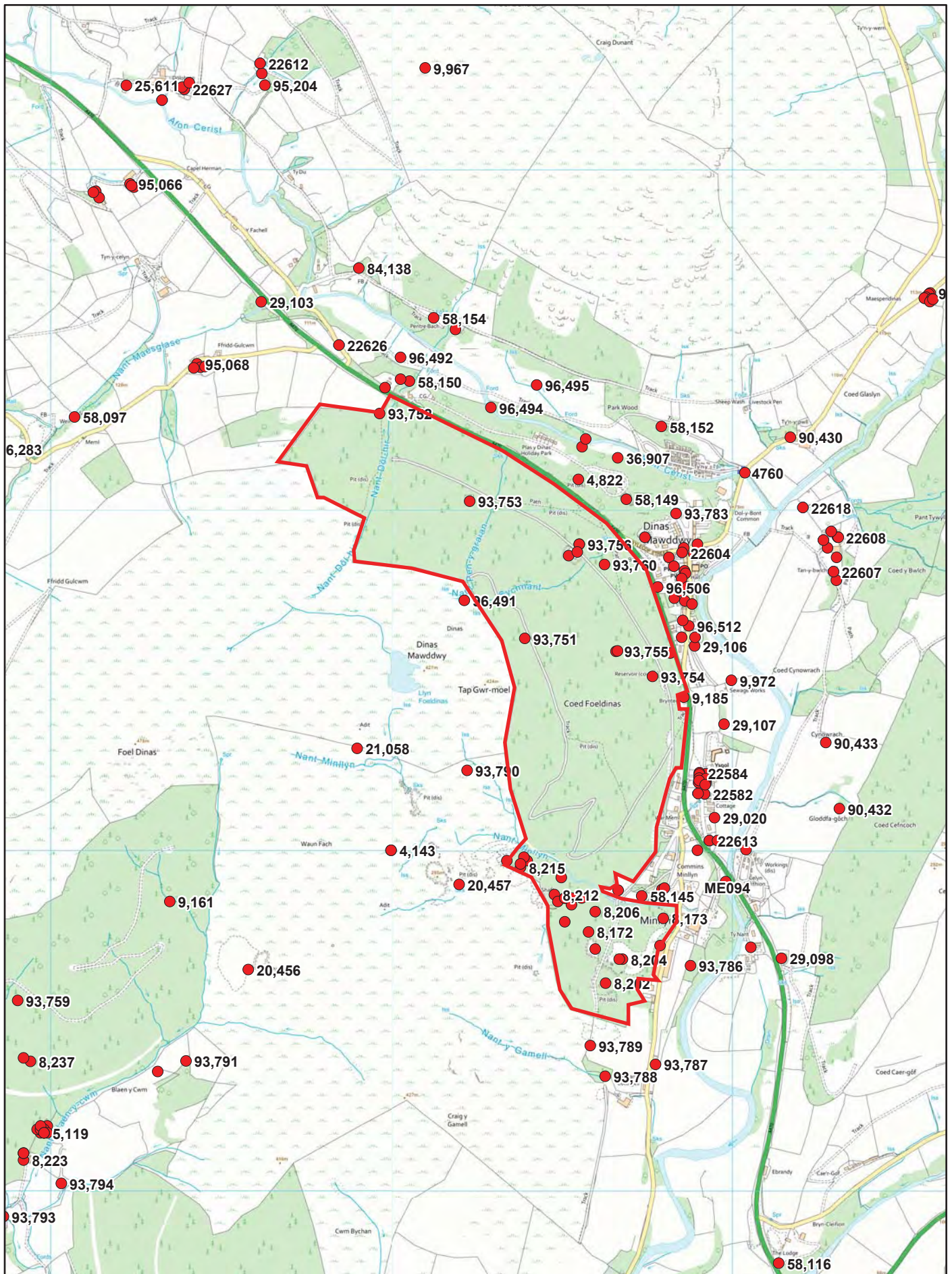


FIGURE 06: Location of known assets. Based on Ordnance Survey 1:10000 County Series Map Sheet SH81. Scale: 1 to 15000@A4. © Crown copyright. All rights reserved. License number AL100020895. The thinning/felling areas are outlined in Figure 03.

APPENDIX I

Gwynedd Archaeological Trust basic recording pro-forma

YMDDIRIEDOLAETH ARCHAEOLEGOL GWYNEDD ARCHAEOLOGICAL TRUST		
BASIC RECORDING FORM	Project name	Project number
Feature name		Feature Number
NGR		
Description		
Recommendations for further assessment		
Photographic record numbers		
Digital		
	Visit date	Visit by

APPENDIX II

Gwynedd Archaeological Trust photographic metadata pro-forma

Digital Photographic Record

Include main context numbers for each shot, drawing numbers for sections and any other relevant numbers for cross referencing. Regularly upload photographs to computer. Delete any unwanted photos **immediately** from the camera.

[illegible]

APPENDIX III

Gwynedd Archaeological Trust Selection Strategy

G2754_Dinas_Mawddwy

25/10/2022 v1.0

Selection Strategy

Project Information

Project Management

General Manager	John Roberts john.roberts@heneb.co.uk	
Project Manager / Archaeological Archive Manager	John Roberts john.roberts@heneb.co.uk	
Organisation	Gwynedd Archaeological Trust (GAT)	
Stakeholders		Date Contacted
Collecting Institution(s)	Gwynedd Archaeological Trust Historic Environment Record	25/10/2022
	RCAHMW	tbc
Project Lead / Project Assurance	Gwynedd Archaeological Planning Service and the Snowdonia National Park Authority Archaeologist	tbc
Landowner / Developer	Natural resource Wales	07/09/2022

Resources

Resources required

Describe the resources required to implement this Selection Strategy, particularly if unusual resources are required.

No unusual resources required outside of GAT normal operating equipment and personnel.

Context

Describe below the context of this Selection Strategy. You should refer to:

- The aims and objectives of the project;
- Local Authority guidance (including the brief);
- Research Frameworks;
- The repository collection development policy and/or deposition policy;
- Material-specific guidance documents.

Note: This section may be copied from your Project Design/WSI to ensure all Stakeholders receive this context

information.

The full aims and objectives of this project are detailed in the project specific WSI:

Gwynedd Archaeological Trust Contracts Section (GAT) has been commissioned by Natural Resources Wales (NRW) to undertake archaeological mitigation near Brynlllys, Dinas Mawddwy, Gwynedd (NGR SH85311499; postcode SY20 9JD; WSI Figure 01), as part of a woodland management project. The project is required to design and deliver civil engineering infrastructure within Dyfi north forest block west of the A470 at Dinas Mawddwy to facilitate the felling of infected larch trees (*Phytophthora ramorum*) and other conifers. The ability to proceed with the felling is via an amendment made to the Forest Development Plan/Forestry Research Programme proforma in order to comply with a statutory plant health notice (SPHN) order. A SPHN is a notice that requires the destruction of the trees within a defined time period; due to the nature of the SPHN, the works are unplanned and therefore do not meet the prerequisite of programmed timber sales and associated infrastructure improvements often delivered by NRW's Integrated Engineering teams (formally Forest Civil Engineering). In addition, due to the roadside risk of treefall and increased profile of the project within a National Park setting, Projects and Programme Delivery (PPD) have been approached to deliver the works. The delivery of appropriate civil engineering infrastructure such as, tracks, armoured platforms, turning areas and stacking bays will allow NRW's harvesting contractors to safely work the complex sites by means of harvester/forwarder and skyline plant. The aim of the project is to reduce an immediate environmental and health and safety liability to NRW, whilst providing infrastructure for future forest operational works. The aim of the archaeological works is to mitigate the potential for damage to archaeological remains on-site and will be undertaken both prior to and concurrent with the programme of proposed felling. The archaeological mitigation will comprise:

- an archaeologist to mark out sensitive features before activity commences (especially felling) to ensure they are not harmed during works – this would need to include an initial desk-based review of historic asset data and site visit so known assets can be located on the ground;
- a field visit to demarcate assets;
- a watching brief during felling operations to monitor the demarcated areas.

The desk-based review of historic asset data and site visit will be undertaken during November 2022, with the demarcation and watching brief to be undertaken at a later date.

Source: Gwynedd Archaeological Trust. 2022. G2754_Dinas_Mawddwy: *Written Scheme of Investigation for Archaeological Mitigation. Project G2754.*

1 – Digital Data

Stakeholders

Name the individual(s) responsible for the Digital Data Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Collections Curator).

John Roberts (GAT Principal Archaeologist)

Selection

Location of Data Management Plan (DMP)

Selection of digital data elements should be considered in your project's DMP. For the purpose of the Selection Strategy, you can either copy the selection section of your DMP below, or attach it as an appendix to this document. Please indicate here if the DMP is attached.

All digital data will be collected, stored and selected in lines with the Gwynedd Archaeological Trust (GAT) Data Management Plan located on GAT's servers (available on request).

The selection strategy in your DMP should:

- 1.1 Define what digital data will be selected for inclusion in the archaeological archive, how this will be done, and why. Do not forget to consider that specialists may have digital data that should be included in the archaeological archive.
- 1.2 Identify the selection review points during the project (i.e. project planning, data gathering, analysis and reporting and archive compilation).
- 1.3 Reference all relevant standards, policies or guidelines (e.g. digital repository deposition requirements) and specialist advice sought.
- 1.4 Identify any selection decisions that differ from standard guidelines and explain why.

Archiving will be completed based on following task list;

- Pro-formas: all cross referenced and scanned for digital archiving;
- Photographic Metadata: cross-referenced with all pro-formas and completed in *Microsoft Excel*;

This data will then be used as the basis for the physical and digital dataset archives. Information from these will be used to compile the project report. The physical archive will be stored in a designated project folder and the location confirmed in the Trust project database; the digital dataset will be stored on a dedicated Trust server, with the location confirmed in the Trust project database via a specific hyperlink. External datasets for the HER and RCAHMW are as defined in the dissemination strategy below. De-selected digital data will be confirmed in an updated digital management plan appended to the final report

De-Selected Digital Data

The procedure for dealing with De-selected digital data and what specialist advice informed this process should be recorded in your DMP. Please copy this information here or attach your DMP as an appendix to this document.

It is envisaged that the de-selected material will be retained on the GAT servers for 2 years following the completion of the project at which point they will be reviewed and deleted as necessary in line with the GAT DMP.

Amendments

Detail any amendments to the above selection strategy here.

Date	Amendment	Rationale	Stakeholders

2 – Documents

Stakeholders

Name the individual(s) responsible for the Documents Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
Sean Derby – Historic Environment Record, Gwynedd Archaeological Trust;
Gareth Edwards, *Head of Knowledge and Understanding, RCAHMMW*

Selection

Describe your Selection Strategy for the Documents elements of the archaeological archive. To do this you must:

- 2.1 Define which documents will be selected for inclusion in the archaeological archive, how this will be done, and why. Do not forget to consider that specialists may have documents that should be included in the archaeological archive.
- 2.2 Identify the selection review points during the project (e.g. project planning, data gathering, analysis and reporting and archive compilation).
- 2.3 Reference all relevant standards, policies or guidelines (e.g. digital repository deposition requirements) and specialist advice sought.
- 2.4 Identify any selection decisions that differ from standard guidelines and explain why.

- A digital report will be provided to the regional Historic Environment Record; this will be submitted within six months of project completion (final report only), along with a digital dataset comprising an Event PRN summary. The report and dataset will be submitted in accordance with the required standards set out in *Guidance for the Submission of Data to the Welsh Historic Environment Records (HERs)* (Version 1.1); and
- A digital report and digital archive dataset will be provided to Royal Commission on Ancient and Historic Monuments, Wales (final report only), in accordance with the *RCAHMMW Guidelines for Digital Archives Version 1*. The dataset will be prepared in the format required by RCAHMMW and will include:
 - Photographic metadata (Microsoft Access);
 - Photographic archive (TIFF format);
 - Project Information form (Excel);
 - File Information form (Excel) – Microsoft Word report text final;
 - File Information form (Excel) – Photographic metadata (general);
 - File Information form (Excel) – Adobe PDF report final; and
 - File Information form (Excel) - Photographic metadata (detail).

De-Selected Documents

Describe the procedure for dealing with De-selected material and what specialist advice has informed this procedure.

It is envisaged that the material de-selected from inclusion in the preserved archive will be duplicates or re-productions created during the analysis phase of the project. De-selected material will therefore either be retained to supplement GAT's research files or recycled.

Amendments

Detail any amendments to the above selection strategy here.

Date	Amendment	Rationale	Stakeholders

3 – Materials

Note: This step should be completed for each material component of the archaeological archive. Copy this table for the various materials as required, providing the 'Material Type' and a section identifier (eg. '3.1') for each.

Material type	Bulk Finds	Section 3.	
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Stakeholders

Name the individual(s) responsible for the Materials Selection decisions (i.e. Archaeological Archive Manager, Project Manager, Repository Representative).

John Roberts – Principal Archaeologist, Gwynedd Archaeological Trust;
Tom Fildes –Planning Archaeologist, Gwynedd Archaeological Planning Service;
TBC, *Curatorial Officer at Storiel*

There are known findspots within the local and any diagnostic artefacts recovered during the watching brief will be retained for further examination and identification. Pottery sherds of 19th and 20th century date will be examined on-site and the context from which they were retrieved noted but the sherds will not be retained. The artefacts will be treated according to guidelines issued by the UK Institute of Conservation, in particular the advice provided within *First Aid for Finds* (Watkinson and Neal 2001).

Any waterlogged artefacts (e.g. wood or leather) that are to be recovered for post-excavation assessment and analysis will be processed in accordance with *Environmental Archaeology: a guide to the theory and practice of methods, from sampling and recovery to post-excavation* (English Heritage, 2011) and specifically in accordance with Brunning and Watson (2010) for waterlogged wood and Historic England (2012) for waterlogged leather. In such cases an external specialist will be contacted to agree an appropriate sampling and recovery strategy via Lucy Whittingham Project Manager (post-excavation), AOC Archaeology, telephone: 0208 843 7380. All finds are the property of the landowner; however, it is Trust policy to recommend that all finds are donated to an appropriate museum (in this case Storiel, Ffordd Gwynedd, Bangor, Gwynedd LL57 1DT), where they can receive specialist treatment and study. Access to finds must be granted to the Trust for a reasonable period to allow for analysis and for study and publication as necessary. Trust staff will undertake initial identification, but any additional advice would be sought from a wide range of consultants used by the Trust, including National Museums and Galleries of Wales at Cardiff.

All finds of treasure must be reported to the coroner for the district within fourteen days of discovery or identification of the items. Items declared Treasure Trove become the property of the Crown, on whose behalf the Portable Antiquities Scheme acts as advisor on technical matters, and may be the recipient body for the objects.

The Treasure Valuation Committee, based at the British Museum, and informed by the Portable Antiquities Scheme, will decide whether they or any other museum may wish to acquire the object. If no museum wishes to acquire the object, then the Secretary of State will be able to disclaim it. When this happens, the coroner will notify the occupier and landowner that he intends to return the object to the finder after 28 days unless he receives no objection. If the coroner receives an objection, the find will be retained until the dispute has been settled. GAT will contact the landowner for agreement regarding the transfer of artefacts, initially to GAT and subsequently to the relevant museum (Storiel, Ffordd Gwynedd, Bangor, Gwynedd LL57 1DT). A GAT produced pro-forma will be issued to the landowner where they are given the option to donate the finds or to record that they want them returning to them once analysis and assessment has been completed. Artefacts to be donated will then be transferred to Storiel.

Selection

Describe your Selection Strategy for each material type and or object type. To do this you must:

- 3.1 State the Selection Strategy you are applying to each category of material, how this will be done, and why.
- 3.2 Identify the selection review points during the project (e.g. project planning, data gathering, analysis and reporting and archive compilation).
- 3.3 Reference all relevant standards, policies or guidelines (e.g. thematic, period, and regional, Research Frameworks, repository deposition policies) and specialist advice sought.
- 3.4 Identify any selection decisions that differ from standard guidelines and explain why.

The [Materials Selection Template](#) may be useful in structuring this section.

The full material archive returned to the GAT offices will be reviewed following analysis: Stakeholders (see above) will make selection decisions based on specialists reports and selection recommendations and SDMS collecting policy. The selection will take place during archive completion.

Uncollected Material

If you are practising selection in the field, describe the process that will be applied. To do this you must:

- Detail how you will characterise, quantify and record all uncollected material on site.
- Explain how you will dispose of, or re-distribute, uncollected material.

Any uncollected material will be left on-site to be incorporated into backfill.

De-Selected Material

Describe what you will do with the de-selected material. All processed material should have been adequately recorded before de-selection.

All bulk finds will be assessed and recorded to appropriate standards. De-selected material will be returned to the landowner as agreed by the landowner and curatorial archaeologist.

Amendments

Detail any amendments to the above selection strategy here.

Date	Amendment	Rationale	Stakeholders

Materials Selection Template

This table may be inserted into Section 3 of the main [Selection Strategy Template](#) to help present differing selection strategies for different material types

Find Type	Selection Strategy	Stakeholders	Review Points



Gwynedd Archaeological Trust
Ymddiriedolaeth Archaeolegol Gwynedd

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