HER copy

eas

Engineering Archaeological Services Ltd

Melin y Bont, Bryn Du
Archaeological Recording

EAS Client Report 2005/3
March 2005

Archaeological Recording of

Melin y Bont, Bryn Du

Commissioned by

Evan Owen, Rhosneigr

event PRN 41492

Kathy Laws and Ian Brooks

Engineering Archaeological Services Ltd.

registered in England

Nº 2869678

Melin y Bont, Bryn Du
Archaeological Recording

EAS Client Report 2005/3
March 2005

Contents

List of Illustrations

List of Plates

Melin y Bont, Bryn Du, Archaeological Recording

1 Introduction

Melin y Bont is one of two corn mills in Bryn Du, Rhosneigr, Anglesey. It is situated on the south easterly edge of the village of Bryn Du on land which forms part of the Bodorgan Estate (Figure 1). The mill is unusual in that it operated under both wind and water power.

At the outset of the project the mill building had lain unused for a considerable period of time having been gutted by fire in the 1970's. While little of the internal wooden structure survived there was a collection of metal parts deposited in the base of the windmill and the water wheel survived in situ but damaged.

The structure is ultimately to be restored and converted for use as living accommodation. Archaeological recording of the deposits surviving in the base of the windmill was commissioned during an initial phase of clearing and stabilization of the structure.

2 Methodology

The surviving remains in the base of the windmill were within up to one meters depth of detritus.

Prior to commencement of clearance work a series of photographs were taken of the visible surviving remains. Photographs were taken in black and white 35mm format, 35mm colour transparency, and digital format. A metric scale was used where possible.

Once the detritus and loose metal pieces had been removed from the base of the structure a ground plan indicating the positions of surviving in situ remains was drawn and further photographs taken. The removed metal pieces were recorded photographically and by measured line drawing. Where multiples of identical pieces were observed only one was drawn. A written inventory of all pieces was made as far as was possible.

Some items were in numerous fragments, most notably the grinding stones, which made a precise calculation of items represented difficult.

By careful analysis of the records made and reference to previous documentation of the site made in the 1970's and 80's (RCAHMW) it was possible to compile a reconstruction drawing of the internal workings of the windmill as it would have been prior to the fire in the 1970's.

3 Historical Background

PRN 11791 SH 357255

The mill is thought to have been built in 1825 for the Bodorgan Estate to which it still belongs (Williams, 1982).

Ordnance Survey maps dating to the late 1800's show the mill with a mill pond to the east and mill race to the west of the structure (Figure 2). The leat which brought water to the mill pond was diverted from the nearby stream approximately 1km to the north east at Glan y Gors.

The mill was operated by three successive generations of the Williams family (Williams 1982).

The sails are thought to have been taken down in 1930, but operation of one pair of stones continued with water power (Guise and Lees, 1992, 98).

There are also suggestions that machinery in nearby farm buildings was also driven by power transmitted from the mill (Guise and Lees, 1992, 98).

While some accounts suggest that the mill ceased operation in 1934 (Williams, 1982), the Royal Commission on Ancient and Historical Monuments in Wales suggest that it operated under water power alone until at least 1937 (RCAHMW 1937).

A rates board transcribed and translated by Wailes in the 1950's (Wailes, 1954, 154) indicates that for grinding and dressing a quarter (of a tonn) of wheat or barley, 6 quarts (12 pints) were retained in tax. The same was retained for grinding a quarter of barley or oats for pigs while for one quarter of oats to the kiln and dressing into oatmeal one bushel (8 gallons) either in groats (hulled and crushed oats) or flour was retained.

Unfortunately the mill was gutted by a fire in 1973 when the internal structure collapsed.

Subsequently the Royal Commission on Ancient and Historical Monuments in Wales have compiled records for the site based on a series of old photographs, and notes and drawings made by Gerrallt Nash of the Welsh Folk Museum. In brief they have surmised that the ground floor contained the water wheel and the drive from the pit wheel, a large wire machine and a sifter driven by belts from above. The first floor contained four flour hoppers, a lay shaft with four or more pulleys to drive various machines, and the clutch gear to disengage the main drive. The second floor housed a spur wheel which drove six stone nuts, three pairs of stones and the layshaft drive. The stones had polygonal boxes with wooden hoppers, shoes and horses. The third floor had three pairs of stones, a sack hoist and a second clutch and the fourth floor had the cast iron ring bearing for the cap centering frame.

4 Archaeological Recording

The inventory of recorded items is listed in Appendix 1. The ground plan is shown in Figure 3. The drawn items are shown in Figures 4, 5, 6, 7, and 8, and the reconstruction drawing in Figure 9. A summary of the photographic record is shown in Plates 1 - 32 and the full photographic record is detailed in Appendix 2, 3 and 4.

Melin y Bont, Bryn Du, Archaeological Recording

The mill consists of a single tower the external wall of which is vertical at the base but then tapers from the first floor level upwards. The walls are of a rough stone construction with a pink render covering. The door and window openings have dressed stone surrounds. There is a ground floor and four subsequent floor levels. The ground floor has two doorways, a single window and an opening to accommodate the wooden launder directing water from the mill pond to the water wheel. The first floor has a doorway on the east side with stone steps leading to it a small window and a second doorway on the south side. The steps are to one side of the door but timber sockets beneath the door indicate the position of a wooden platform to which the steps led. This platform may have run all the way around the structure, as the second doorway to the south directly above the main ground floor door has no access steps. Such a platform allowed for the setting of the sails. An archive photograph shows the presence of timber holes in positions which would support this (RCAHMW 1057). The photograph also shows the presence of a small stone structure beneath the platform on the east side, presumably a store. The second door has been narrowed at some point. The second and third floors have two windows each. The fourth floor has a single square opening. (Plates 1-3). With the exception of the ground floor openings and the east facing first floor door the openings have been blocked with modern breeze blocks.

The mill pond to the east of the structure has been created by enclosing the area with stone and earth banks which have then been faced internally with rendered brickwork (Plate 4). The pond runs to a point at its western end where the wooden launder traverses a short distance supported on low stone pillars into the mill structure delivering water to the wheel in a breast shot position (Plate 5 and 6). Water flow was controlled by means of a sluice at the pond end of the launder and a metal penstock at the wheel end of the launder (Plate 8). The penstock is controlled by a wooden and iron ratchet mechanism attached to the windmill structure above (Figure 8.10, Plate 7).

Internally little survives of the wooden floors and fittings with the exception of a few charred beams (Plate 9). The ground floor layout is, however, for the most part intact (Figure 3).

The water wheel survives in situ (Plate 10). It sits within the wheel pit on the north west side of the structure. The wheel pit is stone lined on three sides but at the end beneath the launder is lined with brick (Plate 11). The wheel has been damaged by fire affecting the wooden spokes and paddles and also by the impact of a Burr Stone grinding stone recovered from the wheel pit (Plate 12). This has knocked out part of the metal wheel rim on one side (Plate 13). The wheel has also been dislodged from its mounts, the whole having slipped to one side slightly. The pit wheel also survives in situ attached to the inner side of the water wheel spindle within a brick lined pit in the earth floor (Figures 3 and 4, Plates 14 and 15). A rendered rubble wall divides the water wheel from the pit wheel.

A substantial collection of metal parts was removed from the base of the mill. These had fallen to the base during the collapse of the internal structure resulting from fire damage (Plate 16). Some of the parts were broken and distorted as a result of heat and the collapse. It was nevertheless possible to create an inventory of what survived (Appendix 1). The collection included:

The wallower (Figure 5.2, Plate 17). The wheel which transmitted the drive from the pit wheel to the main drive shaft via a short piece of drive shaft with a dog clutch at the top. The base of the shaft would have rested in the toe pot (Figure 8.1, Plate 18) which would have been mounted on the floor. An image of the original arrangement can be viewed at www.millarchive.com.

The main drive shaft (Figure 5.4, Plate17). Originally 6.2 m in length the shaft is now broken in to three sections. It has a dog clutch at the bottom and the top (Figure 5.4, plate 20) and a spur wheel close to the top. The lower clutch was situated at first floor level and was used to engage and disengage the water wheel. The upper clutch, at third floor level, engaged and disengaged the sails. Two sets of bearings secured the shaft at second and third floor levels (Figures 5.4 and 9). The bearings are made in two parts and have a copper alloy strip on the internal bearing surface to allow the free movement of the drive shaft

The spur wheel (Figure 5.3, Plate 19), situated towards the top of the main drive shaft, at ceiling level of the second floor. This is noted as having an integral crown wheel i.e. teeth on its upper surface as well as around the edge. This allowed for transmission of the drive both horizontally and vertically. Vertically the drive was transmitted to the mill stones via small cogs known as stone nuts and shafts known as quants (Figure 6.1 and 6.5, Plate 22). The stone nuts originally had wooden teeth which have not survived. Two long quants for overdriven stones and one short quant for an under driven stones are evident. It was noted that the stone nut driving the under driven stone was slightly larger than the others indicating a slower turning speed for this stone. A third long quant is observed re-used as a lintel in a nearby building (Plate 21). Horizontally the drive transmitted via a nut with 23 teeth to a drive shaft which would then have been transferred down a floor to the lay shaft via a six spoked wooden wheel, of which only the metal hub survives, and presumably a belt (Figure 6.9). The lay shaft has three similar spoked wheels which would have transferred the drive, via belts, to other machinery, some of which would have been on lower floors (Figure 6.8, Plate 17).

Numerous fragments of mill stone survive, of two different stone types, a Burr Stone (Plate12) and a Grit Stone (Plate25 and 26). While the Grit Stones would have been in one piece the Burr Stones were made in pieces held together with cement and iron bands around the circumference. Fragments of both bed stones (thicker stationary lower stones) and runner stones (thinner upper rotating stones), with slots to accommodate the bridge tree, are evident along with two bands. It is not possible to determine how many stones exactly remain but fragments amounting to one Burr Stone pair with a governor, for grinding wheat, and possibly two Grit Stone pairs, for grinding oats and barley, would appear to be represented. Evidence suggests that the Grit Stone bed stones were set in a bed of plaster.

Two bridge trees for mounting pairs of stones were observed (Figures 6.2 and 6.5, Plates 23 and 24). These consist of a shaft, which would have passed through both stones, with a four pointed support for the runner stone at the top. Of the two examples one has a governor at the bottom which was part of an automatic system for regulating the gap between bed and runner stone, while the other has a longer shaft, effectively a short quant with a stone nut at the bottom.

Associated with the mill stones are various parts of the tentering gear. Tentering was the means of controlling the distance between the bed and runner stone and thus altering the coarseness or fineness of the product. It also allowed for fine adjustments of the stones taking into account the variability in the speed of the mechanism. Surviving remains consist of three tentering frames (Figures 6.3 and 6.6, Plate 27) four tentering plates (Figures 8.8 and 8.9, Plate 28 and 29) (which held the ends of the tentering frames), and various parts of the tentering screw mechanism which made the adjustment to the height of the runner stone (Plates 31 and 32).

Other identifiable pieces include a number of extra cogs some with attached shafts for driving other pieces of machinery (Figures 6.7, 6.4, 7.1, 7.2, 7.3) the spindle from the inside of a wire machine (groat machine or

flour dresser) (Figure 8.4), various mounts and bearings for securing machinery and pulleys, chain fragments and wooden wheels probably associated with a sack hoist (see inventory, Appendix 1, for details).

Of the sail mechanism nothing appears to have been present in the final phase of the use of the mill with the exception of a large circular metal ring thought to have been the cap centering ring around which the wooden mill cap rotated (Figure 8.7, Plate 30)

Fragments of perforated ceramic tile of a 9D type (Crew 2004) were noted incorporated within a structure to the south east of the mill. An edge stamp of CATHERAL, one of the Buckley brickworks, was noted on one tile. This indicates a drying kiln, probably for oats, once stood nearby; early maps suggest a smaller structure at this location (Figure 2). The existing structure is relatively recent and also has bits of the mill metalwork incorporated into its fabric.

5 Discussion

We know from documented records that the mill was originally able to operate under both water and wind power. The split drive shaft which allowed for either the water wheel or the sails to be connected to the main drive as was appropriate is still evident today. The surviving remains are those which belong to the water wheel confirming suggestions that latterly the mill was used exclusively under water power. It would appear that the upper section of the drive shaft and metalwork associated with the sales had been removed in one of the last phases of use of the windmill.

The presence of only two bridge trees for supporting the mill stones suggests that in its final phase of use no more than two sets of mill stones could have been in operation. This is likely to have been the one burr stone pair with attached governor for grinding fine flour and a grit stone pair for grinding coarser flour and meal. It seems likely that these were driven by the water wheel alone, the Burr Stone being over driven on the second floor and the Grit Stone being under driven on the third floor.

The mill stones themselves may have been quarried locally. Grit Stone quarries are known dating back to the 17th century at Penmon, Fedw Fawr and Pwll Fanog on the eastern side of Anglesey (Ward 1990, 22).

While Burr Stone for mill stones was often imported to Britain from France, there are also known local sources of this stone type with a quarry known near Conwy dating to the late 18th century (Malaws, 1990, 41).

Other surviving parts indicate that there had been at least four mill stone pairs operating at one time. The discrepancy between this and the six stones indicated in the archive source perhaps points to a previous phase of scaling down of activities prior to the removal of the sails perhaps in line with the gradual decline in arable practices which took place on Anglesey in the latter part of the ninteenth and early twentieth century (Guise and Lees, 1992, 12).

6 References and Sources

Crew, P. 2004. Perforated Tiles from Corn Driers and Malt Kilns. British Brick Society Information, 95.

Guise, B. and Lees, G. 1992. Windmills of Anglesey. Attic Books, Builth Wells.

Malaws, B.A. 1990. A quarry rediscovered. Melin 6, 41-42.

Ordnance Survey First Edition Anglesey Sheet XVII.10, 1889, scale 1:2500. Llangefni Archive Office.

Royal Commission on Ancient and Historical Monuments in Wales, 1937. An Inventory of The Ancient Monuments in Anglesey.

Melin y Bont, Bryn Du, Archaeological Recording

Royal Commission on Ancient and Historical Monuments in Wales. Aberffraw Parish Record File

The Mills Archive www.millarchive

Wailes, R. 1954. The English Windm.com. Routledge and Kegan Paul Ltd, London

Ward, O. 1990. Welsh Millstones. Melin 6, 15 -41

Williams, W. 1982. Melin Y Bont, Bryn Du. Y Rhwyyd, Rhif 36 Hydref 1982.

Figure 1: Location map

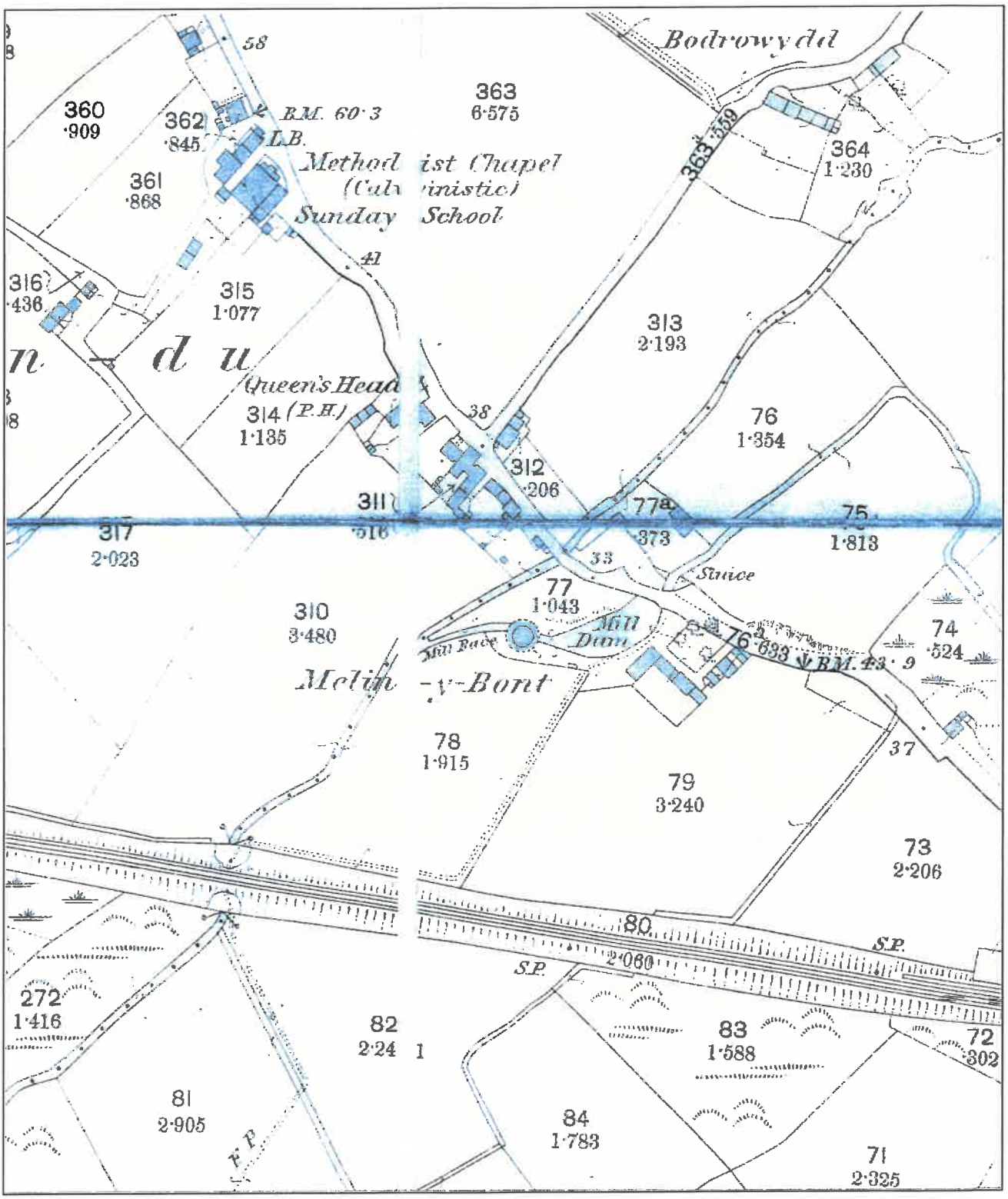


Figure 2: Extract from 1889 Ordnance Survey map
Anglesey Sheet XVII.10
Scale 1:2500

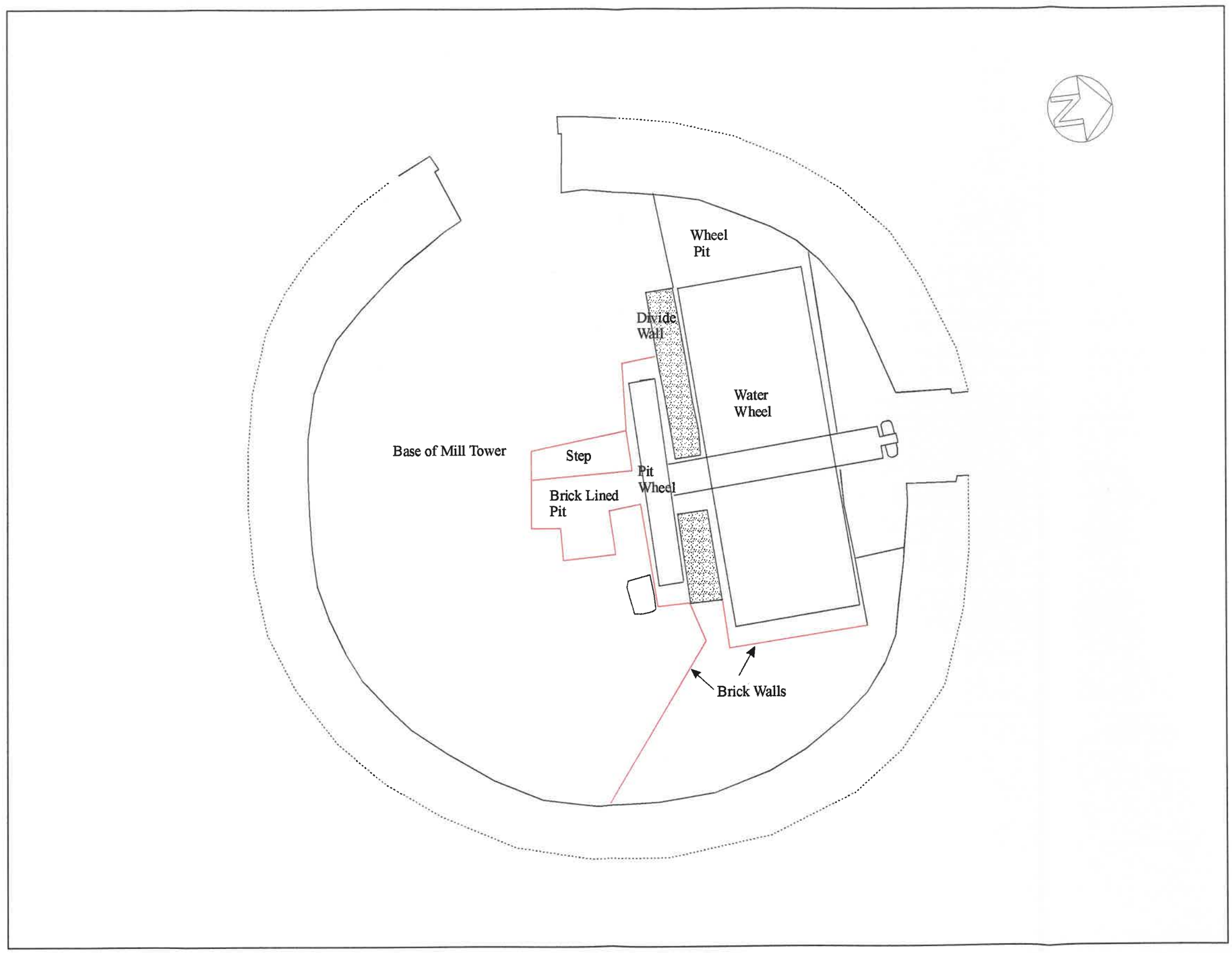
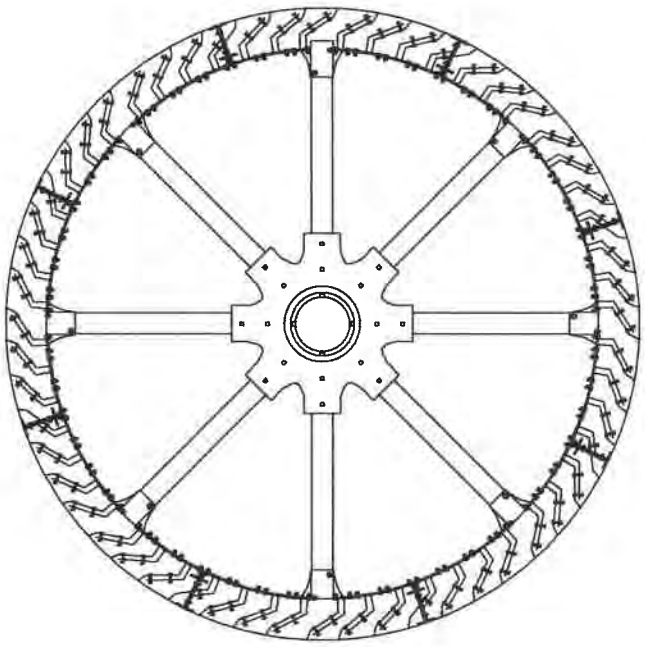
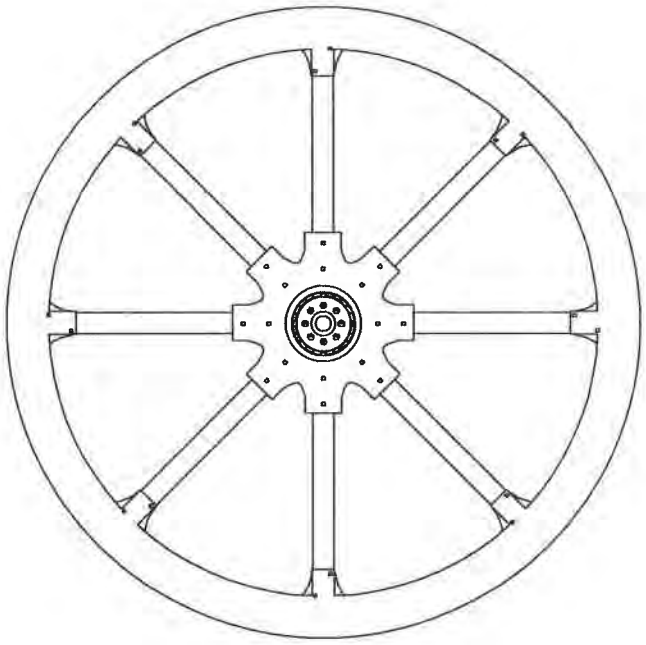
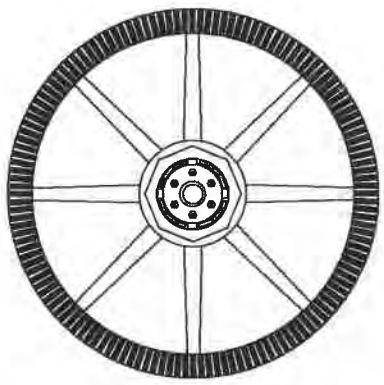


Figure 3: Bryn Du 2005
Ground Plan
Scale 1:50



Water Wheel



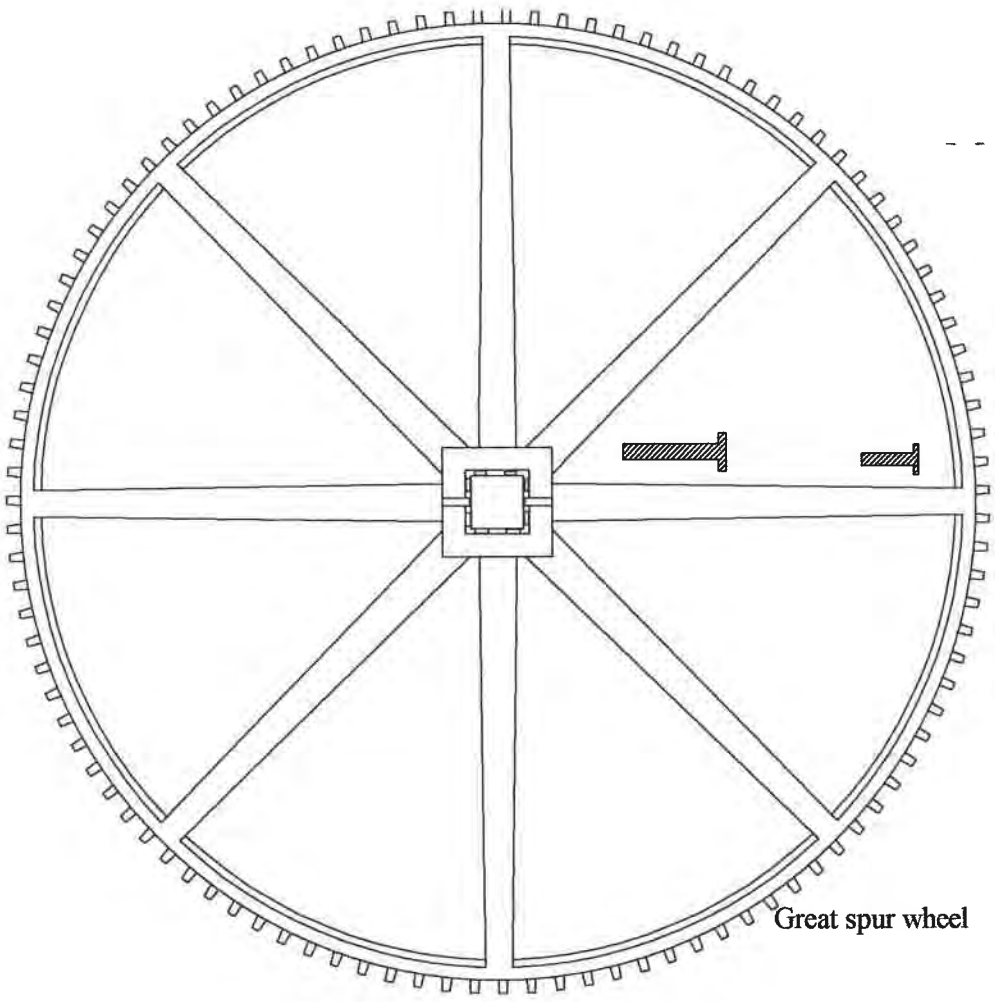


Pit Wheel

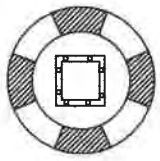
Figure 4: Melin y Bont, Bryn Du 2005
Water wheel

0 2.0 m

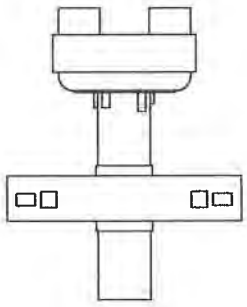
eas
Engineering Archaeological Services Ltd

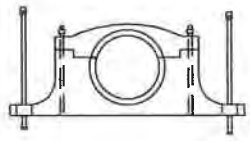


5.3

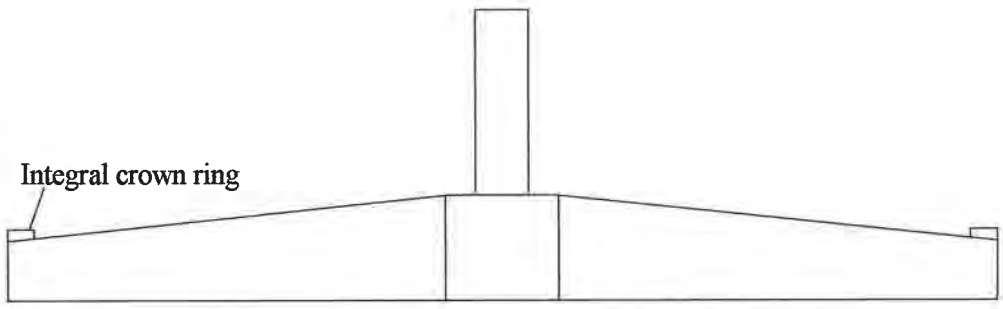


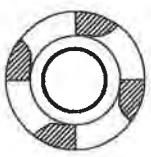
Dog clutch



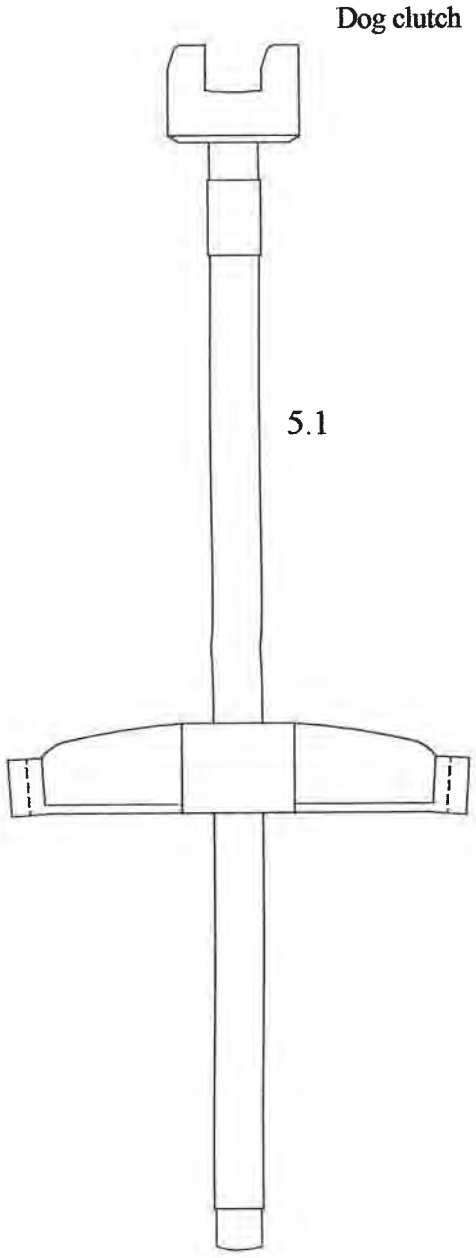


Bearing



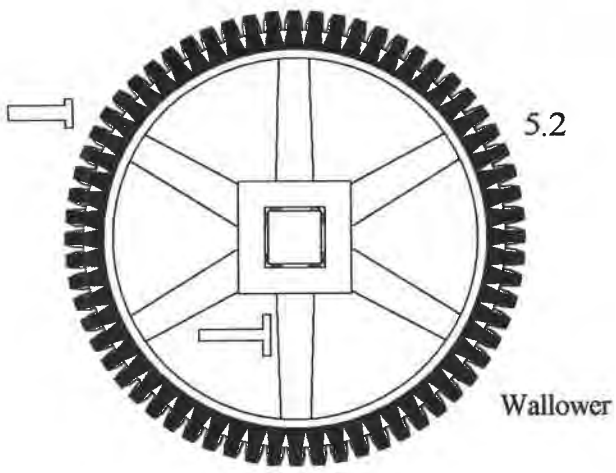


Dog clutch

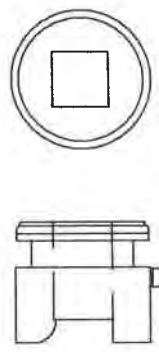


5.1

5.4



5.2



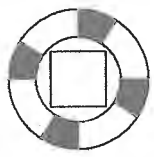


Figure 5: Melin y Bont, Bryn Du 2005
Main Drive Shaft

0 1.0 m

eas
Engineering Archaeological Services Ltd

Stone nut

Quant

6.1

Stone nut from second quant

Bridge tree

Phosphor bronze bearing strips

Govenor

6.2

6.3

Bridge tree

Short quant

6.5

Stone nut

Tentering frame

6.6

6.7

Lay shaft

6.8

Wooden support

6.9

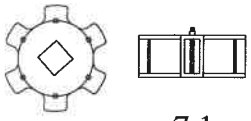
Horizontal drive

6.10

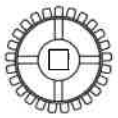
6.4

Figure 6: Melin y Bont, Bryn Du 2005
Shafts

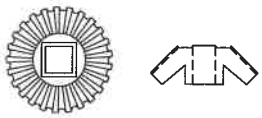
0 1.0 m



7.1



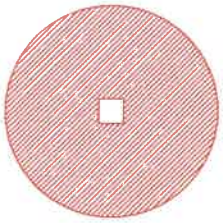
7.2



7.3

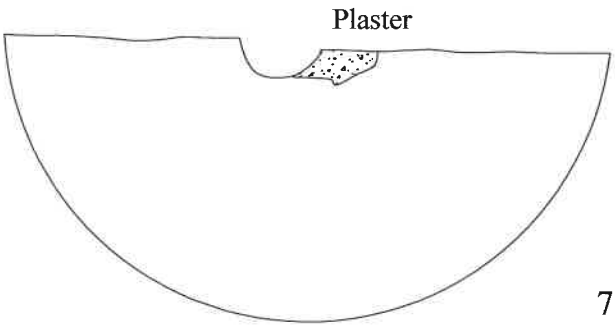
7.4

Stone wheel

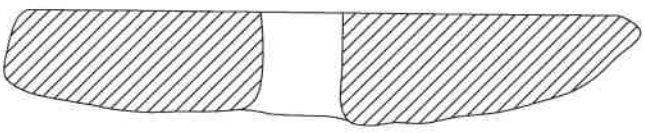


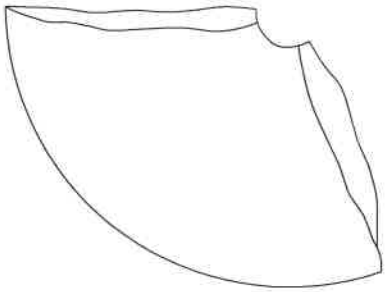
7.5

Wooden wheel



7.6





7.7

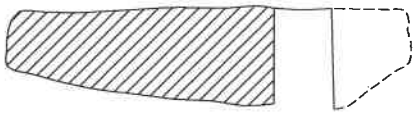
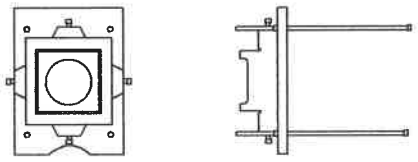
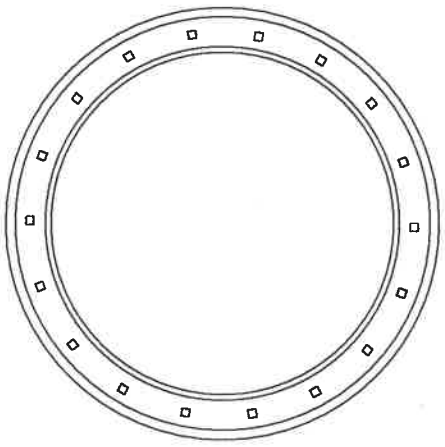


Figure 7: Melin y Bont, Bryn Du 2005
Cog Wheels and Mill Stones



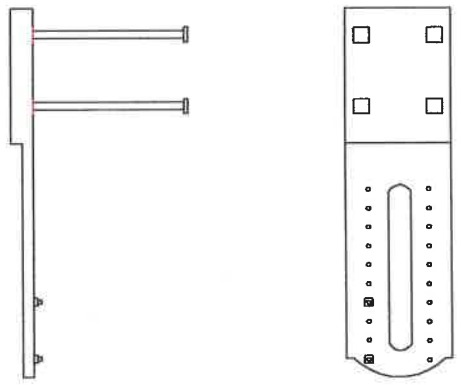
Toe pot

8.1

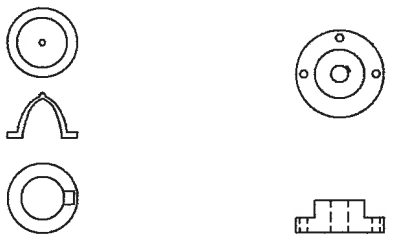


Cap centering ring

8.7

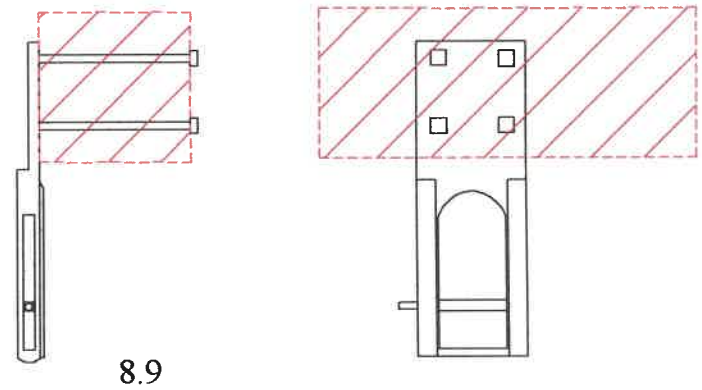


8.8

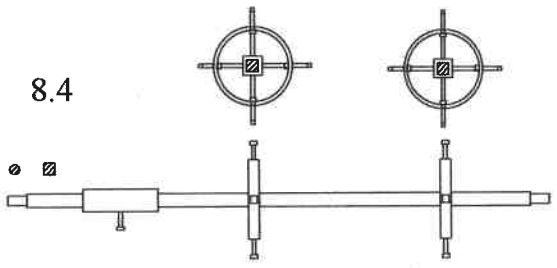


8.2

8.3

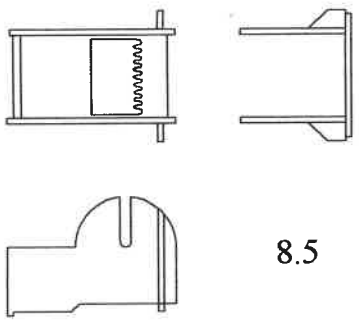


8.9

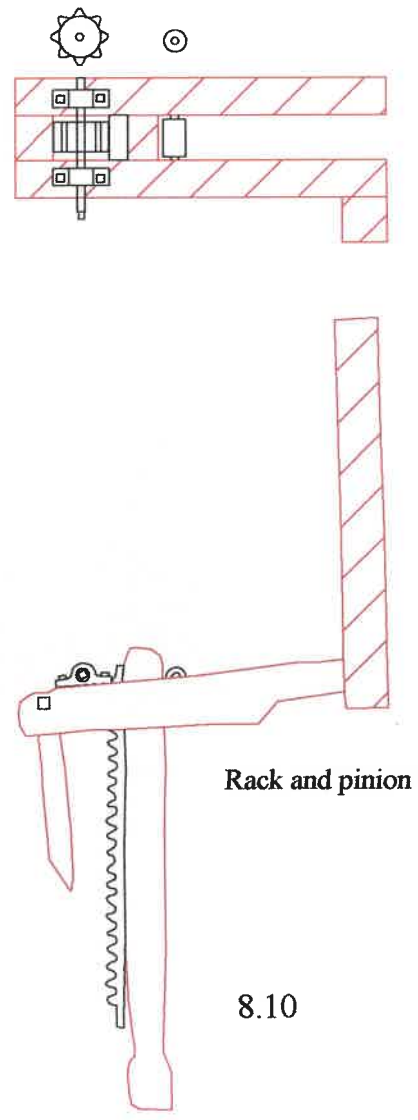


8.4

Spindle from wire machine

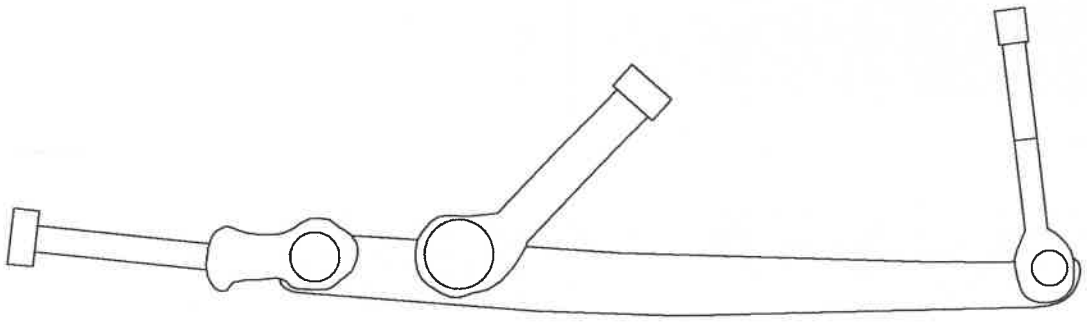


8.5



Rack and pinion

8.10



8.6

Figure 8: Melin y Bont, Bryn Du 2005
Miscellaneous Objects

0 1.0 m

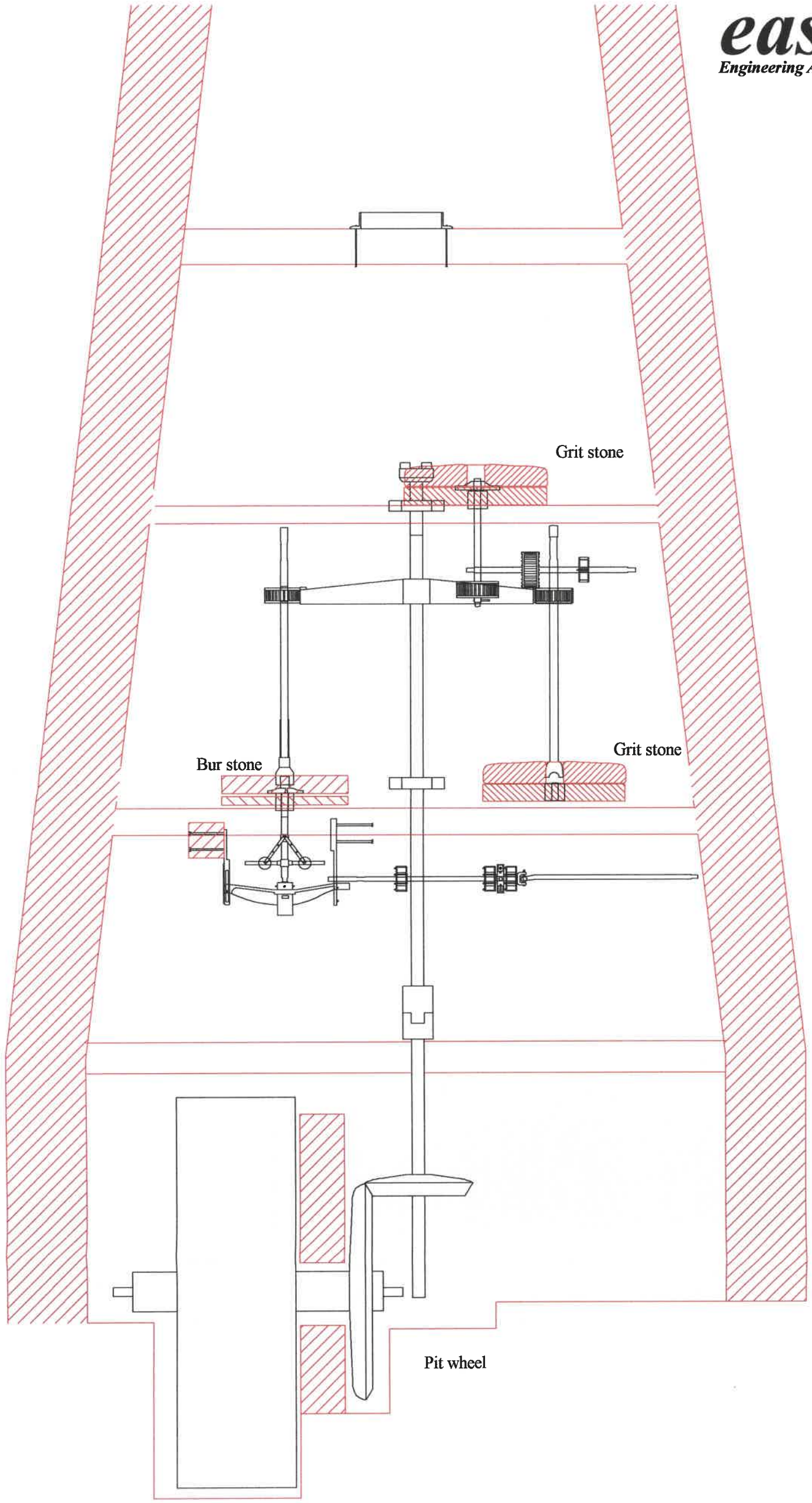


Figure 9: Melin y Bont, Bryn Du 2005
Scale 1:50

Plate 1: Mill structure, looking south

Plate 2: Mill structure, looking east

Plate 3: Mill structure, looking west

Plate 4: West end of mill pond

Plate 5: Wooden launder, looking south west

Plate 6: Wooden launder, looking east

Plate 7: Ratchet mechanism, part of water flow control

Plate 8: Penstock, part of water flow control

Plate 9: Charred remnants of internal timbers

Plate 10: Remains of water wheel

Plate 11: Brick lining at east end of wheel pit

Plate 12: Mill stone lodged in wheel pit, Burr Stone bed stone with governor visible

Plate 13: Section of water wheel rim

Plate 14: In situ pit wheel

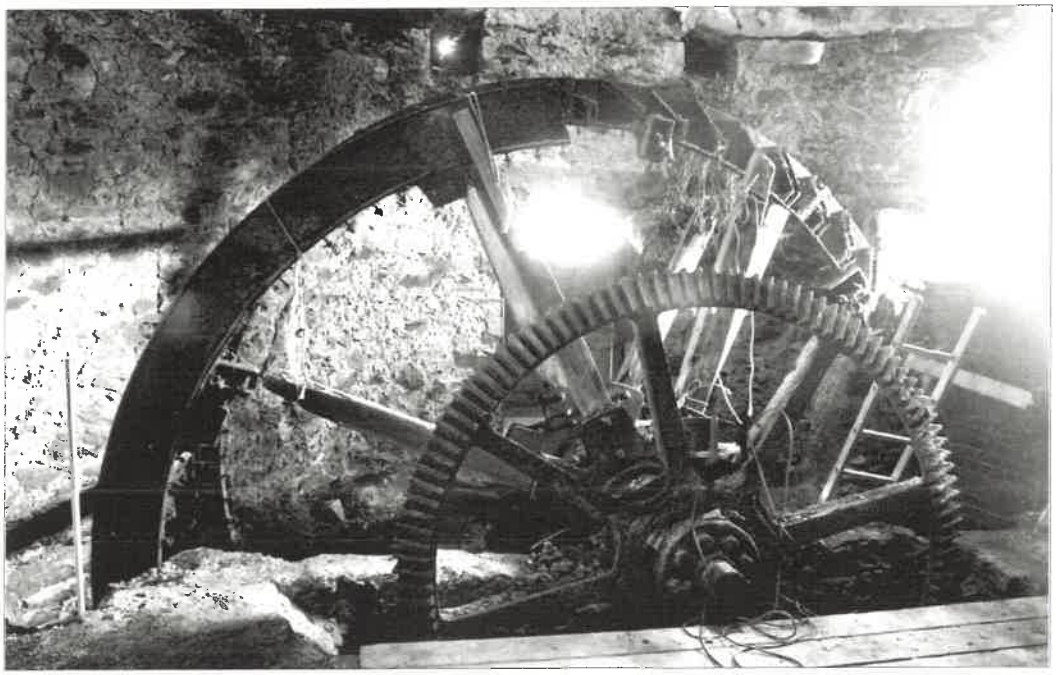


Plate 15: Pit wheel in relation to water wheel,
divide wall removed

Plate 16: Metal parts in base of mill tower

Plate 17: Wallower, drive shaft, lay shaft and spur wheel

Plate 18: Toe pot

Plate 20: Dog clutch and bearing (on main drive shaft)

Plate 19: Spur wheel

Plate 21: Quant in nearby building

Plate 22: Quant with stone nut (slipped to bottom)

Plate 23: Bridge tree with governor

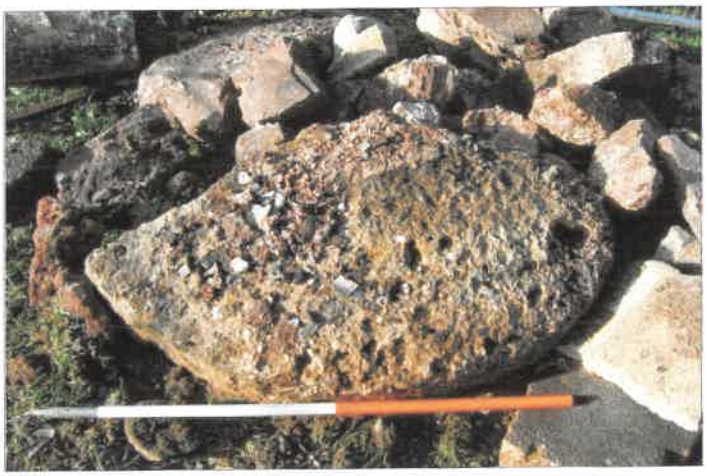


Plate 25: Grit Stone bed stone fragment, up side down

Plate 24: Bridge tree with integral quant and wheel nut

Plte 26: Grit Stone runner stone fragment, grinding face with recess for bridge tree

Plate 27: Tentering fraame

Plate 28: Tentering plate

Plate 29: Tentering plate

Plate 30: Cap centering ring

Plate 31: Tentering screw

Plate 32: Tentering screw

Appendix 1: Inventory

Object Type	Description	Number	Figure No.	Plate No.
Water wheel	*In situ* water wheel in base of mill structure. Metal rim, wooden spokes and paddles. Two dislodged fragments of rim were recovered from amongst the general collection of parts. 4.4 m in diameter.	1	4	10,13,15
Pit wheel	*In situ* pit wheel in base of mill structure. 2.45 m in diameter.	1	4	14,15
Wallower	Wheel transmitting drive from pit wheel to main drive shaft. 1.2 m in diameter.	1	5.2	17
Drive shaft, lower section	Square section shaft, dog clutch at upper end, lower end would have rested in a toe pot, wallower attached approximately one third of the way up the shaft	1	5.1	17
Main drive shaft	Square section shaft, dog clutch at both ends, with the lower one having a flange to allow for engagement and disengagement of the water wheel. Two sets of bearings held the shaft in position. The spur wheel is attached to the upper end of this shaft.	1	5.4	17
Spur wheel	Wheel transmitting drive from the main drive shaft to a series of small cogs called stone nuts. 2.6 m in diameter with integral crown ring.	1	5.3	17,19
Quant	Shaft which transmits drive to the mill stone via a stone nut. Three, 2.9 m in length, are evident although one has been re-used as a lintel in a nearby building. Those recovered from the mill building each have a stone nut with 21 teeth attached towards the upper end while the lower end has a "U" shaped clutch. A fourth shorter example, 1.45 m in length has an integral bridge tree in place of the "U" shaped clutch and a slightly larger stone nut with 27 teeth.	4	6.1	21,22
Bridge tree	Shaft with four pointed support for the runner stone at one end. Of the two examples one has a governor at the opposite end to the support while the other is integral with a quant and has a stone nut. Both have stone collars.	2	6.2, 6.5	23,24
Tentering frames	These are part of the mechanism for regulating the desired gap between the stones. All three are 1.4 m long and have a T shaped cross section. Two are identical in design while a third is deeper and heavier.	3	6.3, 6.6	27
Shaft	An iron shaft, 2 m long, with a small clutch at one end and a cog with angled teeth. About half way along its length the shaft has a double bend which would have created a side to side or shaking action on the drive.	1	6.4	
Shaft	Square sectioned shaft, 0.85 m long, with four iron bands bolted to each of the four faces. Angled cog at one end.	2	6.7	
Shaft	Square sectioned shaft, 3.2 m long, with a circular disc, 0.26 m diameter at one end. The disc has two prongs. The shaft passes through a wooden plank.	1	6.10.	

Appendix 1: Inventory

Object Type	Description	Number	Figure No.	Plate No.
Horizontal drive	A square sectioned shaft, 1.72 m long with a multi toothed nut, 0.40 m diameter to pick up the drive from the crown ring of the spur wheel, and a cog 0.30 m in diameter to transfer the drive to the lay shaft on the floor below probably via a belt.	1	6.9	
Lay shaft	Two lengths of drive shaft, 0.06 m square and 1.95 m and 2.10 m long respectively, jointed with a universal joint. Three six spoked wheel hubs, 0.27 m diameter, are attached to one of the shafts. These would have been fitted with wooden spokes holding an outer wooden wheel rim. A bearing block situated between the cogs suggests it was fixed to a beam. Assumed to drive other machinery, in particular wire machines on the ground floor.	1	6.8	17
Wheel hub	Six spoked wheel hub. Would have been fitted with wooden spokes holding an outer wooden wheel rim. 0.27 m diameter, 0.11 m deep, 0.06 m square central hole. Possibly from the lay shaft.	2	7.1	
Cog	Small cog with twenty five metal teeth. 0.28 m diameter, 0.04 m square central hole.	1	7.2	
Cog	Small cog with twenty five metal teeth at a forty five degree angle. 0.28 m diameter, 0.11 m deep, 0.06 m square central hole.	1	7.3	
Stone disk	A circular stone disk 0.43 m in diameter and 0.08 m thick with a stepped circumference and a rectangular central hole 0.06 by 0.10 m in size.	1	7.4	
Wooden pulley wheels	Wooden disks, 0.56 m in diameter, 0.07 , thick with a square central hole, 0.065 m in size. Probably part of sack hoist.	2	7.5	
Toe pot	A square iron mounting block, holding a square copper alloy block with a central circular cup in which the base of the lower drive shaft sat and rotated. Four fine adjustment screws allow for alignment of the bearing cup.	1	8.1	18
Cap	Iron cap or cover, 0.2 m diameter, 0.11 m deep. Precise function not known.	1	8.2	
Mount	Circular iron mount, 2.2 m diameter with a stepped circumference and central circular hole, 0.4 m diameter. Precise function not known	1	8.3	
Spindles from wire machines	Iron square sectioned rod, 1.52 m long with two iron cross braced wheels, 0.2 m diam, attached 0.57 m apart. Central spindle holding brushes in a wire machine.	2	8.4	
Object	Rectangular metal box with open top and ends, 0.4 m long, 0.2 m wide. Base has a rectangular slot with one long edge serrated.	1	8.5	
Object	Heavy iron band, 2.14 m long, 0.16 m wide, with three pivoting brackets attached.	1	8.6	
Cap centering ring	Large circular flanged ring bolted to substantial timbers. 1.14 m in diameter, 0.18 m deep.	1	8.7	30
Tentering plate	Rectangular plates, bolted to beam at one end. Long slot at the other end allows for adjustment of tentering frame.	2	8.8	28

Appendix 1: Inventory

Object Type	Description	Number	Figure No.	Plate No.
Tentering plate	Partnering the above, rectangular plates bolted to a beam at one end, large hole with cross pin holds one end of the tentering frame.	2	8.9	29
Ratchet mechanism	Wooden and iron ratchet mechanism positioned above end of launder to raise and lower penstock.	1	8.10.	7
Burr Stones	1.14 m diam, 0.21 (bed stone) and 0.10 m thick respectively (runner stone). Constructed of pieces held together by iron stone bands.	2		12
Burr Stone bands	Iron strips positioned around edge of Burr Stones, 1.42 m diameter, 0.03 m thick, 0.115 m deep.	2		
Grit Stones	Approximately 1.6 m in diameter. The bed stones are up to 0.3 m thick with a perforation 0.2 m in diameter. Remnants of plaster on their lower surfaces indicates that they were bedded into position in a layer of plaster. The runner stones are in the region of 0.10 to 0.15 m thick, with recesses cut into the lower grinding face to accommodate the bridge tree supports.	?4	7.6,7.7	25, 26
Pulley blocks	0.23 m diameter, 0.2 m deep. Part of sack hoist.	2		
Cog	Small cog, 0.3 m diam, 0.19 m deep with 0.06 m square central hole. Six teeth.	1		
Bearing blocks	Two part circular bearing to hold shafts in position. To accommodate shafts 0.18 m, 0.12 m and 0.10 m diameter respectively. The largest has a surviving copper alloy bearing strip on the inner face.	3		
Penstock	An iron box with hinged flap to control water flow onto wheel. 1.4 m wide, positioned at wheel end of launder.	1		8
Pulley hooks	Hooks attached to a rectangular mount, part of sack hoist.	2		
Chain	Metal chain, possibly part of sack hoist.	1		
Stone collar	An iron and wood stone collar, 0.2 m diameter, 0.2 m deep.	1		
Tentering screw mechanism	Iron rod with fork at one end, part of mechanism for adjusting the gap between the stones.	1		31
Tentering screw mechanism	Iron bar with handle at one end, part of mechanism for adjusting the gap between the stones.	1		32

Appendix 2: Index of 35 mm colour slides

Slide Number	View
1	Base of mill tower, interior prior to clearance 2005, Grit Stone mill stone, 1 m scale pole
2	Base of mill tower, interior prior to clearance 2005, collection of collapsed metal parts, 1 m scale poles
3	Base of mill tower, interior prior to clearance 2005, collection of collapsed metal parts, 1 m scale poles
4	Base of mill tower, interior prior to clearance 2005, collection of collapsed metal parts, 1 m scale pole
5	Base of mill tower, interior prior to clearance 2005, collection of collapsed metal parts, 1 m scale pole
6	Base of mill tower, interior prior to clearance 2005, collection of metal parts, 1 m scale pole
7	Base of mill tower, interior prior to clearance 2005, collection of metal parts, 1 m scale pole
8	Base of mill tower, interior prior to clearance 2005, collection of metal parts, 1 m scale pole
9	Base of mill tower, interior prior to clearance 2005, collection of metal parts, 1 m scale pole
10	Base of mill tower, interior prior to clearance 2005, cap centering ring, 1 m scale pole
11	Base of mill tower, interior prior to clearance 2005, cap centering ring, 1 m scale pole
12	Looking out of mill tower along wooden launder towards the mill pond, 2005, 1 m scale pole
13	Base of mill tower, interior prior to clearance 2005, wheel pit and remains of water wheel.
14	Base of mill tower, interior prior to clearance 2005, wheel pit and remains of water wheel.
15	Base of mill tower, interior prior to clearance 2005, wheel pit and remains of water wheel.
16	Base of mill tower, interior prior to clearance 2005, ratchet mechanism above penstock at end of launder
17	Base of mill tower, interior prior to clearance 2005, ratchet mechanism above penstock at end of launder
18	Base of mill tower, interior prior to clearance 2005, beam with tentering plate attached, 1 m scale pole
19	Base of mill tower, interior prior to clearance 2005, beam with tentering plate attached, 1 m scale pole
20	Bridge tree with stone collar and gvernor attached, 1 m scale pole
21	Bridge tree with stone collar and gvernor attached, 1 m scale pole
22	Penstock to control water flow from launder onto the water wheel, 1 m scale pole
23	Penstock to control water flow from launder onto the water wheel, 1 m scale pole
24	Ratchet mechanism to open penstock, 1 m scale pole
25	Ratchet mechanism to open penstock, 1 m scale pole
26	Base of mill tower, interior, water wheel and pit wheel with divide wall removed, 1 m scale pole
27	Base of mill tower, interior, water wheel and pit wheel with divide wall removed, 1 m scale pole
28	Pit wheel, 1 m scale poles
29	Pit wheel, 1 m scale poles
30	Pit wheel, 1 m scale poles
31	Pit wheel, 1 m scale poles
32	Pit wheel, 1 m scale poles

Appendix 2: Index of 35 mm colour slides

Slide Number	View
33	Hub of pit wheel, 1 m scale pole
34	Hub of pit wheel, 1 m scale pole
35	Grit Stone bed stone, 1 m scale pole
36	Grit Stone bed stone, 1 m scale pole
37	Grit Stone runner stone fragment showing recess for bridge tree, 10 cm scale
38	Grit Stone runner stone fragment showing recess for bridge tree, 10 cm scale
39	Grit Stone bed stone, 1 m scale pole
40	Grit Stone bed stone, 1 m scale pole
41	Dog clutch and bearing, 10cm scale
42	Dog clutch and bearing, 10cm scale
43	Spur wheel, 1 m scale pole
44	Spur wheel, 1 m scale pole
45	Circular cap, 10 cm scale
46	Circular cap, 10 cm scale
47	Hub and spokes of water wheel, 1 m scale pole
48	Hub and spokes of water wheel, 1 m scale pole
49	Hub and spokes of water wheel, 1 m scale pole
50	Hub and spokes of water wheel, 1 m scale pole
51	Hub and spokes of water wheel, 1 m scale pole
52	Circular mount, 10 cm scale
53	Circular mount, 10 cm scale
54	Circular mount, 10 cm scale
55	Fragment of water wheel rim, 1 m scale pole
56	Fragment of water wheel rim, 1 m scale pole
57	Burr Stone bed stone in wedged in wheel pit, 1 m scale pole
58	Burr Stone bed stone in wedged in wheel pit, 1 m scale pole
59	Burr Stone bed stone in wedged in wheel pit, 1 m scale pole
60	Burr Stone bed stone in wedged in wheel pit, 1 m scale pole
61	Water wheel
62	Water wheel

Appendix 3: Index of black and white 35 mm prints

Print number	View
1	Mill tower viewed from the north east, 1 m scale pole
2	Wooden launder viewed from the north, 1 m scale pole
3	Wooden launder viewed from the north, 1 m scale pole
4	Timber with tentering plate attached, 1 m scale pole
5	Timber with tentering plate attached, 1 m scale pole
6	Timber with tentering plate attached, 1 m scale pole
7	Timber with tentering plate attached, 1 m scale pole
8	Wheel pit with remains of water wheel
9	Wheel pit with remains of water wheel
10	View along remains of wooden launder towards mill pond
11	View along remains of wooden launder towards mill pond
12	Grit Stone grinding stone in base of mill tower prior to clearance, 1m scale pole
13	Grit Stone grinding stone in base of mill tower prior to clearance, 1m scale pole
14	Cap centering ring in bas of mill tower prior to clearance, 1 m scale pole
15	Mill tower interior prior to clearance 2005, metal parts collapsed into base of tower, 1 m scale pole
16	Mill tower interior prior to clearance 2005, metal parts collapsed into base of tower, 1 m scale pole
17	Pit wheel, 1 m scale poles
18	Pit wheel, 1 m scale poles
19	Pit wheel, 1 m scale poles
20	Pit wheel, 1 m scale poles
21	Pit wheel, 1 m scale poles
22	Pit wheel, 1 m scale poles
23	Pit wheel, 1 m scale poles
24	Pit wheel, 1 m scale poles
25	Pit wheel, 1 m scale poles
26	Hub of pit wheel, 1 m scale poles
27	Hub of pit wheel, 1 m scale poles
28	Grit Stone bed stone, 1m scale pole
29	Grit Stone bed stone, 1m scale pole
30	Grit Stone runner stone, grinding face with recess for bridge tree, 10 cm scale
31	Grit Stone bed stone, 1m scale pole
32	Dog clutch and bearing, 10 cm scale
33	Spur wheel, 1 m scale pole
34	Spur wheel, 1 m scale pole
35	Circular cap, 10 cm scale
36	Circular cap, 10 cm scale
37	Circular cap, 10 cm scale
38	Circular cap, 10 cm scale
39	Circular mount, 10 cm scale
40	Fragment of water wheel rim, 1 m scale pole
41	Fragment of water wheel rim, 1 m scale pole
42	Burr stone bed stone with governor in base of wheel pit, 1 m scale pole
43	Burr stone bed stone with governor in base of wheel pit, 1 m scale pole
44	Bridge tree with stone collar and governor, 1 m scale pole
45	Bridge tree with stone collar and governor, 1 m scale pole
46	Penstock, 1 m scale
47	Penstock, 1 m scale
48	Ratchet mechanism for opening penstock, 1 m scale pole
49	Ratchet mechanism for opening penstock, 1 m scale pole
50	Water wheel and pit wheel with divide wall removed, 1 m scale pole
51	Water wheel and pit wheel with divide wall removed, 1 m scale pole
52	Water wheel and pit wheel with divide wall removed, 1 m scale pole

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 1	MyB050001	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050002	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050003	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050004	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050005	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050006	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050007	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050008	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050009	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050010	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050011	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050012	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050013	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050014	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050015	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050016	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050017	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050018	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050019	View looking up mill tower, charred timbers
Melin y Bont 1	MyB050020	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050021	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050022	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050023	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050024	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050025	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050026	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050027	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050028	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 1	MyB050029	Fallen metal parts in base of mill tower prior to clearance 2005, 1 m scale pole
Melin y Bont 1	MyB050030	Cap centering ring, 1 m scale
Melin y Bont 1	MyB050031	Cap centering ring, 1 m scale
Melin y Bont 1	MyB050032	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050033	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050034	Grit Stone mill stone in base of mill tower prior to clearance 2005, 1 M scale pole
Melin y Bont 1	MyB050035	View along wooden launder towards mill pond, 1m scale pole
Melin y Bont 1	MyB050036	View along wooden launder towards mill pond, 1m scale pole
Melin y Bont 1	MyB050037	Wheel pit and water wheel
Melin y Bont 1	MyB050038	Wheel pit and water wheel
Melin y Bont 1	MyB050039	Wheel pit and water wheel
Melin y Bont 1	MyB050040	Wheel pit and water wheel
Melin y Bont 1	MyB050041	Ratchet mechanism above end of launder
Melin y Bont 1	MyB050042	Ratchet mechanism above end of launder
Melin y Bont 1	MyB050043	Ratchet mechanism above end of launder
Melin y Bont 1	MyB050044	Ratchet mechanism above end of launder
Melin y Bont 1	MyB050045	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050046	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050047	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050048	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050049	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050050	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050051	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050052	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050053	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050054	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050055	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050056	General view inside base of mill tower prior to clearance work 2005
Melin y Bont 1	MyB050057	Wooden launder form the north east, 1 m scale pole
Melin y Bont 1	MyB050058	Mill tower from the north east, 1 m scale pole
Melin y Bont 1	MyB050059	Mill tower from the north east, 1 m scale pole
Melin y Bont 1	MyB050060	Mill tower from the north east, 1 m scale pole
Melin y Bont 1	MyB050061	Mill tower from the north
Melin y Bont 1	MyB050062	Mill tower from the north west
Melin y Bont 1	MyB050063	Mill tower from the west
Melin y Bont 1	MyB050064	Mill tower from the south west
Melin y Bont 1	MyB050065	Mill tower from the east

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 1	MyB050066	Mill tower from the east
Melin y Bont 1	MyB050067	Mill tower from the east
Melin y Bont 1	MyB050068	Mill tower from the north
Melin y Bont 1	MyB050069	Mill tower from the north
Melin y Bont 1	MyB050070	Pit wheel, 1 m scale pole
Melin y Bont 1	MyB050071	Pit wheel, 1 m scale pole
Melin y Bont 1	MyB050072	Hub of pit wheel, 1 m scale pole
Melin y Bont 1	MyB050073	Hub of pit wheel, 1 m scale pole
Melin y Bont 1	MyB050074	Grit Stone mill bed stone, 1 m scale pole
Melin y Bont 1	MyB050075	Grit Stone runner stone, grinding face with recess for bridge tree, 10 cm scale
Melin y Bont 1	MyB050076	Grit Stone runner stone, grinding face with recess for bridge tree, 10 cm scale
Melin y Bont 1	MyB050077	Grit Stone runner stone, grinding face with recess for bridge tree, 10 cm scale
Melin y Bont 1	MyB050078	Grit Stone bed stone, 1 m scale pole
Melin y Bont 1	MyB050079	Grit Stone bed stone, 1 m scale pole
Melin y Bont 1	MyB050080	Dog clutch and bearing, 10 cm scale
Melin y Bont 1	MyB050081	Dog clutch and bearing, 10 cm scale
Melin y Bont 1	MyB050082	Dog clutch, 10 cm scale
Melin y Bont 1	MyB050083	Dog clutch, 10 cm scale
Melin y Bont 1	MyB050084	Dog clutch, 10 cm scale
Melin y Bont 1	MyB050086	Dog clutch, 10 cm scale
Melin y Bont 1	MyB050087	Dog clutch, 10 cm scale
Melin y Bont 1	MyB050088	Dog clutch and bearing, 10 cm scale
Melin y Bont 1	MyB050089	Dog clutch and bearing, 10 cm scale
Melin y Bont 1	MyB050090	Bearing, 10cm scale
Melin y Bont 1	MyB050091	Spur wheel, 1 m scale pole
Melin y Bont 1	MyB050092	Spur wheel, 1 m scale pole
Melin y Bont 1	MyB050093	Spur wheel, 1 m scale pole
Melin y Bont 1	MyB050094	Hub of spur wheel, 10 cm scale
Melin y Bont 1	MyB050095	Hub of spur wheel, 10 cm scale
Melin y Bont 1	MyB050096	Hub of spur wheel, 10 cm scale
Melin y Bont 1	MyB050097	Hub of spur wheel, 10 cm scale
Melin y Bont 1	MyB050098	Teeth of sput wheel
Melin y Bont 1	MyB050099	Teeth of sput wheel
Melin y Bont 1	MyB050100	Cross section of main drive shaft, 10 cm scale
Melin y Bont 1	MyB050101	Cross section of main drive shaft, 10 cm scale
Melin y Bont 1	MyB050102	Cross section of main drive shaft, 10 cm scale
Melin y Bont 1	MyB050103	Cross section of main drive shaft, 10 cm scale
Melin y Bont 1	MyB050104	General view of metal parts after removal from mill tower
Melin y Bont 1	MyB050105	General view of metal parts after removal from mill tower
Melin y Bont 1	MyB050106	General view of metal parts after removal from mill tower
Melin y Bont 1	MyB050107	General view of metal parts after removal from mill tower
Melin y Bont 1	MyB050108	General view of metal parts after removal from mill tower
Melin y Bont 1	MyB050109	General view of metal parts after removal from mill tower
Melin y Bont 1	MyB050110	Pit wheel
Melin y Bont 1	MyB050111	Pit wheel
Melin y Bont 1	MyB050112	Circular cap, 10 cm scale

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 1	MyB050113	Circular cap, 10 cm scale
Melin y Bont 1	MyB050114	Circular cap, 10 cm scale
Melin y Bont 1	MyB050115	Circular cap, 10 cm scale
Melin y Bont 1	MyB050116	Circular mount, 10 cm scale
Melin y Bont 1	MyB050117	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050118	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050119	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050120	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050121	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050122	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050123	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050124	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050125	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050126	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050127	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050128	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 1	MyB050129	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050130	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050131	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050132	Water wheel
Melin y Bont 1	MyB050133	Water wheel
Melin y Bont 1	MyB050134	Water wheel
Melin y Bont 1	MyB050135	Water wheel
Melin y Bont 1	MyB050136	Water wheel
Melin y Bont 1	MyB050137	Water wheel
Melin y Bont 1	MyB050138	Water wheel
Melin y Bont 1	MyB050139	Water wheel
Melin y Bont 1	MyB050140	Water wheel
Melin y Bont 1	MyB050141	Hub of water wheel, 1 m scale pole
Melin y Bont 1	MyB050142	Hub of water wheel, 1 m scale pole
Melin y Bont 1	MyB050143	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050144	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050145	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050146	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050147	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050148	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050149	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 1	MyB050150	Water wheel
Melin y Bont 1	MyB050151	Water wheel
Melin y Bont 1	MyB050152	Water wheel
Melin y Bont 1	MyB050153	Governor
Melin y Bont 1	MyB050154	Governor
Melin y Bont 1	MyB050155	Governor
Melin y Bont 1	MyB050156	Governor
Melin y Bont 1	MyB050157	Governor

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 1	MyB050158	Perforated ceramic tile from drying kiln, £1 coin scale
Melin y Bont 1	MyB050159	Perforated ceramic tile from drying kiln, £1 coin scale
Melin y Bont 1	MyB050160	Perforated ceramic tile from drying kiln, £1 coin scale
Melin y Bont 1	MyB050161	Perforated ceramic tile from drying kiln, £1 coin scale
Melin y Bont 1	MyB050162	Perforated ceramic tile from drying kiln, £1 coin scale
Melin y Bont 1	MyB050163	Perforated ceramic tile from drying kiln, £1 coin scale
Melin y Bont 1	MyB05layshaft	General shot of the layshaft, wallower, main drive shaft and spur wheel, 1 m scale pole
Melin y Bont 1	MyB05towerbase	General shot of base of mill tower prior to clearance 2005
Melin y Bont 2	MyB050164	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050165	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050166	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050167	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050168	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050169	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050170	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050171	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050172	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050173	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050174	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050175	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050176	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050177	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050178	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050179	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050180	Mill tower, summer 2004, prior to commencement of clearance work
Melin y Bont 2	MyB050181	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050182	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050183	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050184	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB 050185	Mill tower, interior prior to clearance work 2005, 1 m scale

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 2	MyB050186	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050187	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050188	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050189	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050190	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050191	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050192	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050193	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050194	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050195	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050196	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050197	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050198	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050199	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050200	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050201	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050202	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050203	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050204	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050205	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050206	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050207	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050208	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050209	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050210	Mill tower, interior prior to clearance work 2005, 1 m scale
Melin y Bont 2	MyB050211	Wooden launder, 1 m scale pole
Melin y Bont 2	MyB050212	Wooden launder, 1 m scale pole
Melin y Bont 2	MyB050213	Wooden launder, 1 m scale pole
Melin y Bont 2	MyB050214	Wheel pit and water wheel, 1 m scale pole
Melin y Bont 2	MyB050215	Wheel pit and water wheel, 1 m scale pole

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 2	MyB050216	Wheel pit and water wheel, 1 m scale pole
Melin y Bont 2	MyB050217	Ratchet mechanism above end of launder
Melin y Bont 2	MyB050218	Ratchet mechanism above end of launder
Melin y Bont 2	MyB050219	View up mill tower
Melin y Bont 2	MyB050220	View up mill tower
Melin y Bont 2	MyB050221	View up mill tower
Melin y Bont 2	MyB050222	View up mill tower
Melin y Bont 2	MyB050223	Water wheel
Melin y Bont 2	MyB050224	Water wheel
Melin y Bont 2	MyB050225	View up mill tower
Melin y Bont 2	MyB050226	Wooden launder from the north
Melin y Bont 2	MyB050227	Wooden launder from the north
Melin y Bont 2	MyB050228	Mill tower and wooden launder from the north east, 1 m scale pole
Melin y Bont 2	MyB050229	Mill tower and wooden launder from the north east, 1 m scale pole
Melin y Bont 2	MyB050230	Mill tower from the north
Melin y Bont 2	MyB050231	Pit wheel, 1 m scale pole
Melin y Bont 2	MyB050232	Pit wheel, 1 m scale pole
Melin y Bont 2	MyB050233	Hub of pit wheel
Melin y Bont 2	MyB050234	Spur wheel, human scale
Melin y Bont 2	MyB050235	Spur wheel, human scale
Melin y Bont 2	MyB050236	Recording work being undertaken
Melin y Bont 2	MyB050237	Grit stone bed stone, 1 m scale pole
Melin y Bont 2	MyB050238	Grit stone runner stone, grinding face with recess for bridge tree, 10 cm scale
Melin y Bont 2	MyB050239	Grit stone runner stone, grinding face with recess for bridge tree, 10 cm scale
Melin y Bont 2	MyB050240	Grit stone bed stone, 1 m scale pole
Melin y Bont 2	MyB050241	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050242	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050243	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050244	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050245	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050246	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050247	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050248	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050249	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050250	Dog clutch and bearing, 10 cm scale
Melin y Bont 2	MyB050251	Spur wheel, 1 m scale pole
Melin y Bont 2	MyB050252	Spur wheel, 1 m scale pole
Melin y Bont 2	MyB050253	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050254	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050255	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050256	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050257	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050258	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050259	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050260	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050261	Detail of spur wheel, 10 cm scale
Melin y Bont 2	MyB050262	Hub of water wheel
Melin y Bont 2	MyB050263	Hub of water wheel
Melin y Bont 2	MyB050264	General shot of metal parts after removal from mill tower

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 2	MyB050265	General shot of metal parts after removal from mill tower
Melin y Bont 2	MyB050266	General shot of metal parts after removal from mill tower
Melin y Bont 2	MyB050267	General shot of metal parts after removal from mill tower
Melin y Bont 2	MyB050268	General shot of metal parts after removal from mill tower
Melin y Bont 2	MyB050269	General shot of metal parts after removal from mill tower
Melin y Bont 2	MyB050270	General shot of metal parts after removal from mill tower
Melin y Bont 2	MyB050271	Pit wheel
Melin y Bont 2	MyB050272	Pit wheel
Melin y Bont 2	MyB050273	Circular cap, 10 cm scale
Melin y Bont 2	MyB050274	Circular cap, 10 cm scale
Melin y Bont 2	MyB050275	Circular mount, 10 cm scale
Melin y Bont 2	MyB050276	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050277	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050278	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050279	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050280	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050281	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050282	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050283	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050284	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050285	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050286	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050287	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050288	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050289	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050290	Fragment of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB050291	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 2	MyB050292	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 2	MyB050293	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 2	MyB050294	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 2	MyB050295	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 2	MyB050296	Burr Stone bed stone with governor in the wheel pit, 1 m scale pole
Melin y Bont 2	MyB050297	Water wheel spindle
Melin y Bont 2	MyB050298	Water wheel spindle
Melin y Bont 2	MyB050299	Surviving fragments of wooden buckets on water wheel
Melin y Bont 2	MyB050300	Divide wall between water wheel and pit wheel
Melin y Bont 2	MyB050301	Divide wall between water wheel and pit wheel
Melin y Bont 2	MyB050302	Water wheel
Melin y Bont 2	MyB050303	Water wheel
Melin y Bont 2	MyB050304	Water wheel
Melin y Bont 2	MyB050305	Nearby structure incorporating re used quant
Melin y Bont 2	MyB050306	Nearby structure incorporating re used quant

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 2	MyB050307	Nearby structure incorporating re used quant
Melin y Bont 2	MyB050308	Nearby structure incorporating re used quant
Melin y Bont 2	MyB050309	General shot of mill tower from mill pond
Melin y Bont 2	MyB050310	Wooden launder during clearance work
Melin y Bont 2	MyB050311	Pit wheel
Melin y Bont 2	MyB050312	Pit wheel
Melin y Bont 2	MyB050313	Hub of pit wheel
Melin y Bont 2	MyB050314	Teeth of pit wheel
Melin y Bont 2	MyB050315	Details of timber holes on east side of structure
Melin y Bont 2	MyB050316	Water wheel spindle
Melin y Bont 2	MyB05wheel frame	Detail of water wheel rim, 1 m scale pole
Melin y Bont 2	MyB05wheel frame 2	Detail of water wheel rim, 1 m scale pole
Melin y Bont 3	MyB050317	Quant and stone nut, 1 m scale pole
Melin y Bont 3	MyB050318	Quant and stone nut, 1 m scale pole
Melin y Bont 3	MyB050319	Wooden disc
Melin y Bont 3	MyB050320	Wooden disc
Melin y Bont 3	MyB050321	General shot, various items
Melin y Bont 3	MyB050322	General shot, various items
Melin y Bont 3	MyB050323	General shot, various items
Melin y Bont 3	MyB050324	Heavy iron band with three pivoting brackets, 1 m scale
Melin y Bont 3	MyB050325	Tentering frame, 1 m scale
Melin y Bont 3	MyB050326	Fragment of spur wheel, 1 m scale
Melin y Bont 3	MyB050327	Fragment of spur wheel, 1 m scale
Melin y Bont 3	MyB050328	Fragment of spur wheel, 1 m scale
Melin y Bont 3	MyB050329	Layshaft, wallower, main drive shaft and spur wheel, 1 m scale
Melin y Bont 3	MyB050330	Layshaft, wallower, main drive shaft and spur wheel, 1 m scale
Melin y Bont 3	MyB050331	Hub from six spoked wheel on lay shaft, 10 cm scale
Melin y Bont 3	MyB050332	Hub from six spoked wheel on lay shaft, 10 cm scale
Melin y Bont 3	MyB050333	Hub from six spoked wheel on lay shaft, 10 cm scale
Melin y Bont 3	MyB050334	Bridge tree with integral short quant and a stone nut, 10 cm scale
Melin y Bont 3	MyB050335	Bridge tree with integral short quant and a stone nut, 10 cm scale
Melin y Bont 3	MyB050336	Bridge tree with integral short quant and a stone nut, 10 cm scale
Melin y Bont 3	MyB050337	Stone nut, 10 cm scale
Melin y Bont 3	MyB050338	Stone nut, 10 cm scale
Melin y Bont 3	MyB050339	Stone nut, 10 cm scale
Melin y Bont 3	MyB050340	General shot, various items
Melin y Bont 3	MyB050341	Tentering plate, 10 cm scale
Melin y Bont 3	MyB050342	Spindle from wire machine, 10 cm scale
Melin y Bont 3	MyB050343	Spindle from wire machine, 10 cm scale
Melin y Bont 3	MyB050344	Spindle from wire machine, 10 cm scale
Melin y Bont 3	MyB050345	Spindle from wire machine, 10 cm scale
Melin y Bont 3	MyB050346	Two part bearing with copper alloy bearing surface, 10 cm scale
Melin y Bont 3	MyB050347	Hub from six spoked wheel, 10 cm scale
Melin y Bont 3	MyB050348	Cog with angled teeth and shaft, 10 cm scale
Melin y Bont 3	MyB050349	Cog with angled teeth and shaft, 10 cm scale
Melin y Bont 3	MyB050350	Tentering frame, 10 cm scale
Melin y Bont 3	MyB050351	Tentering frame, 10 cm scale
Melin y Bont 3	MyB050352	Tentering frame, 10 cm scale

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 3	MyB050353	Tentering frame, 10 cm scale
Melin y Bont 3	MyB050354	Tentering frame, 10 cm scale
Melin y Bont 3	MyB050355	Tentering frame, 10 cm scale
Melin y Bont 3	MyB050356	Tentering frame, 10 cm scale
Melin y Bont 3	MyB050357	Wooden disc, 10 cm scale
Melin y Bont 3	MyB050358	Toe pot, 10 cm scale
Melin y Bont 3	MyB050359	Toe pot, 10 cm scale
Melin y Bont 3	MyB050360	Toe pot, 10 cm scale
Melin y Bont 3	MyB050361	Stone collar, 10 cm scale
Melin y Bont 3	MyB050362	Stone collar, 10 cm scale
Melin y Bont 3	MyB050363	Miscellaneous object, 10 cm scale
Melin y Bont 3	MyB050364	Miscellaneous object, 10 cm scale
Melin y Bont 3	MyB050365	Miscellaneous object, 10 cm scale
Melin y Bont 3	MyB050366	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050367	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050368	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050369	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050370	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050371	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050372	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050373	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050374	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB050375	Mill stone fragments
Melin y Bont 3	MyB050376	Ratchet mechanism, 10 cm scale
Melin y Bont 3	MyB050377	Ratchet mechanism, 10 cm scale
Melin y Bont 3	MyB050378	Ratchet mechanism, 10 cm scale
Melin y Bont 3	MyB050379	Ratchet mechanism, 10 cm scale
Melin y Bont 3	MyB050380	Cog with angled teeth, 10 cm scale
Melin y Bont 3	MyB050381	Cog with straight teeth, 10cm scale
Melin y Bont 3	MyB050382	Penstock, 1 m scale
Melin y Bont 3	MyB050383	Ratchet mechanism, 10 cm scale
Melin y Bont 3	MyB050384	Water wheel and pit wheel with divide wall removed, 1 m scale
Melin y Bont 3	MyB050385	Water wheel and pit wheel with divide wall removed, 1 m scale
Melin y Bont 3	MyB050386	Water wheel and pit wheel with divide wall removed, 1 m scale
Melin y Bont 3	MyB050387	Water wheel and pit wheel with divide wall removed, 1 m scale
Melin y Bont 3	MyB050388	Water wheel spindle
Melin y Bont 3	MyB050389	Water wheel and pit wheel with divide wall removed
Melin y Bont 3	MyB050390	Water wheel and pit wheel with divide wall removed
Melin y Bont 3	MyB050391	Water wheel and pit wheel with divide wall removed
Melin y Bont 3	MyB050392	Tentering plate, 10 cm scale
Melin y Bont 3	MyB050393	Tentering plate, 10 cm scale
Melin y Bont 3	MyB050394	Tentering plate, 10 cm scale
Melin y Bont 3	MyB050395	Tentering screw mechanism, 10 cm scale
Melin y Bont 3	MyB050396	General shot, various items
Melin y Bont 3	MyB050397	General shot, various items
Melin y Bont 3	MyB050398	General shot, various items
Melin y Bont 3	MyB050399	General shot, various items
Melin y Bont 3	MyB050400	Grit Stone mill stone fragment, 10 cm scale
Melin y Bont 3	MyB050401	Mill tower viewed from the mill pond
Melin y Bont 3	MyB050402	Mill tower viewed from the mill pond
Melin y Bont 3	MyB050403	Pulley hook, 10 cm scale

Appendix 4: Index of digital images

Folder	File name	View
Melin y Bont 3	MyB050404	Chain fragment, 10 cm scale
Melin y Bont 3	MyB050405	Tentering plate, 10 cm scale
Melin y Bont 3	MyB050406	Tentering screw mechanism, 10 cm scale
Melin y Bont 3	MyB050407	Toe pot, 10 cm scale
Melin y Bont 3	MyB050408	Toe pot, 10 cm scale
Melin y Bont 3	MyB050409	Toe pot, 10 cm scale
Melin y Bont 3	MyB050410	Tentering plate, 10 cm scale
Melin y Bont 3	MyB050411	Miscellaneous object, 10 cm scale
Melin y Bont 3	MyB050412	Miscellaneous object, 10 cm scale
Melin y Bont 3	MyB050413	Shaft with angled cog and small clutch, 10 cm scale
Melin y Bont 3	MyB050414	Shaft with angled cog and small clutch, 10 cm scale
Melin y Bont 3	MyB050415	Shaft with angled cog and small clutch, 10 cm scale
Melin y Bont 3	MyB050416	Shaft with angled cog and small clutch, 10 cm scale
Melin y Bont 3	MyB050417	Shaft with angled cog and small clutch, 10 cm scale
Melin y Bont 3	MyB050418	Spindle from wire machine, 10 cm scale
Melin y Bont 3	MyB050419	Detail of spindle from wire machine, 10 cm scale
Melin y Bont 3	MyB050420	Pulley hook, 10 cm scale
Melin y Bont 3	MyB050421	Bearing cup in top of tentering frame, 10 cm scale
Melin y Bont 3	MyB050422	Burnt timbers in mill tower
Melin y Bont 3	MyB050423	Shaft with angled cog
Melin y Bont 3	MyB050424	Grit Stone runner stone, grinding face with recess for bridge tree, 10 cm scale
Melin y Bont 3	MyB05governor	Bridge tree with governor, 10 cm scale
Melin y Bont 3	MyB05lever	Band with three pivoting brackets, 10 cm scale
Melin y Bont 3	MyB05shaft1	Quant and stone nut, 1 m scale pole
Melin y Bont 3	MyB05shaft2	Layshaft, wallower, main drive shaft and spur wheel, 1 m scale
Melin y Bont 3	MyB05shaft3	Spindle from wire machine, 10 cm scale
Melin y Bont 3	MyB05shaft4	Shaft with angled cog, 10 cm scale
Melin y Bont 3	MyB05shaft5	Tentering frame
Melin y Bont 3	MvB05waterwheel	Water wheel and pit wheel with divide wall removed, 1 m scale
Melin y Bont 3	MyB05waterwheel2	Water wheel and pit wheel with divide wall removed, 1 m scale

Desktop Surveys

Evaluations and Appraisals

Watching Briefs

Geophysical Surveys

Topographical Surveys

Building Surveys

Lithics Analysis

Archaeological Conservation

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

tel: 01766 832088
fax: 01766 830061
email: easltd@smsinternet.co.uk
www.engineeringarchaeologicalservices.co.uk

Registered in England No. 2869678