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**North West Wales Dendrochronology Project
Blaen Glasgwm Uchaf, Penmachno,
Gwynedd
NPRN 26032**



**EAS Client Report 2012/05
July 20121**

**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
Blaen Glasgwm, Penmachno,
Gwynedd
NPRN 26032**

EAS Client Report 2012/05

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

July 2012

**By
I.P. Brooks**

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

Registered in England N° 286978

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North West Wales Dendrochronology Project

Blaen Glasgwm Uchaf

SH 76610 49468

Listed Building Reference: 5896

Grade: II

NPRN 26032

PRN 11927

Introduction

This report details the recording of the house Blaen Glasgwm Uchaf, Penmachno, Gwynedd, 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 10th July 2012.

Methodology

The ground floor and first floor plans are based on pre-existing plans drawn by A. and F. Voelcker in 1996. The drawings of the timberwork were 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

Blaen Glasgwm Uchaf lies within the valley of the Afon Glasgwm approximately 2.7 km west of the village of Penmachno, immediately adjacent to Blaen Glasgwm Isaf. The house is aligned WSW – ESE on the northern banks of the Afon Glasgwm. It is listed at Grade II.

The house is a lofted, single storey building built of random stonework which has been lime washed (Plates 1 – 5). In places the large boulder footings are exposed, particularly on the front elevation. The eastern end of the range is a later extension which has been largely re-built in recent years (A. Brown *pers comm.*). This was a later, agricultural extension which had a large doorway with a slightly cambered voussoirs opening (Plate 6) and the remains of an iron drive wheel on its rear elevation (Plate 7). The larger opening has been partly filled with a single door and a six pane casement window. Both ranges are covered by a single gabled roof with small slates, “V” shaped ridge tiles, a series of sky lights and gable copings at the eastern end. There is a single chimney with tabling and

flues discharging at the sides which has been re-built in recent years (A. Brown *pers. comm.*)

The front elevation has three windows and two doorways (Plates 1 and 2). The central door is a later insertion replacing a doorway further to the west which is now occupied by one of the windows (Plate 8). Whilst the two eastern windows are of a size with four pane casement windows, the western window is much smaller and it may represent the original size of the windows for this house. The rear elevation (Plate 3 and 4) has three window openings, the two eastern openings having four pane windows, whilst the western window is smaller and has only recently been revealed (A. Brown *pers. comm.*). The scar at the base of the rear elevation marks the position of a leat which supplied water to the water wheel on the later, agricultural extension.

Internally the house is divided into two main rooms (Figure 3), on either side of the central chimney, linked by a lobby. This space appears to be a later feature relating to the moving of the main door to the east. The eastern room has been sub-divided with a relatively modern, wooden partition. This is below a beam which appears to be earlier, possibly suggesting that there was a partition at this point at an earlier period. Another possibility is that this beam was added to support a crog loft at this end of the building. The beam has a single mortice cut into its upper surface (Plate 9) potentially suggesting the level of a previous ceiling. The lower parts of principal rafters of Truss 1 are exposed, at this level, adjacent to the partition (Plates 10 and 11) and would appear extend within the stone walls of the cottage.

The bulk of Truss 1 is exposed in the attic above (Figure 5, Plates 11, 13 and 15). This is a cruck frame of Alcock type E (Alcock 1981, 95) with the blade jointed together diagonally and the socket for a ridge purlin (Plate 12). The current ridge piece is a round timber which appears to relate to a later roof structure. There was a collar on this truss which has been cut, leaving the stubs of the timber still in place. (Plates 13 – 16) This timber was held in place with a halved lap joint which had two pegs driven through each of the joints (Plate 14, 16 - 18). There are a series of peg holes driven through the width of the cruck blades which mark the original position of the purlins associated with this truss. The upper purlins sat within slight trenches whilst the lower purlins would appear to have sat directly on the principal rafters. There is a burn mark on the northern principal rafter which is assumed to be the result of a candle being placed near to the truss (Plate 19). There is also a large iron nail on each of the principal rafters, above the level of the collar, the function of which is unknown (Plate 20).

The angle of the roof has been reduced at some point in its history with addition of secondary rafters. On the northern side of the roof this was achieved by resting the secondary rafter on the cruck blade and the top of the stone wall on the north side of the building. On the southern side, however, short timber was used to support the secondary rafter with mortice and tenon joint to both the principal rafter and the secondary rafter (Plates 21 and 22). The purlins sit on top of the

secondary rafters, three of which are supported by cleats. The lower northern purlin is also supported at each end of the room by rough stone corbels (Plates 23 and 24)

The lower western room is dominated by the inglenook fireplace under large straight bressumer (Plate 25). This bressumer is 430 mm deep and up to 350 mm thick although it is thinner along its lower edge (170 mm) with all of the tapering occurring on the back face of the bressumer (Figure 7). In the south western corner of the room is a recently revealed window (Plate 26, Figure 7). This has the remains of a wooden frame, the top rail of which appear to extend into the wall possibly suggesting the presence of an earlier timber frame. The window frame has a series of mortice holes suggesting the presence of central mullion and two vertical bars (Plate 27). The lower portions of Truss 2 extend into this room with the lower section of the cruck blades partly embedded in the walls (Plates 28 – 31). When these blades were exposed in the restoration work the sockets for lateral rails was noted suggesting the building may have originally been timber framed (A. Brown *pers. comm.*). The northern blade would appear to have been modified (Plate 29) to allow greater access to this point of the room. Adjacent to southern blade of the truss a timber set in the wall and an uneven surface would suggest the presence of a blocked doorway (Plate 32). This doorway is roughly opposite the partly blocked doorway in the northern wall; however the two doors do not align completely.

Truss 2 (Figure 6) is exposed in the attic above the western room (Plates 33 – 35). This is a cruck frame of Alcock's Type B (Alcock 1981, 95) with blades that meet on a vertical line, with a collar below the apex (Plate 33) and a ridge purlin in a trench. The collar for this truss has been removed; whilst the northern lap joint is straight (Plate 37) the southern joint is shaped (Plate 36). The upper purlins are still within trenches on the top surfaces of the principal rafters, however the lower purlins are associated with secondary rafters on the lower sections of the truss (Plates 38 and 39). The lower southern purlin is supported by a cleat, whilst the lower, northern purlin is trenched. The cruck frame is smoked blacked in places suggesting it may have been in an open "hall".

Dendrochronology Sampling

Several samples were taken, by Oxford Dendrochronology Laboratory. These sampled the Trusses 1 and 2 together with northern secondary rafter above Truss 1 and two of the purlins.

Conclusions

The original structure at Blaen Glasgwm Uchaf would appear to have been a timber frame building, probably on rough boulder footings. It is possible that the building originally had four bays; however, only two of the cruck trusses survive. It is not known if there was a third truss as this would now be buried in, or replaced by, the chimney stack. Hints of the timber framing have been observed

when the blades of Truss 2, now buried in the walls, were exposed and in the frame of the window in the south west corner of the building. Other observations made during the restoration of the house possibly hints that the gables of this timber phase may have been in stone (A. Brown *pers. comm.*), although it is also possible that the replacement of the timber framework was staged. The smoke blackening on Truss 2 would suggest that at this point the house was an open hall. The relatively steep angle of the truss may suggest that the building had an organic (such as thatch or turf) roof covering.

The initial full stone phase saw the replacement of the timber framing with stone walls and probably the insertion of the chimney in the centre of the house. It is not certain if the roof was modified at this point with the addition of the secondary rafters which, in effect, reduced the angle of the roof, possibly reflecting a change in roofing materials. It is also possible that the tie beams below Trusses 1 and 2 were added at this point to provide support for possible crog lofts. At this phase the western end of the building had two, almost opposed doors centrally place in this cell. It is not known if there was any internal access between the two ends of the building at this point. The conversion to full attics appears to have been relatively late in the history of the building. Other later modifications include the cutting of a new doorway in the centre of the front elevation forming a small lobby entrance and the conversion of the original door to a window.

Late in the development of the building the small agricultural range was added to the eastern end of the house. At some stage, probably in the nineteenth or early twentieth century a water wheel was added together with a leat along the rear elevation of the house. It is not known what this wheel drove.

The relationship between Blaen Glasgwm Uchaf and Blaen Glasgwm Isaf is not entirely clear. Their close proximity and similarity size is curious. It is possible that the slightly more developed Blaen Glasgwm Isaf is later, reducing Blaen Glasgwm Uchaf to subsidiary house; however this possibility would need to be tested with the dating of Blaen Glasgwm Uchaf. The other potential option is that the two houses form a strange form of unlinked unit house (Smith, 1988, 166 – 168).

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

- Alcock, N.W 1981. *Cruck construction. An introduction and catalogue*. CBA Research Report 42
- Smith, P. 1988 *Houses of the Welsh Countryside. A study in historical geography*. HMSO, London.



Plate 1: Front elevation, western end



Plate 2: Front elevation, eastern end



Plate 3: Rear elevation, looking NW



Plate 4: Rear elevation looking NE



Plate 5: Western gable end



Plate 6: Doorway to eastern extension



Plate 7: Iron drive wheel on rear elevation of the eastern extension



Plate 8: Partially blocked doorway in the front elevation



Plate 9: Mortise on top of beam in the eastern ground floor room



Plate 10: Base of the southern principal rafter of Truss 1, looking west



Plate 11: Base of northern principal rafter of Truss 1, looking NW



Plate 12: Peak of Truss 1



Plate 13: The northern principal rafter of Truss 1



Plate 14: Remains of the collar on the northern principal rafter of Truss 1



Plate 15: The southern principal rafter of Truss 1



Plate 16: Remains of the collar on the southern principal rafter of Truss 1



Plate 17: Joint between the collar and the southern principal rafter of Truss 1



Plate 18: Joint between the collar and the northern principal rafter of Truss 1



Plate 19: Candle mark on Truss 1



Plate 20: Iron nail on southern principal rafter of Truss 1



Plate 21: Support for the secondary rafter on the southern side of Truss 1



Plate 22: Detail of the joint between the southern principal rafter and the support for the secondary rafter of Truss 1



Plate 23: Rough corbel supporting the western end of the northern lower purlin



Plate 24: Rough corbel supporting the eastern end of the northern lower purlin



Plate 25: The fireplace



Plate 26: Window in SW corner of lower western room



Plate 27: Sockets in the lower frame of the window in the SW corner of the lower western room



Plate 28: The northern cruck blade in the lower western room



Plate 29: The northern cruck blade in the lower western room, looking NE



Plate 30: The southern cruck blade in the lower western room



Plate 31: The southern cruck blade in the lower western room, looking west



Plate 32: Blocked doorway in the western room



Plate 33: Peak of Truss 2



Plate 34: The southern blade of Truss 2



Plate 35: The northern blade of Truss 2



Plate 36: Socket for the collar on the southern blade of Truss 2



Plate 37: Socket for the collar on the northern blades of Truss 2



Plate 38: The secondary rafter, northern side of Truss 2

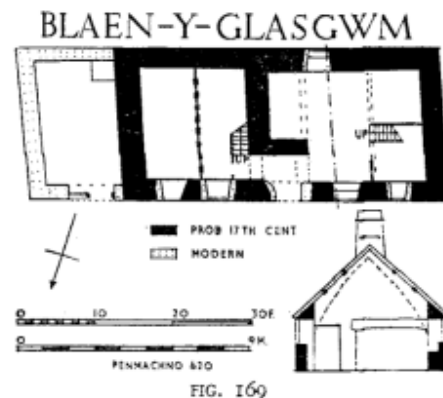


Plate 39: The secondary rafter and lower purlin on the southern side of Truss 2

Appendix 1: Sources

Royal Commission on Ancient and Historical Monuments in Wales and Monmouthshire 1956 *An inventory of the Ancient Monuments in Caernarvonshire. Volume I: East, the Cantref of Arllechwedd and the Commote of Creuddyn*. HMSO. p174

(620) BLAEN-Y-GLASGWM (Figure 169, Plate 63). Cottage with cruck roof, probably not later than 16th century,¹ with a small modern extension to the E. in the same line; built of uncoursed rubble on boulder foundation, mostly limewashed or roughcast, with modern roof coverings. The former entrance in the W. half of the N. front has been converted into a window. The other windows, though fitted with modern lintels and sills, are probably original, including a small window in the E. gable. A central fireplace with cambered beam divides the interior into two rooms. There is a couple of cruck form in each room, that at the W. being the better preserved; starting 3 ft. 6ins. from the floor. It is 1 ft. 8 ins. deep at the elbow. The attic floor, partition and stairs here are modern, but probably replace an earlier loft to which the window in the E. gable belonged



(620, p. 174a), Blaen-y-glasgwm.

Late 16th-century

¹*Wynn Papers*, No. 1499 (before 1627). This and the cruck roof suggests that the 17th-century date shown on the plan may be too late

Condition: good

SH 76624948 2 xii 49 29N.E.

<http://www.coflein.gov.uk/en/site/26032/details/BLAEN-Y-GLASCWM+UCHAF%3BTY-CRWC/>

BLAEN-Y-GLASCWM UCHAF;TY-CRWC

Site Details

Associated Collection Records (8)

NPRN 26032

Map Reference SH74NE

Grid Reference SH7661549463 **Unitary (Local) Authority** Conwy

Old County Caernarfonshire **Community** Bro Machno

Type of Site COTTAGE **Broad Class** Domestic

Period Post Medieval

Site Description

A single storey lofted cottage, thought to be sixteenth century, with an agricultural building, once a mill of some kind, attached.

The cottage faces north. Its walls, limewashed or roughcast, are of uncoursed stone rubble on a boulder foundation, under a modern gabled roof. The original doorway is now a window. The existing windows are thought to be modern replacements in original openings.

There is a central fireplace dividing the interior into two rooms, both of which show a cruck pair. The present lofts are modern, but a window in the east gable is thought to have lit an original loft.

A single bay building is added on the east end, sharing a common roof. This has an arched opening to the front and an iron drive wheel over a leat at the rear.

Sources: RCAHMW Caernarvonshire Inventory I (1956), 174 fig 169

CADW Listed Buildings Database (5896)

John Wiles 26.06.07

http://jura.rcahms.gov.uk/cadw/cadw_eng.php?id=5896

BLAEN GLASGWM UCHAF

Street Name and Number: , Listed Building Reference: 5896

Grade: II Date Listed: 13/10/1966

Date Amended: 17/07/1992 Co-ordinates: 276617,349464

Locality: GLASGWM Community: Bro Machno

Council: Conwy National Park: Yes

Location

At head of Glasgwm valley, to SW of Blaen Glasgwm farmhouse. Entrance front faces roughly N.

History

Small house of cruck construction, probably C16/C17 in origin. Originally single room house with section to L of chimney (now included into house) for agricultural use, probably cow-house. Extended in line to E probably early C19.

Interior

Tiny lobby formed by large central fireplace, and two ground floor rooms, one each side of fireplace. Each room has wooden stair. Main room has inglenook fireplace under large cambered beam. Doorway to L of fireplace probably cut through in C19. Cruck couple (springing at approx 1m from floor) in each room with added tie-beams to support floors of lofts lit by skylights.

Exterior

Lofted single storey house in limewashed rubble on boulder foundations. Large chimney stack (rendered), modern slate roof. Entrance doorway (inserted C19) below chimney has, to R, casement window (former doorway), two windows set at eaves and lower window to L of door. Beyond this window is further smaller door. Single window to rear. E end of house extended in line (C19). Broad doorway with slightly cambered voussoir opening. At rear of this section, iron drive wheel for agricultural machinery over leat.

Reason for Listing

References

Royal Commission on Ancient & Historical Monuments in Wales, Survey and Inventory, Caernarvonshire, Vol I: East, 1956, p174; Information from National Trust Vernacular Buildings Survey.

<http://www.cofiadurcahcymru.org.uk/arch/query/page.php?prn=GAT11927>

Blaen-y-glaswm Farm; Ty-crwc

Primary Reference Number (PRN): 11927

Trust: Gwynedd **Site Type:** BUILDING

Period: Post-Medieval **Community:** Bro Machno

NG: SH76624948 **Legal Protection:** Listed Building

Description:

16th century, cruck uncoursed rubble on boulder, foundations, slate central massive chimney wide fireplace.

Sources :

Royal Commission on Ancient and Historic Monuments, Rc Buildings Records ,
<1>

Events :

Related PRNs :

National Trust VBR Report

PROPERTY: Blaen Glasgwm Uchaf

ESTATE: Ysbyty

PARISH: Penmachno

N.G.R.: 7612 4946 SH 74 NE

ASPECT: NNW

SURVEYED: A. Murphy. 6-12-83

BUILDING: Cottage

CATEGORY: Domestic

LISTING: Grade II

DATE: Late 16th C.

DATED FEATURES: ---

CODE: 020

DESCRIPTION

WALLING

Random uncoursed
Compact but uneven
Quoins not stressed
Thick joints – rough faced masonry

ADMIXTURES

W. end wall plaster

WINDOWS

Casement broad windows
Window heads meet roof line
Single horizontal wood astragals
Wood inner frame to each casement light
Two light generally

ROOF

Gabled
Raking gable copings
Plain oversailing eaves
41° - 45° pitch
V-shaped gable openings
Thick slates
Iron water goods
V-type tile ridge
Diminished courses to slates

CHIMNEYS

With pot
Flues plastered

Water tabling
Stack centrally placed

SPECIAL FEATURES

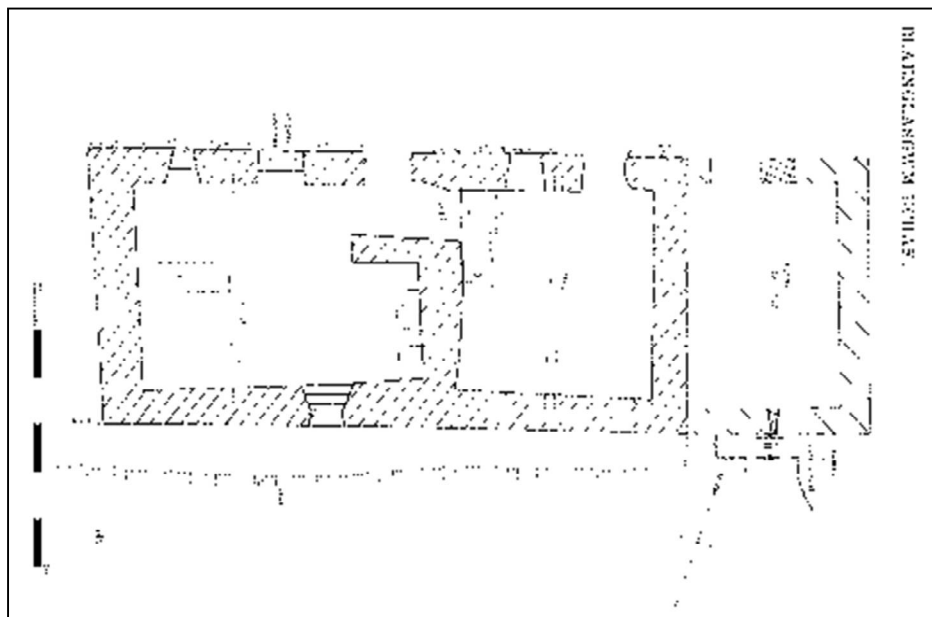
Non-domestic building attached
One storey with lofts
Plain square headed doorways
Plank door

ADDITIONAL NOTES

It is a very interesting Grade II listed building, probably dating from the 16th century though with many later alterations. Originally it was a one-room dwelling, with the door more centrally located. The section beyond, although of the same build, was probably of agricultural uses, and has only been more recently converted for domestic use, with a passage way cut through beside the inglenook. The date at which this occurred is difficult to determine, but the fittings are 19th century, with cast iron Victorian firegrate and surround immediately at the top of these stairs. The surround is still nicely unspoiled. The cutting of this passage may have been the time at which the front door was moved.

A crog loft has been added later to the original cottage with the addition of a tie-beam to support it. A small room was formally partitioned off beneath the crog loft, but this has since been removed. The inglenook contains quite an elaborate cast iron range with oven, though it is unfortunately now in very poor condition.

The cartshed is an addition to the end of the range which was subsequently used to house a water wheel and its machinery. Little remains of this now, though a course of the leat still runs along the back of the cottage.



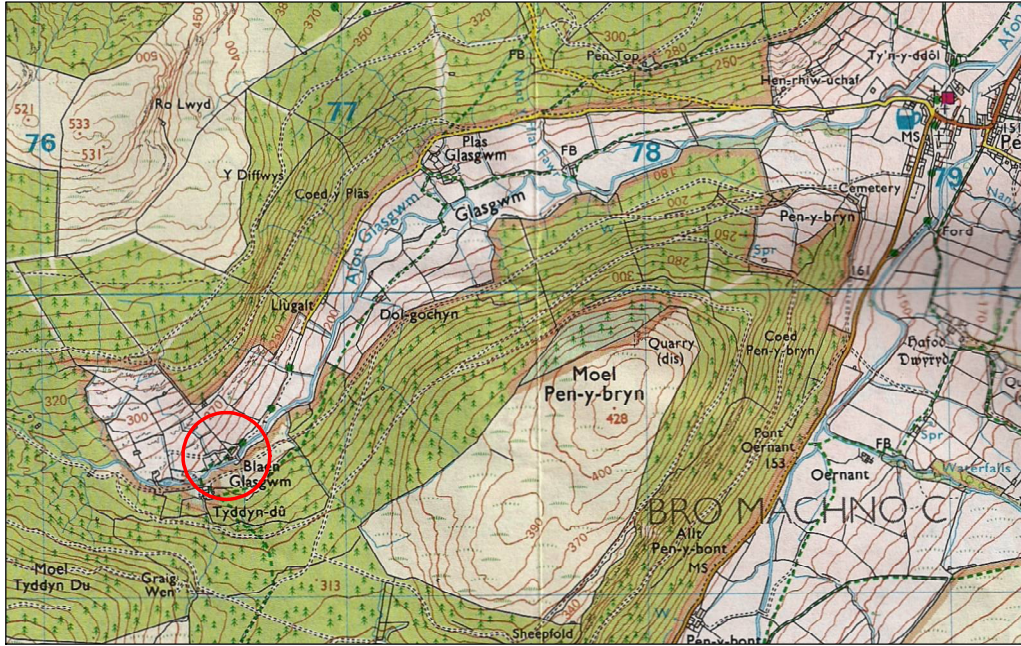


Figure 1: Location
Scale 1:25,000

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

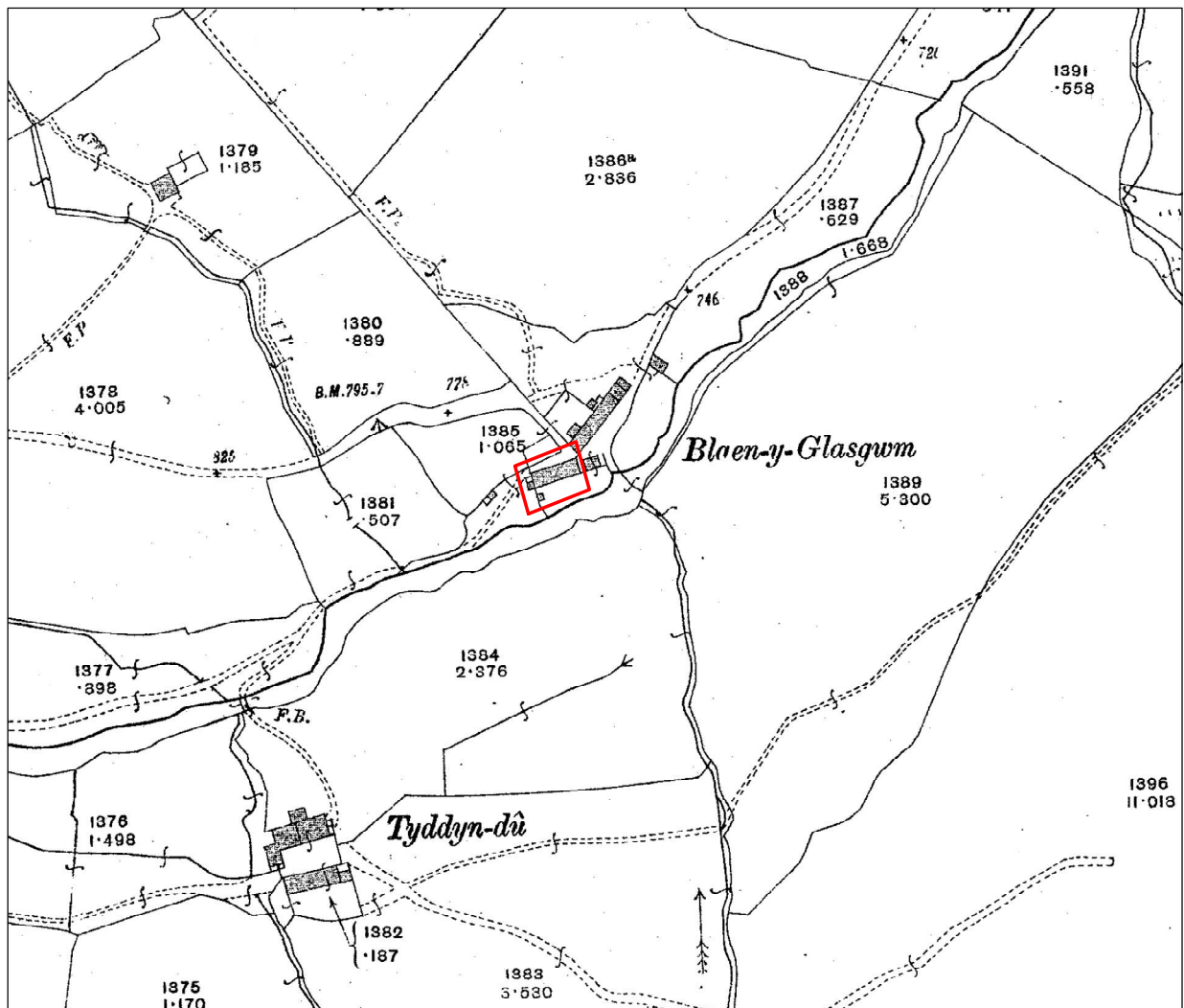
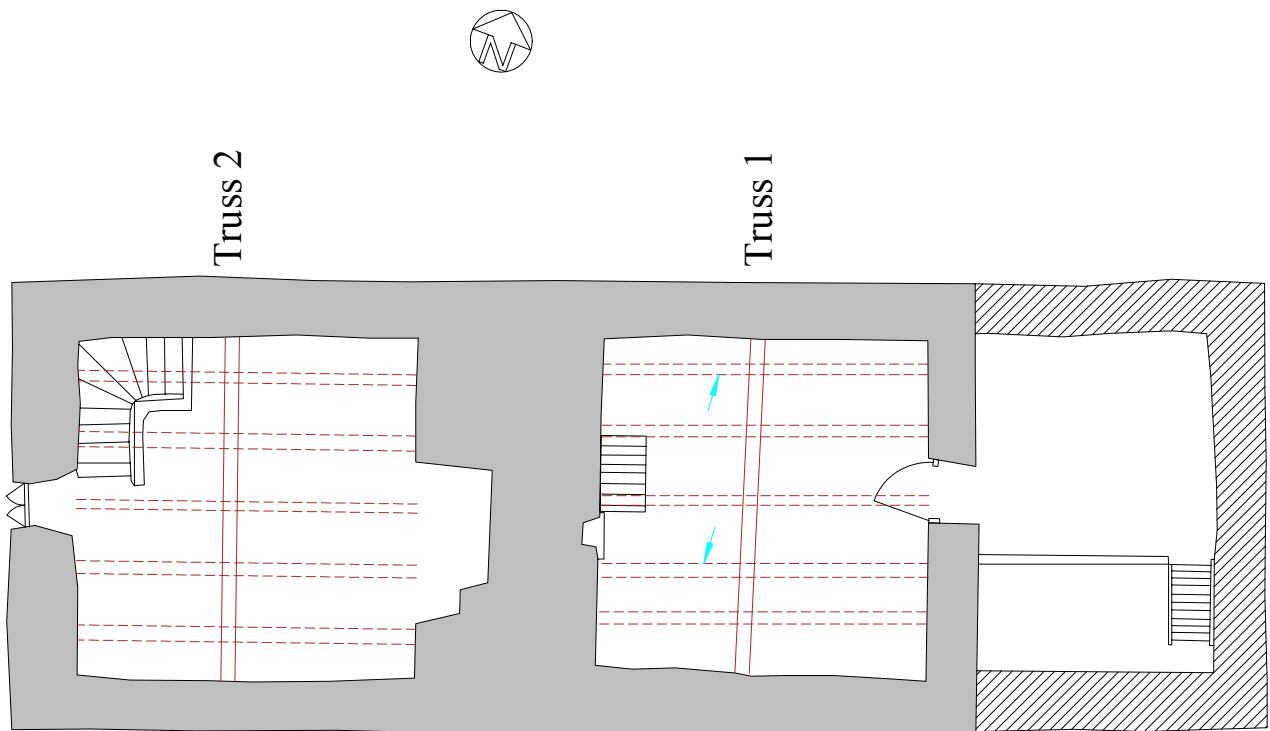


Figure 2: Extract from the 1913 Ordnance Survey Map
Carnarvonshire XXIX.4
Scale 1:2500



⚡ Dendrochronological sample

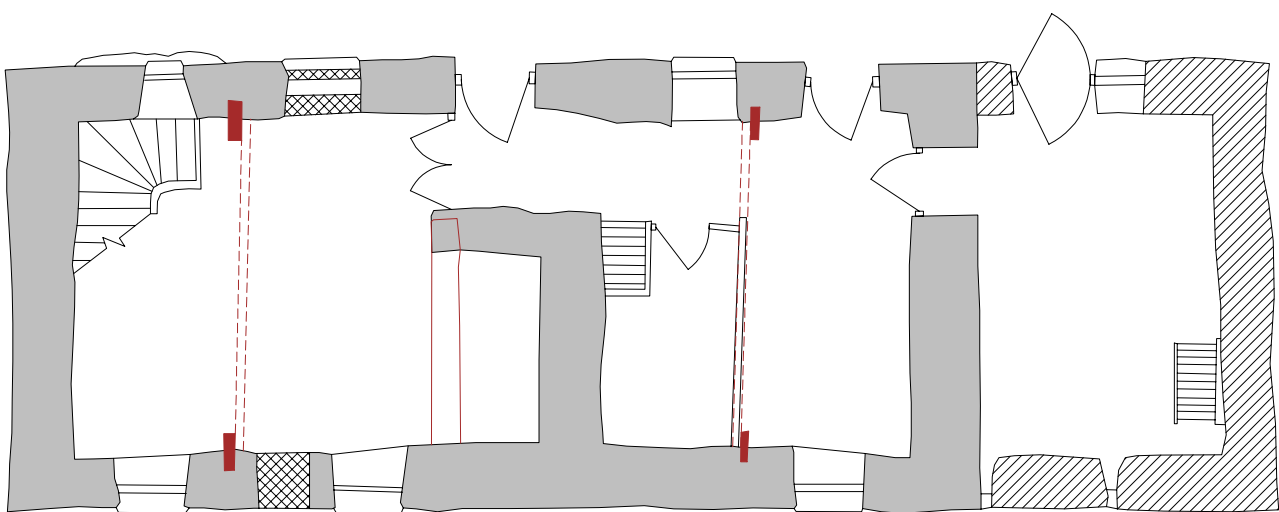
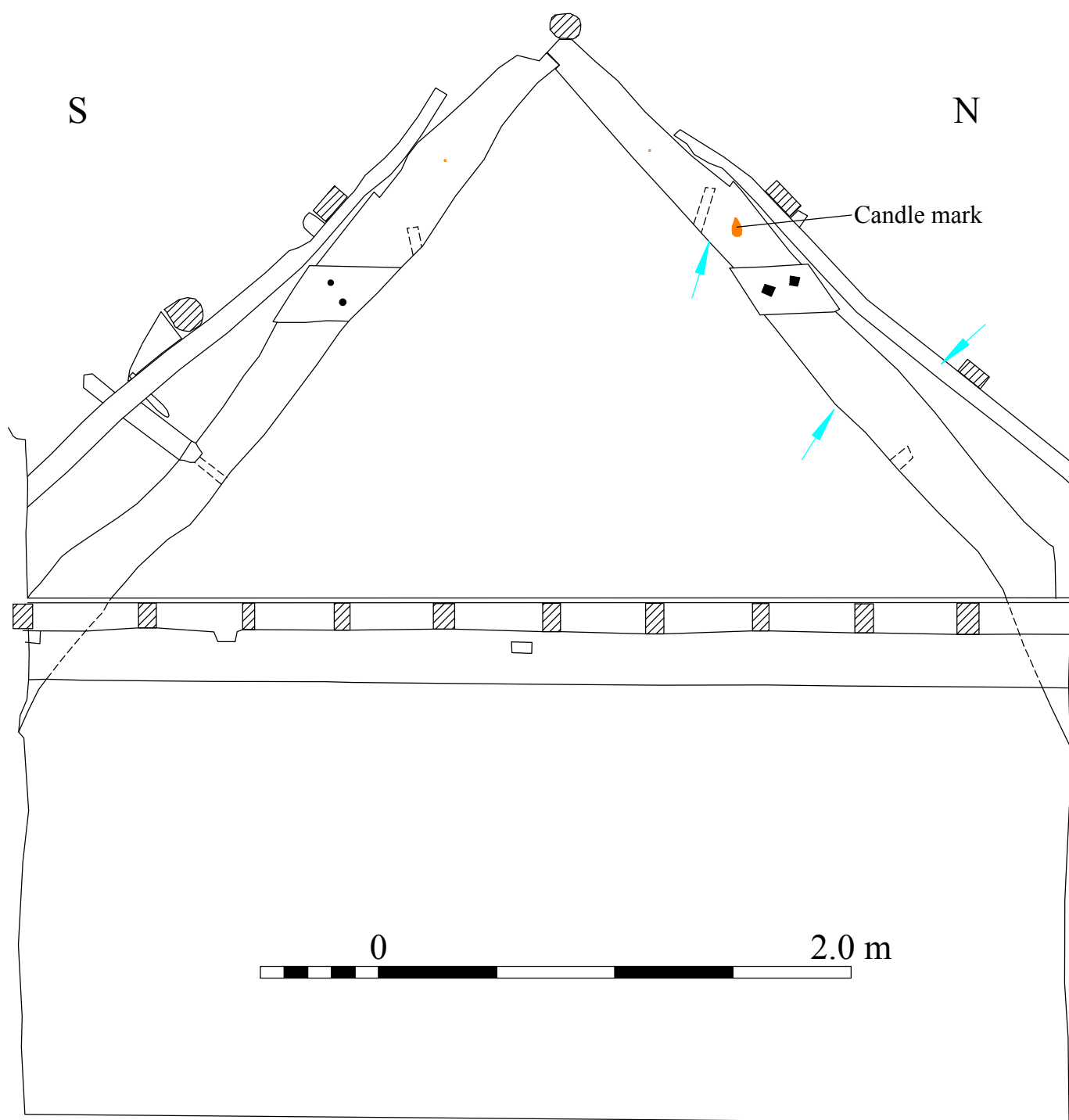


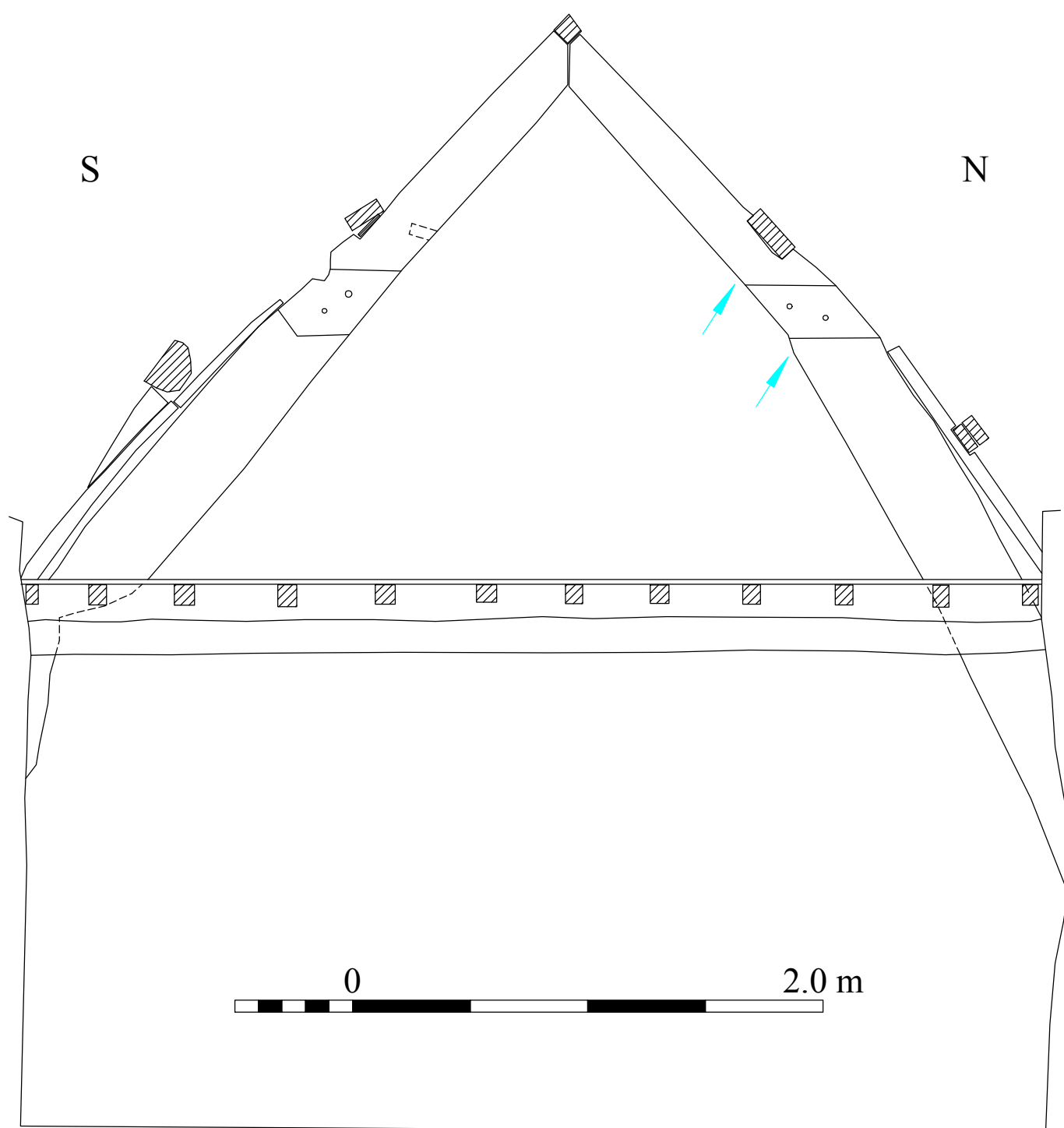
Figure 3: Plan
Scale 1:100

Based on plans ByG/5 and ByG/6
by Adam and Francis Voelcker
July 1996



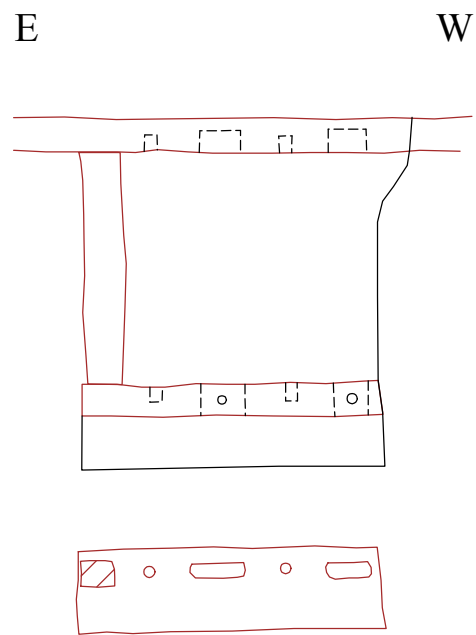
⚡ Dendrochronological sample

Figure 4: Truss 1
Scale 1:25

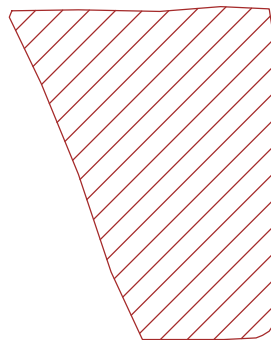


 Dendrochronological sample

Figure 5: Truss 2
Scale 1:25



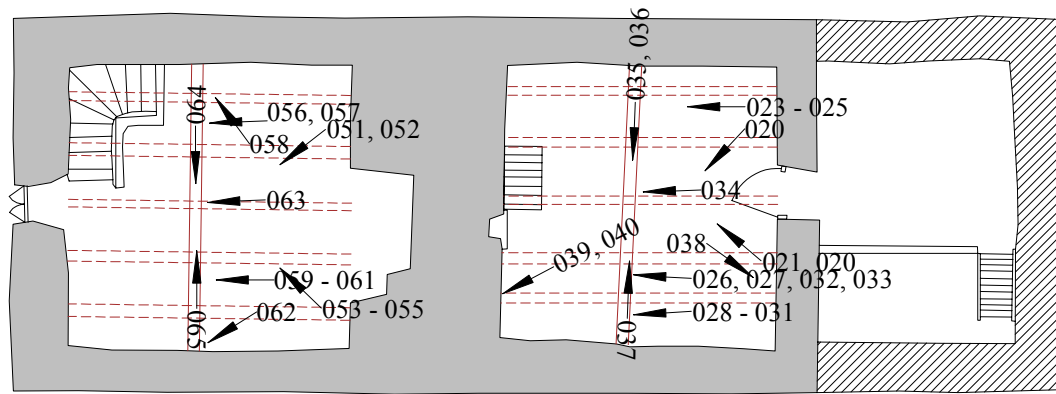
Ground floor SW window



Section through bressumer



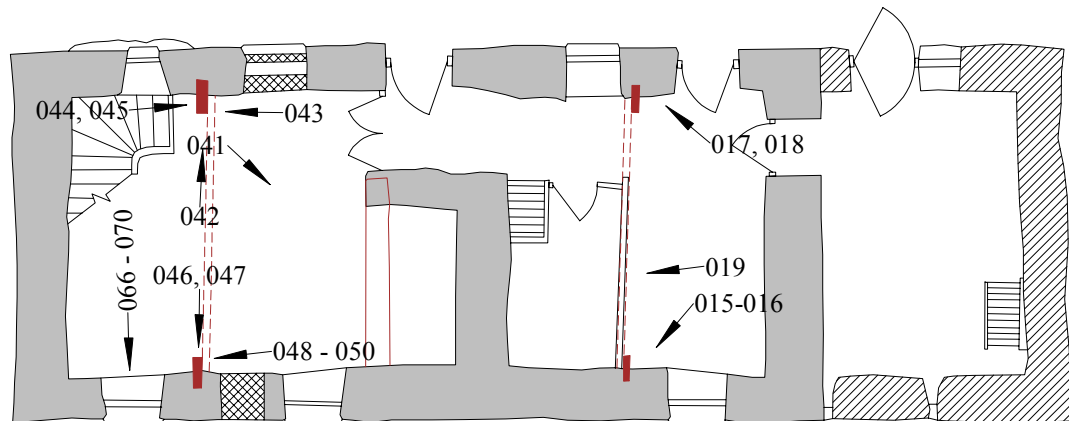
Figure 6: Other features
Scale 1:10



009 - 011 007, 008

012, 013

014



005, 006

003, 004

001, 002

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

Based on plans ByG/5 and ByG/6
by Adam and Francis Voelcker
July 1996