GLAMORGAN-GWENT ARCHAEOLOGICAL TRUST
CONTRACTS SECTION

EXCAVATIONS AT LLANTARNAM VILLAGE, GWENT

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N A PAGE

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GGAT Illustration Dept.

EXCAVATIONS AT LLANTARNAM VILLAGE, GWENT

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INTRODUCTION by N A Page

In support of a planning application by Welsh Office Highways Directorate (WOHD) for the preferred route of the Llantarnam bypass section of the A4042 Newport to Shrewsbury Trunk Road, the Glamorgan-Gwent Archaeological Trust was commissioned to undertake a desk-based archaeological assessment (Geake 1990) of an area between the modern village and Llantarnam Abbey surveyed and partly excavated in 1981 (Mein 1982). This initial assessment confirmed that the development might affect the site of the medieval village of Llantarnam. In response, WOHD commissioned the Trust to undertake an archaeological field evaluation to determine the nature and extent of any archaeological deposits in the area.

The evaluation (Maylan 1992) identified a number of roads and buildings of the medieval and later post-medieval settlement. As a result of the evaluation WOHD, in accordance with a brief prepared by Cadw: Welsh Historic Monuments, further commissioned the Trust to undertake selected excavation of the previously-identified structures and a survey of a standing building. This work was carried out in March-May 1993.

ACKNOWLEDGEMENTS

The excavation was directed by P J Lennox and N A Page who would like to thank the site staff, B Allen, S Allen, D Andrews, I Bowden, S Fletcher, R Linnard, A Smith, N Wilson and A Yates. The author would like to acknowledge the kind assistance of Mr Rick Turner of Cadw, Mr Ian Grindulis and Mr Chris Reading of the Welsh Office Highways Directorate, and Mr A J Parkinson of the RCHAMW for supplying technical information on the water mill without which it would have been difficult to interpret the elements of the mill structure with any certainty and Dr D Starley of the AML for commenting on the slag. The ilustrations were prepared by GGAT's Illustration Dept. Grateful thanks also go to the Trust staff for their invaluable assistance in the preparation of this report, including J Compton for finds sorting and cataloguing, S H Sell for editing the finds reports, and especially E M Evans for her help, comments and patience while editing the text. Any errors must however remain the responsibility of the author.

THE SITE by N A Page

LOCATION, GEOLOGY AND TOPOGRAPHY (Fig 1)

Llanfihangel Llantarnam is located 7.5km north of Newport, Gwent, on the southeast outskirts of Cwmbran town, on the old Newport-to-Pontypool road. Although it is still known as a village, encroaching urbanisation has effectively turned it into a suburb of Cwmbran.

The village is situated on the southeast end of a northwest-southeast ridge of undifferentiated river terrace deposits which lies in the "V" between two converging water courses. On its northeast side, the ridge slopes towards the flood-plain of the Afon Lwyd, whilst on its southwest side it slopes towards the flood-plain of the Dowlais Brook. At NGR ~~SO~~ ST 324 925, the Dowlais Brook joins the Afon Lwyd, which flows southeast until it joins the River Usk, c.0.5km upstream of Caerleon. The site is located on the extreme southeast end of the ridge, in an area formerly used as pasture.

METHOD OF EXCAVATION (Fig 2)

Initially the excavation examined three principal areas (Areas 1, 5 and 6), positioned to investigate structures identified during earlier work, three test sections (Areas 2, 3 and 4) positioned to section the line of two probable roads and the survey of a standing structure prior to its demolition. The excavation revealed a structure of medieval date (Area 1), and two post-medieval structures (Areas 5 and 6), including the remains of a water mill (Area 6). With the agreement of Cadw and WOHD four further test sections (7, 8, 9 and 10) were excavated to identify elements of the water management system that supplied the mill.

A watching brief during construction work allowed the investigation of a further area (Area 11).

The deposits were recorded using a single context sequence as laid down in the GGAT Manual of Excavation Recording Techniques: Part One: Site Recording (GGAT 1986), and are referred to in the text as three-figure numerals. Only key contexts are illustrated.

THE EXCAVATION by N A Page

PREHISTORIC ACTIVITY

Nineteen pieces of flint, both flakes and artefacts, dating from the Neolithic and Bronze Age periods, were recovered during the excavation. This number strongly suggests the presence of a settlement somewhere in the area. The majority of the flints were recovered from the bottom of the ridge on the northern fringe of the Dowlais Brook flood plain. Although most of the flints were unstratified, they showed no sign of abrasion; it would therefore appear that, whilst they had been disturbed by ploughing, they are unlikely to have been transported very far by water or soil movement.

The Dowlais Brook and Afon Lwyd river valleys would have afforded fertile land for the early agricultural communities, while the ridge provided a dry settlement site.

LLANTARNAM VILLAGE, PRE-1550

AREA 1

BUILDING I (Fig 3)

This structure, which measured in total 16.5m x 8.5m, was aligned north-south and consisted of three elements, an enclosure, a dwelling unit and a half-cellar. There were constructional differences between the three. This suggested that the structure was constructed in phases, although it is possible that all three elements were part of a single building programme.

Phase 1

The initial element consisted of three walls of identical construction and a single build which formed three sides of a rectangular enclosure. The north-south wall, 11.2m in length and 0.75m wide, was constructed from two skins of roughly-faced angular sandstone blocks with a core of rounded and angular sandstone rubble (006/500) To the west face of its north and south ends were bonded two east-west walls, 8m in length and 0.7m wide, (501 and 160 respectively). All of the walls were of dry-stone construction. There was no certain evidence for a western wall, although a short length of wall, 2m long x 0.4m wide, constructed from roughly dressed large sandstone blocks with a core of sandstone rubble was exposed during later work on the site and may have been part of it.

There was no indication that the ground had been levelled prior to building, and the foundations for the enclosure walls were constructed directly onto the subsoil.

Phase 2

The walls

Added to the south end of the enclosure was a rectangular structure, 8.5m long x 5m wide, which incorporated the south enclosure wall (160) as its north wall. Abutting this, at its east end, was a north-south wall, 0.5m wide, of which a single course of rounded sandstone cobbles (169) remained. Despite the cobbles having been roughly-faced, this wall was less uniform and cohesive than the walls of the enclosure and may have been partly robbed. Parallel to 169 at the western end of the north wall was a short length of wall, 1.8m x 0.4m, constructed from rounded sandstone stones (503). It is likely that at one time it abutted wall 160/502. The south wall was built in two sections: the first, 4.4m long x 0.98m wide, consisted of two courses of roughly-dressed rounded sandstone cobbles (139), whilst the second, 4m long, consisted of one course of rounded sandstone cobbles (159); this section was also narrower than the first. As

with the enclosure, the walls of this structure were built directly onto the subsoil (158).

The interior

The only internal feature was a circular spread of rubble and dark orange/brown silty clay 2.05m in diameter (172), which upon excavation was discovered to be the fill of a pit, 0.6m in depth, (190) (not shown). Some of the rubble consisted of roughly dressed stone. Artefacts recovered from the fill included medieval pottery (cat no 7) and nails. The presence of the nails and the building stone may suggest that the rubble resulted from the demolition of the building. The pit had been cut into the subsoil (158).

Phase 3

Abutting the south wall of phase 2 was a semi-subterranean D-shaped room, measuring 4.0m x 1.0m, bounded by a single curved wall. The east end of the wall was constructed from rounded sandstone cobbles (192), whilst the south section consisted of angular blocks and rounded sandstone cobbles (168) which had been roughly dressed to form an internal face. The wall, which was set into a bank of dark reddish-brown, very silty, clay (509), survived to a height of seven courses. Recovered from the upper level of the bank was a lead seal-matrix, dating from the mid to late 13th century (see below p000 for description). The western end of the wall, although damaged, displayed a slight curvature towards the north, and it is likely that previously it had butted wall 159 forming a complete D-shape. The base of the structure was paved with sandstone flagstones (423).

Overlying the flagstone base were a series of silty deposits indicative of periodic flooding. On top of the silt was a thin band of iron pan which, owing to its isolated nature, appeared to have been the result of the burial of wet deposits rather than the continuous movement of water between layers over a period of time (Limbrey 1975, 312). This suggests that the room was deliberately filled after water-borne deposits had covered the base.

The location of the room and its semi-subterranean nature would suggest that it was a half-cellar. The entrance into the cellar was not located, although it is possible that it was at the western end, in the area of disturbance and damage.

Discussion

The layout and construction of the building was identical to that of many of those identified in a previous survey of the area (Mein 1982), each consisting of two differently sized rooms, the smaller to the south. This seems to have been a local tradition,

although there is an example of similar form and date from the shrunken village of Merthyr Dyfan, South Glamorgan (RCAHMW 1982, 234-5). The excavated building differed from the others in possessing a half-cellar.

It has been suggested that the unmortared wall foundations of the Llantarnam buildings date to before 1550 (Mein 1982, 52).

DITCH (not shown)

Parallel to the west edge of Building I was a north-south ditch, 4.5m wide, (167): its full depth is uncertain. Six layers of the fill were excavated. Many of these contained rubble comprising roughly-dressed building stone, probably from the demolition of the nearby building.

The fact that much of the rubble found in the ditch fills appears to have been derived from the nearby building indicates that the ditch was open at the time that the building was going out of use. Post-medieval pottery recovered from some of the fills would suggest that the ditch remained open for some time afterwards. The size of the ditch is comparable to a much-recut example c.50m to the east recorded during the trial excavations (Maylan 1992). The function of the ditches is uncertain, although it would be reasonable to suggest that they were dug to channel water from this area to the Dowlais Brook during the increasingly wet conditions of the 14th and 15th centuries. Whatever their original function, it is likely they would have been utilised as boundaries, possibly to the property on which Building I stood.

GROUND SURFACE

Building I lay on the north edge of the Dowlais Brook flood-plain, an area prone to flooding until 1982, when two storage ponds were constructed to try to limit the problem. However, their construction has not fully alleviated the situation, as the area is still prone to severe waterlogging. A number of post-medieval and 19th century field drains cutting across the site show that drainage has been an ongoing problem in this area. The flooding has laid down extensive alluvial silts, which when wet become very soft, and as a result the upper levels of the deposits are easily disturbed. Any artefacts on the surface are likely to be trampled in during such conditions. In extreme conditions, such as flooding, the silts may become semi-liquefied, resulting in even greater disturbance of the upper levels. It would also be possible for artefacts to settle under their own weight into the semi-liquefied silt adding to the random distribution of artefacts in the upper levels of the deposit.

This was the case with the subsoil underlying Building I. It contained medieval pottery and a lead seal-matrix even though it appeared to be a naturally-formed deposit of alluvial silt. The effects of a rising water-table on Llantarnam are discussed below (p000).

There is evidence to suggest that the nucleus of the village shifted around the southeast edge of the ridge, onto higher ground opposite the abbey (see below p000). The medieval village appears to have been finally abandoned in 1536 after the dissolution of the nearby Cistercian abbey (fig 14).

LLANTARNAM VILLAGE, POST-1550

There appears to have been a period of approximately a century before the next phase of activity.

Two of the original buildings of the "new" Llantarnam village (see below p000) were excavated, revealing a northwest-southeast structure (Building III) of two phases that underwent a significant change of function, and the slight remains of a two-roomed building (Building IV) slightly to the south.

AREA 5

BUILDING III

Phase 1

Phase 1 consisted of a northwest-southeast three-roomed structure comprising a large central room (A), a southeast room (B) and a smaller northwest room (C). The excavated portion of the structure measured c.17m long x 5m wide.

Room A (Fig 4)

The walls

This room measured 10m x 5m. Its northeast wall, 0.6m wide, was constructed from two skins of roughly-dressed stones bonded by a pale yellow mortar (for discussion on the mortar see below p000) enclosing a core of sandstone fragments (025). Bonded to the north-western end of wall 025 was a short length of wall, 0.65m wide, of roughly-dressed sub-rounded boulders bonded by a brown clay (032). This wall was the dividing wall between Room A and Room B: It had been truncated by a massive channel (122) that divided the site (see below p000). Incorporated into wall 032 were two fragments of architectural stone, possibly from the original abbey buildings (cat nos 2 and 6). The wall was built in a shallow foundation trench (389). Recovered from below the wall on the base of the trench were fragments of early post-medieval pottery.

The southwest wall, 0.5m wide, was constructed from angular and rounded sandstone cobbles bonded by a pale yellow brown mortar (300). This wall was less cohesive than the others and had a flimsier appearance, possibly because of robbing. The wall was contained by a shallow foundation trench, 0.3m deep (398). The south-eastern wall, 1.6m wide, was constructed from two skins of dressed and faced angular sandstone blocks with a core of angular and sandstone rubble bonded by a moderately soft yellow/brown mortar (022). An integral fireplace, 1.8m long and 0.9m from front to back (023), constructed from flat sandstone slabs was positioned 0.8m from its southwest end. The gap between the fireplace and wall 300 formed the entrance to the room. The northeast end of the wall was possibly the base for a staircase.

The interior

The floor of Room A consisted of a layer of silty clay, 0.1m thick (456). No finds were recovered either from the surface or from within the layer, suggesting either that it was kept very clean or that it was a sub-floor, laid to provide a bedding for a flagstone floor.

Room B (Fig 4)

Both walls 025 and 300 extended southeast beyond wall 022 (where they were numbered 321 and 458 respectively) and under the southeast limit of the excavation. No evidence was recovered to suggest the function of this room, although possible uses include a kitchen, a dairy or a byre.

Room C (Fig 5)

The walls

A length of wall, constructed from lightly dressed blocks (426) with some remnants of an orange/red clay bonding material, appeared to have been the remains of the southwest wall. The apparent line of the northwest wall was indicated by a small number of flat sandstone slabs (437) and a small stone-built hearth, 0.8m long and 0.4m from front to back, constructed from flat sandstone slabs with pitched sandstone edging stones (427).

The area to the northeast of the Room C had been disturbed. This made it impossible to determine the position of the northeast wall.

The interior

In front of the hearth was an area of scorched clay and an accumulation of charcoal (547) which was the result of cleaning out the fire. It was not possible to determine a direct relationship between Room A and Room C, as both were truncated by channel 122 which divided the site (see below p000).

Associated features

External metalled surface (Figs 4 and 5)

Abutting the southwest wall of the hall was a roughly cobbled surface, comprised of sandstone cobbles and stones (326) bedded into a layer of silty clay (327). A similar surface (428) abutted the southwest wall of the inner room. Neither appears to have been a road surface, and are likely to be parts of the same surface. Cutting this surface was a shallow stone-built northwest-southeast drain (429). The drain and the nature of the cobbling suggest that surface 326/428 may have been an area of hard-standing in front of Building III.

Stone-lined pit (Fig 4)

Situated 5m northeast of Building III was a rectangular stone-lined pit, 2m x 1.5m x 0.64m (322), with a stone-lined drain, 0.5m wide, (339) leading away from its northeast end. The pit and the drain were constructed from roughly-dressed sandstone

blocks; traces of a red/brown clay adhering to some of the stones may have been the remnants of the bonding medium. The pit was cut into the subsoil and had originally been floored with sandstone flags (382), only some of which were still in situ.

Cutting the base of the pit was a shallow gully, 0.92m long and 0.4m wide with a depth of 0.18m (383). It was capped by fragmented sandstone flagstones (384). The clay/loam fills of the pit suggest deliberate filling at the time of the change of use of Building III.

The pit (322) is probably the drying chamber of a corn-drying kiln, and the drain (339) is a flue. An almost identical example was excavated in New Radnor, The Porth, Powys, where it was dated to sometime between the mid 13th century and the end of the 14th century (CPAT 1992, 11-12). There is nothing to suggest that the Llantarnam example is other than post-medieval in date.

Discussion

The layout of the building, with the entrance in the gable-end wall alongside a large fireplace, is typical of the hearth-passage house (RCAHMW 1988, 252-371) which was current between the early seventeenth century and the mid to late nineteenth century. This particular structure appears to date from the early part of this period. Hearth-passage houses had a fairly wide distribution in Wales, but were much more common in south Wales, in particular, the southeast (Smith 1975, 160).

Many pre-1700 examples of hearth-passage houses survive, and they form probably the biggest group of surviving post-medieval buildings in Glamorgan (RCAHMW 1988, 252). It would not be unreasonable to suggest that this is also the case in Gwent. The group can be divided into two types, the two-unit house and the three-unit house. The two-unit house comprised a hall and either an inner- or outer-room, whilst the three-unit house had a hall and both an inner- and an outer-room (Smith 1975, 160). The outer room was situated at the entrance end of the house and the inner room at the opposite end of the hall. Although the outer room had a range of possible functions, such as a byre, kitchen, dairy or parlour, it was effectively the entry chamber to the house as access to the hall was only possible through it.

Building III was a three-unit house and entered through an outer-room (Room B). The walls of the outer room were much less cohesive and uniform than those of the hall (Room A), although they did appear to be a continuation of the walls rather than a later extension.

Although no direct evidence for a stairway was recovered during the excavation, it is assumed that, if there was one, it would have been situated in the standard position at the opposite end of the fireplace wall from the entrance. The size and

construction of this end the wall would have supported a substantial stone-built stairway; however, in this case the fact that no traces were recovered may indicate that any staircase was constructed from timber.

Phase 2

A number of structural alterations to the building were made, implying a change of function. These were: the construction of a new internal wall, the insertion of a new fireplace and the laying of a new floor. A new range of outbuildings was also constructed against the northeast wall.

Internal modifications (Fig 6)

The new wall was constructed from small rounded boulders bonded with a brown clay (027). Only the southeast face and the core remained, the northwest face having been robbed out. It ran between walls 025 and 300 and effectively cut off the southeast end of the building, forming a corridor at the southeast end of the hall.

Constructed against its robbed-out northwest face was a convex structure built of brick and stone, c.3m in length and 1m across at its widest point, with a height of 0.09m (358). Built into the southwest end of this structure was a brick-lined hearth, 0.6m long and 0.2m from front to back (324). The northwest end of the structure had been damaged, so it was not possible to determine whether there was another hearth at that end. The bricks and mortar used in its construction were of types consistent with a date in either the 17th or 18th centuries.

In front of the hearth, a floor of hard grey mortar (030) had bedded into it sandstone flagstones, and two sections of a coarse-grained mill-wheel (362) (cat no D.7). Two of the flagstones (359) butted a reconstructed and strengthened section of the north-western wall (300). This reconstructed section formed a step, with the slabs laid as a threshold for an entrance into Room A.

Underlying the new floor was a pit, 2.1m long x 0.54m wide and with a depth of 0.54m (467). Within this was a narrow stone and brick-lined pit, 0.4m long and 0.2m wide and c.0.5m deep (376), which ran along the front of the hearth. At the bottom of pit 376 was a gully, 1m in length and 0.22m wide and 0.2m deep (548), which may have acted as a drain. The gully was filled with a layer of soft grey/pink mortar (468). Overlying this and filling the rest of the pit was a layer of stony silty clay (377). The function of pit 376 and the gully was unclear. It would appear from the amount of rubbish present in the fill of pit 467 that it was filled deliberately.

The phase with which pit 376 and the gully were associated with is not clear. Pit 467 was larger than would be expected if it was dug simply to allow the construction of the gully and the stone and brick lined pit 376. This suggests that the large pit (467) may have been re-used, although there is no evidence to suggest its original function.

The floor was overlain by two layers (318 and 360) of mixed bright orange and red clay, containing an abundance of charred wood and iron nails. This debris appears to have been derived from the demolition of the superstructure of the building.

Associated buildings (Fig 4)

The new buildings appear to have been timber-framed and possibly of "lean-to" construction.

A short length of masonry wall (357) was built on the the line of wall 032 and may have been an extension of it. It was 1.5m long and 0.4m wide, and consisted of one course of angular sandstone blocks. Only the roughly-dressed southeast face survived. Both walls 032 and 357 had been damaged and it was not possible to determine if there had ever been a direct relationship between them.

Another short length of masonry wall, 0.75m in length and 0.3m wide, consisting of one course of small river-boulders (355) similar to those used in wall 027, had been added to the northeast face of wall 025, 3.1m from its southeast end.

Butting walls 025 and 355 was a surface, 3.1m x 2.4m, constructed from sandstone cobbles set into clay (036). The northeast and the southeast edges of the surface were straight, as though they had been laid against a beam (see below), whilst the northwest edge was irregular and damaged.

Cutting the cobbles was a square-sectioned slot (351), 0.2m x 0.2m, aligned parallel to, and 2.1m from, the southeast edge. The slot connected two large circular post-pits, 442 at its northeast end and 444 at the southwest end. There was another post-pit (440) at the southeast corner of the cobbled surface. The comparable sizes of the post-pits and the similarity of the fills suggests that they were dug as part of the same construction event, and infilled as part of the same demolition event. Finds recovered from the fill of the post pits and slots were of post-medieval date, and included clay pipe stem fragments dating from c.1660 to c.1750 (cat no 2).

It was evident that slot 351 formerly contained a timber beam linking two timber uprights. Post-pit 440 would also have contained a timber upright; this upright would have been linked to the northeast upright by a timber beam positioned against the straight northeast face of the cobbled surface. A further timber

beam would have linked the southeast upright with the masonry wall 355. The beams would have supported the walls, probably made of some form of lightweight panelling, of a structure measuring 2.1m x 2.4m. A thin layer of coal-dust covered the cobbled floor, and for this reason the structure is interpreted as a fuel store (567).

Southeast of 567 was a row of post-pits (342, 343 and 344) that cut into the outer face of masonry wall 025: all were 0.4m in diameter with depths between 0.3-0.4m and were filled with a layer of stony, charcoal-flecked, dark brown silty loam (341) which contained post-medieval pottery and animal bone. This layer also filled two further post-pits (549 and 550) 3m to the northeast and covered the area between. This layer appears to have been laid down, after the buildings went out of use, to try to level the site.

Cutting post-pit 344 was a shallow sub-circular pit, c.1m in diameter and 0.07m deep, (391) filled with a layer of clayey, silty loam and flat sandstone slabs, including roofing stones, larger rounded sandstone stones, and fragments of seventeenth or eighteenth century brick and tile (390). Some of the tile had splashes of glaze on one side.

Clearly the post-pits represent the remains of a timber-framed building, but whether the building had solid walls or was open-sided is not clear. There was no evidence for any form of panelling but this cannot be regarded as conclusive.

Another row of three large circular post-pits (448, 450 and 452) was aligned parallel to the southeast (external) face of wall 022. The two outer post-pits (448 and 452) measured 0.5m in diameter and had a depth of 0.4m, while the central post-pit had a diameter of 0.3m and a depth of 0.45m. All the post-pits were filled with a dark brown loamy clay (447, 449, and 451 respectively). The phase of Building III's use with which they were associated is not clear.

Discussion

The alterations and additions to the original structure imply that the building, or at least the main ground floor room (Room A), was no longer used for domestic purposes. There was no evidence to suggest why this change took place, nor what process was carried out in the room after the change.

Although it cannot be proved, the construction and form of the new hearth suggested metalworking, albeit on a very small scale, possibly to deal with repair work for the mill or farm.

AREA 11

BUILDING IV (Fig 7)

Approximately 10m south of Building III, on the shoulder of the ridge, a spread of rubble indicated the likely presence of a further building (Building IV). Excavation revealed the slight remains of a two-roomed building, oriented northwest-southeast.

The walls

Within the rubble was a short length, c.2.6m x 0.4m, of a northeast-southwest double-skinned dry-stone wall (569), constructed from large rectangular blocks. When first seen, this wall was two courses high, but subsequent damage by earth-moving machinery removed the upper course before detailed recording was complete. Although only a small section remained, making interpretation difficult, it is probable that these blocks represent the remains of the southeast wall of a structure parallel to Building III.

There was no certain evidence for any other walls of this structure, although the north corner may have been indicated by a break in the rubble and by a change in soil colour between the probable inside and outside of the structure.

Internal features

The structure was laterally divided into two by a central partition. The surviving evidence for this partition consisted of a short length, 1.8m x 0.28m x 0.1m, of a beam slot (582) filled with a layer of dark brown silty loam, with frequent sandstone fragments and charcoal (583). Remnants of stone floors remained along either edge of the slot. On the northwest side, the floor was made up from rounded irregular stones bedded into a red/brown silty clay (577), whilst the stones on the southeast side were rectangular, flat sandstone slabs (589). These were also bedded into layer 577. The remaining section of stone floor 589 included a complete, but broken, stone roof tile. The size of the tile suggests that it came from a substantial building, and the likelihood is that it came from the medieval abbey.

Between the partition and the southeast wall of the building was a 1m square stone-built hearth (579). The hearth was aligned with its faces NNE-SSW, ESE-WNW, this meant that it was skew to the southeast wall and the central partition by c.25 degrees. This would indicate that the hearth was not necessarily contemporary with the wall or partition. There is no evidence to indicate its chronological relationship to the building. On the NNE and WNW sides of the hearth was an area of charcoal (580) resulting from fire clearance. The accumulation of charcoal on

two sides only suggests that the hearth may have been in corner, or at least accessible on two sides only.

Other features

The only other feature recorded was a possible posthole (581) 2m south of the hearth. Only the northwest edge of the posthole was visible, marked by a curved row of stones. Its estimated that the posthole would have been oval, 0.3m x 0.2m and aligned northeast-southwest. It was filled with a layer of orange/dark brown silty loam (585) and a large sandstone block.

Post-abandonment activity

The lack of structural evidence for Building IV implies that it was systematically dismantled and much of it removed from the site. A large number of iron nails recovered are most likely to have come from the dismantling of the superstructure. Following the abandonment of the building the site was levelled by the deposition of sandstone rubble. The rubble contained a large quantity of iron smelting slag.

Running across, and cutting, the north end of the rubble was a northeast-southwest trench, up to 1.6m wide, (573) filled with a layer of very mixed dark grey/brown/orange damp silty loam with frequent sandstone fragments, brick and tile and charcoal flecks (574). Cutting this trench and its fill was a smaller trench, 4.8m x 0.85m (575) filled with a layer of dark brown silty clayey loam with frequent sandstone fragments, brick and tile and charcoal flecks (576). Both fills contained similar artefact assemblages, consisting, in the main, of post-medieval material, but with some modern material.

Discussion

Although slight, the evidence recovered for Building IV is suggestive of a domestic function, and at least two phases of use. The sequence of the two phases is uncertain.

The slag deposited on the site along with the rubble was smelting waste. There was no indication where the metalworking was taking place.

Dating evidence for the building gives a late 16th century/early 17th century date. The re-used stone tile from the abbey suggests that it post-dates the rebuilding of the abbey towards the end of the 16th century. The majority of the pottery assemblage, which included a ?salt-cellar (fig 17 no. 8), would also support a date somewhere around the late 16th century/early 17th century. This is slightly earlier than the date of Building

III, and it can therefore be assumed that Building IV was one of the first buildings in the "new" Llantarnam village.

ABBEY LANE AND ASSOCIATED FEATURES

Parallel to the southwest wall of Building III and the supposed line of the northeast wall of Building IV was a road, the line of which had previously continued from the end of the present Abbey Lane towards the abbey. Two sections (one in Area 4 and one in Area 5) were excavated across the line of the road and revealed a well-made metalled road, with associated roadside ditches and a roadside wall. The first section (Area 5) extended from Building III across the line of the road, whilst the second (Area 4) was parallel to, and c.70m to the southeast of the first. The road and roadside wall were also encountered in three other areas (Areas 4A, 9 and 10). The roadside wall was also recorded in Area 11.

AREA 5 (Fig 8)

In this section the road was 5.5m wide and 0.2m thick, and was constructed from small sandstone cobbles and pebbles set in a sandy, gritty soil (367). The road was flanked on either side by a ditch. Artefacts from the ditches indicate that they were open during the time Building III was in use (details are available in the site archive).

The southwest ditch (336) was later replaced by a wall, constructed from dressed sandstone blocks bonded by a hard white/grey mortar (303) of a type introduced in the early eighteenth century. Included in the wall were fragments of architectural stonework from the original abbey buildings.

Overlying the full width of the road and the northeastern roadside ditch was a layer, 0.11m thick, of red clay (302) deposited to level the area after the road went out of use, presumably when the site was given over to agriculture. This layer was in turn overlain by a path, 3.8m wide and up to 0.1m thick, loosely constructed from small pebbles and grit bonded by gritty loam (305/307). This path was on the same line as the road, and may have been laid to provide access to the new fields.

AREA 4 (Figs 9 and 10)

A further section was excavated across the road some 70m to the southeast. This section revealed a sequence which in general was the same as in the first, although a number of earlier features were also recorded.

The earliest feature in the sequence was an ovoid stone-lined post-hole (406), measuring 0.4m x 0.3m and 0.28m deep, that cut into the underlying subsoil. Lining the post-hole were large rounded sandstone slabs which formed a post-pipe, c.0.2m in diameter (404), filled with a layer of silty clay. After the post-hole had gone out of use it was covered by a metalled

surface, 2.28m wide, consisting of sandstone cobbles set into a gritty sandy clay (409), that was cut on its southwestern edge by a northwest-southeast ditch, 1.52m wide and 0.35m deep, (400). Parallel to, and 0.1m from, the southwest edge of ditch 400 was a smaller ditch, 0.8m wide and 0.28m deep, (199).

Cutting the northeast edge of the metalling was a foundation trench (150) for a roadside wall, 0.6m wide and standing to a height of 0.4m, constructed from faced blocks of grey sandstone and bonded with a hard white mortar (141). The wall, a continuation of 303 (above), contained several pieces of reused architectural stone from the abbey buildings (details are available in the site archive).

Northeast of the wall the subsoil had been cut by two small northwest-southeast gullies. The first was 0.38m wide and 0.08m deep (183) and filled with a layer of dark brown clay (178). Overlying this was a metalled surface, 5.8m wide and 0.2m thick, constructed from small sandstone cobbles and pebbles set in compacted sand and grit (145). This was a continuation of the road 367 (above). The second gully, 3.1m to the northeast of 183, was 0.78m wide and 0.2m deep (184) and appeared to be a continuation of the northeast roadside ditch 337 (above). Covering the road was a layer of red clay (142), a continuation of the layer 302, laid to level the site after the road had gone out of use.

Artefacts recovered from the road surface have a date range from the seventeenth century, which supports the hypothesis that the road was in use at the same time as Buildings III and IV (details are available in the site archive).

AREA 4A

During later works on the site it was possible to investigate a further small section, 1.5m x 1.5m, of the road. Here it was 0.13m thick and constructed from sandstone pebbles, small cobbles and sandstone fragments (559). Underlying the road was a layer, 0.2m thick, of clayey silty loam (561), containing a large quantity of exclusively medieval pottery. A flint blade fragment of Neolithic or Bronze Age date was also recovered from this layer.

Overlying the road was a layer of red clay, 0.15m thick (558), almost certainly a part of the same layer as 302 and 142. On top of this was a layer of sandstone rubble, 0.1m-0.2m thick, comprised of rounded sandstone stones and dressed building stone (558). A small spread of large flat cobbles (148) recorded in the northeast end of Area 4 may have been an extension of this layer. Two linear arrangements of sandstone blocks were distinguished in the rubble (554). The first was aligned northwest-southeast and consisted of a line of sandstone blocks, some of which had been roughly dressed, bonded by a red clay

(555). The second, aligned at ninety degrees to 555, consisted of two very large sandstone blocks (556), laid in line.

As a result of the limited size of the excavation, it was not possible to determine whether the two walls formed part of a structure. However, the large number of sandstone blocks present, including some dressed building stones, suggests that there had been a building or buildings nearby. Previous survey work in this area (Mein 1982) identified several features interpreted as building platforms; this interpretation was supported by the large quantity of building stone spread around. Although the date of these buildings is uncertain, the large amount of medieval pottery recovered, together with the groat of the early 15th century found in the area by metal detector enthusiasts (Mein 1982, 49), suggest a medieval date, particularly as the only post-medieval finds recovered were from the road surface.

AREA 9

A small part of the road surface 1.2m x 1.0m, constructed from sandstone cobbles bedded in a layer of dark reddish-brown grit, (491) was uncovered in this area. It abutted a wall built from squared sandstone blocks bonded by an off-white mortar (488), a continuation of the roadside wall 141 and 303 above.

AREA 10

The only feature exposed in this area was a rough surface of sandstone cobbles set in an orange/brown silty grit (479). The surface was part of the road.

DISCUSSION

It is likely that there has been a road in this position since the medieval period. The remnants of an early metalled surface encountered in Area 4 may have been part of a road that led to a medieval settlement on the abbey side of the ridge. This was subsequently covered by a metalled road surface constructed some time during the early to mid 17th century.

AREA 6 (MILL BARN)

This building was recorded before demolition and part of its site was then excavated. It measured 16.7m long x 6.4m wide and was aligned northwest-southeast. Excavation revealed it to be a multi-phased structure which had undergone fundamental changes in the latter part of its history when it was converted from a water mill into a meeting house. For much of its history the mill building housed both a fulling mill (northwest end) and a corn mill (southeast end). Each mill had its own water supply and wheel.

Much of the dating of the building was based on analysis of the mortar. The mortar was divided into four broad periods based on its constituents. The periods were established by comparison with sequences developed elsewhere (Locock 1994; Locock forthcoming): a) 15th-17th century (low lime content, frequent sand); b) early 18th century (high lime content, rare sand); c) 19th century (moderate lime content, coal fragments) and d) late 19th early 20th century (use of soot and ash as bulking agent). The full report is contained in the site archive.

The most complete construction sequence was recovered from the northwest end of the building; in all, 5 phases of activity were identified..

PHASE 1 (Late medieval - early post-medieval)

Fulling mill

Part of two of the original walls were still standing: these were the southwest wall and the northwest gable wall. Excavation revealed the presence of part of the original northeast wall and the supporting wall for the end of the main axle and the tappet-wheel.

The southwest wall (201) and the northwest gable wall (205), which were of one build, were bonded by a soft mortar with a low lime content indicating a 15th-17th century date. They were constructed from two skins of split river-boulders with a sandstone rubble core. The two walls stood to the full height of the building. The northeast end of wall 205 was angled away from the building at forty-five degrees. A J Parkinson suggests this was to allow the washing liquids to drain into the tail-race (in litt). Wall 201 had traces of a central doorway which was probably original: its southeast jamb was formed from dressed and shaped river-boulders. The northwest jamb appeared to have been rebuilt in red brick during phase 4. In the lower half of the wall to the southeast of the door were two windows 1m square. There was no evidence as to whether they were original, although it was clear that they predated the conversion into a meeting house in phase 4.

Two short lengths (298 and 299) of the original northeast wall were uncovered. Wall 298 was 0.7m long and 0.39m high and constructed from lightly-dressed blocks and split river-boulders bonded by a soft red/brown mortar, similar to that used in walls 201 and 205, whilst wall 299 was 1m in length and 0.51m high and constructed from roughly-squared sandstone blocks bonded by a soft white/yellow mortar. This difference in mortar may be indicative of a slight difference in date, although this must remain conjectural. As a later wall had been built on top of 298 and 299 the relationship between the two is unclear.

Parallel to the wall 205 were two further walls, one 1.7m away (223) and the other 1.94m away (256), both inside the building. The composition of the two walls was different. Wall 256 was constructed from lightly-dressed blocks bonded by a soft dark brown mortar and was built against a bank of stiff, silty clay (294). The wall was 4.2m long and 0.45m wide, and the bank was 6.3m wide and 0.45m thick. The bank was formed during preparation of the site prior to the construction of the mill and it contained some redeposited medieval pottery. Wall 256 was 3.9m in length and 0.4m wide constructed from rounded sandstone blocks and bonded by a soft yellow/brown mortar (223). No deposits contemporary with this phase were noted either in the 0.24m gap between the two walls or the gap between walls 205 and 223.

Walls 256 and 223 supported the end of the axle shaft and the tappet-wheel, which may have rotated between them (A J Parkinson in litt). The gap between walls 223 and 205 was the base of the fulling pit; the twin stocks would have been mounted on the two walls. Originally the fulling pit had a flagstone floor (537).

Corn mill

At the southeast end of the building was a section of northeast-southwest wall, 1.5m long and 0.58m wide, constructed from flat roughly-dressed stones bonded by a soft pale brown mortar (248). This wall supported the end of the axle shaft and the foot of the vertical shaft. It also formed the inner wall of the pit for the pit-wheel. The base of the pit-wheel pit was formed from sandstone cobbles set into a layer of silty clay (252).

PHASE 2 (Early 18th century)

The original northeast wall was demolished, for reasons that are not apparent, and replaced by a new wall on the same line. A curved wall was built across the northeast end of gap (236) at the northwest end of the building. A new wall was also constructed at the southeast end of the building.

Fulling mill

The new northeast wall (203) had a foundation of rounded sandstone stones bonded by a hard grey mortar (269). This foundation was constructed on top of the remains of the earlier wall(s) 298/299. The wall was 14.65m long and up to 1m wide, (203). A chimney breast projected out 0.5m from the outer face of the wall, 3.4m from the southeast corner of the building. The chimney breast had quoins on both its outer corners. The original form of the fireplace could not be examined inside the building as the opening had been blocked. Traces of similar quoins could be seen incorporated into the wall 3.9m from the northeast corner of the building.

The curved wall, 2.45m long and 0.6m wide (289), which was bonded by a hard pale pink mortar was built from the end of wall 269 to butt wall 256. The constituents of the mortars used in this wall and wall 203 indicate that they belong in group b, dating to the early 18th century, although this does not mean that the walls were constructed at the same time. Indeed, wall 289 butts the foundation 269, and is therefore later.

On the assumption that gap 236 was fulling pit, it appears that wall 289 was built to divert the washing liquids out of the pit.

Corn mill

The new wall (260) extended out from the southwest wall, 2.8m from the southeast end. It was 2m long and 0.5m wide and constructed from river-boulders bonded by a hard white mortar (group b). Built into the wall, which survived to a height of 2m, were a number of niches and ledges. One ledge, 1.5m from the ground, may have been part of a window. It was 1.08m long and 0.3m wide. The other ledge still had a horizontal timber, 1.03m long x 0.25m wide, in situ. On the lower side of its southwest end the timber had a mortise. This was presumably to fit a tenon from an upright timber positioned in a vertical niche below the ledge. Another niche directly above this one would probably have held another upright. The niches and ledges held timbers that supported the framing for the spindles under the stones (A J Parkinson in litt).

Within the building remnants of two clay floors (278 and 280) were recorded. Judging from the finds, they belong to this phase, but this could not be confirmed stratigraphically because they did not relate to any of the walls.

PHASE 3 (19th century)

It was during this phase that a number of large-scale alterations and reconstructions took place. These included the addition of an extension to the northwest end, the blocking of gap 236, and the construction of a water culvert in order to channel water towards the tail-race at the northwest end of the building. One

result of these changes was to block the fulling pit (236). At the southeast end a new wall (204) was built against the outer face of wall 260, and a new wall was also constructed against the outer face of wall 248. New windows were inserted in the northwest wall to match those in the extension. Two internal walls were also constructed.

The extension added 3.3m to the length of the building. The northwest and the southwest walls were still standing at the start of the project, as was wall 204. The other walls had been demolished, probably at the end of the century.

The stones used in the construction of most of the walls were again river-boulders but, whereas in the previous phases working was confined to splitting the stones, in this phase the blocks had been lightly dressed and shaped. The new southeast wall (204) was constructed from split boulders, either to match the existing walls or because it was earlier than the others. The mortars all belonged to group c; there was a wide variety of colour, but this in some cases may be without any significance.

It was clear, however, that there was some modification during the course of this phase. This could be seen in the demolition of the two internal walls and the insertion of a number of openings in the extension wall (probably contemporary with openings in the northwest wall).

Phase 3A

Fulling mill

The fulling pit (236) was blocked by the insertion of a wall (247), 0.8m long and 0.36m wide between walls 205 and 223. The outflow channel was blocked by the construction of a wall (513), 1.8m long and 0.8m wide, across the gap between wall 205 and 289. Although the constituents of the mortars used in these walls were similar, the mortar themselves differed in colour, indicating that the the walls were not necessarily built at the same time. The tappet-wheel was removed and the 0.24m gap between wall 256 and 223 was filled with mortared stone (246), effectively making one wall, 1m wide.

After the ends of the fulling pit were blocked, a stone-built pad, 1.4m long and at least 0.4m wide and 0.06m thick (288), was constructed on its base. Another pad, 0.4m wide and 0.14m thick, consisting of moderately soft pale grey mortar (254) was constructed over the northwest half of the base of the pit. It also covered part of 288. The function of the pads is unclear. Overlying the lower of the two pads (288) and abutting pad 254 was a layer of squared stone blocks (255) which had been bedded into a layer of clay silt, 0.08m thick, (285). The stones appear to have been laid to act as a form of soakaway. Pottery dating to the mid nineteenth century recovered from layer 285 give a terminus post quem for its deposition.

The southwest wall of the extension (257), 0.5m wide, continued the line of the southwest wall (201). The northwest wall (202) was 6.45m long and 0.5m wide and bonded to wall 257. Later alterations, inside the extension, especially the construction of a concrete grain dryer (225) made its original purpose unclear, although it may have been built to enclose the wheel. There was no evidence that there had ever been a direct connection between the extension and the rest of the building.

Running from the northwest corner of the original building towards the tail-race was a stone-built arched culvert (271) measuring, internally, 1.5m from its base to the bottom of the vaulted roof and 1.08m wide. The base of the culvert was covered by 0.15m of water-borne silt deposits. The culvert was badly damaged during the 1960s when a cesspit was dug through it some 12m from the corner of the building.

Corn mill

A new wall, 0.45m wide, (232) was erected against the outer face of wall 248 widening and strengthening it. This widening and strengthening of the wall may indicate the installation of a larger, heavier great spur wheel; possibly a change from wooden to cast-iron gearing. The southeast wall of the building was replaced by a new wall 6.4m long and 1.1m wide (204). This wall had an opening built into it at a point corresponding to the end of wall 260 for the main axle.

Interior

There were two stages of internal modifications. The first was the creation of two chambers (A and B) on either side of the central space (C). In the second stage the chambers went out of use and the interior reverted to being a single space.

Just over 0.5m northwest of walls 248 and 232 a new wall, 0.68m wide, (267) was constructed. Incorporated into it were two large fragments of architectural stone (cat no A.1 and C.) which probably came from the abbey buildings. A corresponding wall, 0.92m wide, (243) was constructed (3.6m) to the northwest.

Chamber A, 0.9m wide, was between walls 243 and 256. Its base, which overlay the early make up deposit (294), was a stone surface consisting of very large sandstone blocks set in a brown clayey loam (266). Some areas of the floor had been repaired with sandstone cobbles. Also incorporated into the surface was a section of a millstone made out of Millstone Grit; when complete the millstone would have been c.1m in diameter. (It was not lifted and is therefore not included in the catalogue below). It is not clear whether the millstone was an original element of the surface or a later addition. This surface did not extend over the entire chamber. Its northeast edge was marked by a row of

roughly squared blocks, set into a red/brown silty loam (287) and formed the edge of a northwest-southeast drain, 1.6m long, 0.44m wide and 0.19m deep (286). The other edge of the drain was formed from rounded stones bonded by a soft red brown mortar (281). Between the northwest edge of the drain and wall 203 was a dump of rubble and soil.

At the southeast end of the building was a similar chamber (B), 0.5m wide, between walls 267 and 248. There was no sign of a corresponding stone surface in this chamber. The central area, 3.6m wide, between Chambers A and B, contained a sequence of make-up layers and floor surfaces. It was not apparent which of the floors were contemporary with the chambers.

External features

Looping around the southeast end of the building was a stone-built channel (206), 1.4m wide, with a steeply sloping base. The channel cut across the southeast end of wall (201) and turned in towards the southeast wall (204) of the building: it did not reach the end wall as it terminated in a vertical drop. It was not excavated to its full depth, and the destination of the water could not be determined, although it is likely that it fed into the old wheel-pit.

The precise function of the channel is uncertain, although it may have been an overflow.

Phase 3B

The work undertaken in this phase consisted of the insertion of seven openings in the northwest and northeast walls, the remodelling of the chimney breast and the demolition of the two internal walls.

External walls

Three of the four new openings in the extension walls were headed by segmental arches of red brick set as either stretchers or alternate stretchers and pairs of headers. Two of the openings on the northeast wall had similar arches and for this reason they are assumed to be contemporary.

The openings in the extension were confined to the end wall (202) and are described here from the northeast. A window, 1.3m high x 0.7m wide, was positioned 0.6m from the northeast corner, 2m above ground level. A further 1.3m along was another opening, 1.2m wide, all but 0.5m of which was below the present ground level. A further 0.8m along the wall was a doorway, 1.3m wide and 2.5m high. Its position, 0.5m above the present ground

level, indicates either that the ground level has changed or that there was originally a set of steps leading to the door.

Centrally positioned, and 3.1m above the ground surface, was a smaller opening, 1.1m wide and 1.3m high. This opening had no brick arch.

In wall 203, the chimney was modified and three openings were inserted: these alterations are described heading west from the southeast. The first opening was a doorway between the corner and the chimney breast of Phase 2. It was 0.7m wide and 1.7m high and headed by a timber lintel, 0.15m square. Although it is not certain, it is possible that this opening was inserted to allow the gear from the electricity generator, installed between 1888 and 1901, to enter the building. The details of the modification to the chimney breast were obscured by a barn standing against the wall, but it could be seen that the original chimney had been demolished above the height of 3.3m and that a much narrower (0.65m wide) chimney had been built above in brick.

The northwest edge of the original chimney breast formed the southeast jamb of an opening, 1.5m wide and 1.7m high headed by a red brick arch. The opening was subsequently partially blocked by the erection of a wall, 1.05m high, which was capped by two courses of chamfered bricks making a decorative sill. Another opening, 0.8m wide and 1m high, with a brick arch was positioned some 8.5m from the northeast corner and 2.7m above ground level. Its position meant that it was approximately at floor level on the upper storey.

Interior

Filling the drain and the northeast end of chamber A was a layer of orange silt (277). Overlying this and the rest of the chamber floor was a layer, 0.45m thick, of sandstone rubble and mixed silty clay loam (245) containing a large quantity of late 19th century and early 20th century pottery. Chamber B was filled by a number of silty loam deposits (296, 241 and 230). A cross-context match between pottery sherds from layers 241 and 245 (not published) show that the chambers were filled in a single operation with material from the same source. Walls 243 and 267 were demolished to the same level as the top of the chamber fills.

Within the area between the two chambers was a layer of make-up, 0.18m thick (242), for a well-made floor of cobbles (211). The northwest end of the cobbled floor 211 had been slightly damaged, and the southeast end had been truncated by the insertion of a brick-built drain, 0.14m wide (210), which ran from the southwest wall of the mill across the cobbled floor. Because of the damage to the floor it was not possible to tell how far the cobbles extended over the chambers.

Overlying the cobbled floor and filling the drain was a layer of silty clay loam (216/220), and two small patches of black gritty silt (217 and 221). Finds recovered from the bedding layer (242), the floor itself and the overlying layers indicate that the floor was in use during the late 19th century, when the building was still used as a mill.

DISCUSSION, PHASES 1-3 (Fig 11)

It is likely that there has been a mill associated with Llantarnam Abbey almost since its foundation. At the time of the dissolution (1535-6), there were two mills recorded in Llantarnam, a fulling mill and a grain mill (Geake 1990, 4; Maylan 1992, 10). Although the site of these mills is not known, the excavated mill, which dates from the early to mid 17th century, did not appear to re-use an earlier site.

In 1888 the mill was described as having two breast-shot wheels and four floors (NRL qM310 900 DEE), and on the 1846 Llanfihangel Llantarnam tithe plan, water courses are clearly shown at each end of the mill (GCRO D917.CC1). It has been pointed out by A J Parkinson that as the standing building had only two floors, it is likely that in the 1888 description the number of floors was calculated as being two floors per mill, which meant that a two-storey building could in effect have four floors (in litt). A blocked doorway, visible 0.5m above the present ground level, in the northwest wall (phase 3) probably indicated the floor level of the extension. This was the same height as the meeting house floor. No evidence for the missing floors was recovered during the survey. However, the plaster was preserved throughout the interior of the building, so any evidence, such as rows of joist holes, would have been obscured. The eaves height was lower than in phase 4: the line of the earlier gables was visible in the southeast and northwest walls.

For the wheels to work at their most efficient, the water was fed in a straight line to the wheel, dropping into a series of buckets on the outside of the wheel, which was set in motion by the weight of the water (Rynne 1989, 26). Once in motion the wheels turned an axle shaft that was connected to a tappet-wheel (fulling mill) and a pit-wheel (corn mill).

Fulling mill

The tappet wheel mounted on the end of the main axle drove the fulling stocks.

Corn mill

From the pit-wheel the drive was turned through ninety degrees by the introduction of the wallower (a horizontal wheel with a

bevelled edge). The wallower was attached to the vertical shaft which turns the great spur wheel. This in turn drove the spindles for the millstones on the floor above.

WATER MANAGEMENT SYSTEM, PHASES 1-3

The water system for the mill consisted of a mill-pond fed by two leats. A series of sluices controlled the flow of water to the mill. The overflow around the southeast end of the building is described above, as it was possible to assign it to a specific phase, unlike the features described below.

The mill-pond was located at NGR ST 3088 9309 and was fed by two mill-leats. One left the Afon Lwyd to the north of Court Farm (NGR ST 3028 9421) and the other left the Dowlais Brook at Court Wood (NGR ST 2992 9352). The second ran alongside the Greenhouse Public House before feeding into the mill-pond (Maylan 1992). In 1904 this leat was the subject of a minor dispute between Clifford John Cory, the owner of the abbey estate, and one Priscilla Lawrence and others about the height of the weir and the amount of water flowing past the Greenhouse public house. It appears that at this time the leat had almost completely silted up and the water was therefore overflowing until Clifford Cory had the leat cleaned (NRL qM310 900 DEE). It was still clearly visible as holding water on the early (1946) aerial photographic coverage.

From the pond, the water was directed under Abbey Lane and either side of the mill to the two wheels, possibly through stone-built culverts similar to 271 (above). A length of masonry (487) uncovered in Area 9 appeared to have a slightly arched profile and may have been a part of one of these.

Test sections excavated to investigate the water management system encountered only a spillway that looped south of the mill, crossing area 5, from the mill-pond before joining a tail-race that ran into the Afon Lwyd at NGR ST 3144 9318 (1901 OS 2nd edition 25 inch sheet). All traces of its form in this phase were lost when the channel was widened and deepened in phase 4 (see below). The tail-race was still visible as a depression alongside the modern fence southeast of the mill. The spillway was a shallow channel 1.2m wide and 0.5m deep (476) filled with three layers. The lowest two (484 and 483) contained gravel and rounded sandstone stones, whilst the upper fill (482) contained angular fragments of sandstone. The angular nature of the stones in the upper fill suggest it was deposited after water had ceased to flow along the channel, whilst the rounded stones and gravel in the lower deposits are indicative of having been in running water. Quite when the spillway was finally filled is unclear, although cartographic and aerial photographic evidence shows it to have been sometime between 1946 and 1960.

PHASE 4 (Late 19th - early 20th century)

During this period, the mill was converted into a meeting house. Very few alterations were required: they consisted of the blocking of the old windows and other openings, and the insertion of new decorative windows and doors in keeping with its new use. A new wall was built at the northwest end of the building to block the water culvert. Another wall was constructed and a metal water pipe inserted at the southeast end of the building. The fulling pit and the pit-wheel pit were filled in.

A new wall, 2.3m long and 0.6m wide, (258) extended southeast from wall 202 on the line of the northeast wall (203). The insertion of this wall could only have been done if the culvert (271) was no longer in use. It is clear from cartographic sources (1901 OS 2nd edition, 25 inch sheet) that water was supplied only to the southeast end of the building after it had been converted.

A wall (259), 1.9m long and 0.5m thick, was erected against the inner face of the southeast wall (204), on the line of wall 260. This wall and wall 260 (which underwent some reconstruction) were used to support a metal pipe (261) inserted to carry water to an electricity generator which provided lighting for the meeting house. The opening in the southeast wall (204) was also blocked during this period: this clearly showed that the wheels were no longer used and had been dismantled, as does the deliberate filling of the fulling pit and the pit-wheel pit. The fills of both pits contained almost identical artefact assemblages (not published) confirming the date for the filling as the late 19th century.

All but one of the openings in the northwest wall (202) were blocked, as was the window in the northeast wall (203). The openings on the southeast and southwest walls were also blocked, although it is not certain whether it was in this period or earlier. The openings were blocked with split river-boulders, possibly derived from the walling demolished for the insertion of the new windows and doors. The roof height was raised by c.1m, possibly to improve the proportions of the meeting house.

Upper floor (Fig 12)

The meeting house occupied the whole of the upper floor but was accessible at ground level on the southwest side. The upper floor of the extension had a separate door similar to the meeting house door but no attempt was made to change the style of the windows. For this reason it is unclear what relationship the extension had with the meeting house, if any.

The doorway to the meeting house was located 5.6m from the northwest corner of the building. The opening was 1.5m wide and 2.5m high with a four-centered arched head. The door jambs

consisted of decorative sandstone quoins, with the lowest quoins ending at the raised threshold 0.07m above the present ground surface. The arch above the door was initially built in brick and faced with the decorative quoin-work as part of the same operation.

The double doors were probably original. Each door had what appeared to be a decorative strap end extending its full width from the upper hinge. These straps did not appear to be functional.

Another doorway of identical construction was positioned between the one described above and the northwest corner of the building. The only evidence for this door was a 1956 photograph in a locally produced scrap-book on the history of Llantarnam (Dovey and Waters 1956, 132).

Two 1.5m square windows were inserted 2m and 5.6m southeast of the surviving door. Both windows had a decorative sandstone surround consisting of a sill, lintel and quoins. Within the opening the northwest window was divided into three lights with rounded heads by the insertion of a timber frame. The corresponding frame was missing from the other window. Two identical windows were inserted in the northeast wall, 1.7m and 8.8m from the southeast corner of the building.

A large central window, 1.7m x 2.5m, with a four-centred arched head was inserted in the southeast wall (Fig 13). The window opening was also divided into three lights by a timber frame. Most of the windows retained their glazing of diamond-shaped leaded panes.

Identical sandstone air inlets were inserted into the southwest and northeast walls. The 0.25m-square opening were covered originally with a decorative metal grill. Two vertical ventilation slits were inserted into the tops of the southeast and northwest gables.

Internally the meeting house consisted of one large room 11.9m long and 5.26m wide. The floor was boarded, and the lower part of the walls were panelled with tongue-and-groove boards. Above the panelling, the walls were plastered.

The roof structure was continuous over the whole building. It was supported on three gable walls, two external (202 and 204), and one internal (205), between the meeting house and the extension, and on four principal rafter trusses, all in the meeting house. The trusses were of nailed construction and apparently without joints. The triangular space within each truss was filled with decoration consisting of a cross-member supported by two posts: the angles between these timbers, and the top angle of the truss, was further embellished by ogival wooden inserts. Two purlins, one on either side, ran the length of the building. A centrally-placed timber structure, built from

tongue-and-groove boards, with a square aperture in its lower surface, may have been for either a bell or ventilation, but there was no visible opening in the roof. The roof was covered by slates.

Lower floor

As with the upper floor, the lower floor had separate entrances into the area below the meeting house and into the extension. Entrance into the area below the meeting house was through a doorway 2.6m wide x 2.5m high, 4.5m from the northwest corner of the building. The jambs and flat head of the opening were constructed from brick. The head was constructed from two courses of headers and one course of stretchers. No evidence for a lintel was recovered, but there must originally have been one, possibly framed in with the jambs. There was no evidence for any doors. A smaller doorway, 1m to the northwest, led into the extension. This doorway was 1.2m wide and 2m high, and looked as though it originally had a brick surround the same as the other entrance, but a timber lintel, 0.2m square, had been inserted.

Covering the whole of the interior of the lower storey was a layer, 0.1m thick, of rubble and mortar (209) that acted as hard-core for a concrete floor, 0.08m thick (208).

Water management system

The mill-pond and the leat that passed The Greenhouse public house survived into this phase. It is likely that the other elements were decommissioned during the reorganisation of the system to supply water to the electricity generator. It was probably during this activity that the spillway was widened and deepened where it crossed Area 5, apparently as the result of an accident. Cartographic evidence shows that this event took place sometime between 1888 and 1901. The new channel (122) was c.3m wide and 2.5m deep (see above p000). The difference in size between the spillway and the channel suggests that a large amount of water was allowed to gouge its way across Area 5. In order to install the new metal pipe to the generator and the sluices required for it to function properly, it would have been necessary to halt temporarily the outflow of water from the mill-pond. This, in turn, would have meant an increase in the amount of water flowing into the spillway. Whether the large channel was caused by the steady but increased flow, or whether it was caused by a single event, such as the breaking down of the dam releasing a vast amount of water at once, is not certain. The latter is more likely to have produced a channel of this size.

The metal pipe (261) was found <u>in situ</u> in two separate areas, in the Mill Barn where it was supported by two walls (259 and 260) at the southeast end, and at the end of Abbey Lane. Sluices and

other water management gear for the pipe were located in the area now covered by a nursery.

The base of channel 122 consisted largely of river boulders with some stone-free areas of silty clay marl. Many of the boulders were stained bright orange, presumably because of the high iron content in the water and possibly because the water was often standing. It was filled with several layers of dark brown/black gritty loam which contained massive amounts of early 20th century household and farm refuse. Laid into the surface of the modern fills was an alignment of stone blocks (121), which included two segments of a composite millstone made from French Burrstone (cat no D 8). It is likely that the stones were laid as stepping stones across the soft channel fills during wet periods after the channel had gone out of use.

Associated features

A stone-built structure consisting of two short lengths of parallel walls (180) in the eastern side of channel 122 appeared to form a chute. The lower fill of the structure, a layer of silty clay and gravel indicative of having been subjected to water action, contained pottery dating exclusively from the 18th century, a hundred years earlier than the suggested date for the channel itself. This is probably redeposited material. The upper fill (182) contained artefacts with a date range that fits with that of the artefacts recovered from the fill of the channel. It is possible that the structure was part of a bigger, earlier structure which was either deliberately dismantled or destroyed during the formation of the channel.

PHASE 5 (20th century)

During this period the alterations to the building were largely connected with agriculture and included the blocking of a window in the southwest wall with breeze blocks and brick, and the erection of barns against the southwest and northeast walls.

During the 1960s the extension was converted into a grain drier by the construction of a concrete hopper (225), and the destruction of part of the southwest wall to allow grain to be tipped into the drier. The overflow (phase 3) was filled with very modern domestic and farm refuse (207). The water culvert was also damaged during this period by the insertion of a cess-pit.

CONCLUSION AND DISCUSSION (Fig 14)

MEDIEVAL PERIOD

It is difficult to date the origins of the village of Llanfihangel Llantarnam. However, there are indications that it pre-dates the foundation of the abbey in 1179. The prefix Llanvihangel is generally regarded as being of Celtic derivation (D Williams *in litt*): this suggests there was some form of pre-Norman focus in the area. Two Norman chancel arches in the village church also suggest settlement prior to the creation of the abbey.

The excavation revealed that by the mid 13th century there was occupation on the northern fringe of the Dowlais Brook flood-plain. This area of the village was surveyed by Mein (1982) who was able to demonstrate that it displayed some signs of planning, since many of the buildings were of the same design and construction and on a similar alignment. Other areas, however, seem to have grown organically. Building I appears to have bee situated on the extreme western edge of the "planned" element of the village.

The excavated buildings had the appearance of being deliberately dismantled: the lack of superstructure evidence from Building I and the pushed-over walls of Building II (Maylan 1992, 6) indicate that the buildings were not allowed simply to decay but were systematically dismantled.

There are two aspects of the location of the village that require discussion, its relationship with the abbey, and its relationship with the local hydrological regime.

The village and the abbey

The village was situated on land belonging to, and in close proximity to, the abbey of Llantarnam. It was customary for the Cistercians to ensure there was no settlement planted immediately at their gates (Beresford 1967, 42); indeed, they even went so far as to remove settlements that were too close when setting up one of their houses (D H Williams *in litt*).

If the village was a planned settlement it would have been the abbey that sanctioned its development. There would have been an intrinsic economic motive for its creation: it would have provided rents, tithes and a convenient labour force. Even so, the development of a settled community so close to the abbey was unusual. It had been suggested that the origins of the village may date to the agrarian crises following the plagues of the mid 14th century, although the excavated evidence suggests its origins may have been at least a century earlier.

The village and the natural environment

The location of the settlement on the northern fringe of the Dowlais Brook floodplain suggests that the ground conditions were significantly drier than at present (see above p000).

Dates from the artefacts recovered suggest that the village was in use by the mid 13th century during the period of the medieval climatic optimum (c.1150 to 1300: Lloyd-Jones 1984, 9-10). Average temperatures during this period would have been generally 0.5-1 degrees Centigrade higher than at present and the area would consequently have been much drier. But by the end of the 13th century, the climatic optimum was over, and throughout the 14th century the climate deteriorated (see for example, Platt 1978, 95; Lloyd-Jones, 1984, 9-10; Parry 1985, 354), becoming much wetter and colder, a deterioration that continued until the beginning of the 18th century (Parry 1985, 35). On its own, a drop in the average temperature of the region would not have had a particularly dramatic effect on communities situated in river valleys, but the increasing wetness would have had a significant impact on the community (cf Wythemail, Northants.: Hurst and Hurst 1969, 181-2).

It appears that there was a shift in the nucleus of the village, from the north fringe of the Dowlais Brook flood-plain around the southeast end of the ridge, onto the higher ground opposite the abbey. Medieval pottery and a 15th century groat (Mein 1982, 49) have been recovered from this area. There is no secure dating evidence to establish when the lower village was abandoned.

It is not certain how long the upper village survived, although it had been abandoned before the early 17th century. It is likely, although not proven, that this abandonment was in the first half of the 16th century, at the time of the dissolution of the abbey in 1536.

POST-MEDIEVAL PERIOD

It was not uncommon after the Dissolution of the monasteries for entire communities to be moved off land that formerly belonged to the religious houses, and the village of Llantarnam would have been particularly vulnerable to this sort of upheaval because of its close proximity to the former abbey. The abbey and its estate were given by Henry VIII to John Parker, one of his trusted courtiers (Gray 1989, 9).

By 1554 the land was in the possession of William Morgan, passing on his death to his son Edward, who towards the end of the century replaced the original abbey buildings with a mansion. The construction of the mansion appears to have been the start of a programme of investment that enabled a new settlement to develop on the site of the present village. The new settlement was aligned along the northeast edge of a road that ran towards

the abbey. Part of its line is today preserved by Abbey Lane. It is likely that there has been some form of track or road on this line since the medieval period, and it is possible that remnants of a metalled surface encountered during the excavation may have been part of an early road leading to the medieval settlement on the abbey side of the ridge.

Probably the most important investment made by the Morgans was the construction of the new water mill. Its construction would have required the mobilisation of considerable resources. For example, the weight of stone used for the shell of the building alone would have been approximately 292 tons. After the cost of transport and for other materials such as timber for both the building and for machinery had been added the sums involved would have been sizeable.

The most fundamental requirement for the Llantarnam mill was access to a reliable water course. The siting of the mill meant that water had to be channelled from over 1km away; this raises the question as to why it was sited there in the first place when the most obvious place would have been alongside either the Afon Lwyd or the Dowlais Brook. However, the site had a number of advantages. It was flood-free, whereas both the Afon Lwyd and the Dowlais Brook are prone to flooding. Its location on the shoulder of the crest also meant that, once the water had been fed into the mill-pond, a reliable and controllable head of water could be fed to the wheels.

MODERN PERIOD

During the second half of the 18th century the village contracted to its present size with the abandonment of Buildings III and IV, the road beyond the end of the present Abbey Lane and the conversion of the mill. This contraction appears to have been a combination of social and economic factors. Initially, the contraction was confined to the loss of Buildings III and IV and the road. This seems to have occurred at the time the abbey grounds were landscaped: both the road and Building III were levelled and the area turned into a plantation. The plantation was probably a landscaping feature rather than a commercial timber operation. This took place sometime before 1779, since by the time that Joseph Arram had produced his survey of the Abbey Estate in that year, the area of Buildings III and IV was shown covered with trees.

By 1846 the plantation had been leased to a Reginald James Blewitt by Edward Francis Blewitt, who had inherited the estate as a descendant of Anne Bray, great-grand-daughter of Edward Morgan. The Blewitts had taken possession of the estate some time before this, as the refurbishment of the mansion and landscaping of the grounds (c.1836) had caused serious financial problems for R J Blewitt (Allgood 1907, 6). It would appear that

these problems led R J Blewitt to hand over control of the estate to Edward Blewitt.

Shortly after this a series of disputes arose between the Blewitts and their tenants. Perhaps the most significant of these, and certainly the best documented, was one involving Joseph Sawtell the miller. It appears to have been a fairly protracted, and often confrontational affair, and was the subject of newspaper reports in c.1860, when Sawtell was reported as having thrown flour over one of Blewitts' agents, but it was not until 1876 that Sawtell was evicted (NRL fm310.347.63.BLE). It is not clear whether he was evicted only from his cottage or from the mill as well, because in 1877 an agreement between Reginald Blewitt Dowling Esq. and Joseph Sawtell for the lease of the nearby Penypark Farm referred to Sawtell as miller of Llantarnam (GCRO D.43.4631.M310).

Three years later the Blewitts sold the estate to Earl Howe. This seems to have been about the time the mill was going out of use. It appears that the mill had been declining for some years, since during the earlier disputes the road from the police station (today a private house in Abbey Lane) to the mill was a grass track (NRL fm310.347.6.BLE) indicating a decrease in traffic. Milling had ceased in 1888, but the following year the mill was leased to a Mr Henry Lawrence (NRL qm310.900.DEE), possibly in an attempt to start milling again. If this was so, the attempt was short-lived as the mill was converted by 1901 into a meeting house by the new estate owner, Sir Clifford Cory.

The conversion of the mill into a meeting house is a significant indication of a change in the nature of estate ownership. More and more of the large rural estates were passing into the possession of wealthy industrialists and others whose main source of income was not dependent upon agriculture. Because of this, the estates were becoming increasingly recreational and leisure-orientated. Sir Clifford Cory had a polo ground laid out in the abbey grounds (Graham nd, 40; Allgood 1907, 7), and the abbey was used as a weekend and holiday retreat from business and the social life of London.

Following the cessation of milling and the conversion of the mill the size and layout of the village appears to have remained fairly static until recent times when the encroaching urbanisation of the town of Cwmbran has all but turned the village into a suburb.

THE FINDS edited by S H Sell

The numbering throughout is the context number followed (where applicable) by the individual finds number in brackets. References to figures and catalogue numbers within the report are capitalised, those in other sources are not.

POTTERY AND CERAMICS

ROMAN POTTERY by D R Evans (Fig 15)

The site produced a small collection of pottery of probable Roman date. There were five small sherds of orange/buff ware, none of which are diagnostic, and two other sherds which require further comment. Two fragments of Roman brick were also present; both of these were in a fabric akin to that of bricks and tiles produced in the lower Usk Valley.

CATALOGUE

1. 115 Small, badly-eroded bodysherd of a mortarium in a light orange-buff fabric with a thick grey core. No kilns are known, but a single source is indicated: the distribution and fabric suggest Gloucestershire or just possibly north Wiltshire. The date range for this fabric is from the mid second century to some time in the fourth century (not illustrated).

2. 194 (094) Rim of a large storage jar or small wide-mouthed jar, in a very granular light grey to red-brown fabric. The granular nature of the fabric is the result of massive inclusions of crushed quartz-like material and ?crushed rock. The fabric is reminiscent of that of the Caldicot kilns, which date from the mid third century to the later fourth century, and which have produced a small number of similar vessels (Barnett et al 1990 fig 7 no 33).

MEDIEVAL AND EARLY POST-MEDIEVAL POTTERY by M Redknap (Figs 16-18)

DISCUSSION

The medieval pottery comprised an interesting assemblage of glazed wares, with a smaller number of plain unglazed wares. The preponderance of jug forms and scarcity of cooking pot forms is parallelled at the late 12th to early 13th century castle at Hen Gastell, near Swansea (Redknap forthcoming). The precise significance of this imbalance is hard to assess, given uncertainties about the representative nature of this assemblage, the life-trajectory of the vessels, and the fact that few vessels survive to be reconstructed to any significant degree. In general, glazed wares form a small proportion of medieval pottery assemblages in south Wales (Vyner forthcoming). While the situation at Abbey Farm, Llantarnam, may have been affected by the social status and type of site, it is likely that the nature of pottery disposal on the site, the history of each context and the method of recovery are more significant influencing factors. The fragmentary nature of the collection indicates that most sherds occurred within rubbish or trample deposits, providing a terminus post quem for each layer. Context 113, which produced the most pottery (c. 90 sherds), also contained post-medieval pottery, and was clearly mixed.

Many 13th century assemblages from southeast Wales have been dated by the presence of non-local imports such as Ham Green or French Saintonge ware (Papazian 1990), and the danger is that a similar assumed association of wares is applied to the Llantarnam material. The presence of early Cotswold/north Wiltshire ware suggests some activity in the vicinity from the late 12th century or early 13th century, though these sherds are few and worn, and were probably found in residual contexts. Similar wares are known from Bristol, Usk, Monmouth and westwards at Hen Gastell and Loughor. The locally-produced Penhow ware is not common, and was absent from the Caerleon Fortress Baths material, though it appears to have supplied the bulk of the pottery associated with features dating from the mid 12th century and early 13th century at Penhow Castle (Papazian 1990, 26). It is interesting to note that, in addition to greywares, the collection of waster material from Penhow (NMW Acc No. 81.120H) includes a few sherds of Llantarnam fabric A. This chronology would accord with the supposed foundation of Llantarnam Abbey in 1179, and its development (Williams 1968, 131). As would be expected at a site known into the 13th century as Caerleon Abbey, the range of pottery reflects that at Caerleon proper.

Excavations at Tredegar Park, Gwent, in 1977 uncovered a dozen vessels, four being jugs, one of which (thought to be Bristol) had inclusions of quartz, ferruginous sand and a patchy green glaze, a description of the fabric which is reminiscent of Llantarnam fabric A (Vyner 1980, 1), and it is possible that

other pottery from Newport has a similar or related fabric (e.g. Jarvis and Webster 1983, 28-29). By way of contrast with Llantarnam, the medieval pottery from the National Westminster Bank site, Newport (Courtney 1987) appears to have included a large quantity of late 13th century/early 14th century wheel-turned Bristol Redcliffe jugs, reflecting perhaps the town's role as a port-of-trade. It is uncertain whether the Saintonge sherd is from a polychrome or monochrome vessel, but a late 13th century/early 14th century date is assumed from other sites such as Caerleon and White Castle. Most of the cooking pots display sooting on the rims.

It would appear with the local fabrics that indigenous pottery production had been established during the 13th century to satisfy local demand at Llantarnam, and it is only in the late 15th and 16th century that products appear from further afield, such as the Malvern Chase or lower Wye valley areas (manganese-glazed Cistercian-type and glazed redwares), and to a lesser degree Surrey (Tudor Green ware). The local medieval fabrics appear at Llantarnam to have been replaced by a variety of redwares, some probably local, some coming from the Malvern region. Malvern Chase products dominate late medieval assemblages at Chepstow (Vince 1991) and Penhow Castle (Papazian 1990, 27), but the sources for the post-medieval blackwares at Llantarnam have not yet been ascertained. The kilns at Gwehelog near Usk appear to have produced similar glazed wares (e.g. two-handled cups; Hughes 1980, Fig 3, 29). Small quantities of Merida ware and Tudor Green ware, and a drinking vessel in so-called Cistercian ware were also found at Tintern Abbey (Courtney 1989, 137), and similar tyg forms are known at Usk.

MEDIEVAL POTTERY

Fabrics

Group a: local sandy ware

As at Usk, these are probably locally produced wares with inclusions derived from the Old Red Sandstone. These can be divided into finewares (jugs etc.) and coarsewares (cooking pots).

Llantarnam fabric A

Fine medium/soft fabric with generally an oxidised (orange) outer margin and grey core (sometimes inner margin and surface). Inclusions of moderate to abundant very fine white and clear sub-rounded quartz, sparse to moderate ferruginous sandstone, and moderate fine black specks. Surface treatment green glaze (occasionally dark green), sometimes even, sometimes patchy: with unglazed oxidised surfaces and grey reduced areas beneath glaze.

Decoration comprises applied strips, sometimes thumbed. Minimum number of vessels: 6; sherd total: 214.

Llantarnam fabric B

Hard fabric with brown to orange surface and grey core (dark grey margins), moderate fine (0.2mm) to coarse (occ. 1mm) clear and white angular quartz, showing through glaze as white pimples; occasionally coarse dark ferruginous inclusions. External surface treatment very dark olive green glaze. There are some similarities with Loughor Group 3, designated as probably "Bristol" (NMW 86.95H/1). 165 and 173 appear to be the same vessel. Minimum number of vessels: 2; sherd total: 20.

Llantarnam fabric C

Fine hard red fabric with inclusions of sparse very fine white quartz, occasionally coarse white quartz (up to 2mm); surface treatment partial dark green glaze on upper body. Minimum number of vessels: 1; sherd total: 1.

Gwent coarse sandy fabric A (cooking pot fabric)

These share the same variation in surface appearance, some containing coarse inclusions. Inclusions of abundant rounded quartz (up to 1.5mm), and very fine angular quartz and occasionally sub-rounded grey inclusions (up to 2mm). Some are harder and finer, but the fabric seems basically the same, with inclusions of angular or sub-rounded quartz. It is likely that they all represent varieties of the same local fabric and local manufacture. Minimum number of vessels: 6; sherd total: 32.

Gwent coarse sandy fabric B (cooking pot fabric)

Fine grey fabric with orange/brown outer surface; abundant very fine quartz (up to 0.1mm), occasionally coarse (1mm); occasionally grey sub-rounded inclusions. Smooth inner surface. Minimum number of vessels: 1; sherd total: 1.

Penhow-type ware

Very hard sandy fabric, usually reduced to a dark grey colour, but sometimes with a reddish core. Inclusions of ill-sorted angular and sub-angular fine to coarse (1.5mm) white and clear quartz (occ 2mm); occasionally red ferruginous inclusions (up to 1.5mm). Rough sandy texture to surfaces. Minimum number of vessels: 1; sherd total: 3.

Group b: regional wares

Monnow Valley-type ware

Orange fabric with grey core. Abundant ill-sorted ferruginous inclusions (up to 1mm), occasionally very fine white quartz. External green glaze. Wheel-thrown. Minimum number of vessels: 1; sherd total: 1.

Bristol-area wares

Hard fabric, reduced to light grey core with oxidised light yellowish-brown to pale brown inner surface and margins. Inclusions of sub-angular and rounded quartz (up to 1mm), occasionally very coarse chert/flint (up to 8mm). External patchy green glaze, at times thick. Wheel-thrown. Minimum number of vessels: 2; sherd total: 7.

Cotswold/north Wiltshire wares

Moderately hard fabric with dark grey core and light brown inner margin. The shell inclusions (occasionally up to 4mm) may have decomposed to leave fine to coarse voids within a fine matrix containing moderate sub-angular ill-sorted fine to coarse clear quartz, and sparse angular grey limestone? Very poor lime green external glaze (thin uneven layer), which may only survive in grooves. Coil-built. Minimum number of vessels: 2; sherd total: 2.

Group c: imported wares

Saintonge ware

Hard fine white fabric with sparse to moderate fine angular quartz inclusions, and moderate fine white mica (less than 0.1mm); occasionally brown angular inclusions, and a few dark specks. Minimum number of vessels: 1; sherd total: 1.

Catalogue

Group a: local sandy wares

Llantarnam fabric A

1. 113 Jug rim with frilled neckband and applied vertical thumbed strip on neck. This form of decoration also occurs on jugs from Ham Green and Worcester, and occurs at Chepstow (Vince 1991 fig 53 no 11). Fabric Hg: Vale ware, where it is dated to the 13th century or 14th century).

2. 334 Jug with remains of frilled neckband and pouring lip, with external green glaze. Late 13th - early 14th century (not illustrated).

3. 561 Jug with strap-handle with three slashes, and the remains of a yellowish-green external glaze.

4. 163 Jug with yellowish-green external glaze, with a form similar to Knight (1991) Fig 21 No 201 (Siltstone-tempered ware), attributed to the 13th century.

5. 402 Several sherds from a wheel-thrown jug with yellowish-green external glaze and horizontal rills/grooves over upper body (not illustrated).

6. 380 Fragment of blade-trimmed tubular leg or finial, probably the leg from an aquamanile. Grey fabric, light olive green external glaze. A 13th century or 14th century example in a similar fabric was found at Langstone, Gwent (Redknap 1991, 105-109).

Bases with continuous thumbing (158) and plain (113) were also noted in this fabric, and jug sherds occurred in a large number of contexts. Some of the forms represented were similar to late Herefordshire wares of late 13th century and 14th century date.

Llantarnam fabric B

7. 193 and 172 Strap handle and plain base (base not illustrated) from a wheel-turned jug with a dark olive-green external glaze, through which the quartz inclusions show as white pimples. The handle has a single central slash. Probably 14th century/early 15th century.

Sherds from jugs in this fabric, with dark green external glaze, were noted in contexts 006 and 165.

Llantarnam fabric C

8. 577 Miniature vessel (height 72mm) of uncertain function in fine red fabric with partial external dark green glaze (some glaze inside rim). The fabric may be that of a late medieval redware, but an early post-medieval date is possible. The slightly constricted rim has an internal diameter of 22mm and is damaged, but sufficient remains to suggest that the vessel originally possessed a small, everted rim with slight lid-seat.

The flat pedestal base and flat foot, absence of handle and carinated body recall the handleless pewter cruet, for wine or water, from the moat at White Castle, dated

to the late 13th century (NMW Acc. No. 27.92/1). Most pewter cruets were lidded, and possessed pouring lips, absent on this example. Lewis has published ceramic cruets from Eglwys Cymin (Dyfed), Hardwick (Bucks.) and Dunstable (Beds.). These were characterised by frilled bands around the waist, largely unglazed lower halves, and (unlike the Llantarnam example) plain rod handles (Lewis 1968, 147-9; Dunning 1969, 226). The Llantarnam vessels is thick walled, as is the example from Dunstable.

If for lighting, the pot is too deep to be a pedestal oil lamp; the narrow neck does not support use as a hanging lamp in the manner of glass examples, and it must have been unstable as a candlestick. Nor does it appear to be a measure. While some similarities exist with small rounded jars of 16th century/17th century date in Border ware, which have been compared with ink pots from the Inns of Court (also partially glazed: Pearce 1992 fig 417Y), there is no trace of ink staining inside, and although the foot could have slotted neatly into a desk recess, known ink pots are of a wider form to permit cleaning. Similarly the deep and narrow lower half is not best suited for use as an ointment pot, though the shape recalls in miniature that of some syrup pharmacy jars. A small ceramic jar in a creamy sandy fabric with unevenly applied light green glaze from Selbourne Priory, Hants., was classified as "distilling apparatus" on the basis of its similarity to glass vessels (Moorhouse 1972, 101), and some similarity exists with the upper profile of large glass pharmaceutical albarelli of 16th century date (Guilbert and Munier 1989, 334). Small thick-walled earthenware pots have been suggested as mercury jars (e.g. from upper Dissolution deposits at Battle Abbey: Streeten 1985 fig 34, 58), but the unstable Llantarnam form does not support such an interpretation in this case. Another possible function would be that of a ceramic stopper.

Gwent coarse sandy fabric A

9-14. Cooking pots in this fabrics were noted from contexts 006, 037, 561 and 113, where at least seven vessels were present. The local Gwent sandy fabric and rim forms are similar to examples from Caerleon (Vicarage Gardens 1968/9, NMW Acc No 89.178H; Lewis 1965-8 fig 3). Most are in a fabric similar to roof tile fabric E, presumed to be of local manufacture.

Gwent coarse sandy fabric B

15. 113 Cooking pot with thick, near vertical rim.

Penhow-type ware

16. 561 Unglazed jug with external groove below the rim. Form similar to Wrathmell (1981 fig 3 no 3).

Group b: regional wares

Monnow Valley ware (Chepstow fabric H5)

17. 506 Wall sherd from a jug with complex rouletted decoration of chevrons and diamonds, similar to examples from Skenfrith (NMW Acc No 70.13H). Mid 13th to 14th century.

Bristol-area wares

18. 113 Bearded jug spout with external green glaze, similar in form to jugs from Montgomery (Knight 1991 fig 13 no 120: Sandy Greyware), and at Skenfrith (NMW Acc. No 70.17H).

A jug base with continuous thumbing (similar to Vyner's Loughor Group 2) was noted in context 193; a wall sherd in the same fabric came from context 039, and a jug wall sherd with applied vertical strip from context 198. A plain jug base in Bristol (?Redcliffe) ware is paralleled at Caerleon (Jenkin's Field I, 1926, NMW Acc No 89.165H).

Cotswold/north Wiltshire type wares

19. 165 Wall sherd from a hand-made tripod pitcher with deep horizontal combing and the remains of a lime-green glaze.

Another wall sherd from a tripod pitcher was noted in context 506, with vertical combed decoration. Examples have also been recorded at Hen Gastell, Swansea, Rhossili, and Loughor Castle (phase 3, dated from the late 12th century to c.1215: Vyner forthcoming). Similar tripod pitchers (north Wiltshire) are also known from Caerleon (Evans 1982, 13).

Group c: imported wares

A small abraded wall sherd of Saintonge ware, similar to Loughor group 11 (Vyner forthcoming) was noted in context 561.

EARLY POST-MEDIEVAL POTTERY

Catalogue

Whitewares

20. 459 Handle from vessel of uncertain form in Tudor Green ware, with rich even green glaze over a fine white fabric. One stratified example from Hereford occurred in a late 15th or early 16th century context, others occurring in mid to late 16th century contexts (Vince 1985, 64).

Redwares

21. 039 Base of a ?chafing dish in slipped redware of late medieval/early post-medieval date. It is similar to a green-glazed example from Caerleon (Myrtle Cottage, Cross Street, NMW Acc No 39.386); cf also Vince (1991) fig 58 no 29 in Chepstow fabric Mb: Malvern Chase glazed vessels, attributed to the 16th century.

Another early redware was a fragment of a Merida-type ware from context 390, in a reddish-orange micaceous fabric. The most common form occurring in Wales is the standing costrel. At Penhow, the ware first appears in late 15th or early 16th century contexts. This piece is probably 16th century.

Blackwares (red fabric)

22. 117 Cup in manganese-glazed fineware, with a fine smooth orange-brown fabric. There is a trailed slip pattern around the neck of repeated SS. A similar vessel, possibly a Staffordshire product, was noted from the inner ward at Montgomery Castle (Knight 1991 no 355).

23. 117 Mug in manganese-glazed fineware of late 16th early 17th century date.

The base of a jar with manganese glaze was noted in context 039.

24. 117 Lid in brown-glazed fineware, similar to Knight (1991) nos 325-6 (from Inner Ward and Outer Ditch of Montgomery Castle, dated to late 16th or early 17th century), see also Knight (1991) fig 25 no 264 for a Cistercian ware lid.

25. 388 Base of a large jug in blackware with a hard red fabric and some quartz temper. The upper part has a dark

green glaze. Cf Vince (1991) fig 58 no 28 (Malvern Chase).

26-29. 013, 319, 238, 241 The bases of mugs in blackware in a variety of forms, similar to examples from Caerleon (Myrtle Cottage, Cross Street, NMW Acc No 39.386). The type is also found at Dixton and other production centres in Gwent attributed to the 16th century (Clarke et al. 1984, 15 and fig 5).

Sherds from blackware mugs were noted from a number of contexts.

30. 328 Fragment of the wall of a ?mug in blackware decorated with lines of yellow trailed slip. Similar to an example from Caerleon Fortress Baths, possibly Bristol, dated to the late 17th century/early 18th century (Lewis 1965-8, 113 and fig 4) (not illustrated).

LATER POST-MEDIEVAL POTTERY by S H Sell (Figs 19-20)

The earlier material, covering the period to c.1650, is dealt with above. A total of c. 1200 sherds (c. 12kg), representing a minimum of c. 230 vessels, was retained for examination. Full details of the types and quantities noted during the excavations, including material now discarded, may be found in the primary site records and site archive. A large percentage of the primary contents of modern contexts such as 034/120 and 207/472 were not retained so any consideration of the ceramic material which now forms part of the site archive should take this into account. Modern material aside, the largest "group" in which post-medieval ceramics predominate was 316, a general clearance layer which accounts for nearly a third of the post-medieval archive. There were no close groups from the site and in general little supporting ceramic evidence from the better-stratified contexts, apart from 392 and 459 (see below). With very few exceptions, the post-medieval pottery contained no surprises - all the well-known types were represented in greater or lesser degree, although the proportion of West Country coarsewares to "local" types (c.30%/70%) seems high for an inland site, even given that the 17th and 18th centuries, when North Devon imports were at their peak, appear to represent the highest level of activity at Llantarnam during the post-medieval period.

KEY CONTEXTS

Of 23 contexts considered to be of post-medieval date where the stratigraphy was more secure than elsewhere, only two, 392 and 459, contained any significant quantity of post-medieval pottery.

392 Apart from one modern fragment, all of the ceramics from this context could belong to the period 1650-1800, perhaps even 1700-1770. A stoneware sherd from a Martincamp flask (catalogue No 7) is earlier, and two undiagnostic white earthenware sherds probably later. The building whose construction this context may help to date could well have been built during the last quarter of the 18th century. A tin-glazed vessel has joining sherds in 319 and 320, both of which contained material of 18th century date, and a lathe-turned red stoneware sherd also belongs with one from 319 (catalogue No 12). 34 sherds, weight 0.428kg, minimum vessels 5.

459 A similar date can be postulated for this context based on the ceramic evidence; as with 392, a ?16th century green-glazed whiteware sherd could be regarded as residual. There is no modern contamination, but a higher proportion of later 18th century material, and thus a date of c.1700 to 1800 may not be inappropriate. 34 sherds, weight 0.154kg, minimum vessels 5.

NOTES AND ABBREVIATIONS

I am grateful to Dr Paul Courtney for his comments on the pottery.

LRE - Local red earthenware
TGE - Tin-glazed earthenware (Delftware)

CATALOGUE

1. 117 (028) Rim, wall and handle of a chafing dish; pale yellow slip with copper staining. The club rim has deep cut-outs after slipping (khaki) and there are two shallowly-cut indentations, again unslipped, on the rim at the junction of the crudely-formed strap-handle, which is pinched into a deeply-grooved rod. The pedestal is missing. There is evidence of unslipped external areas, which may have been intended as contrasting panels, cf (?proto)types from the Saintonge (Hurst 1974, 239-240). Perhaps Donyatt, but probably more likely to be local (LRE). 17th or early 18th century.

2. 117 Small dish with squared ledge rim and simple sgraffito design of strokes and zigzag lines. Not slipped, burnt after breakage. Probably local (LRE). 17th or early 18th century.

3. 117 Fragments from a ?lid with bands of incised horizontal line decoration more or less associated with applied slip, pale yellow on orange-red surface, the slip also used as wavy-line patterns between the bands. Fabric as LRE but possibly not local. ?17th or 18th century.

4. 320 Plate in TGE with monochrome blue floral decoration. English, probably Bristol. c.1700-1750.

5. 026 Dish with footring in TGE with polychrome floral decoration (stems red-brown, leaves dark green and flowers dark blue) on a pale blue ground. Date and provenance as No. 4.

6. 443 and 301 Part of a tile in TGE with nautical scene in monochrome blue. Appears to have been ground down from a square to fit a smaller space, perhaps an alcove or fireplace. Date and provenance as Nos 4 and 5.

7. 392 (107) Bodysherd from a Martincamp type III flask; dull red earthenware, hard-fired, with traces of external banding. Cf. Hurst (1966), 57. 17th century (not illustrated).

8. 130 Tankard in stoneware, off-white with brown-dipped rim and reeding on lower body. Staffordshire, c.1710-1770.

9. 316 Bodysherd from a ?teapot in salt-glazed stoneware. Glossy external surface ?from thicker application of glaze, and one girth-band extant. Staffordshire. c.1720-1780 (not illustrated).

10. 320 Rim of shallow bowl in salt-glazed stoneware, with scratch- blue decoration of interlaced curves and vertical strokes from rim. Staffordshire. c.1740-1780.

11. 016 Fragment from the rim of a plate in salt-glazed stoneware with scalloped edge and moulded repeating pattern. Staffordshire. c.1740-1780.

12. 319 and 392 Bodysherds from a ?coffee-pot in red stoneware with engine-turned decoration, probably Staffordshire. c.1760- 1780.

13. 320 Press-moulded dish in yellow-glazed slipware with combed decoration; fabric warm buff. Bristol or Staffordshire. c.1690-1760.

14. 320 As No 13 but with polychrome (ochre and dark brown) decoration on pale yellow ground, heavily stained.

15. 163 and 164 ?Porringer with footring in yellow-glazed slipware with lightly-combed internal decoration of vertical stripes; fabric buff. Dates and provenance as Nos 13 and 14.

16. 034 Reeded tankard in buff fabric with iron-stained glaze. Dates and provenance as Nos 13-15 (not illustrated).

MEDIEVAL ROOF AND FLOOR TILE by M Redknap

ROOF TILE

Fragments of ridge tile were recovered from contexts 001, 006, 010, 040, 041, 087, 113, 119, 165, 295, 381 and 564. The tile was sorted visually into fabric types on the basis of their inclusions, by binocular microscope. None were complete or provided complete cross-section profiles, so that dimensions could not be recorded.

At least seven fabrics could be identified, two of which (F and G) may be late medieval or early post-medieval in date. Fabric A resembled ridge tile from Golledges Field, Caerleon (NMW Acc No 35.120), which has as yet no known source, but may be local.

Only three fragments showed evidence of a knife-cut ridge crest (contexts 010, 067, 113), though they were insufficiently complete to establish whether these were accompanied by combed decoration. The fragment in fabric D from context 010 showed three vertical slashes, and may be part of the same tile which occurs in context 006. The ridge tile fragment from context 067 in fabric E also bears a slash at the scar for the crest (now missing).

Similar ceramic ridge tiles occurred in large quantities from late 15th and 16th century dumps at Penhow, while similar forms of tile are also known from Chepstow (Vince 1991, 83-91). It may be suggested that fabrics A-E are 13th or 14th century in date. The very hard fragment of ridge tile with brown glaze from context 119 and one ridge tile end in a light buff-orange fabric from context 001 may be early post-medieval (late 15th/early 16th century) in date.

FLOOR TILE

Two worn fragments of floor tile, neither of which are decorated, were recovered during the excavation.

1. 182 Normandy imported tile of early 16th century date, with badly mixed pink and white fabric and bright yellow glaze. It is similar to examples in bright green glaze from the 1977-1982 excavations at Llantarnam (Mein and Lewis 1991, 103) and Neath Abbey (NMW Acc No 27.85/10). Thickness 28mm.

2. 162 Plain tile in orange fabric, with a very dark glaze encroaching on to the edges, which are smooth and knife-trimmed. There is a nail hole in the corner of the upper surface, similar to Group III tiles from the 1977-1982 excavations at Llantarnam Abbey (Mein and Lewis 1991, 102-103), which were also noted for having nail holes. Probably 15th century. Thickness 25mm.

BRICK AND POST-MEDIEVAL ROOF TILE by M Locock

A sample of 63.12kg from a total of more than 200kg of brick and tile was retained for study. Material rejected consisted largely of hand-made brick, of which samples were retained, and modern pan-tile. Tile of the medieval period is reported elsewhere (p 000); a few fragments of possibly Roman date could equally belong to the post-medieval period (see below). Full details of the material recovered may be found in the site archive.

The vast majority of the bricks are rectangular, frogless, hand-made bricks within size ranges typical of Harley Type 5.1 (dated by him to the late 18th century, but found from the late 17th century to the end of the 18th century). Some have burnt headers, as is common; one brick is distorted and may represent low-grade use. Where bricks retain traces of mortar, all are type 2 (lime rich with coal fragments). All of these bricks may therefore represent building activity in the mid to late 18th century.

231 and 260 contained purpose-made malting bricks, with groups of small vertical holes to allow air circulation. These bricks are mid 19th century in date.

129 contained an air brick, of mid 19th century or later date.

210 (Mill Barn drain) was built of mid to late 18th century bricks and mortar.

The possible Roman tile from 134, with a depth of 4.5cm, is within the size range for 18th century bricks, and so need not be Roman.

The roof tile is also hand-made, and is post-medieval. Some tiles had glaze on one side, but no deliberately-glazed floor tiles were found.

METAL FINDS

THE COINS by S H Sell

The excavations produced eleven coins, all of which are of post-medieval or modern date, with the possible exception of 125 (018). This piece is probably a worn-out sixpence, perhaps of late 17th century date, rather than an earlier hammered issue, and may indeed not be a coin at all.

CATALOGUE

1. 001 (002) Shilling, Elizabeth I, Fifth issue, mm key (1595-8)
2. 230 (025) Farthing (AE), Charles II, ?1675
3. 016 (008) Halfpenny (fragment), George II Young Head, 1734
4. 039 (007) Sixpence, George III Last Coinage, 1816

Also noted were a George III halfpenny, First Issue, from context 301, an unidentified copper farthing-sized ?coin from 318, and a copper halfpenny-sized disc from 445. Another disc, a little smaller at 26mm, was noted from context 117 together with a George V sixpence and halfpenny, both of 1935.

IRONWORK by M Redknap

Six iron artefacts from medieval contexts were submitted for identification together with X-radiographs made by K Hunter at Newport Museum. All the ironwork from the excavation displayed extensive corrosion, even where of more recent date. Where possible, measurements have been taken from X-radiographs.

CATALOGUE

1. 193 (071) Hook. Length 54mm; rectangular cross section, thickness 4mm; width 13mm.

2. 193 (072) Looped staple (One shaft broken) with out-turned arms. Distance between loop and bent arm (i.e. thickness of wood) c.12mm. Loop diameter c.19mm, probably holding another looped staple to form a crude hinge. Length overall c.52mm Cf Goodall 1990a, cat no. 3517.

3. 402 (073) Pick or punch for stone-working, with square shaft tapering at expanded head to point (width 10mm). To judge from the X-radiograph and specimen, the expanded head is not flat, in the manner of auger tangs. It also appears to taper at the other end. Length overall c.190mm. Maximum width of head 17mm.

4. 402 (074) T-clamp (building ironwork). Length 70mm, width of head 36mm.

5. 402 Socketed arrowhead of multi-purpose (hunting or military) type with triangular head, possibly with slight barbs. Possibly Jessop (1993) type MP6. Other examples of this type are known from Loughor and Llandough (Brewer and Lewis 1988, 173-174), while unbarbed examples are known from the collections of the Monmouthshire and Caerleon Antiquarian Association, and Merthyr Mawr Warren. Length overall 69mm. Socket length 27mm.

6. 560 Fragment of a key for mounted lock. Ring and stem top missing, making comparison with other types difficult. The bit is cut with a cross on one side and a straight line on the other. X-radiograph appears to show bit rolled in one with hollow stem, suggesting that it may be similar to type 3 from Winchester, where it is commonest from the 9th to 14th centuries (Goodall 1990b, 1007), but it may have a solid stem with end of stem and bit in line. Length overall 48mm.

SLAG by M Locock

Quantities of slag were recovered from 60 contexts, yielding a total of 63kg, of which almost half (30.6kg) was found in Area 11 (Building IV). Samples of the slag from Area 11 were submitted to D Starley, Ancient Monuments Laboratory, for identification.

The largest groups of slag were from 584 (14.7kg), 577 (7.4kg), 586 (3.4kg) and 568 (3.3kg); these proved to include tap slag, indicating that bloomery smelting probably occurred on the site. There was also some indication of smithing waste. There was, however, nothing to suggest that these activities related to the hearth 579/580, and the quantities involved are not sufficiently large to rule out transport from an off-site source.

Elsewhere, context 014 (in evaluation Area D) contained part of a furnace lining; again, this has probably been transported some distance.

COPPER ALLOY OBJECTS by G Lloyd-Morgan and M Redknap (Fig 21)

A total of c. 60 objects and fragments were noted; full details may be found in the site archive.

ITEMS OF DRESS AND OTHER PERSONAL ITEMS

Buttons

15 buttons were recovered from the site; most are plain types, but the group includes a Monmouthshire County Constabulary police issue, and a livery button depicting a squirrel (No 1). All are likely to be of 18th-20th century date.

1. 001 (006) Diameter 26.1mm. Button with moulded design on the outer face depicting a squirrel sitting upright in left profile. Probably a livery button - there is a parallel device on a seal matrix found in the locality, perhaps indicating a local connection (Williams and Hudson 1990, 56 no 9). The loop for attachment is missing.

Other items

Two buckles, both of post-medieval/modern date, were noted, also one section of an oval cufflink; lace tags were represented by five examples and there were seven pins or pin fragments. Where heads survived, all proved to be of wound-wire construction, perhaps contemporary with an early thimble from the site (Nos 2 and 3).

2. 319 (045) Length 31.3mm, diameter of head 2mm. Dress-maker's pin with spherical wound-wire head. In their discussion of pins of this type, Egan and Pritchard (1991, 299, fig 200) note that most of the finds come from 14th and early 15th century deposits; the Winchester excavations have indicated the appearance of such pins in England by the 13th century, and they are well-known by the 16th century (Biddle 1990).

3. 155 (027) 9.5mm x 17mm, 9mm x 7.2mm, 9.4mm x 6.6mm, 8.6mm x 7.3mm. Four fragments from a thimble with hand-punched dots. Holmes (1976, 91) notes that the indentations on thimbles were applied mechanically from about the end of the 17th century. Compare the earlier example from Writtle, Essex, dated c.1475-1521 (Rahtz 1969 fig 51 no 131) (not illustrated).

HOUSEHOLD VESSELS

At least two fragments of vessels, and three repair patches, were noted from the site (Nos 4-7); more fragments may be present among the miscellaneous offcuts and scrap (see below).

4. 305 (047) Height 25.8mm, width 47.5mm, thickness of rim 4.4mm, original diameter c.300mm. Fragment of the rim of a cauldron with reverse profile. The external surface is rough from casting, and sooted as a result of use on a hearth. Vessel fragments from the probable site of Ewenny Fair, noted in the late 15th century (ex inf Dr M Griffiths, RCAHMW), closely resemble the Llantarnam vessel, but this type was in widespread use between the 14th and 17th centuries.

5. 113 (068) Maximum width 24.6mm, maximum height 10.1mm. Fragment of a small cauldron or skillet foot, similar to examples from Winchester which have been given a 14th or 15th century date (Biddle 1990 nos 3388 and 3391) (not illustrated).

6. 459 (089) Length 13.7mm, end diameter 9.1mm x 8.3mm. Terminal of oval section with slightly-splayed end, possibly the handle from a basin, but perhaps from a box or from furniture. ?Early post-medieval.

7. 242 (058) 51.2mm x 60.1mm, thickness 0.7mm-0.9mm. Repair patch, probably from a cooking vessel, with three rivets (made of rolled sheet metal) in situ along one edge, with a further three opposing holes for rivets (now lost). Compare the patch from Writtle, Essex, dated c.1306-1425 (Rahtz 1969, 91 fig 50 nos 113, 115), and two from Southampton, dated to the 16th century (Platt and Coleman-Smith 1975, 262 fig 243 nos 1795 and 1810). Part of another patch, with the remains of one rivet of similar type surviving, was also noted in 242 (063); a third patch from context 197 (034) has two rivets extant (of folded sheet). Repairs and fastenings of this latter type have occurred at Kidwelly Castle (National Museum of Wales Acc No 30.381), Dyserth Castle (NMW Acc No 15.249/46) and Castell y Bere (NMW Acc No 21.24/57); all are of presumed medieval date.

FIXTURES AND FITTINGS

8. 039 (004) Maximum diameter 36mm, width of strap 20.4mm, maximum length of strap 30mm. Cast harness, or strap mount, in the form of a six-petalled rosette, with traces of gilding surviving; a fragment of the leather strap is still held by one of three pins on the underside. This type is reminiscent of late 15th or early 16th century examples from Winchester (Biddle 1990 no 4057 has a lobed quatrefoil design with repousse borders and centre); this example may be somewhat later.

Other miscellanea consisted of a spur, two probable ferrules, the leaf of a hinge, a pennanular ring of D-shaped section, and fragments of a plaque and from the head of a ?stud. All are likely to be of later post-medieval or modern date.

OFFCUTS AND WASTE

A total of c.12 fragments of strips or offcuts, two joining fragments of wire, and two fragments from ?failed castings complete the assemblage.

LEAD AND LEAD-ALLOY OBJECTS

LEAD AND LEAD-ALLOY OBJECTS by D R Evans (Fig 22)

Lead objects

Full details may be found in the site archive; four items are noted here.

1. 039 (116) Irregular casting; the only feature of note is the ghost of the object around which it was cast. Although no corrosion products are visible, this was probably an iron masonry cramp measuring 21mm x 15mm. Weight 95g.

2. 040 (001) Very crude sub-pyramidal casting, probably an unfinished 4oz weight. Weight 126g (4.4oz), height 33mm, diameter 30mm x 25mm.

3. 113 (069) Cylindrical cast weight with a countersunk-pierced gable extension on the top. Total height 25mm, height of cylinder 17mm, diameter 17mm, hole diameter 1mm, weight 34g (1.2oz).

4. 120 (121) Die-cast charging horse and rider, probably a finished article (although flashing on the casting is still present) but now incomplete. There is too little detail to be certain of the exact type of horseman depicted, but the general impression is that of a dragoon at the time of the Crimean War. A general idea of the type of figure can be seen in a painting of the battle of Lucknow (1854) in the 1st The Queens Dragoon Guards museum in Cardiff Castle. A late 19th or early 20th century date for the object seems likely (not illustrated).

Other items of lead consisted of four cartridge or pistol shots, fragments of milled came, offcuts and waste.

Lead-alloy objects

Four pieces were noted; a spoon of dessert size, a possible spoon handle fragment, a disc, probably a button, and a moulded fragment form an indeterminate fitting.

4. 377 (049) Length, overall 182mm. Length of bowl 65mm, width of bowl 40mm. Spoon of dessert size. The edges of the bowl are broken, the handle a little bent and corroded. Probably mid 18th century.

MEDIEVAL SEAL-MATRIX OF CNAITHUR AP CRADOG by D H Williams (Fig 23)

Found in context 093 (032).

A circular tin/pewter matrix, 24mm diameter; 8.9g weight. A fleur-de-lis shaped projection on reverse for handling purposes. The motif is a simple fleur-de-lis surrounded by a legend +S KNAITHO AP CRA, in Lombardic Capitals.

Date: mid to late 13th century.

This object has been fully reported elsewhere (Mon. Ant. **10** (1994), 21-24.

OTHER FINDS

GLASS by D Brennan (Fig 24)

The site produced 117 fragments of bottle and vessel glass, as well as 95 fragments of window glass. The assemblage covers the period from the mid 17th through to the 20th century. Full details are to be found in the site archive.

There are a minimum of nine wine bottles. All are made from thick green glass, varying in depth of colour from light through to dark olive green. The place of manufacture is uncertain, but Bristol, one of the main glass-making centres, is the most likely source. The dates given are based on Humes' type series for the development of the English wine bottle (1961). The earliest of these, of which only one example was found, dates to the mid 17th century (No 1 in the catalogue). It is believed that the starting date for the manufacture of bottles made specifically for wine was around c.1650. Four of the bottles are of a type which were made during the late 17th and early 18th centuries (Nos 2 and 3). The remainder are late 18th (No 4) and 19th century types (Nos 5 and 6). The very latest are examples of machine-made bottles, all earlier types being free-blown. Part of a bottle seal (No 7) probably dates to the early 18th century. There is a marked absence of wine bottles dating to the mid 18th century.

Everyday household vessels include fragments from four small chemist's phials. Three are made of bluish-green glass (No 8) and one is colourless (No 9). An 18th or early 19th century date is given to these although none are closely datable. The site yielded a small quantity of common blue-green utility glass, representing a minimum of three vessels (not catalogued). None of these could be identified with any certainty.

The group includes fragments from two early 18th century vessels, both in light green bubbly glass (Nos 10 and 11). Of uncertain form is part of a vessel, bluish-green in colour (No 12), which may also belong to this early period.

The site yielded fragments of a jug made from thick dark green "bottle" glass, decorated in the manner of Nailsea-type glassware of the early 19th century (No 13). The Nailsea glass-house (about 10km from Bristol) was established in 1788 (Newman 1977, under "N"). The centre is best known for producing decorative vessels made for household use. The splash decoration on No 8 is typical. The precise origin of the Llantarnam jug is uncertain, as several other English glass centres were also producing vessels with this type of decoration.

Part of one 18th century drinking glass was recovered (No 14). This is the only piece of fine quality glass from the entire excavation.

Fragments of 18th century-20th century window glass (not catalogued) were found scattered across the site. The earliest, probably 18th century (23 fragments), are pale green. The remainder could not be closely dated, but are probably 19th or 20th century. Fifteen of these fragments are olive green, 28 are bluish-green, and 17 are colourless. It was not determined whether fragments were derived from leaded window panes (although lead cames were found) or from sash window panes. Fragments varied in thickness from less than 1mm to 3mm thick. Four of the fragments (3 bluish-green, 1 olive green) have flame-rounded edges.

CATALOGUE

The glass is translucent with no signs of weathering unless otherwise stated.

1. 116 Fragment from the base of a "shaft and globe" wine bottle, olive green with dulled, pitted and scratched surfaces. Small upkick with rough pontil scar. For the profile cf Hume (1961) types 2 and 3. c.1655-1670.

2. 014 and 039 Rim and part-neck of an "onion" wine bottle, olive green with patches of enamel-like surface weathering. Tooled string rim located 5mm below mouth. Short neck expanding outwards. Cf Hume (1961) type 8. c.1685-1715.

3. 117 Fragment from the rim and neck of an "onion" wine bottle, light olive green with all-over iridescent surface weathering. Damaged mouth and tooled string rim. Short neck expanding outwards. For profile cf Hume (1961) types 7 and 8. c.1685-1715.

4. 113 Fragment from the rim and neck of a "cylindrical" wine bottle, dark olive green. Mouth down-tooled over flattened string rim. Cf Hume (1961) type 21. c.1770-1800.

5. 209 Fragment from the rim of a "cylindrical" wine bottle, dark olive green. Machine-made bottle with deep cone-shaped rim. Cf Hume (1961) type 23. c.1814-1853.

6. 219 Fragments from the body and base of a "cylindrical" wine bottle or bottles, dark olive green with incipient iridescent surface weathering. Machine-made bottle. Base with low upkick. Diameter between 80mm and 90mm. Cf Hume (1961) type 23. c.1814-1853.

7. 039 (011) Fragment from the body of an "onion" wine bottle with part of a bottle seal, light olive green and bubbly with iridescent surface weathering. The incomplete seal has two (of three) initials, "M" and "M"

placed diagonally one above the other. R Hurst Vose examined the seal, and could cite no parallels; a date of c. 1650 - c. 1730 was suggested from the bottle form.

8. 319 Fragment from the base of a chemist's phial, bluish-green with incipient iridescent surface weathering. Cylinder base with high pointed upkick and rough pontil scar. Diameter 40mm. 18th or early 19th century, but not closely datable.

9. 301 Fragment from the base of a chemist's phial, clear colourless with incipient iridescent surface weathering. Cylinder base with high pointed upkick and rough pontil scar. Diameter 39mm. Late 18th or early 19th.

10 230 (035) Fragment from the body of a vessel of uncertain form, light olive green with iridescent surface weathering. Curved body wall with part of two trailed-on curvilinear ribs. Wall thickness 1.5mm. 18th century.

11. 241 (106) Fragment from the body of a vessel, possibly a jar, light olive green with all-over enamel-like surface weathering. Part of curved upper wall with mould-blown wrythen fluting. Body wall 1-2mm thick. 18th century (not illustrated).

12. 242 (057) Fragment from the ?body of a vessel, bluish-green with patches of enamel-like surface weathering. Part of the body wall with ?widely-spaced wrythen ridges. Too little of the vessel survives to determine the form. 18th century (not illustrated).

13. 316 (056) Fragment from the base of a Nailsea-type jug, dark olive green with incipient iridescent surface weathering. Part of splayed foot-ring base with low rounded upkick and rough pontil scar. The body is decorative with opaque marvered spotting, with one opaque white spot visible immediately above the foot-ring. Diameter 100mm. Cf the Fitzwilliam Museum Collection (Anon 1978 92, pl. 223a and b). Early 19th century.

Three other Nailsea-type fragments, one from 316 and two from context 117, were noted; they could be either from jugs or bottles but may well all belong to the jug from 316. All are dark olive green decorated with opaque white or brown marvered spots. c.1800-1830 (not illustrated).

Nailsea-type decorated glassware was made in several centres during the 19th century.

14. 320 Stem and part base of a drinking glass, clear colourless, now with incipient iridescent surface

weathering. Single-knopped stem. Damaged base with pontil scar. 18th century.

WORKED BONE by S J Greep (Fig 25)

Four objects of worked bone were recovered from the site; all are likely to be post-medieval, except for the antler tine (no 2) which could be medieval in date.

1. 034 (017) Length 68mm. Hollow lathe-turned object, perhaps either a container or a composite object, in the form of a waisted cylinder in two parts. One end has been blocked with a turned disc; the opposite, flanged, end is now open, although it may originally have been sealed by a removable cap. The two parts of the cylinder are joined by a screw-thread with an internal depth of c. 19mm, much longer than is necessary to unite the two halves. There are similar composite items illustrated as parts of post-medieval crochet-hook cases (Groves 1973, fig 165), although the parallels are not close enough to confirm this identification. It is difficult, however, to see how this object could have functioned as a composite item, because the internal thread does not extend as far as the open end, and the unthreaded part at this end is narrower than the thread; a container of some kind may therefore be a more likely interpretation.

2 117 (023) Length 108mm. Tip of an antler tine, worked smooth and retaining the end of a square tang. The use of antler for hafting a wide range of implements is known in the post-medieval period, occasionally with the surface in its "raw" unworked form (e.g. Thompson et al 1984, fig 52, 52) but the use of the terminals of antler tines for handles is much more common in earlier periods.

3. 117 (024) Length 102mm. Tapering rod with spiral decoration. One end has been recessed to receive a sleeve and is stained as a result of ferrous and bronze contact. This object is difficult to parallel; one possibility is that this is a 19th century pen-holder, the recessed end being for the reception of the nib (e.g. Whalley 1975, 46)

An indeterminate fragment from a knife handle was also noted (118).

WORKED STONE by J J Hall (Fig 26)

ARCHITECTURAL STONE

All but one of the architectural fragments recovered from the site were of a Jurassic limestone, varying from a sub-ragstone to a sub-oolite. The sub-ragstone fragments had developed a weather-hardened surface. This is a characteristic of the better Jurassic limestone building stones and indicates a source from one of the English quarries.

Very few diagnostic pieces of architecture were found, but as a group they suggest a date in the 12th or 13th century. The window sill has stanchion holes for a metal grid and may not have been glazed. It is possibly of a later date than the other pieces, and may have been from a more 'domestic' building. The structural fragments were generally made from more resistant stone than the decorative pieces.

The following catalogue is arranged by grouping like-fragments together within categories defined in Recording Worked Stone (CBA 1987).

Mouldings

1. 267 (082) Horizontal window member, probably a sill. One jamb end present. Chamfer of 40 degrees on one side, rebate on the other. Two stanchion holes.

2. 032 (080) Simple roll moulding on corner of rectangular block. 12th or 13th century.

   Three other fragments of roll mouldings were also noted.

3. 211 (077) Fragment of curved concave face (not illustrated).

4. 316 (044) Fragment of detached shaft, very worn, reused as a ?candle-holder. Diameter 75mm (not illustrated).

   Two other fragments of detached shaft were noted, also five fragments of column, one with a fillet (context 116).

Worked stone with two or more faces at other than 90 degrees

5. 207 (079) Set-off (weathering) for buttress, with drip groove.

   Three undiagnostic fragments were also noted.

Worked stone with two or more faces at 90 degrees

6. 032 (081) Fragment of ashlar with a mason's mark consisting of two curved lines, opposed and crossing.

Nine other fragments of ashlar were recovered; the fragment from context 267 was of calcareous siltstone brecchia, not limestone.

Five pieces of architectural stone displayed one tooled face and a further eight fragments had none.

STONE OBJECTS

The millstones made from Millstone Grit come from Derbyshire; the pieces of French Burrstone were imported from France from one of two quarries in the Paris basin. The stone, although very hard, was variable in quality. It was quarried in small pieces which were then trimmed, set in plaster of Paris and bound by an iron rim (Syson 1965, 109). The annular stone may have been used for sharpening mill-bills, the tools used to dress the millstones (Demidowicz 1989, 84). The honestones and whetstones are made from sandstones and siltsones.

7. 362 Part of millstone, made from Millstone Grit.

8. 121 (two pieces) and 380 Three pieces of French Burrstone, part of a composite millstone.

9. 001 Annular object, possibly made from a man-made stone. Metal shavings adhere to its exterior. Maximum diameter 225mm.

10. 120 (031) Strickle formed from a orthoquartzite, cf Vince (1987, 127).

11 120 (036) Cylindrical, quartz arenite honestone. Diameter 26mm.

12. 140 (085); 275 (084) Two fragments from flat whetstones of quartz arenite.

STONE TILE AND SLATE

The slate varies in colour from grey to green and often has a pearly lustre. Provenance of this slate is uncertain but may be of a more local source than west Wales. The minimum number of slate tiles is three.

The stone tiles are made from a laminar, micaceous siltstone/quartz arenite from an unknown source, although a possibility may be the local Tilestones, part of the Downton series of the Old Red Sandstone (BRG 1970, 52). The minimum number of stone tiles is four. There was one complete tile,

485mm x 315mm x 15mm. It was rectangular with a sub-round end nearest the nail hole.

STONE SAMPLES

Samples of all distinctive stone found on site were retained for identification. Many of the stone samples are from local outcrops or deposits. The two fragments from 224 are of hard chalcedony, French Burrstone from the Paris basin, France, used to make composite millstones. Larger fragments are included with the stone objects. The slate samples are similar to pieces recorded under stone tile and slate. The limestones in the stone samples are different from the building stone. They are part of the Lias, possibly from South Glamorgan, and may have been used for making mortar. The gritstones are stained reddish purple and probably come from the Old Red Sandstone, around the site. Samples of sandstone and siltstone have not been given a provenance but are likely to be local.

CLAY TOBACCO PIPES by G N M Evans (Fig 27)

The assemblage of clay tobacco pipes examined can be dated between 1660 and 1930. There were thirteen complete or nearly-complete bowls, 25 bowl fragments, four Broseley type 5 long-tailed heels (three of them marked). One hundred and thirty seven stem fragments were submitted for analysis (including one marked and one patterned example); these were a representative selection from a total of 303, the remainder of which were recorded and discarded on-site.

CATALOGUE

1. 118 "Chubby" bowl, top broken, round unmarked heel, provenance uncertain. c.1660 (not illustrated).

2. 445 Barrel-shaped bowl with dark grey burnished finish and low milling; heel unmarked. Very similar to the "Rose and Crown" and "Wheel" marked pipes from Hereford (Peacey and Shoesmith 1985): there are also many unmarked similar bowls from Hereford excavations (personal observation). Hereford, c.1660.

3. 117 (019) Long, forward-pointing bowl waisted top and bottom with milled rim. The round heel is marked RH incuse within a circular frame. Similar to Gloucester type 4 (Peacey 1979 fig. 1), but no maker with the initials RH is known from Gloucester. Similar to pipes from Monmouth and Roman Gates, Caerleon (Markell 1988 fig 1 nos. 17, 18). Possibly locally made, c.1660.

4. 134 Stem fragment with milling at break. Very similar stems, broken in almost identical places, appear in assemblages from Hereford (personal observation). c. 1660-1680 (not illustrated).

5. 317 (118) Fragment of a bowl with part of a debased Tudor rose motif remaining. Popular both in Holland and south England. c.1680.

6. 117 Forward-sloping thick-walled bowl, milled at rim. Heel missing. c.1680 (not illustrated).

7. 230 Well-made bowl with polished finish, milled rim and oval heel. Central southern England, c.1680 (not illustrated).

8. 230 Similar to Broseley type 5 (Atkinson 1975, 26-29 and fig 1), but the rim is slightly everted, and the body of the bowl is unburnished. The long-tailed heel is unmarked. This style was widely copied from Warwickshire to Carmarthen (personal observation), and could well have been made locally. 1680-1720.

9. 230 (037);
10. 241 (097);
11. 162 (039) Three long-tailed heels, one with a Broseley type 5 bowl, all marked **ED=/WARD/Decon** in a three-line relief stamp. All three appear to have been made from the same poor orangey fire-clay. Edward Decon was working in Broseley c.1700 (Atkinson 1975, 51).

12. 209 (038) Very large Broseley type 5 long-tailed heel, with poor three-line relief stamp **IOS/HVG/--S**. Joseph Hughes worked in Much Wenlock c.1720 (ex inf. D Higgins).

13. 568 (124) Part-bowl and long-tailed heel similar to Broseley type 5, with relief stamp **IG** in a square frame. The stamp is unknown in the Broseley area, and the "line" milling at the rim is not characteristic of Broseley; ?made locally, 1680-1720 (not illustrated).

14. 319 Very well-made, burnished and milled Broseley type 4 bowl (Atkinson 1975, 29-30 and fig 1), with some of the back and base missing. 1690-1720 (not illustrated).

15. 117 "Shamrock Golf" pipe, popular from 1900 onwards, still in Joseph Holland's catalogue of 1929.

16. 119 (119) "Small Golf" pipe, stamped **W.SOUTHORN & Co./BROSELEY** incuse on top of the stem. W Southorn & Co. were working in Broseley, 1850-1950 (Atkinson 1975, 85). This style dates from 1900 onwards.

17. 118 (029) Stem fragment stamped incuse E.CHAPPLE/NEWTON ABBOT. The Chapple family were pipe-makers in Newton Abbot from 1866 (Oswald 1975). This fragment dates from c. 1900.

ANIMAL BONE by N A Page

Animal bone (1.982kg) from 48 contexts was presented for analysis, including 6 contexts from the 1992 field evaluation (Maylan 1992). All of the bone was from post-medieval or later contexts. Although the assemblage was largely from post-abandonment contexts it is possible to make some general comments.

The assemblage is consistent with that of a small rural household, whose meat diet included, cow, pig, sheep and chicken. It also contained bone from wild birds, rodents and one bone from a small cervid. The wild bird and rodent bones are no surprise, especially in the vicinity of the mill, where there would have been a large amount of grain. The presence of the cervid bone from context 145 is slightly more problematical, although it is possible that some deer were kept on the abbey estate during the post-medieval period.

BUTCHERY

Many of the bones displayed knife and chopping marks, including the cervid bone. The marks were typical of those made during primary meat preparation. There was also evidence that the long bone shafts were deliberately broken to extract the marrow.

TAPHONOMY

The majority of the bones showed signs of surface weathering, indicating that they had been exposed on the surface for some time, although very few had evidence of carnivore gnawing.

PATHOLOGY

Only one bone showed any sign of pathology. A cow mandible from a mature animal had a large swelling below the 2nd molar (M2). What caused the swelling is unclear, although it occurred whilst the animal was young and its bone still forming. Sometime after maturity the swelling was so great it burst through both sides of the mandible. The teeth in the affected area were ground down to below the level of the bone as the animal tried to alleviate the pain.

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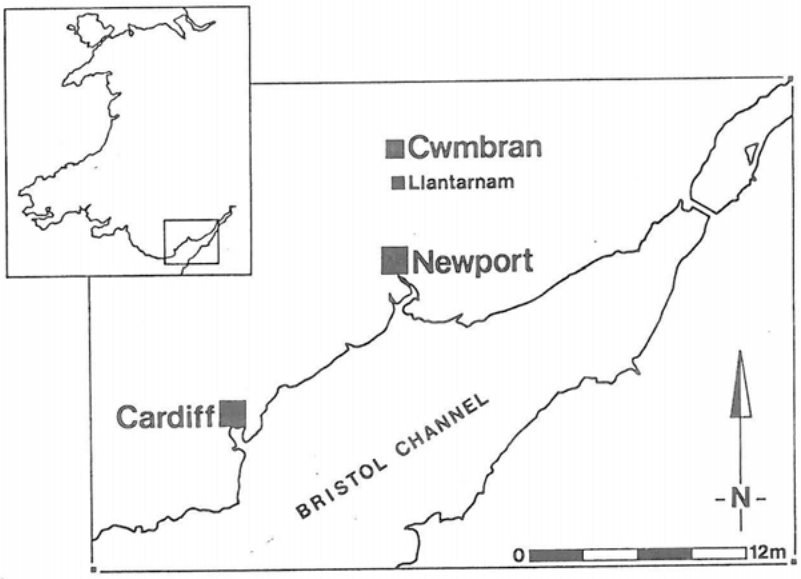


Figure One: Location plan

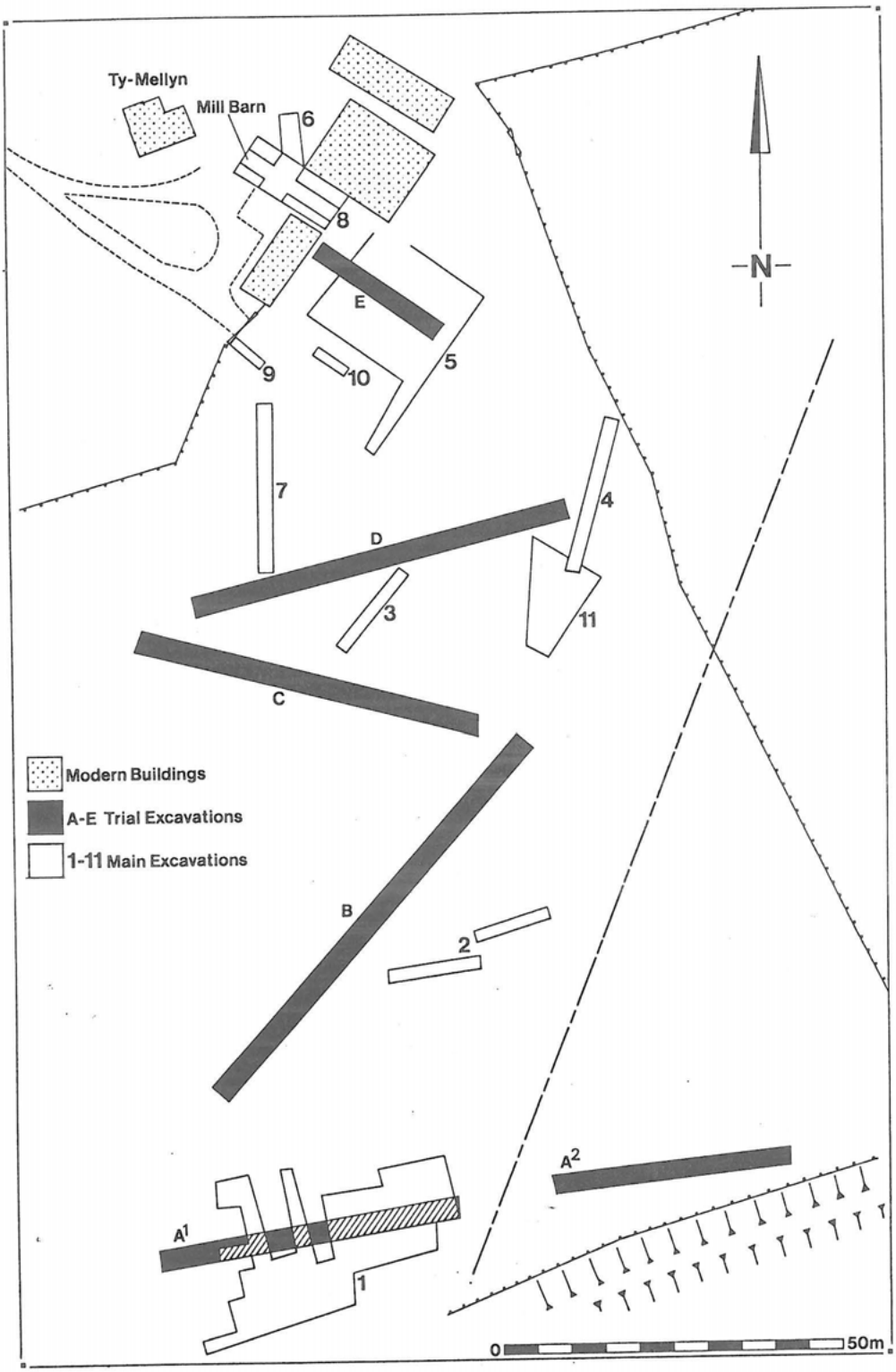


Figure Two: Position of excavated areas

LLANTHONY - FIG 2 - REDUCE TO FULL PAGE (REDUCED)

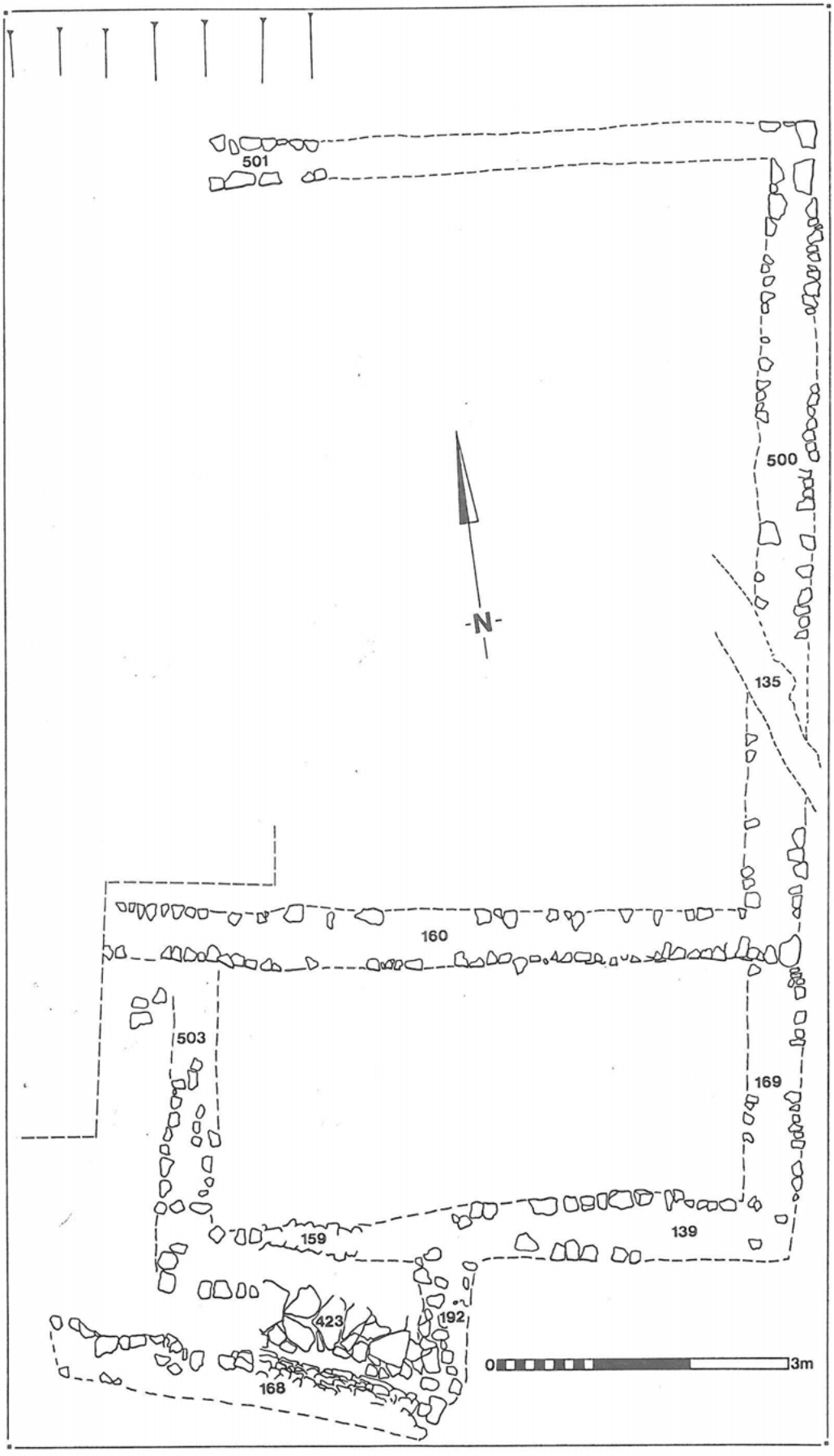


FIG 2 SF/PLAN 1

Figure Three: Building I

Fig 4 Building III rooms a + b

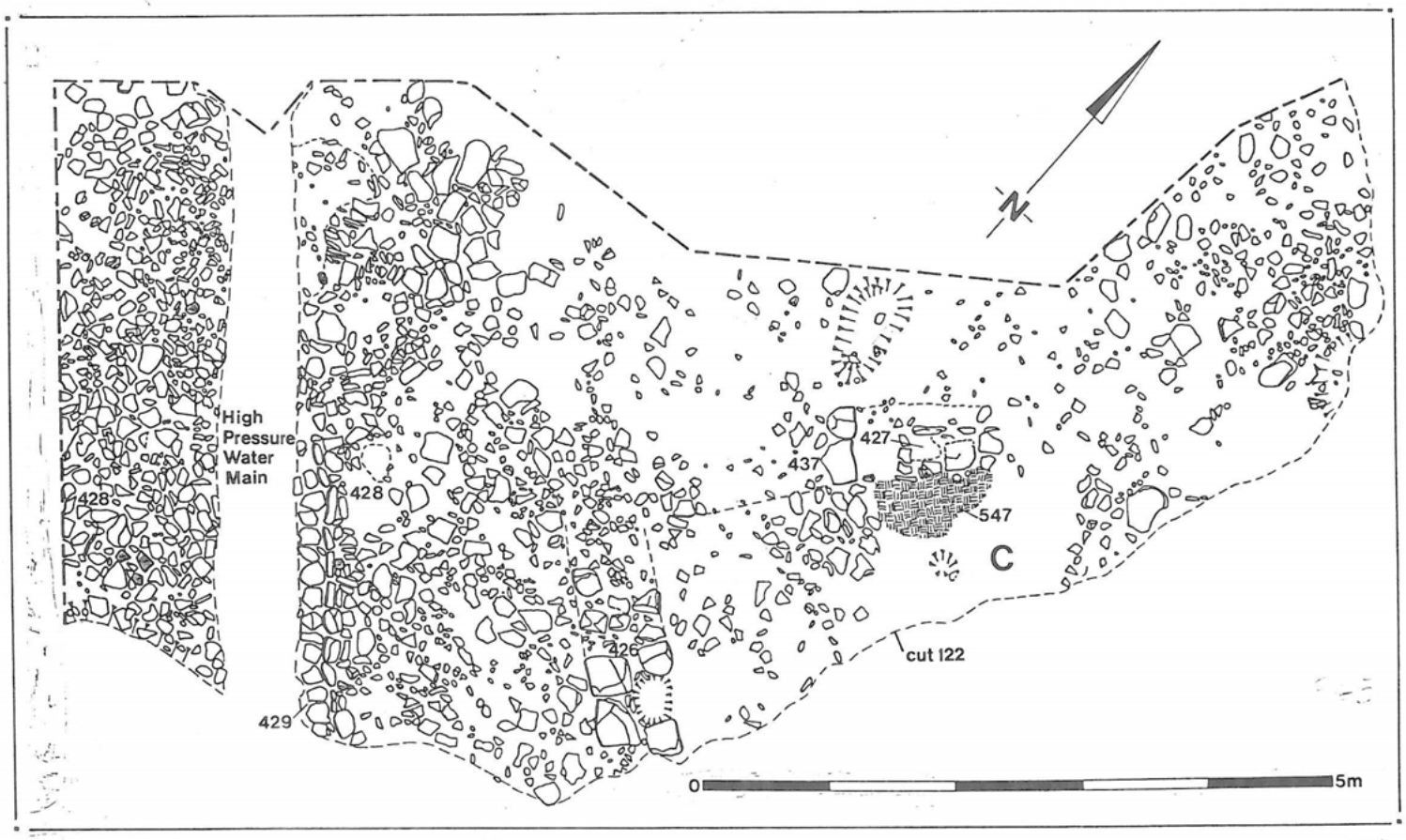


Figure Five: Building III, room C

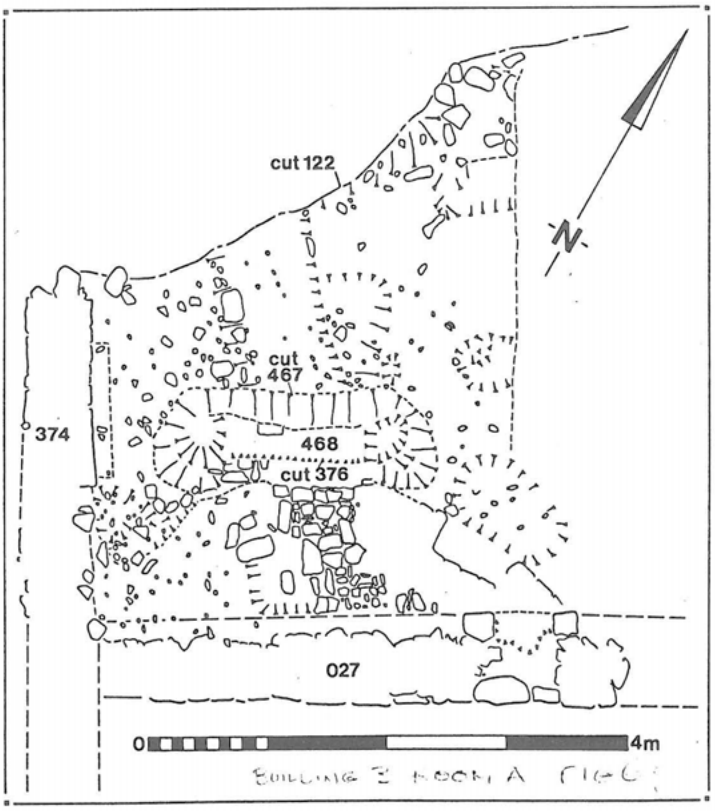


Figure Six: Building III, detail of room A, phase 2

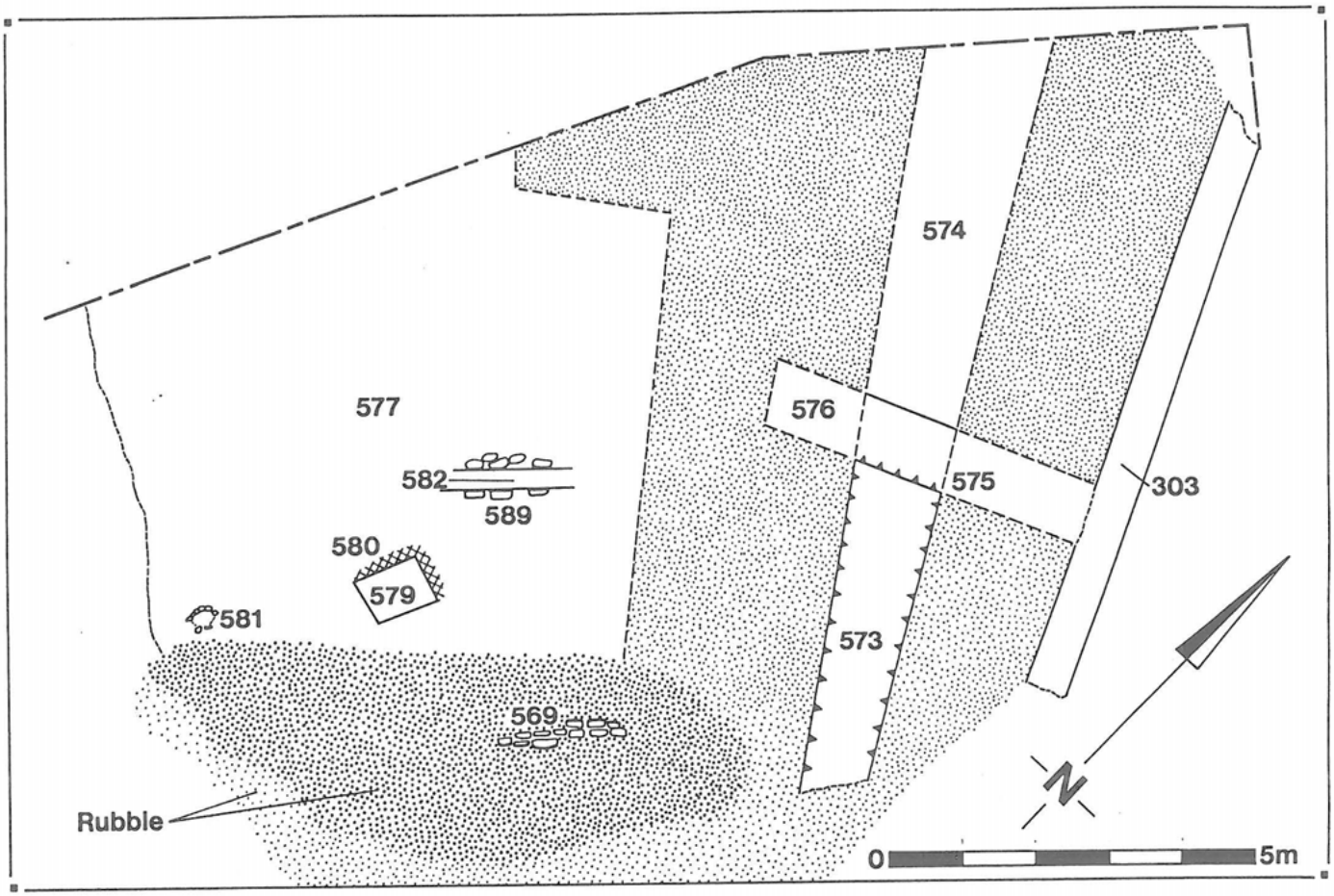


Figure Seven: Building IV

FIG 8

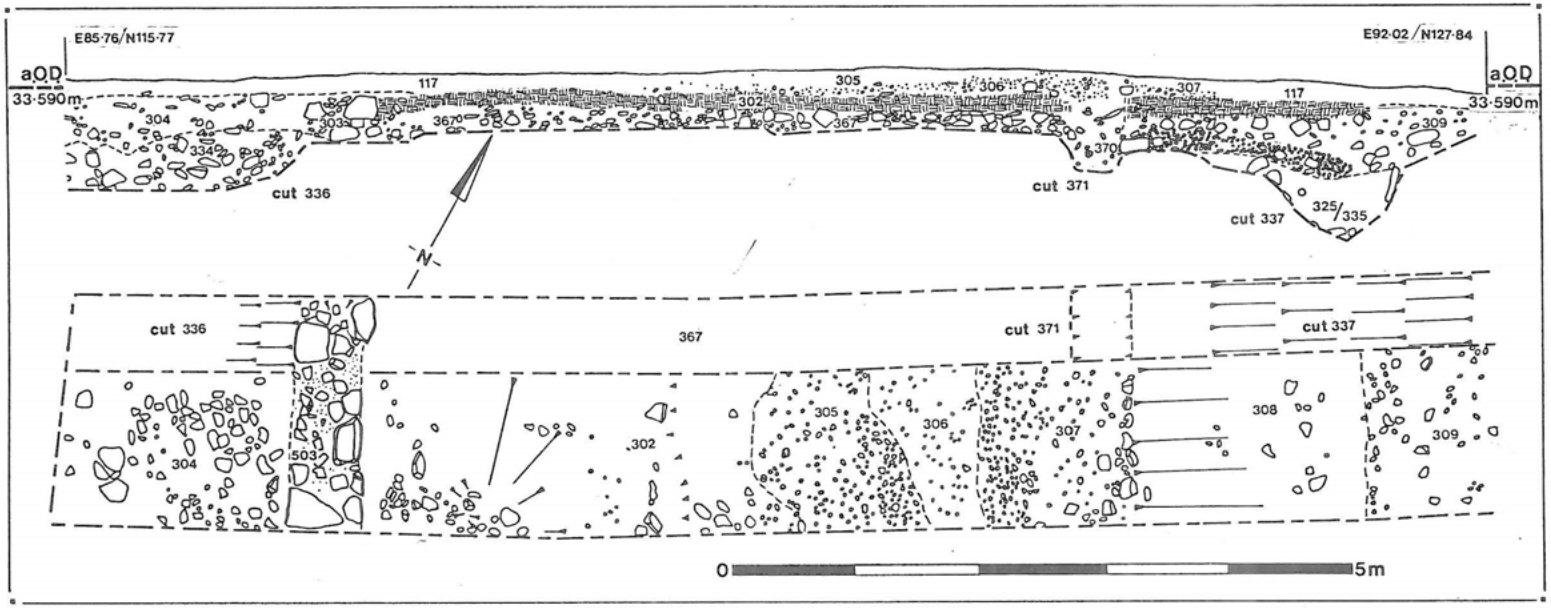


Figure Eight: Section across Abbey Lane (Area 5)

UNFIRED - FIG 8

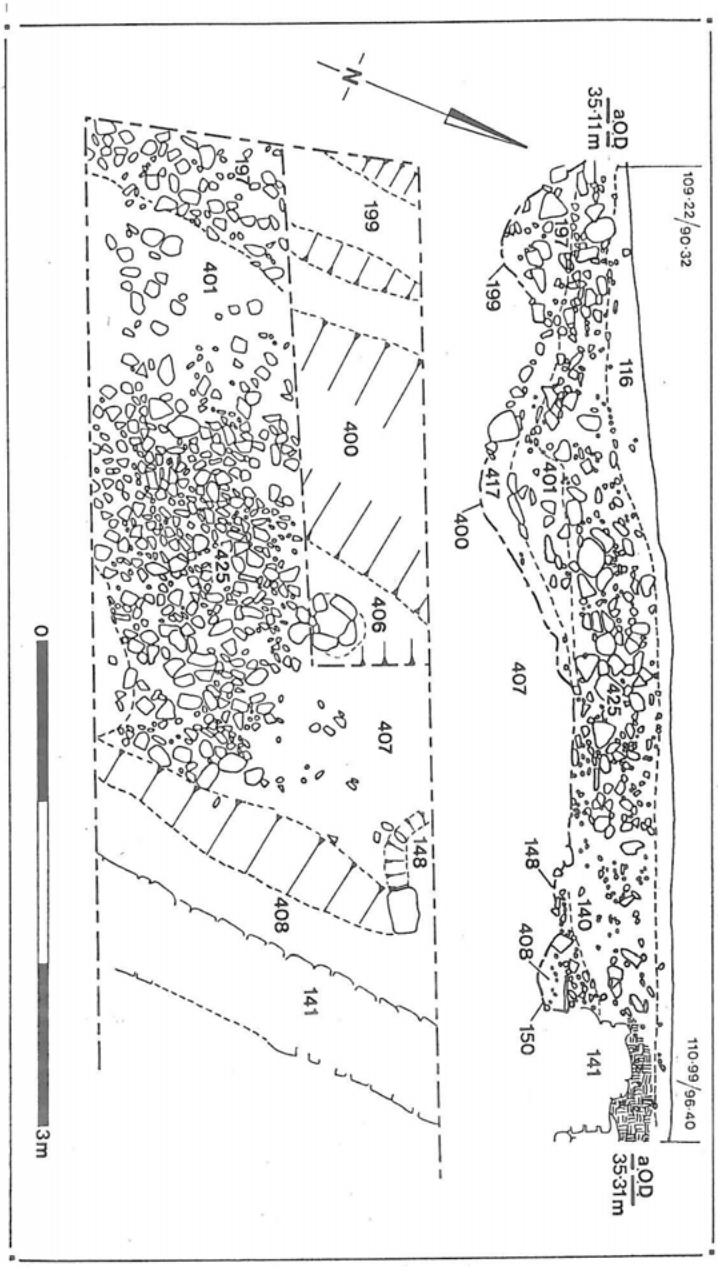


Figure Nine: Section across north side of Abbey Lane (Area 4)

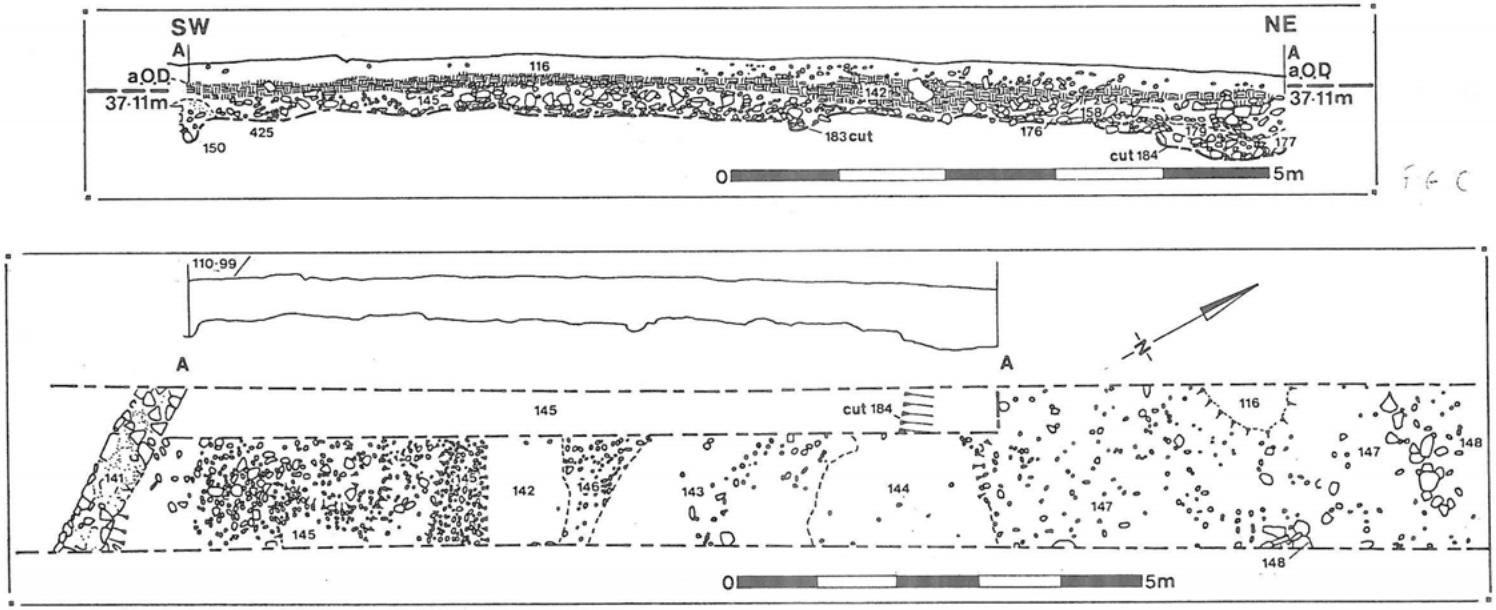


Figure Ten: Section across south side of Abbey Lane (Area 4)

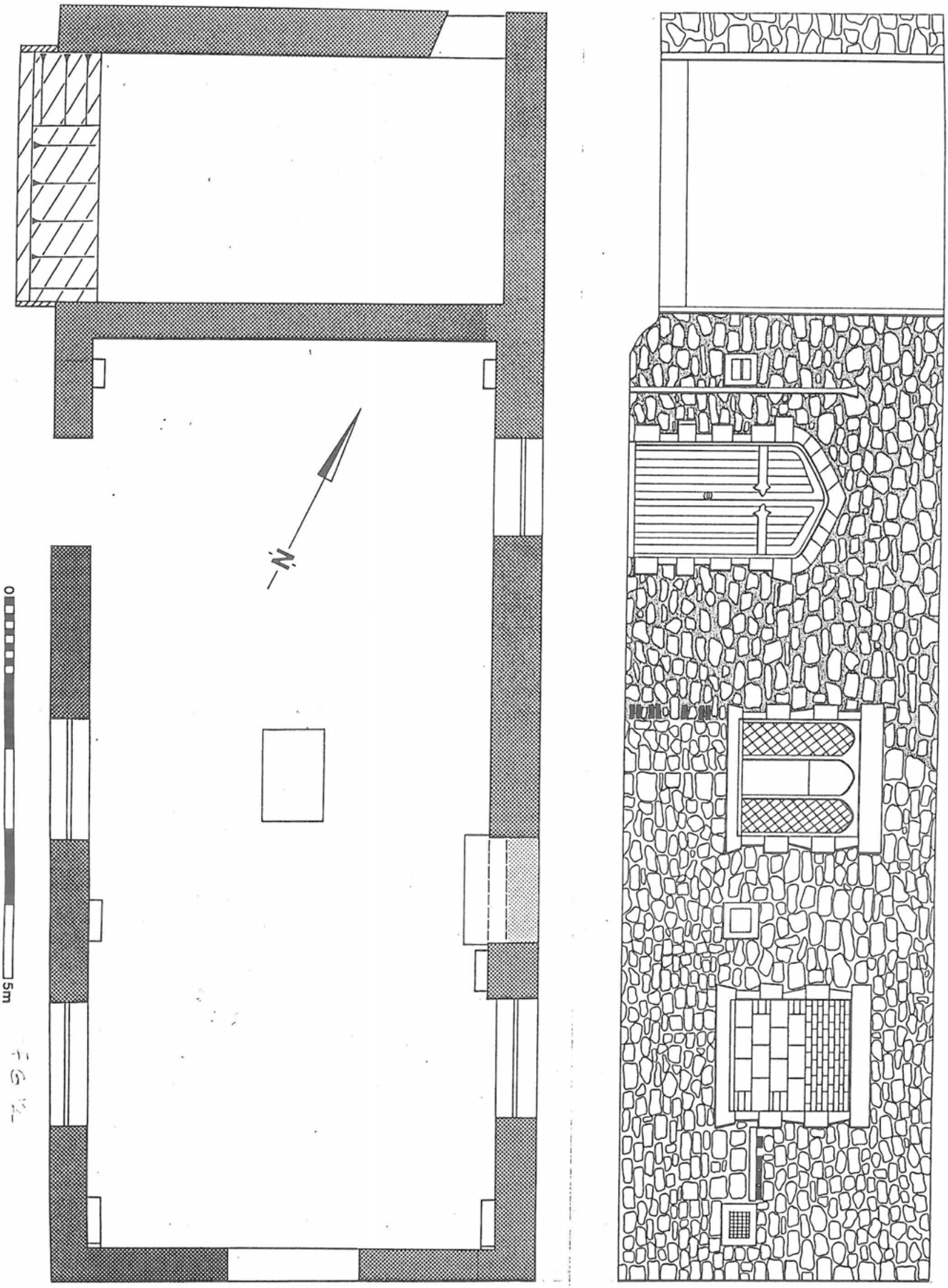


Figure Twelve: Southwest elevation and groundplan of Meeting House

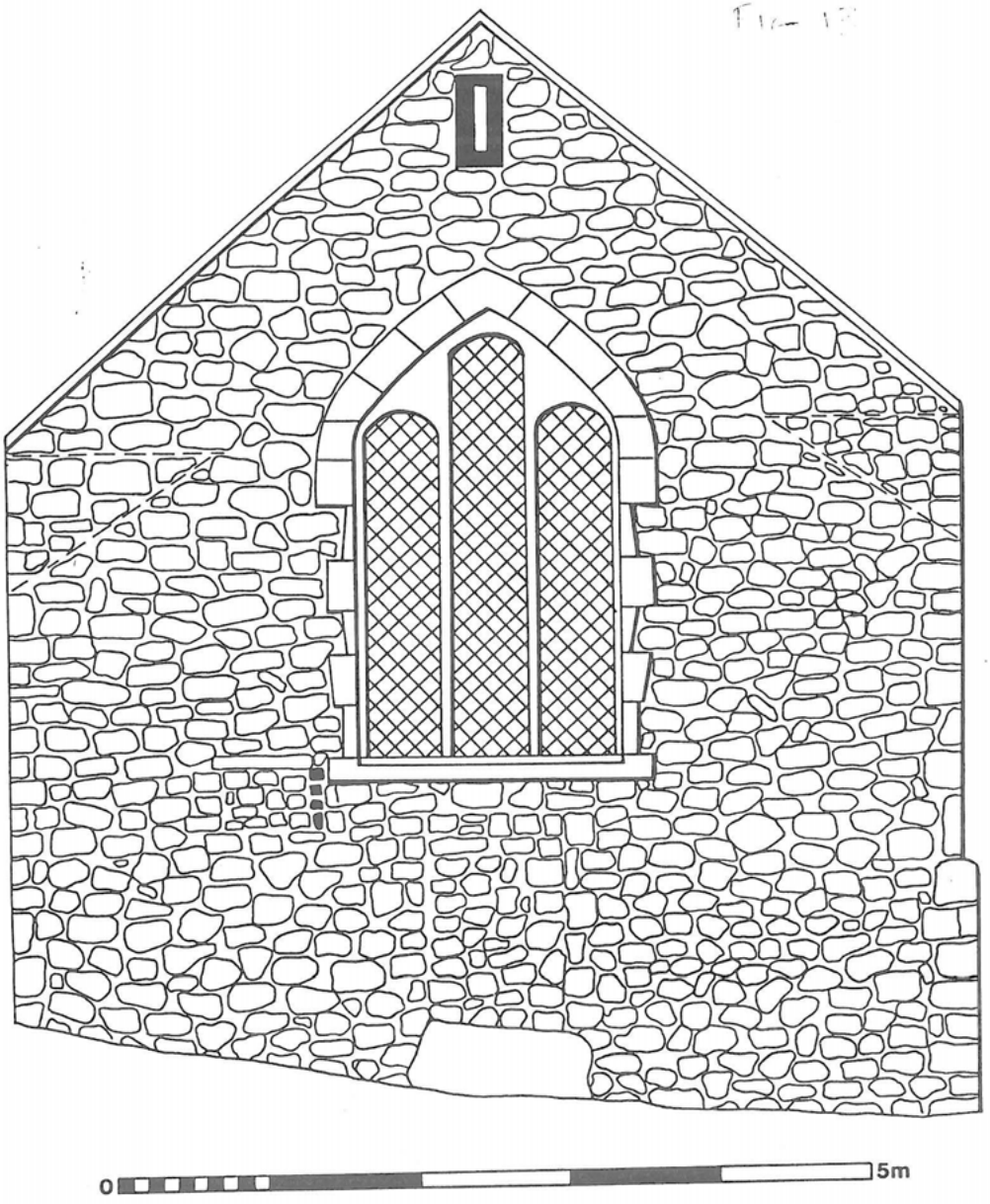


Figure Thirteen: Southeast elevation of Meeting House

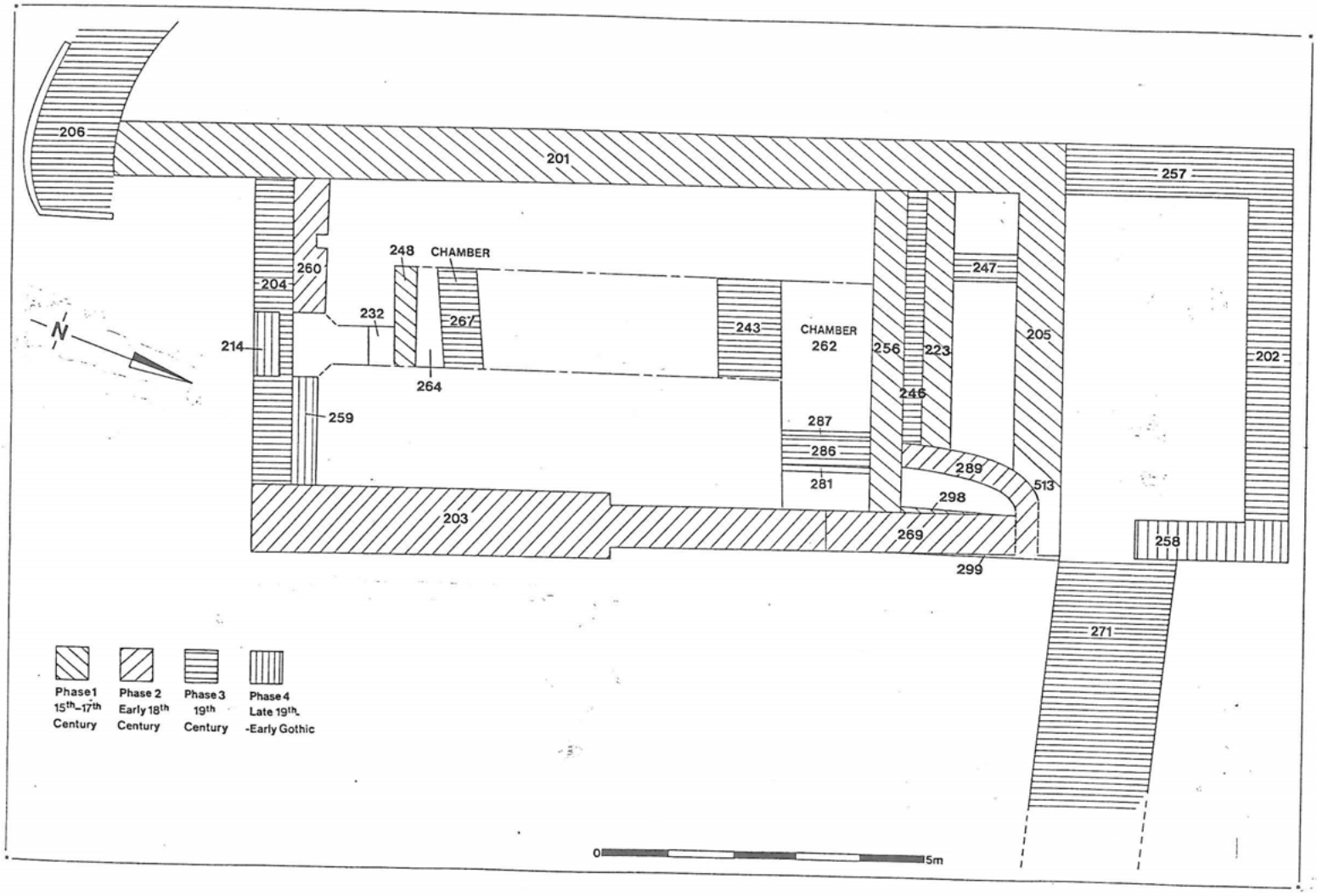


Figure Eleven: Ground plan of water mill

FIG 14

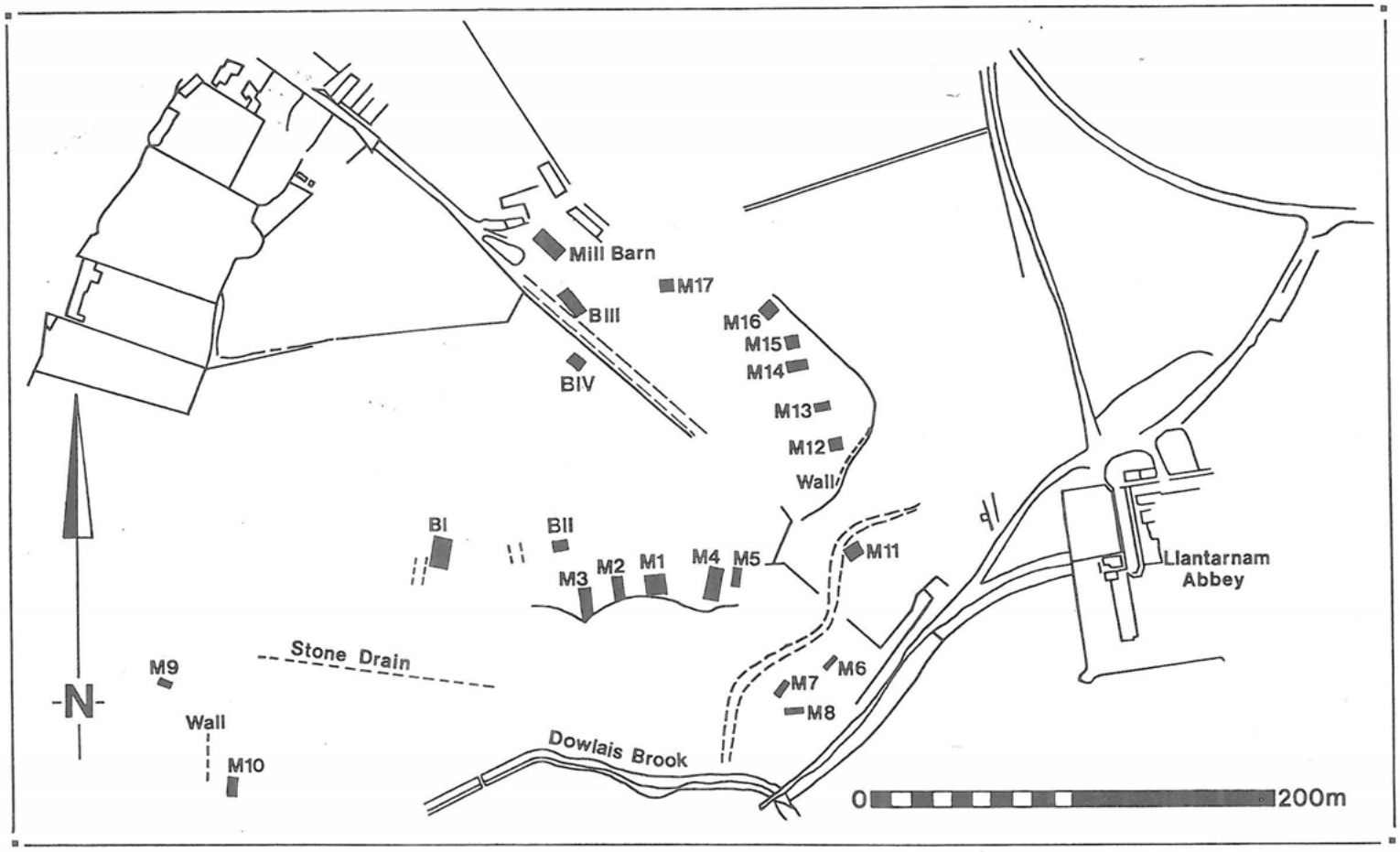


Figure Fourteen: Plan showing former extent of village

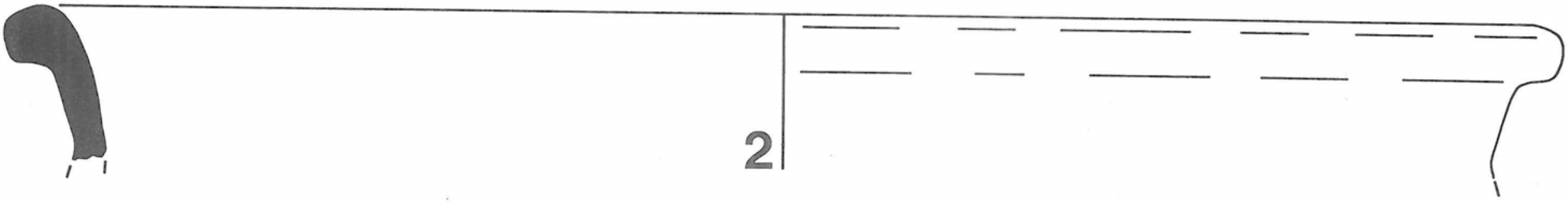
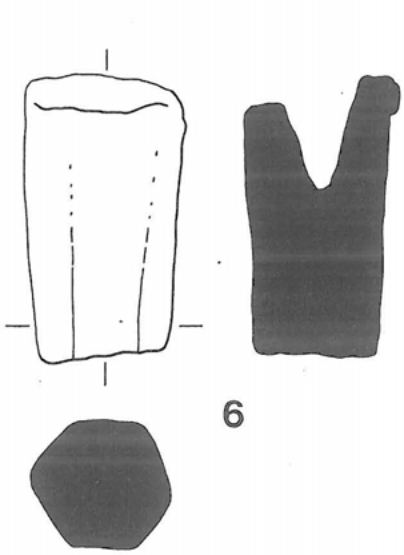
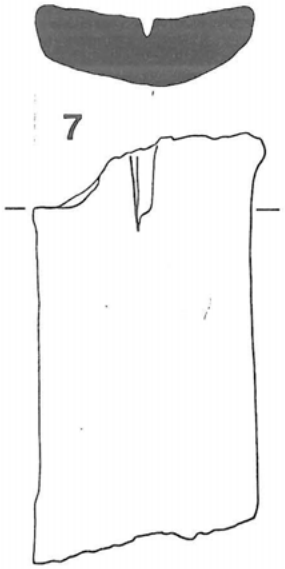
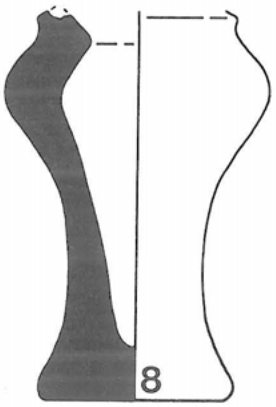


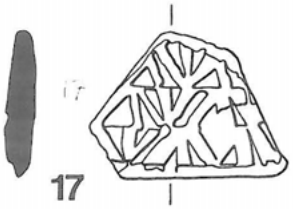
Figure Fifteen: Roman Pottery (scale 1:4)

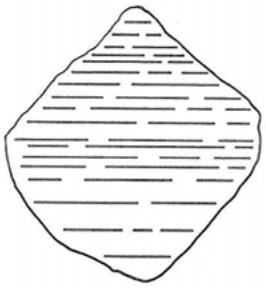
Figure Sixteen: Medieval pottery (scale 1:2)

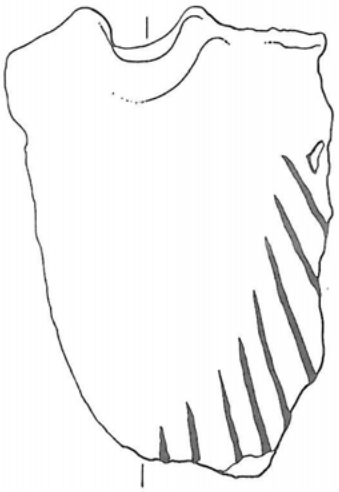


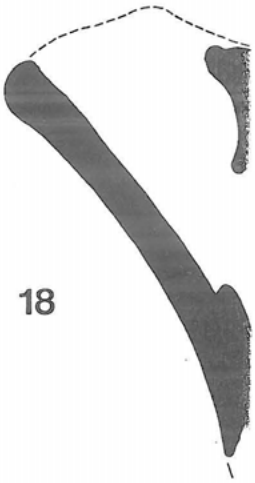












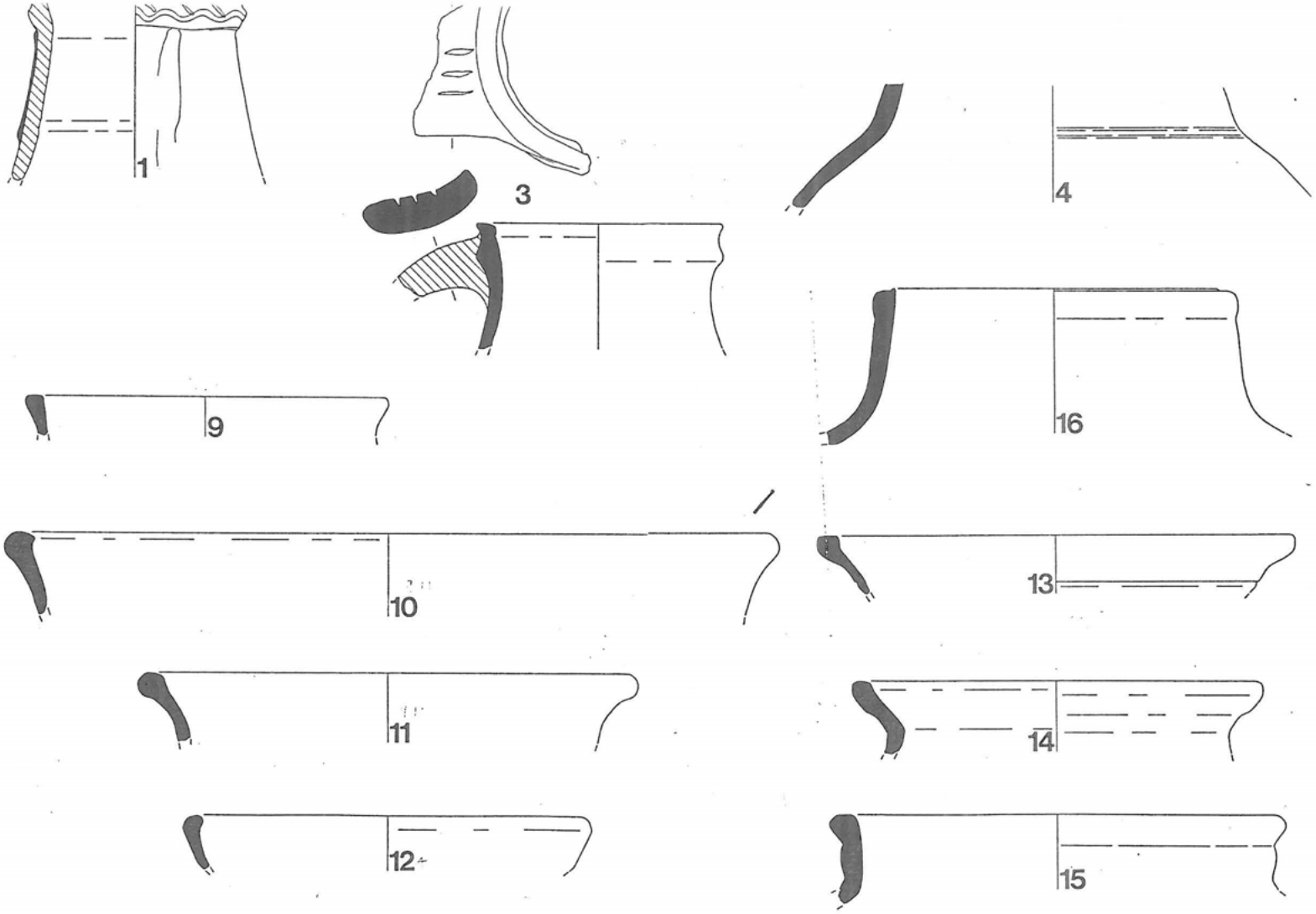


Figure Seventeen: Medieval pottery (scale 1:4)

Figure Eighteen: Early post-medieval pottery (scale 1:2)

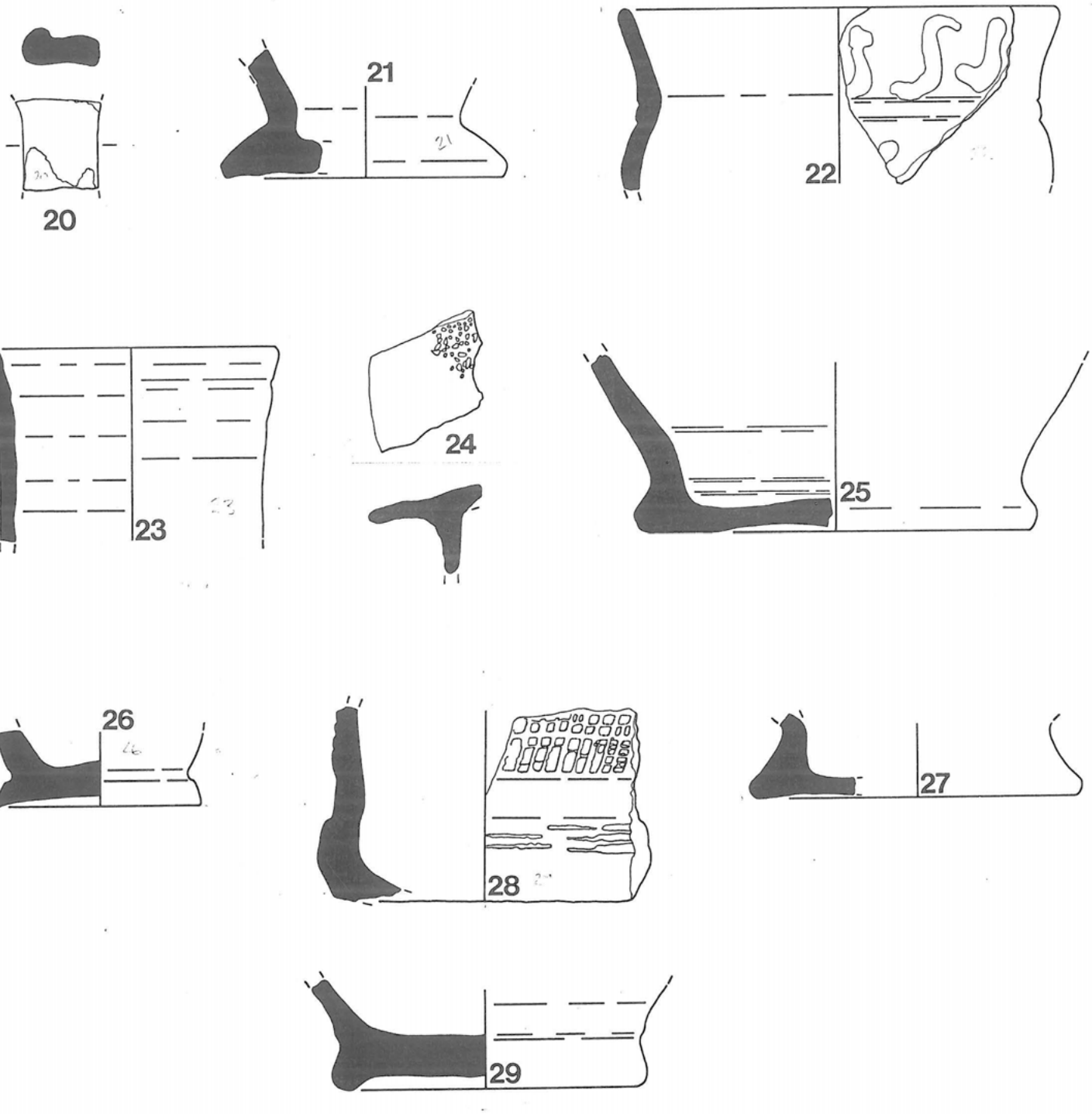
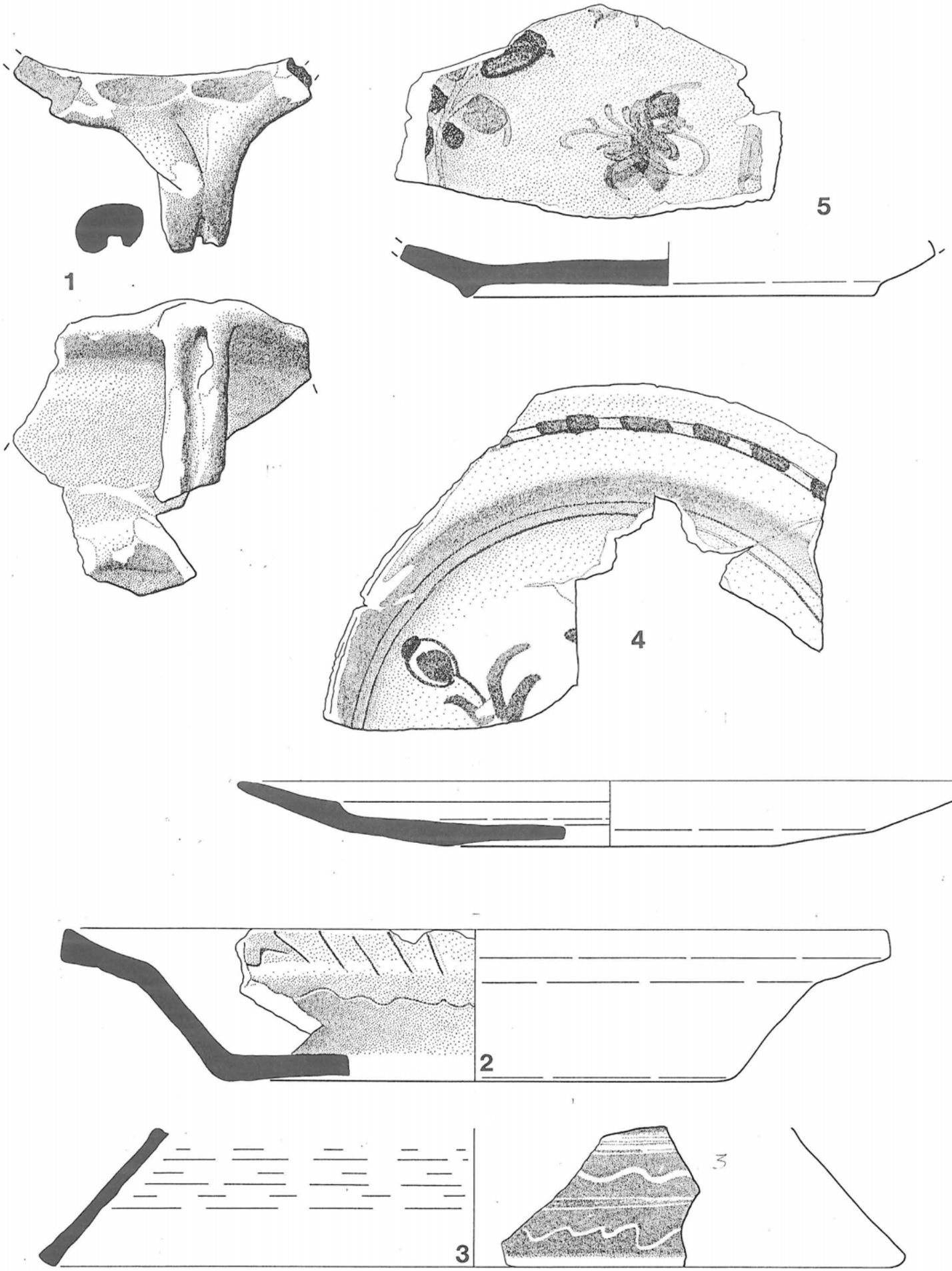


fig 14 Later Post medieval pottery (1:2)



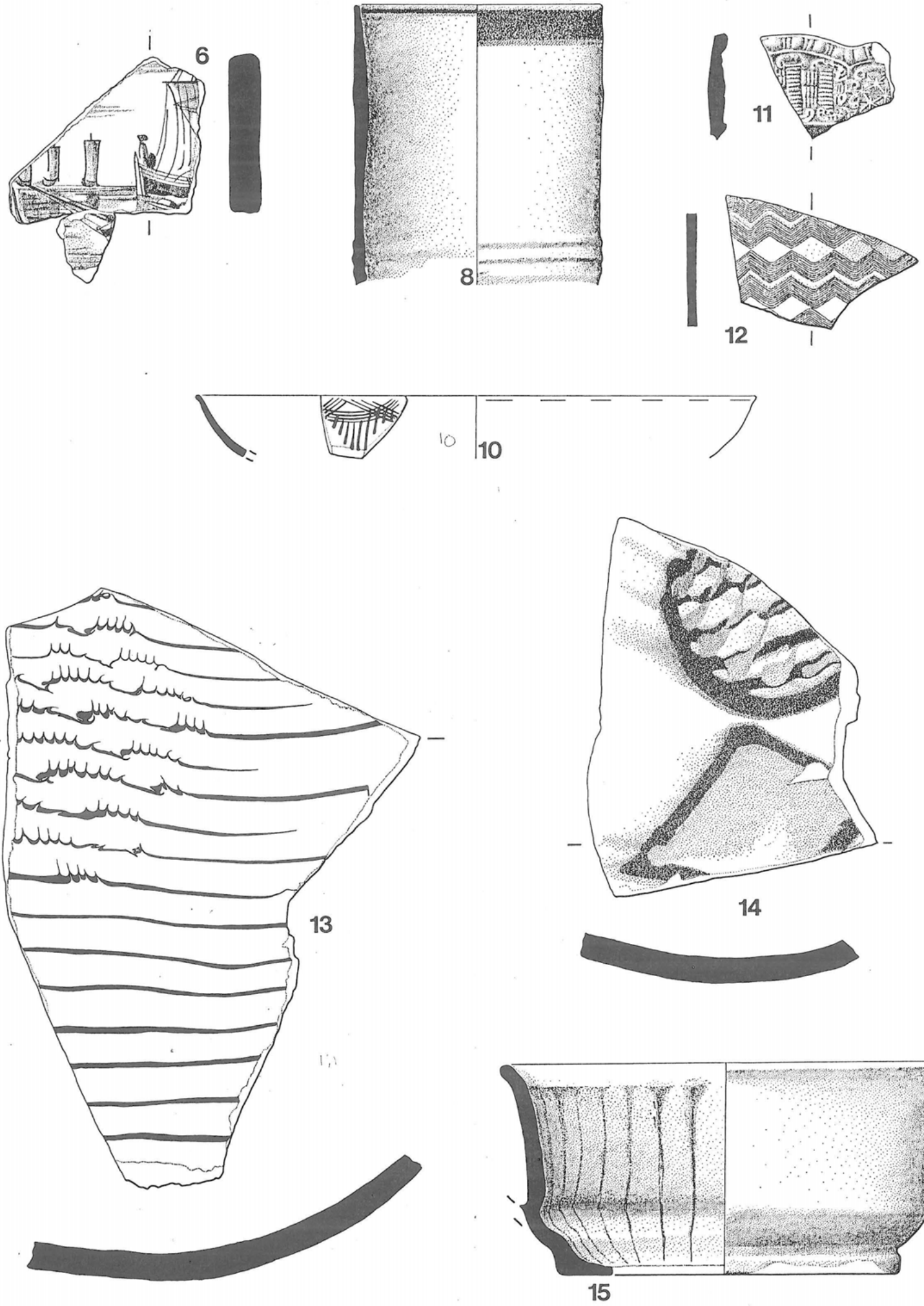


Fig 20 : Late post-med pottery

Figure Twenty-One: Objects of copper alloy (scale 1:1)

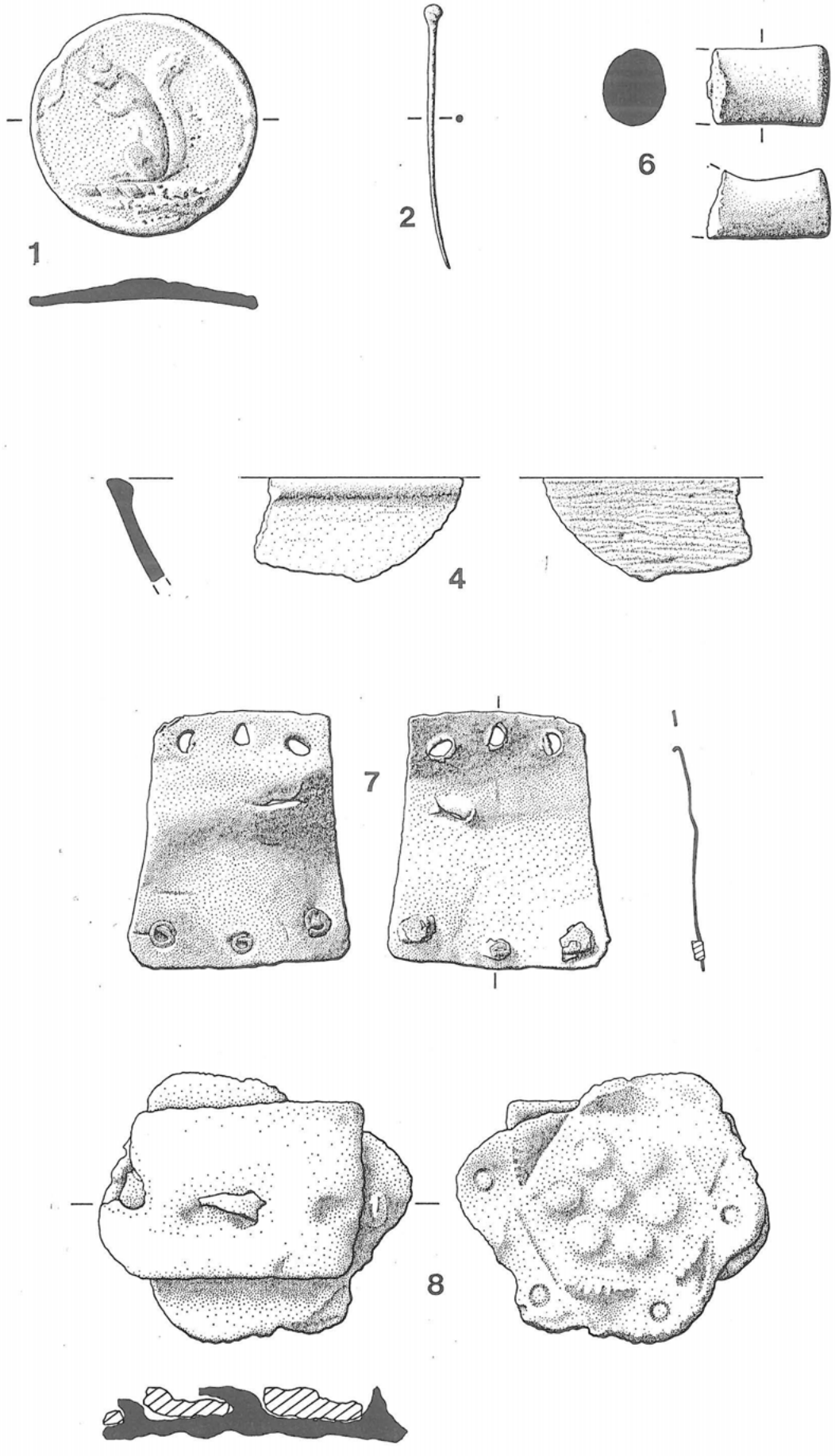


Figure Twenty-Two: Objects of lead and lead-alloy (scale 1:2)

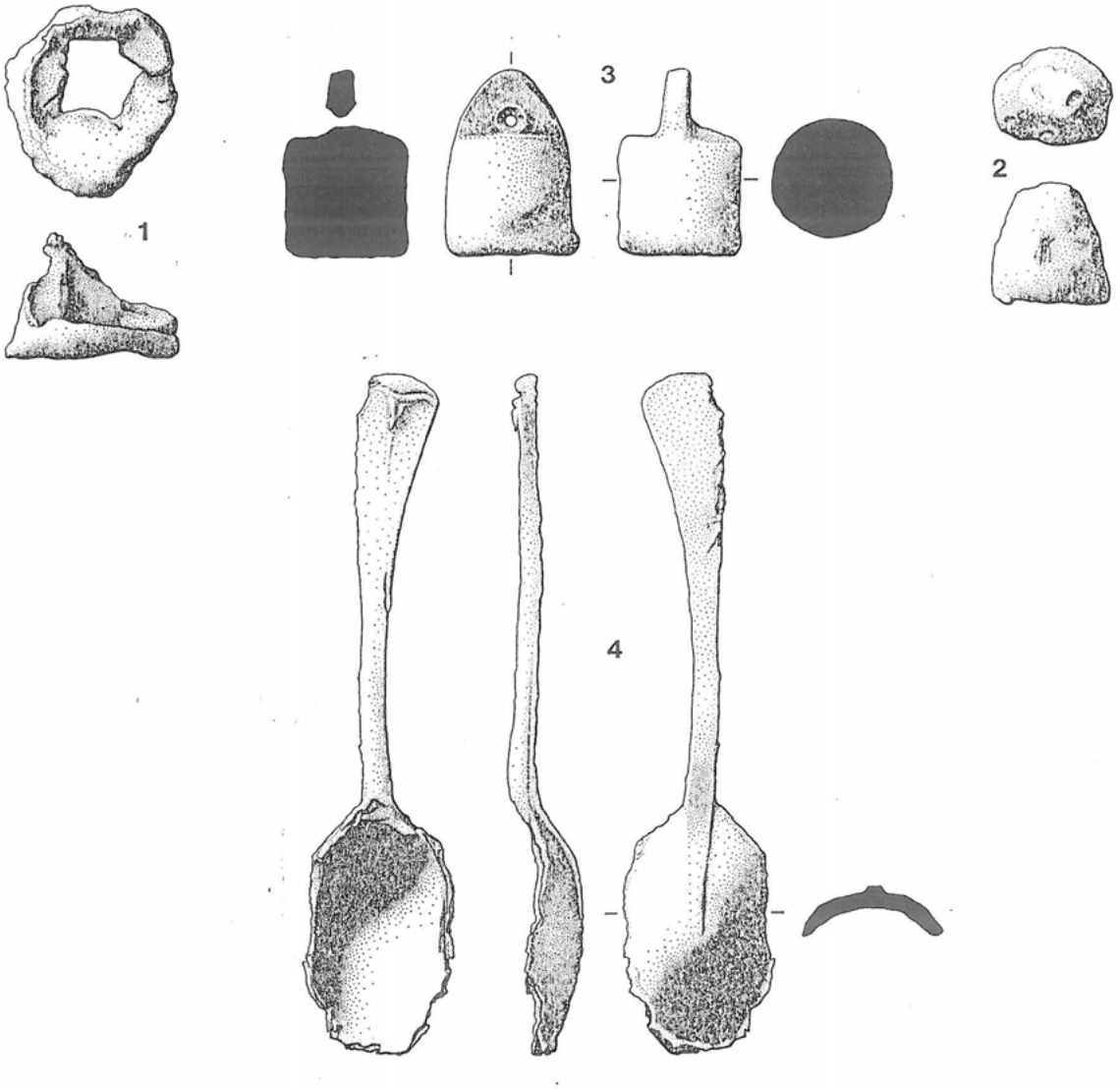
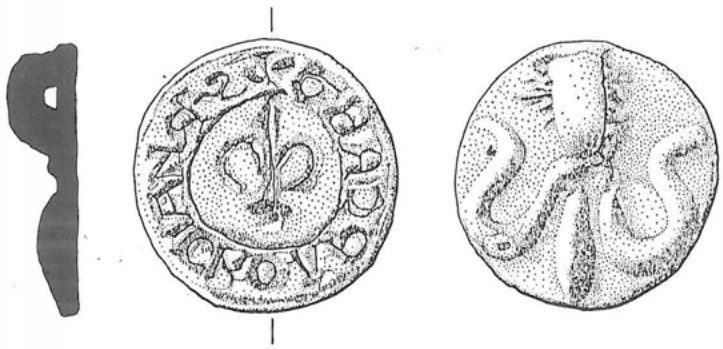


Figure Twenty-Three: Lead seal-matrix (scale 1:1)



PRINT AT 1:1 (50%)

Fig 23

Fig. 24

Figure Twenty-Four: Post-medieval glass (scale 1:2)

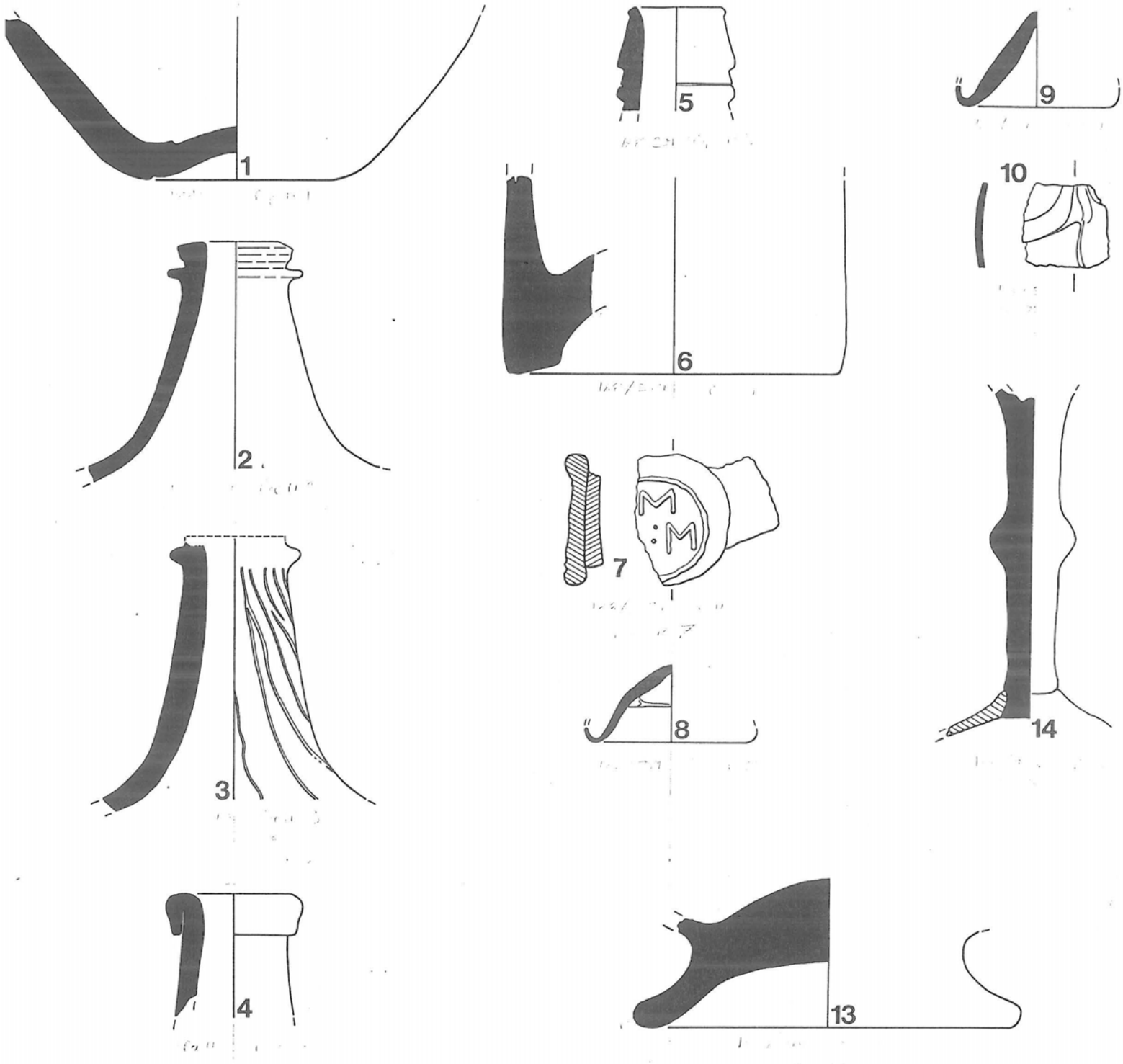


Figure Twenty-Five: Worked bone objects (scale 1:2)

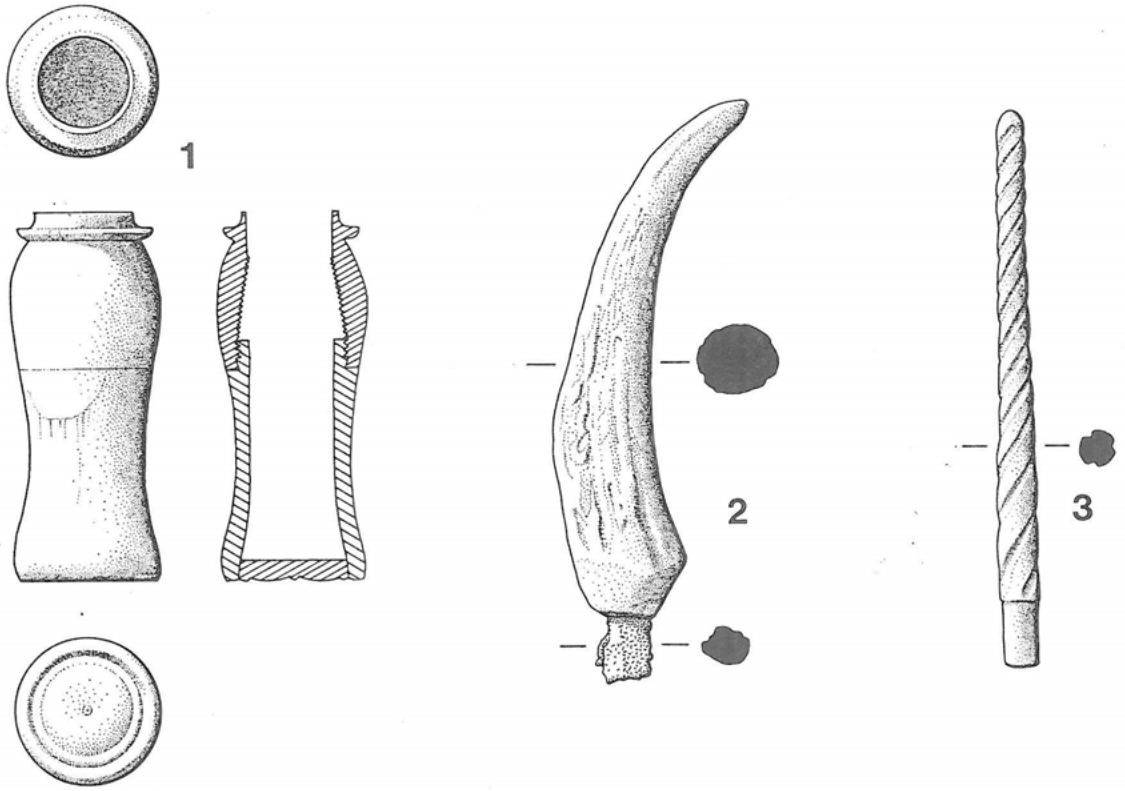
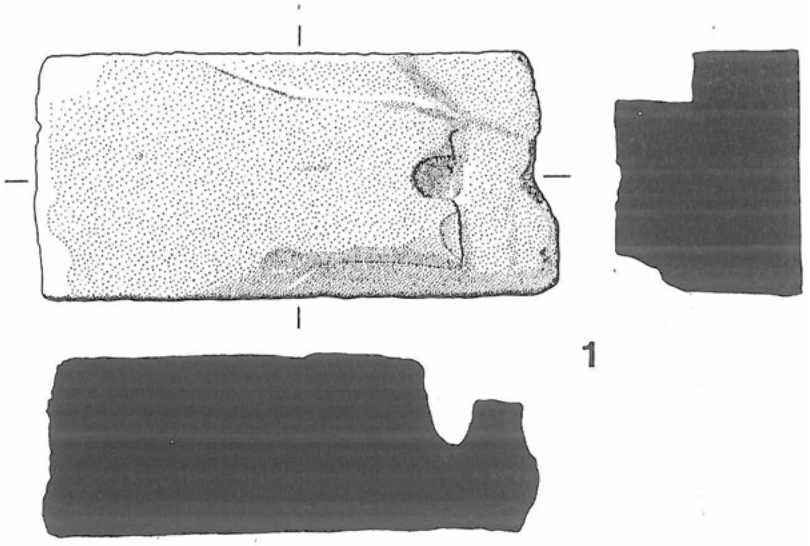


Figure Twenty-Six: Architectural stone (scale 1:8)



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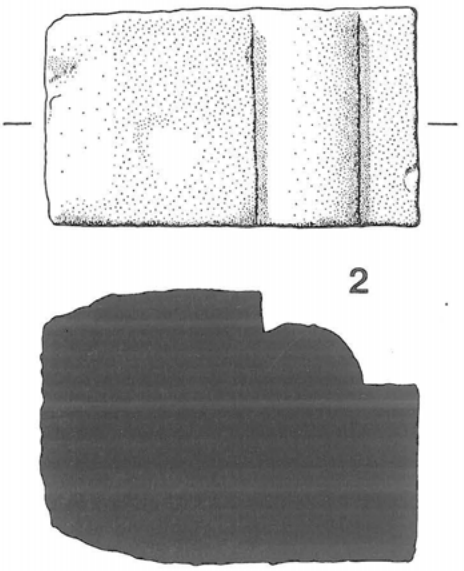

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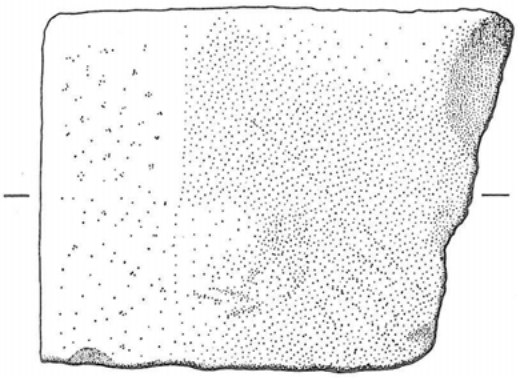

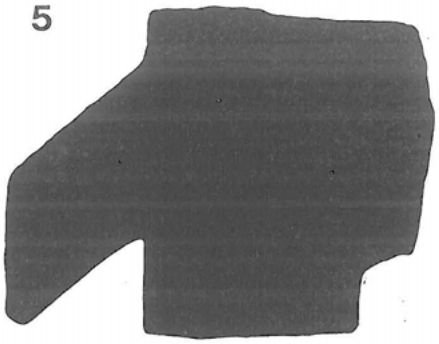

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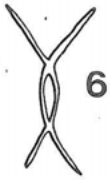

6

Figure Twenty-Seven: Clay pipes (scale 1:1)