

The background image is a photograph of a moss-covered stone wall in a forest. The wall is constructed from large, dark grey stones, many of which are heavily covered in bright green moss. A red and white survey pole is positioned vertically against the wall on the right side. To the right of the pole is a large tree trunk, also covered in moss. The ground in the foreground is covered with dry leaves, twigs, and more moss. The background is filled with lush green foliage and trees.

*eas*

*Engineering Archaeological Services Ltd.*

**Wenallt Wool Factory  
Standing Building Survey**

**I.P. Brooks**

***EAS Client report 2022/04***

**Wenallt Wool Factory  
Standing Building Survey**

**Survey Commissioned**

**by**

**Grwp yr Aran**

**Surveyed**

**by**

**I.P. Brooks**

**Engineering Archaeological Services Ltd.**

**and**

**Gwrp yr Aran**

**Wenallt Wool Factory  
Standing Building Survey**

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***EAS Client report 2022/04***

**registered in England**

**No 2869678**

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## ***Introduction***

**NGR:** Centred on SH 73344 17076

**Status:** PRN: GAT36712

NPRN: 40993

### **Location and Topography:** (Figure 1)

Sitting on the northern banks of the Afon Aran, approximately 140 m south west of Plâs-y-Brithdir, the dis-used Wenallt Woollen Factory occupies a flattish platform adjacent to the river and is flanked to the north by relatively steep slopes which rises by approximately 12 m.

Whilst the northern half of the site is within a pasture field, the derelict buildings are under mature trees, along the river bank and there is also the occasional fruit tree within the associated enclosures immediately north of the buildings.

### **Aims of the Survey**

To record and interpret the remaining buildings associated with the Wenallt Woollen Factory.

## ***SUMMARY***

*A survey was carried out, by Grwp yr Aran, of the surviving building remains of the Wenallt Woollen Factory between 12<sup>th</sup> and 13<sup>th</sup> May 2022. The range consists of three elements, in line, including a house and two industrial buildings. These can be shown to be from three separate phases of activity on the site. Also recorded were the access track, mill pond, wheel pit, probable garden and pigsty.*

*Gwnaethpwyd arolwg, gan Grŵp yr Aran, o weddillion adeilad Ffatri Wlân y Wenallt a hynny rhwng 12fed a 13eg Mai 2022. Mae'r adeiladau hyn yn cynnwys tair elfen, a leolir mewn llinell, yn gynnwys tŷ a dau adeilad diwydiannol. Gellir dangos bod y rhain yn deillio o dri cham gwahanol o weithgarwch ar y safle. Cofnodwyd trac mynediad, pwll y felin, pwll yr olwynion, gardd debygol a chwt mochyn hefyd.*

## ***Methodology***

Gwrp yr Aran, a local history society based in Dolgellau, commissioned Engineering Archaeological Services Ltd to provide training and technical support to record the building remains at the Wenallt Woollen Factory, Dolgellau. The group is currently carrying out a desked based survey of the site to establish the history of the site, however this is not part of the current report.

The buildings were surveyed using a Leica TS-06 total station with the collected data being processed using NRG Engineering Surveying System V2016.00. Photographs were also taken with a Nikon D5300 Digital SLR Camera at a resolution of 24.2 MP to illustrate the location and form of architectural and other features associated with site.

An attempt was made to produce a digital 3D model using photogrammetry, however, this proved to be unsuccessful because of the tree cover. Overlapping photographs were taken with a Panasonic Lumix DMC-TZ70 at a resolution of 12 MP. These were processed using Agisoft Metashape v. 1.8.1, however the resultant model was not usable.

## ***Background***

An early record, in 1610, records the presence of a fulling mill within the lands associated with Plâs-y-Britthdir (only approximately 140 m to the north east of the site) with an agreement between Lewis Gwin of Llanegryn and John Richards of Dolgelley for the use of a water corn mill and a fulling mill for the annual rent of £7 (Jones 1939, 183). However, whether this was the plot which was later to become the Wennalt Woollen Factory is uncertain. Similarly uncertain is the 1621 record of a “messuage and tenement called Wenallt which included a 'water corne mille and fullinge or walk mill” which Parkinson (1984) considers to be the site of the Woollen Factory, but Jones (1939, 183) refers to the site of the powerhouse to the west of the site.

The Tithe Map, drawn in 1842, for this part of Dolgellau (Figure 2) is not particularly clear and it is uncertain whether the site is within Plot 108, or outside the area of the survey (<https://places.library.wales/browse/52.743/-3.886>). If it is within Plot 108 the associated schedule records the owner as Sir Robert Williams Vaughan Bart. and the occupier as Hugh Jones. The plot is called “Pandy” (<https://places.library.wales/viewer/4539686#?cv=9&h=108&c=&m=&s=&manifest=https%3A%2F%2Fdamsssl.llgc.org.uk%2Fiiif%2F2.0%2F4539686%2Fmanifest.json&xywh=417%2C578%2C1800%2C749>).

The range of historic Ordnance Survey mapping between 1887 and 1954 show the decline of the site (Figure 2). Within the First Edition mapping, surveyed in 1887 and published in 1888, the buildings on the site are all shown as roofed, however, by the Second Edition (revised in 1900 and published in 1902) some of the buildings have lost their roofs. This pattern is maintained in the edition surveyed in 1938, but published almost a decade later. By edition surveyed in 1949 and published in 1954, all of the buildings are now roofless.

In his paper on the Fulling Mills of Merionethshire, Parkinson (1984) describes the site as: “The ruins consist of a house (its plan of 17<sup>th</sup> or 18<sup>th</sup>C type) to which were successively added two industrial units each with a water-wheel”.

The site was considered for scheduling in 2013 (Evans and Burnett 2013, 137). Although the site was not visited it was inspected from the footpaths to the north and south of the site. It was described as “Ruinous, large, rounded rubble stone building, surviving up to 6 courses high at the E & W gable ends. There is evidence of internal division - at least 3 sections. A leat runs E to W on the S side of the building and is still visible in the ground. There is complex survival of the extant yard and other features on the N side which are not fully understood at present.”

## **Building Survey**

The surviving remains of the Woollen Factory (Figure 3) consist of a linear range of buildings 32.05 x 6.47 m in size which can be shown to consist of three separate units constructed at different times (Figure 4). Outside the main range there is evidence of the water power system used in the final phase of activity, a possible pigsty and a series of boundary walls forming an enclosure 22.6 x 9.45 m in size. This enclosure forms one side of the access track to the buildings and has what is probably a set of steps between it and the access track.

At the eastern end of the building range is the earliest phase of building. This is a probable house, 12.59 x 6.36 m in size, with a fireplace in its western gable. Generally constructed of large boulders with the exception of the western gable end (Plate 2) which includes smaller, broken stone inserted between the boulders. This gable also includes a fireplace 2.82 x 1.3 m in size placed adjacent to the southern wall of the building. There is a central doorway in the northern wall (Plate 3) and three windows, one of which has been blocked. In the south wall is a large window (Plate 4), 1.83 m wide with a slight internal splay. In the northern wall are two windows (Plates 5 and 6), one of which was blocked (Plate 6). These windows are 0.83 and 0.75 m wide, with the eastern window having an internal splay.

There is a socket in the eastern gable wall (Plate 7) 0.3 m wide and 0.5 m deep the function for which is unknown. It does not seem likely that this socket supported a timber for an upper storey giving its depth and position only 0.28 m from the southern wall of the house.

The house is divided into two rooms by a narrow wall (Plates 3 and 8) which appears to be a later insertion into the building. This wall is only 0.7 m wide which can be compared to the 0.9 m of the main structure. It has a central doorway, 0.6 m wide. There is also another short length of walling exposed beneath the tumble from the western gable, the function of which is unknown. Both the dividing wall and the length of wall buried below the collapse are rather close to the fireplace and are, therefore, of a later date.

Added to the western gable wall was the first of “industrial” buildings (Plates 9 and 10) which was constructed of large boulders. This is of a relatively moderate size being only 7.49 x 6.28 m in size. A central door exists in the southern wall and there is a blocked opening in the southern wall which is 3.3 m wide. Typically, the gable walls are best preserved (Plate 11) with the western gable wall standing to a height of approximately 3.2 m

Added to the western end of Industrial Building 1 was a much larger unit (11.83 x 6.56 m in size) (Industrial Unit 2, Plates 12 - 14). This has two openings in its northern wall, a central doorway and a single window. The doorway is 1.10 m wide whilst the window is also 1.1 m wide. There are also two openings in the southern wall, one of which is a window (0.9 m wide), whilst the other is a slot through the wall (0.44 m wide) which is assumed to be the

location of the drive shaft from the water wheel (Plates 15 and 16). Adjacent to this slot, on the outside of the wall, is a metal plate with a series of holes along its length (Plate 16). It is assumed this was part of the control system adjusting the water flow onto the waterwheel.

The factory was clearly water driven, at least in its final phase of production, with water extracted from the Afon Aran, probably adjacent to a natural weir, and fed into a mill pond (Plate 17) which was defined, at least part of its circumference by a rough stone wall (Plate 18). Adjacent to the probable natural weir is a bypass channel along the southern bank of the Afon Aran, which was presumably used to control water flow to the mill pond and over the weir.

The pond fed two leats. To the north of the buildings the leat is partly covered but slate slabs, but runs in front of the buildings before turning through the doorway to Industrial Building 2 (Plate 19). It is not certain where this leat runs after this point, but presumably ran across Industrial Building 2 before exiting into the tail race on the southern side of the building.

To the south of the building range, the mill pond fed the head race to the water wheel. This was slightly cut into the ground near to the pond before passing over two, stone-built, launder supports (Plates 20 and 21), probably in a wooden trough. The eastern support largely blocks a possible opening in the northern wall of Industrial Building 2, demonstrating the development of the complex. The leat probably fed an overshot wheel, from which the water was drained back into the river via a tail race. None of the wheel structure appears to survive, however, parts of the wheel may exist below the corrugated iron and other debris which has been dumped into the wheel pit.

There is also a stone wall lined slot (Plate 22) through the river bank which is of unknown function.

To the north of the building range, and separated from the buildings by a pathway (Plate 23), is a pear-shaped enclosure approximately 21 m long and 10 m wide, largely terraced into the hillside and defined by dry stone walls to the south and east. On the northern side, is a block of masonry which is assumed to have been a set of steps up to the access track to the site. It is noticeable that there is no direct access to the industrial buildings with the only gateway opening to the east onto the access track. This would suggest that the enclosure may have been associated with the house, possibly as a garden. The presence of the occasional fruit tree with the area to the north of the house is presumably related to the domestic use of this building. The track also runs along the eastern side of the enclosure where its eastern side is also defined by a dry-stone wall. At the western end of the enclosure is a smaller enclosure (5.54 x 3.57 m in size which incorporates a small building within its western half. This is likely to have been a pig sty.

Whilst no obvious machinery survives on the site, to the south of the buildings a metal bar with fittings is partly buried in the ground (Plate 25). This appears to have been a spindle of some sort, possibly for part of the mechanism.

## ***Conclusions***

The Wenallt Woollen factory has clearly developed in at least three phases with what appears to have been, at least, a partly domestic building having been added to at least twice. These additions do not have chimneys and are presumably, therefore, industrial in nature.

Although Parkinson (1984) claims that each of the industrial buildings had a water wheel, it is not certain where this assertion came from, as there is only physical evidence for a single wheel pit at the site which provided power to Industrial Building 2. Judging by the difference in levels between Industrial Building 2 and the top of the launder support the waterwheel would have been in the region of 1.6 m in diameter (5 ¼ feet), although this remains to be confirmed. It is likely that the wheel drove the fulling hammers which were situated within the building. There is no obvious sign of a wheel-pit pit, possibly suggesting the cams for lifting the hammers were directly on the waterwheel spindle.

Traditionally fulling included four stages, first in urine, then in a solution of fuller's earth, hot soapy water and lastly under running fresh water (Jenkins 1969, 83). This need for running fresh water may account for the leat to the north of the building, from the mill pond. The need for hot soapy water may also account for the partly buried wall in the house which may have supported a boiler in the later phases of the complex.

Apart from fulling, what other processes and activities were being carried out on the site is uncertain. It would seem likely that the house was used as a domestic property for at least part of the use of the factory. Indeed the 1881 Census records seven people in occupation including a foreman and his wife, three children and a spinner (Merfyn Tomos *pers comm.*). It would seem likely that the unusually large window in the southern wall of the house may suggest that weaving may also have been undertaken. It was not unusual for fullers to also be weavers by the middle of the seventeenth century in Dolgellau (Jenkins 1969, 180). It was also common by the late eighteenth century that Fullers were also responsible for dyeing (Jenkins 1969, 193).

The final stage of fulling was to dry the cloth on tenter frames, vertical wooden frames with sharp hooks (tenter hooks) to hold the cloth. (Jenkins 1969, 87, 1981, 36). It is possible that the slight lynchet to the north and east of the site may be the position of one of the tenter frames.

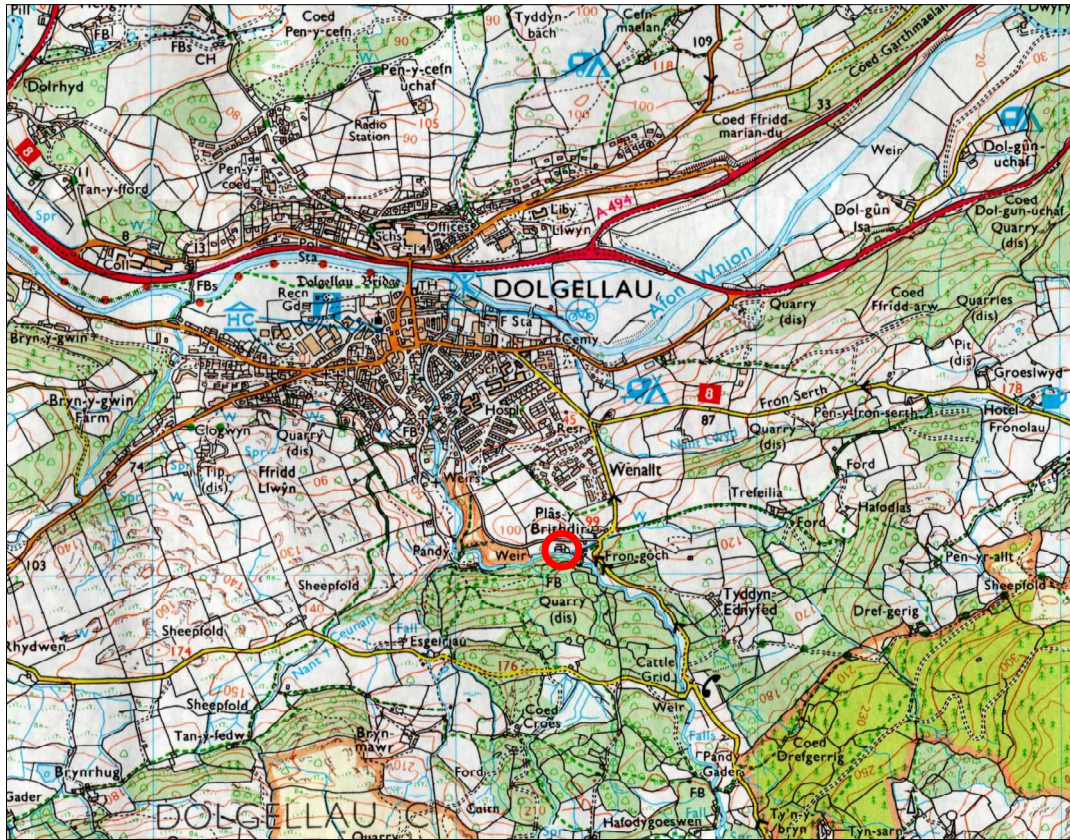
### ***Acknowledgements***

Many thanks are due to Elen Thomas, Merfyn Tomos, Ywain Myfyr, Huw Edwards and Jessica John who carried out then survey work at Wenallt Woollen Factory. The survey was made possible by a grant from the Snowdonia National Park Authority

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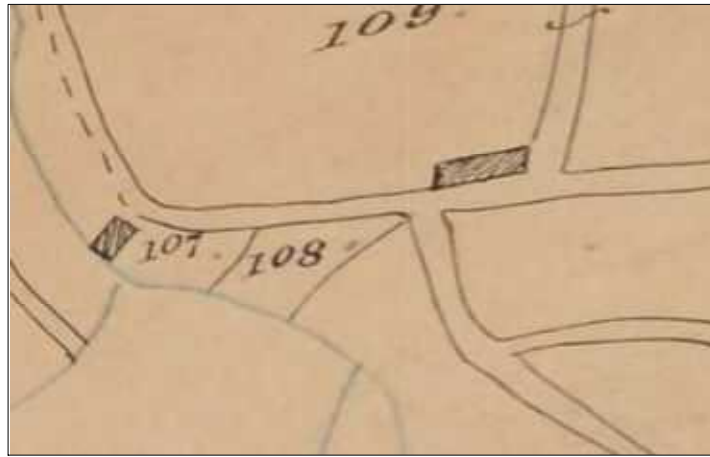
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Figure 1: Location  
 Scale 1:25,000



1842 Sketch map of the parish of Dolgelley in the County of Merioneth



1888 Ordnance Survey Merionethshire XXXVII.NE



1902 Ordnance Survey Merionethshire XXXVII.NE



1948 Ordnance Survey Merionethshire XXXVII.NE



1954 Ordnance Survey Merionethshire XXXVII.NE

Figure 2: Historic Mapping  
Scale 1:5,000 (Approx)

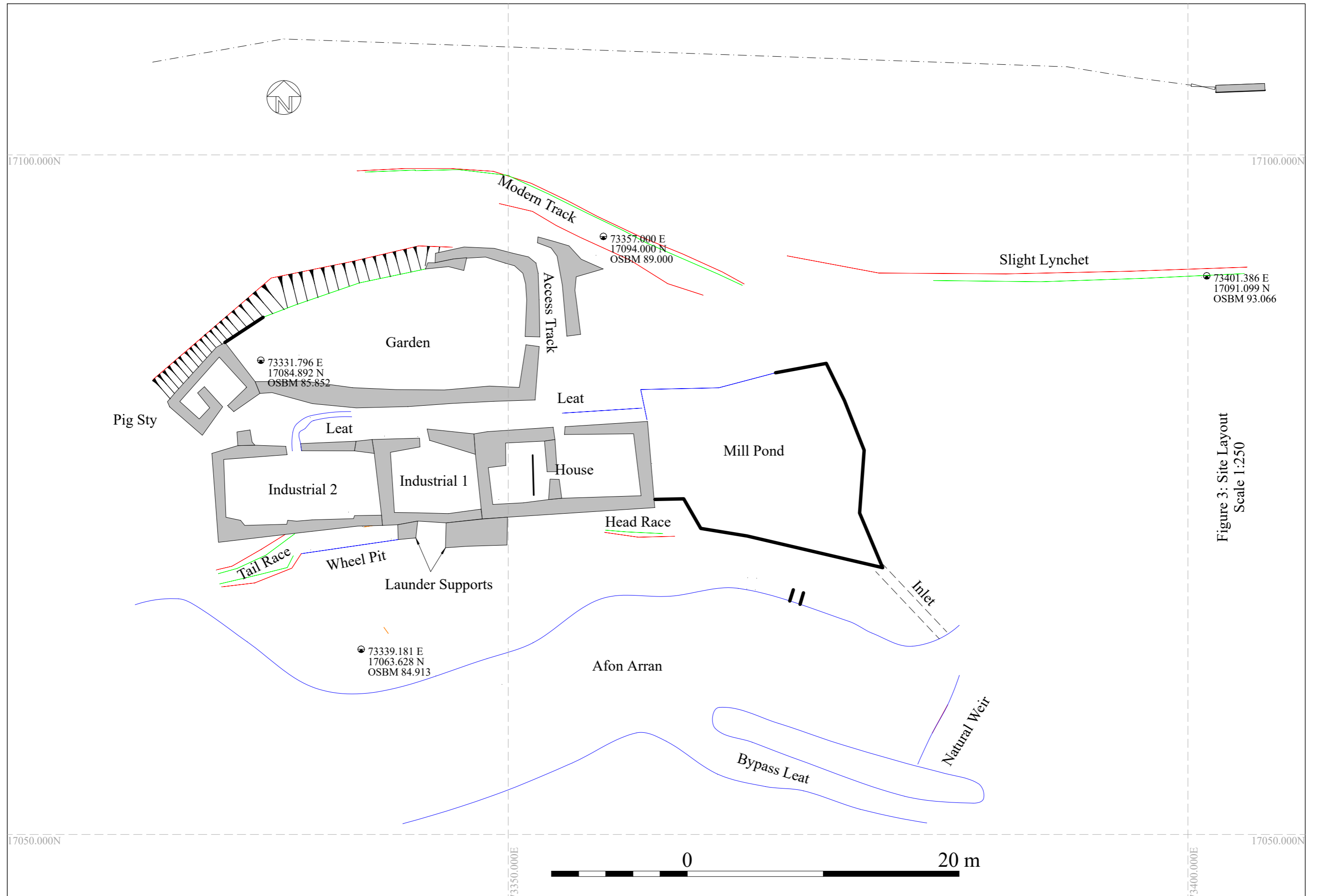


Figure 3: Site Layout  
Scale 1:250

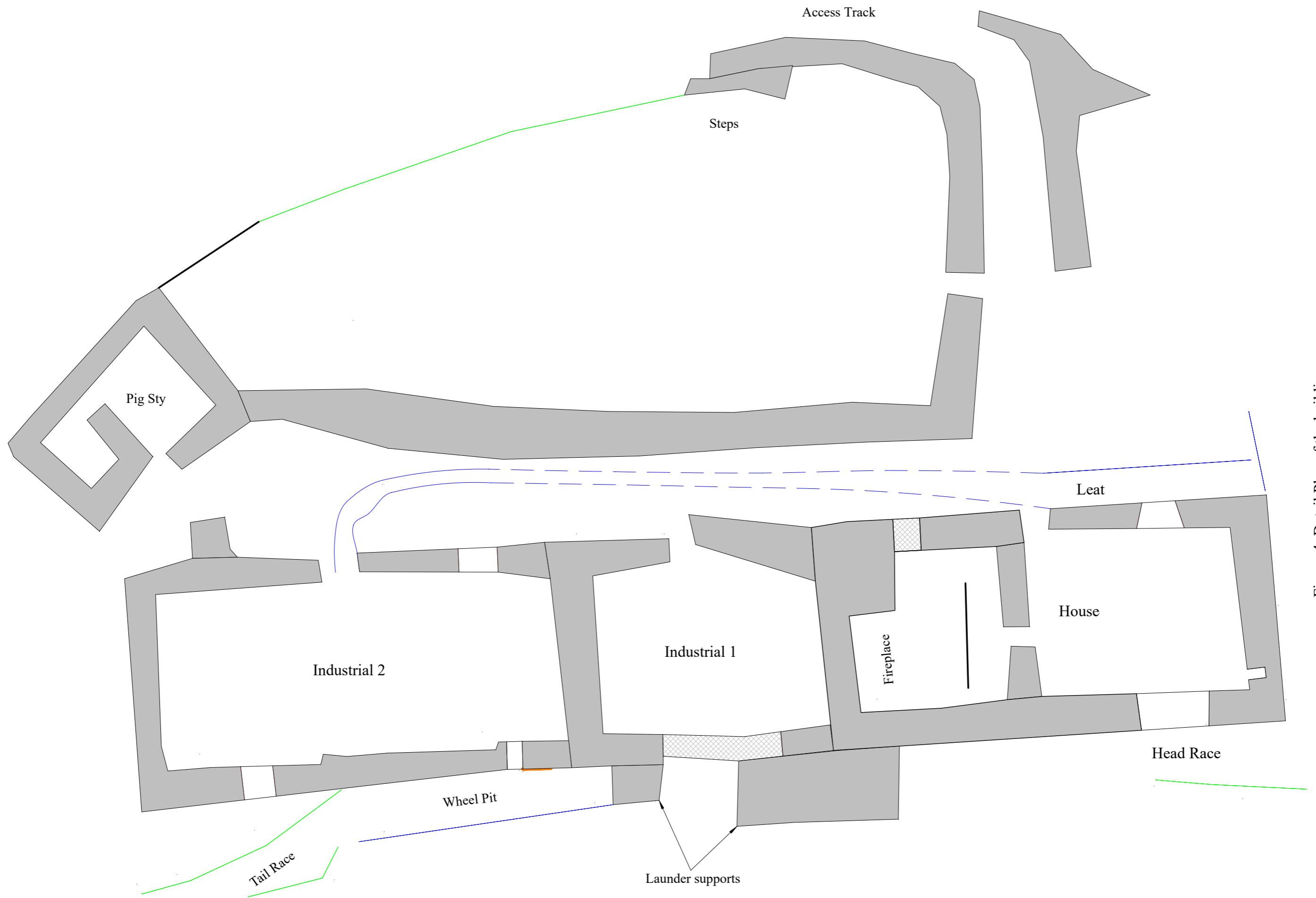


Figure 4: Detail Plan of the buildings  
Scale 1:100



Plate 1: Location of the site, looking SW



Plate 2: Western gable wall of the house, looking east



Plate 3: Doorway to the house



Plate 4: Window in the south wall of the house, looking south



Plate 5: Window in the northern wall of the house, looking south



Plate 6: Blocked window in the northern wall of the house, looking south



Plate 7: Socket in the eastern gable wall of the house



Plate 8: The dividing wall of the house



Plate 9: Western end of Industrial Building 1

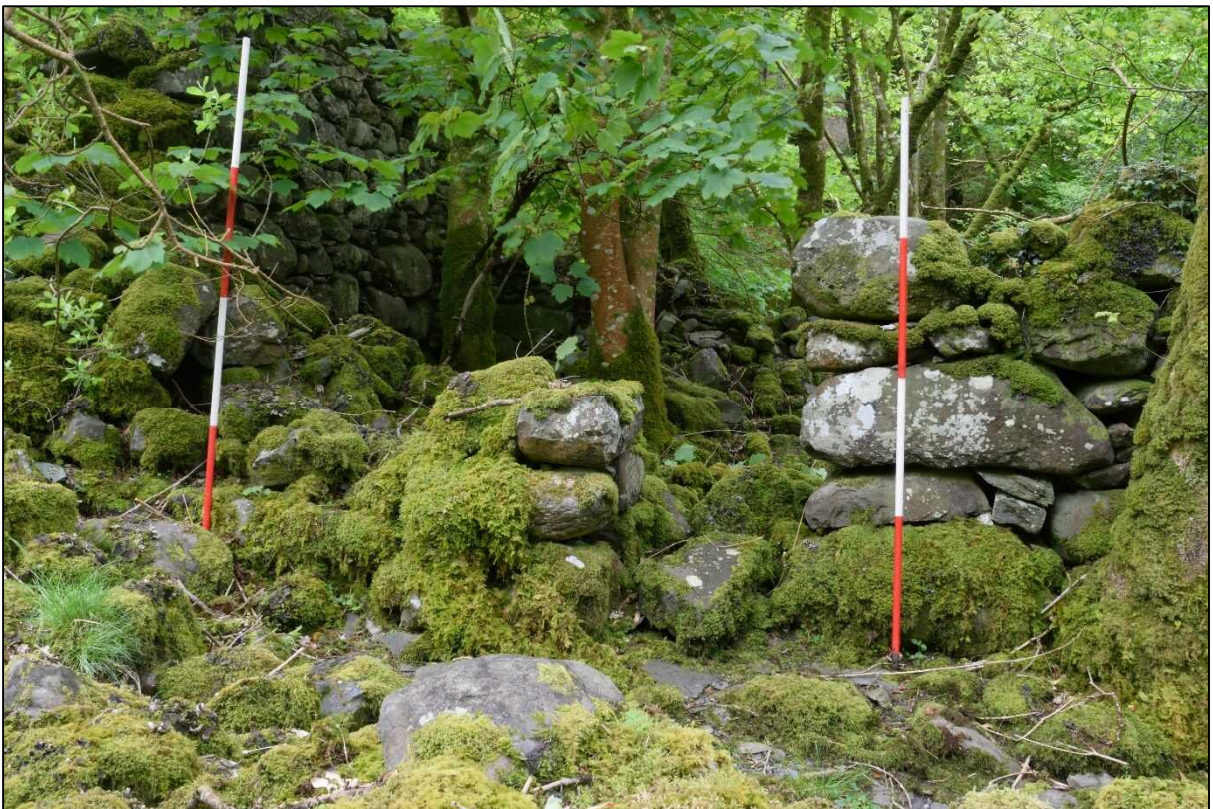


Plate 10: Door to Industrial Building 1, looking south



Plate 11: Western gable wall of Industrial Building 1, looking west



Plate 12: Industrial Building 2, looking SE



Plate 13: Industrial Building 2, looking SW



Plate 14: Gable wall of Industrial Building 2, looking east



Plate 15: Slot for the drive shaft of the waterwheel, looking south



Plate 16: Slot for the drive shaft of the waterwheel, looking north



Plate 17: Mill Pond, looking east



Plate 18: Rough wall around the mill pond



Plate 19: Leat in front of Industrial Building 2



Plate 20: The eastern launder support



Plate 21: The western launder support.

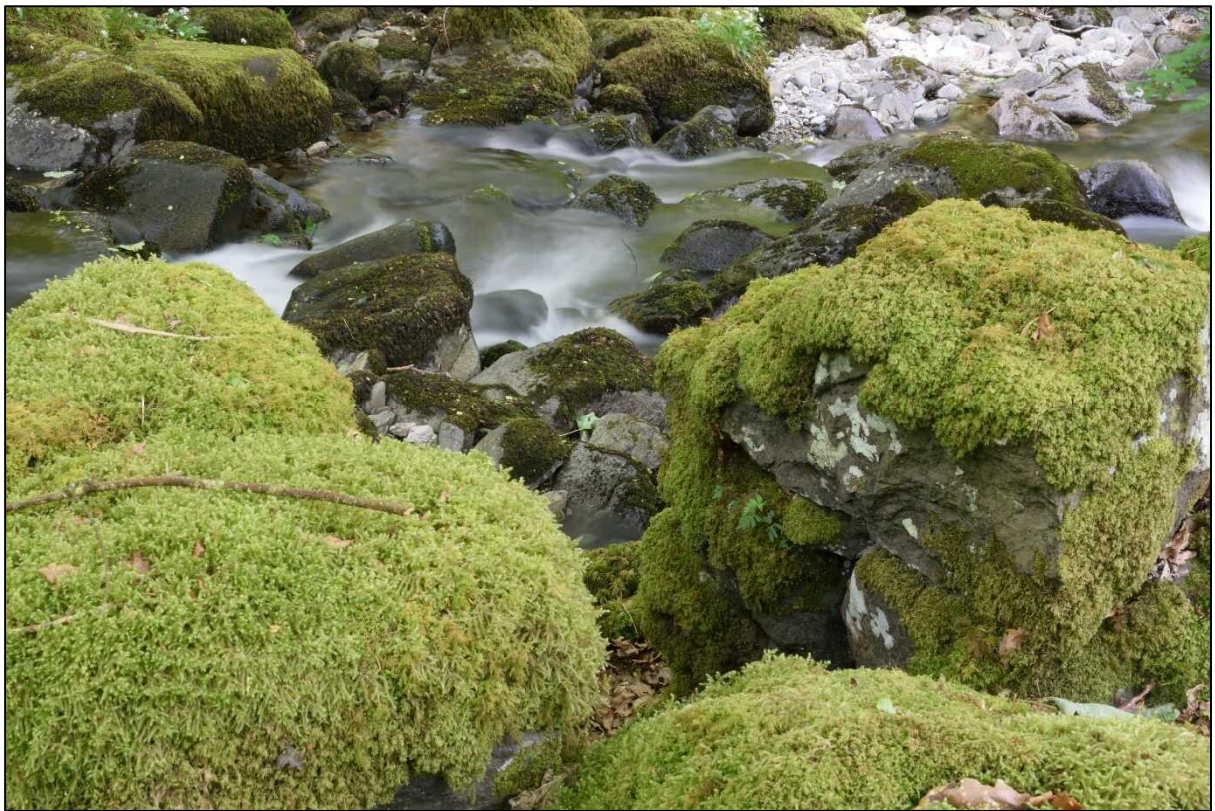


Plate 22: Stone wall lined slot in the river bank

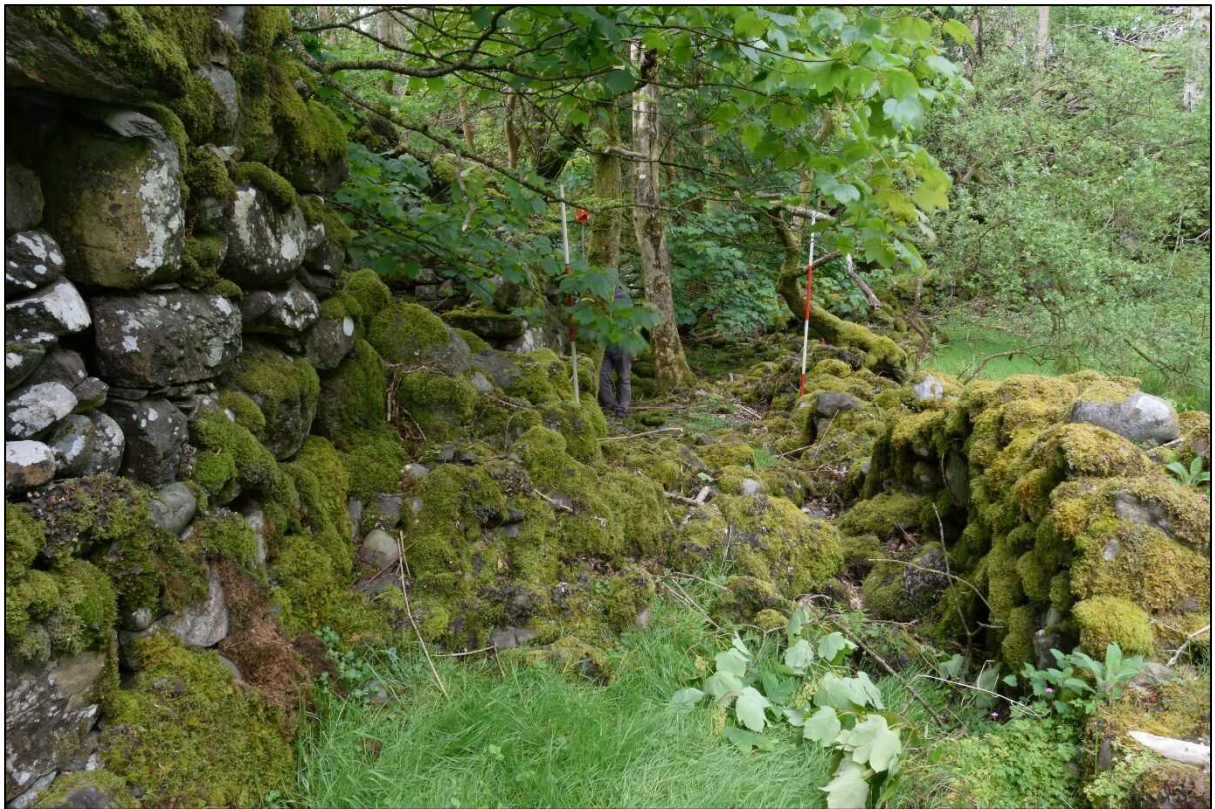


Plate 23: Passage between Industrial Building 1 and the enclosure

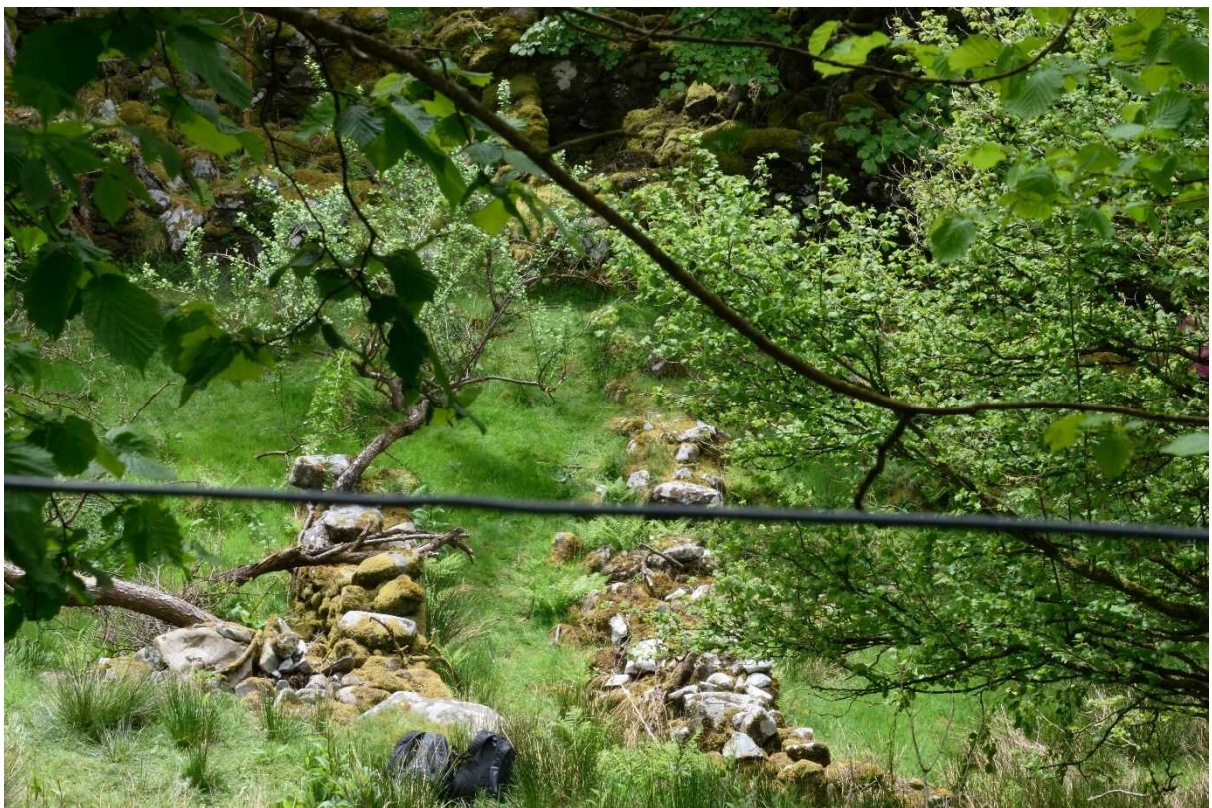


Plate 24: The access track, looking south



Plate 25: Iron object partly buried to the south of the buildings