

Excavation of a medieval timber trackway at Llangynfelyn, Talbont: Interim Report

Summary

During June 2004 Cambria Archaeology undertook the partial excavation of a timber trackway crossing Cors Fochno (Borth Bog) in Ceredigion. The work was partly funded by Cadw and involved students from the Institute of Archaeology and Antiquity at the University of Birmingham.

The trackway is visible on the surface as a low bank running across a pasture field. A single trial trench was excavated across the bank in March 2004 and it was found to cover a series of timbers forming a walkway about 1.5m wide. Two 10th - 11th Century AD radiocarbon dates were obtained from two of the timbers. Two larger areas of the trackway were excavated in June. In general the timber structure consisted of parallel side rails supporting cross-timbers. At least part of the structure was covered with deposits of gravel forming later surfaces.

The wood identification on timbers from the trackway demonstrates the use of oak and alder, which reflects the resources on and close to the bog edge. Initial assessment of pollen from below the trackway has also identified that ash, birch and hazel were growing in the area prior to the track being constructed. Dendrochronological dates suggest that three of the timbers are from trees that were felled between AD1085 and AD1121.

One of the trenches was located at the southern end of the visible causeway where the trackway was found to overlie an extensive area of burning and industrial debris. The nature of the activity represented by the deposits is at present uncertain. Charcoal recovered from these deposits has been submitted for radiocarbon dating. The Llangynfelyn and Talybont area has a long and well-documented history of lead and copper working, with several mines of varying dates, including possible Roman workings. Further investigation targeted at these industrial deposits is being planned for June 2005.

Introduction

This interim statement provides a summary of the results of the excavation, of two lengths of timber trackway (PRN 48914) at Llangynfelyn, near Talybont, Ceredigion (Fig. 1). The trackway was initially identified during salvage recording undertaken in 2002 following land improvements on the southern edge of Cors Fochno (Borth Bog) (NGR SN64929064). During the excavation of a ditch for a new land drain, part of a well-constructed, buried timber structure was disturbed. Rapid salvage recording revealed the structure to be a planked timber box or trough (Jones 2004). Two radiocarbon dates were obtained which indicated a Middle Bronze Age date (1620-1390 Cal BC and 1625-1425 Cal BC) for the timber used in the trough. During the course of salvage recording of this structure, a linear earthwork was noted in the adjacent field. An application was made to Cadw for a small grant to investigate the earthwork and to see if it was associated with the trough.

A trial trench was opened across the earthwork in March 2004 and a substantial stone and timber structure was uncovered. The structure consisted of a layer of flat stones and gravel laid on the surface of the underlying peat and two parallel rows of roundwood stakes driven through the stone layer into the peat. Overlying the stones was a timber structure comprising parallel side rails and transverse

planking. This was covered by two layers of gravel giving the track a distinctive high centre line, with sloping sides. Radiocarbon samples from two of the timbers returned virtually identical dates from the 10th or early 11th century (Cal AD 900-1020 – Beta-191064 and AD900-1030 – Beta-191065).

The March investigation also highlighted the fact that the timber was deteriorating at a fairly rapid rate due to the dewatering of the site through agricultural land improvements carried out in recent years. Therefore, it was decided, given the undoubted importance and potential of the site, to approach Cadw to grant-aid a rescue excavation to record as much information about the track, particularly the timber element, as possible before it was lost. Cadw agreed and this current excavation was undertaken in June 2004. The excavation was undertaken by Cambria Archaeology with the assistance of students from the Institute of Archaeology and Antiquity, University of Birmingham.

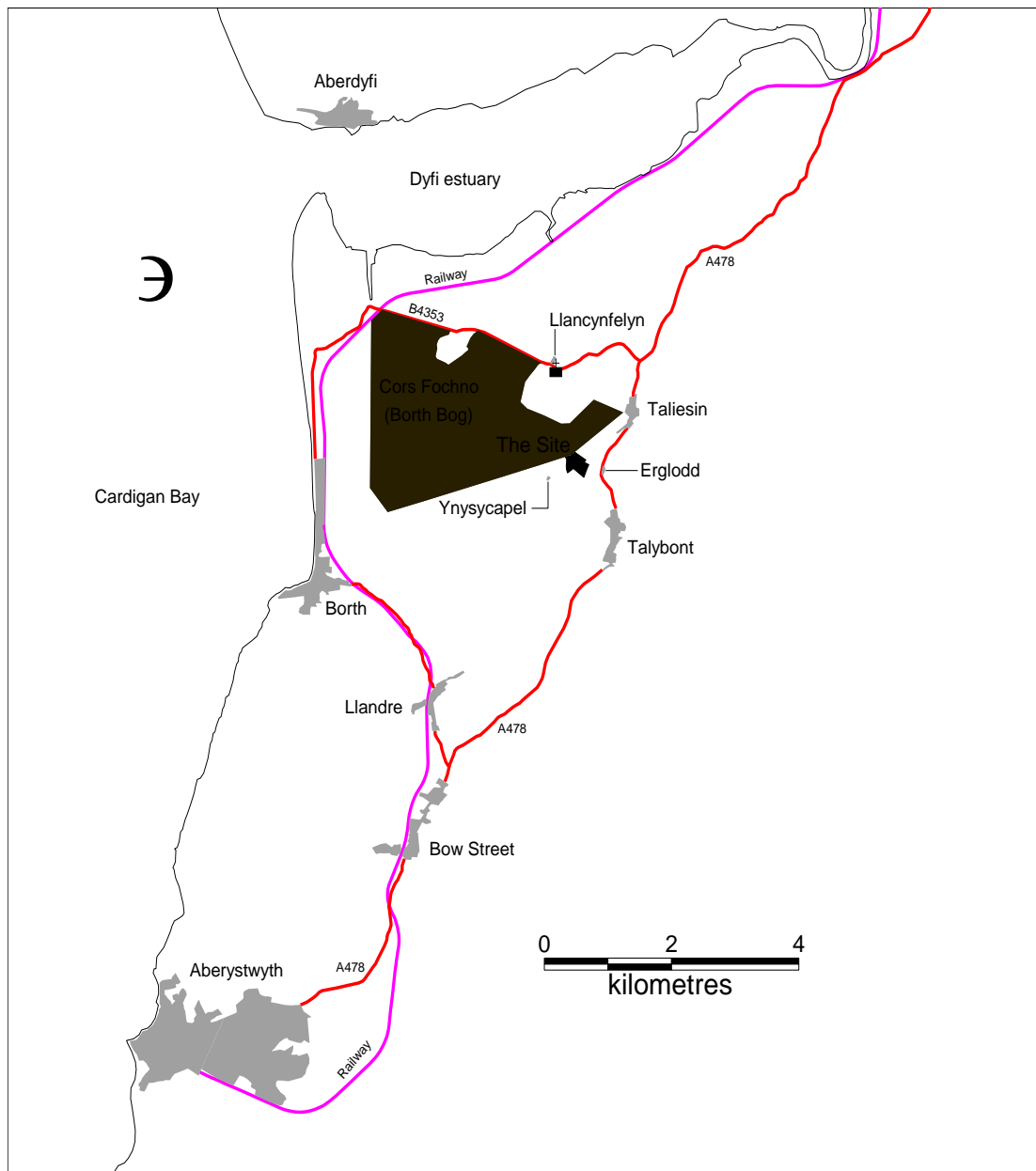


Figure 1 – Location plan

Objectives

The principal objective of the excavation was the salvage excavation of a substantial sample of the threatened portion of the trackway. The specific research objectives were to:

- 1 - to provide a better understanding of its construction, woodworking techniques and the implications for local woodland management during the early medieval period.
- 2 - to recover palaeo-environmental evidence to ascertain changes in local and regional environmental conditions prior to, contemporary with, and, if possible, post dating construction of the trackway.
- 3 - to recover evidence for contemporary organic and non-organic artifacts.
- 4 - to set the structure in its contemporary landscape context and in particular its possible association with potential contemporary religious and secular sites at Ynyscapel, Llangynfelyn and the surrounding area.

Methodology

Two areas (Fig. 2, T4 and T5) of the track were machine stripped, cleaned and hand excavated. Trench 4 measured 25m x 10m and Trench 5 measured approximately 35m x 10m. The trenches were positioned to investigate the trackway in two key areas; at the junction of the bog and dry land and further into the bog where it was felt that the conditions may promote better survival of the timbers used in the construction of the track.

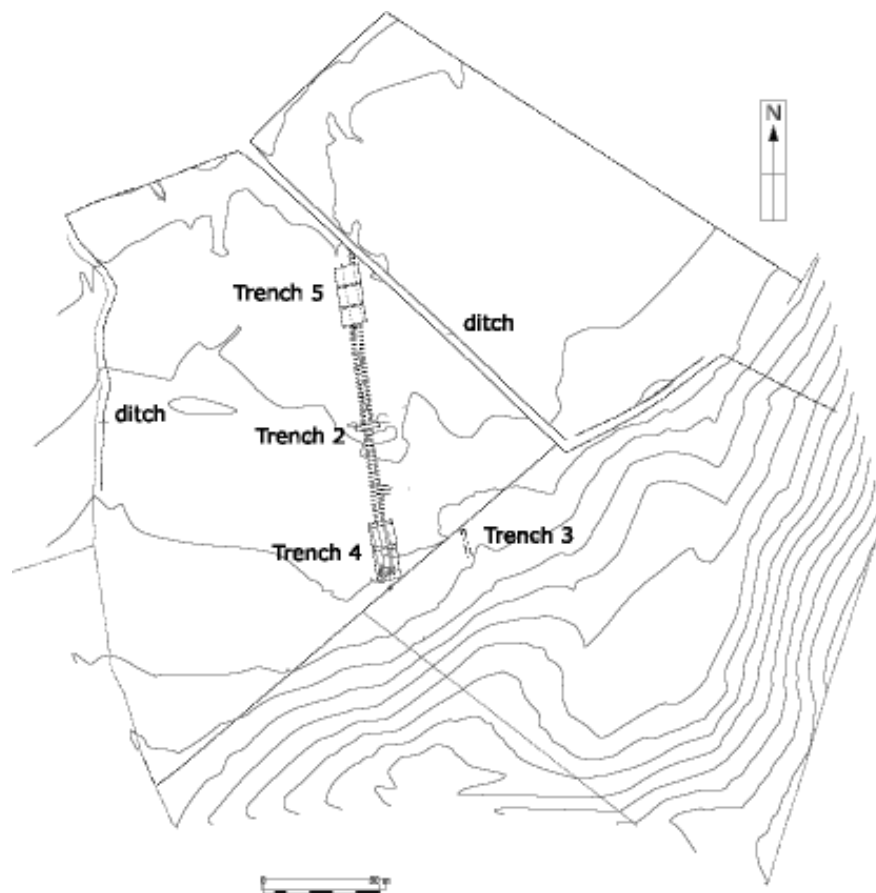


Figure 2- Location of Trenches

Interim results

Trench 5

This trench was intended to investigate the condition and survival of the timber element of the trackway and to provide, if possible, further material for dating. It was positioned towards the northern end of the field and across an area of the track that had been disturbed by drainage works and other agricultural operations. This had resulted in the trackway being less pronounced and the decision was taken to machine off the remainder of the gravel layers in order to expose the timber structure and foundation layer. Trench 5 was sub-divided into four areas separated by 1m wide excavation baulks (sections T5a – T5d).

In general the timber structure was of simple design, consisting of parallel side rails supporting cross-timbers. A number of driven stakes were recorded throughout Trench 5, although they were fairly randomly placed and there were no identifiable rows similar to those recorded in the evaluation trench (Trench 2) and the southern area (Trench 4). Timber was recovered from all four sections, although very few structural elements survived in T5c (the northernmost area) as it was located closest to the main drain and had subsequently suffered the most from dewatering. Trench 5c had also been heavily disturbed by agricultural activities and the agger almost levelled in places. Therefore, the following discussion concentrates on the sections recorded in T5a, T5b and T5d where the preservation of the timber was better and the trackway survived in reasonable condition.

The timber structure displayed variation among its surviving sections, with some of the typical side rails and cross-timbers being substituted by longitudinal timbers. In T5d (the southernmost area) this included a substantial oak timber laid longitudinally, which was flanked by other longitudinal timbers (Plate 1). This was also noted in T5a, where a short length of rail and cross-timbers gave way to longitudinal timbers. In T5b only a short length of the side rails and a few very degraded cross-timbers survived.

The longitudinal timbers appeared to bridge gaps in the structure between sections of rails and cross-timbers. It is not clear at this stage whether the longitudinal timbers indicate repairs to the structure, or whether they represent an *ad hoc* adaptation of the design to make use of the resources to hand. Comprehensive dendrochronology may refine the dating for the timbers and may reveal a sequence of construction and repair. One of the cross-timbers in T5d had an irregular hole in its east end, which was thought to have been a mortice, possibly to hold a stake or peg to secure the timber. However, there was no accompanying stake and it may be that, if the hole was a mortice, the timber was reused from elsewhere. No other possible mortices were noted.



Plate 1: the substantial oak timber and other longitudinal timbers in section T5d.

The timbers were laid on patches of stones and gravel which had been laid, or dumped on the peat surface. Compression had pushed some of the stones into the top of the peat (Plate 2). However, for the most part they formed patches on the surface. It is not clear if they were the intermittent remains of what was formerly a continuous stone causeway across the bog or whether they were dumps of stones used to level wet hollows in the surface of the peat prior to the timber track being laid.



Plate 2: The construction sequence of the trackway revealed in section in T5a showing the stones below the timber and the overlying gravel surface.

Samples of the timbers were recovered and will be used for possible dating using dendrochronology and radiocarbon methods. Initial spot dendrochronological dating has given a felling date range for three timbers of between 1081 and 1125 (Nigel Nayling *pers com.*). These dates are later than the 10th – early 11th century radiocarbon dates from timbers recovered during the evaluation (Jones 2004, 9), but they reinforce a medieval date for the timber element of the track. Initial species identification of timbers from the trackway has identified alder and oak, which would have been available on and close to the bog edge (Nigel Nayling *pers com.*). Initial rapid assessment of the pollen from the peat below the track has also identified birch, ash and hazel as being present in the area, probably on the dry ground and slopes to the south. This assessment has also identified pollen from heather, grasses, sedges and ribwort plantain (Astrid Caseldine *pers com.*).

Trench 4

The principal objective of Trench 4 was to define the nature of the track at the junction of the bog and the dry ground and to investigate the possibility of a terminal of some kind. Prior to excavation the visible earthwork narrowed towards its southern end and appeared to come to a rounded terminal. However, aerial photographs seem to show it continuing through the excavation area into the base of the ridge some 20m south of the site.



Plate 3: General view of T4 after initial cleaning showing the raised track 001 and the clay shoulder added along the west side. Some of the industrial deposits are visible along either side of the trackway.

Removal of the thin topsoil and turf (c.10cm thick) revealed the surface of a pronounced agger, comprising a gravel and stone surface and a clay shoulder along its west side (Plate 3). It was originally intended to fully hand excavate the track and any underlying deposits. However, this was not practical due to the extent of the survival and the sheer volume of material. Instead, it was decided to excavate a more limited area at the southern end of the area opened up (T4a) and two 1m wide cross sections (T4b and T4c).

T4a - this area was positioned towards the southern end of T4 to investigate the possible terminal of the track and its structure at the point it met the dry ground of the bog edge. It measured 4.5m x 3m and was excavated to a general depth

of between 20cm and 40cm. Below the track were a number of extensive deposits of industrial origin comprising layers of ash, charcoal, grit and in some cases fragments of heat affected clay and stone that may have been furnace lining.

A trial area (1m wide) was excavated through these deposits along the east edge of T4a to a depth of about 1m (Plate 3). This trial area revealed horizontal banding of charcoal rich deposits, which in most cases were difficult to distinguish from each other, and light grey ash deposits. All the deposits were gritty and most contained fragments of what appeared to be crucible or furnace lining. Cutting the upper levels of these layers were shallow and narrow linear and curvilinear features filled with a charcoal rich light grey ash (Plate 4). These gullies also contained small fragments of heat affected clay and stone, which may have been fragments of furnace lining.



Plate 4: The grey-ash filled gullies cutting the surface of the industrial deposits. The far section shows that these features had been sealed by later industrial deposits, prior to the track being constructed.

A monolith tin sample and a number of bulk samples were taken from the industrial deposits for analysis. A rapid assessment on material from the monolith sample has revealed a high percentage of lead suggesting lead processing (Simon Timberlake *pers com*). These deposits have also provided suitable charcoal for radiocarbon dating.



Plate 5: The pronounced gravel track overlying the industrial deposits in T4a. The group in the rear are standing on the clay shoulder that was added along the west side of the track.

The tops of several small posts and stakes were noted below the gravel of the trackway and cutting the industrial deposits. However, it was not clear if they were part of the trackway structure, like other posts and stakes along its course, or whether they were associated with the industrial activity.

The track overlying the industrial material was of a fairly simple construction consisting of two layers of gravel, a lower layer of blue-grey fairly fine gravel, which was overlain by an upper buff gravel and stone layer with a pronounced camber (Plate 4). A clay shoulder had been added to the west side, probably as a result of slumping of part of the track into an area of unstable industrial deposits encountered in T4b (see below). There was no evidence here for the stone foundation and timber raft structure recorded in all the other excavated areas, suggesting that the firmer nature of the ground at this point precluded the need for the foundation and timber raft.

Sometime after the track had been constructed a narrow slot was excavated along at least part of its eastern edge. This slot, which was also recorded in T4b, contained bundles of small roundwood rods along its base. Some of the wood had been burnt, possibly prior to deposition in the trench, but this was not certain. The wood did not appear to form a structure (although during the excavation it was thought that they may have been part of a collapsed wattle hurdle) and it seems likely that they were inserted as bundles of roundwood into the base of the open trench, possibly to act as a drain.

T4b – this 1m wide cross section was located approximately midway along Trench 4 to investigate an area where the track survived in good condition. Excavation revealed that the two upper gravel layers, the timber structure and the clay shoulder along the west edge were present, but below them the sequence was complex, with what appeared to be two phases of industrial deposits separated by a layer of peat.

The earliest phase of industrial activity was represented by horizontal layers of charcoal-rich black/grey ashy, gritty debris visually identical to the material recorded in T4a. These deposits extended from beyond the east edge of T4 to roughly halfway below the track where their west edges sloped in clearly defined and fairly uniform gradients. As with the deposits in T4a there appeared to be layering within the material, but it was frequently difficult to identify individual layers. The deposits were sampled for geochemical and industrial residue analysis.

Above these deposits was a layer of brown peat (Plate 6). The peat appeared to have developed during a period of inundation and possibly corresponded with a decline of activity or possibly a period of abandonment. Initial assessment has identified rush seeds, root and stem material and charcoal within this material.



Plate 6: The peat development separating the two distinct phases of industrial activity in the south-facing section of T4b. The east – west slope of the deposits is clearly shown.

Overlying the peat were several deposits of grey/black gritty ashy material similar to those below the peat. These upper deposits also sloped from east to west, reflecting the trend of the lower deposits and extended beyond the west side of the track (Plate 6).

In general terms the structure of the track itself was the same as that recorded in the original evaluation trench (Trench 2). It consisted of a foundation layer of large stones overlain by a timber structure consisting of timbers laid across the line of the track, which were in turn overlain by the two gravel layers. Several stakes had been driven into the peat surface, although not enough were exposed to be certain if they were set in definite rows. The stakes appeared to have been driven from the level of the timber structure, and may have been intended to prevent the lateral movement of the peat surface and the timber structure.

In other sections where the timber structure was recorded the flat laid timbers were laid across longitudinal side rails. There was no definitive evidence for side rails in this trench, although it is assumed they were originally present. The timbers were predominately oak and ash and these were sampled for fuller species identification and dating. One of the oak timbers was spot-dated by dendrochronology within the felling date range of between 1085 and 1121AD.



Plate 7: the gravel surface of the trackway, with the clay shoulder visible on the left hand side.

T4c – this 1m wide cross-section was hand excavated through the track to the top of an underlying layer of peat at the northern end of Trench 4. The peat in turn overlay an extensive spread of industrial waste and processing residues.

The lower industrial deposits in T4c comprised a series of grey/black gritty ashy deposits covering the eastern half of the trench. Examination of the south-facing section revealed that these deposits were reasonably flat-laid, but that their western edges sloped downwards in the same way as the industrial deposits in T4b. Samples were taken from the deposits for geochemical and industrial residue analysis.

Overlying the exposed western edge of the industrial material was a layer of peat, which was visually identical to that overlying the lower industrial deposits in T4b. Samples have been taken from the peat layer. As with the sample from T4b, this contained rush seeds, root and stem material and charcoal. There seems little doubt that the industrial deposits and the peat layer recorded in T4c are the same as the lower industrial deposits and the peat layer in T4b. However, there was no upper horizon of industrial deposits in section T4c.

The track had a similar structure to that recorded in T4b and in T5 to the north, with a foundation layer of large stones supporting a timber structure, consisting of side rails, cross timbers and driven stakes, which was overlain by two gravel layers. The underlying foundation layer comprised large irregular stones laid onto the surface of the underlying peaty deposits. Three or four parallel rows of

pointed driven stakes were noted within the stone foundation layer. The stake rows were aligned north-south, along the track, and may have been driven into the peaty deposit, with their tops level with the top of the foundation layer. These may have been intended to stabilise the peat surface and to stop lateral movement as the foundation stones were laid.



Plate 8: T4c, the pollen sample tin cuts the peat deposit that developed after the industrial activity had ceased, or declined, but before the track was constructed. A driven stake is visible to the right of the photographic scale.

The timber structure itself was very fragmentary and consisted of side rails laid longitudinally to support cross beams. The timber in this trench was very fragmented, desiccated and decayed and most of what survived had been squashed virtually flat. The overlying gravel layers formed a pronounced and flattened, domed agger, c.4-5m wide x 0.4m high. The upper gravel layer contained a number of large stones, rounded and angular, which protruded through the track surface. A horseshoe of probable post-medieval date was recovered from the gravel. A clay shoulder recorded along the west side of the track in T4a and T4b was also present.

Discussion

The industrial activity

The nature of this activity is at present uncertain. However, some form of processing associated with lead smelting seems the most likely. It may be that smelting was in fact taking place to the south or east of Trench 4, on the dry ground on the southern bog margin. Although the industrial material lies below the trackway and clearly pre-dates it, the precise date is not certain. Charcoal recovered from these deposits has been sent for radiocarbon dating.

The Llangynfelyn and Talybont area has a long and well-documented history of lead and copper working, with several mines of varying dates, including possible Roman workings at Llangynfelyn, surrounding the site. The Roman fort at Erglodd, c.500m to the southeast of the site, may also be relevant, suggesting a Roman military presence in the area possibly to secure the metal resources of the area.

The identification of these deposits was not expected prior to the excavation. Although the exposed deposits were recorded and sampled further targeted investigation is clearly needed if these deposits are to be fully understood.

The trackway

Spot dendrochronological dating has given a felling date range for three timbers of between 1081 and 1125. These dates are later than the 10th – early 11th century radiocarbon dates from timbers recovered during the evaluation (Jones 2004, 9), but they reinforce the indication of a medieval date for the original timber element of the track. This was presumably constructed sometime after the abandonment, or decline of the industrial activity to cross a narrow point of Cors Fochno in order to link Llangynfelyn to the southern edge of the bog. Early medieval parallels for the Llangynfelyn trackway are not easy to find. However, the style of construction used forms part of a wide-ranging tradition from Neolithic Ireland (Raftery 1996) to Roman Yorkshire (Kennedy 1984).

The village of Llangynfelyn occupies the southwest end of a small and narrow southwest-facing promontory, which if approached from the south has the appearance of an island in the bog. To access Llangynfelyn on dry ground, by skirting the bog to the north, would require a journey of c.4km (c.2.5 miles). The trackway provides a much shorter route, approximately 750m. This saving was clearly considered more important than the significant time and investment that would have been needed for the construction of the trackway.

Further analysis of the results of the excavation may determine whether the trackway was of a single build, albeit with probable repairs, or whether it represents several phases of track on the same alignment. For example, was the timber structure ever a track in its own right, or was it always intended to be simply the foundation for the gravel surface? These gravel deposits appeared to consist of two separate episodes. The horseshoe recovered from the upper gravel suggests that it continued in use until a fairly late date. There is also uncertainty about the purpose of the underlying stone. Were they part of an earlier stone track or causeway across the surface of the bog? Or were they laid or dumped into wet hollows on the peat surface as the timber structure was constructed?

Unfortunately, with the exception of the driven stakes, the condition of the timbers was too decayed to allow analysis of woodworking technology, although in some cases it was at least possible to identify how the timbers were converted from the parent logs. The driven stakes had a variety of pencil, chisel and wedge points, none of which necessarily required any specialist woodworking skills to accomplish. Variation in the construction, with side rails and cross-timbers in some areas and longitudinal timbers in others, may simply be a reflection of the available resources.

References

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