

**North West Wales Dendrochronology Project
Plas Glasgwm, Penmachno, Conwy
NPRN 16743**



**EAS Client Report 2012/13
December 2012**

**Engineering Archaeological Services Ltd
Unit 2 Glanypwll Workshops
Ffordd Tanygrisiau
Blaenau Ffestiniog
Gwynedd
LL41 3NW**

Registered in England N° 286978

**A Report Commissioned by the North-West Wales Dendrochronology Project in
Partnership with The Royal Commission on the Ancient and Historical Monuments of
Wales**



**North West Wales
Dendrochronology Project**

Plas Glasgwm, Penmachno, Conwy

NPRN 16743

EAS Client Report 2012/13

**Commissioned by
Margaret Dunn
For
North West Wales Dendrochronology Project**

December 2012

**By
I.P. Brooks**

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North West Wales Dendrochronology Project

Plas Glasgwm

SH 77358 50403

Listed Building Reference: 5898

Grade: II

NPRN 16743

Introduction

This report details the recording of the house Plas Glasgwm, Penmachno, Conwy, undertaken to compliment both the dendrochronological sampling, undertaken by Oxford Dendrochronology Laboratory, and the documentary study undertaken by volunteers for the North Wales Dendrochronology Project. The fieldwork took place on 18th December 2012.

Methodology

The ground floor, first and attic floor plans were compiled through direct measurement of the property. The drawings of the timberwork were also carried out by direct measurement at a scale of 1:20. Photographs were taken with a Nikon D80 digital SLR camera at a resolution of 10.2 mega pixels. Where practical all the photographs included a metric scale.

Survey Report

Plas Glasgwm lies within the valley of the Afon Glasgwm approximately 1.8 km west of the village of Penmachno on the northern slopes of the Afon Glasgwm. It is listed at Grade II. The house is noted in both the Royal Commission on the Ancient Monuments of Wales and Monmouthshire's inventory (1956, 175) and in Haslam *et al* (2009, 484 – 485). Although the house is recorded as a Listed Building (http://jura.rcahms.gov.uk/cadw/cadw_eng.php?id=5898) and is on the Coflein web site (<http://www.coflein.gov.uk/en/site/16743/details/PLAS+GLASGWM/>) it does not appear on the on-line version of the local Historic Environment Record (Appendix 1).

The main ranges form an “L” shaped plan, however, a range of ancillary rooms have been added to largely fill the space between the main ranges (Figure 3). The front range runs at right angles to the natural slope of the river valley. It is a two story building with a hipped roof and a centrally placed stone porch (Plate 1). The roof is covered in slates and has ceramic ridge tiles and “V” shaped hip tiles. Faced with, largely coursed, large stone blocks, with no quoins, this elevation forms a consistent, symmetrical façade with a central porch and four windows. The porch has a two centred pointed arch opening supported on crude cushion

shaped capitals (Plate 2), although there are no columns with the capitals forming the top of the reveal. The four windows in the front elevation are regularly placed, each with a four pane casement windows under stone lintels.

The second range runs parallel with the hill slope alongside a leat. It is a storey and a half high with a gabled roof and a stepped gable end chimney (Plate 3). The roof is slated with partial, stone gable parapet running along the northern gable end. The ridge tiles are "V" shaped and ceramic. There is a marked difference between the slates used on the front range and those on the rest of the building with much finer slates being used on the front range. Built of random stonework, using smaller stones, this range is clearly of a different phase from the front elevation. The eastern elevation has three first floor windows under single, low pitch dormers and three, four pane casement, windows on the ground floor. These have stone lintels, although the windows themselves are modern replacements. There is a single doorway placed behind the central chimney stack (Plate 4), however there is also a blocked opening towards the southern end of the eastern elevation (Plate 5) and the northern ground floor window appears to have been placed within a partially blocked opening (Plate 6). There is a marked change in the stonework to the south of the doorway. This corresponds with the central chimney, possibly suggesting that the chimney has been inserted into a previously existing range.

The northern gable end is dominated by the gable end chimney (Plate 7). This has a stepped stack and incorporated a bulge for an oven on its eastern side. The stack leans noticeably towards the north (Plate 8), particularly in the section that project above the level of the roof.

Between the two legs of the "L" shaped house is a single storey, ancillary range (Plate 9). This is under a continuation of roof of the main north-south range and contains what was probably the dairy in the nineteenth century. There is water tabling both on the chimney stacks and on the northern wall of the east west aligned range (Plate 10) giving protection to the flashing between the roof and these features. The western elevation of the east-west aligned range has been rendered (Plate 11). This range has a slight gablet to the roof line along this western elevation and there is short chimney with a tall stove pipe on the gable end wall. It is noticeable that the only windows in this elevation are in the northern section, consisting of two windows, one above the other.

There is a water wheel at the junction between dairy range and the east-west aligned range. This was being restored in 1992 (http://jura.rcahms.gov.uk/cadw/cadw_eng.php?id=5898) and its current position does not appear to be original. The water course runs on the opposite side of the house with a small pond to the north (Figure 2) and there is no obvious outfall leat associated with the current position of the waterwheel.

The front door opens onto the south western corner of the "best kitchen" This room is dominated by the large fireplace (Plate 12) along the northern wall. This

has a wooden bressumer. The ceiling is supported by a transverse beam into which the joists are joined with barefaced soffit tenons (Plate 13). The joists are chamfered and have run out stops. The ceiling beam has an area cut out of its western end (Plate 14). This is reported to have been the previous position of a dresser which was too tall for the space so the ceiling beam was modified to accommodate the furniture (T. Dixon *pers. comm.*). The floor above this room has been levelled on the southern side with the ends of the joists lifted out of their sockets to rest on the top of wall beam (Plate 15).

The two rooms to the west of the “best kitchen” consist of a small parlour (Plate 16) and a modern kitchen (Plate 17), neither of which has any exposed timberwork. A doorway adjacent to the fireplace gives access to a passageway to the main room in the north of the building (Plate 18). Three steps within the passage demonstrate the different levels of the two main ranges with the rear range being at a higher level. The passageway also includes a flight of stairs giving access to the first floor rooms over the southern range.

The “rear kitchen” occupies the whole of the ground floor of the northern range. It is dominated by a fireplace on the northern wall with a large wooden bressumer (Plate 19). Within the eastern wall of the hearth is a circular oven (Plate 20) which is lined with bricks and would appear to a secondary feature within the hearth. The ceiling has a transverse beam which is rather worn so that it is difficult to determine whether it was originally chamfered or was a rough round timber (Plate 21). Into the top of this are a series of cogged joists. The majority of these have been replaced, although the few surviving joists suggest that they were chamfered and had straight stops. A door in the western wall gives access to the ancillary range. This has a wooden lintel with a mortice suggesting the re-use of a timber for this lintel (Plate 22). There is also a modern staircase along the southern wall of the “rear kitchen which gives access to the bedroom above.

The ancillary range includes two rooms assumed to have been a dairy. Little of the structure of this range is visible except for a purlin which is exposed in both rooms (Plates 23 and 24).

On the first floor, four rooms occupy the southern range, all opening off a central landing. These contain few features except for an exposed purlin in the bedroom in the north western corner (Plate 25) and wooden lintel to the window in the bathroom (Plate 26). The bedroom above the northern range, however, has an exposed truss (Figure 6.2, Plate 27). This is a relatively lightweight structure with a simple, low collar which would appear to be a later replacement. The purlins, however, are more substantial timbers which may be from an earlier roof. Indeed the lower western purlin is heavily warped towards its southern end (Plate 28). There is also a blocked fireplace with a slate lintel in the northern wall of this room (Plate 29).

In the attic above the southern range is a second truss (Figure 6.1, Plate 30). This has a simple straight collar and trenched purlins. It is constructed of

significantly more robust timbers than the truss in the northern range; however, it is aligned parallel with the southern range rather than spanning it. It is therefore possible that this truss relates to an early phase of the building prior to the construction of the southern range and the central chimney. It was not possible to explore the attic in detail, however, both of the purlins on the western side of the truss have scarf joints (Plates 31 and 32) fairly close to the truss possibly suggesting that these timbers originally ran further to the south and have been truncated with the construction of the hipped roof over the southern range.

Dendrochronology Sampling

Six timbers were sampled by the Oxford Dendrochronology Laboratory; two were from the kitchen ceiling, and four from the roof structure (Miles and Bridge 2012). Two of the samples taken in the roof suggest that the construction of one of the phases of this house took place in 1573 or shortly after.

Conclusions

The sequence of construction of Plas Glasgwm is not entirely clear with contradictory evidence as to the extent of some of the phases. It would appear that the earliest structure is probably the northern range with its gable end chimney which was probably a storied house of Snowdonia type, although it lacks an intermural staircase adjacent to the hearth. It is also not possible to confirm the presence of a cross passage within the structure, although if it existed it was possibly along the northern side of the central fireplace. The extent of this building is not entirely clear. The construction of the southern range at right angles confuses the pattern. Evidence from the stonework of the eastern elevation would suggest that the central fireplace was inserted; however, the difference in level between the two ranges might suggest that a major re-organisation of the southern end of the building took place, totally removing any potentially earlier structure. Added to this is the truss in the attic above the southern range which would appear to be aligned with the original range rather than the southern range. This is critical as it is the samples from these timbers which have dated and thus it is uncertain as to which phase of the house has been dated. It is probable that the date refers to the original phase of the Snowdonia style house, however this is not certain.

It is clear that the central fireplace and chimney were added to an existing building. Whether the whole of the southern range was constructed at this point is not clear. It was probably refaced and re-roofed, with a hipped roof, relatively late in the sequence of the building, possibly even at a similar time to when the dairy extension was added, which was possibly in the nineteenth century.

Numerous modifications are likely to have taken place to the house including the addition of the oven to the northern gable end chimney, the blocking of the openings in the eastern elevations, the construction of the dairy and the levelling

of the floor above the “best kitchen”, however the sequence of these events is uncertain.

Acknowledgments

The recording of this building was commissioned by Margaret Dunn for the North Wales Dendrochronology Project. Thanks are also due to the owners for access to this building.

References

Haslam, R., Orbach, J. and Voelcker, A. 2009 *The Buildings of Wales. Gwynedd. Anglesey, Caernarvonshire and Merioneth*. Yale University Press, London

Miles, D. and Bridge, M.C. 2012 The Tree-Ring Dating of Plas Glasgwm, Penmachno, Betws-Y-Coed Conwy (NGR SH 774 504). *Oxford Dendrochronology Laboratory Report 2012/27*

Royal Commission on Ancient and Historical Monuments in Wales and Monmouthshire 1956. *An Inventory of the Ancient Monuments in Caernarvonshire. Volume 1: East. The Cantref of Arllechwedd and the Commote of Creuddyn*. HMSO London



Plate 1: Front elevation



Plate 2: Porch



Plate 3: The eastern elevation



Plate 4: Door way and change of stonework in the eastern elevation



Plate 5: Blocked doorway towards the southern end of the eastern elevation



Plate 6: Partially blocked opening at the northern end of the eastern elevation



Plate 7: Northern gable end



Plate 8: The northern gable end chimney



Plate 9: The western elevation



Plate 10: Water tabling above the "dairy range"



Plate 11: Western elevation of the east-west aligned range



Plate 12: The bressumer in the "best kitchen"



Plate 13: Ceiling beam and joists in the “best kitchen”



Plate 14: Cut away section of the ceiling beam in the “best kitchen”



Plate 15: Raised floor on southern side of the “best kitchen”



Plate 16: Small parlour in front range



Plate 17: New kitchen in front range



Plate 18: Passage adjacent to the central hearth



Plate 19: Fireplace in the “rear kitchen”



Plate 20: The oven



Plate 21: Ceiling beam in the “rear kitchen”



Plate 22: Mortise in the lintel above the door to the ancillary range.



Plate 23: Exposed purlin in the ancillary range



Plate 24: Exposed purlin in the ancillary range



Plate 25: Exposed purlin in the north eastern bedroom of the southern range



Plate 26: Wooden lintel in the bathroom



Plate 27: Truss in the northern range



Plate 28: Warped purlin in the northern range



Plate 29: Blocked fireplace in the bedroom in the northern range

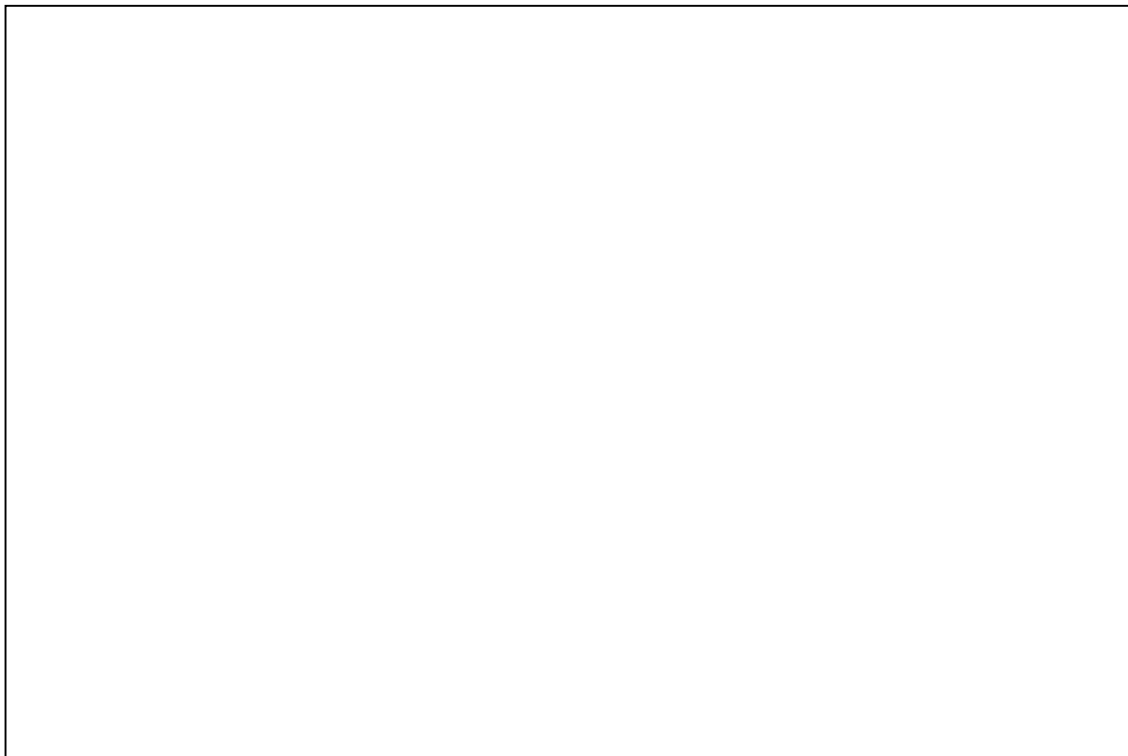


Plate 30: The truss above the southern range

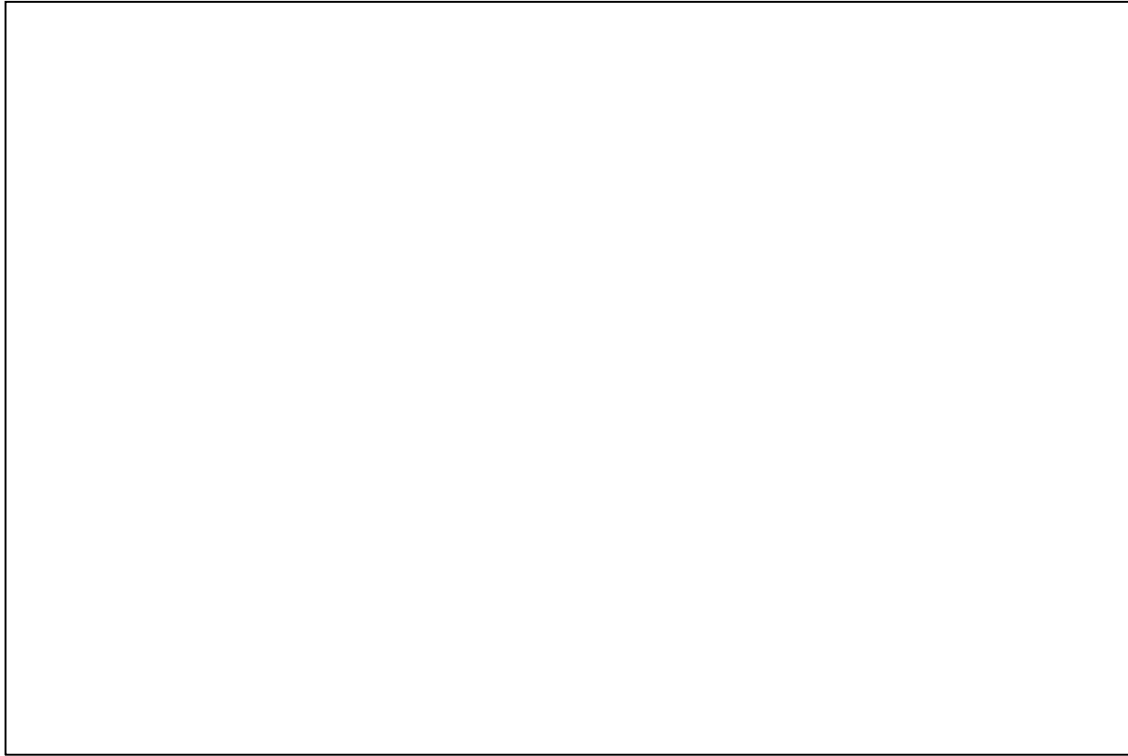


Plate 31: Scarf joint in the upper purlin

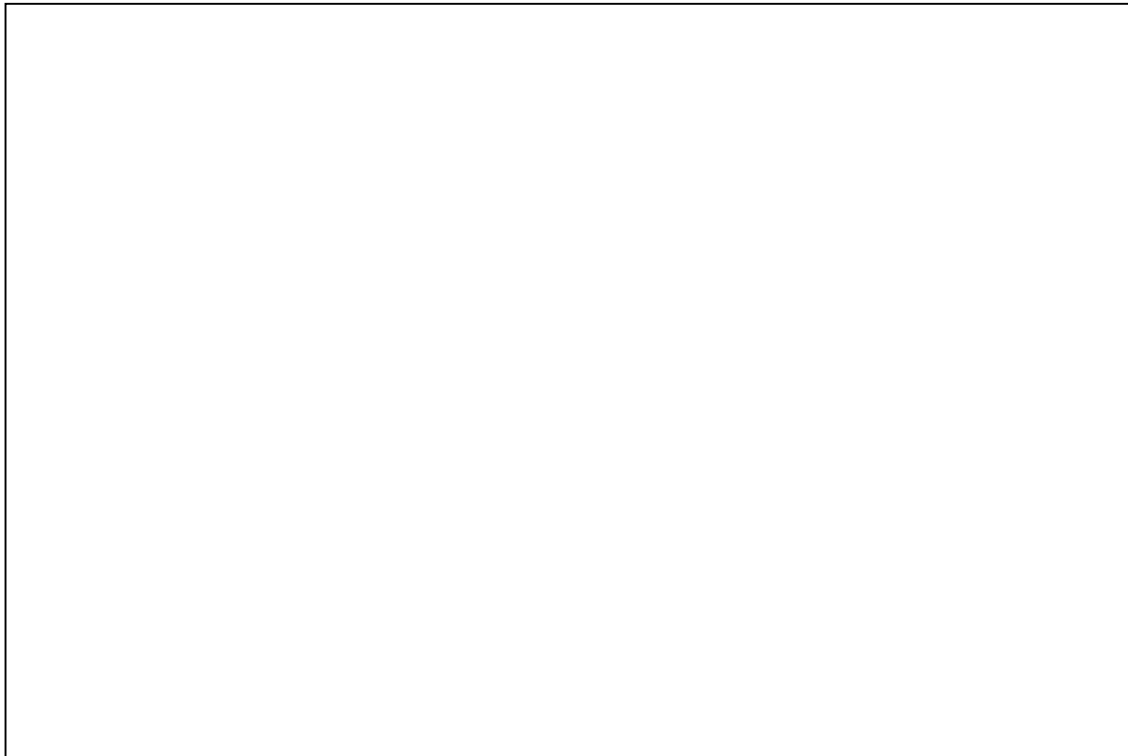


Plate 32: Scarf joint in the lower purlin

Appendix 1: Sources

http://jura.rcahms.gov.uk/cadw/cadw_eng.php?id=5898

PLAS GLASGWM

Street Name and Number: ,
Grade: II
Date Amended: 17/07/1992
Locality: GLASGWM
Council: Conwy

Listed Building Reference: 5898
Date Listed: 17/07/1992
Co-ordinates: 277346,350388
Community: Bro Machno
National Park: Yes

Location

Below and to S of Glasgwm Road, approx 1.6 km W of Penmachno village centre.

History

Farmhouse of circa 1700 and early C19 incorporating parts of earlier (probably C16) house.

Interior

C18 section has transverse chamfered beam and exposed unchamfered joists. To N, fireplace with massive lintel, to S probably C19 stair. Collar beam roof. At rear, dairy outshot with slate slab floor and bench. Block at right angles has main room with inglenook fireplace (massive narrow-chamfered lintel with lamb's tongue stop; massive narrow-chamfered ceiling beam and chamfered joists. Thick wall to E has wooden window lintel with mortices for 4 square window mullions.

Exterior

E elevation is early C18 to R, and to L incorporates part of earlier house. Rubble to R, and flatter roughly coursed stones to L. Slate roof, hipped to L. Almost central square stone chimney; N gable has projecting stepped chimney with oven in angle between chimney and house. Upper floor has 3 half dormers with raking roofs. Broad entrance doorway under deep stone lintel. To R of door, vertically-proportioned casement window under deep stone lintel, and smaller window with simple stone lintel. To L of door, almost square window with deep stone lintel, and blocked doorway. At rear is dairy outshot of early C19; window to N. Water course for iron and wood water wheel approx. 2 metres diameter (under restoration at time of inspection, February 1992). At right angles to C18 block is C19 block incorporating parts of earlier house on site. Two first floor casement windows at or near eaves, asymmetrical in position and depth. Central single-storey gabled porch with pointed-arched doorway. Vertically-proportioned casement window to L. W elevation has single window on each floor.

Reason for Listing

References

Information from National Trust Vernacular Buildings Survey; Royal Commission on Ancient & Historical Monuments in Wales, Survey and Inventory, Caernarvonshire, Vol I: East, 1956, p175.

<http://www.coflein.gov.uk/en/site/16743/details/PLAS+GLASGWM/>

PLAS GLASGWM

NPRN 16743

Grid Reference SH77375040

Old County Caernarfonshire

Type of Site HOUSE

Period POST MEDIEVAL

Map Reference SH75SE

Unitary (Local) Authority Conwy

Community Bro Machno

Broad Class Domestic

Description:

Plas Glasgwm is a substantial multi-period farmhouse of L-plan with the earlier house re-fronted in the early C19th. A lean-to dairy and service range with water-wheel has in-filled the remaining space between older and newer ranges. The later house presents a hipped main front of central entry type with elaborate porch, and has a lateral fireplace with ogee stops (of uncertain date) heating the best kitchen. The earlier house, now the back kitchen, was of Snowdonian type. The large projecting end fireplace (without stair but with oven projection) survives along with chamfered beams with curved stops. The bolted truss appears C19th but the earlier purlins and rafters have been reused. Dendrochronology showed that these dated from the later C16th. Noted in RCAHMW, Caernarvonshire Inventory, Volume I: East (1956), p.175, mon. 626. RFSuggett/RCAHMW/July 2012.

Summary of tree-ring dating:

Six timbers were sampled for dendrochronological analysis, two from the kitchen ceiling, and four from the roof. Two roof samples were dated, one being from a tree felled in winter 1570/71 and the other in spring 1573. This strongly suggests that construction of the property took place in 1573 or shortly after. The remaining four sample series matched each other, and were combined into a site master chronology, but this remains undated, although it may be contemporaneous with the dated material. Oxford Dendrochronological Laboratory Report 2012/27. RFSuggett/RCAHMW/July 2012.

Royal Commission on Ancient and Historical Monuments in Wales and Monmouthshire 1956. *An Inventory of the Ancient Monuments in Caernarvonshire. Volume 1: East. The Cantref of Arllechwedd and the Commote of Creuddyn.* HMSO, London 175

(626) PLAS-GLASGWM contains chamfered ceiling beams and stop chamfered joists. The barn (now destroyed) contained a re-used early doorway with a flat pointed head. The stones of this have been preserved. House probably ca.1700.

Condition: good

SH 77375040

29 xi 49

23 S.E.

Haslam, R., Orbach, J. and Voelcker, A. 2009 *The Buildings of Wales. Gwynedd. Anglesey, Caernarvonshire and Merioneth*. Yale University Press, London. 484 - 485

PLAS GLASGWM, 1m. W. A puzzling plan, due to many alterations. The main E-facing part probably early C18 but incorporating an earlier house. A projecting and stepped chimney at the N gable, an oven in the external angle between the house wall and the chimney, with its own rough stone roof. Another chimney at the centre. Three dormers to the E, with raking roofs. To the W, a dairy extension and a 6-ft (2-metre)- diameter water wheel. The house extends at the SW and the roof altered to hip form. Good FARM BUILDINGS, the oldest with queenpost trusses.

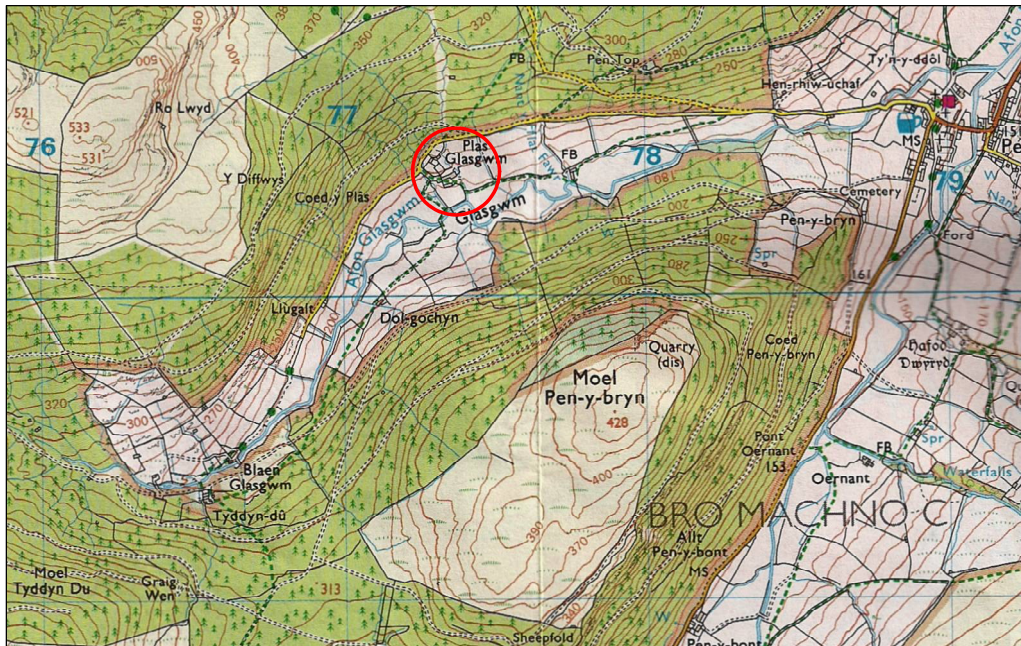


Figure 1: Location
Scale 1:25,000

Reproduced from the ExplorerTM OL18, 1:25,000 scale
by permission of the Ordnance Survey ® on behalf of
The Controller of Her Majesty's Stationary Office
© Crown Copyright 2009
All Rights Reserved Licence Number AL 100014722

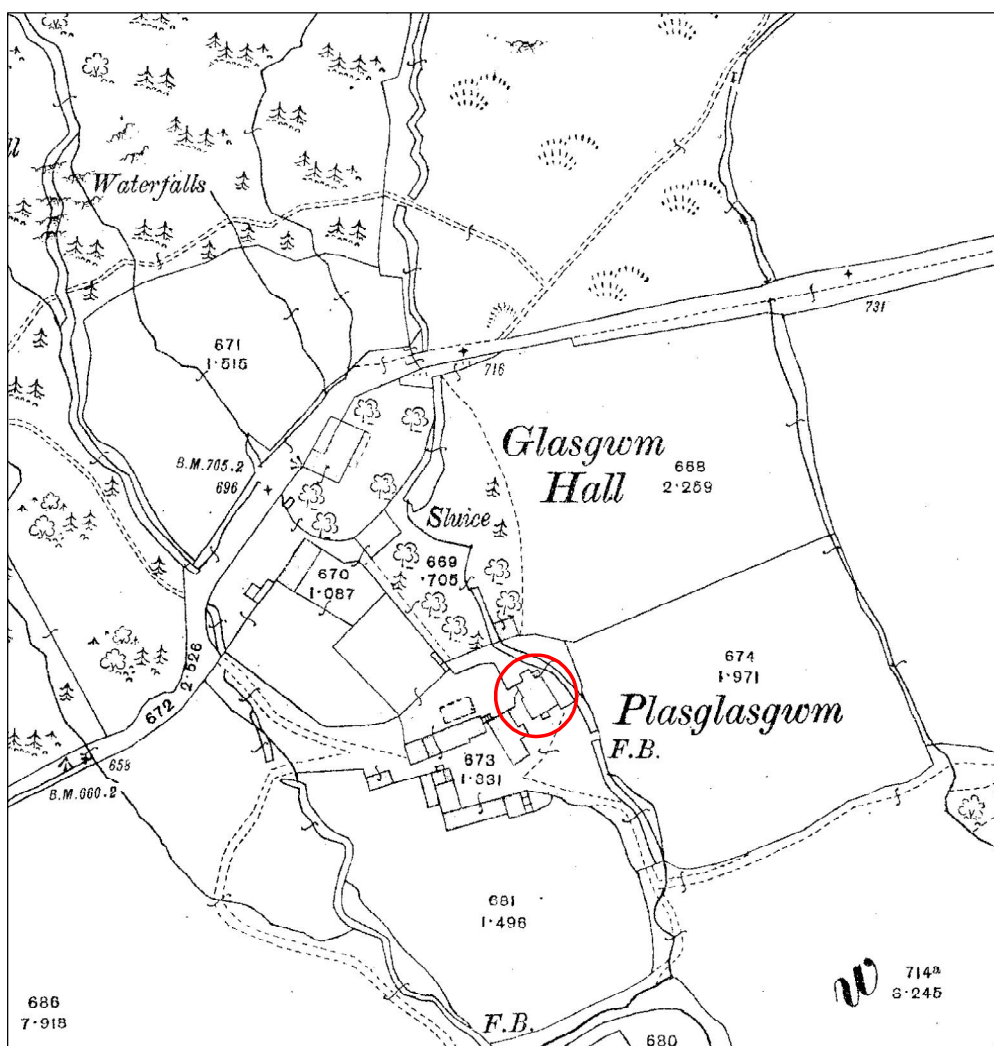
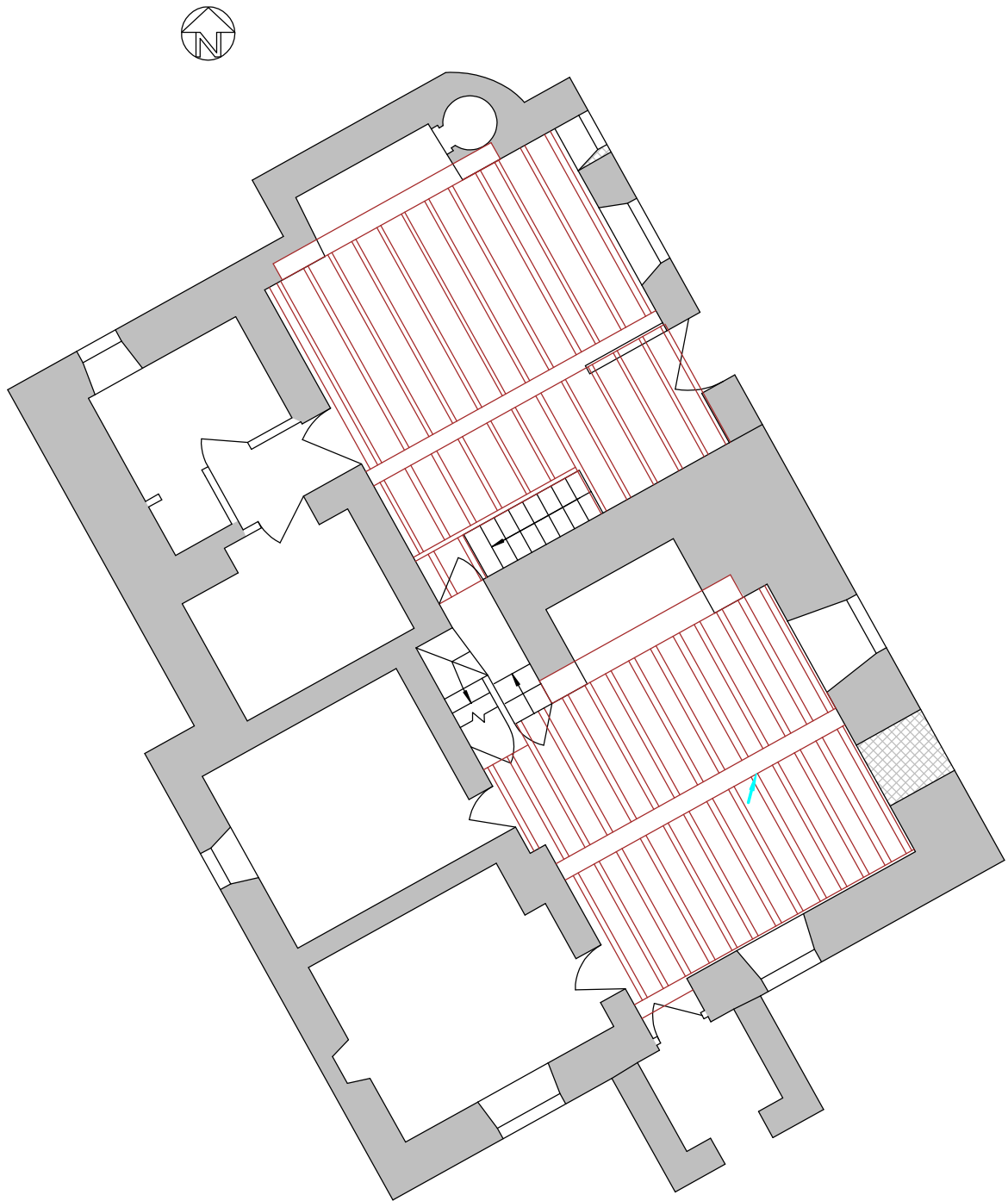


Figure 2: Extract from the Ordnance Survey
Carnarvonshire XXIII.6 Map
Scale 1:2,500



/ Dendrochronological sample



Figure 3: Ground Floor Plan
Scale 1:100

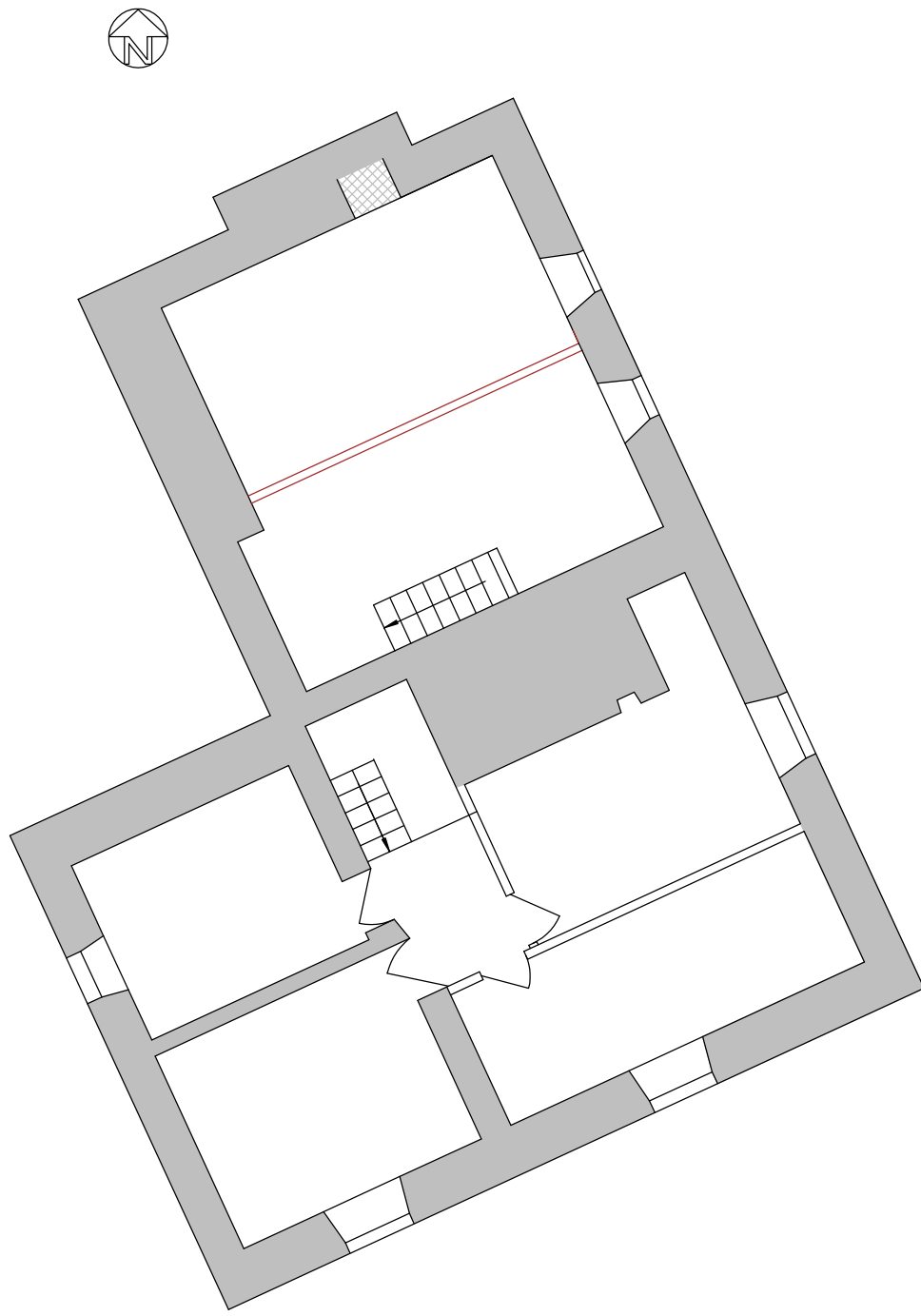
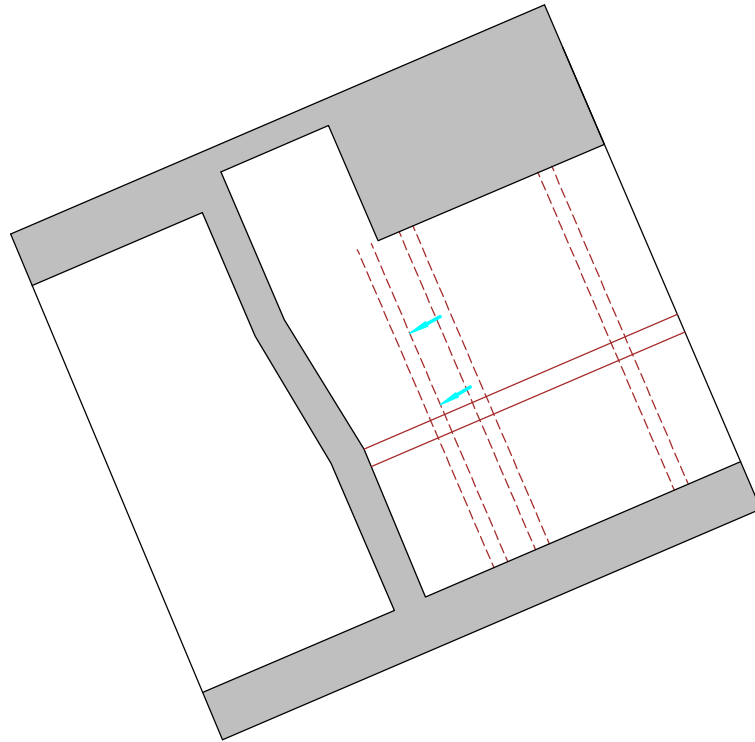


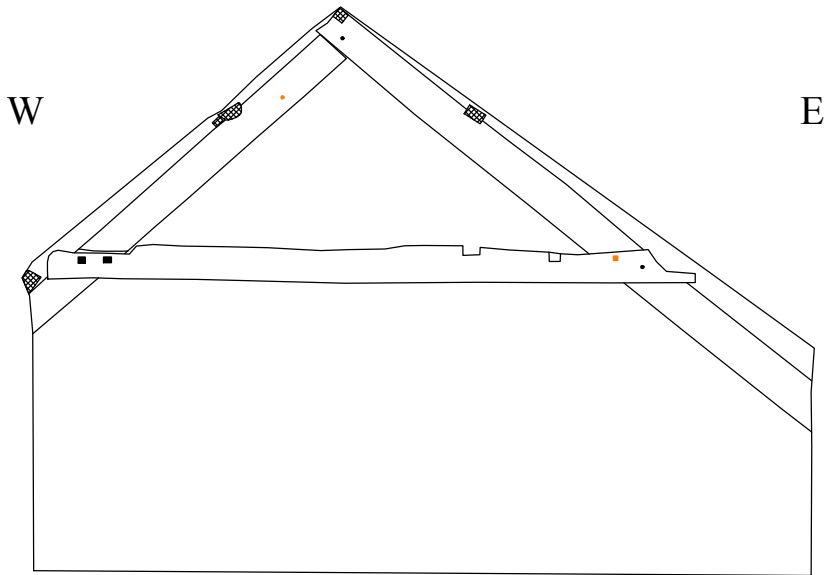
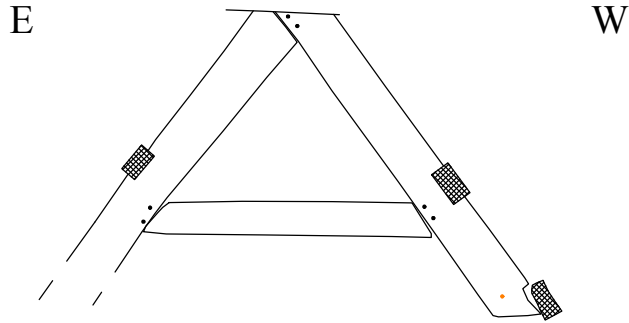
Figure 4: First Floor Plan
Scale 1:100



/ Dendrochronological sample



Figure 5: Attic
Scale 1:100



■ Iron fitting



Figure 6: Trusses
Scale 1:50

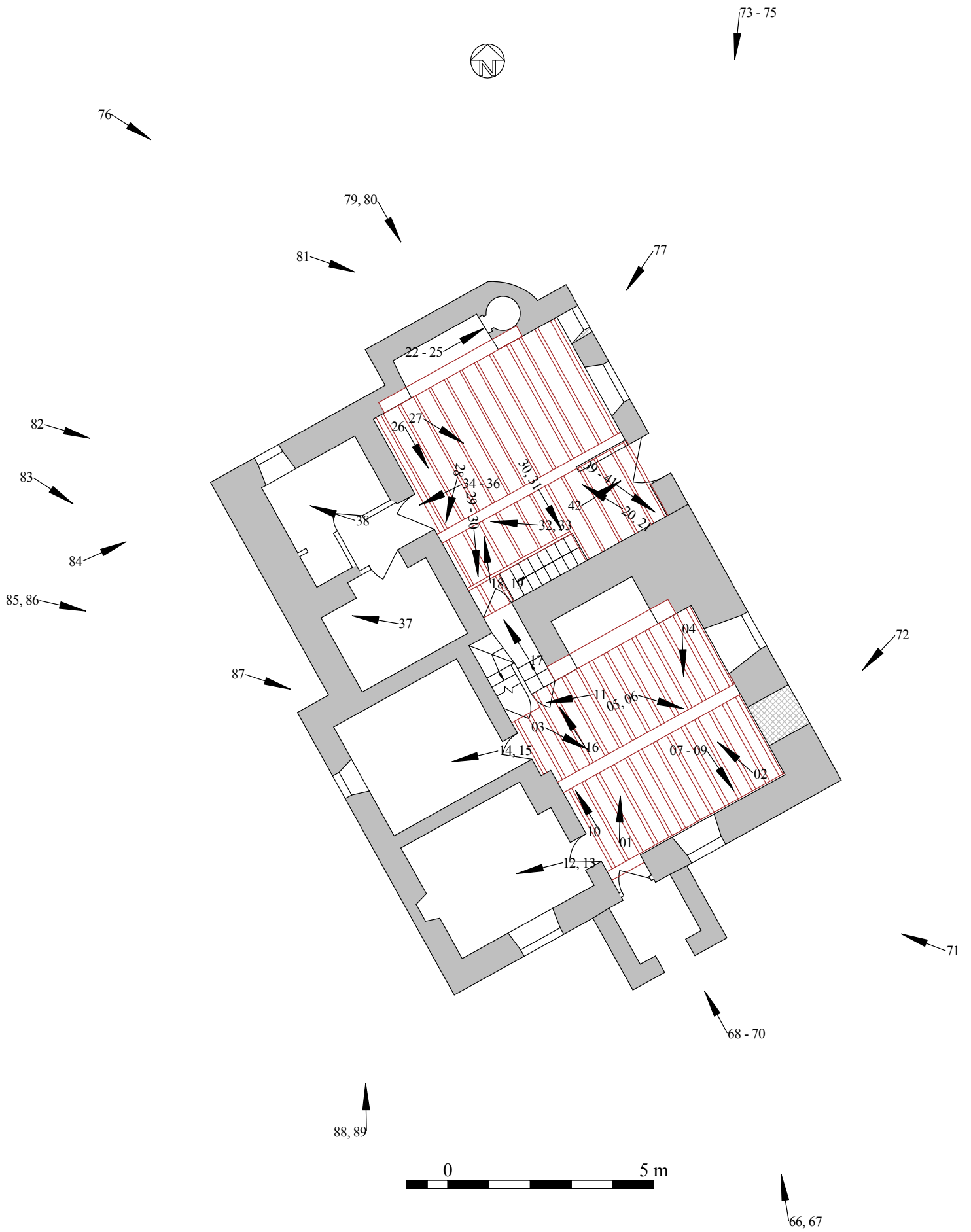


Figure 7: Location of the Photographs in the Archive Ground Floor
Scale 1:120

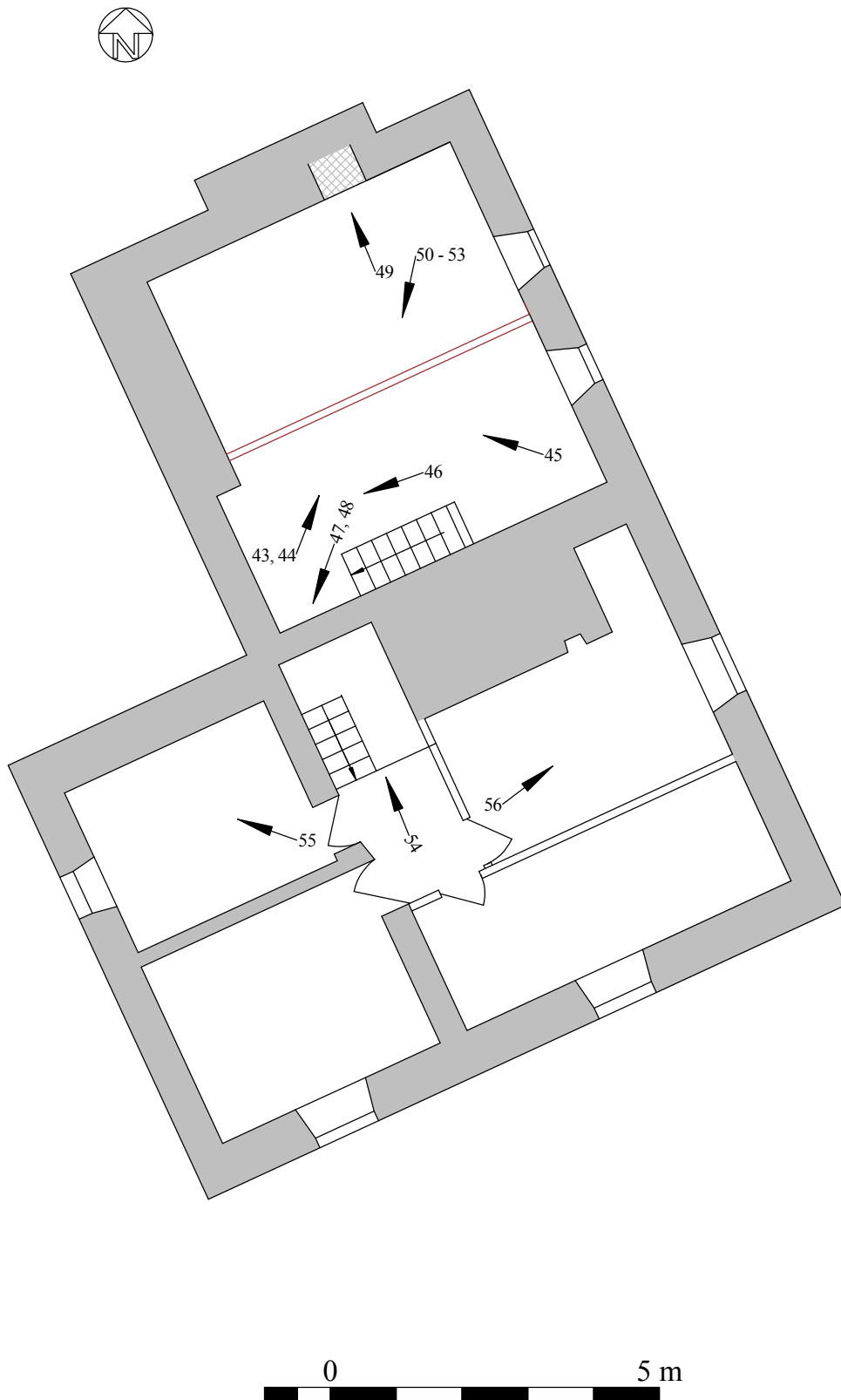


Figure 8: Location of the Photographs in the Archive
First Floor
Scale 1:100

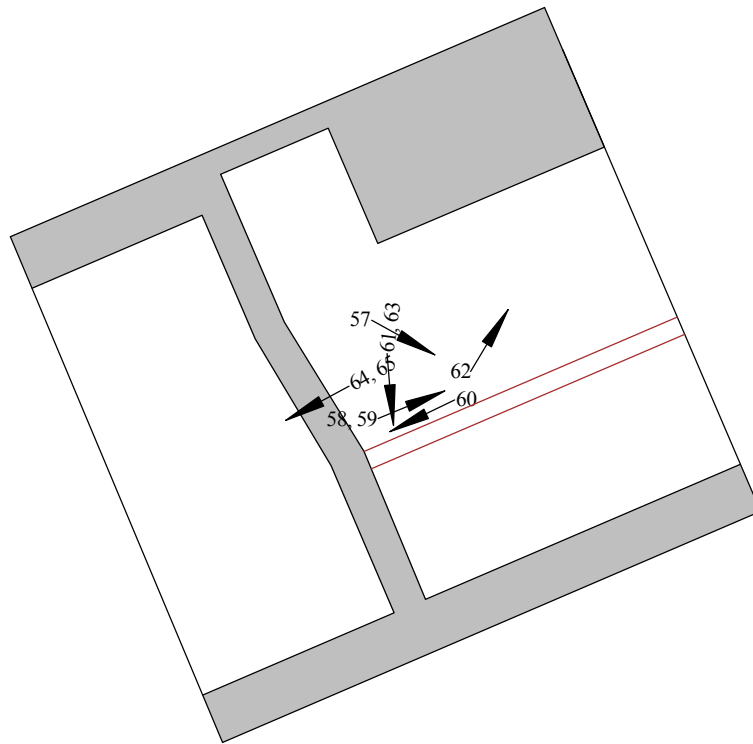


Figure 9: Location of the Photographs in the Archive
Attic
Scale 1:100