

# Investigation of a corn dryer found at Penparc, Penmon, Anglesey

PRN 97003







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### Investigation of a corn dryer at Penparc, Penmôn, Anglesey (PRN 97003) SH 62342 80257

#### EPRN 46295 (curatorial file A1557)

#### Introduction

Peter Gray of Penparc, Penmôn, Anglesey contacted Gwynedd Archaeological Trust (GAT) for advice when he found what appeared to be an ancient wall in his garden (Figure 1). He had partially exposed the possible wall when trying to dig out a boulder that proved to form part of it. Sean Derby of GAT visited the site on 8<sup>th</sup> July 2022 and noted that the wall was at a different angle to any modern walls or any on the historic maps. There is a scheduled roundhouse settlement of Iron Age or Roman period date (PRN 2551) to the east of Penparc, so it was decided that the possible wall deserved further investigation as it could be ancient and related to the Iron Age or Roman activity. The feature was allocated the Primary Record Number (PRN) 97003 for inclusion in the Historic Environment Record (HER).

#### Methodology

Jane Kenney of GAT carried out a small investigation on 2<sup>nd</sup> August 2022, with the aid of Peter Gray. The aim was to expose more of the stone structure and to excavate down to the natural deposits at either side unless archaeological deposits were encountered. In particular, the width of the structure, the existence of a second face, and to identify any floor levels or other related deposits were to be determined.

Garden soil was removed by hand digging and the area was excavated down to the natural subsoil on either side of the stone structure. This involved removing a deposit interpreted as hillwash to the north of the structure, but later excavation proved that this was the fill of the feature. The length of the structure exposed was increased by removing a small area of the lawn and some stones, with permission. The excavation was limited by the small area where soil could be stored, and by minimising the damage to the garden (Plate 1).

Once exposed the structure was cleaned and photographed (Plate 2). A plan was drawn at a scale of 1:20 and a section across the structure and related deposits was drawn at a scale of 1:10. The plan was located using a survey quality Global Positioning System (GPS) and the outline of the wall was also plotted by the GPS. A written record was also made on standard GAT context sheets. Each feature or layer has been given a context number from 01 to 07, shown in brackets in the text below.

Following the excavation, Peter Gray was curious about the feature and removed more of the lawn and other garden features to allow a larger area to be investigated. During this activity he exposed more of the top of the stone feature, and it indicated that it was curving into a circular chamber. He contacted GAT again and Jane Kenney attended on  $2^{nd}$  and  $4^{th}$  September 2022 to carry out a full excavation of the feature.

The extended area enabled most of the feature to be exposed, except for the western end. Excavation to this area would have caused the loss of important plants and damage to a tree, so the full length of the feature could not be established. Garden soil was removed over the whole area to expose the natural subsoil and the top of the stones of the feature. This allowed the fill of the feature to be identified and recorded. Some of the fill had been removed by the owner, as well as by the previous excavation. Half of the fill was removed in the circular chamber and the resulting section across was recorded. The remainder of the fill was removed to expose all the interior of the feature and search for potential dating material.

A plan was drawn at a scale of 1:20 and a full photographic record was made. The plan was located using a survey quality Global Positioning System (GPS) and the outline of the feature was also plotted by the GPS. A written record was also made on standard GAT context sheets for new contexts and additions made to existing context sheets. Photographs and target points were taken to produce a photogrammetric 3D model in Agisoft Metashape.

#### Results

The excavation revealed a stone structure (04) aligned nearly east-west and centred on *c*.SH 62342 80257. The full excavation showed that this had a circular chamber at the eastern end and a long channel running to the west (Figure 2, Plates 3 and 4). The form of the feature indicated that it was a corn dryer, so the circular chamber will subsequently be referred to as the drying chamber and the channel as the flue.

The stone structure (04) formed a revetment or lining to the cut in which the feature was constructed. Overall, the structure was 3.4m long as exposed in the excavation, though it continued further to the west. The cut for the chamber was about 1.52m across and the cut for the flue about 1.4m across. The cut [09] was not clear in many places but could be seen in plan to the north of the chamber. It was seen in section in Figure 3 (Plate 5). The base of the cut was fairly flat within the chamber but sloped gradually down from east to west in the flue. The cut was up to 0.5m deep, and it was cut from the surface of the natural sub-soil (05), though the upper parts of (05) were sandy and altered and probably formed the B horizon of the ground surface from which the cut was dug. The natural subsoil was mostly a firm malleable red-brown sandy clay (05), with numerous small stones. To the south of the flue was a patch of friable fine yellow-brown sand with rotted yellow-brown stone (06) (Figure 2). This seemed to merge with (05) and is a variation in the natural deposits, possibly caused by the rotting of stones into sand. These natural deposits were between 0.5m and 0.3m below the present ground surface, being shallower on the south side of the wall. The presence of the sand in this area, which had been disturbed by roots and animal burrowing, caused some confusion about deposits and the cut was not clearly visible here. Part of a cattle bone was recovered from this area, but it essentially came from the mixed lower part of the garden soil

The stone lining (04) was built of limestone boulders up to 0.65m long. The largest boulders, mainly set on edge, formed the sides of the flue (Plates 6 and 7), while smaller stones, most laid horizontally, formed the sides of the drying chamber (Plate 8). Smaller stones filled gaps between the larger stones. In the flue there was only a single course of stones but in the chamber there were two irregular courses, with a neatly defined inner face (Plates 9 and 10). There was no visible bonding material, though a deposit of redeposited natural clay with some stones (08) had been packed behind the stones to fill the cut. This would probably had been deposited as the lining was built and would have acted to some extent as a bonding material. At the western end of the flue on the northern side several medium sized stones appear to have been added as additional packing behind the face.

The drying chamber was a near perfect circle, 0.8m in diameter internally. It opened on the western side into the flue, which was only about 0.37m wide internally at the eastern end but soon widened to 0.52m wide. The flue was at least 2.2m long, with part obscured beyond the limit of the excavation.

The feature was filled with a red-brown silty sand (03) with occasional stones (Figure 4, Plate 11). This deposit was homogenous, and no charcoal was present within it, nor were there any layers of patches of charcoal below it within the excavated area. None of the stones had any obvious evidence of burning or the effect of heat. Layer (03) was probably hillwash which had naturally infilled the abandoned feature, but it is unusual that there were no deposits from its use in the base.

The overlying garden soil had a lower layer (02), 0.18m deep, of friable grey brown sandy silt with occasional flecks of charcoal. This represents the depth to which the garden had previously been cultivated and above it was 0.1m of active topsoil (01). Over the middle of the chamber and the start of the flue, within the base of layer (02), was a deposit of oyster shells (07) (Figure 4). A single sherd of post-medieval pottery was also recovered from this layer. The shells represent a dump of food waste during the use of the garden. Occasional sherds of post-medieval pottery were found within the garden soil (01) and (02), but were not retained.

A brick-lined septic tank had been inserted immediately east of the feature and a pipe from it had run over the top of the feature. The septic tank is disused, and the pipe was largely removed during the excavation. Surprisingly neither the tank nor the pipe had caused any damage to the feature.

#### Discussion

The form of this structure strongly suggests that it is a key-hole shaped corn dryer (Plate 12). A useful survey of corn dryers in Wales has recently been published by Comeau and Burrow (2021), allowing comparisons to be easily made. The circular chamber would have been the drying chamber with branches or timbers over the top to support a drying floor with the grain laid out to dry on straw or a cloth or both. It was probably open with no roof (Comeau and Burrow 2021, 117-118). The stone-lined channel to the west would have been a flue. Keyhole-

shaped corn dryers are commonly stone-lined and have long flues with circular or rectangular drying chambers. They are typically high or late medieval in date and as there is a peak in the dates for corn dryers in the twelfth to thirteenth centuries it is possible that this example is of that date. However, this type of corn dryer did continue in use into the post-medieval period (Comeau and Burrow 2021, 122, 126). In keyhole-shaped corn dryers the firing location is normally in a stokehole at the end of the flue. The flue slopes upward to the drying chamber to facilitate the flow of the warm air (Comeau and Burrow 2021, 122). The sloping floor of the flue in this case fits that exactly and it is almost certain that there is a stoke hole and remains of a fire just beyond the excavated area to the west.

Medieval corn dryers are sometimes constructed within a building and are often close to one (Comeau and Burrow 2021, 128), so it is possible that this example was near a contemporary house or barn. Grain was dried to aid processing, improve storage, and harden grain before milling. Corn dryers were also used for malting grain for making ale (Comeau and Burrow 2021, 112). Often there were accidents and the grain caught fire during drying, leaving charred grain for archaeologists to study. However, this corn dryer is unusual in that there is no evidence of burning at all in the excavated part, meaning that information on the type of grain being dried is not available in this case and no radiocarbon dating is possible. It seems unlikely that the dryer was carefully constructed but never used, so it must be assumed that the long flue ensured that no accidental burning happened. It remains likely that traces of fire are to be found at the western end of the corn dryer beyond the excavated area, and that a date might be obtained if this area could be investigated.

The fill of the corn dryer resembled hillwash and might have been deposited over a substantial period, however the excellent preservation of the lining, with no evidence of erosion, does suggest, on the contrary, that infilling may have been rapid. It was not buried under a general layer of hillwash as originally thought from the initial investigation, so it is difficult to determine the antiquity of the feature purely from the stratigraphy. A considerable depth of garden soil has developed over the top, which may indicate a considerable time.

Figure 5 shows that the location of the corn dryer does not correspond to any structure shown on the Ordnance Survey County Series maps. The corn dryer is north-east of a stone-built garden shed, which is not shown on the modern digital mapping (Plate 13). This building has been in existence since at least 1889, when it was shown on the first edition County Series map. The corn dryer significantly pre-dates the layout of the present garden.

The tithe map of Penmôn parish (1846) (Figure 6) shows that Penparc was built within plot 11, called *Pen y fron bach*. This was a narrow plot with another running parallel to the south (*Pen y fron*, plot 12). These plots appear to be the enclosed remnants of a medieval open field strip system and the current boundaries of the garden of Penparc are the same as those of plot 11. The corn dryer is on a different alignment to the boundary wall (Figure 1), but this is probably so that the fire was west of the drying chamber and the prevailing westerly wind could be used to drive the warm air through the dryer. The alignment of the feature, therefore, may not relate to contemporary boundaries. The corn dryer would have been located towards the east-north-eastern end of this narrow plot, close to where a house or barn might have been located next to the road. The tithe map shows buildings and the apportionment notes cottages and gardens, so there was no house in 1846, but the corn dryer could have been related to a building long derelict or demolished by that date.

The corn dryer is to be retained within the garden. The base of the dryer has been covered with gravel and the area around the top of the dryer is to be partially backfilled and grassed over to consolidate the sides.

#### Acknowledgements

Many thanks to Mr and Mrs Gray for allowing me to dig up their garden and for reporting the feature to GAT

#### References

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OS 1970: Ordnance Survey card SH68SW10, in Gwynedd Historic Environment Record

Ordnance Survey County Series 25-inch map Anglesey Sheet XV.06 (1889, 1900, 1919)

Tithe map for Penmôn parish in the County of Anglesey (1846), see Welsh Tithe Maps website (National Library of Wales) <u>https://places.library.wales/home</u>

#### Figures

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Plate 10. Inner face of drying chamber, from the south

Plate 11. South-west facing section through the drying chamber

Plate 12. Photogrammetry orthomosaic of the corn dryer

Plate 13. Trench with garden shed beyond, from the south-south-east















Figure 5. Extract from the OS County Series 25 inch map Anglesey Sheet XV.06 showing approximate location of PRN 97003



Figure 6. Extract from the 1846 tithe map Penmon parish in the County of Anglesey (Welsh Tithe Maps website; National Library of Wales; https://places.library.wales/ home)



Plate 1. The original trench within the garden, from the north-east

Plate 2. The 'wall' as initially exposed, from the west





Plate 3. Fully excavated corn dryer, from the west



Plate 4. Drone photograph of fully excavated corn dryer (photograph by Peter Gray)



Plate 5. South facing section across southern wall of flue (section figure 3)

Plate 6. Inner face of northern side of flue, from the south





Plate 7. Fully excavated corn dryer, from the east

Plate 8. Drying chamber, from the south





Plate 9. Inner face of drying chamber, from the west







Plate 11. South-west facing section through the drying chamber





Plate 13. Trench with garden shed beyond, from the south-south-east







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