

**RESTORATION AND INTERPRETATION OF
THE BAKERY AT LLYNON (G1690)**

**REPORT ON PHASE 1 AND
RECOMMENDATIONS FOR PHASE 2**

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RESTORATION AND INTERPRETATION OF THE BAKERY AT LLYNON (G1690)

REPORT ON PHASE 1 AND RECOMMENDATIONS FOR PHASE 2

Note: This is a draft report from the G1690 archive. It was not finalised at the time. All other archive material such as the recorded interview with the baker the late Mr Harry Lloyd Williams are held by Oriel Ynys Mon. Three interpretation panels were produced by Oriel Ynys Mon and the site was consolidated. No further work was carried out by Gwynedd Archaeological Trust.

Introduction

Gwynedd Archaeological Trust has been contracted by Oriel Ynys Mon to excavate and record a small bakery at Llynnon. This procedure is the first part of a two-phase project. Recommendations will be submitted for the second phase of the project, which will consist of the consolidation and interpretation of the remains, as part of this report.

Location and description

The structure is situated 200m south of Llynnon windmill, at SH34148505, and lies within the parish of Llanddeusant. It lies at the north end of a small enclosure measuring some 32m long by 24m wide. At the start of the project, the enclosure was heavily wooded and overgrown.

The building was heavily overgrown, with a number of mature sycamore and elder trees on and adjacent to the site and considerable growth of ivy over the masonry, making a detailed understanding of the remains very difficult.

Historical background

The building is marked on the OS 1:2500 County Series map of 1891, and a structure is also marked on the first edition 1" OS map of c. 1840. Strangely, the windmill, built in 1775-6 for Herbert Jones of Llynnon, is not shown on the first edition map.

E. Wyn Hughes records some details of Llynnon mill and its surroundings in Looking Back (originally published as Trem yn Ôl in 1987). It is known that the bakery was originally a small cottage called Ty Cario. Wyn Hughes records that Robert Rowlands was the miller between 1892 and the closure of the mill in 1923. Rowlands employed one William Williams who was responsible for delivering the flour. Williams lived at Ty Cario and raised a large family in the tiny cottage. It thus appears that the cottage was converted into a bakery sometime around the turn of the century. The 1900 edition OS 25" map does not show the extension containing the oven but it is possible that the building had not been resurveyed since the original survey in the 1880s. The bakery was run as a conventional commercial enterprise as opposed to a community oven and was not abandoned until the 1930s.

It was discovered that the baker was still alive and living locally. A site visit was arranged and Oriel Ynys Mon interviewed and filmed him at the site. It is expected that a transcript of the interview will be provided and that the information will be integrated into the final report and interpretation materials.

Method Statement

The following method statement was prepared:

The aims of the project are to clear and consolidate the structure, and to provide access and on-site interpretation for public viewing.

The growth of vegetation and trees on the site makes it very difficult to identify a detailed procedure for achieving these aims, and it is therefore recommended that the work is carried out in three successive phases, clearance, consolidation and interpretation, where each phase is informed by the results of the former. The first phase is divided into two sub-phases.

Phase 1a Initial clearance

- i. removal of the mature trees growing on and adjacent to the structure
- ii. removal of the smaller trees and other vegetation on site
- iii. clearance of the ivy from the masonry (if it proves possible to do without damaging the structure)
- iv. clearance of the rubble from within and adjacent to the structure
- v. initial desktop analysis using map and documentary evidence
- vi. recommendations for subsequent phases

Phase 1b Archaeological excavation and recording

- i. archaeological excavation of the interior and immediate exterior of the structure
- ii. archaeological planning and recording of the bakery
- iii. report on excavations
- iv. recommendations for subsequent phases

Phase 2 Rebuilding and stabilising of the structure

(the amount of work undertaken in this phase will depend upon the recommendations arising from phase 1)

- i. taking down and rebuilding any unstable parts
- ii. rebuilding walls using fallen stone if there is sufficient evidence
- iii. repointing walls if required
- iv. stabilising the ovens
- v. creating a suitable floor

Phase 3 Interpretation and access

- i. designing on-site interpretation panels using the information gained in phases 1 and 2
(note: the same information could be used for a leaflet if required)
- ii. providing suitable public access onto the site.

The present report includes details of phases 1a and 1b and recommendation for phases 2 and 3.

Detailed methodology

The work was carried out by the writer and an assistant from Gwynedd Archaeological Trust. Tree felling and other groundworks were carried out by Walls and Fencing of Bethesda under the close supervision of the writer.

The trees growing on and around the bakery were cut down and the undergrowth was reduced. The ivy growing on the building was removed by hand; this was achieved with negligible disturbance to the *in situ* masonry. The interior of the building was found to be filled with a 0.4 to 1.0m deep layer of mixed rubble, humus, dumped rubbish and tree roots. After clearance of the ivy it became clear that the building was divided into two main parts, a single roomed bakery and a substantial oven set into and built out from the west wall. The overburden in the main room was found to consist largely of debris from the collapsed roof and upper walls and was manually excavated in one layer. The overburden covering the oven was carefully excavated as it was hoped that the 'structure' of the collapsed material would provide some information about the design of the oven.

The overburden was bound together with the roots from two semi-mature trees and numerous smaller saplings. These had caused damage to the standing masonry. The stumps and root systems were manually removed by excavation and a progressive cutting back of the roots. It was felt that mechanical removal by JCB or winching would have caused unacceptable damage to the standing masonry.

A store of stone and bricks was retained in order to provide compatible materials for use in the consolidation phase.

The excavated building was initially planned using a total station. Significant details were then planned by hand. A full photographic and written record was also kept.

Some of the rubble around the exterior of the building was removed by hand but the bulk was left for removal by machine at a later date.

Results

The basic outline of the building could be seen after removal of the trees and ivy. It was possible to differentiate between the main room and the oven which was standing at a higher level. The centre of the oven area was marked by a depression suggesting subsurface collapse. A deposit of humus and tumble from the upper walls was removed from the oven revealing a regular layer of collapsed brick masonry (Figs 1 and 2). It was thought that this originally extended across the whole of the oven but a large elder tree had been removed from the north-west corner and the root action had reduced the collapsed masonry to a random jumble of bricks. This rubble was removed along with the roots. Several bricks separated by shallow V shaped mortar joints were recovered during the excavation. The side walls that could be seen to be blackened up to a height of 0.36m were surmounted by a single course of bricks with mortar on the side facing into the oven. One brick was discovered still adhering to this mortar. This evidence along with careful examination of the pattern of collapse suggests that the bricks had originally formed a shallowly arching roof supported on the brick side walls. The collapsed brick structure was recorded photographically and removed along with the rest of the overburden from the oven area.

The main room of the bakery contained several tons of rubble bound together by roots. A small exploratory excavation was made revealing a fairly uniform deposit of rubble and other debris sitting on a stone or concrete floor. The only significant variation in the deposit was a concentration of slate just above floor level suggesting that the roof had collapsed fairly soon after abandonment. The rubble was removed by hand from the interior of the building leaving one substantial tree root. This was cut up using a felling axe. The roots had not penetrated the floor but had made small inroads into the southern wall apparently without causing any significant damage. Several substantial cast iron oven fittings including the oven door were recovered from the rubble. Also, the head of what appears to be a very corroded iron peel was recovered during clearance on the outside of the oven. A peel is a long handled shovel (Latin *pala* or French *pelle*: a spade or shovel) sometimes made of wood and sometimes of metal used to take loaves in and out of the oven.

The building could be seen to contain two phases of masonry (see fig. 2). The original cottage appears to have been rectangular with internal dimensions of 9.0m x 10.0m. The walls were constructed from lime mortared, irregular local schistose stones and were typically 0.6m thick. Large stones, some over a metre in length, were used at the corners. The main parts of the walls were, however, constructed from unusually small stones, many less than 10cm in length. Remains of a lime mortar render survive on parts of the interior walls. A blocked doorway, presumably from the first phase of building can be seen in the centre of the southern wall. The southern wall had only survived to a height of 0.4m to 0.6m so there were no surviving windows on this side of the building. A small (2.6m x 3.7m internally) lean-to extension abuts the west wall of the house and appears to be part of the cottage phase as the 1900 ed. 25" OS map shows the lean-to but no oven. The second phase of building is marked by the blocking of the central doorway and the opening of a new doorway at the western end of the southern wall along with the insertion of a stone extension into the eastern wall containing a substantial brick-lined oven (6.5m x 5.0m internally). The bakery floor is of concrete apart from a small area in the south-east corner that is roughly flagged. A regular pattern of cracks in the concrete suggests that it has been laid over stone flags and that stress points have occurred along the flag edges.

The oven, as noted above, originally had a vaulted brick roof. The remains of iron bracing survives around the outside of the structure. This was presumably installed in order to prevent the walls bowing out from the sideways pressure exerted by the brick vault. One of braces has rusted through and this may have precipitated the final collapse of the roof. The floor of the oven stands 0.9m above the floor of the bakery and is constructed from perforated tiles. The tiles have typical dimensions of 330mm x 330mm and have numerous small round perforations through the upper surface to a smaller number of larger cells on the lower. There were three different patterns of tile randomly distributed across the floor some (not all of the same type) bearing the stamp CATHERAL. There appears to be rubble beneath the oven floor and the tiles therefore seem to have had no function apart from providing a heat

resistant base. A similar tile can be found in the exhibition in Llynnon Mill. This apparently came from a corn-drying kiln. It therefore appears, particularly considering the mixed patterns, that the tiles were reclaimed from an earlier kiln and were reused because of their heat-resistant properties. The oven was heated by a fire box in the north-west corner. This feature had unfortunately been badly disturbed by the roots of the elder tree that had been growing directly overhead. The lower courses of the side walls of a brick-built chamber with dimensions in plan of 1.2m x 0.4m have survived. The surface of the bricks at the rear of the chamber was vitrified demonstrating that very high temperatures had been reached. The floor of the firebox comprises five square-section cast iron fire bars that appear to have been separate entities but have now rusted together. One further round section bar, substantially longer than the others, appears to be a reused piece of scrap iron that was inserted at a later date, perhaps to replace a damaged bar. The ash could fall between these bars into a substantial ash box (0.75m deep and roughly the same dimensions in plan as the fire box). The cast iron frame of the ash box remains *in situ*. The front of the fire box has been lost and there was almost certainly never a rear wall. These remains along with information provided by local residents allow a good estimate of the overall structure and function of the oven. The baker reported that the flue was at the front of the oven opposite to the firebox. A well researched historical section in *Building a Wood-Fired Oven* by Tom Jaïne (1996) identifies this style of oven as a side-fired Scotch oven which became current in parts of Britain during the 19th century (Fig. 3). The principal was simple; a fire was lit in the fire box, in this case using coke, and the flames and hot air were drawn around the oven and up the flue. The fire would be allowed to die down or go out, and the oven would be cleaned out and swabbed down with a wet mop-like implement in order to get rid of ashes and to produce a humid atmosphere conducive to baking bread. The bread would then be placed in the oven and the door closed. The bread would be cooked by stored heat radiated from the oven roof.

Current condition

Most of the mortar has eroded from the walls leaving, what is in effect, a dry-stone structure. Root action has further destabilised parts of the masonry. The stone work is generally loose and the wall tops are particularly prone to erosion.

Several additional specific problem areas can be identified.

- (i) The north wall. The upper part of this wall has bowed outwards and now overhangs the base by as much as 0.3m and must be close to the point of collapse.
- (ii) The firebox. This has been badly damaged by a combination of root damage and the displacement of the outer wall and the side walls are very fragile. Only a few bricks survive and these are poorly cemented.
- (iii) The front wall of the oven. This is a patched together structure of brick and stone with a rubble infill. The brick edging to the oven is disintegrating and parts of the base wall are also fragile.
- (iv) The brick oven wall. Parts of this, particularly at the front, are beginning to collapse mainly as a result of root action.

References

Jaïne T, 1996, *Building a Wood-Fired Oven*

Wyn Hughes E, 1992 *Looking Back: Anglesey Life in Bygone Days*

Appendix 1: Notes from an interview with Mr Harry Lloyd Williams, last baker at Llynnon.

Interviewed shortly before his death in 2001

Bakery operational from 1920s until 1939.

Oven holds 100 2lb. Loaves.

Building whitewashed inside and probably outside

There was a cast iron roof light

Flour kept in 144 lb cotton bags in leanto at W, half a ton at a time

Building had slate roof so did the oven extension

Oven details:

There was a handle on the oven door, initially this was used to tell the internal temperature.

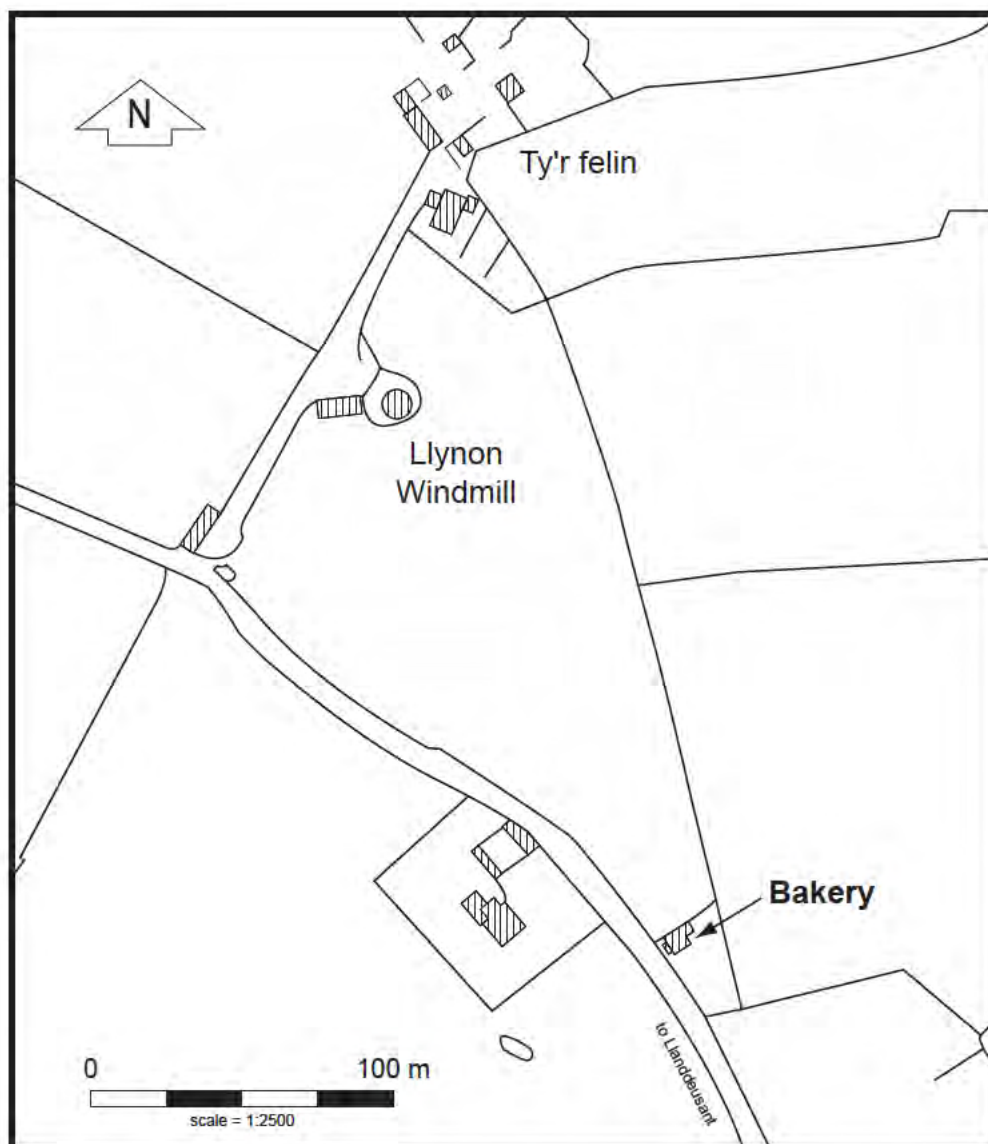
A 'steam gauge' was added later on.

The flue was at the front/south side of the oven and a damper perhaps with a d-shaped handle was used to close it when baking.

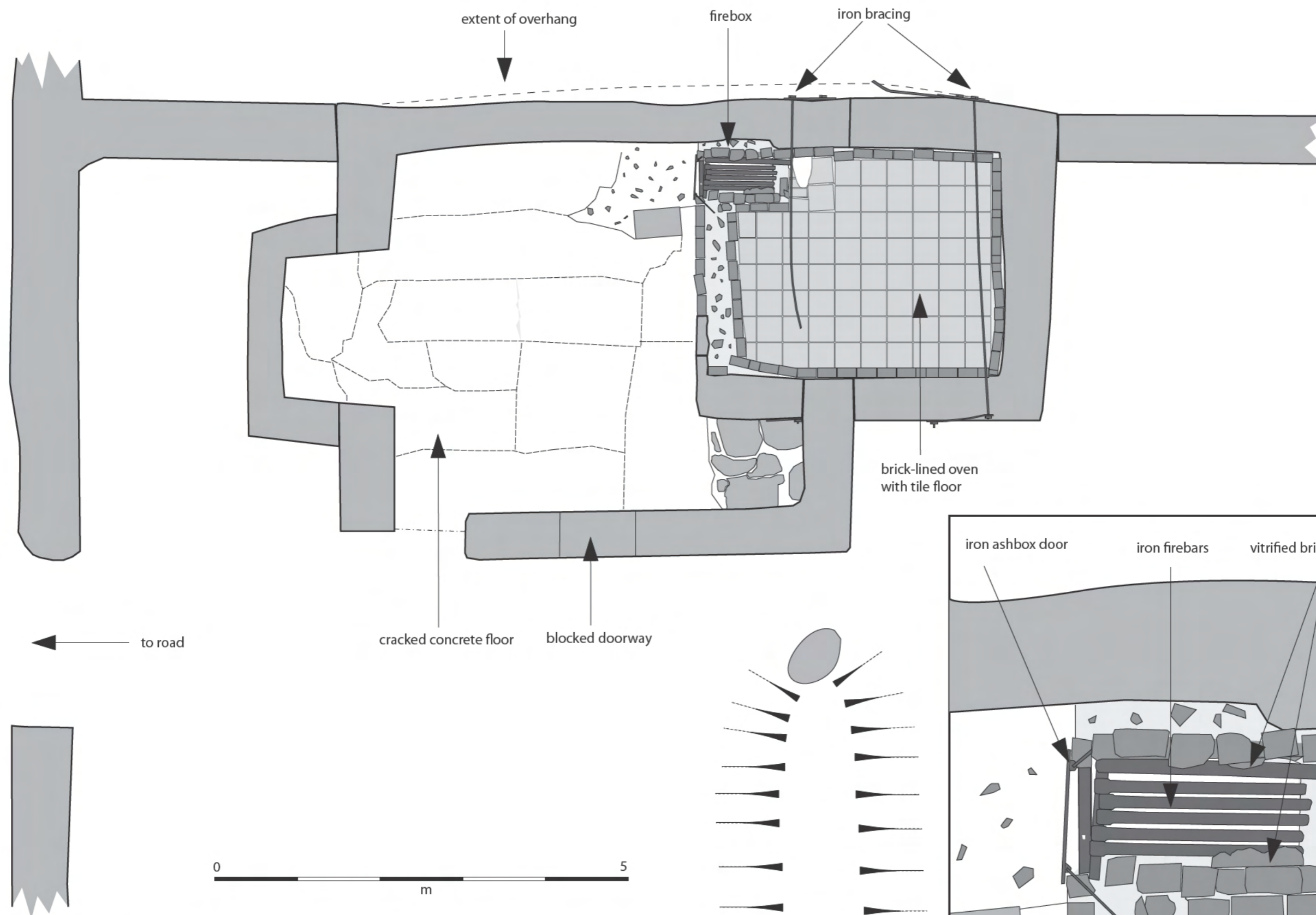
Dough was mixed on a table along the north wall

No sink just a bowl

The top of the oven was covered in sand to retain the heat



G1690 - Fig. 1 : Location of Llynnon Bakery



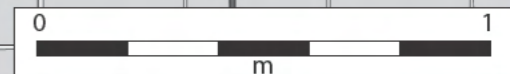
G1690 BAKERY AT LLYNON - ARCHAEOLOGICAL RECORDING
AND RESTORATION

Fig. 2 SURVEY OF STANDING BUILDING WITH DETAIL OF FIREBOX (INSET)

Client : Oriel Ynys Mon

Survey : D. Hopewell and D. Pepper 21.06.2001

Drawing : D. Hopewell



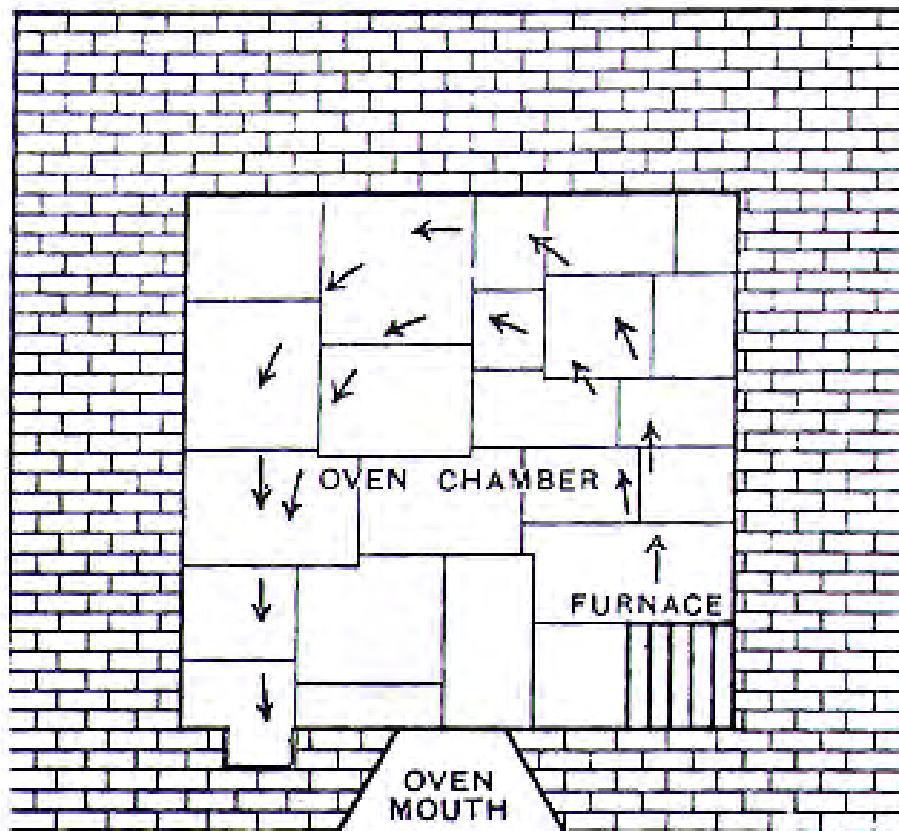


Fig. 3 A side-fired Scotch oven (from Jaine 1996)



Plate 1 The bakery after tree felling



Plate 2 The oven showing collapsed brick vault



Plate 3 The bakery after excavation



Plate 4 Elevation of the oven base and ash box

Appendix 2: Reconstruction drawings by John Hodgson



The cottage before it was converted into a bakery



THE BAKERY AT LLYNON, c.1910 • 2003 • GWYNEDD ARCHAEOLOGICAL TRUST •

The bakery



Cut-away of the oven