

ARCHAEOLOGICAL INVESTIGATIONS AT MISSENDEN ABBEY, 1983–88

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Missenden Abbey was founded in 1133 by William de Missenden and was a house of Arrouaisian canons until its dissolution in 1538. At this time, many of the buildings, including the conventual church, were destroyed. The remaining buildings have experienced a great deal of change and redevelopment. Today, the main building is associated with a management college, which stands on the site of the cloister. In 1983, plans for the development of new buildings enabled excavations to be carried out by Buckinghamshire County Museum (BCM). The intention was to establish the position, dimensions and structure of the conventual church and associated buildings. Further development occurred during 1983–6 and in 1988 an exploration was undertaken during the relaying of the drive. Subsequently some specialist reports were prepared, but the lack of funds inhibited further study. In 2012, CVAHS set out to review all the data and materials in the archive held by BCM in order to complete and publish the results of the excavations and the finds reports. This has allowed insights into the layout of the church, the monastic ranges and external buildings. The finds, concentrating on the medieval period, have given us information and insights into the buildings, domestic objects, animals and how the monastic community lived.

*De terre suis je forme et faite
Et en terre suis je retourne.*

Epitaph of Thomas de Missenden 1369.

INTRODUCTION

The former monastic site and 18th-century house known as Missenden Abbey lie at the south end of the village of Great Missenden in the parish of the same name, centred on NGR SP8975 0100 (Figs 1 & 2). In 1947, the house became an Adult Education College owned by Buckinghamshire County Council. Since the 1990s it has been owned by Buckinghamshire New University and has remained as a training facility ever since.

In 1982 it was decided to refurbish the existing abbey buildings and build a new residential block under the auspices of the Architects' Department of the County Council. It was believed that much of the medieval abbey, including the conventual church, west range and various ancillary buildings, had been demolished and lay buried in the grounds of the present-day building. In 1983 and

in advance of the building works, selected areas, external to the main house, were excavated, led by Peter Yeoman for BCM (Areas 15). Figure 3 shows the areas excavated during 1983 through to 1988. A watching brief was maintained during the construction work in 1984 and 1985, records made of archaeological and architectural features (Areas 625, 3031) and all major internal elevations drawn. Restoration and construction work was almost complete when, on the night of 19 July 1985, the main building was gutted by fire. All the interior was destroyed, including the medieval roof of the east range, with only the walls left standing. Disastrous as the fire was, it revealed much new archaeological information had been previously concealed behind paneling and plaster. Where possible these exposed features were recorded and a photogrammetric survey of the standing remains was undertaken

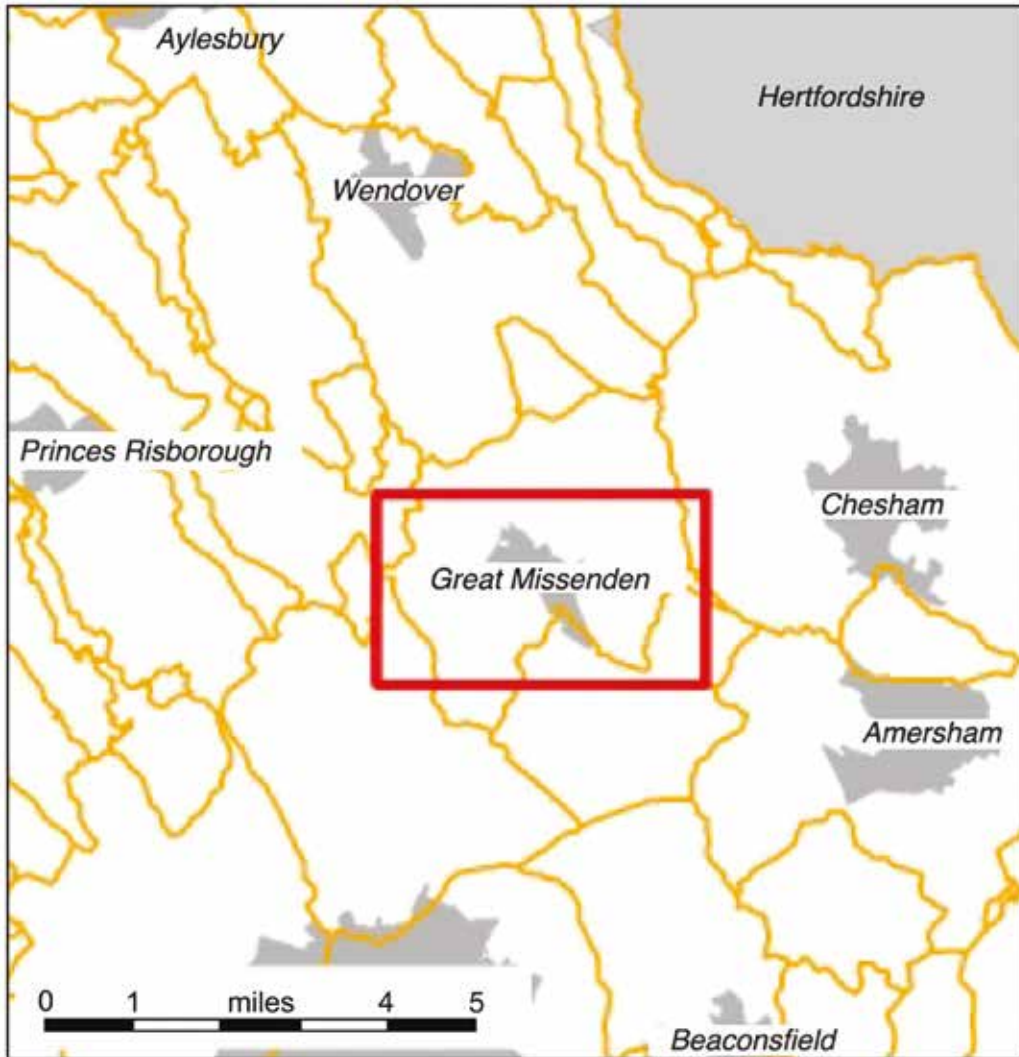


FIGURE 1 General location

by R. Dallas of the Institute for Architectural Studies, York.

The rebuilding of the abbey within the remaining facade necessitated the erection of an internal steel girder framework, secured by large foundations cutting through the floors of the abbey. This led to the destruction of much stratified material but also provided an opportunity to record stratigraphy revealed in the stanchion pits (Areas 26, 29). At much the same time, sections were cut through a series of service trenches

outside the abbey which yielded further useful stratigraphy (Areas 32, 42). In March 1988, during the laying of a new drive west of the abbey, the walls of the previously unseen west range were uncovered (Area 43). A rescue excavation was mounted with help from the County Museum Archaeological Group, and all useful information documented.

The site archive and full Level III report are held by BCM (CAS No 1855). Although much basic information was secured and a few specialist

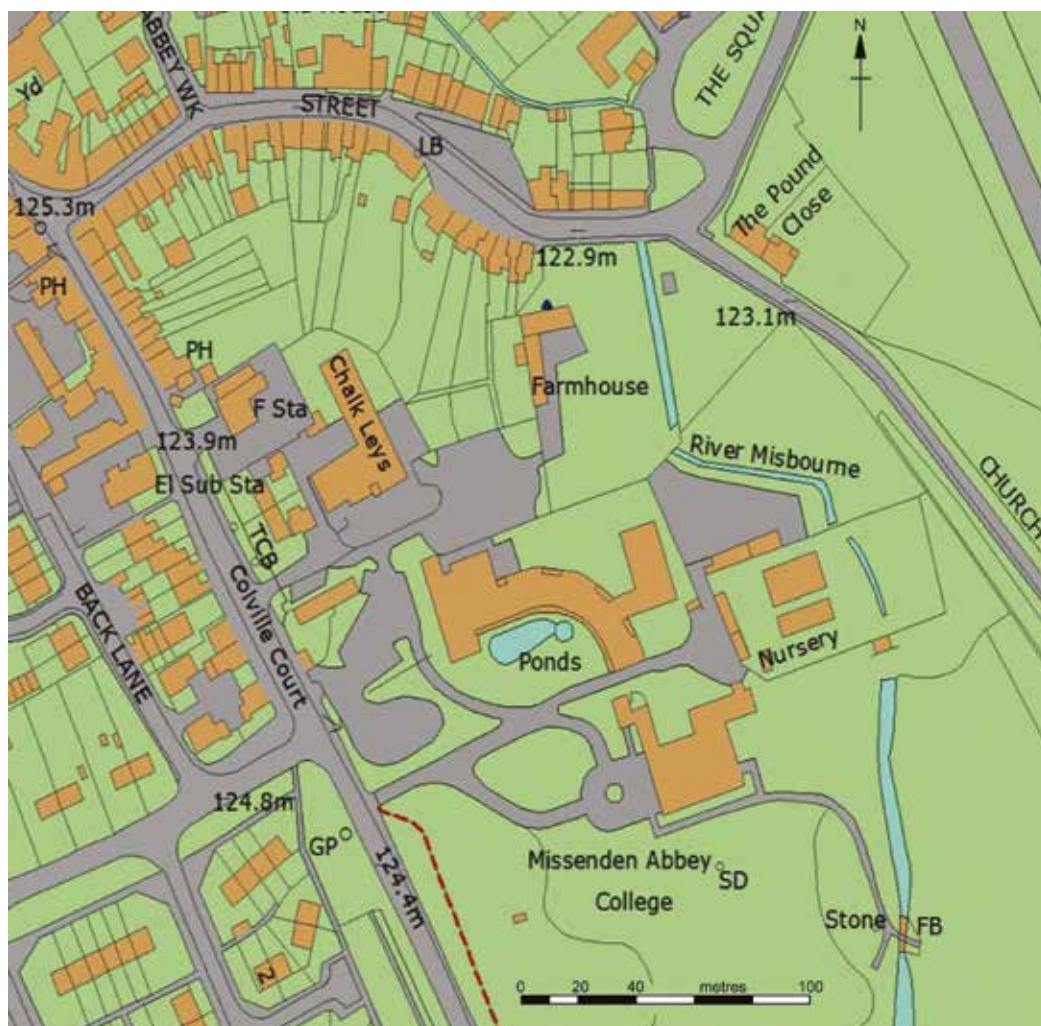


FIGURE 2 Great Missenden, showing the location of the present-day Missenden Abbey and associated buildings, including the Abbey Farmhouse

reports prepared, lack of funds prohibited completion of this broad study and publication. In 2012, the Chess Valley Archaeological and Historical and Society (CVAHS) discovered the archive and undertook to review and complete the accumulated data, examine all outstanding finds, complete and improve reports, digitize all photographs, and draw and tabulate data associated with the original abbey buildings. This work has been undertaken with the intention of publishing all that is known about this one-time foremost feature of the Chiltern landscape.

GREAT MISSENDEN

Location & Geology

Missenden Abbey is positioned on level ground at *c.*121m OD on the southwest side of the intermittent stream of the river Misbourne which runs along the valley floor (Fig. 2). The valley system here lies in a northwest to south-east valley system forming a ‘gap’ in the Chiltern Hills and along much of its length has down-cut through the chalk strata with the Middle Chalk forming the valley floor. This is obscured by heavy downwash, valley

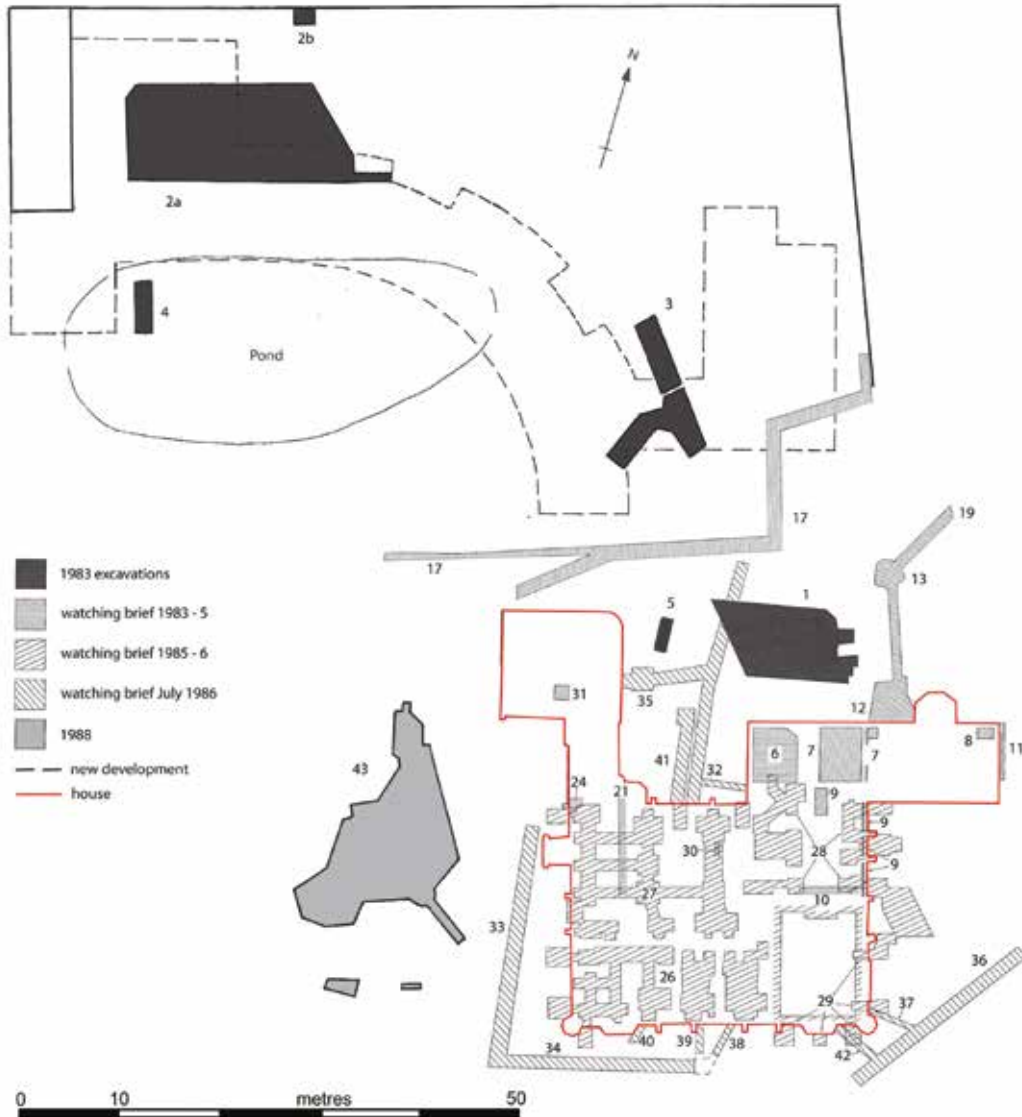


FIGURE 3 Overall plan of investigations at Missenden Abbey

gravel and alluvial deposits lying over a considerable depth of disturbed, transported and weathered Middle Chalk which in turn overlies the 'intact' un-weathered chalk strata (Bailey 2009; Green & Beckley 2010, 9). Such a position, on a plateau in a high valley adjacent to a seasonal river, is a relatively common location for an Augustinian abbey (Robinson 1980). The river and the pond northwest of the abbey are fed from springs such that water levels fluctuate with the seasons.

Prehistory, Roman Period & Medieval

Evidence for prehistoric occupation of the abbey area is scant. A number of worked flints were found during the excavations (below) but further indication of occupation was not encountered. The fields surrounding Great Missenden have yielded evidence of flint working dating from the Neolithic to Bronze Age, both as chance finds and during field walking. A small amount of Roman pottery and tile was also found during excava-

tion, suggesting the presence of a Romano-British settlement nearby and indeed Chiltern riverside valleys were a favoured location for villa estates (Branigan 1971, 8). Twenty-one Roman coins, reputedly found in the grounds of the abbey, were given to the County Museum in 1947, although their provenance remained uncertain. Other areas surrounding Great Missenden encompass a variety of archaeological sites, including the prehistoric earthworks of Grims Ditch (Davis 1981, 23–3) and Roman settlements alongside the Misbourne, of which two are near Amersham (Beckley & Green 2009, 30; Zeepvat & Radford 2010, 75). Medieval moated sites such as those at Redding Wick (Jenkins 1938, 39, 83, 174) and Chalkdell Wood (see below) are also within walking distance.

In Great Missenden, it is likely that Church Street represented the original town during the medieval period, with a green at one end which would have developed into the market square when the abbey gatehouse was built on its south side. This medieval town lay on the old road from Chesham to High Wycombe via Peterley, Little Kingshill and Hughenden. The present-day High Street derives from a planned late medieval element of the town (Fig. 4) which could have accommodated up to 28 burgage plots, each *c.*22 yards by 176 yards (Chevenix Trench 1996, 251–2).

The Medieval Enclosure

Medieval earthworks are situated in Chalkdell Wood, Frith Hill *c.*200m to the north of St Peter and Paul Church (Fig. 4), and stand above the abbey grounds. They comprise a D-shaped enclosure, measuring *c.*58m north-south and *c.*28m east-west, with substantial earthworks showing a degree of fortification suggestive of a ringwork castle (Farley 1991, field visit). This stronghold seems to have been constructed to exploit a commanding position overlooking the Misbourne valley and perhaps the early medieval village. The site is overlooked by higher ground to the east suggesting that it was not defensive and indeed it is associated with an adjacent section of hollow-way. A survey of the earthworks and investigation of tree throw holes on the site revealed late 11th-century shell-tempered ware, suggestive of an early foundation, while later ware indicates that the site was in occupation into the later medieval period (Cater 1996, 241–243; Secker 2003). This ‘adulterine’ castle

was possibly erected by Hugh de Noers, son of William de Missenden (Page 1908), who was a supporter of King Stephen and may have worked to sever communications between Wycombe and Hawridge, likely held by supporters of Queen Matilda (Secker 2003).

THE HISTORY OF MISSENDEN ABBEY

Historical references to Missenden Abbey and its estates have been dealt with elsewhere in varying degrees of length and accuracy (Beevers 1956; Parker 1888; Jenkins 1962; Page 1905; Page 1908; Kaye 1992). Here it is proposed to give only an outline of the history dealing particularly with information which has direct relevance to the archaeology of the abbey, particularly its buildings.

Foundation in the 12th Century

Missenden Abbey was founded by William de Missenden in 1133, the lord of Peterly Manor in Missenden; this is verified in a number of charters of confirmation (Page 1905, 369–376). The abbey, initially led by Abbot Daniel with seven canons, was an Arrouasian house of the Augustinian order, helped by a modest endowment from William de Missenden (Page 1905, 369–376; Jenkins 1962). The Abbey, dedicated to the Blessed Virgin Mary, attracted benefactors, among them ‘all the best-known names in the county of Buckingham’, for example Richard de Urvill, Walter Giffard, Walter de Bolebec, Turstin Mantel, Manasser Danmartin, Simon de Gerardmoulin and Hugh de Gurnay (Page 1905, 369–376). William de Missenden’s son, Hugh de Noers, also made a grant of land to the abbey and by the end of the 12th century the abbey had lands and rents in Buckinghamshire, Oxfordshire, Hampshire, Norfolk, Suffolk, Hertfordshire, Middlesex and London.

The abbey has a well-documented history, including the 14th-century Missenden Cartulary, which lists the extensive lands owned by the abbey and the names of those who granted the land (Jenkins, 1938; 1955; 1962). The second element of the foundation charter suggests that the canons moved into an existing homestead or had temporary lodgings erected for them. There is evidence from papal bulls that the monks took over a pre-existing small parish church and its associated buildings (Jenkins 1962; Kaye 1992, 11). It is most likely that this was located within the

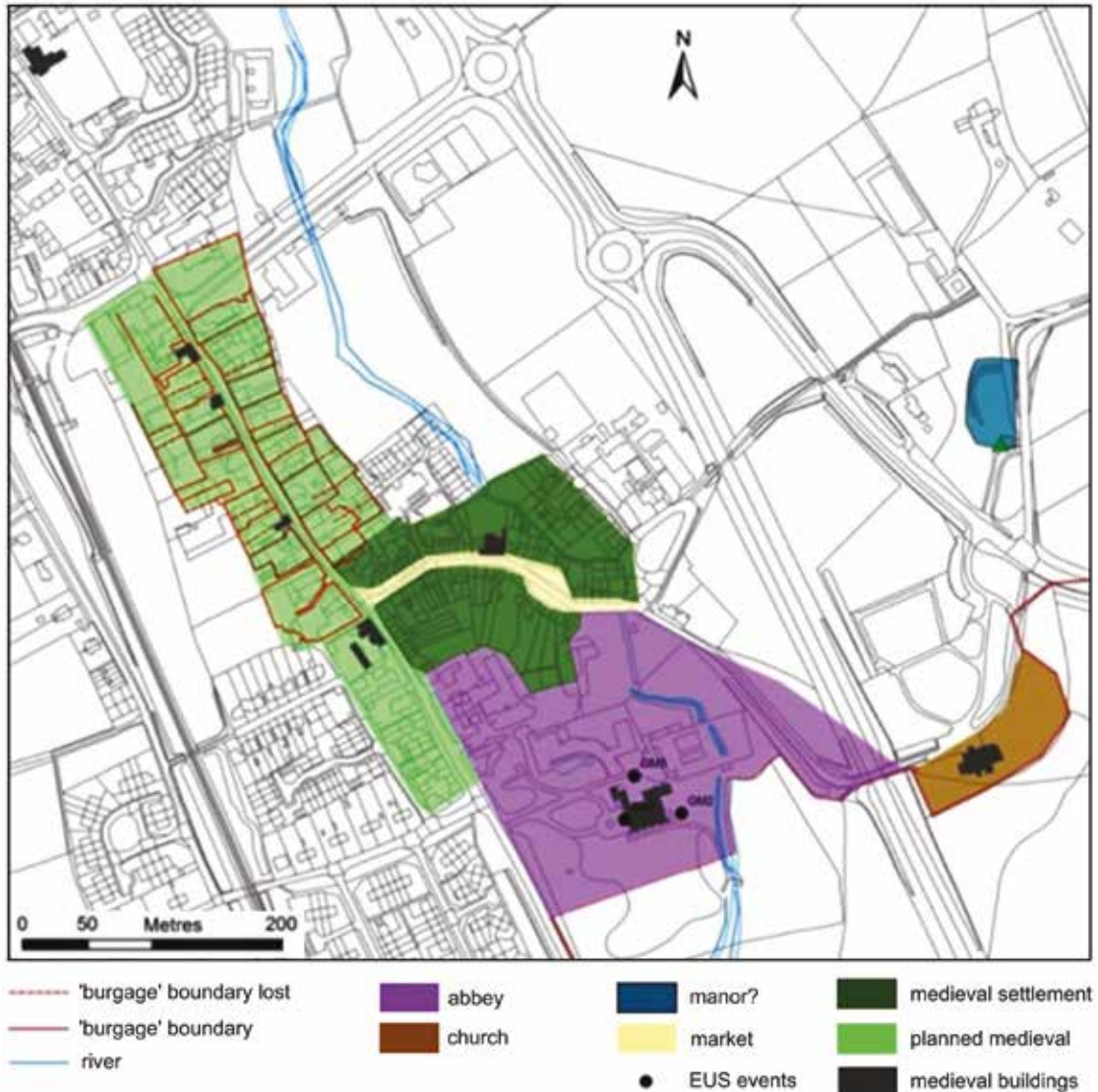


FIGURE 4 Great Missenden: medieval settlement, the Abbey, church and manor (*copyright Buckinghamshire County Council*)

present-day abbey grounds, a scenario supported by the 1983 excavations when clear evidence of pre-foundation buildings was uncovered on site (Yeoman 1983). However, Davis (2004) argues that this evidence could point to the existence of an early 11th-century church on the hill overlooking the abbey, prior to the present-day church of St Peter and St Paul, which was founded in the late 12th century. This proposal is based on two pieces

of carved stone found in the church boiler room which appear to date to the 10th to 11th century; one is a fragment of an Aylesbury font, the other a piscina fragment with a cushion capital. While Davis's observations should be kept in mind, other scenarios are possible. For example, these stone items could have been rescued from the abbey site after the dissolution and carried to the church as a reminder of what had gone before.

13th Century

The abbey is said to have grown to a strength of twenty-six canons in the mid-13th century. In 1247, Henry III, a regular visitor to the abbey, gave timbers from the royal forest at Brill for the construction of a guest house (Jenkins 1962, xiv). A few years later, in 1254, a further six oaks were donated for the rebuilding of the church. Part of this reconstruction may have included the addition of a chapel which was noted as ‘recently founded’ in 1268 (Peacock 1883, 101). This may have been ‘the chapel of St Augustine within the monastery’ (Parker 1888, 382). In 1276 Abbot William of London received fifty marks from the King to establish a chantry in the conventual church for the soul of Hugh de Sandford (Page 1905, 369–376).

After its prosperous start, the second half of the 13th century seems to have been a difficult time for the abbey, with several references to the Abbot’s debts in the Close Rolls of 1272–9 (Kaye 1992, 17). In 1281 commissioners were appointed by Edward I to take the abbey under the King’s special protection for four years as it was ‘in danger of dispersion and ruin’ and a further commissioner was successively appointed in 1282 (Page 1905, 369–376). However, it seems that by the end of the 13th century the status of the abbey was much improved and it was reendowed in 1293 by a second William de Missenden. So substantial was his endowment, that he was credited inaccurately with founding the abbey (Kaye 1992, 7).

14th Century

By the start of the 14th century, the financial difficulties seemed to have been relieved (Jenkins 1962). The wealth of the abbey increased, bringing with it a corresponding increase in size and influence and, with the support of important Buckinghamshire benefactors, continued to accumulate lands and rents which it retained until the dissolution (Beevers 1956, 3). During the 14th century, the abbots were generally of well-known families including two Marshalls of Missenden and in 1339 William de la Mare, the brother of Thomas, later the abbot of St Albans (Page 1905, 369–376). However, the general reputation of the abbey and its abbots was low and the Bishop had to intervene several times. In 1361 Abbot Ralf Marshall was convicted of ‘having traitorously and feloniously falsified and clipped the king’s

money, to wit, groats and sterlings’ at his manor at the Lee (Jenkins 1962, xvi) and was sentenced to be hanged, drawn and quartered. Eventually he was pardoned and allowed to return once more as abbot (Kaye 1992, 18).

15th Century

By 1400, the canons were described as ‘*bachelor country gentlemen more polished and more charitable, but little more learned or more pure in life than their lay neighbours*’ (Kaye 1992, 19) and their number fell back to twenty (Page 1905, 369–376). The visitations of Bishop Gray of Lincoln between 1431 and 1436 were associated with injunctions to the abbot to restore and repair the monastery and its manors; he advised the abbot to keep yearly accounts, to ensure that the buildings were renovated and that there were enough canons to fulfil religious services. In 1462, Abbot Robert Risborough appealed to the king for protection against the priors and canons and they were made to give sureties not to injure him or set fire to his house (Jenkins 1962, xvii). It is evident that some repairs were carried out in the 15th century as this is the date of the claustral roof, probably over the dormer, a notable feature of the eastern range of the house until the fire in 1985 (Yeoman 1985, 26–28).

16th Century & Dissolution

Accounts of further visitations in 1518 by Bishop Atwater, and in 1530 and 1531 by Bishop Longland, are the most informative regarding the abbey buildings. ‘*It was also enjoined to the Abbot that he should cause to be prepared some suitable building [honestam domum] for the Canons, in which they can eat together and have readings until ... he shall cause the refectory to be properly repaired. Immediately after this visitation he was enjoined ...to provide a house and beds for sick Canons in the infirmary... Let... some house within the monastery be assigned where the Canons can eat with their relatives and friends...*’ (Parker 1888, 383). By 1530 only the abbot and eight canons are recorded (Jenkins 1962, xviii) and it is also noted that ‘*The Abbot says that the church and other buildings of the monastery are out of repair... Dom. John Wedon, the Prior, says that the buildings are much out of repair. Dom. John Attewell says that the cloister needs repair*’ (Parker 1888, 384). Injunctions (effectively court orders) were made by

Bishop Longland in 1531 regarding the door of the Lady Chapel, the doors from the church into the quire and cloister, the cloister door leading into the fields as well as repairs to the buildings, especially the belfry (Page 1905, 374) and to the 'great gates of the monastery entering into the little courtyard' (Peacock 1883, 61).

As was the case for most churches and abbeys, Missenden Abbey was dissolved in 1538, and its possessions passed to the King. In 1541, Queen Elizabeth granted to Richard Grenway for 21 years 'the House and site of the late Monastery of Myssenden...with all Houses, Edifices, Barns, Stables, Dove Houses, Yards, Orchards Gardens, land and soil lying within the site of the said late monastery'... 'She further grants the buildings of the mon[astery] which hereafter should be ordered to be demolished...' (Browne Willis MS, XL, 69: note in Bodleian Library). Grenway was succeeded as tenant in 1559 by Richard Hampden, followed by a series of further tenants until Queen Elizabeth granted the house to Robert Earl of Leicester, who sold it to Sir William Fleetwood, Elizabeth's 'Mad Recorder of London' (Kaye 1992, 29).

18th-Century Rebuilding

The house remained as the Fleetwood family home until 1787. During this period, in the mid-18th century, Browne Willis recorded 'here are some remains of the ancient abbey... viz an cloystere [and] the ground whereon the church stood tho [how] far it extended cannot be discovered. Under the ground have lately been found several coffins and among the rest was found one of the stone wherein was an entire corpse a lamp and a crucifix but the corpse had not been exposed long to the air since 10 minutes before it turned to ashes which coffin etc was by the order of Mrs Fleetwod... committed again to the ground' (Browne Willis MS IV, 73. note in Bodleian Library). In the margin to the above, it was noted 'The remaining arch or two seems to have been the chapter house. The cloysters seem to have gone round the garden the west side of them where the chapter...on the north side probably stood the church where there is now a terrass they are about 30...square'.

In 1787 the 'abbey' house was bought by James Oldham, an industrialist, who let it to a succession of tenants until he and his family moved in between

1799 and 1802 (Kaye 1992, 36). In 1801 the house was already described as 'wholly rebuilt...fitted up in the Venetian Style, and rendered particularly elegant by its internal decorations' (Kaye 1992, 37). In a letter of 1802, Mrs Oldham wrote that 'the house was very large, uncomfortable and inconvenient... he has not absolutely rebuilt it, because the walls have not been entirely pulled down to their foundations but he has wholly altered it... at every great expense' (Kaye 1992, 37). The estate passed into the hands of John Ayton, a stockbroker, in 1806 who it was said, 'with great care and judgement restored it [the 'Abbey' house], as far as possible, to its former condition, and Gothic style of architecture' (Kaye 1992, 40). Ayton sold the estate to George Carrington, whose family remained until 1947, when the estate was sold to Buckinghamshire County Council. Page (1908, 347–353), wrote: 'The house ... stands on the site of the cloister... The church, which stood to the N of the cloister, is completely destroyed, and a kitchen garden now covers its site, but the walls of the eastern range of the claustral buildings are in large measure preserved, and the open 15th century roof which covered the dorter is still in existence and may be seen in various bedrooms now occupying the upper story of the east wing... the present kitchen must approximately occupy the site of the chapter house... The walls of the southern range, which ... contained the frater, still stand ... as do ... those of the western range, and the area of the cloister with its walks is almost entirely filled in with additional buildings, the corridors on the ground floor evidently following ... the lines of the former southern and western walks of the medieval cloister'.

A watching brief in the mid-1980s found that the monastic western range had been demolished and is now beneath the main driveway (Yeoman 1985, 26–28). Today, only the walling of the original east range remains and can be seen as one enters the present-day abbey. It includes the remains of a window from the monastic dorter and a stone surround to a former cellar doorway (Kaye 1992, 56).

In 1983, excavations of the medieval abbey allowed a basic chronological framework to be established and distinct areas recognized. During later 'construction-associated' excavation, function and dates of some locations were less certain and attention is drawn to this where it occurs.



Figure 5 Area 1 and adjacent areas, showing the position of the medieval walls associated with the church

EXCAVATION OF THE EARLY CHURCH & ASSOCIATED BUILDINGS

The Crossing

A major area of excavation (Area 1: c.100m²) was located north of the existing building (Fig. 3) and led to the uncovering the crossing, a central part of the conventual church lying to the west of the main chancel arch. Here, the excavated levels are presented as six or seven separate phases; many of the features observed in each level are numbered and appear in square brackets in the text. Where relevant, cross-sectional stratigraphic profiles are shown. Figure 5 shows a plan of associated areas and the medieval walls.

Phase 1: 11th-12th Century (Fig. 6)

A north to south wall footing, made up of flint nodules in a sandy mortar, survived at two

courses high in a shallow foundation trench [256] and showed evidence of a westward return at its southerly end. This footing was butted on its west side by a flint cobbled floor [235] which overlay the remains of a chalk floor [218] and on its east side by a solid floor of chalk with flint [257]. An early feature found in this area was a post-pit [250].

Comments and Interpretation: This wall footing and associated floors may be interpreted, with some certainty, as the remains of the earliest church on the site. Wall footings of similar stratigraphy and early date were found in Areas 5, c.17m to the west and 19, c.10m to the north-east (Fig. 5). Footing [256] appears to form part of the east end of the first church/chapel, pre-dating the monastic foundation. Post-pit [250] was a likely footing for scaffolding during construction, or perhaps a more permanent component of the early timber-framed church.

The exact date of this structure is uncertain. However, footings of similar stratigraphy and early date were found nearby when Areas 5 and 19 were excavated. The absence of Saxo-Norman ceramics suggests that this phase is not 11th century and that the church is not pre-conquest. It has been suggested that the foundation of the abbey in 1133 was a 'take-over' of a pre-existing parish church (Robinson 1980). If this is correct, it is likely that this simple structure was the early parish church subsumed by an abbey built in the early years of the 12th century.

Phase 2: 12th-Early 13th Century (Fig. 7)

By this phase the earlier floor levels had been sealed over by a 5cm-thick surface [217] of grey-brown gravel/sand/clay containing flint, chalk and iron-smelting slag. The earlier wall footing [256] was removed and its gulley sealed with a band of slag lumps [iron-smelting remains] mixed with sand [219]. The new surface [217] provided a level base for a wall [180] running across the eastern end of the excavated area and parallel with the original wall [256] described above. This new wall, 2m wide, comprised of flint nodules set in buff or orange mortar, survived to a height of 1.25m. Notably wall [180] appears to have aligned with a secondary wall [291] in Area 5 (Fig. 5), about 18m to the west. At the northern end of wall [180], a ramp of rammed clunch [233] with a flat narrow platform on top, butted against its west face (Fig. 8). A large puddingstone [247] was found in the upper footings, which projected further east of the excavated area [Fig. 8]. At the south end, another large pudding stone [104], projecting 1.1m from the wall face, was built into the footing. A socket 0.23m deep [221], subrectangular in plan with an ogee-shaped indent and stepped base, was uncovered on west side of this puddingstone. Late in this phase, a mortar spread [234] was laid, sealing the side of the clunch ramp [233], and acting as a base for a rammed chalk floor [170]. Finally, it should be noted that the west side of the excavated area was dominated by a backfilled trench, [137].

Comments and Interpretation: The layout changes in this area, and particularly the position of the faced flint wall (180), represent the enlargement and reconstruction of the church and are likely to have been contemporary with the first claustral range. During Phase 2, it is notable that there is no

evidence of an opening in wall [180]. It is of interest that the alignment of the wall was marked out in slag, a feature found below other stratigraphically early walls elsewhere, providing good evidence of 'on-site' ironworking. Puddingstone base [104] at the south end of the wall in Phase 2 proved to be a long-standing feature of the church and the presence of ogee-shaped socket [221] suggests that it would have supported an upright column. Finally, one possible scenario which might explain trench [137] is that it marked the position of a long-standing stone screen wall, discussed further in Phase 4.

Phase 3: Mid-Late 13th Century (Fig. 9)

The start of this phase saw the laying of a thin beaten chalk floor [170] which extended across most of the area. It also marks the creation of an opening through wall [180] which splayed out 25 degrees to the west. The north side of the opening comprised finely-tooled clunch blocks [188] rising three courses above ground level, a layout which suggests that a column may have been part of the superstructure. Shortly after this entrance was established, the entire floor surface was renewed with [202], a brown clay and mortar floor (Fig. 10). This was subsequently cut by four postholes, of which three are shown, and by grave [249] (Fig. 11).

Grave (249), 0.80m deep and 2.3m long, was identified on the south side of the excavated area relatively close to the nave-chancel wall. It was lined with chalk blocks and shaped clunch pieces and contained an almost complete, extended male inhumation [228]. The backfill, and a single nail associated with the burial, indicated the presence of a coffin. A second grave [206] was inserted immediately above the first, with only 240mm between their bases; inevitably the earlier grave was much disturbed. The second grave was larger and more sophisticated, comprising a cist made up of seventeen tooled clunch blocks, neatly assembled such that the stones with adjoining dressed faces fitted snugly. In addition, a head socket, with cap-stone, was constructed at the west end. No skeletal remains were found in the grave. A cross-section through these burials and the surrounding stratigraphy is illustrated in Figure 11.

Contemporary with these graves, various repairs to the floor were made. On the southern side of the area, the base of a shallow footing [192],

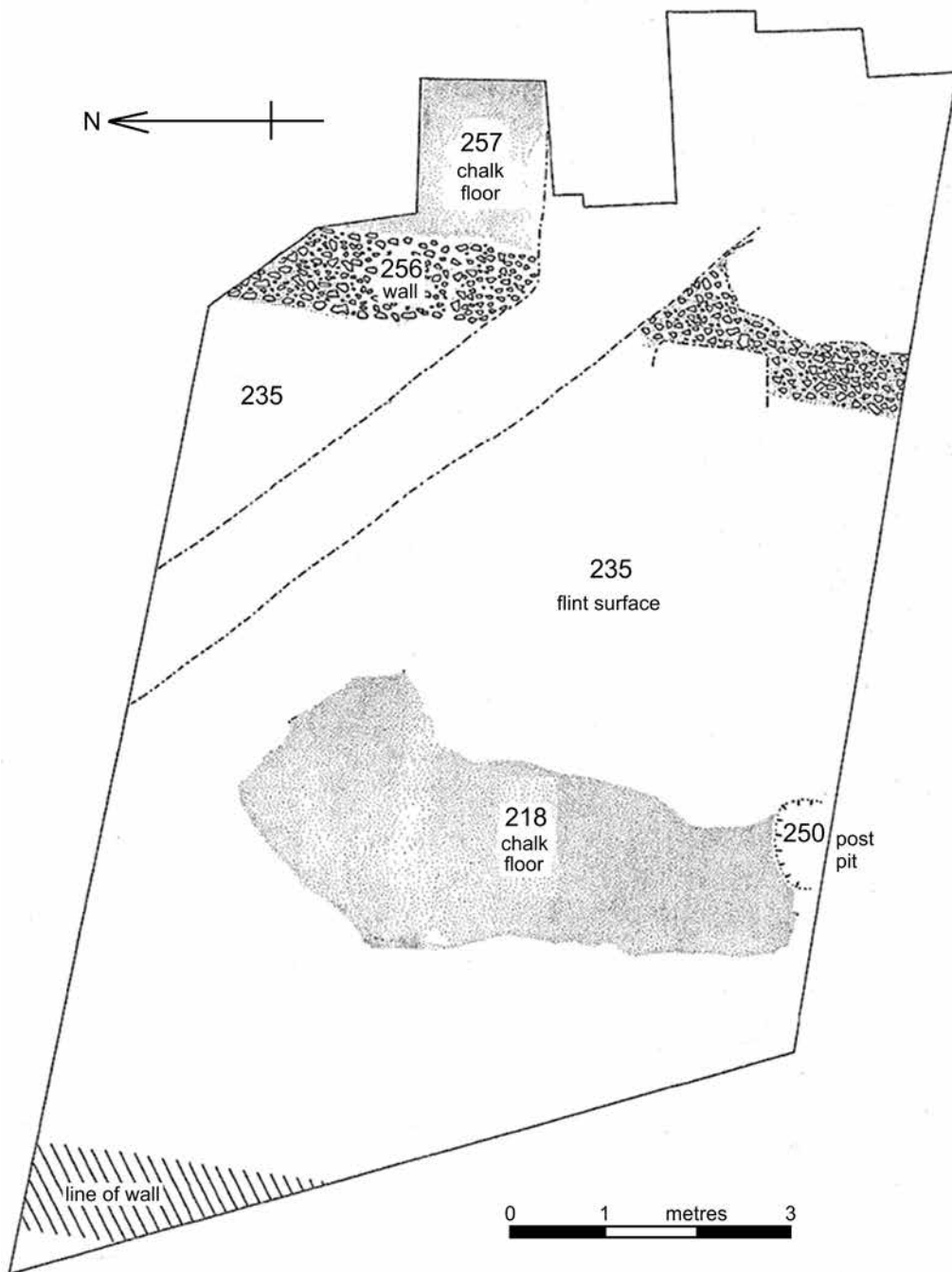


FIGURE 6 Area 1, Phase 1

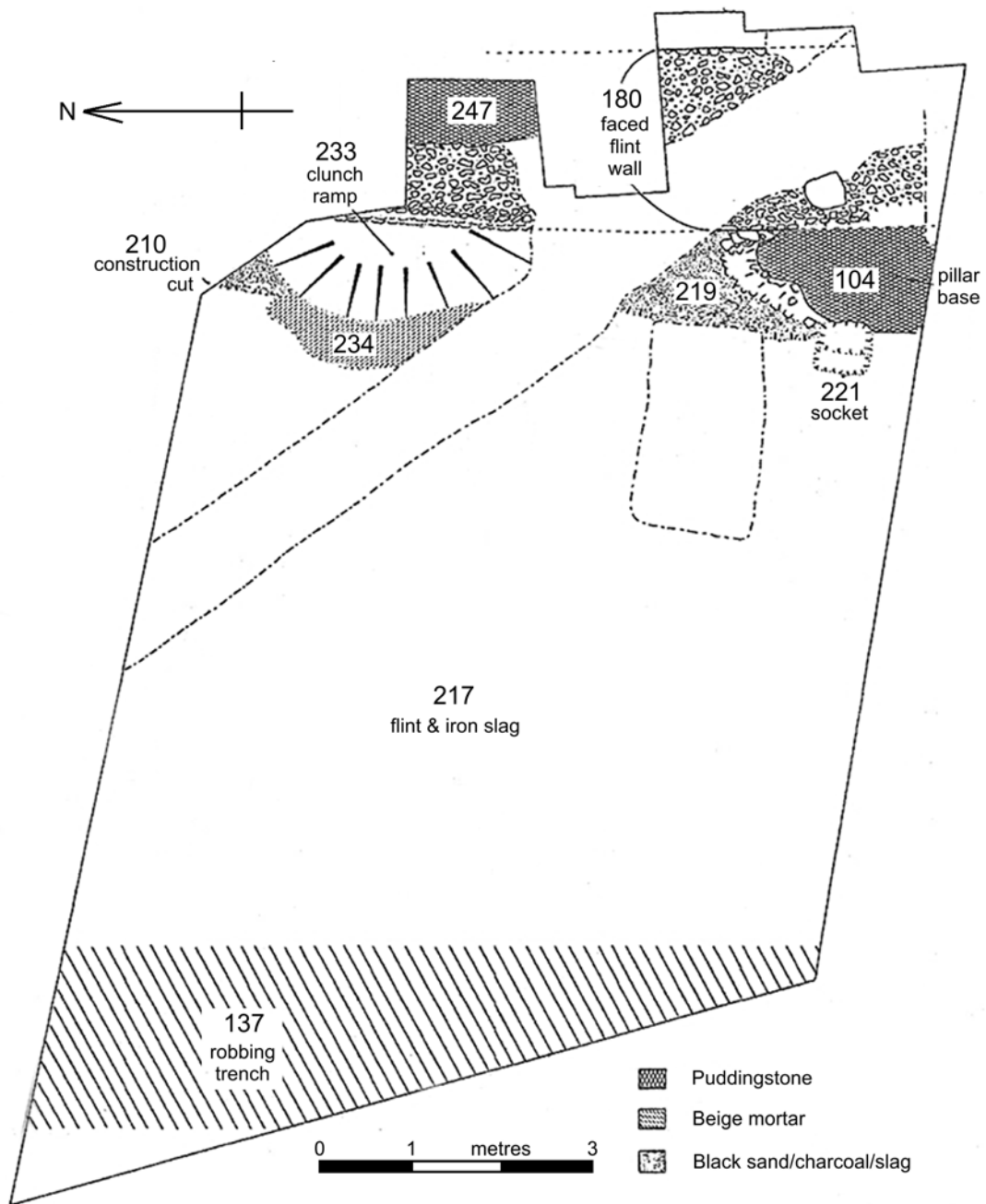


FIGURE 7 Area 1, Phase 2

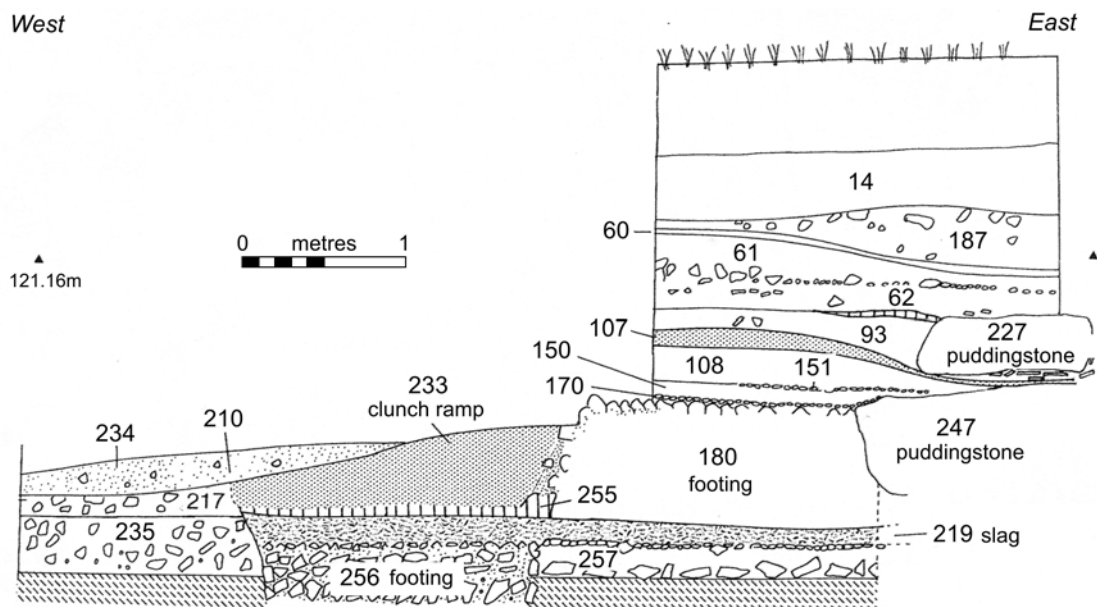


FIGURE 8 Area 1, north-west to south-east facing section

c.5.6m long with a short projection to the north, was uncovered. This feature butted against the Phase 2 puddingstone base [104] and sealed the ogee-shaped socket [221] on its upper surface. Further repairs were made to the floor before a more extensive mortar floor was laid, of which only a small area survived.

Comments and Interpretation: This phase, lasting eight or nine decades, marked the development and use of a new, enlarged church. In particular, an opening was made in the wall to create a stepped doorway/archway into the new choir and altar area to the east. This may have been associated with a screen, the *pulpitum*, dividing the choir from the nave. Previously the altar is likely to have been positioned to the west of this new extension.

The two burials are arguably among the earliest to be laid within the new church, and being in a central position at the east end of the nave are therefore likely to be high-status individuals. It is possible that the remains from the second grave (206) were removed later, perhaps to be re-buried within the more prestigious chancel.

There appear to have been frequent repairs to the interior. The flimsy nature of footing [192] suggests that the wall supported either a timber

partition, or perhaps an arcade of stone. This structure could have formed one side of a narrow south aisle, which may have been matched on the north side of the church, although it is not always the case that an abbey has two aisles or transepts. It is difficult to date these structural changes with any precision, although notes on remodelling of the church in 1254 may be relevant. The Missenden Cartulary (Jenkins 1962, xiii) states that 'Henry III, who was a frequent visitor, took a practical interest in the building (or re-building) of the abbey church by presenting the canons in 1254 with six oaks from the royal forest of Brill. Seven years earlier he had given them timber out of Brill forest for the building of their guest house'.

Phase 4: 14th Century (Fig. 12)

The initial surface of this phase was made up of a thin ramméd chalk floor [151], overlain and sealed with a thick makeup layer [133] and patchy chalk/clay mortar floor surfaces, which slumped in time (Fig. 10). Beneath this were features associated with trench [137], cutting through to Phase 2 and 1 levels, resulting in the removal of the west side of the area. The empty trench [132] was backfilled with at least five distinct tipping layers of gravelly silty clay mixed with building debris, flint,

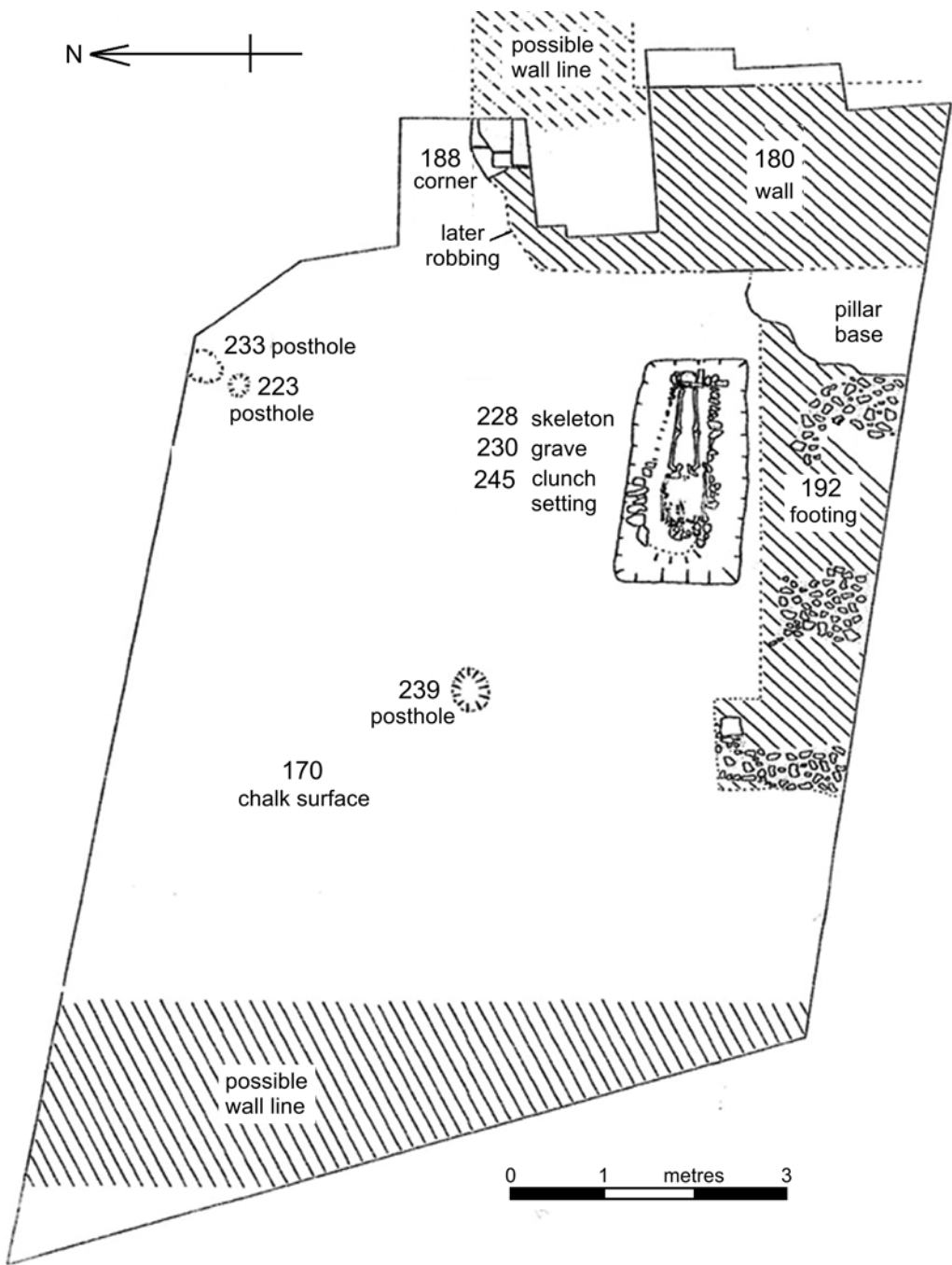


FIGURE 9 Area 1, Phase 3

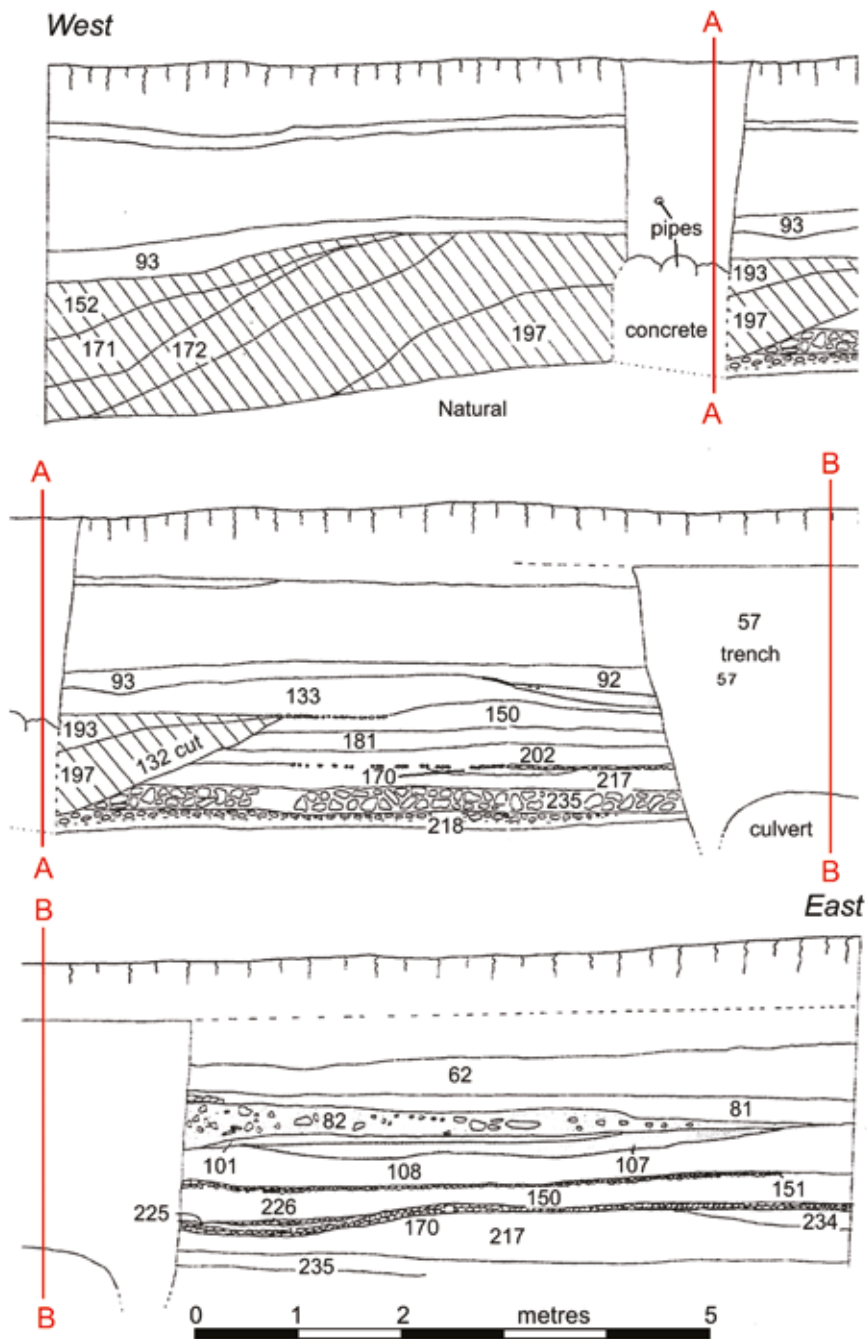


FIGURE 10 Area 1, west-east section

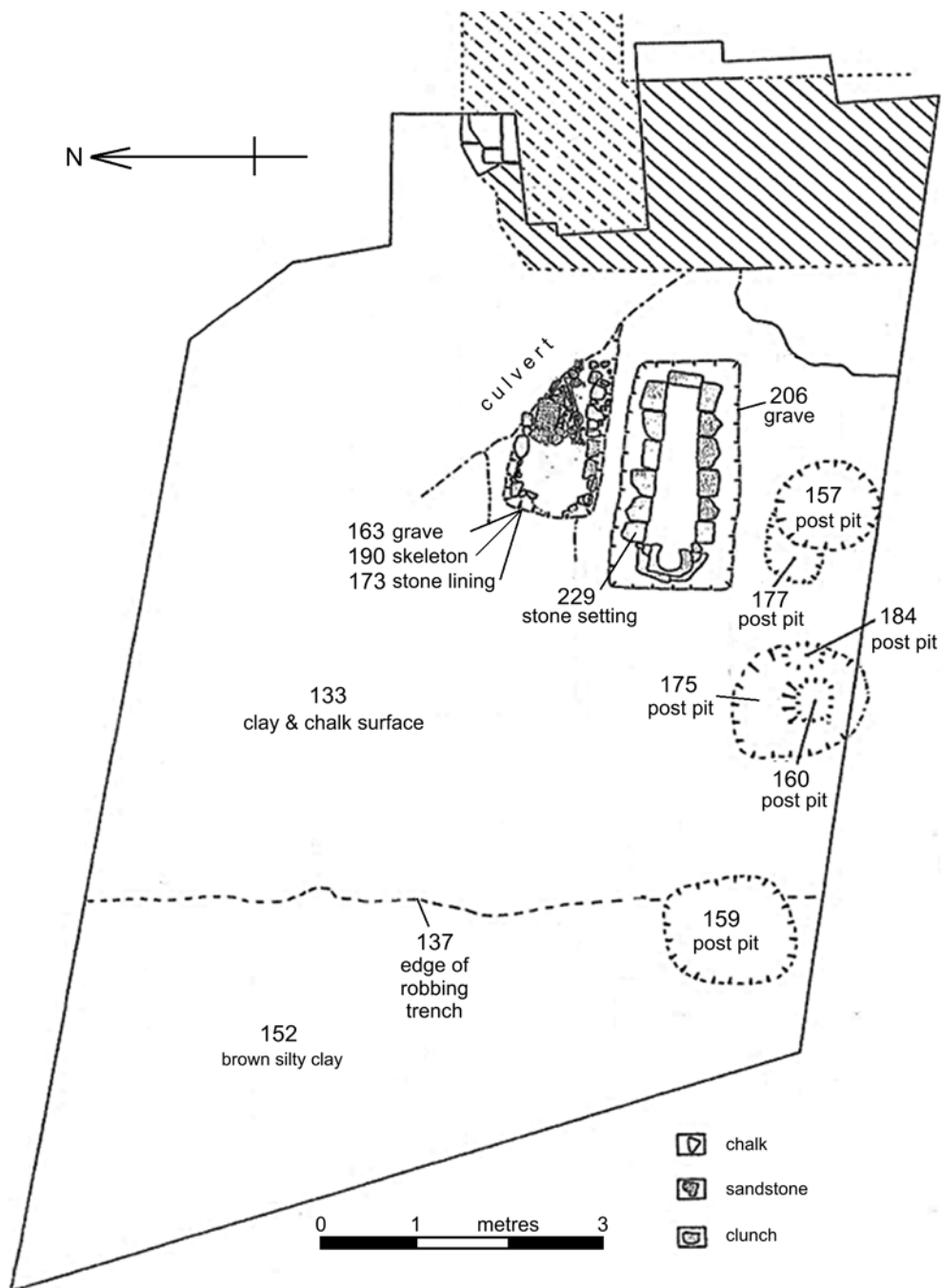


FIGURE 12 Area 1, Phase 4

ture that this individual was regarded as effectively re-founding the Abbey (Page 1905, 369–376) and there is a good chance that he would have been buried in such a position.

Phase 5: 15th Century (Figs 13 & 14)

Limited investigation in the eastern part of Area 1 identified a new makeup layer [108] laid in the 15th century with a superimposed clunch floor [107]. These layers had slumped to the east (Fig. 10), a problem which seems to have been solved by placing a large puddingstone [227] on a levelling bed and rebuilding the western floor to the top of the stone. In the south-west, the floor was built up with mortar, sand and clay [93] and a new wall erected, of which footing fragments [94] survived. Ten postholes were dug soon after, including two parallel lines of four, but once these had fulfilled their use they were backfilled and a floor base [81] overlaid.

In addition to these maintenance activities, Grave [144] was dug more or less above Grave (206), although slightly to the north-east. This latest grave was cut down to a depth of 0.5m, and housed a coffin carved from a single piece of clunch, 1.95m long (see Fig. 41). A head socket was carved out at the west end and a central drain-hole in the base. However, the coffin had not been made to measure: the skeleton [147] had been squeezed into position, dislocating the feet and arms with lower arms and hands wedged beneath the pelvis. The coffin lid had been smashed sometime later. The final years of this period saw Grave [109] placed *c.*2m north of the three compacted burials. This comprised a simple cut with no lining and contained the fragmentary remains of an adult male skeleton (127) partly destroyed by a 19th-century culvert.

Comments and Interpretation: The scenario above describes the final 150 years prior to the Dissolution. During this time, no major changes were made to this part of the church: most of the work described can be explained as maintenance with the laying of new floor surfaces and redecoration or repairs of the superstructure: for example, scaffolding work is likely represented by the post pits. This phase also marks the last use of this area as a church.

While the two burials discussed here were some years apart, the paleopathology report presents some evidence to suggest a familial relationship.

Phases 6 & 7: 16th–19th Century (Figs 15 & 16)

Excavation of these later phases revealed deep, extensive deposits of compacted clunch, mortar, chalk and loam sealing the uppermost church floor (Fig. 10). The earliest of these levels [62] was 0.25m thick and had been cut through by a line of large postholes. This activity was contemporary with the opening of two of the graves [144, 163] and the smashing of both capstones, followed by backfilling. Further demolition rubble was deposited until sometime in the 18th century when cellars [47] were built in the south-east part of this area. Notably a deep cut [45] was made west of the surviving pillar base seen in Phase 3 which was incorporated into steps leading down into the cellars from the north [63]. A second cellar ran to the east (Fig. 9), across the line of Phase 3 wall [180].

Comments and Interpretation: The levels of compacted demolition rubble indicate a gradual destruction of the church which in turn supplied building materials subsequently used in an area that was eventually developed as a house. The postholes were probably made for demolition scaffolding and the damage done to the graves suggests that this was in the immediate postdissolution period, when the sanctity of the church was destroyed and much of the building demolished to negate possible reuse. Such activities were perhaps at the time of Richard Grenway's occupation of the house in the early Elizabethan period.

The Chancel and Adjacent Buildings (Fig. 3)

(Areas 6, 7, 8, 11, 12, 13, 17, 19, 20)

Observations along the southerly stretch of the pipe trench in Areas 12 and 13 provided information about the internal arrangements of the chancel. The earliest deposit was slag layer [351] running beneath a wall corner of flint and mortar [345, 352] in Area 12 (Figs 17 & 18) with a thin layer of sandstone and clunch plastered on its west face. This was matched to the west by a corresponding corner [363] with a simple roll moulding on the angle. Wall [345] extended northwards for 1.2m before stepping at an angle to the east by 0.3m. These two features were perhaps continuous with the north-south wall [180] in Area 1 and with the east-west wall [360] in Area 13 (Fig. 5); the walls were all *c.*2m wide, supported on a slag layer and in combination likely formed the chancel walls. Beyond the immediate entrance walls [345] and

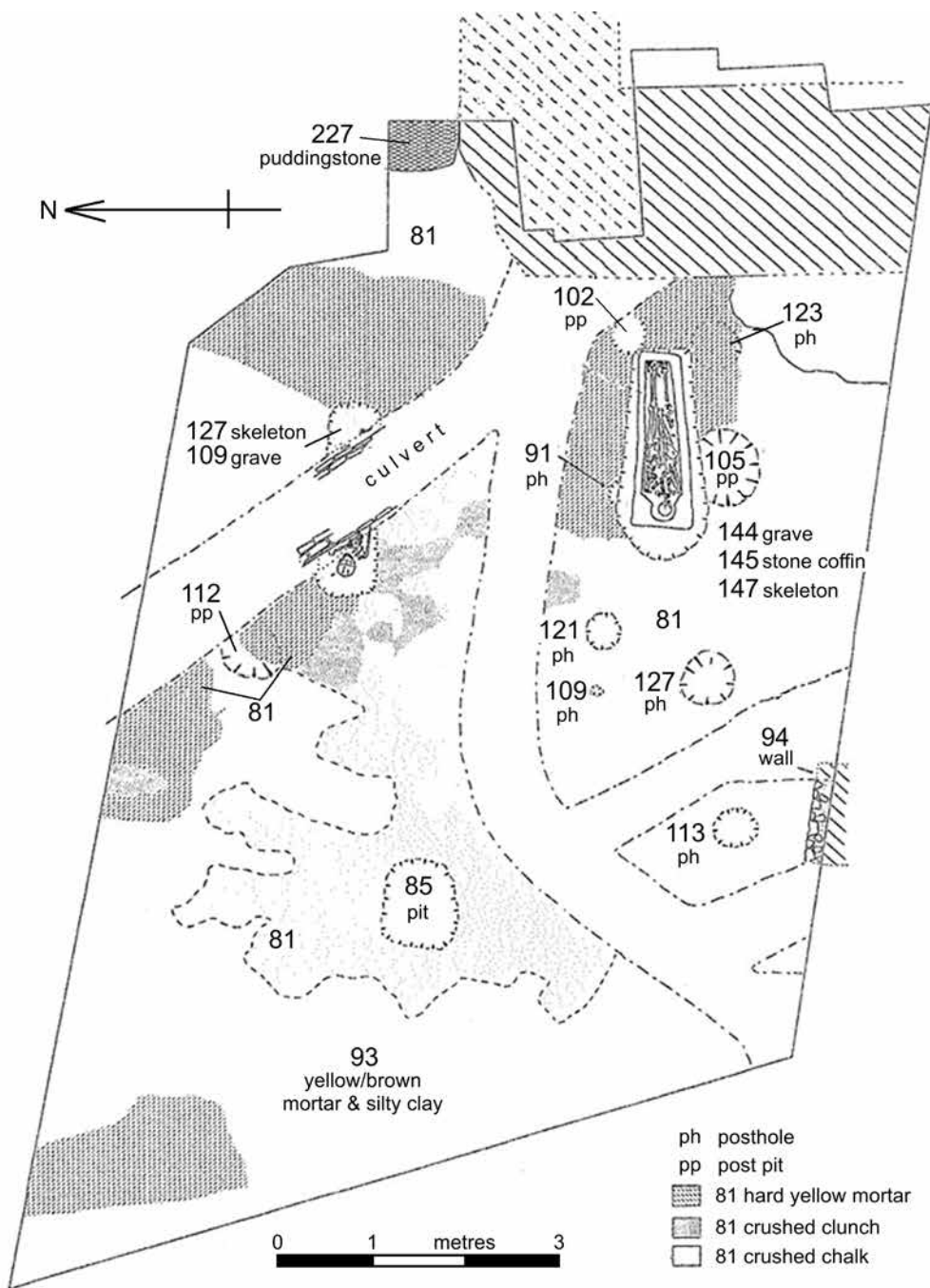


FIGURE 13 Area 1, Phase 5



FIGURE 14 View from above of Area 1 excavation in progress, 1983

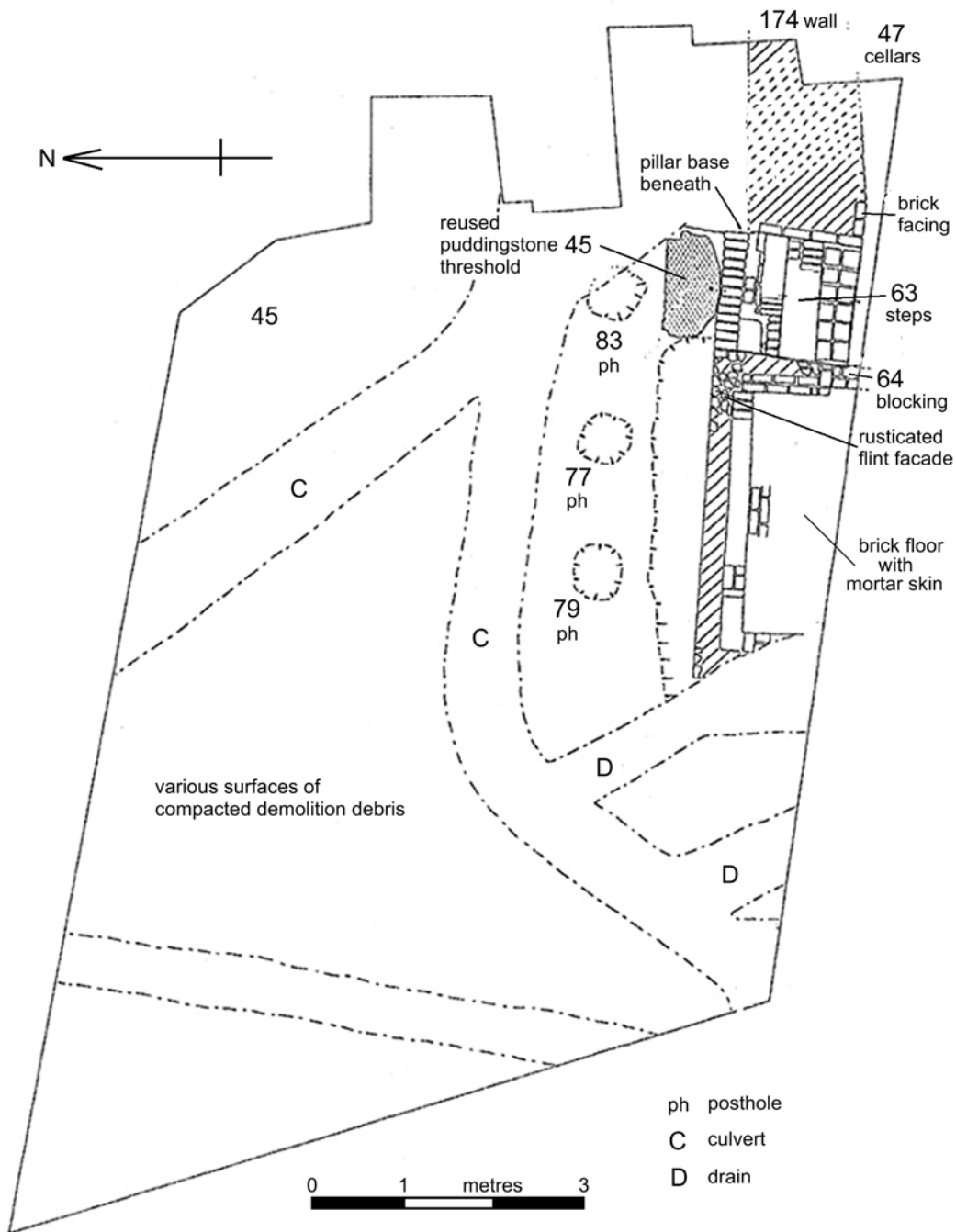


FIGURE 15 Area 1, Phases 6 and 7

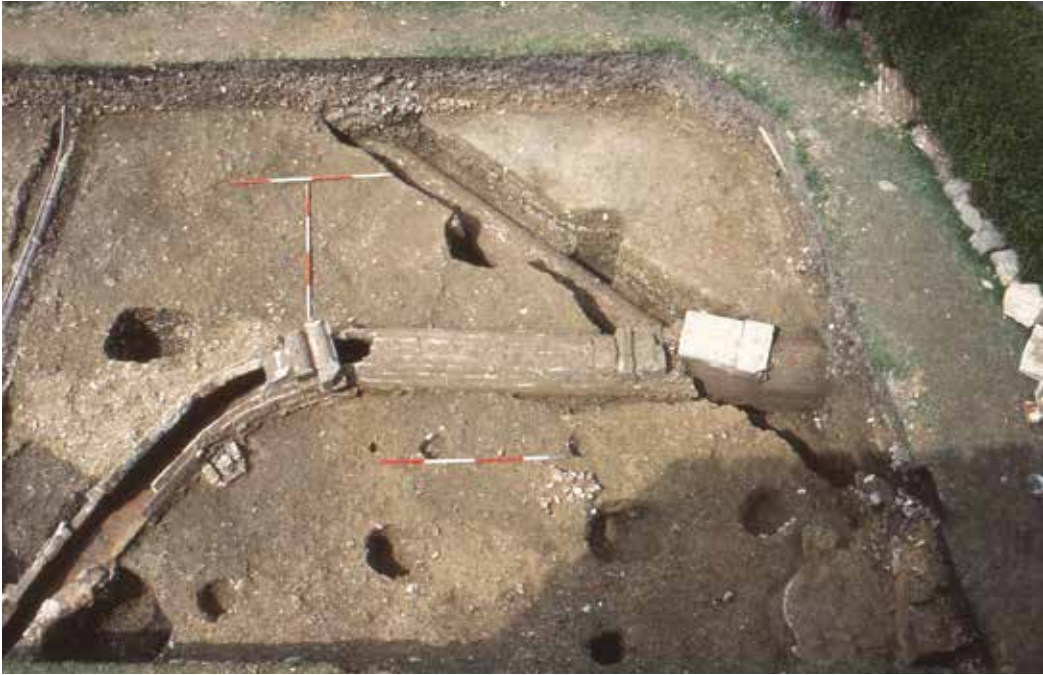


FIGURE 16 Area 1, Phases 6 and 7, photographed in the early stages of excavation

[363], the pipe trench widened to 1.3m and revealed a series of floor levels, of which the most recent consisted of a mortar bedding [348] supporting a pavement of decorated Penn tiles [347], five of which survived *in situ* although all were very worn (Fig. 18).

In Areas 7 (Fig. 19) and 8 (Fig. 5) a corridor wall [330, 327], opposite the south wall of the proposed chancel, was visible beneath the northernmost wall of the present-day house, with its south face offset from the internal face of the 'modern' north wall. In Area 8 the wall was faced with siliceous sandstone, whereas in Area 7, c.12m to the west, the facing comprised flint rubble with some chalk and clunch [330]. An extension of this wall into the adjacent Area 11 (Fig. 5) ended c.1m beyond the east end of the present-day house but was later extended to the east [359], using a different construction technique with mortar, flint and clunch. The north face of this extension showed traces of white plaster, as did the south face of the adjacent but older wall [327]. The reconstructed ground plan indicates that these walls would have been divided from the proposed chancel by a corridor.

In Areas 6 (Fig. 20) and 7 (Fig. 19) wall [301] continued c.5m westward at which point there was a splayed entrance doorway (314), of which only the west reveal was preserved. This section of the wall was offset slightly to the south, such that its north face did not exactly align with the north face of the wall in Area 8. Further west the wall [301] turned to the south revealing a second doorway [311]. The doorways [311, 314] may have given access from the monastery living quarters into the church; the passageway was later narrowed by a small stub added to the turn in the wall (316). It is interesting to note that post-excavation work carried out in 1988 identified a medieval wall [801] which was in line with walls (313) and (301) but was further to the north and thought to be part of the nave.

Turning to the trench section in Area 19 (Fig. 21), a north-south wall [374] butted by the ubiquitous slag deposit [376], was revealed. This was sealed by a clunch and mortar floor [377] which appeared to be a new floor associated with the development of the Abbey. This, in turn, was overlaid by a later floor [379] above which was a substantial deposit of smashed medieval window

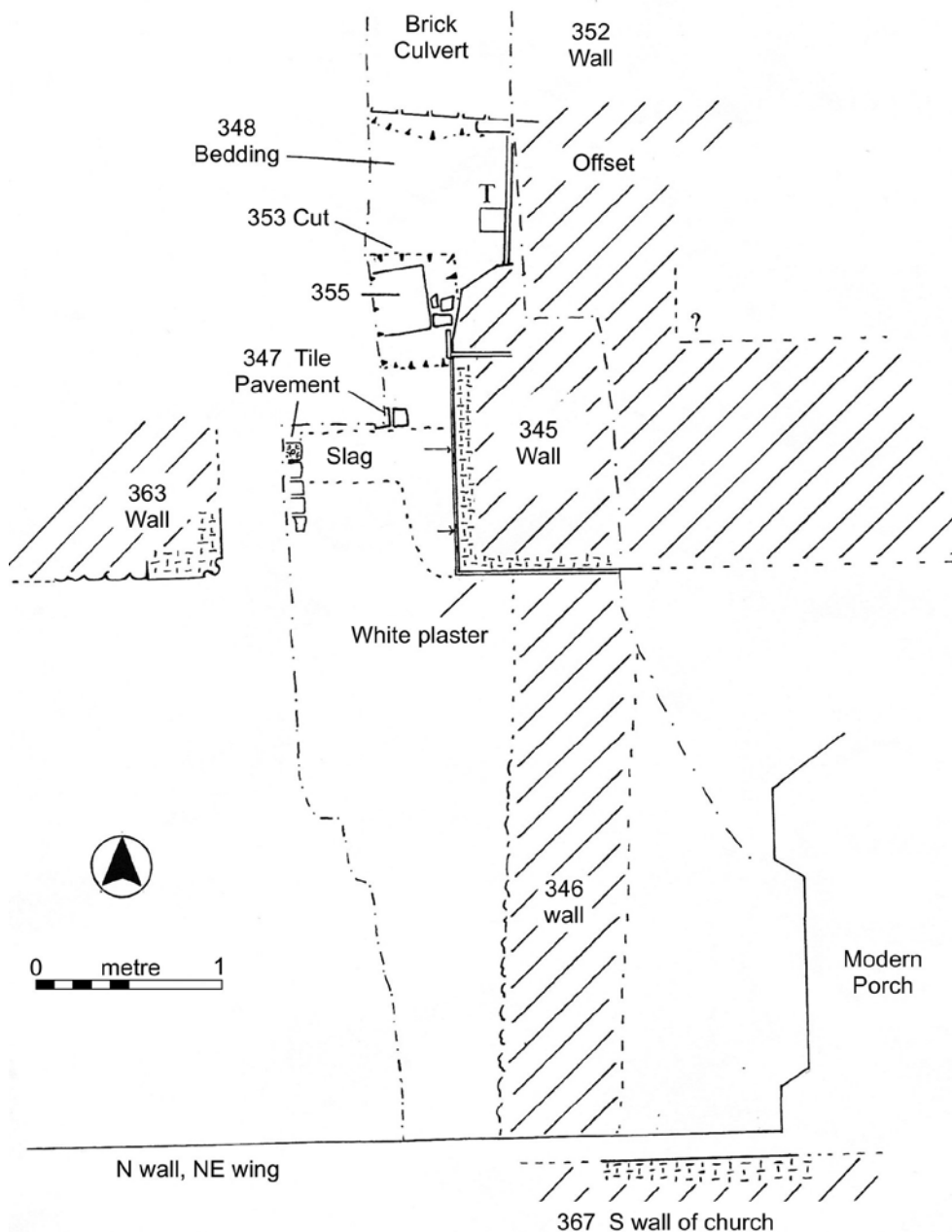


FIGURE 17 Area 12, excavation plan

glass [380], covered by a collapsed ceiling vault. The Area 19 trench was solidly packed throughout its length with intact rib voussoirs, between which were heaps of collapsed, faced chalk blocks which had been the webbing between the ribs.

Comments and Interpretation: Combining all the above data allows a partial reconstruction of one part of the abbey church during its middle to late period. Over time the abbey may have grown in status and been enlarged: it seems possible that the

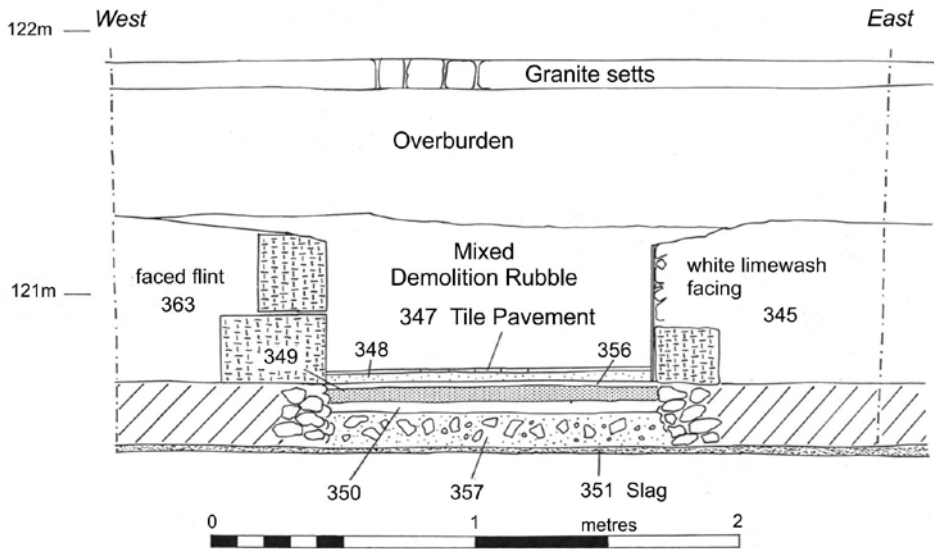


FIGURE 18 Area 12, west – east section

chancel was enlarged and was repositioned further to the east. The structural evidence supports the identification of a 13th-century chancel including the positioning of entrances and there is evidence that Penn tiles would have covered the floor of this easterly area. The proximity of burials immediately to the west of wall [180] suggests that this is the western-most chancel wall. In its earlier years, the chancel may have been further to the west and was possibly open to the nave or perhaps divided by a simple low railing. Thereafter, once the 1215 ‘protection of the sacrament (Eucharist)’ was enforced, the chancel is likely to have been screened off and perhaps repositioned (Harris 1977, 105). Judging by its length and allowing space for the altar, it seems likely that the 13th to 14th-century chancel would have housed choir stalls.

The restricted nature of the excavation prevented assessment of a possible eastward extension of the chancel area. However, the identification and positioning of wall [383, 384] in Area 19 suggests later expansion of the abbey church. This in turn should be considered, bearing in mind the associated finds of the collapsed ceiling and window glass [380] in the same area, features suggestive of improvements made to the abbey in the late 14th/early 15th century.

The Nave (Figs 3 & 5) (Areas 5, 17, 32, 35, 41)

Because of the limited nature of investigation in these areas, the evidence for the structure of the nave is fragmentary. The south wall of the church was identified by the flint rubble footings of wall [801] in Areas 32 and 41 (Fig. 22) continuing the offset line of wall [301] to the east (Fig. 5). The ground surface in the excavated area north of wall [801] was extensively disturbed. Wall [301] and associated walls, including those to its immediate south, suggest a grouping of rooms to the south of the abbey church: these are discussed below in the section on the South Transept.

In Area 5 (Fig. 23) wall footings [294] running north-south were identified with similar walls [256] in Area 1 (Fig. 6) and [374] in Area 19, all forming part of the pre-monastic or early post-foundation church (Fig. 5). This early wall was replaced by a solid set of flint and gravel footings followed by wall [291] which was built on a base of slag, flint, clunch, tile and chalk [293]. This was identified with the first foundations of a large conventual church, with the same pattern also seen in Areas 1, 12, 13 and 19. Wall [291] can be assumed to be an integral part of the 12th-century monastic church.

Further north in Area 17 but aligned with wall [291] was a 2.2m-wide wall [368], set on foundations of puddingstone blocks topped with flint and

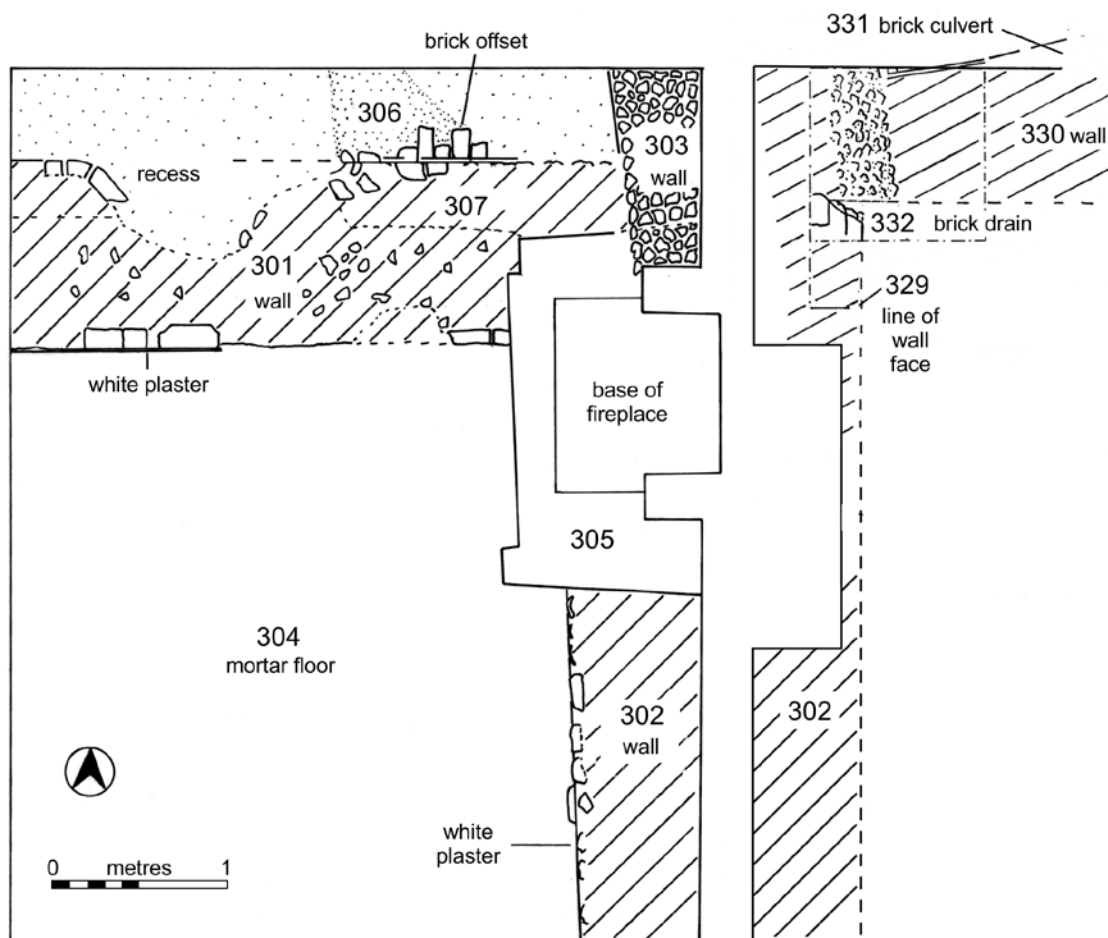


FIGURE 19 Area 7, excavation plan

mortar footings (Fig. 24). The two lowest courses of clunch facing had survived on the east side of the wall but much of the rest was lost. The wall base [368] was abutted by floors to the east and the solid nature of the foundation suggests this wall was also load-bearing.

In Trench D (Fig. 5) a poorly-made flint wall [369] 0.85m wide, running north to south, was uncovered. One possibility is that this was a post-medieval replacement of the west end of the church but it is more likely a separate building since the wall was butted to its west by chalk and tile floors.

Comments and Interpretation: Evidence for pre-monastic and later walls [291 and 368] has

been identified lying to the west of the chancel and crossing the nave. These walls are parallel to the western wall of the chancel, wall [180]. It seems likely that the nave was aisled, at least on the south side as indicated by the alignment of walls [801] and [301]. The width and length of the nave would have varied over time reflecting the increasing power and wealth of the abbots, as observed for several similar abbeys in Buckinghamshire, for example Notley Abbey, founded by Augustinian Canons 1154–1164 (Pantin 1941, 22–48) and Lavendon Abbey, founded by Premonstratensian Canons 1154, (Page 1905, 384–386). The 1980s excavated areas overlying the position of the abbey church cover about 45m of the church's original length, so that it is unsurprising that the final full length of the nave could not be

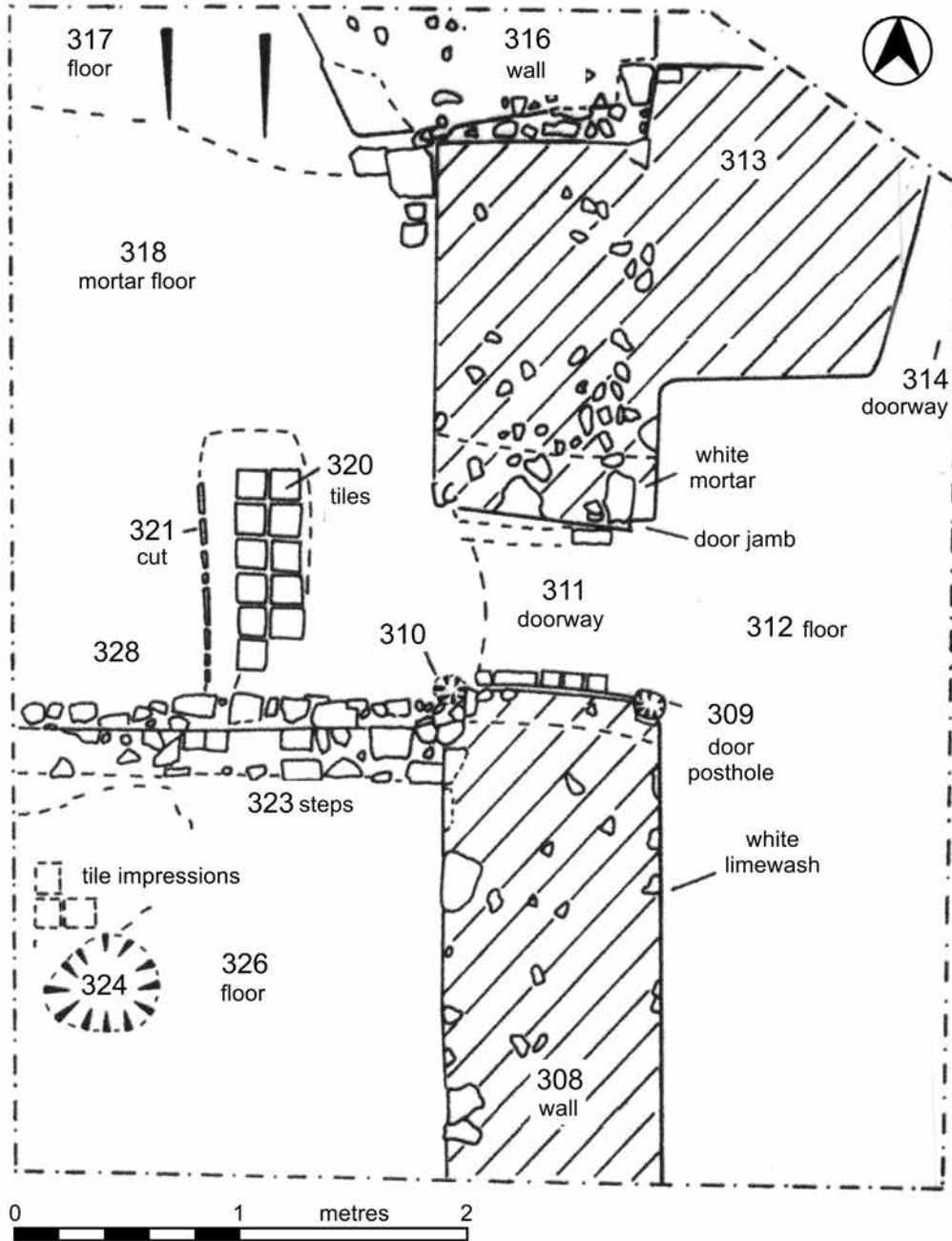


FIGURE 20 Area 6, excavation plan

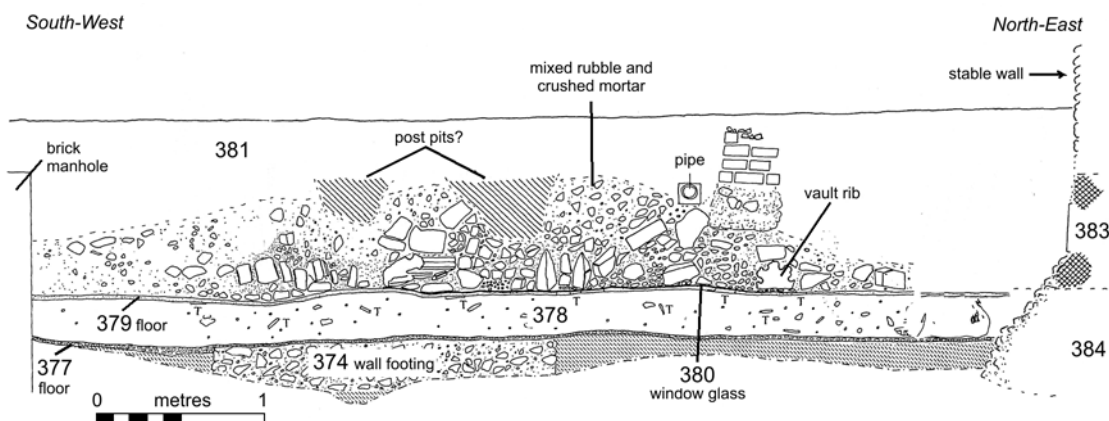


FIGURE 21 Area 19, north-south section

established. It has similarities with Notley Abbey which started as a cruciform building of some 67m in length but was considered to have a final nave length greater than c.100m.

The Transepts (Fig. 3) (Areas 6, 7, 9, 17, 28)

South Transept/Sacristy and Cloister

Outside the nave the possibilities for excavation were limited. Areas 6 and 7, which have been alluded to when considering the adjacent Chancel included part of a group of buildings which would have been used by the abbots and their staff. The layout of Area 6 is shown in Fig. 20; here it is clear that the west reveal of the doorway turned to the south and marked the medieval west wall [313, 308] of the east range. This wall originally had been continuous but was subsequently pierced by a late medieval doorway [311]. A step down to the west through this doorway was a mortar surface and a tile floor with 11 tiles surviving [320]; this walled and tiled area is considered to mark the remnant remains of the cloister walkway. The remaining features shown in Fig. 20 derive from the post-dissolution period. The earliest walls [301, 302] in Area 7 form a continuity with the Area 6 walls [313, 308] (Fig. 5).

The domestic east range was separated from the church by a late medieval broad wall [338], 1.6m wide, running east-west and visible in Area 9 (Fig. 25). Its footings were butted by the earliest floor levels [336] and [335], found in this area. Later, wall [338] was refaced with courses of vertically stacked

roof tiles. To the north in Area 28, a medieval chalk floor surface about 1.20m wide was found butting against a narrow medieval wall [637], built of flints and large chalk blocks with a white-plastered clunch facing surviving on its west side (Figs 3 & 28).

Comments and Interpretation: The proximity of nave to the cloister in Area 6 is not surprising as it is often the case that the nave of a church extends along the north side of the cloister with a door between them at the north-east angle (for example, see Webb 1921, 130–142). The northern entrance [314] opens directly onto the abbey crossing so that, judging by position and doorway size, this room is likely to have been either the south transept or sacristy. These were the usual location of the night-stairs from the dormer, and it is perhaps the case that the reduction in width of wall [338] in Area 9 at its west end (Fig. 25) may have been necessary to accommodate the staircase in the south-west corner of the transept. If that were the case, wall [338] would have marked the division between the ecclesiastical and domestic parts of the Abbey, and the roof of the dormer would have ended here. It is notable that there was no buildup of floors observed in this area adjacent to wall [338], but floors were seen in section further north.

North Transept

It is very unusual for a conventual church to be asymmetrical in its basic layout, so at Missenden Abbey the existence of a matching north transept must be assumed rather than proved. The only

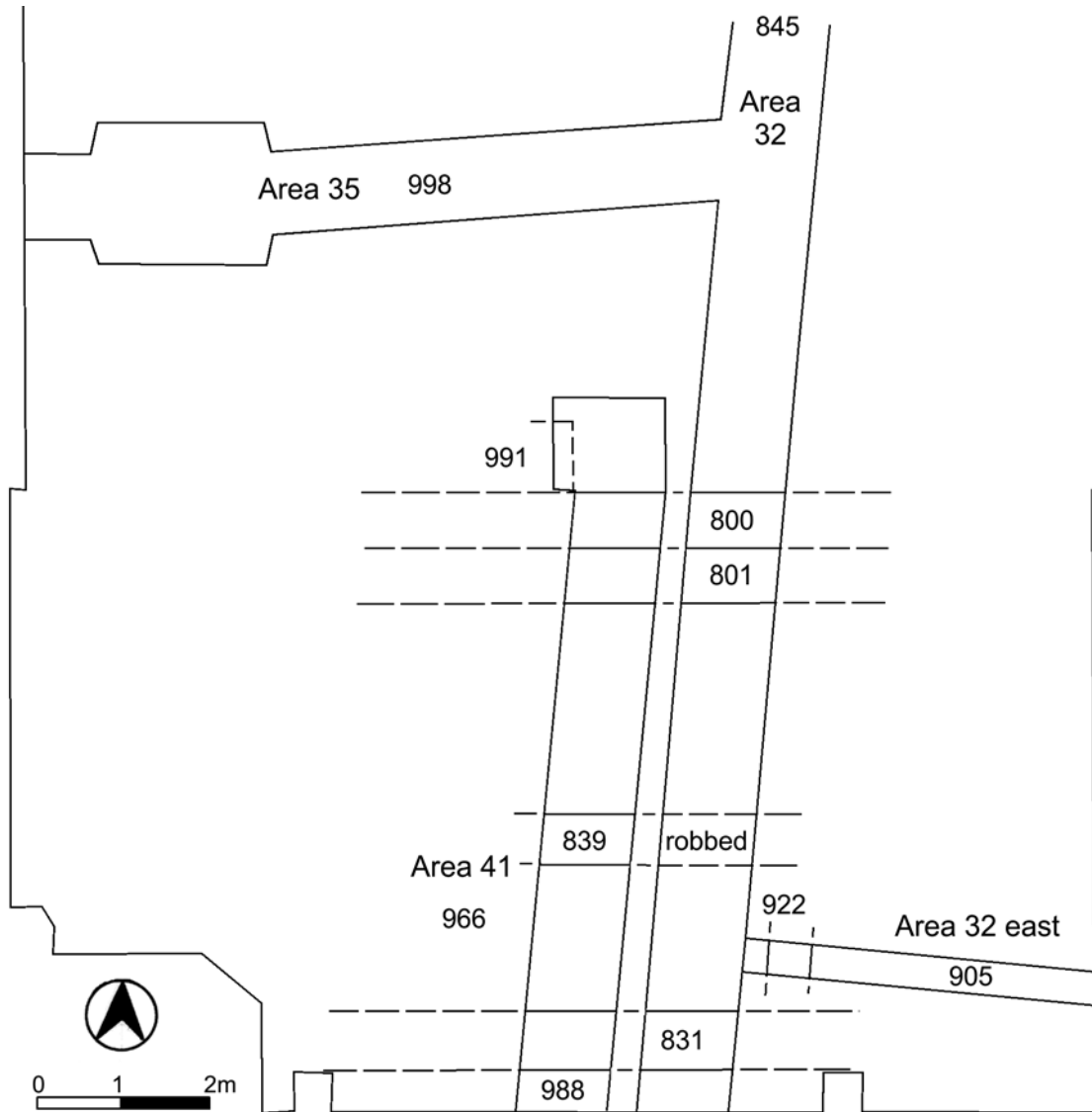


FIGURE 22 Areas 32 and 41, plan showing the footings of the south wall of the church

evidence for its existence was seen in a north-south section made up of clunch and flint wall footings with a corner or end [367] in Area 17, Trench B (Fig. 5). In Area 19 the faced wall [383] perhaps formed the eastern wall (Fig. 21), although this would have made the church asymmetrical. Alternatively, this may represent the later addition of a chapel to the north transept, while the south transept was maintained as a sacristy.

In summary, Figure 26 shows a hypothetical ground plan of the early abbey church, and Figure 27 shows the relationship between the medieval church and the ranges of the abbey.

The East Range (Figs 3 & 28)

(Areas 6, 9, 10, 18, 28, 29, 36, 37, 42)

The east range showed evidence of modification/repairs/rebuilding. The full width of this range

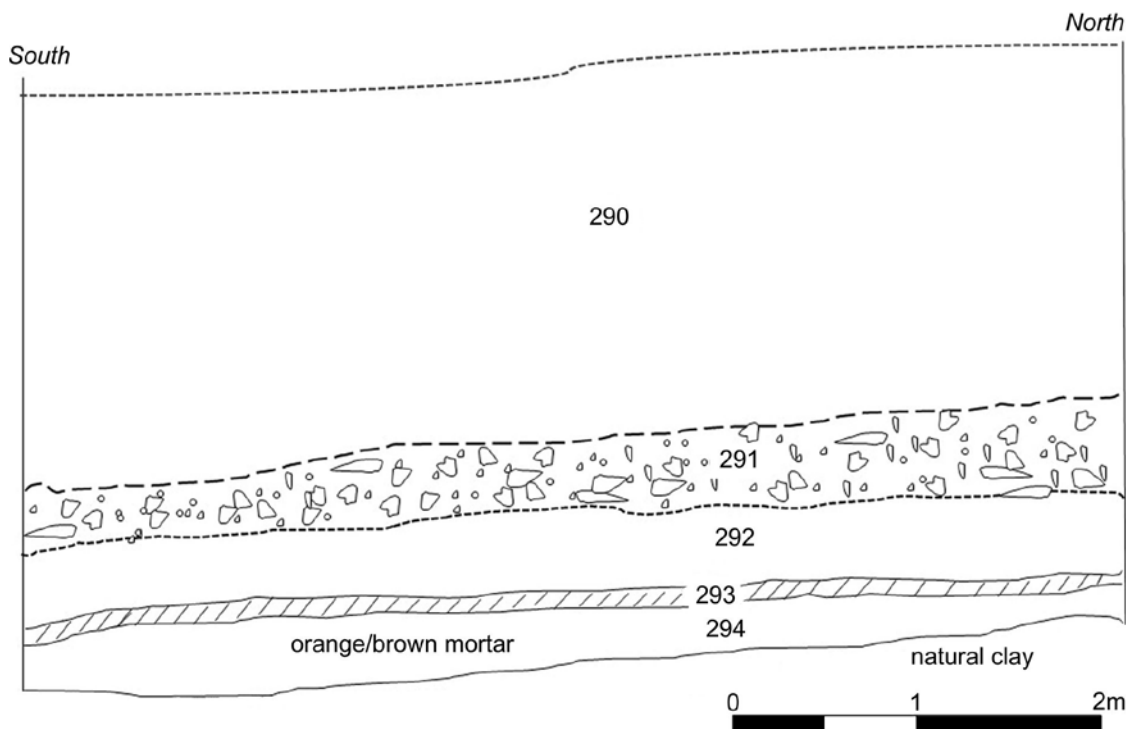


FIGURE 23 Area 5, section showing wall footings similar to those in Areas 1 and 19

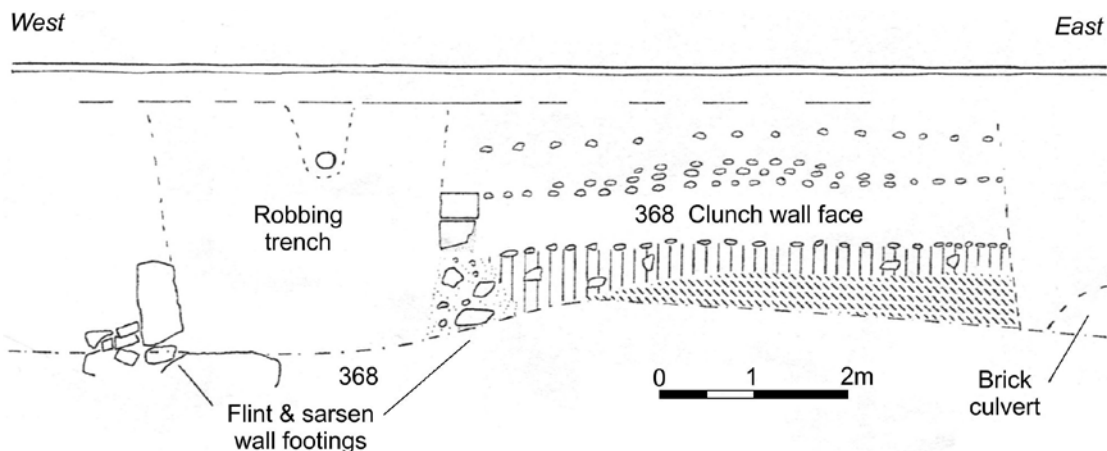


FIGURE 24 Area 17, Trench C. Section of a substantial, wide wall, aligned with wall (291) in Area 5

was preserved in the later buildings.

The medieval west wall (Fig. 28) extended through Area 6 [308=313=316], Area 10, Area 28A [637] and Area 29 [588]. At the time of excavation, wall [637] lay beneath what was then the

kitchen floor and consisted of a flint rubble base, 2.20-2.40m wide, abutting the original medieval chalk floor level [555] in Areas 28A, D, C and F. The surviving medieval wall, much altered in lower areas, survived to eaves height. At first-floor

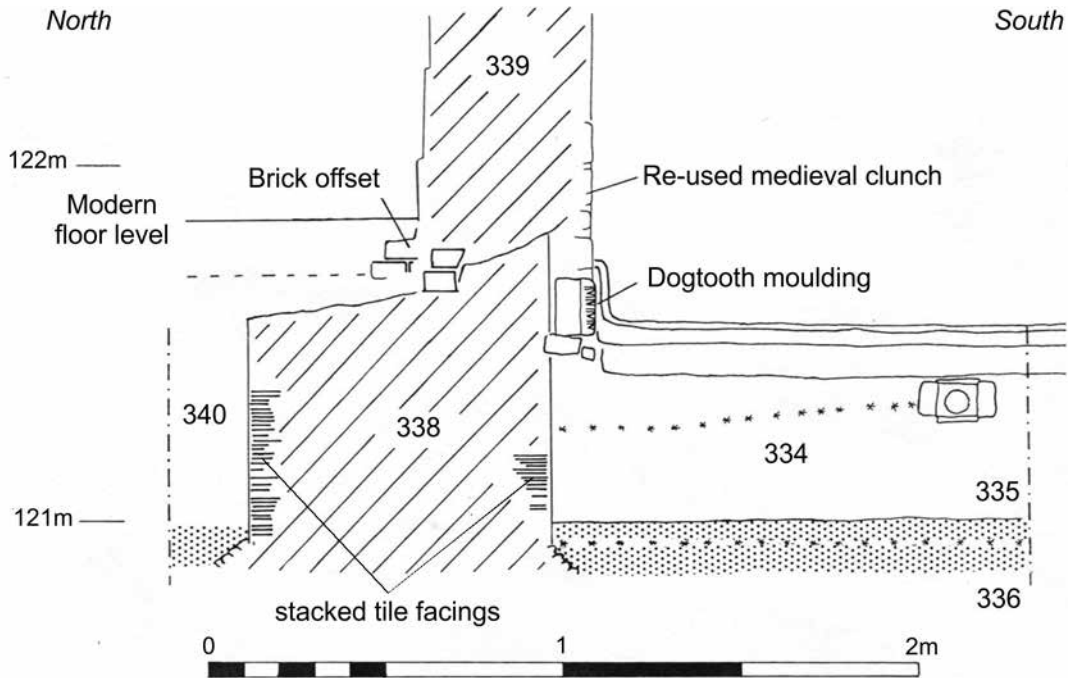


FIGURE 25 Area 9. The domestic east range and church were separated by late medieval broad wall (338)

level there were three arched windows with dressed stone jambs and lintels [371] in Area 18 (Fig. 29). These were 3.50m apart, the southernmost [373] being 1.7m from the junction of the east and south ranges. The width of one window had been reduced from 1.65 to 1.25m with the addition of decorated splayed clunch: bar or shutter holes were observed on the inside faces of the reveals. Although each window was 2.4m tall, the window sills had not survived. There was no evidence of windows at lower levels. As in Area 6, a medieval doorway reveal [588] was distinguishable in Area 29, but with a Tudor façade (Fig. 28). A further medieval opening [725] in wall [637], Area 27, also survived but was fragmentary as it had been much damaged by the later cellar opening.

Much less of the east wall of the range was seen above ground, although its footings confirm a complex medieval origin. These appeared as early walls running roughly north to south in Area 9, Area 29 [578], Area 28D [706], which lay beneath a Tudor wall) and Area 36. These easterly walls showed similarities with the west wall, since all were built of the same flint rubble in yellow sandy mortar and were 2.50m wide. A single window was

seen in the south end of a surviving east wall upper area, identical to those present in the west wall.

The position of the south wall of the range is uncertain, although it is possible that it lay beneath the south wall of the modern abbey. Evidence of possible medieval walls on the same alignment to the east and west, e.g. walls [648] and [535] in the South Range, may have marked an internal division at ground-floor level (Fig. 33). However, it seems certain that the east wall continued to the south and upwards to the roof. Elsewhere within the surviving east range, there seems to have been a cross-wall beneath the later Tudor fireplace, with the west wall of the range returned towards the east, but much disturbed by the construction of the fireplace. A division here would explain the close proximity of doorways [588] and [725], which gave access to two separate rooms at ground-floor level. The northernmost of these rooms had a chalk floor [555] which was, remarkably, the only medieval floor surface laid prior to the construction of the Tudor chimney. The construction of a post-medieval cellar had destroyed the medieval southern room.

Better survival of floors and walls was

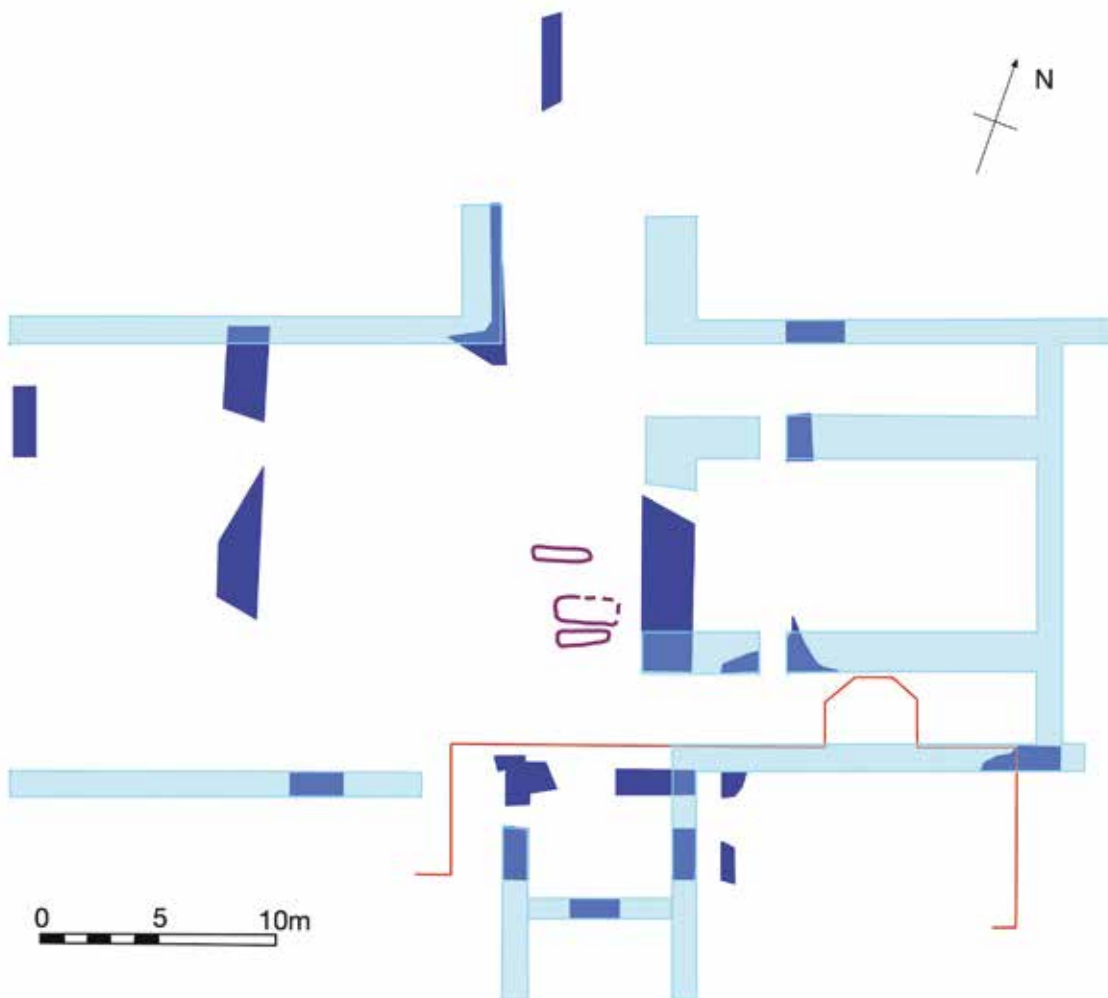


FIGURE 26 Possible ground plan of the early abbey church and its junction with the monastic quarters

observed in service trenches which lay beyond the south-east corner of the abbey (Fig. 3: Areas 29, 36, 37 and 42). In Area 36 the east wall of the range was identified continuing to the south with a possible medieval wall running at right angles in an easterly direction from the corner of the modern abbey buildings. Both were made up of the same flint rubble and yellow sandy mortar observed in surviving west and east walls of the range. Flint rubble in grey mortar may have represented an earlier wall or perhaps just footings. Considerable later floor deposits had been built up on both sides of the wall, and also lay close to a nearby wall.

The latest floor level was a pavement made up of reused 14th-century decorated and plain Penn tiles, indicating a probable 15th-century *terminus post quem* for this floor. This was identified as part of the pavement seen by McVicar in 1876 (Floor Tile report). It is notable that the buildup of floors in this area reached 0.30m, while there was very little rise in the north part of the range. Parallel to the possible medieval wall and somewhat to the north, a short length of wall [577] in Area 29 was observed with a quoin at its junction with the east wall [578] of the range. Unfortunately, the ground area in the angle between the east and north-east

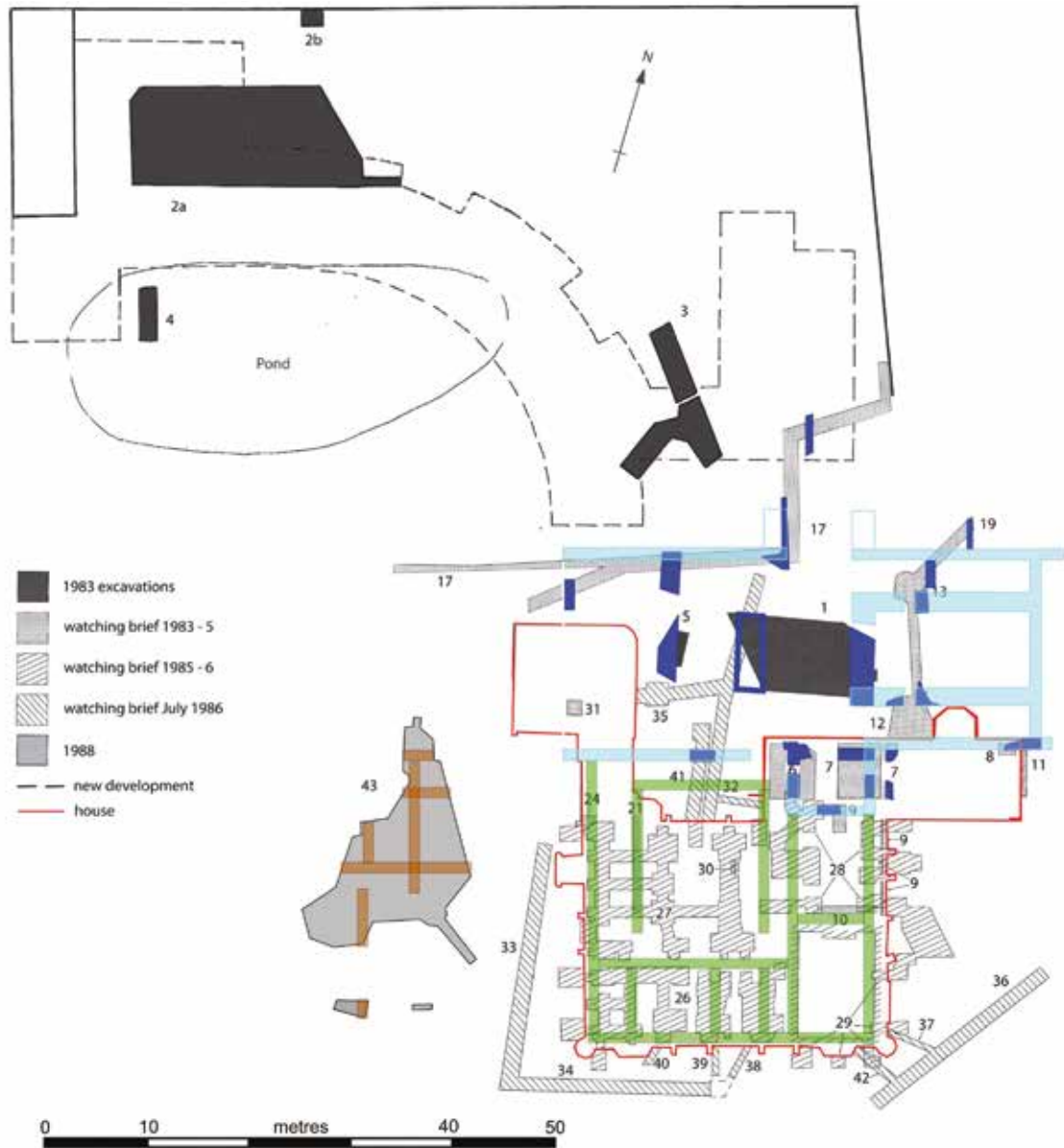


FIGURE 27 Plan showing the arrangement of domestic walls (green) as they were in the medieval period and their likely attachment to the church (blue). The latter is laid out based on the location of associated wall sections. Area 43 (orange) contains a complex of buildings dating to the 12th century

ranges was heavily disturbed and no further identifiable structures were revealed.

Comments and Interpretation: There is no reason to doubt that the east range was the site of the dormer,

as it is in most other Augustinian houses. It was the dominant axis of medieval domestic ranges and the south range originally butted against it. It seems likely that the east range continued several metres to the south of the modern abbey wall, and possibly

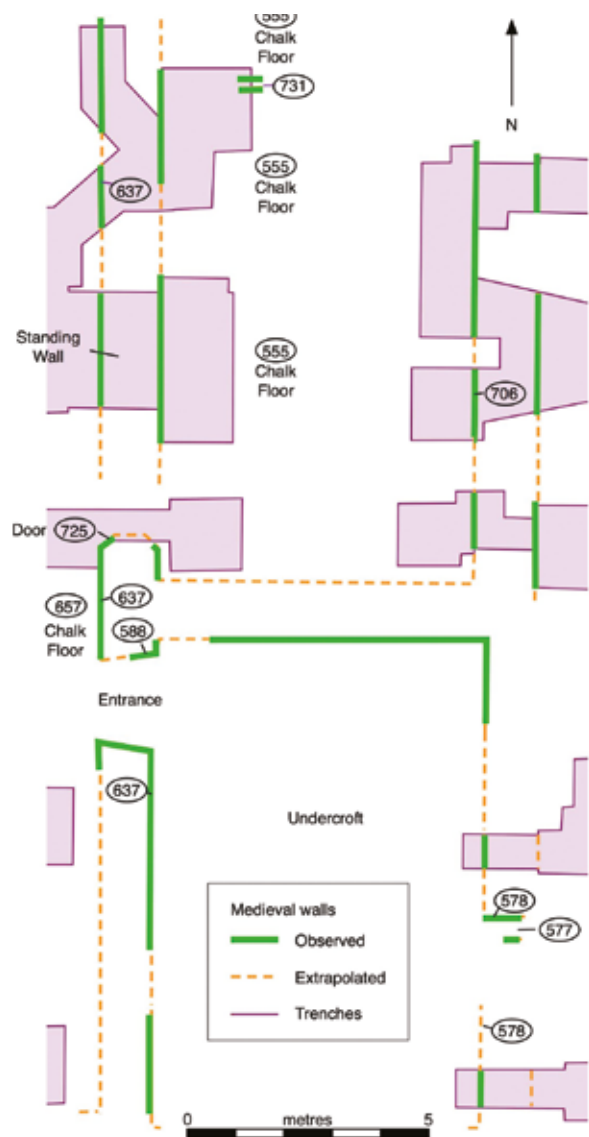


FIGURE 28 Area 28, layout of wall footings and chalk floor, including medieval wall (637)

even further. Thus, the windows in the west wall would have looked down from the first floor dorter into the cloister garth and were probably matched on the east side by corresponding windows, of which only one has survived.

The East Range Roof (Figs 30, 31 & 32)

In 1985 fire destroyed the roof of Missenden Abbey. Shortly before that, the roof of the east

range was measured, drawn and recorded by John Chenevix Trench and John Bailey. The east range roof was an excellent example of a medieval roof with four half-bays and six trusses of arch-braced collar form surviving and dated to the mid-15th century. Part of the roof had been dismantled and reassembled when the upper floor of the range was given a ceiling; this section was put back with its centre line displaced 0.482m to the east. Figure 30A shows the roof profile as it existed immediately prior to the fire in July 1985, while Figure 30B shows the profile which had previously existed until the mid-15th century. It was noted that the timbers extending downwards from the principal rafters were sawn through at their feet with some length loss. The principal rafters would not have been affected, since they had usable tenons shaped on their feet; furthermore, there were carpenters' marks on the principal rafters and holes in the common rafters at the expected distances. Following these modifications, it seems that outward thrusting of the roof was prevented by the 'mass wall' of short horizontal timbers which were joined to rafters at the inner end by vertical ashlar pieces. The triangulation of the feet of the rafters and distribution of the load over the whole length of the short horizontal timbers solved the 'thrust' problem. Photographs of the roof structures as they were before the fire in 1985 are shown in Figures 31 and 32.

The roof was supported by twin butt purlins and a double row of windbraces and all had the same quarter-round-and-ogee moulding. There was at least one truss beyond the northernmost one, which was morticed for purlins and windbraces and carried the carpenter's mark 'VII'. These marks ran in order with the southernmost being III, indicating that there had been two further trusses to the south when the roof was originally eight bays long. It was noted that the missing trusses had been reused in the south range with one marked 'II'. The roof span between principals and the inner faces of the walls were both 8.2m and the trusses were 2.82m apart.

This east range roof spanned a first-floor room which, from its position next to the choir of the church, must have been the dorter with sufficient sleeping quarters for a community (Page 1905, 369–376; Jenkins 1962). Judging by its form, the likely date of the roof is post-1450 and perhaps its 'renovation, rebuilding' was stimulated by Bishop Longland's explicit instruction; *'Item we inioyne*

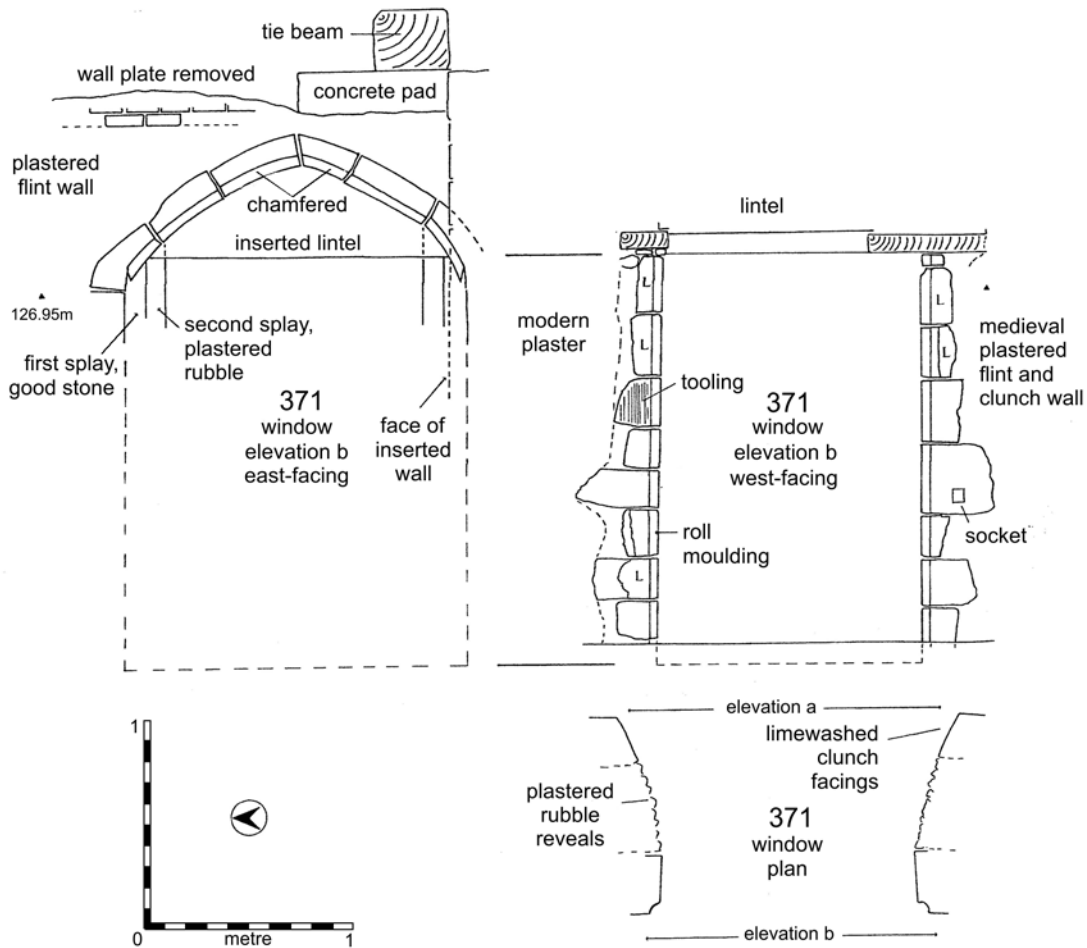


FIGURE 29 Area 18, part of a surviving medieval wall with three arched windows at first-floor level

the abbott to repaire the church, cloistre, dorter, firmay and other buildings belonging to thy said monastery, and especially the belfray and within the monastery soo that it may appere to us that the thing is in hand and to be doon with effect (Peacock 1883). The only surviving domestic accounts for the Abbey are for the eighteen months from Christmas 1531 to St John's Day 1533, when the considerable sum of £37 14s 8d was spent on repairs to the buildings '*in reparatio domorum*' (Lincolnshire Record Office, Religious Houses, 1992, 1/6/1). The work may still have been going on when the house was dissolved. Post-dissolution changes included the insertion of a massive brick chimney stack rising through the roof north of

Truss IV and the modification of the roof described earlier. A plausible date for the latter is the early 19th century.

The South Range (Figs 3 & 33)

(Areas 14, 15, 16, 23, 26, 29, 34, 38, 39, 40)

In the south range the medieval walls had been largely demolished to ground-floor level during the Tudor reconstruction of the house. However, floor surfaces were reasonably preserved, such that a coherent plan of the ground floor could be reconstructed as shown in Figure 33 for Area 26. This comprised a range, all of one build, which was not altered during the medieval occupation. The basic outline was made up of wall bases [533], [535=566],

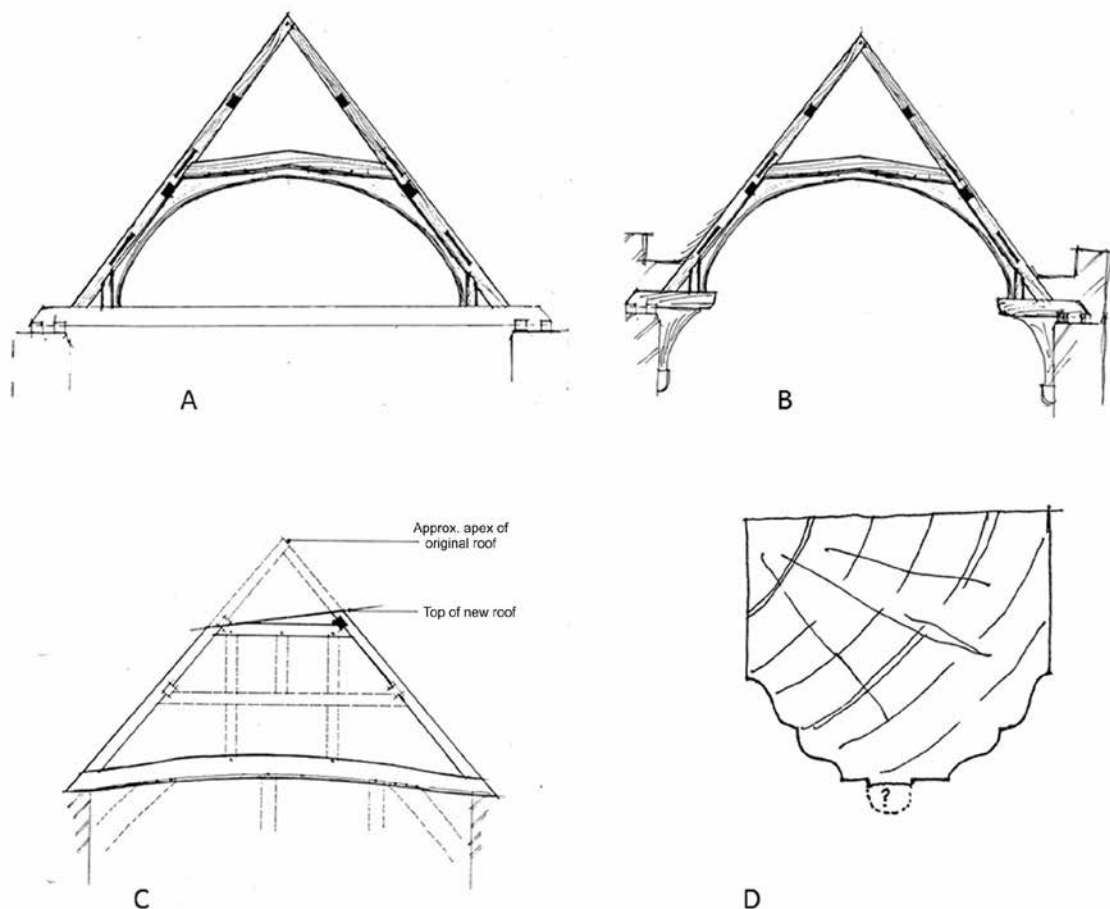


FIGURE 30 Medieval roof structures recorded prior to the fire in 1985. A and B show the structures of the East Range roofs while C shows the South Range roof structure. D shows a remodelled double ogee moulding from a South Range beam dating to the 15th century

[534=648] and [637], made of flint rubble in soft yellow mortar, often with large sarsen blocks as footings. Within this area, subdivisions with wall footings [537], [639] and [540] outlined a large central single room with a passage to the west, a longer chamber to the east and a further passage beyond. Chimney footings [536] projecting to the north were built into the north wall of the central room. A large drain [567] built of unmortared sarsen blocks ran north-south, crossing below the east chamber and emerging further north in Area 27.

Walls and other features existing above ground had mostly been rebuilt in later periods. However, at the east end of wall bases [535=566], a medi-

eval wall was encountered which had survived to roof level, but had been abbreviated with a later widening of the east range. A late Tudor staircase positioned on the north side of this wall in Area 15 may coincide with the positioning of the medieval stairs. In the same area, the reveal of a north-facing window was observed within the wall and three small medieval windows with splayed reveals, now blocked, were uncovered in the south wall of the range. Cornerstones [364] of clunch and siliceous sandstone were visible at the junction of the west and south ranges in Area 16. In addition, a door frame made of large clunch quoins and more than 2m in height was uncovered at the south end of the west wall of the east range. Circumstances in this



FIGURE 31 View along one of the East Range roofs prior to the 1985 fire



FIGURE 32 View of wind braces and purlins of the East Range roof as it was prior to the 1985 fire

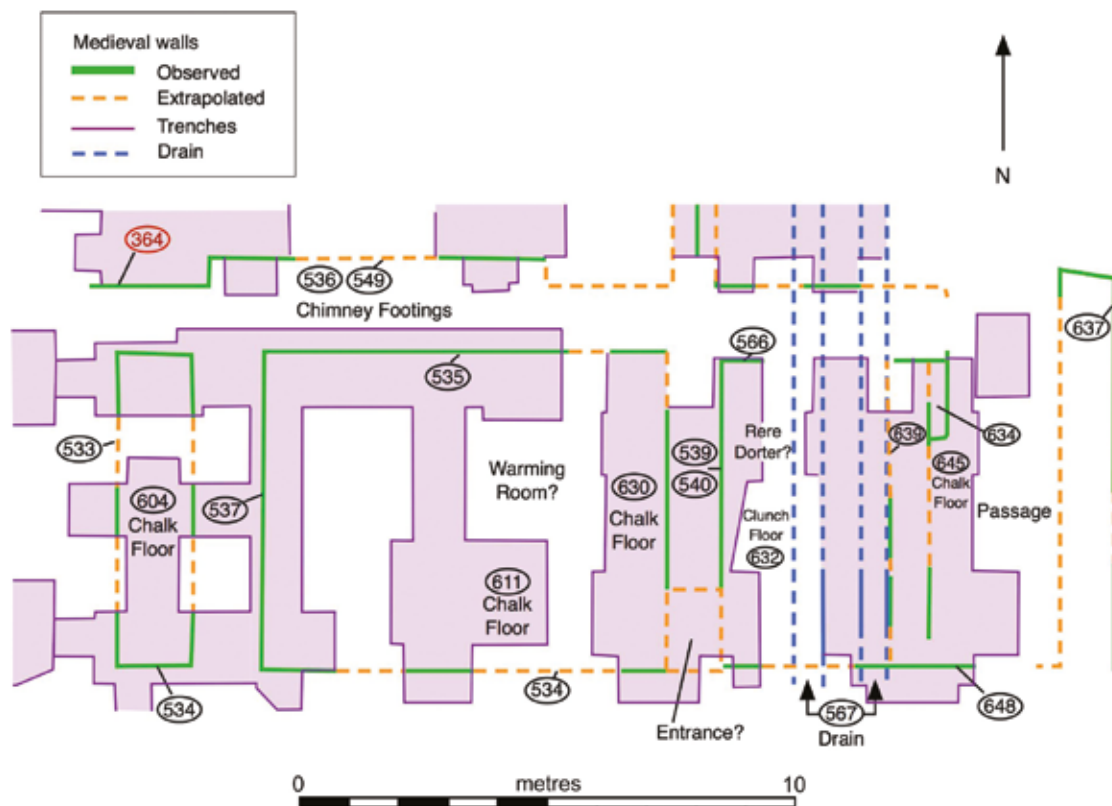


FIGURE 33 Area 26, wall footings and bases of the South Range and the chimney footings on the north side of the area

area made it difficult to establish the relationship and age of floor levels, apart from recognizing that the earliest floor lay in the central room, where a beaten chalk floor [611=630=645] in Area 26 had been replaced by a mortar surface.

Observation of pipe trenches in Areas 34, 38, 39 and 40 confirmed the existence of further medieval structures and floor surfaces to the south of the modern building.

Comments and Interpretation: The south range was the monastic domestic area and it seems most likely that the first floor was the canon's refectory (frater). An unusual feature indicated by drain [567] in Area 26/27 was the presence of the reredorter in the south range, separating the dormitory (dorter) from the refectory but with access from the dorter via a door in Area 25. The medieval day stairs leading from the cloister to the domestic rooms seem to have been replaced

by a later Tudor staircase. The larger central room with a fireplace in the north wall may have been the kitchen or the warming house. At each end of the range was a passage, giving access to the areas and buildings beyond the cloister, whose shape and function can only be guessed at.

The South Range Roof

The roof of the south range was also much altered, but enough of the original structure remained to establish that it was a clasped purlin roof with two collars, two pairs of purlins, and tied beams cambered in a gentle curve (Fig. 30, C). There was studding both above and below the tie beam in one truss, with evidence of wattle-and-daub panels. Peg-holes survived which confirmed that the ties were braced downwards to the walls. There were two tiers of wind-braces, one to each purlin. The width between walls was 7m and the space between principals slightly less.

The original roof was probably built *c.* 1500, but was later reduced in height by having the principals shortened to just above the upper collar, rather higher on the south than on the north, so that the top of the roof was not quite horizontal. The effect would have been to bring the top of the roof roughly into line with the ridge of the east range, where the wall plate was about 2m lower than in the south range.

Presumably, it was during this time of remodelling that a length of reused timber was incorporated in the roof. This had double ogee mouldings on both arrises, and bore a medieval painting which was judged to date from the 15th century; unfortunately, the nature of the painting was not described (Fig. 30, D). A scar on what had been the soffit suggested the one-time presence of a probable ceiling beam from a parlour or solar, datable to the 15th or early 16th century. At the east end of this roof a complex arrangement of heavy timbers had been contrived to allow the barrel vaulting of the 18th-century ceilings of the room below to penetrate the roof space.

The West Range (Figs 3 & 34)

(Areas 16, 26, 27, 33, 34, 43)

The west range had been systematically demolished during the immediate post-dissolution period, and the walls robbed to foundation level. As a result, little information was recovered during the watching brief. However, the final phase of the 1988 salvage excavation provided some information about the outer part of the range.

The east wall of the range survived only at its junction with the north wall of the south range [364] in Area 16, although the continuity of its line was marked by the west wall of the modern building; all else had been completely robbed out. Only Area 43 (Fig. 34) provides an idea of the original size and complexity of the buildings. The width of this area included three ranges of rooms which could have formed part of the west range or been a separate building attached to the earlier buildings; this latter possibility is supported by the 'attached building' described at Notley Abbey (Pantin 1941, 22–48). It has proved difficult to assign dates to any of the features shown in Figure 34, and there is very limited surviving text for this area. However, the basic ground plan of Area 43 is made up of remaining walls, loose mortared rubble footings and a series of clunch and chalk floors. The earliest

of these features seem to be the wall footings [5031] and [5017] which in turn are similar in make-up to wall [5049] some *c.* 8m to the south-west. Wall [5041] may date to a similar period since there is evidence that attempts were later made to narrow or block the gap between the walls [5041] and [5049] by extending wall [5041] with a new structure, wall [5058]. The walls [5044] and [5063] running north on the same line as wall [5031] are akin to wall [5041/5058] and may represent a contemporary addition. The earliest surfaces of Area 43 yielded late 12th-century pottery, confirming that this area was laid out early in the abbey's history.

Towards the end of the abbey's life a series of additions were made to the west range, including a small kitchen to the north-west corner (Fig. 35). This comprised a pitched tile hearth [5006] on its north side, a door in the outside wall and a midden [5007] in the yard outside. The latter was made up almost exclusively of oyster shells and pottery fragments dating to the late medieval period. The metal finds from this area all date to the 15th century. Later, the area north-east of the kitchen was enclosed by a rough rubble wall partly made up of 16th-century glazed bricks; a tiled floor surface had been laid on its east side. A fragment of what appeared to be the south wall of the church was noted near to the northern entrance.

Comments and Interpretation: The west range was probably the abbot's lodgings, and its size indicated it was of an early date. Kitchens and middens added later were typical of features associated with expanding personal comfort at the expense of monastic purity (for discussion see Kaye 1992, 21). However, an alternative explanation is that these final alterations, which appear to have been poorly constructed, were in response to Bishop Longland's detailed instructions in the 1530s and may not have been completed by the time the abbey was declassified.

The West Range Roof

The west range roof was all of a piece, only 3.8m wide and of clasped purlin form with queen struts. It was judged to be early 17th century.

The Cloister (Fig. 3)

(Areas 6, 14, 21, 26, 27, 32, 41)

Little was seen of the original medieval cloister walls due to both damage and later infilling. The

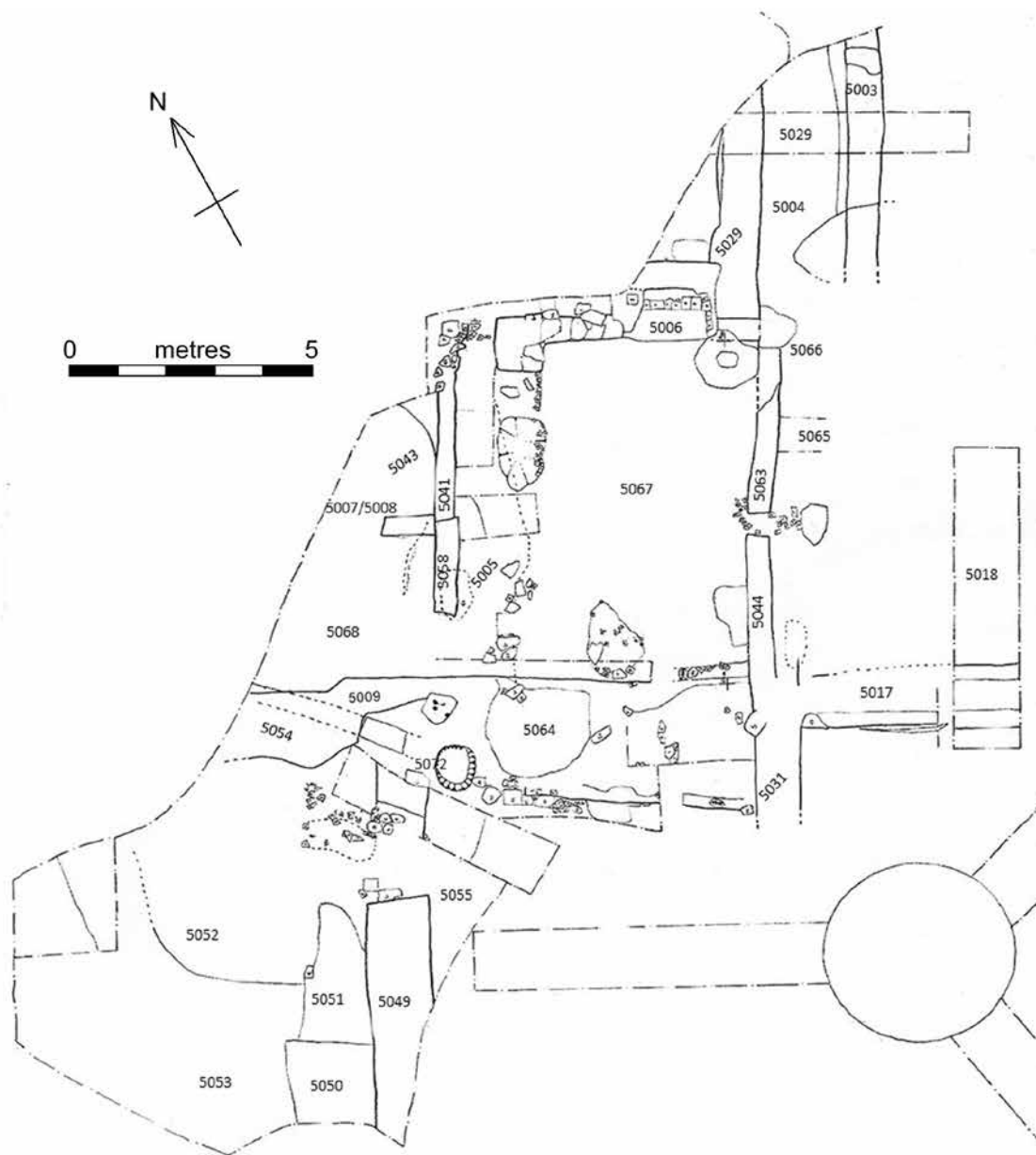


FIGURE 34 Area 43, excavation plan

full width of the cloister alley was observed in the west and north (Fig. 3: Areas 21, 41 and 32) and can be extrapolated around the whole circuit. In Areas 32 and 41 (Fig. 22) the north wall of the alley [801], which was 0.5m wide, was the south wall of the church, while the south-alley wall [839] was much

less substantial and could have been the base for an arcade. Further south in Areas 26 and 27, the width of the passage through the south range probably represented the full width of the east alley. The quadrangle associated with Area 27 had little that was identifiably medieval, apart from a crushed



FIGURE 35 Pitched tile hearth added to the west range towards the end of the abbey's life

chalk/clunch surface which appeared in patches. Area 6, on the east side of the cloister has been described in detail in the South Transept section.

Despite the lack of cloister features, an arcade capital was found which could be dated to the late 12th century, indicating that the cloister walls were erected at an early stage in the abbey's history.

The External Buildings (Fig. 3) (Areas 2a, 2b, 3, 4, 5)

Area 2a

An area of *c.*200m² was excavated to examine the northern part of the precinct (Fig. 36).

Phase 1: 11th to 12th Century. No deposits of this date were found.

Phase 2: 12th to Early 13th Century. The earliest feature was a large, circular depression [1071] at the west end of the excavated area which was 8m in length north-south, its west side lay outside

the area. This was a shallow-sided, flat-based scoop filled with a grey silty clay, 0.11m deep on average which may have been associated with the construction of the adjacent fishpond. Within this 'scoop', and sealing the silty clay, was a surface of rough flint cobbling or hard standing, which had a large cooking pot [1063] (Fig. 46.27) set upright in its north-east edge, perhaps as a feeding bowl for chickens or animals. In Area 2a, over 800 sherds of pottery were recovered, of which a large number were of the same fabric as the cooking pot. A deposit of 'cess' was apparent on the cobbles.

Phase 3: Mid to Late 13th Century. A stone building, built of rough flint nodules and small chalk blocks, was exposed at the east end of the area, and the south-west corner was excavated. Later reconstruction had obscured much of the footings, but these were probably *c.*0.80m wide originally. Further excavation revealed that this building comprised two joining walls, one running north-south [1068] and the other running east-west.

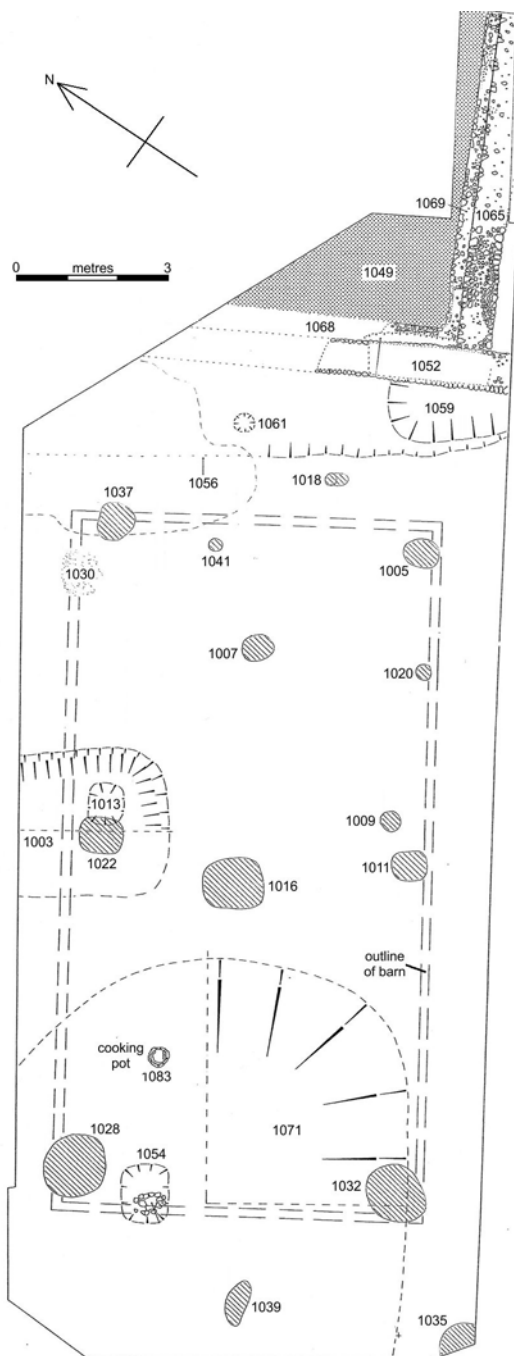


FIGURE 36 Area 2a, excavation plan

The latter wall [1069] spanned a length of 6.1m, two courses high and continuing beyond the limits of the excavation; the north-south wall survived to 1m in length, one course high and was at an angle to [1069]. Both walls were built directly on top of the natural gravel surface without foundation trenches. No contemporary floors were found within the building. The likeliest function of this building would be as a barn. Alternatively, it may have been part of a guest range.

Also during this phase, a pit [1003], 1.9m long east-west with sloping sides, was dug to the west of the building. The pit was only half filled by the end of the phase. The water table prevented excavation of this feature beyond a depth of 0.70m.

Phase 4: 14th Century. It was only in this phase that pit [1003] was completely filled. By this time, large-scale alterations were being made to the stone building in the east of the area. These observations, together with an area of mottled green clay associated with decayed cess or dung, perhaps reinforce the view that this area was part of the abbey farmyard. Two post-pits [1013] and [1054] were excavated, which may have been the remains of insubstantial lean-tos built against stone boundary wall [1207] to the north in Area 2b (Fig. 37), or the central posts of hayricks. The south wall [1065] was rebuilt with a chalk core faced with flint nodules and set back 0.30m from the line of the original internal face. Over the rest of the area a layer of brown-grey loam was deposited with flint cobbles on the surface.

Phase 5: 15th Century. The east end of the area was terraced [1058] to a height of c.0.24m along a north-south line c.1.6m west of wall [1068]. At the same time the west wall of the building was demolished and replaced with an offset wall [1052] which did not return at the previous junction but continued southwards. A pit [1059] located at the south end of the terrace was probably a robbing cut of the earlier wall [1068]; the size of the pit suggested that this corner had been buttressed. The east face of the new wall [1052] was set back c.0.40m from that of wall [1068]. Faced with chalk blocks on the interior and flint on the exterior and surviving in places to three courses high, the core of this wall was crushed chalk and flint.

The new building was obviously much larger than the first. Its northern 'room' had a rammed

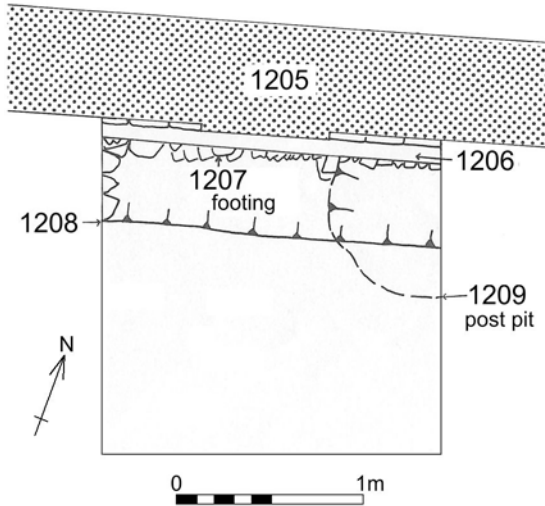


FIGURE 37 Area 2b revealed the foundations of a boundary wall on the north side of the abbey, associated with a deep post-pit

chalk floor [1049] and an earth floor which was apparent south of the dividing wall. By the end of this phase an occupation deposit had built up inside the north part of the building, and the terrace had been almost completely infilled.

Phase 6: 16th to 18th Century. The walls of the building described above were demolished and the remains sealed with brown loam. A rectangular timber barn, outlined with dashed lines in Figure 36, was built within the area. This 17th/18th-century barn measured internally 14m by 7.7m. Large post pits [1028, 1037, 1032, 1005] were found at each corner, with some smaller intermediate holes [1011, 1009, 1020, 1041, 1022] forming the outline of a substantial timber frame. However, the walls which may have existed between the uprights had left no trace. Remains of two internal roof supports [1007, 1016] were found, of which the latter was at the central point of both axes. Beyond the west end a further two post-pits [1035, 1039] which could possibly be part of the barn were uncovered. The barn entrances(s) were probably on the south and west sides, as the north side was too close to the boundary wall and an easterly approach over uneven remains of buildings was probably unsuitable. A small patch of fire-reddened soil [1030] was found near the north-east corner of the barn.

Phases 7 and 8: 19th to 20th Century. The timber barn was demolished early in the 19th century and a large amount of soil was dumped across the area in the following centuries.

Area 2b

The foundations of the existing boundary wall on the north side of the abbey were identified (section shown in Fig. 37). The earliest fence line was represented by a deep post-pit [1209]. This was replaced by a stone wall footing [1207] set in a construction trench [1208] which was rebuilt in the 18th century with new flint footing [1206]. The buttressed brick wall standing today [1205] was probably built in the early 19th century.

Area 3

A trench was opened in this area to determine whether there were any monastic buildings located immediately north of the church (Fig. 38).

Phase 1: No deposits of this date were found.

Phase 2: 12th-Early 13th Century. A series of at least six surfaces comprising thin layers of clay, crushed clunch, chalk or sand were excavated. From these, over 200 pottery sherds were recovered. Over fifty sherds of coarse grey/black pottery came from the earliest layer, including part of a bowl which was found upright resting on the surface of the layer. Some of the pottery was decorated with thumb-impressed clay strips (Fig. 45). No structural evidence was found, and it is impossible to state whether there were internal or external floors. The clunch was stone-dressing waste and the nature of the other constituents suggests that this was a working area, perhaps a mason's yard used during the construction of the abbey. This would explain the lack of archaeological features.

Phase 3: Mid-Late 13th Century. No further surfaces were laid, and the area was divided by a north-south fence of timber posts, probably infilled with hurdles. Five postholes [442, 434, 437, 440 and 428] were excavated: the southern-most was 1.8m north of a drainage or boundary ditch [430] which ran at right angles to the fence. Originally funnel-shaped in plan, this feature was widened at a later date.

Phases 4 & 5: 14th-15th Century. No recorded activity.

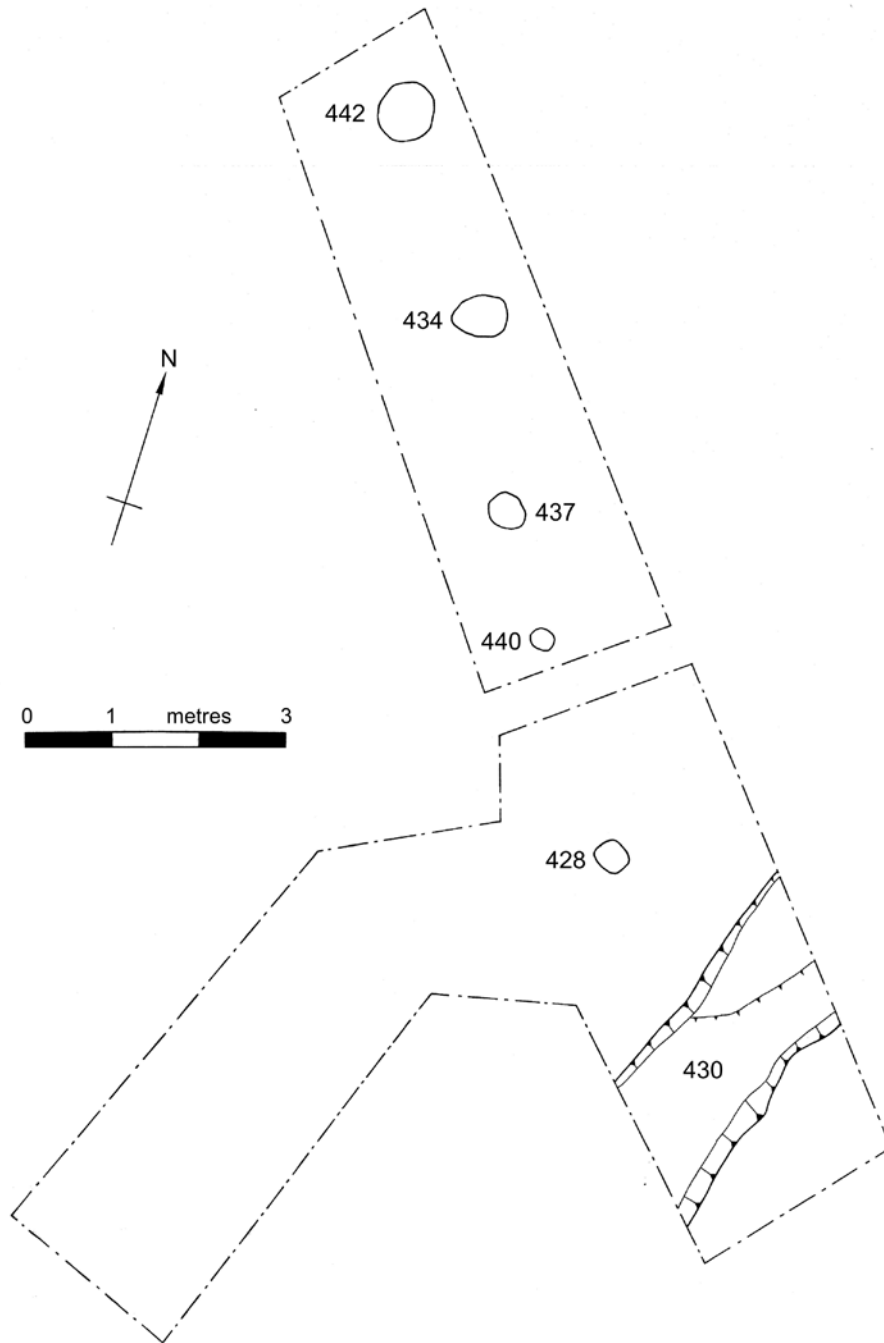


FIGURE 38 Area 3, excavation plan

Phases 6 & 7: 16th-19th Century. An extensive flint cobbled surface was laid over the area, probably in the 18th century, and this was overlaid by a second cobble surface with fragmentary remains of an outhouse and drain.

Water Supply

The Misbourne is a chalk river which rises near Great Missenden and flows south for about 28km to join the river Colne. This river was in continuous flow before modern ‘down-stream’ water extraction, but now appears only seasonally. It runs in a canalised stream from the north around the north-east corner of the abbey and flows into the nearby landscaped lake, Warren Water, created in the 18th century by the Oldham family. The canalisation was probably medieval since the line of the sewer (567) beneath the reredorter meets the line of the nearby river to the north. The sewer was serviced by water drawn from the river. The river leaves Warren Water and continues towards nearby Shardeloes, gradually increasing in volume as it travels downstream.

Ponds

A sub-rectangular pond, north-west of the abbey, existed prior to landscaping and development of the general area. A machine-dug trench (Area 4) shown in Figure 3 was located beyond the east end of this pond and a section cut through the modern infill demonstrated that this feature was originally much larger. Fed by a spring the water levels fluctuated with the seasons and it seems likely that this was originally a medieval fishpond. Local tradition has assumed that this pond, that still survives in part, close to the gateway, was the ‘abbot’s fishpond’ (Davis 2005, 11–12). This single pond was unlikely to have served all the needs of the monastic community and the river may have fed other ponds which were destroyed during 18th-century landscaping.

Evidence of fishponds has been found in the grounds of Missenden Abbey (Davis 2005, 11–12). Three possible ponds were recognized 400m downstream from the abbey site, between the river and the London Road (NGR SP8989 0060). The ponds were set at intervals of *c.*35m and their centres formed a line roughly parallel to a 100m-straight length of the river running immediately on their west side. CVAHS undertook a detailed survey of these anomalies. Elevations were recorded at 1m intervals across the site and the resultant contour

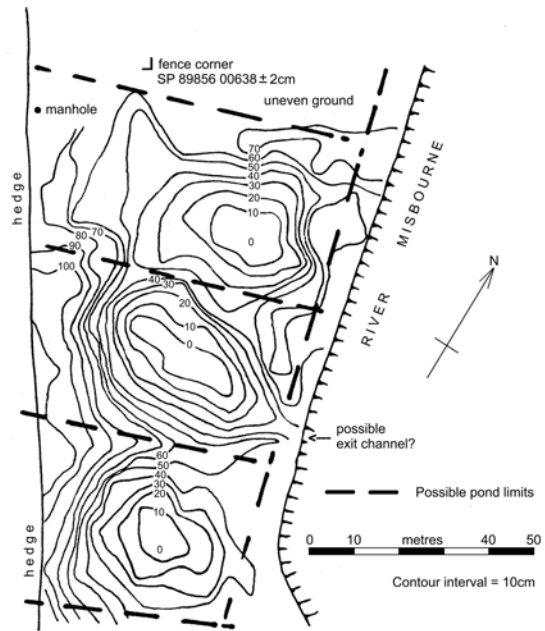


FIGURE 39 Contour survey of probable fishponds identified along the river downstream of Missenden Abbey

map is reproduced in Figure 39. The earthworks are shallow, the amplitude being no more than 1m. In the south-east corner of the central pond the contouring suggests an exit channel to the river with weaker evidence of similar channels in the other two. The apparent regularity of these features and their spatial organisation suggests a deliberate piece of engineering while their shapes, sizes (*c.*30m x 60m) and location strongly support their recognition as a fishpond system.

Gatehouse

Abbey Farm in Church Street backs onto the grounds of Missenden Abbey buildings and was formerly the gatehouse to the abbey. The position of the modern-day house relative to the abbey buildings is shown in Figure 2. A survey of Abbey Farm was carried out prior to restoration in 1991 and revealed that the building incorporated the remains of a medieval structure. The building, which is listed Grade II*, retains features dating to the early 15th century and perhaps earlier (see Historic England, List Entry 1158934 for full description of the house structure).



FIGURE 40 Abbey Farm in Church Street was formerly the abbey gatehouse. The sides of the original carriage entrance way are marked by two rows of stone blocks in the front wall (*With permission from David Birkett, Architect and Historic Building Consultant*)

The gateway was probably a shaped opening in the front wall, as defined by the vertical parallel columns of quoin stones which were exposed during restoration in the early 1990s when the rendering was removed from the front of the house. One column is shown immediately to the right of the door and the other 3m further right (Fig. 40). Dendrochronology dates for a tie beam and a queen strut in the roof gave felling dates of 1406, indicating that the gatehouse range was built at this time. These dates were obtained by D.H. Miles and D. Haddon Reece and reported in *Vernacular Archaeology* 1993. The entrance occupied the central bay, with an unheated chamber above.

After the Dissolution, the gatehouse became a farmhouse. The original gateway was blocked and the walls of the upper chamber were decorated with red and black geometric shapes. A dendrochronology date of 1538 has been obtained for other timbers in the house and for the demolition of a chimney stack. It also seems that there was a large upper floor hall with a fireplace on the north wall. More details of the interior construction of the house can be found in the site archive.

THE FINDS

Human Burials

Anne Stirland and Yvonne Edwards

Five graves were excavated in Area 1 and are considered here in chronological order. Age at death has been estimated using the attrition rates of Brothwell (1981, 72) and pubic symphysis changes calculated by McKern & Stewart (1957, 75–85).

Grave [249], Burial [228]: Area 1, Phase 3 (Fig. 9)

This burial lay in a grave lined with stone and was below the present-day water table. The grave was constructed with a single course of rough clunch blocks partially mortar-bonded, forming a rudimentary lining. Constriction of the skeleton suggests a coffin burial. Most of the hand and foot bones along with the uppermost vertebra (atlas and axis) were intact while long bones and pelvis were fragmented into several pieces. The height of the skeleton, size of the long bones and heavy eyebrow ridge of the skull suggest that this individual was male. Heavy tooth wear, especially on the molars, indicated that

he was between 45–60 years old. Various bones of the feet, especially on the right, showed very good evidence for the presence of gout, confirmed by radiographic examination (I Watt 1985, pers. comm.). All the tarsals were affected with lytic lesions, with similar lesions on metatarsals and phalanges. This individual also had arthritis of the feet, affecting the articulations of various tarsals and the left-hand second phalangeal joint on the left (I. Watt *op. cit.*). On the left-hand side of the rear skull was a large outgrowth of bone about 20–30mm in diameter and raised about 10mm from the surface. This looks very similar to a bony growth called an ‘ivory osteoma’ which often occurs on skulls and are frequently seen in autopsies but appear to be without symptoms (Roberts & Manchester 1995). There was also a developmental defect of the lower thoracic vertebra where the neural arch had developed separately from the main body of the bone. This individual’s teeth showed no signs of caries or abscesses.

Vertebrae and ribs showed evidence for arthritis together with a generalized porosity or pitting of the surface of the skull which may relate to a dietary iron absorption deficiency during childhood. The skeleton also showed ossification of the hyoid, thyroid and costal cartilages, often a feature of age. In addition, there was good evidence of enamel hypoplasia of the teeth. This causes bonding of the crowns of some teeth and is a result of periods when growth during childhood ceases and enamel production halts. This event occurred between two and four years of age and may represent weaning stress.

Grave [206], no burial: Area 1, Phase 4 (Fig. 12)

Here the grave construction was made up of a stone lining comprising seventeen large, tooled clunch blocks, carved to fit but not mortared. The head socket was bipartite with a cap stone and base slab beneath.

Grave [163], Burial [190]: Area 1, Phase 4 (Fig. 12)

The grave was made up of a single course of chalk, flint and tile blocks with a possible sandstone cap, with the associated skeleton buried in a wooden coffin within the grave. Most skeletal parts were present and generally broken into several pieces, apart from the finger and toe bones and one of the lower arm bones (ulna), which were intact. The

left lower leg bones (tibia and fibula) and the upper arm bones (humeri) were absent. The size of the bones and the shape of the pelvis indicate that this is a male skeleton. Heavy wear on the second and third molars and evidence for enamel hypoplasia suggest an age around 25–35 years. There was no evidence for major injury during life, or any pathological condition. The ends of two long bones and one vertebra were blackened: this is likely due to staining from rotting clothing (decayed cloth was found with skeleton 147) or more likely staining by manganese oxide released during decomposition of organic matter. The oxide is formed by oxidising bacteria which occur in wet/moist conditions (Rushton & Cassella 2008; Dorn & Obalander 1981), and Yeoman (1983) had noted that some burials were near to the top of the water table. Notes written during the excavation also suggested that this burial had been disturbed and possibly robbed.

Grave [144], Burial [147]: Area 1, Phase 5 (Figs 13 & 41)

The coffin in this grave was carved from single piece of clunch with a socketed head end; there were also the fragmentary remains of a clunch lid. A drain hole had been inserted through the bottom of the coffin. There was a purple stain close to the pelvis and the hands of the skeleton lay under the pelvis. Within the coffin lay the almost complete remains of a male skeleton, aged around 2030 years; it was notable that the coffin had not been made to measure for this individual and the feet were squashed into the space available. The skull was almost complete and brachycranic (round-headed), with a cranial index of 82.7. The height of the skeleton was greater than 1.72m. Burial [147] shared an anomaly with burial [109] (see below), in which the anterior facet of the calcanei at the articulation with the navicular, was so reduced in size as to be almost nonexistent. All four calcanei from both skeletons were identical in appearance such that it is possible to suggest that these two men may have been related in some way.

Skeleton [147] also had multiple pathology affecting his right elbow in which the head of the ulna – the olecranon process – was dropped and expanded and had been fractured earlier in this individual’s life. The distal articulation of the humerus was also affected, with pitting and some lipping, and some involvement of the head of the

radius. There was a large area of subperiosteal swelling on the lower part of the humerus shaft in the area of insertion of the brachialis muscle, which is responsible for articulating the elbow; there were also signs of an inflammatory reaction on the bone surface. This individual appears to have fractured his elbow earlier in his life, but retained the use of the joint in a restricted manner (W. Birkby 1985 pers. comm.), such that he would have been unable to turn the elbow from the wrist. A heavy fall on the right elbow may have been the cause of such a severe trauma. Curious grooves running across the tops of both lateral mandibular incisors suggest a heavy side-to-side chewing action across the anterior teeth. Arthritis was also observed as well as similar skull pitting, as seen in the case of skeleton [228]. Skeleton [147] had also suffered from four abscesses, all on upper molars.

Grave [109], Burial [127]: Area 1, Phase 5
(Fig. 13)

Unfortunately, this burial had been cut through diagonally by a wide brick culvert sometime in the

relatively recent past and consequently many of the bones were missing, including the lower arms, vertebra and upper legs. However, parts of the skull including the sides with mastoid processes and jaws with mandibles were present and upper vertebrae including atlas and axis were also retained. Both collar bones (clavicles) were present but only single upper arms and scapula. The left lower leg bones (tibia and fibula) and foot bones from both sides were also recovered. As described for burial [190], the lower leg bones of skeleton [127] all showed black staining as did parts of the skull, humeri and scapula. As noted previously this is likely due to manganese oxide staining, as here the top of the water table was visible immediately beneath the burial.

In this instance, it was more difficult to assign a sex to the skeleton, especially in the absence of the pelvis, which shows features that are commonly used to separate male/female. The small mastoid processes and intermediate thickness of the eye orbit hint that this skeleton is female. Both left and right maxilla showed evidence of loss of teeth long



FIGURE 41 Area 1, Phase 5: Grave 144

before death since the cavities left behind were in-filled by bony growth; the remaining molars were moderately worn suggesting a person of *c.*40 years of age. The individual was likely to have been *c.*1.7m tall, with no signs of any pathology.

Pottery

by Andrew Sage

Drawings by Andrew Sage, Sue Barton, Polly Buston, Jill Hender and Marion Wells

Overview

A relatively large assemblage of medieval and post-medieval pottery, comprising over 4,000 sherds weighing a total of 42.76kg, was recorded from Areas 1, 2a, 3 and 43 of the excavations (Table 1). With a few exceptions, the assemblage was fairly fragmented with only small proportions of vessels present. It is likely that a sizeable amount of the assemblage represents material re-deposited from elsewhere as part of construction and make-up deposits. Notwithstanding the above, the assemblage provides important information, not only in terms of understanding the development of the abbey, but also our understanding of the patterns of ceramic consumption in the this area of the Chilterns and the development of the pottery industry of Potter Row.

Over one-third of the assemblage came from 18th and 19th-century deposits (Phases 7 & 8). The pottery from these heavily disturbed later phases has been recorded in detail in the site archive but is only afforded limited discussion in this report.

The pottery types present are typical of those from south Buckinghamshire and the surrounding areas of south-east Oxfordshire and Middlesex. The pottery was recorded in detail using a combination of the type-codes in common use in London and Oxfordshire (MOLA 2015, Mellor 1994). The author would like to thank John Cotter, Barbara Hurman, Chris Jarrett, Berni Seddon and Lucy Whittingham for their assistance and Brett Thorn at BCM for the access to previously published assemblages to identify parallels.

Numbers in bold in the text refer to illustrated examples in the catalogue.

Pottery from Phases 1–7

Area 1

The highly fragmented assemblage from Phase 1 was dominated by the material from chalk floor [218]. This and other contexts in this phase showed a broadly similar pattern, dominated by local mid-11th to mid-12th-century chalk-tempered and late 11th to early 13th-century flint-tempered coarseware jars (EMCH and MAF/MAFS types), several of which showed evidence of having been used for cooking, with smaller quantities of South Hertfordshire greyware (SHER). Saxo-Norman and 13th-century or later material was entirely absent with the exception of a single sherd, strongly suggesting a mid to late 12th-century date for this activity.

With the exception of a handful of sherds the whole of the Phase 2 assemblage came from layer

TABLE 1 Distribution of pottery assemblages across areas and excavation phases

Phase	Area 1		Area 2a		Area 3		Area 43	
	Sherds	Wt(g)	Sherds	Wt(g)	Sherds	Wt(g)	Sherds	Wt(g)
Unphased	19	271					248	3792
1	243	2143						
2	500	4735	138	3579	211	3120		
3	216	1748	1	11	6	74		
4	693	4840	230	1844				
5	148	1121	131	990				
6	141	1431	60	472	8	81		
7/8	714	9051	323	2477	93	981		
Totals	2674	25340	883	9373	318	4256	248	3792

[217]. There were numerous links between this layer and Phase 1 contexts and there is nothing in the ceramic record to distinguish between the two phases. It seems reasonable to suggest that Phase 2 pottery is predominantly pre-13th century. Only two very small sherds of 13th to 14th-century types were recovered from socket [221], suggesting the fill of this feature may be later than the rest of Phase 2.

Phase 3 was dominated by material taken from a large make-up layer [150]. Early floor layer [202] produced a small 12th-century assemblage similar to that from Phases 1 and 2. No pottery was recovered from the earliest grave [249], but the fill of later grave [206] immediately above [249] contained Brill/Boarstall type ware (BRIM OXAW) which indicated an early 13th-century date.

Posthole [215] which was sealed by footing [192] contained later 13th-century Brill/Boarstall pottery (BRIM OXAM) as well as a possibly intrusive sherd of late-medieval sandy redware (LMSR). The layers sealing this [191, 199] contained 12th and early 13th-century types only. Layer [199] contained 22 sherds from a single early Oxford Ware pitcher (OXY) (Fig. 46.28) and no other pottery. It seems likely that this was a vessel used and broken in the church during the course of the various works that were carried out in this phase.

The subsequent layers [150, 162] culminating in mortar floor [154] contained an increasing quantity of Brill/Boarstall and possible Potter Row types (PRM), strongly suggesting this activity dates to the later 13th or possibly early 14th century. As would be expected of make-up layers and floor repairs, most of this material is extremely fragmentary and mixed, with only small proportions of individual vessels present.

The assemblage from Phase 4 was characterised by a significant increase in Brill/Boarstall-type wares and Potter Row types, and a marked decrease in the proportion of the early coarsewares relative to South Hertfordshire-type greywares. The assemblage is dominated by two distinct groups of material, within the fills of trench [137] (297 sherds) and the overlying make-up layers and floors [108, 133, 134 etc.] (306 sherds). Small quantities of pottery were recovered from the various postholes, pits and graves.

The various fills of trench [137] contained a wider range of fabric types than seen in previous phases and included London-type wares, devel-

oped early Surrey ware (DESUR) (Fig. 50.51), coarse Surrey-Hants Border ware (CBW) alongside a significantly increased proportion of Brill/Boarstall and Potter Row types (Fig. 49.45, 47–50). South Hertfordshire-type greywares formed the dominant element. The 12th-century coarseware elements of the assemblage were highly fragmentary and appeared to be residual redeposited material. The bulk of the pottery dated from the mid-13th to 14th century, though there were a small number of 15th-century sherds of Late London-type ware (LLON) and early Border Ware (EBOR).

In contrast, the overlying Phase 4 layers [98, 108, 133, 134, 153] were dominated by later Potter Row-type wares (PRMH) with South Herts-type greyware types forming a much reduced element. Small quantities of London-type wares and Surrey and Surrey-Hants types were present as well as post-medieval types indicating a late 15th-century date for these layers.

The small assemblage from the fill of grave [163] contained sherds of broadly 13th to 14th-century date and a single small sherd of Cistercian ware from the upper fills of grave [206]. The distribution of this material cannot be relied on since this grave was considerably disturbed in the distant past and during the cutting of a culvert. It is possible, therefore, that grave [163] may in fact be later. A small quantity of pottery recovered from the series of Phase 4 pits and postholes contained a spread of pottery of 13th to late 15th-century types (early Border ware, late medieval Brill/Boarstall and Potter Row types present).

Whilst there were sherd links between layer [108] and layer [93] in Phase 5, [93] contained a significant proportion of late medieval sandy redware (LMSR) that was absent in layer [108]. The various Phase 5 postholes contained occasional sherds of Surrey-Hampshire Border ware (BORD) indicating a later 16th-century date for these fills. The floor base [81] which sealed this sequence of activity contained a few sherds of post-medieval redware, also indicating a later 16th-century date. The limited amount of pottery from the two Phase 5 graves [144, 109] spanned the medieval period and appears to be residual. The sherd links between these fills and earlier layers appears to be a result of the re-opening the graves and their consequent backfilling.

The assemblage from Phase 6 contained a typical range of later 16th and 17th-century

pottery types; post-medieval redwares (PMR), black wares, Surrey-Hampshire Border wares and tin-glazed wares (TGW). A few sherds of Staffordshire slipware came from the fill of trench [45] suggesting this feature may have dated to the late 17th century.

A large proportion of the pottery from Area 1 came from Phases 7 and 8. The material from Phase 7 could be divided in to two periods of activity: firstly, the construction of the culverts and cobbled surfaces containing a range of early to mid-18th-century pottery types and secondly, later features and layers containing later 18th and 19th-century types.

Whilst the quantity of 11th/12th-century material would seem to support the presence of some form of pre-existing institution on the site, the amount of linking sherds between slag layer [217] and chalk floor [218] would suggest that [217] incorporates re-used floor material from the earlier 11th to 12th-century [218]. However [218] included South Hertfordshire greywares and therefore is unlikely to date much before 1170, in which case there seems to have been some kind of almost immediate re-working of the buildings layout.

The sequence of pottery from Phases 4 and 5 is problematic for phasing. The fill of Trench [137] is securely medieval but subsequent features are later than the current phasing would suggest. The overlying Phase 4 deposits date to the late 15th century, whilst Phase 5 spans the 16th century. This may indicate re-use of the buildings in the 16th century. One marked feature in Phase 6 is the decline in the quantity of residual earlier medieval pottery.

Area 2a

With the exception of two sherds, all the pottery recorded in Phase 2 came from a single hand-made early South Hertfordshire-type greyware jar (Fig. 46.27) which, as described elsewhere, was set upright in the area of hard standing [1070], possibly as a feed bowl for chickens. The jar closely parallels the output of the Denham/Uxbridge kilns and combines both combed decoration and applied thumbed strips. Farley (1988, 75–76) tentatively proposed a chronology suggesting that the use of applied thumbed strip decoration was a feature of the final, early 13th-century phase of production. A sherd of later medieval Potter Row-type ware was recovered from cobble layer [1056].

The remaining ceramic assemblages from

Phases 4, 5 and 6 were remarkably homogenous, and whilst South Hertfordshire type greyware dominated in each of these phases, much of the material appears to be residual as small quantities of late medieval or early post medieval types are present in each of the phases. Even the lowest fills of pit [1003] (Fig. 36) contained sherds of late medieval Potter Row type and late medieval sandy redware, suggesting that this feature was open until at least the 15th century.

Area 2b

Just ten sherds came from the construction trenches for footings [1206] and [1207]. With the exception of a sherd of Brill/Boarstall-type ware these were mainly of South Herts greyware types, suggesting a mid-13th to early 14th century date for these features.

Area 3

The assemblage from the earliest Phase 2 layer [453] was dominated by flint-tempered early South Hertfordshire-type greywares and South Hertfordshire greywares. Whilst the assemblage from Phase 2 was less fragmented compared to other areas/phases of the site, there was no identifiable chronological development in the assemblages recovered from the sequence of floors.

A handful of medieval sherds were recovered from Phases 3 and 6. The assemblage from Phase 7 contained a range of residual medieval pottery types alongside 16th and 17th-century types. 18th and 19th-century types were entirely absent from these features.

Two features of the assemblages from Areas 2 and 3 distinguish them from Area 1. Firstly, the lack of 12th-century pottery compared to Area 1 may indicate that these areas were developed slightly later in the abbey's history. Secondly, unlike the construction and make-up deposits seen in Area 1, the pottery assemblages are smaller and more domestic in nature. There is a lower percentage of decorated table wares, a reflection of the peripheral, domestic nature of these areas of the abbey precinct.

Area 43

Whilst the modest assemblage of pottery from Area 43 was dominated by later medieval and 16th-century types, the pottery recovered from a small number of features provided evidence for the

chronological development of Area 43. The earliest group of sherds came from layer [5051] which contained fragments of a South Hertfordshire greyware jug alongside a handful of 12th/13th-century flint-tempered coarse wares (MAFS) (Fig. 46.30). Thereafter there seems to have been relatively little activity until a point sometime during the later 15th to mid-16th century. A number of features, including floor [5011], contained occasional sherds of later medieval Potter Row type (PRMH) and late medieval sandy redware (LMSR). The assemblage from layer [5052] and midden [5007] contained late medieval sandy redware (Fig. 45.25, 26) alongside a few sherds of 16th-century types (post-medieval redwares and Border ware).

Whilst it may be that Area 43 was not fully excavated, the lack of residual 11th/12th-century coarse wares compared to Area 1 indicates that whilst the west range was moderately early in the history of the abbey it was not part of the original development.

Pottery Fabrics

Medieval

Early Medieval Chalk-Tempered ware (EMCH: Fig. 42.1; Fig. 46.35) as defined by Vince and Jenner (1991, 70–72) appears in mid to late 11th-century deposits in London but is common in late 11th or early 12th-century layers at St Albans. It has also been recorded from elsewhere in Buckinghamshire and in south Bedfordshire. The dating of this type was recently reviewed by Thompson (2011, 115) who suggested that the type may have continued in use longer outside of London. The evidence here supports this as it appears contemporary with Phase 1 and possibly Phase 2. Some of the material is certainly residual but it would seem that the industry continues into the early to mid-12th century.

The fabric typically has a ‘soapy’ feel and is moderately hard fired. It is a mid to dark grey fabric with brown or reddish-yellow external margins and surfaces. It is characterised by fine to very coarse inclusions of rounded grey chalk or calcareous algae/limestone in varying quantities on the surfaces and sometimes internally these have been burnt out leaving only a rounded or sub-rounded void; sparse medium sub-rounded to sub-angular

pale grey or colourless quartz; occasional sparse fine to very coarse angular flint; rare fine to very coarse rounded red or black ferrous compounds; rare medium to coarse shell and moderate to abundant fine mica.

Of the estimated seventeen vessels represented in the assemblage all were jars. Many of these were sooted and appear to have been predominantly used as cooking pots. Jars here commonly have clubbed or thickened rims with an often pronounced internal bevel. These are sometimes embellished with thumbing around the rim or bevel. There are also examples of applied thumbed bands around the neck. Combed decoration is common on body sherds and occasionally on the rims.

Early South Hertfordshire-type coarseware (ESHER: Fig. 43.10–12; Fig. 46.27) has recently been reviewed by Blackmore and Pearce (2010). It has previously been termed ‘M40 ware’ or ‘Denham-type ware’ and forms part of a wider group of ceramic traditions focused on the Chilterns that includes ‘South-East Oxfordshire ware’ (OX162) (Mellor 1994, 86). ESHER production centres have been identified at Denham and Uxbridge and these are thought to form part of a wider concentration of rural kiln sites located in the Colne Valley (Jones, O’Connell & Poulton 1990, 111, 114). Here only material that closely resembles material from Denham (Farley 1988, 69–71) or Uxbridge (Knight & Jeffries 2004, 43–44) has been classified as ESHER. Comparable flint-tempered wares of the wider Chilterns tradition are discussed below. Production at the Denham kiln is thought to have dated from the late 11th century and lasted until the mid-13th century.

Whilst jars were by far the most common form present in the assemblage there were also examples of bowls, curfews, jugs and lids. Jars typically had everted thickened rims with an internal bevel, sometimes with thumbed decoration around the rim. There were a smaller number of clubbed rims. Both combing and applied thumbed decoration was present on bodies and as noted above this was combined in a number of instances, including the complete jar (Fig. 46.27) from Phase 2 of Area 2a. The forms present, jars with combing and jars with thumbed decoration, respectively date to the middle (12th to early 13th-century) and final (13th-century) phases of production identified by Farley (1988, 75–76).

Flint-tempered coarsewares (MAF: Fig. 42.2–7; Fig. 44.19; Fig. 45.23; Fig. 46.29, 30) were the dominant type from the Phase 1 features. There was considerable variation within this broad group of flint and quartz sand tempered coarsewares. Fabrics were commonly oxidised, ranging from light red or reddish brown to pink or pale grey and ranged from soft to relatively hard-fired with a sandy feel. Most examples were micaceous with moderate to common very fine to medium sub-angular and sub-rounded quartz although there was significant variation; rare very coarse sub-angular quartzose; sparse to moderate fine to very coarse angular white/grey flint; occasional coarse to very coarse angular/sub-angular iron-stained flint; occasional sparse fine to coarse red/black ferrous compounds and occasional sparse medium to coarse sub-rounded to angular calcareous inclusions.

Macroscopic analysis of this group to define discrete fabric groupings proved problematic as identified variations of the main inclusion types present (flint and quartz) merely proved to be ranges on a broader continuum. This is an issue that was highlighted by Mellor (1994, 84) with regards to South-East Oxfordshire Ware (OX162) and these wares form part of the same broad Chilterns based tradition. Blackmore and Pearce have recommended terming those types previously referred to as ‘M40 ware’ as ESHER. However, whilst there is some overlap in the characteristics of the fabric of these wares with that from Denham and Uxbridge, and like ESHER they appear to be largely hand-built with some finishing on a wheel, there is considerably more variation in terms of the range of inclusions, and particularly in fabric colour, with oxidised and part-oxidised examples being far more common in comparison, suggesting a variation in the firing technology and practices from the production centres at Uxbridge and Denham. With the exception of a few sherds, the material does not parallel that attributed to the first phase of production at Potter Row (Ashworth 1983).

Forms were mainly jars with a small number of bowls: only a single jug was identified from the assemblage. A variety of rim forms were recorded; everted thickened rims with internal bevels (e.g. Fig. 42.4, 6) were dominant, with clubbed rims (e.g. Fig. 42.3; Fig. 46.29) and upright slightly thickened thumbled or pinched rims (e.g. Fig. 42.2,

7) also common. Thumbled or finger-pinching was commonly used. Applied thumbled strips and bands of wavy combed decoration were occasionally used.

MAF types appear to be contemporary with the earlier phases of ESHER and OX162 types (late 11th to early 13th century) but the lack of MAF types in Phase 2 of Area 3 suggests that the industry had declined by the early 13th century.

Early Medieval Oxford Ware (OXY: Fig. 46.28). A small number of vessels, including a possible watering pot were recovered. This type is common in central, eastern and north-eastern Oxfordshire and forms a major part of late 11th to late 13th-century assemblages in Oxford (Mellor 1994, 68).

South Hertfordshire Greyware (SHER: Fig. 42.8, 9; Fig. 43.14; Fig. 44.16–18, 20; Fig. 46.31, 32, 36, 37). A major pottery industry of the late 12th to early 14th century, focused on south Hertfordshire and north Middlesex that has recently been subject to detailed study (Blackmore & Pearce 2010). Around half of the vessels recovered were jars; everted clubbed and thickened rims with internal bevels were dominant but some more unusual rim forms were recorded including expanded rims with very pronounced internal bevels, similar to form F6 as defined by Blackmore and Pearce (2010, 140). Around one quarter of the vessels were jugs: a spouted pitcher was also recorded. Bowls and dishes formed a smaller element but included less common rim forms including several inturned forms (Fig. 43.14; Fig. 46.31). SHER appears to have been the primary choice for utilitarian wares on the site during the later 13th and early 14th century and dominates later residual elements of the assemblage.

Brill/Boarstall-type ware (BRIM OXAW: Fig. 48.39–41; Fig. 52.A, B, E, H. BRIM OXAM, Fig. 44.21, 22; Fig. 46.33, 34; Fig. 47.38; Fig. 52.A, C, D, F, G, I). The products of the pottery industry that developed around Brill from the late 12th century onwards form a small but significant part of the assemblage. Two fabric types have been defined (OXAW and OXAM: Mellor 1994, 111–118) and both are present here. A single sherd of OXAW is present in Phase 1 and in small quantities in Phases 2 and 3, whilst OXAM does

not appear until Phase 3 and it is not until Phase 4 that either fabric appears in significant quantities. Coarse unglazed wares that formed the major part of OXAW production (Mellor 1994, 111) comprise only c.20% of the OXAW assemblage here which is largely dominated by decorated tablewares. This contrasts with Walton Street, Aylesbury, where over half of all the excavated Brill/Boarstall types (including OXAM) were coarsewares (Thompson 2011, 115–6).

Jugs were by far the dominant form present amongst both OXAW and OXAM, whilst Brill/Boarstall products only comprise c.13% of the Phase 4 assemblage they represented over 25% of the jugs in the same phase. Jugs were often decorated with applied rouletted strips, sometimes in contrasting iron-rich clay or slip (Fig. 52).

Potter Row-type ware (PRM COARC, Fig. 49.45. PRMF, Fig. 48.42, 43; Fig. 49.44, 46. PRMH, Fig. 49.47–50). The only known pottery production site in the immediate vicinity of Missenden Abbey is located at Potter Row, about one mile to the north. Surveys undertaken during the late 1970s and early 1980s identified wasters from a medieval and post-medieval industry (see below). Three main groups of medieval fabrics were identified and it was proposed that there were two phases to the industry; a 13th-century phase producing coarse gritty unglazed wares and a later medieval phase producing finer glazed wares (Ashworth 1983, 153–155). As part of preparing this report the author reviewed the previously published material from Potter Row in order to identify parallels within the assemblage.

In the material from the previous field-walking surveys the coarse wares (PRM COAR) were the dominant type. However, it was only possible to identify very small quantities of parallel material in the assemblage. There were some similarities between the flint-tempered coarse wares (MAF) and the reviewed Potter Row material, but the vast majority of the Potter Row material was more abundantly quartz-tempered and contained lower quantities of flint. A later phase of coarse wares (PRM COARC) were identified by Ashworth and a small number of these were identified in the assemblage. The two main fabric groups in the assemblage that paralleled that from Potter Row were PRMF and PRMH.

PRMF was a fine, grey, micaceous, moderately

hard fired pale grey to pink/light reddish-brown fabric with grey to dark grey surfaces with abundant fine to very fine rounded to sub-angular pale grey/grey quartz, occasional sparse fine to medium sub-angular to sub-rounded white/glassy quartz, sparse rounded fine to medium red ferrous compounds and occasional sparse angular pale grey flint inclusions. Apart from being harder fired, this type matches the ‘soft’ Fabric 2 from Potter Row. The fabric is similar to fine SHER types (Jarrett *pers. comm.*) although there are other parallels which should be considered. Jars were the most common form and several had distinctive inturned rims with an internal bevel (e.g. Fig. 49.44, 46). These parallel published examples of ‘Sandy, flinty and shelly ware’ (MSC2) from Walton Street, Aylesbury (Thompson 2011, 115). Jars with simple everted (Fig. 48.43) and flanged rims were also recorded. There were also jugs and a handled bowl with a form of loop handle (Fig. 48.42). The forming of this handle appears to have been strengthened by some form of internal structure that has burnt away during firing, leaving a deep socket or hollow within the body of the vessel.

The second fabric group, PRMH, corresponds with the ‘hard’ Fabric 3 from Potter Row. The fine sandy fabric is hard fired and light red to buff sometimes with a ‘streaky’ matrix. There is abundant fine to very fine opaque and glassy quartz, rare medium sub-angular opaque and glassy quartz and rare fine to very coarse rounded or sub-rounded red ferrous inclusions, rare very coarse white clay pellets and rare fine to medium sub-rounded voids. Jugs dominated the assemblage with only a few examples of jars and bowls: one uncommon form was a possible watering pot (Fig. 49.49). Glaze was common on PRMH vessels, both jugs and jars: however, its use was relatively restricted to necks and shoulders of jugs and the bases of jars, and was often just seen as spots and splashes. Both thin clear (yellow), olive-green and copper speckled and mottled glazes were used. There were some examples of more consistently glazed vessels. Some less common forms of decoration included red slip/clay strips and fine incised lines.

Ashworth attributed both PRMF and PRMH to the second phase of the Potter Row industry. However, as discussed above there is evidence from Area 1 Phase 4 that PRMF may pre-date PRMH. The possible parallels with ESHER and SHER types support an earlier, 13th-century date

for PRMF than that proposed by Ashworth for the 'soft' Fabric 2. The absence of PRMF from Area 43 compared to the relative abundance of PRMH indicates that PRMF declined sometime in the late 14th or 15th century whilst PRMH continued in production in to the early 16th century. Ashworth notes the similarity of forms between Fabrics 2 and 3 and the post-medieval products and it seems that the Potter Row pottery industry may have lasted continuously from the 13th to 17th century.

Late medieval Sandy Redware (LMSR: Fig. 45.25, 26). This type was a significant component of the assemblage from Area 43 with only small quantities from the other areas. This reflects the relatively late date (late 14th to late 16th century) of this type and the lack of late medieval activity in Area 1. The distinctive moderately hard-fired reddish yellow to red fabric sometimes with a mid to dark grey core has moderate to abundant fine to medium rounded to sub-angular opaque quartz and rare sub-angular coarse to very coarse quartz inclusions, sparse fine to very fine black/red iron compounds and sparse to common very fine mica visible in surfaces. The vessels appear largely utilitarian: largely undecorated jugs, jars, frying pans and dripping pans. One large vessel with pulled feet parallels a jug from High Street, Uxbridge (Knight & Jeffries 2004, fig. 20). Decoration was limited and where used clear glaze was restricted to use on the insides of vessels only. A small number of sherds were decorated with broad stripes of white slip and some vessels also had relatively crude scratch or incised decoration on the body and/or handles. One frying pan/skillet handle was crudely decorated with scratched crosses.

Medieval Surrey and London-type wares were found in relatively small quantities from Phase 2 onwards. These included 11th-century *coarse London-type ware*, 12th to 14th-century *London-type ware*, including fragments from a Rouen-type jug (LOND: Fig. 52.J) and 15th-century *late London-type ware*. Mid-12th to early 13th-century *Shelly-sandy Ware* (SSW: Fig. 43.13; Fig. 44.15) was concentrated in Phase 2 deposits. 22 sherds of late 13th to late 14th-century *Coarse Surrey-Hampshire Border ware* (CBW: Fig. 50.54) were recovered from Phases 4, 5 and Area 43. In addition, a few sherds of mid-12th to early 13th-century *Developed Early Surrey ware* (DESUR: Fig. 50.51) and mid-14th to 15th-century

Cheam whiteware (CHEA: Fig. 50.52) were recovered in residual contexts.

Small quantities of other medieval types were present in the assemblage, often in residual contexts. These included late 11th to early 13th-century *Ashampstead-type ware* and late 14th to 16th-century *Hertfordshire-type late medieval reduced ware*. Continental imports were limited to occasional fragmentary and residual sherds. A single residual sherd of late- 12th to 13th-century *Early Rouen ware* was recovered along with a handful of sherds of mid-13th to mid-17th-century *Saintonge types*. A few sherds of early-14th to mid-17th-century *Dutch red earthenware* were also recovered from later medieval post medieval contexts.

Post-Medieval

Transitional types such as late 15th to 16th-century *Cistercian ware* (CSTN: Fig. 50.53) and late 15th to mid-16th-century *Early Surrey-Hampshire Border Ware* (EBORD: Fig. 50.55) were present in small quantities. The utilitarian element of the main post-medieval assemblage was dominated by *post-medieval redwares* (PMR: Fig. 51.62, 65), this was supplemented in Phase 6 by a small number of *Brill-type post-medieval wares* (BRILL, BRILL SL) (Fig. 45.24; Fig. 51.64). Whereas table and serving wares appear to be largely of mid-16th to 18th-century *Surrey-Hampshire Border Ware* (BORDBG: Fig. 50.56, BORDG: Fig. 50.57, BORDY: Fig. 50.59, RBOR: Fig. 50.58) or mid-16th to late 17th-century *Potter Row-type post-medieval ware* (PRPM) (Fig. 51.60, 63, 66). In addition to the Potter Row white and buff fabrics a small group of green-glazed redwares was also identified. The fabric is dull red/brown with abundant fine and very fine pale grey and glassy quartz and sparse fine to medium red ferrous inclusions. Most of the sherds have a thick glossy dark green glaze, often internally and externally. In the case of one vessel the glaze is bubbled and with traces of accreted waster material. A modest number of sherds that matched this fabric were identified by the author amongst the original material from Potter Row (Bucks County Museum Archaeol. Group 1978): the quantities are small and it may have been produced elsewhere. A jar and a lid came from Phases 4 and 5 and dishes were found in residual contexts. This material may represent a transitional phase of the industry

which would have overlapped with the production of PRMH.

As can be seen from Table 1, there was a large assemblage from the 18th and 19th-century levels in Areas 1 and 2. Whilst the assemblage provides a general insight in to the consumption and use of ceramics in a wealthy household of the later 18th/early 19th century, the nature of the deposits mean that interpretation would be limited and consequently are not discussed in this report. The assemblage is dominated by post-medieval redwares, but also includes a small assemblage of fine wares including a small quantity of Chinese and English porcelain.

Catalogue of Illustrated Pottery

Area 1, Phases 1/2 (Fig. 42)

1. Early medieval chalk-tempered ware (EMCH); jar with flat topped everted rim with very prominent internal flange/bevel; combed bands on upper face of rim and combed decoration in crossing bands on body; sooted interior [218].
2. Missenden Abbey flint-tempered coarse ware (MAF); jar with thumbled rim; black; vertical combed decoration; hand-built [252].
3. Missenden Abbey flint-tempered coarse ware (MAF); jar; buff with a clubbed rim [217].
4. Missenden Abbey flint-tempered coarse ware (MAF); jar; buff with combed decoration, an everted, thumbled and thickened rim and an internal bevel [218].
5. Missenden Abbey flint-tempered coarse ware (MAF); buff sherds with combed decoration [217].
6. Missenden Abbey flint-tempered coarse ware (MAF); jar; buff [218].
7. Missenden Abbey flint-tempered coarse ware (MAF); jar; black with thumbled rim [218].
8. South Hertfordshire grey ware (SHER); jar; black [217].
9. South Hertfordshire grey ware type (SHER type); jar; buff [218].

Area 3, Phase 2 (Fig. 43)

10. Early South Hertfordshire-type coarse ware (ESHER); almost complete black jar with combed decoration [452].
11. Early South Hertfordshire-type coarse ware (ESHER); jar with a reddish–brown body and black surface; everted rim with internal bevel [452].
12. Early South Hertfordshire-type coarse ware

(ESHER); bowl with an incised wave form decoration; an everted slightly thickened rim with bevelled outer edge and sooted both internally and externally [445].

13. Shelly sandy ware (SSW); bowl/jar; brown/orange [451].
14. South Hertfordshire grey ware (SHER); almost complete spouted dish; in-turned form with extensive scratch marking on base [453].

Area 2a, Pit [1003] (Fig. 44)

15. Shelly sandy ware (SSW); jar; brown.
16. South Hertfordshire grey ware (SHER); bowl; black with in-turned rim and external flange/bevel to create lid-seating.
17. South Hertfordshire grey ware (SHER); jar; orange/brown.
18. South Hertfordshire grey ware (SHER); jar; black.
19. Missenden Abbey flint-tempered coarse ware (MAF); grey sherd with applied thumb strips and decorated with combing.
20. South Hertfordshire grey ware (SHER); jug handle; brown with two rows of stabbing and thumbing along both edges.
21. Brill/Boarstall type ware (BRIM OXAM); buff handle with pale green glaze on upper face.
22. Brill/Boarstall type ware (BRIM OXAM); orange/buff sherd with an orange glaze and combed horizontal and wavy decoration.

Area 43, Midden [5007] (Fig. 45)

23. Missenden Abbey flint-tempered coarse ware (MAF); bowl; buff; applied thumb strip below rim and an internal incised wave form decoration.
24. Brill type post medieval ware (BRILL type); bowl; partially internally glazed with yellow/brown glaze.
25. Late Medieval Sandy Red ware (LMSR type); jar.
26. Late Medieval Sandy Red ware (LMSR type); frying pan handle crudely decorated with scratched crosses.

Areas 1, 2a & 43 (Fig. 46)

27. Early South Hertfordshire-type coarse ware (ESHER); complete black jar with everted squared rim with a rounded outer edge; hand built and finished on wheel. Area 2a [1063].
28. Early Medieval Oxford ware (OXY); pitcher; continuous fingering around base, external green

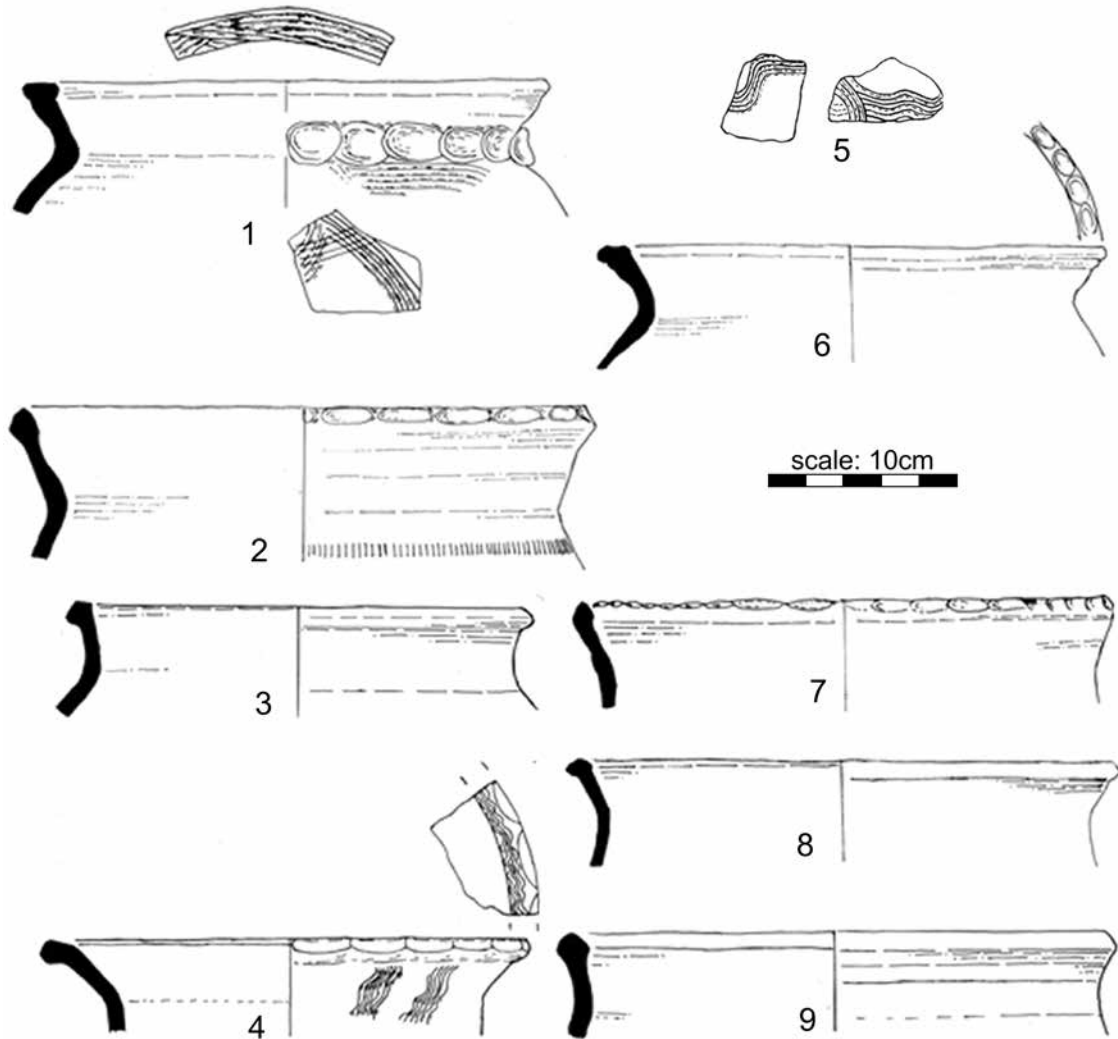


FIGURE 42 Pottery, 1 to 9 from Area 1, Phases 1 and 2 (scale 1:4)

glaze all the way down to the base; faint incised decoration around body. Area 1 [199].

29. Missenden Abbey flint-tempered coarse wares (MAF); jug with clubbed rim. Area 43 [5026].

30. Missenden Abbey flint-tempered coarse wares (MAF); bowl with in-turned rim; brown with a brown slip on the interior. Area 43 [5051].

31. South Hertfordshire grey ware (SHER); bowl externally reduced with an in-turned rim. Area 1 [195].

32. South Hertfordshire grey ware (SHER); jug; externally reduced. Area 1 [195].

33. Brill/Boarstall type ware (BRIM OXAM); bowl with orange glaze on inside. Area 2a [1001].

34. Brill/Boarstall type ware (BRIM OXAM); jug with a lustrous olive green glaze. Area 1 [133].

35. Early Medieval chalk-tempered ware (EMCH); buff sherds with combed horizontal and wavy decoration on the outside. Area 1 [194].

36. South Hertfordshire grey ware type (SHER Type); buff sherds; horizontal heavily incised lines and a sooted interior. Area 2a [1034].

37. South Hertfordshire grey ware (SHER); jug handle with thumbing along both sides. Area 1 [143].

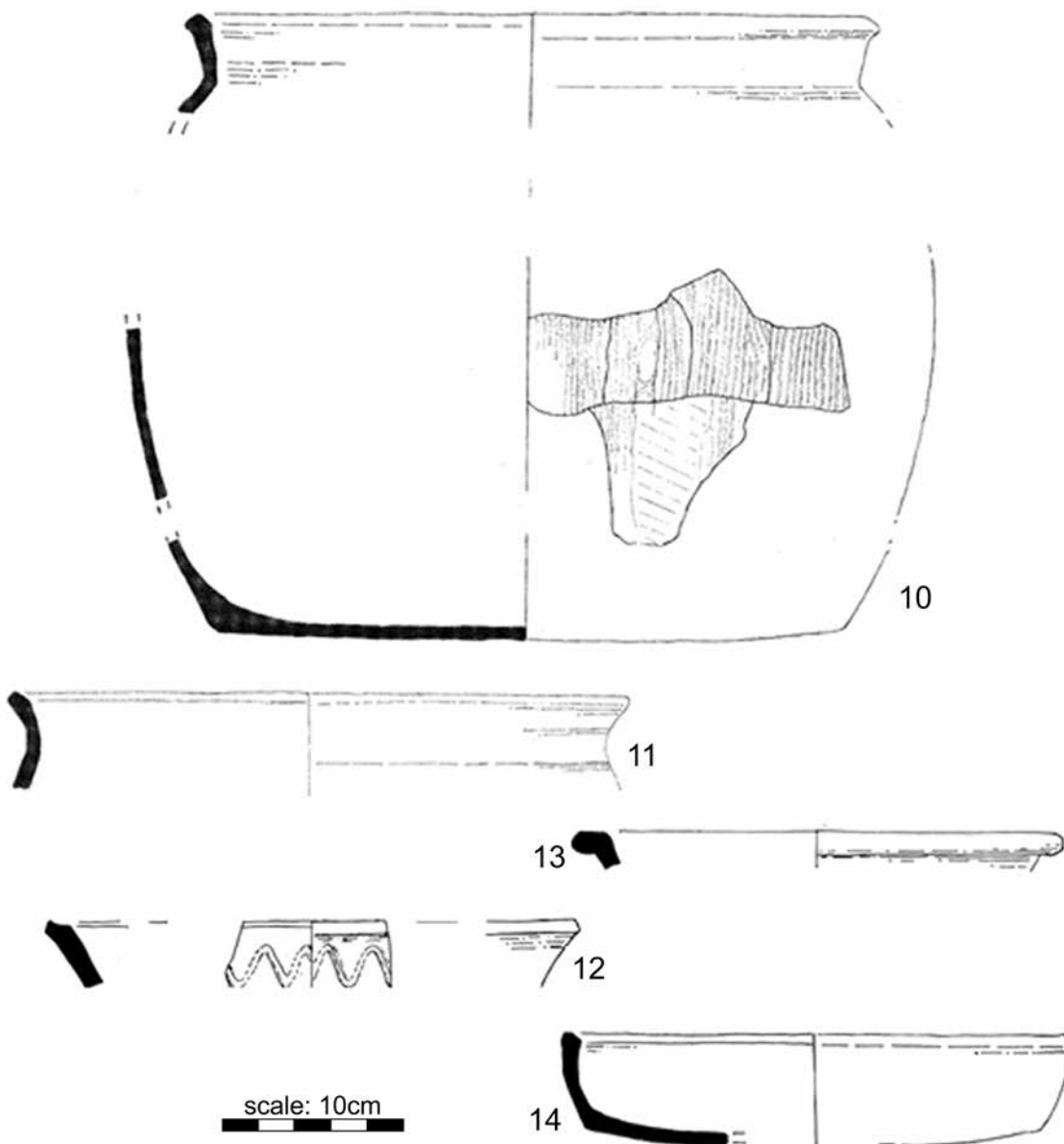


FIGURE 43 Pottery, 10 to 14 from Area 3, Phase 2 (scale 1:4)

Brill/Boarstall jug, Area 1 (Fig. 47)

38. Brill/Boarstall type ware (BRIM OXAM); jug with external lustrous green glaze; upright slightly in-turned thickened rim with slight collar which is decorated with applied faces; deeply grooved strap handle with deep U-shaped profile; stabbed holes at handle junction. Area 1 [149].

Brill/Boarstall wares, Areas 1 & 43 (Fig. 48)

39. Brill/Boarstall type ware (BRIM OXAW); rounded jug; external speckled green glaze; horizontal combing. Area 1 [133].

40. Brill/Boarstall type ware (BRIM OXAM type); jar; buff; lid seating. Area 1 [74].

41. Brill/Boarstall type ware (BRIM OXAM);

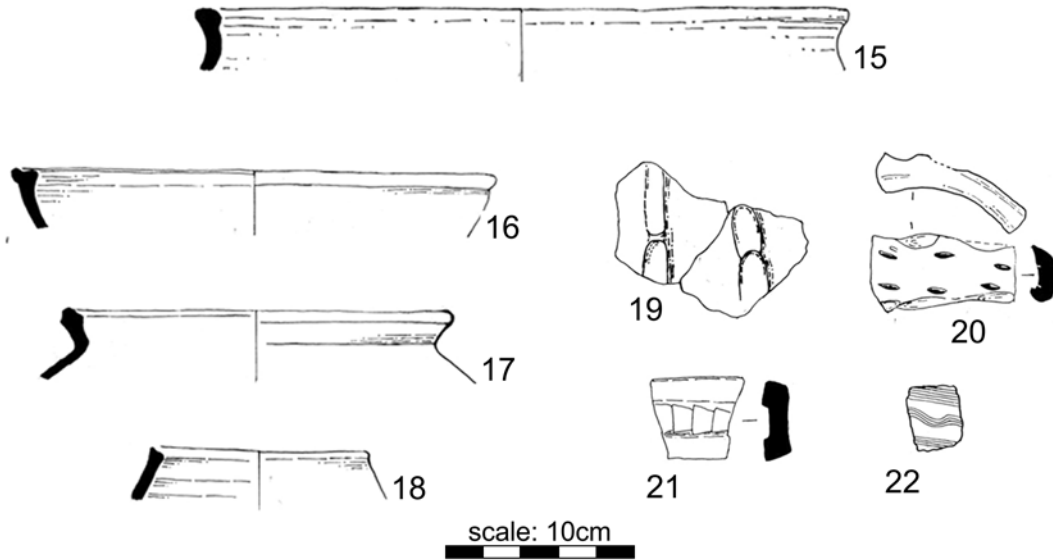


FIGURE 44 Pottery, 15 to 22 from Area 2a, Pit 1003 (*scale 1:4*)

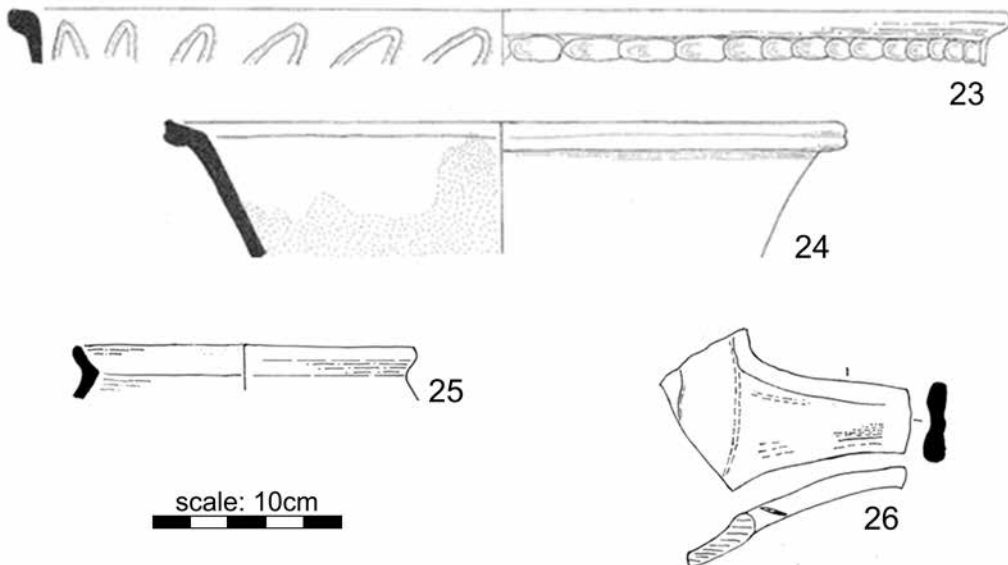


FIGURE 45 Pottery, 23 to 26 from Area 43, Midden 5007 (*scale 1:4*)

almost complete jug; external speckled olive green glaze getting thinner towards the base and two sets of horizontal incised lines. Area 43 [5048].

42. Potter Row type flint ware (PRMF); handled bowl; everted rim with prominent internal bevel/

flange; some form of loop handle with socketed join. Area 1 [182].

43. Potter Row type flint ware (PRMF); jar. Area 1 [131].

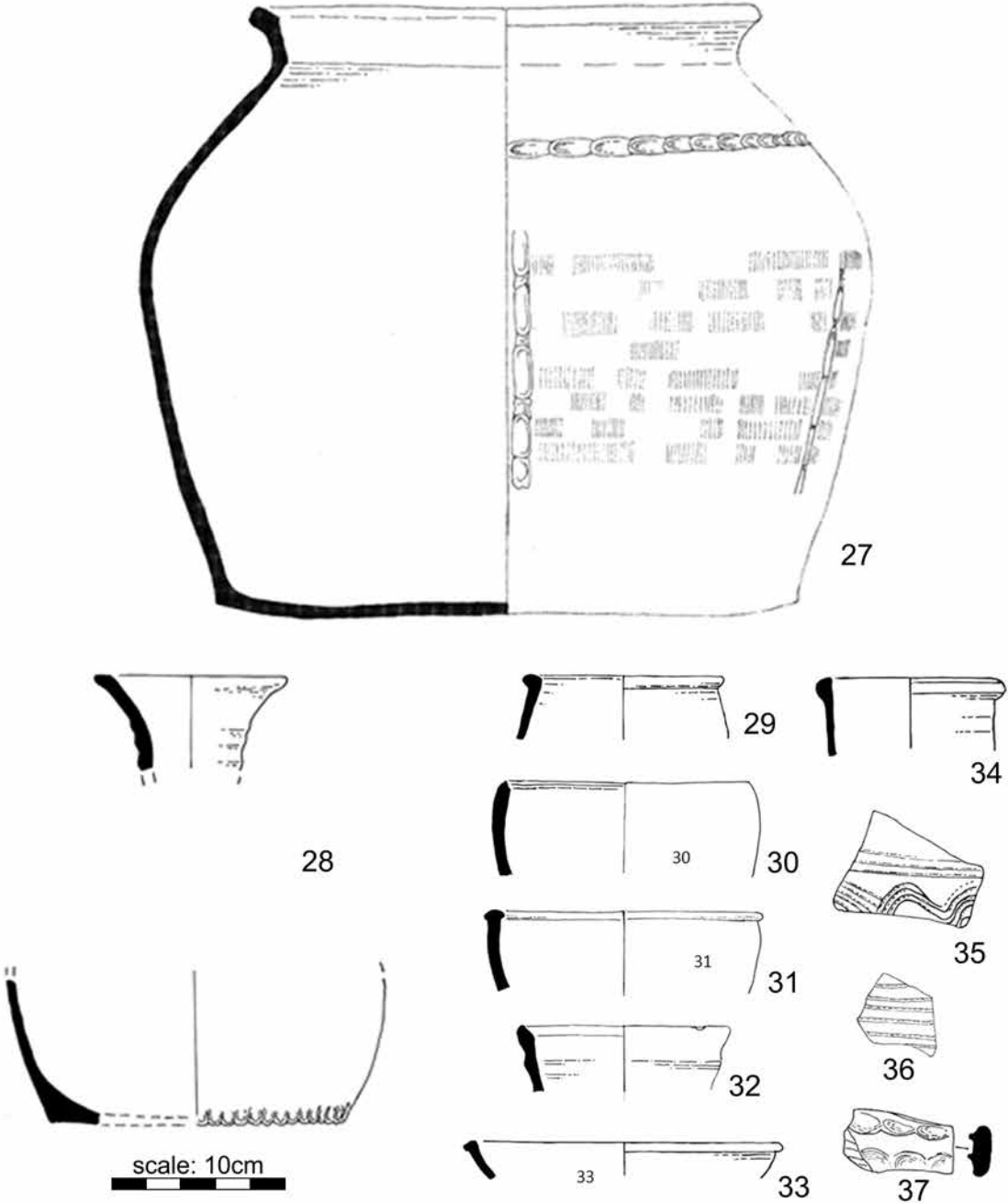


FIGURE 46 Pottery, 27 to 37 from various areas and contexts (scale 1:4)

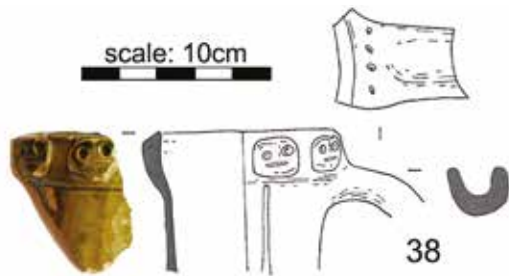


FIGURE 47 Vessel 38 (Area 1) showing faces on a yellow-green background (*scale 1:4*)

Potter Row wares, Areas 1 & 2a (Fig. 49)

44. Potter Row type flint ware (PRMF); jar. Area 2a [1043].
 45. Potter Row type coarse ware (PRM COAR); jug with handle attached; buff; stabbing at handle junction and in a single line along middle of handle. Area 1 [182].
 46. Potter Row type flint ware (PRMF); jar; slightly coarser than others; unusual in-turned slightly thickened rim with internal bevel. Area 2a [1044].
 47. Potter Row type hard ware (PRMH); jar; buff; small trace of glaze on body. Area 1 [182].
 48. Potter Row type hard ware (PRMH); jug; buff; thumb pressings on either side of the handle. Area 1 [93].
 49. Potter Row type hard ware (PRMH); watering pot; red with trace of glaze. Area 1 [93].
 50. Potter Row type hard ware (PRMH); jar with

spots of orange glaze internally and externally. Area 2a [1043].

Post-Medieval Wares (Fig. 50)

51. Developed Early Surrey ware (DESUR); jug; buff; splashes of green glaze around shoulder. Area 1 [172].
 52. Cheam White ware (CHEA); jug handle; grey with some olive-green glaze. Area 43 [5000].
 53. Cistercian ware (CSTN); jar/bowl with two rows of horizontal grooves; internal and external dark brown glaze. Area 3 [415].
 54. Coarse Surrey-Hampshire Border ware (CBW); jug base; internal and external green glaze. Area 43 [5000].
 55. Early Surrey-Hampshire Border ware (EBORD); bowl; buff with an interior green glaze. Area 1 [44].
 56. Surrey-Hampshire Border ware (BORDBG); barrel-shaped mug; at least four deep horizontal grooves with a brown external and a green internal glaze. Area 1 [114].
 57. Surrey-Hampshire Border ware (BORDG); bowl; a partial speckled green glaze on the interior. Area 1 [136].
 58. Surrey-Hampshire Border ware (RBOR); jug; internal and external speckled brown glaze and with a combed pattern. Area 43 [5000].
 59. Surrey-Hampshire Border ware (BORDY); bowl with internal yellow glaze and traces of glaze externally. Area 1 [44].

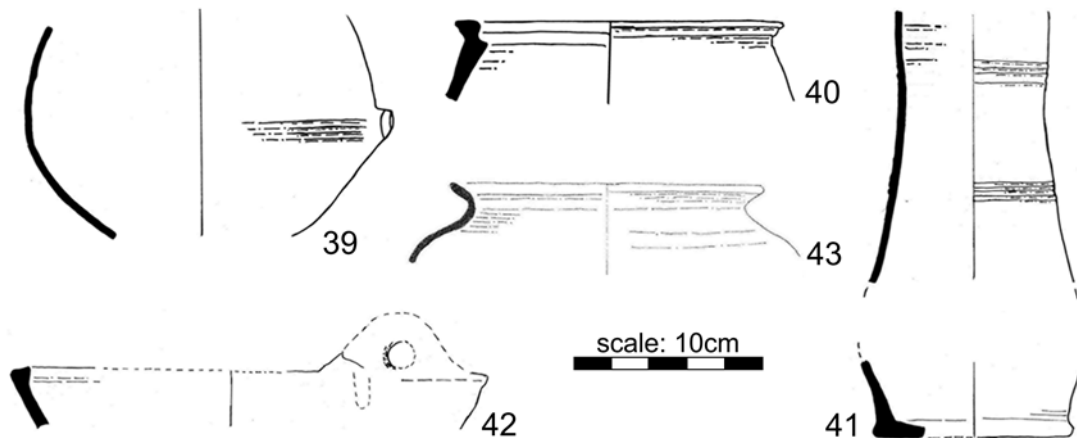


FIGURE 48 Brill/Boarstall and Potter Row pottery, 39 to 43 from Areas 1 and 43 (*scale 1:4*)

Post-Medieval Wares (Fig. 51)

60. Potter Row type Post Medieval ware (PRPM); barrel-shaped mug with two horizontal grooves and an internal and external streaky brown glaze. Area 1 [44].

61. Essex type Post-Medieval black glazed red ware (PMBL); jar; three horizontal grooves; internal and external black glaze. Area 2a [1201].

62. London Area type Post-Medieval Red ware (PMR); bowl with brown internal glaze. Area 1 [73].

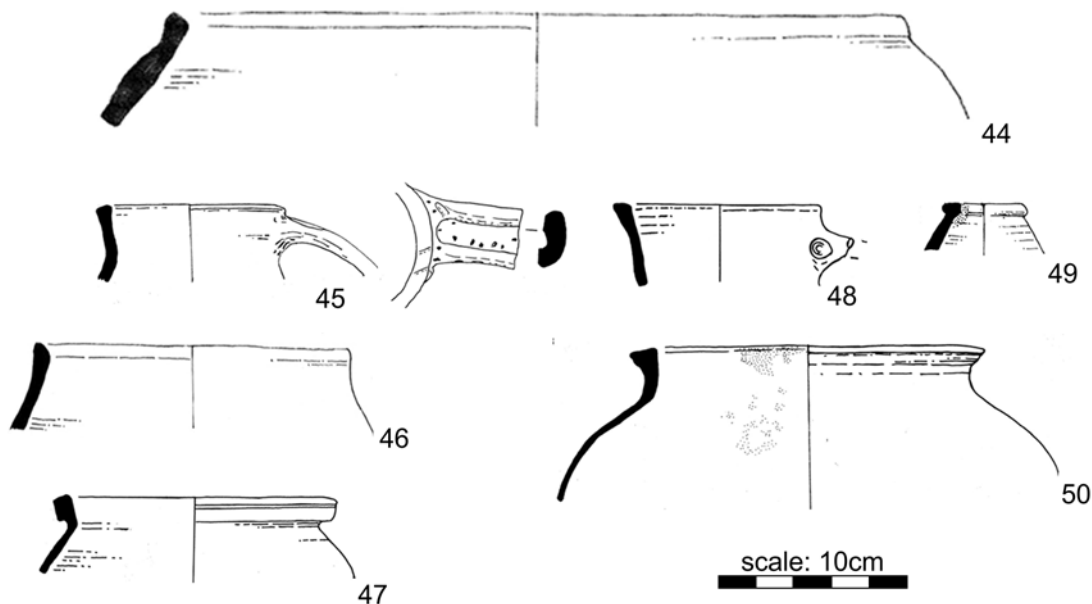


FIGURE 49 Potter Row pottery, 44 to 50 from Areas 1 and 2a (scale 1:4)

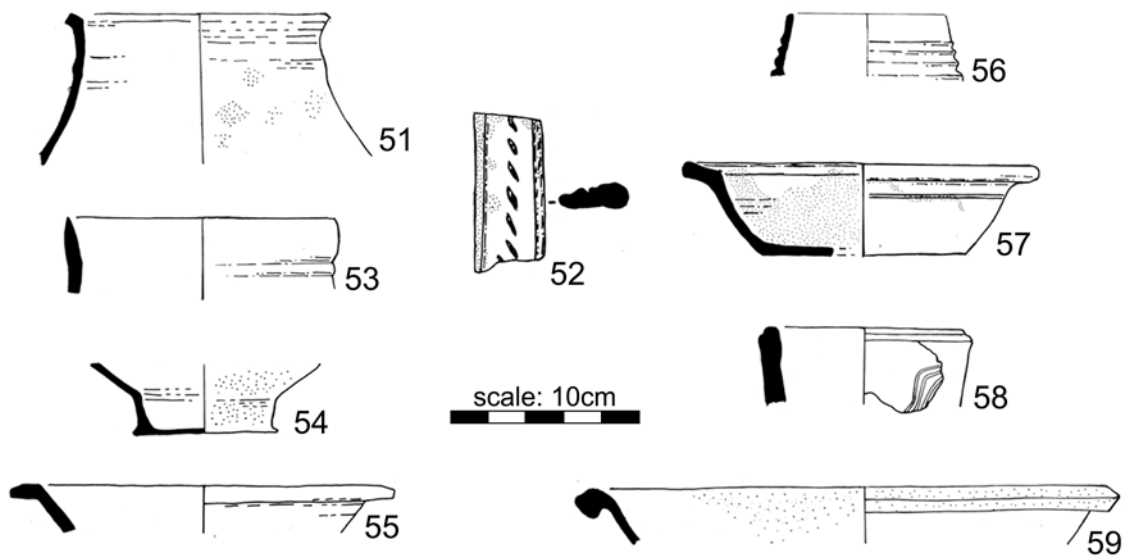


FIGURE 50 Pottery, 51 to 59 from various areas and contexts (scale 1:4)

63. Potter Row type Post-Medieval ware (PRPM); dish; buff with interior green glaze and stamps. Area 1 [44].

64. Brill type Post-Medieval ware (BRILL type); dripping dish with thumbing around rim; complete profile, sooted; Area 1 [83]

65. London Area type Post-Medieval Red ware (PMR); jar with a deep horizontal groove; glazed internally with brown glaze. Area 1 [74].

66. Potter Row type Post-Medieval ware (PRPM); dish; buff; internal green glaze. Area 1 [14].

Glazed & Decorated Sherds (Fig. 52)

A (top) [134], B [134], E [217], H [195]. Brill/Boarstall type ware (BRIM OXAW).

A (bottom) [134], C [182], D [156], F [133], G [133], I [187]. Brill/Boarstall type ware (BRIM OXAW).

J. London type ware (LOND); Rouen-type jug [1015].

Discussion

The assemblage from Missenden Abbey is not only important for our interpretation of the development of the abbey but it has also refined our understanding of the development of the nearby Potter Row pottery industry. It has also furthered our understanding of how the market areas of the major pottery production centres of the surrounding area interacted in the Chilterns. The presence of Surrey-Hampshire coarse border ware and early border ware has

provided new information on how far west these wares spread. In this regard the assemblage shares similarities with assemblages from the Colne Valley to the east of the Chilterns, for example High Street, Uxbridge and High Street, Harmondsworth. Unlike those assemblages where Brill/Boarstall wares are only present in very small quantities (Knight & Jeffries 2004, 49) they constitute an important part of the 14th to 15th-century assemblage here although unlike Walton Street, Aylesbury the Brill/Boarstall products here are predominantly decorated jugs, *i.e.* tablewares rather than utilitarian wares. It would seem that Missenden Abbey is very much at the boundary of these two market areas with the demand for the bulk of their pottery needs met by local products and from sources in south Hertfordshire and the Thames Valley, whilst Brill/Boarstall wares are predominantly sourced for decorated tablewares. Given that early medieval chalk-tempered ware is a major part of the Phase 1 and 2 assemblage the lack of St Neots ware on the site, a 10th to 12th-century type common in assemblages from Aylesbury (Thompson 2011, 114) may indicate that this market pattern stretches back into the 12th century or earlier.

Animal Bones

by Yvonne Edwards

During the excavations in the 1980s, animal bone fragments were collected and sent for storage

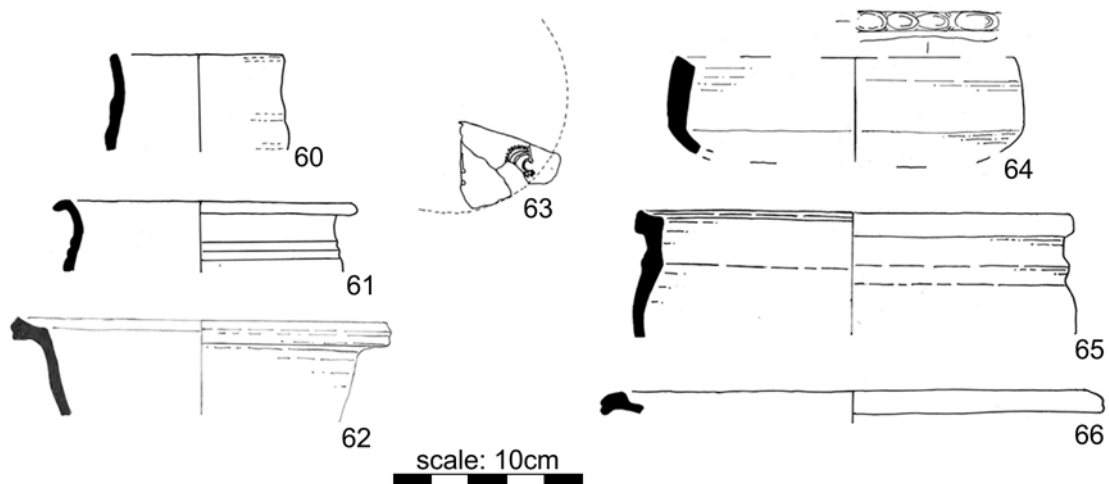


FIGURE 51 Post-medieval pottery, 60 to 66 from Areas 1 and 2a (scale 1:4)

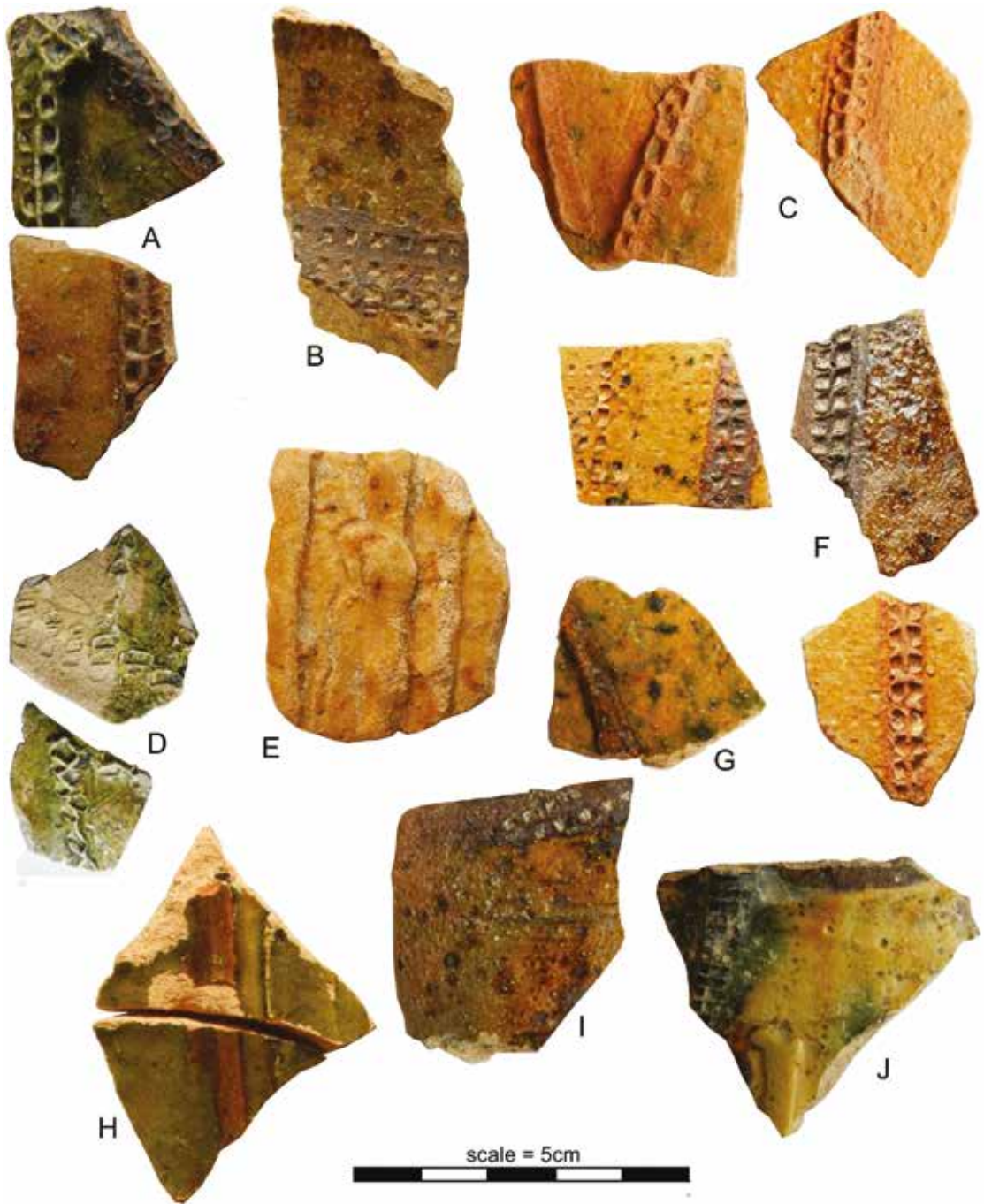


FIGURE 52 Photographs of selected Brill/Boarstall pottery sherds from Area 1 (A-I) and a London type ware pottery fragment from Area 2a (J)

without identification. This was an unusual decision since animal bones are valuable for learning about the subsistence economy of past settlements and the nature of the local environment. To remedy this omission, the bones were recovered from storage and were sorted, recorded and identified by a small group of CVAHS enthusiasts. The bone collection comprises more than two thousand bones dating from the late 11th century to possibly the 18th century. A copy of the full animal bone data set from this study is deposited with the site archive.

In the present study, we mostly consider only those bones which came from the 11th/12th century to the late 16th-century contexts. The areas investigated include Area 1 which comprised part of the abbey church, adjacent to the choir stalls; Area 2a, an external building which lay north-north west of the main building and Area 3, a broad trench cut to the north of the church. The latter contained layers with no evidence of walls and is likely to have been a working yard. Finds made in Area 43 which lies to the west of the existing main building are briefly mentioned. Summaries of each of the recovered data sets have been tabulated and are shown in Tables 2–5.

In the following discussions, animal counts are shown in brackets (n): it should be noted that not all the contexts mentioned appear in the illustrations. Small numbers of goats may have been present amongst the sheep/sheep-size animal referred to in the text but none were identified. It is also worth mentioning that fish bones were not encountered in the four areas discussed, despite evidence for a series of large medieval fish ponds adjacent to the river Misbourne, near the Abbey (Davis 2005). There is good evidence that fish ponds were used to supply meals to monasteries, as has been described for Eynsham Abbey ([eynsham-pc.gov.uk/Directory/Committees/Fishponds Committee](http://eynsham-pc.gov.uk/Directory/Committees/Fishponds%20Committee)).

Area 1 (Table 2)

Phase 1: 11th to 12th Century. Here eleven identifiable bones and thirteen unidentifiable bones were recovered. The most abundant recognisable bones (n=7) were pig elements: four phalanges, two metacarpals and an incisor, almost all of which were recovered from chalk floor [218]. Two of the pig phalanges showed some pathological change. Context [218], one of the lowest floor levels (Fig.

6), yielded two sheep-sized vertebrae, but the two cow bones, an incisor and pelvis fragment were found in contexts [252] and [237]. These two contexts comprised a linear spread above natural and a very loose fill of a robbing cut.

Phase 2: 12th to Early 13th Century. In this phase sheep and sheep size fragments (n=17) were dominant, making up around half of the assemblage (n=36), with pig and cow showing equal presence. One pig metacarpal was unfused at its distal end, suggesting that pig exploitation occurred while animals were still young. Thirteen bones in the very early deposit, context [140], were found sealed by culvert [34] but containing slag; 21 others associated with slag were recovered from contexts [217]), a construction layer below a later floor surface, and [219]. It is of interest to note that that all the bones, apart from two, were associated with slag, much of which has been laid down to mark the wall-base of the area. Two sheep bone fragments, not bedded on slag, were found in socket [221] (Fig. 7) which may have held a pillar. It should be noted that the west side of this area comprised a later large man-made trench [137]. It is worth noting that the first rabbit/hare bone was encountered in an upper level of this phase; at such a time the rabbit/hare was rare and much sought after (Bailey 1984).

Phase 3: Mid-late 13th Century. The distribution of bones (n=113) in this phase was largely confined to the uppermost chalk surface and to a lesser degree the layer immediately below the footings. Sheep/sheep-size bones continued to make up the largest assemblage (n=34) with pig/pig-size (n=13) and cattle (n=7) bones making up most of the remainder, apart from three bird bones. Context [150] was an extensive make-up layer, as was the associated level [154] and provided 72% of the phase 3 bone finds (n=80) which include six cow/cow-size, seven pigs, seventeen sheep, three birds and 47 unidentified fragments. There was evidence of some canine gnawing on a sheep pelvis and cow vertebrae, while a pig metapodial was distorted by bony overgrowth around the head.

An unexpected observation was the presence of a sheep mandible within grave filling [230]. This may have been deposited by chance or represents a specific chosen deposit for grave [206] (Fig. 9)

TABLE 2 Animal bones from Area 1, 11th to 16th century

Date:	11th/12th		12th/early 13th		mid/late 13th		14th		15th	
Phase:	1		2		3		4		5	
	NISP	NISP%	NISP	NISP%	NISP	NISP%	NISP	NISP%	NISP	NISP%
horse							3	0.8	1	0.4
horse size									4	1.6
cow	2	18.2	1	3.0	1	1.8	23	6.4	28	11.2
cow size			5	15.2	6	10.5	62	17.3	93	37.3
deer							1	0.3		
sheep			8	24.2	13	22.8	58	16.2	27	10.8
sheep size	2	18.2	9	27.3	21	36.8	145	40.4	71	28.5
pig	7	63.6	6	18.2	13	22.8	47	13.1	16	6.4
pig size							8	2.2	2	0.8
dog							1	0.3		
dog size									5	2.0
cat							1	0.3		
rabbit/hare			1	3.0			1	0.3	3	1.2
bird					3	5.3	7	1.9	8	3.2
rodent			3	9.1			2	0.6	3	1.2
Total	11		33		57		359		261	
uid	13		3		56		150		90	

from which human remains had been removed. Grave [206] lay immediately above an earlier burial, grave [249].

Phase 4: 14th Century. The animal bones in this phase were divided between twenty contexts, some of which are mentioned here. Large numbers (n=509) of bone specimens were recovered; sheep/sheep-size were most numerous (n=203), followed by cow/cow-size (n= 85) and pig/pig-size (n=55), and scattering of small numbers of horse, bird, rabbit, cat dog and rodent bones. It is interesting to note that at this level cattle appear to be more frequent than seen in Phase 3. Amongst the cow bones recovered from this context five showed cut marks, five were gnawed, one unfused and one metatarsal was arthritic. Seven of the sheep bones were gnawed, and two sheep metacarpal long bones were unfused; the latter suggesting a very

occasional lamb repast. The pigs, which seemed to be killed most frequently while relatively young, included one maxilla with un-erupted teeth, a mandible with teeth erupting and a gnawed ulna bone. The significant incidence of gnawing, particularly of cow and sheep bones, suggests that bones were thrown away/or distributed to dogs as a daily meal; the dogs themselves may have been guard animals and/or part of the hunting set. In this context, it is worth noting that a single metatarsal of a deer was recovered from this phase, giving some credence either to hunting as an activity or the presence of a deer park.

A mix of bone fragments (n = 57) from the common animal species were encountered in slag associated with context [195]. Context [151], which is recorded as a rammed chalk floor broadly contemporary with grave [163], yielded 23 bone fragments of mixed species. Contexts [171], [172],

[197] and [152] (n=23 total) were four of the five separate 'tip-lines' associated with trench [137] at the western edge of the excavated area. This feature was overlain by context [134] (n=53 bones) which represented a sealed floor, beneath context [133] (n=57 bones), and comprising an upper thick layer of clay/chalk across the trench cut. A much larger number of animal bones (n=134) were recovered from the filling of post pipes [161] and [158], which also contained a large number of smashed tiles. A smaller post pit also contained a mix of animal bones (n=14). These features alone account for 361 of the 509 recovered animal bones and sit well with the possibility that they arise from 'dumping' waste in postholes during the re-building period and the later cutting of 'robbing' trench [137].

This unusually rich distribution of animal bones within the abbey church suggests that either a) the associated floor levels were largely unused during a significant period of rebuilding/occupation or b) many of these bones have been disturbed downwards by later activities and derive from later dumping of animal waste. The first suggestion is possible since the row of post-pits may signpost scaffolding: furthermore, Page (1908) supported this view by noting that construction work had taken place at the abbey and the parish church in the early 14th century. However, given the association with the 'tip-lines' mentioned above and association with Phase 5 (Fig. 13), which shows evidence of considerable large modern cuts through the existing surface, it seems possible that this may have led to a downward transfer of animal bone from upper levels. Nevertheless, the large number of animal bones recovered from this level of excavation strongly signals that livestock production and farming were active in the immediate area.

It is not known whether Missenden Abbey was affected by the famine of 1315, when harvest failures were rife and sickness abounded amongst sheep and cattle. At this time sheep and cattle numbers were significantly reduced, such that prices for meat and wool were doubled. It is interesting and relevant that the written records (Page 1905; Kaye 1992) indicate that towards 'the close of the thirteenth century' the abbey seems to have fallen into great poverty. As a result it was taken into the king's protection for four years, because of the serious danger of 'dispersion and ruin by widespread disease (murrain) among sheep and horses

together with failure of crops'. In considering this event, it is perhaps worth noting that, leaving aside the great famine of 1315, famine arose in waves in England as late as 1351 and 1369 (as well as the plague), all associated with poor weather, lower yields from agriculture, loss of fodder for animals etc. (Jordan 1998).

Phase 5: 15th Century. This phase includes animal bones (n=351) with cow/cow-size bones most numerous, (n=121), closely followed by sheep/sheep-size bones (n=98) and many fewer pig/pig-size (n=18). Small numbers of horse bones were present (n=5) as well as hare remains in small numbers (n=3). Many of the cow bones showed chop and cut marks and evidence of sawing; similar features were not noticed for sheep which showed only two separate canid puncture marks on a tibia and long bone. The small number of bird bones was mostly from chickens and an occasional blackbird.

In this phase the general distribution of animal bones was rather different from that of earlier phases, since a higher proportion of the bones were found on floor surfaces rather than being associated with slag or used as backfilling. For example, many bones (c.73%) were uncovered on a level below a mortared surface, context [93] (n=92), a sand/clay layer, context [108] (n=77), a main floor surface, context [81] (n=55) and a central floor surface, context [76] (n=2). The remaining mix of animal bones were also retrieved from posthole contexts [102], [103], [116] and [118] (n=57) and from a pit in context [106] (n=2). One rodent long bone from context [147] was found in proximity to a human skeleton.

This phase sees the time when there is evidence that the church and associated buildings needed restoration and repair. However, apart from some 15th-century improvements in the eastern range there is no clear evidence that this was undertaken. Furthermore, by the early 16th century the numbers of priors had diminished and the church buildings had fallen out of repair (Page 1905; Kaye 1992).

More recent phases. After the demolition of the abbey church, during the late 16th to 18th centuries, there is little firm information concerning the use of the area where the church once stood. However, pig, sheep and cattle bones continued to be dumped there until the 19th century.

Area 2a (Table 3)

A survey of the lowest level reached in Area 2a found only a few Roman pot fragments while medieval levels or structures were not encountered. The period of each of these layers is uncertain but they seem likely to range between 14th and 18th-century dates.

Phase 4a. Here 28 animal bones were recovered from context [1044], an area of scattered cobbles and chalk lumps with a suggestion of cess content. These bones included two bird bones, a carpometacarpus from the water-loving common teal, *Annas crecca* and another long bone. Cow/cow-size bones were the most abundant (n=14), followed by sheep/sheep-size (n=6), voles (n=4) and cats (n=2). One

of the cat bones and a sheep metatarsal showed signs of chewing. Context [1044] is a soil spread below [1034] which in turn is made up of overlying cobbles, chalk lumps and charcoal, giving rise to a central 'island'. A central post pit [1054] cuts [1044].

Phase 4b. One hundred and nine animal bones were recovered in all. Context [1034] yielded 81 bones which were recovered from a layer of loamy, charcoal-grey soil which overlaid a cobble surface. Of the bones recovered from this area, 29 were unidentifiable fragments, while the remainder included four cow/cow-size bone fragments, 30 sheep/sheep-size elements, two pigs' teeth and a vertebra, eight small mammals and three birds

TABLE 3 Animal bones from Area 2a, probably 14th to 18th century

Phase:	4a		4b		6	
	NISP	NISP%	NISP	NISP%	NISP	NISP%
horse			2	2.6		
cow	1	3.6	3	3.9	3	1.3
cow size	13	46.4	1	1.3	45	20.2
deer						
sheep	2	7.1	8	10.4	9	4.0
sheep size	4	14.3	38	49.4	131	58.7
pig			2	2.6	8	3.6
pig size			1	1.3	4	1.8
goose size					3	
dog			1	1.3		
dog size						
cat	1	3.6	1	1.3	2	0.9
cat size	1	3.6	1	1.3		
chicken					3	1.3
rabbit/hare			1	1.3		
bird	2	7.1	4	5.2	14	6.3
small mammal	4	14.3	9	11.7	1	0.4
fish						
Total	28		72		223	
uid			37		7	

including a tibiotarsus and a carpometatarsus. A smaller context [1048], comprising a layer of mixed flints and pebbles, yielded a bird bone, a cat/cat-size humerus and rib, as well as a variety of sheep/sheep-size bones and a small mammal scapula. The remaining contexts [1067], which comprised areas of mortared filling overlaid with patches of mixed chalk rich deposits [1201] and [1203] included largely small numbers of sheep-sized ribs and long bones.

Phase 6. Two hundred and thirty animal bones were recovered from this level, the majority being associated with context [1015], the lower fill of pit [1003], and with context [1043] which

lay at the east end of the site and was the final fill of a pit. Ninety-five sheep/sheep-size bones derived from context [1015], while overall sheep/sheep-size remains accounted for 61% of the total bone recovery with cow/cow-size contributing 21%. Notably, fourteen bird elements including a sacrum and humeri were more-or-less as frequent as pig/pig-size bones. Bones from three geese and three chickens were also recovered.

Area 3 (Table 4)

Phase 2: 12th to early 13th Century. The 39 animal bones/fragments from this phase were recovered from eight contexts and were dominated by sheep

TABLE 4 Animal bones from Area 3, Phases 2, 3 & 6

<i>Date:</i>	<i>12th/early 13th</i>		<i>mid/late 13th</i>		<i>16th-18th</i>	
<i>Phase:</i>	2		3		6	
	<i>NISP</i>	<i>NISP%</i>	<i>NISP</i>	<i>NISP%</i>	<i>NISP</i>	<i>NISP%</i>
horse						
cow	1	3.3			3	33.3
cow size	4	13.3	1	50	1	11.1
deer						
sheep	3	10.0				
sheep size	12	40.0			4	44.4
pig	6	20.0			1	11.1
pig size						
goose size						
dog			1	50		
dog size	3	10.0				
cat						
cat size						
chicken						
rabbit/hare						
bird	1	3.3				
small mammal						
fish						
Total	30		2		9	
uid	9		1		1	

bones, with relatively high incidence of ribs, long bones, vertebrae and skull fragment. The lack of structural remains meant that it was difficult to determine whether these had been deposited on internal or external floor surfaces.

Phase 3. Mid-late 13th Century. A single dog femur, cow-size metatarsal and fragment of bone were recovered from this level.

Phases 4 and 5: 14th to 15th Century. No recorded activity.

Phase 6: 16th to 18th Century. Low numbers of cow/cow-size (n=4) and sheep/sheep-size (n=5) remains were recovered.

Area 43 (Table 5)

The walls of the west range were uncovered during laying of a new drive. Two sets of animal data were retrieved and appeared to indicate a temporal shift from sheep as the major food source to cattle in the later phase. Although it is difficult to assign dates, the earliest features yielded late 12th-century pottery.

Summary

Considering that these excavations were undertaken in difficult, often waterlogged conditions,

they have yielded useful data based on animal bones. Excavation of Area 1 shows that during some of the early phases, particularly the early 13th century, animal bone was being deposited in association with slag. The slag itself was largely laid down to mark the ‘new’ wall positions. This presence of bone indicates that the building team were either ‘eating on the job’ or dumping waste food. Furthermore, two animal bone fragments of this period were found at the base of a socket pillar, which was either being repaired or removed. It is also of interest that rabbits may have been present since they were rare in medieval England and may have been imported. Their meat would have been consumed primarily by the elite of the Abbey while their fur was used for elaborating clothing (Bailey 1984; see also Thetford Warren Lodge, English Heritage.org.uk/visit). However, there was no direct evidence that domestic warrens were built at the Abbey. The 14th century seems to have been a period of upheaval. There was presumably a need for renovation which in part is identifiable by extensive distribution of animal bones across the floor surface and within postholes as well the appearance of a new slag layer, also associated with discarded bone. As noted previously, the people doing this work, presumably over a length of time, were supplied with plenty of food during this period of rebuilding.

TABLE 5 Animal bones from two phases in Area 43

<i>Contexts:</i>	<i>5011–5072</i>		<i>5000–5008</i>	
<i>Phase:</i>	<i>NISP</i>	<i>NISP%</i>	<i>NISP</i>	<i>NISP%</i>
horse			1	1.5
cow	3	7.9	20	29.9
cow size	4	10.5	20	29.9
sheep			17	25.4
sheep size	28	73.7	5	7.5
pig	2	5.3	4	6.0
pig size				
bird	1	2.6		
small mammal				
Total	38		67	
uid	4		10	

Area 2a in contrast to Area 1 seems to have been on open working area, with a cobbled surface and a shallow pond. Activities which took place here, marked in part by the presence of a possible cooking/feeding pot, suggest an area suitable for rearing piglets, lambs (and goats), chickens, calves and perhaps ducks. For Areas 3 and 43 the data were scant and difficult to relate to a particular phase/depth.

Metalwork

by Jill Hender, Marion Wells: based on earlier work by Mark Collard

For the present study, 394 iron and copper-alloy objects were examined and recorded (Table 6). Approximately 20% of the copper objects and 5% of the iron objects in the original site archive had been conserved, but since the 1980s much of the remaining metalwork has deteriorated. The present authors have produced a photographic catalogue of all metal finds, now deposited with the site archive. Ros Tyrrell, Bucks Finds Liaison Officer, helped with identification.

This report is divided into three sections focusing on copper alloy, iron and lead respectively. In the descriptions, A=Area, C=Context, P=Phase. NI = not illustrated.

TABLE 6 Iron and copper-alloy objects from the excavations

Area	Iron	Copper Alloy
1	185	99
2a	23	3
2b	2	2
3	25	23
43	31	1
Totals	266	128

Copper-Alloy Objects

Most of the copper-alloy finds were identifiable and are described below. These have been divided into fittings, belt fittings and buckles, studs and buttons, lace tags, needles, dress pins and miscellaneous objects.

Fittings (Fig. 53)

1. A broken, decorative gilded fitting 65mm long, possibly from a box, and having a solid, beaded

edge, is decorated with incised parallel lines, and other areas decorated with punched dots. Rivet holes are situated in pairs at c.40mm intervals close to the beaded edge. (A1, C65, P7).

2. A gilded and decorated hinged fitting, 70 x 50mm, possibly for a book or box and in the form of a denticulate leaf, decorated with alternate segments of zig-zags and plain metal with punched dots, with an iron hinge. The back is heavily corroded. (A1, C93, P5).

3. A strap-type mount (2 pieces), overall length 315mm with a D-shaped section, gilded on the upper curved surface and decorated with gadrooning and pinholes at intervals. It has an animal head terminal and is dated to the 12th to 13th century (Egan 1998, 70). (A3, C403).

Belt Fittings & Buckles (Fig. 54)

4. A notched buckle chape with a bell-shaped body and a rivet hole at the end. Size 27mm, dating to 13th century (Ottaway & Rogers 2002, 28973, no. 12714). (A1, C7, P8).

5. A very rough and broken, double-sided 'spectacle' type pewter buckle with the prong missing is dated to 15th to 16th centuries. (Egan & Pritchard 1991, 86, nos 350–370). (A1, C65, P7).

6. A rectangular plate with slight flaring at one end and broken at the other; size 45 x 12mm (Egan & Pritchard 1991, 86, Nos. 350–370). (A1, C73, P6). NI

7. A fragment of a plate, broken on all four sides with part of a rivet hole surviving; size 38 x 11mm. (A1, C74, P6). NI

8. A damaged 'forked' type belt chape plate. Dated to 14th century (Ward-Perkins 1940/1993, plate LXXV.19). (A1, C76, P5).

9. An early 15th-century lyre-shaped buckle. Analysis by S. La Niece of the British Museum Research Laboratory showed the buckle and pin metal to be copper alloy of 9% zinc, 8% tin, 1.2% lead with traces of iron and antimony. The buckle had been mercury silvered. Similar surface treatment has been detected on a brooch from Hillington, Norfolk, and a belt chape from Dinas Powys (Hook, La Niece & Cherry 1988). (A1, C81, P5).

10. A broken buckle plate having two pairs of rivet holes of size 35x16mm. (A1, C93, P5).

11. A broken cast trapezoidal strap guide of size 29x19mm. (Ottaway & Rogers 2002, 2903, no. 14377). (A1, C108, P4).

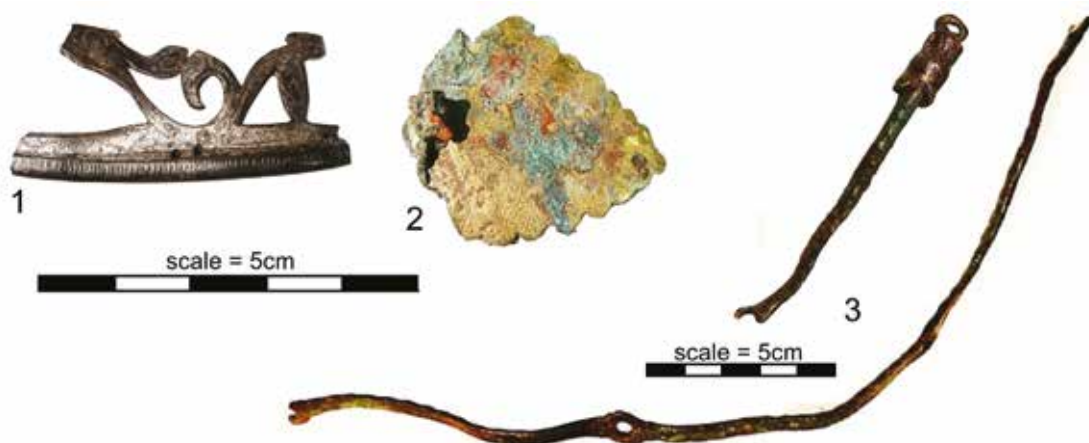


FIGURE 53 Objects of copper alloy, 1-3 (scales as shown)

12. A bar mount with a rivet hole at each end and one hole in the centre, length 18mm, used as a belt stiffener and dated to the late 13th-early 14th century. (Egan & Pritchard 1991, 196–7, No. 1060). (A1, C108, P4).

13. A strap mount with a rivet hole at each end, the central part being a truncated ellipse; length 25mm. (A1, C108, P4).

14. A small fragment of a strap-end plate of length 16mm possibly from a belt, having two partial rivet holes side by side. It is decorated with a punched/rouletted decoration of opposed triangles parallel to the long edges and dated to the 13th to 14th century (Egan & Pritchard 1991, 137, nos 629–630). (A1, C134, P4).

15. A buckle plate with traces of gilding was broken at the fold; size 22 x 20mm. One side of the plate has a notch for the pin close to one edge. (A1, C234, P2). NI

16. A double-sided 'spectacle' type buckle, possibly pewter, with a broken prong; size 18 x 23mm, dated to the 15th to 16th century. (Egan & Pritchard 1991, 86, nos 350–376). (A1, unstrat.).

17. A trapezoidal strap-end plate with rivet holes and notch, of size 50mm. (A2a, C1015).

18. Two fragments of a strip; width 7mm. (A2a, C1044). NI

19. A double oval frame, cast 'spectacle' type buckle with the prong missing and white metal coating, of size 21x30mm and dating to the late 14th to early 15th century (Egan & Pritchard 1991, 83, nos 332–339). (A3, C401).

20. Two joining fragments of a strip of size 65 x 8mm pierced by a pair of rivetholes across the short axis. (A3, C406). NI

21. A trapezoidal plate fragment; size 20mm. (A3, C408). NI

22. A small rectangular plate fragment; size 26 x 6mm. (A3, C445). NI

23. A square, double loop buckle, decorated with incised diagonal lines between a raised border, with a 15th-century date (Egan & Pritchard 1991, 98, nos 447 and 450). (A43, C5064).

Studs & Buttons (Fig. 54)

24. A circular gilded button with a wire loop shank of diameter 17mm; post-medieval date (A1, C44, P7). NI.

25. A domed button with the loop broken off, diameter 9mm (A1, C67, P7). NI.

26. A stud of width 14mm, with head formed from an irregular folded sheet, hammered flat (A1, C69, P7). NI.

27. A fitting, possibly for a textile belt or dress, consisting of a slightly domed-head stud with a central hole, three rivet holes and the shank missing. Diameter 19mm, dated to the 16th century (Woodfield 1981, 95, no. 76; Egan & Pritchard 1991, 177, no. 899). (A1, C73, P6).

28. A gilded, domed-headed stud with an incised star decoration; head diameter 9mm and stud length 10mm. It could be a fitting for a belt, furniture or book (Egan & Pritchard 1991, 162). (A1, C108, P4).

29. A stud head mount made of sheet metal pressed into a domed six-foil rosette with one central hole and the shank missing; diameter 14mm. The head has two pairs of rivet holes, one small and one large, either side of the central hole. Dated to the 14th century (Egan & Pritchard 1991, 113 and 121, no. 520; Oakley 1979, 254, CU60–61). (A1, C108, P4).

Lace Tags (Fig. 54)

30. There were six tags from Area 1 and one from Area 3 which were of similar manufacture, comprising a thin sheet of copper alloy, rolled or folded to form a tube. None had been riveted (Egan & Pritchard, 1991, 281). One tag (illustrated) was 15mm long; the others varied between 24mm and 32mm.

Needle

31. A broken needle with the point and some shaft made of striated drawn wire; length 35mm. (A1, C81, P5). NI.

Dress Pins

Fifty-two pins were found, of which 7 were headless. The headed pins were classified according to Oakley (1979, 260): 3 H1; 40 H2; and 2 others. The H2 types had a length range from 1834mm. All but two came from post-dissolution contexts, and these two may be intrusive. The H1 types (lengths 27, 32, 37mm) were from pre-dissolution contexts, as were the two others. One of these had a shaft 39mm long with a hemispherical head; the other had a disproportionately thin shaft, 41mm long, with a soldered globular head. NI.

Miscellaneous (Fig. 55)

32. A wire chain, possibly for hanging an oil lamp and dated to the 14th to 15th century (Egan 1998, 132). (A1, C24).

33. A curtain ring, slightly flattened on two side edges, dated to late 17th century (A1, C65, P7). NI.

34. A ring fragment, gilded on the exterior with gold and silver (A1, C81, P5). NI.

35. A twisted rod, rectangular in section (A1, C101, P5). NI.

36. A cord of twisted wire, linked by looping; length 272mm, diameter 4mm. One possibility is that this is part of a monastic scourge (Hender & Wells 2016) (A1, C150, P3).

37. Two strands of fine wire of length c.150mm; diameter 1mm (A1, C234, P2). NI.

38. Tweezers with one arm broken. (A2a, C1034).

39. A spiral rod with one end turned into a hook of length 68mm. (A3, C401).

40. A tube of rolled sheet metal, flattened at one end and pierced by a rivet hole; length 95mm. (A3, C401). NI.

Iron Objects

A small proportion of the iron was conserved in the post-excavation period and some was x-rayed, but the majority consisted of heavily corroded unidentifiable lumps. The objects which were identified have been divided into knives, lock furniture, arrowheads, horse equipment, building ironwork, scissors, nails and miscellaneous objects.

Knives (Fig. 56)

41. A fragment of a knife blade, size 50mm including tang. (A1, C14). NI.

42. A fragment of a knife blade, size 70mm including tang. (A1, C44). NI.

43. A straight-backed blade, size 170 x 18mm, including a scale tang with three copper-alloy rivets in position and mineralised wood around one rivet. The tang is widened at the pommel end, formed of three parallel copper-alloy plates at right angles to the tang, held in place by a single iron rivet. A trace of copper alloy survives between the tang end and the blade and there are cutler's marks on the blade (Cowgill, de Neergaard & Griffiths 1987, 22, no. 155). (A1, C110, P5).

44. A heavily corroded part of a knife blade, size 80mm with tang. (A2a, C1027). NI.

Lock Furniture (Fig. 56)

45. A padlock key of size 140 x 13mm with a loop terminal, straightened at the bit end. Dated to 12th to 13th century (London Museum Medieval Catalogue 1940 1993, 147 & 149). (A1, C11, P8).

46. A key with an oval bow and a broken bit with a triple ring decoration on the shank; size 90mm (A1, C19, P7). NI.

47. The outer casing of the barrel of a padlock; length 50mm (Egan 1998, 93, No. 244). (A1, C65, P7).

48. Possibly a bent barrel padlock key, with a loop at one end and at the other end, a bit with three projecting wards; length 170mm (London Museum Medieval Catalogue 1940 1993, 149, Type C. (A1, C74, P6).

49. A circular key bow with a ring around the junc-



FIGURE 54 Objects of copper alloy, 4-30 (*scales as shown*)

tion between the bow and shank; size 68 x 45mm. (A1, C74, P6). NI.

50. A heavily corroded key of length 88mm with an oval bow and elaborately toothed bit, and dated to 14th century (London Museum Medieval Catalogue 1940 1993, 139, Type IV). (A1, C93, P5). NI.

51. A key with a circular bow and toothed fore-edge to the bit; size 60mm, and dated to 14th century (London Museum Medieval Catalogue 1940 1993, 139, Type IV). (A3, C413).

52. A key with a kidney-shaped bow; length 80mm, and dated to 15th century (London Museum Medieval Catalogue 1940 1993, 141, Type VII). (A43, C5000).

53. A key of size 100 x 50mm with a kidney-shaped bow, found within the building during reconstruction. The shank is decorated with discs and a baluster close to the bow. Dated to the 15th century (London Museum Medieval Catalogue 1940 1993, 141, Type VII). (A43, unstrat.).



FIGURE 55 Miscellaneous metal objects, 32-39 (scale 1:1)

Arrowheads (Fig. 56)

54. Two heavily corroded cross-bow arrowheads or possibly ferrules each of length 30mm. (A1, C108, P4). NI.

55. An arrowhead of length 50mm. Dated to 14th/15th century (London Museum Medieval Catalogue 1940 1993, 66, Type 16). A fragment of a ring-porous hardwood, possibly oak, survived within the socket (Identified by A. Miles). It was not possible to be more specific as the sample was petrified or powdery (A1, C172, P4).

Horse Equipment (Fig. 56)

56. A trapezoidal harness buckle of size 58 x 50mm with a rolled sheet around the strike plate, and dated to 13th to 14th centuries (Clark 1995, 56). (A1, C6, P8).

57. Late medieval horseshoe, width 100mm, with folded calkins and six holes arranged three on each side. (A3, C413). NI.

Building Ironwork (Fig. 56)

Much of the ironwork was recovered from post-medieval contexts. However, two objects are believed to be medieval:

58. An S-shaped hook of size 120mm (Ottaway & Rogers 2002, 2836). (A1, C74).

59. Masonry cramp of length 100mm. (A1, C140, P2). NI.

Scissors (Fig. 56)

60. Broken scissors originally of size 108 x 28mm. (A1, C44). NI.

61. Broken scissors of length 80mm. Dated to the late 15th/early 16th century. (A43, C5003).

Nails

The total number of nails recovered was 68, of which 63 % came from Area 1 and 31% came from Area 43.

Miscellaneous (Fig. 56)

62. A broken decorative disc tinned on both sides,



FIGURE 56 Objects of iron, 43-67 (scale 1:1)

diameter 38mm, with a raised rib parallel to the outer edge and within this two rivet holes. (A1, C7, P8). NI.

63. A flat, pentagonal plate of width 85mm with four equal, slightly curved, sides and one longer side. There is a punched dot decoration around the edge and rivet holes close to the edge. (A1, C74, P6). NI.

64. A broken, decorative strip with a rivet at the end, possibly a book fitting, of length about 60mm. (A1, C150, P3). NI.

65. A tube, length 80mm, pierced by a nail. (A1, C195, P4). NI.

66. Two strands of thin wire. (A1, C218, P1). NI.

67. Possible part of a tool, such as a small pitchfork; size 50mm. (A1, C218, P1).

Lead Objects

None of the lead objects were present in the archive. However, the records show that 71 pieces of lead had been found in Areas 1 and 3. Seventeen window comes were identified and are discussed in the medieval window glass report, 36 fragments were identified as small offcuts or molten waste and thirteen were pieces of 'building' lead, including a decorative down-spout head from a 17th to 18th-century context. Only five of the other pieces were identifiable: of these, three came from medieval contexts in Area 1. These comprised a twisted rod with a square section, of length 37mm and width 1.5mm [81]; a circular disc of diameter 24mm and thickness 1mm [133]; a bar notched at one end measuring 75 x 12 x 4mm [138]. None of the lead came from contexts earlier than Phase 3 and most came from the late medieval and early postmedieval Phases 5 and 6. Although not found during the excavations, the 1977 discovery in the abbey grounds of a lead *bullā* (seal), issued by Pope Alexander III (Pope 1151–1189), seems to confirm the 12th-century foundation of the abbey (Pike 1978).

Summary

Many of the metal objects recovered were not identifiable. Few were dateable and of those listed in the catalogue, excluding dress pins and lace tags, 30 were recovered from medieval and late medieval phases. The others were found in post medieval deposits in Area 1, and of these 11, dating to the medieval and late medieval periods (Phases 6 to 8), were probably redeposited after the dissolution of the church.

Various phases of Area 1 yielded interesting metal objects. From Phase 1 (11th to 12th century) contexts came two iron objects comprising strands of wire and part of an unidentified object, perhaps a small tool (**66**, **67**). These were found below slag layer [217], in an early chalk floor which probably formed part of the earliest church built on the site. Phase 2 (late 12th to early 13th century) yielded three objects, all situated in slag layers, including a broken copper-alloy buckle plate with traces of gilding, two strands of fine copper wire and an iron masonry cramp (**15**, **37**, **59**). Two undated objects, a twisted copper wire cord and a broken iron decorative strip (**36**, **64**) were recovered from [150], an extensive make-up layer in Phase 3 (mid to late 13th century). Finds which have been independently

dated were recovered from Phase 4, including a late 13th to early 14th-century bar mount (**12**), a strap-end plate from the 13th-14th century (**14**), a 14th-century stud-head mount (**29**) and a 14th to 15th-century arrowhead (**55**). In Phase 5 a belt chape plate and a key were recovered which dated to the 14th century (**8**, **50**) along with a lyre-shaped buckle of the early 15th century (**9**).

A small copper-alloy plate fragment (**22**) was also recovered from Area 3, Phase 2. From Area 43, three objects were saved: a buckle (**23**), a key (**52**) and a part of a pair of scissors (**61**), all of which dated to the 15th century.

Coins (Fig. 57)

by Dr D.M. Metcalfe (*Ashmolean Museum, Oxford*) and G. Lamb (*BCM*). Photography by Mike Corcoran

Fifteen coins from the abbey were identified. The coin numbered 16 was found in the archive, but not identified at that time. Those numbered 1, 2 and 15 have not been found in the archive.

A=Area, C=Context, P=Phase. NI = not illustrated.

Medieval

1. Edward I or II. Canterbury Mint. Silver. Long cross. 1272–1327. (A1, C176, P4). NI.
 2. Richard II. 1/4d. London Mint. 1377–1399. (A1, C81, P5). NI.
 3. Edward. Penny. York Mint. Silver. Fourteenth century. (A1, C65, P7).
- Post-Medieval
4. Hans Krauwinkel. Jetton. c.1580–1610. (A1, C15, P7).
 5. Hans Krauwinkel. Jetton. c.1580–1610. (A1, C14, P7).
 6. Hans Krauwinkel. Jetton. c.1580–1610. (A22, C396).
 7. Inscribed... 'AVEMARIA' Jetton. 16th century. (A1, C73, P6).
 8. Jetton. Nuremberg. 1500–1510. Reverse: Nuremberg symbol, therefore post-1500. Obverse: lion of St Mark (= Venice). Legend: jumble of meaningless letters = 16th century. Lombardic lettering ceases to be used c.1515. Therefore c.1500–1510. (A1, C60, P6).
 9. James I. 1/4d. Under licence to Duke of Lennox & Richmond. 1614–1625. Has a mint mark or private code mark (a triangle) above the crown. (A12, unstrat.).

- 10. Charles I. 1/4d. 1625–1649. (A1, C74, P6).
- 11. Charles I. 1/4d. 1625–1649. (A1, C44, P7). NI.
- 12. Charles II. 1/4d. 1672. (A1, C49, P7).
- 13. Richard Webb at Amersham in Bucks. Token [16] 66. (A1, C49, P7).
- 14. William & Mary. 1/4d. 1689–1694. (A1, C65, P7).
- 15. William & Mary. Jetton. Late 17th century. (A1, C15, P7). NI.

- 16. Victorian 1/4d. 1872. (A3, C401).

Summary

All the coins appear to have been redeposited apart from the Edward I or II silver coin (1) found in Phase 4 and dated to the 14th century, and the Hans Krauwinckel jetton (6) found sealed in the mortar bedding of a late Tudor tile pavement.



FIGURE 57 Coins from the excavations (scale 1:1)

Architectural Stone

by Jill Hender and Marion Wells, with contributions by Dr Michael Oates, Richard Halsey (HBMC) and Nick Griffiths (Museum of London).

The architectural stone used most at Missenden Abbey has been identified as Totternhoe Stone or 'Clunch'. It is a fine massive chalk with a hardness and resistance to weathering that makes it the only naturally-occurring freestone in the area. Such a freestone has been incorporated into a Roman villa at Totternhoe, several medieval churches within a 50-mile radius and parts of Westminster Abbey, Windsor Castle, Hampton Court, St Albans Cathedral and Woburn Abbey.

In the 1980s, 245 architectural fragments from Missenden Abbey were catalogued and later photographed and re-numbered. Unfortunately, the original position of these finds is unknown as few context numbers were recorded. Richard Halsey examined 59 fragments and firmly dated 36 of them; twelve to the 12th century, twelve others to the 13th century, six to the 14th century and four were described as medieval. These dates reflect the main building phases of the medieval abbey. The remaining two stones were ascribed to the 16th century and to the Victorian period. This study has made use of data stored in the site archive, and uses Halsey's report in a limited manner since it proved difficult to match his descriptions to the stones currently catalogued in the site archive. Information collected during this study has been placed in the site archive. Some of the architectural fragments are on display at Missenden Abbey (Fig. 58A).

Catalogue (Figs 58–62)

What follows is a numeric list taken from the 1980 catalogue, with descriptions of stones and most cases their Halsey number, where they have been recognized from recorded descriptions, drawings and photographs. Definitions are taken from Pevsner (2010).

7. Part of a decorated cusped arch from a blind wall arcade with clear rasp marks (Fig. 58.B).

12. Halsey 46: (Fig. 58.C).

21. Halsey 37: a door jamb fragment, possibly 12th century, dated by diagonal tooling and deep rebate.

32. Halsey 40: a 13th-century jamb, with a thin roll moulding and hollow chamfer to the edge of the opening.

34. Halsey 57: large piece of perpendicular tracery with two cusps surviving on the right-hand side of a three-cusped light; the absence of a glazing groove and back tracery suggests this is from a blind wall arcade. It is likely there was a surrounding roll moulding, but this was hacked off for re-use. (Fig. 58.D)

43. Halsey 59: An early 13th-century arch moulding, with an ogee (double curve bending first one way and then the other) keeled (in section like the keel of a ship) roll moulding, with a deep hollow and a thin quirked (sharp groove to one side of a convex moulding) roll to the intrados (inner curved face of an arch) (Fig. 58.E).

51. Halsey 48: A damaged piece of 12th-century half shaft of approximately 300mm diameter.

52. Halsey 51: A thin rectangular stone decorated with three parallel equal hollows or flutes that terminate at one end, suggesting this is the top or bottom of a fluted pilaster (column in shallow relief) or even a triglyph. The decoration is not well executed, the tooling is very smooth. Presumably this comes from a post-medieval feature, perhaps a former door-case or fireplace. The stone is inscribed with graffiti, which appears to be the Roman numerals II, IV, V and VI (Fig. 59.A).

55. Halsey 41: A damaged voussoir (wedged-shaped stone forming arch), perhaps 13th century, with two parallel roll mouldings, the outer slightly thicker with a deep hollow between.

60. Base or capital of a small column; on display in Missenden Abbey (Fig. 59.B)

72. Halsey 38: A damaged voussoir, with a broad plain chamfer and diagonal tooling, possibly indicating a 12th-century date. There is a shallow recess outside the chamfer and the face that could be flush with a wall is hammered and incised with a triangle. This may be a voussoir from a rere-arch (archway formed across the wide inner opening of a window), the triangle being a guideline for a plasterer/painter to decorate the arch surround.

76. A ceiling boss (Fig. 59.C).

78. Halsey 56: A piece of 12th-century attached shaft, about 180mm in diameter, with more than three-quarters of the circumference free of the surface to which the shaft was attached.

79. Halsey 54: A fragment of broad hollow chamfer-and-roll moulding, with fine tooling similar to that seen in stones 51 and 142 (Halsey 48 and 53), so possibly of the 12th century.

122. Halsey 47: Five pieces of a perpendicular

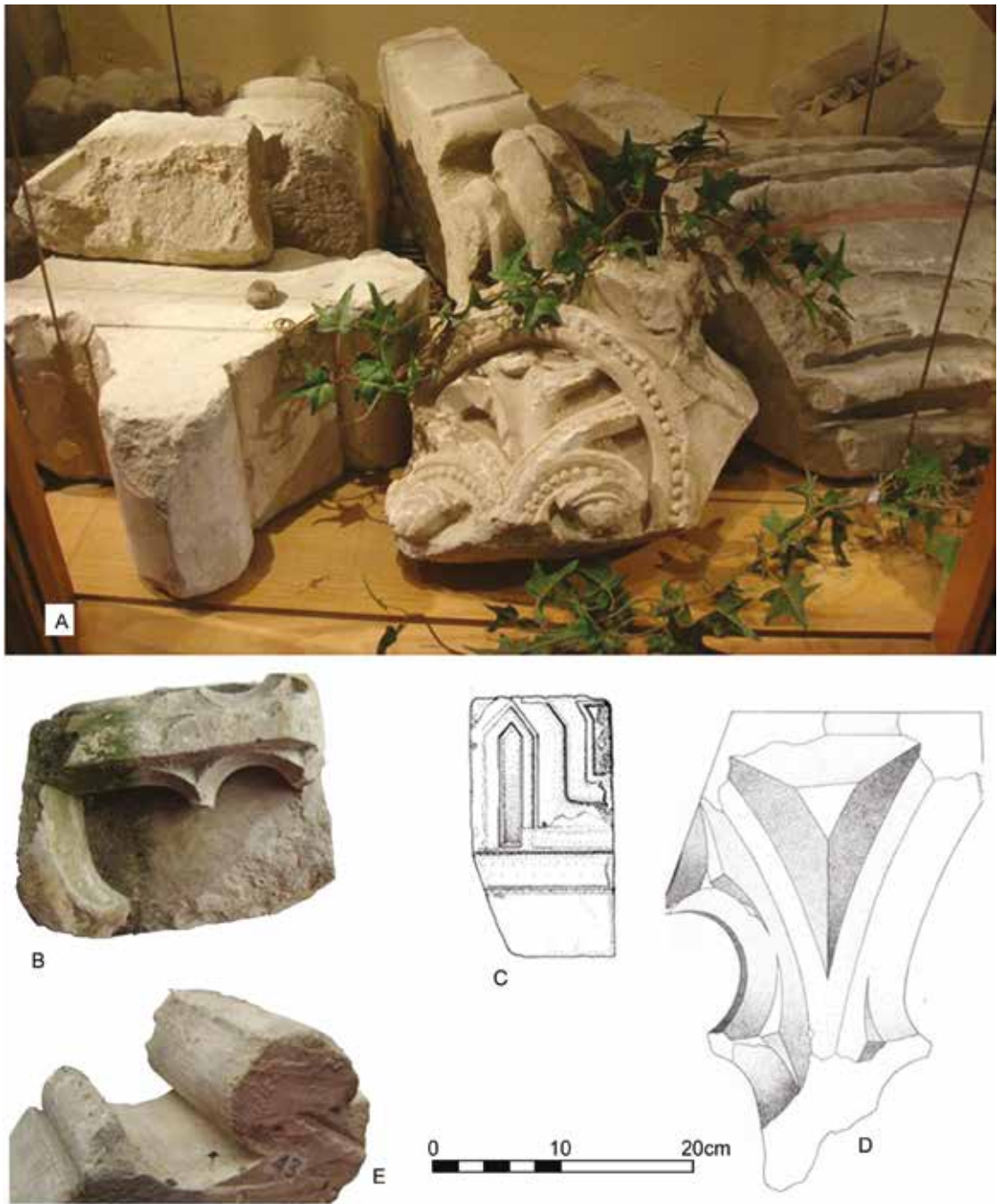


FIGURE 58 Stone display at Missenden Abbey together with four architectural stone fragments (*scale as shown*)

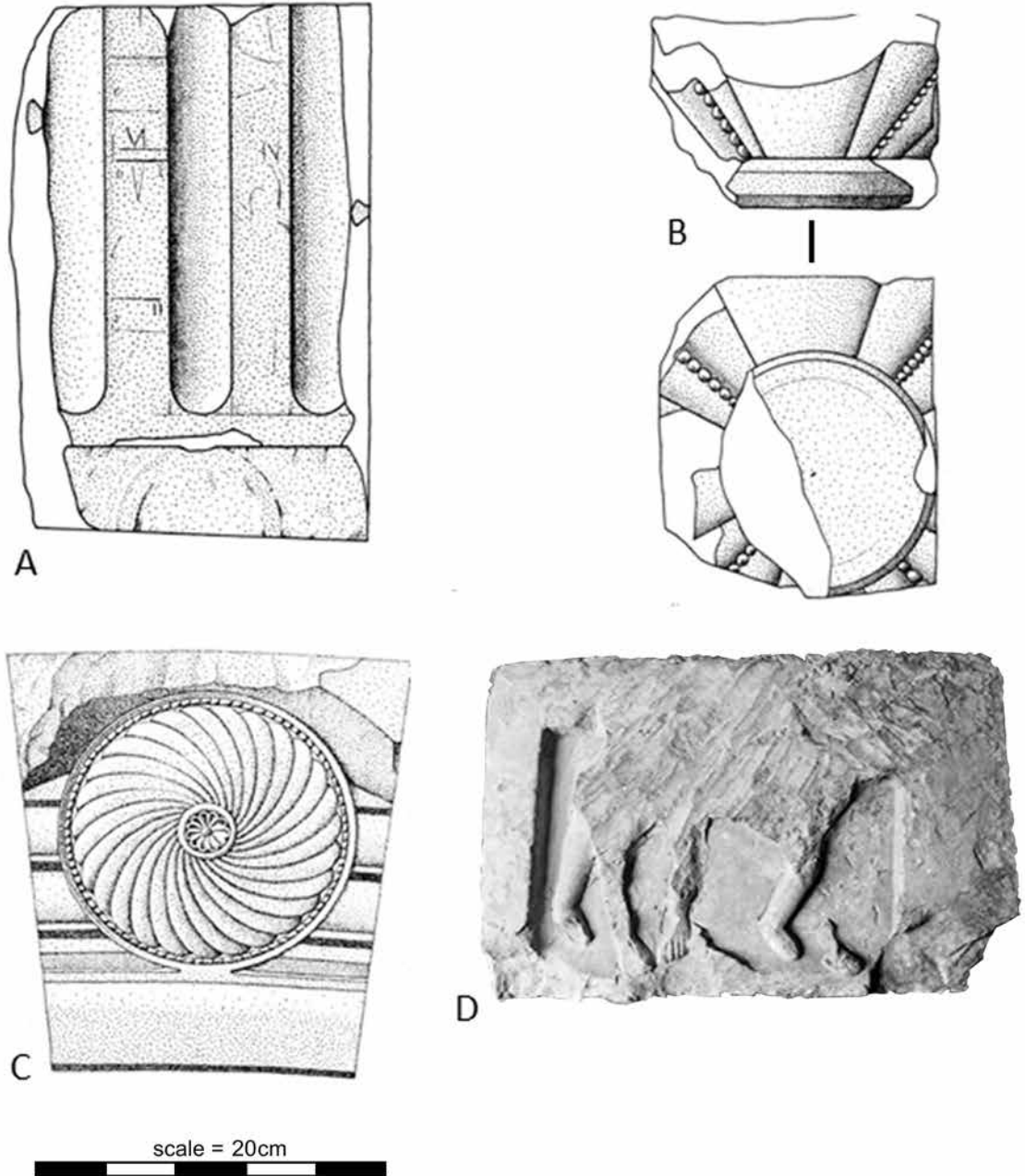


FIGURE 59 Architectural stone fragments A-D, various dates (*scale 1:4*)

limestone moulding, possibly from a string course, although stones show very little weathering.

141. Halsey 45: A piece of mid-12th century chevron ornament, presumably from an arch moulding.

142. Halsey 53: A damaged 12th-century roll moulding with a broad hollow chamfer to one side (the other side is damaged).

168. A photograph from the original catalogue

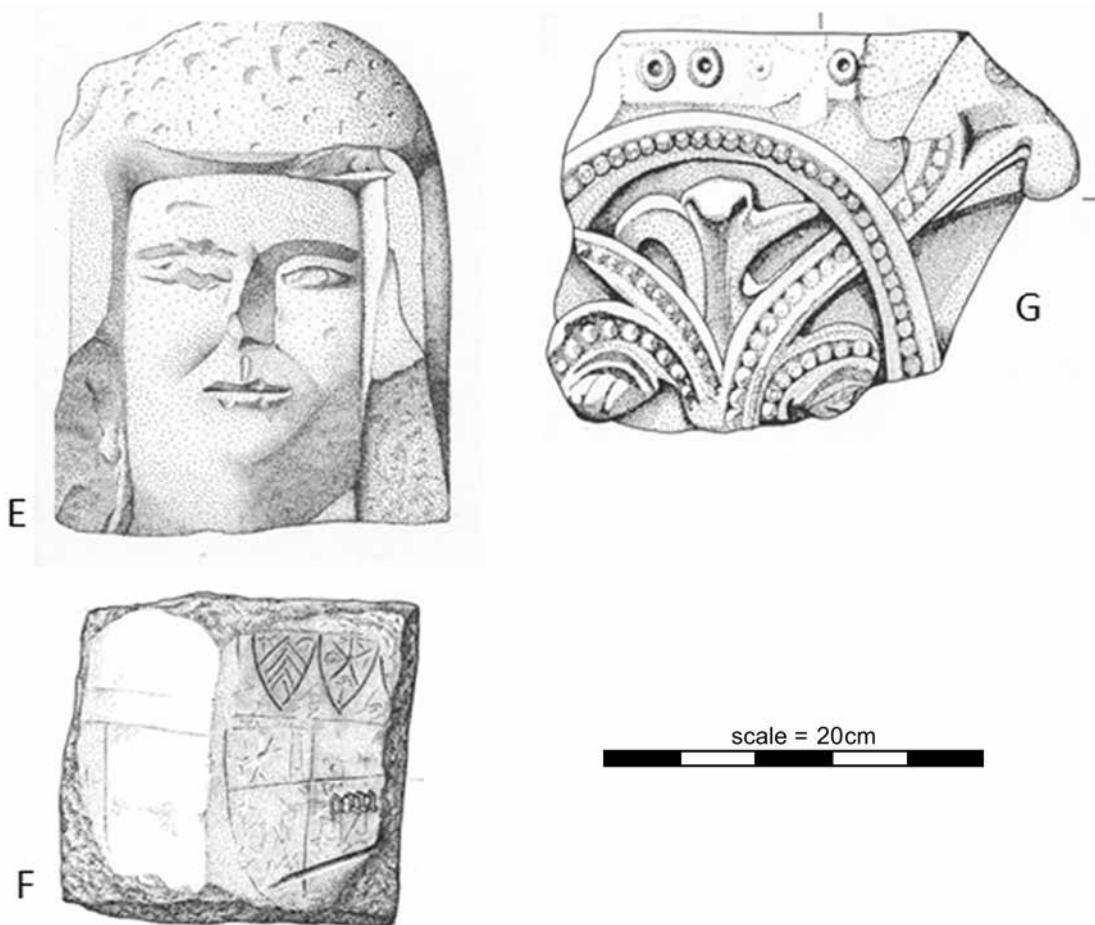


FIGURE 60 Architectural stone fragments E-G, various dates (scale 1:4)

(Fig. 59.D) showing a stone intriguingly carved with legs, some human and some animal.

171. Halsey 58: A head corbel (projecting supportive stone) from the left-hand springing of an arch. A tonsured monk is depicted, in a good state of preservation. The very thin roll edge to the arch emerging from the head, the tooling and the slightly mechanical feel suggests that this is a post-medieval piece. The facial characteristics suggest a Victorian date (Fig. 60.E).

179. Part of a door jamb with graffiti consisting of two shields. The left-hand shield bears a resemblance to the arms of the de Clare family who had a connection with Missenden Abbey (Page 1908). The following is an extract from a letter dated 1985 from Nick Griffiths, regarding the identity of the

shields: *'The left hand one could certainly be de Clare, or more probably a graffito derived from the de Clare arms... The right-hand shield bears a resemblance to a merchant's mark which, in the fifteenth century, are frequently shown within a shield... On the whole, I am inclined to see both shields as 'doodles', perhaps (in the case of the left-hand one) based on de Clare which would presumably have been well known in Great Missenden!'* (Fig. 60.F)

182. Ornate capital similar in style to decoration seen at Wolvesey Palace, Winchester (Zarnecki, Holt & Holland 1984, 185) (Fig. 60.G).

195. Halsey 7; Voussoir from a 13th-century vault-rib (rib forming part of vaulted ceiling), probably of about 1220 to 1240. The projecting

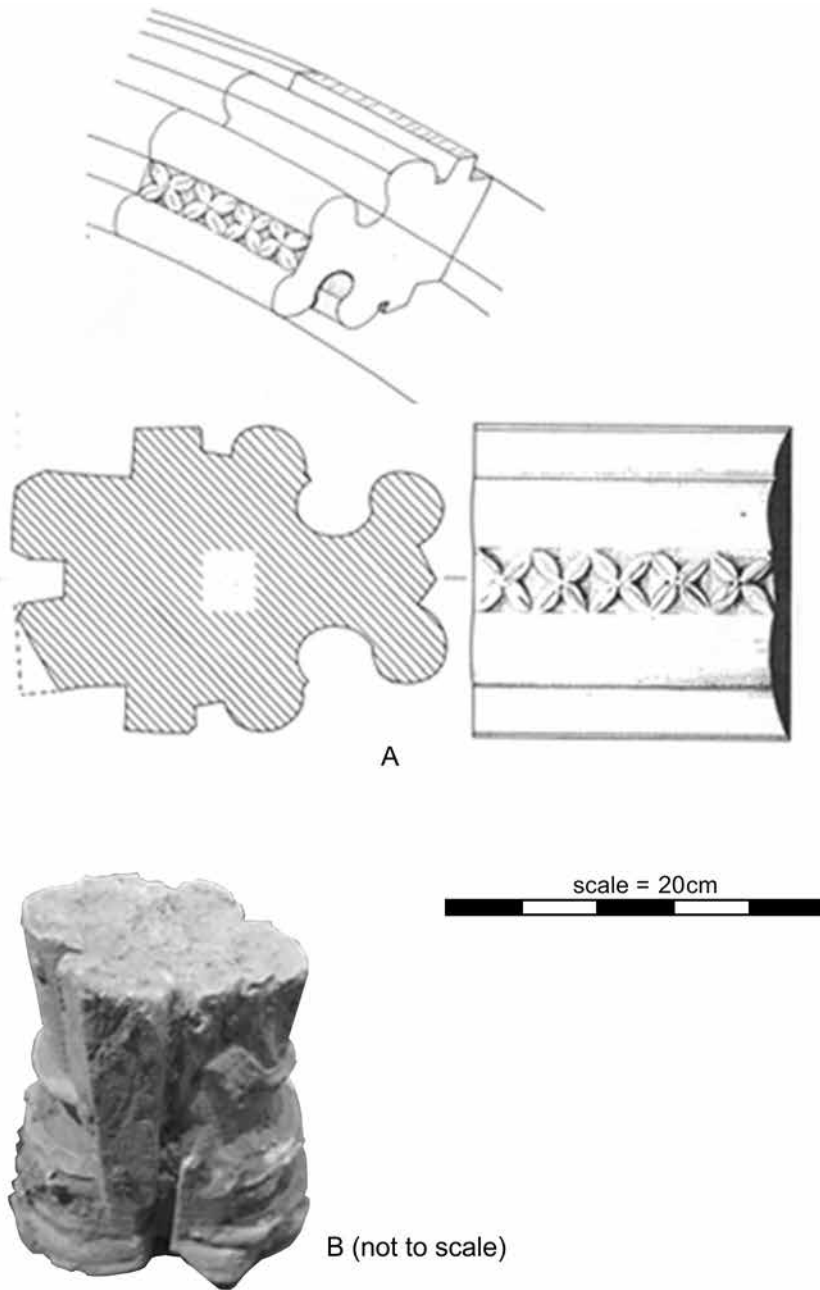


FIGURE 61 Architectural stone fragments: voussoir (A: *scale 1:4*) and small window mullion (B: *not to scale*)

double-roll moulding is separated by a row of tightly formed early English dog-tooth mouldings. There is significant remaining limewash with some colour, mainly red. This voussoir is in the display case at Missenden Abbey (Fig. 58.A), and has been drawn (Fig. 61.A). Similar voussoirs were noted in Area 9, reused in the facing of wall [339] and in Area 19.

208. Halsey 13; Part of a hood-mould (projecting moulding above an arch to throw off water) of an arched door or window of 13th-century date; the outer moulding is very much more weathered than the inner moulding and with a deeper hollow between roll mouldings. The inner moulding is not limewashed.

224. Halsey 12; Base of a small window mullion (vertical member between window lights), each side with a moulded base of apparently identical form, presumably of early 14th-century date. A glazing groove is visible and the base of the stone shows the remains of an iron fixing stub. No limewash is visible, but the stone is very dirty (Fig. 61.B, not to scale).

233. A vault boss (Fig. 62). Notes regarding this stone were discovered in the archive: ‘The only place in a vault where two ribs could possibly intersect as in this stone is at the central highest point of a bay. This is borne out by the curvature of the rib segments. The lack of longitudinal or transverse ridge ribs shows that the vault must have been quadripartite, *i.e.* a vault with two pairs of diagonal ribs dividing each bay into four triangular compartments or cells’.

Abbey Farmhouse: In the loft of the Abbey Farmhouse, a voussoir dated late 12th to early 13th century was located (Davis 2000, unpublished). This voussoir is a wedge-shaped stone used in the construction of an arch. It could have been part of the archway of the gate, though it could also be a stray find from the abbey itself.

It has been noted that many of the stone fragments have traces of coloured paint, some with more than one colour. The most common colour used was black followed by red, white and pink. Brown, yellow, green and grey paint was also found on a few of the stones.

Stone Objects (Fig. 63)

by Mark Collard and Peter Yeoman

Apart from the architectural stone, a number of

pieces of worked stone were found in Area 1 and are described below and illustrated in Fig. 63. C=Context, P=Phase. NI = not illustrated.

1. Chessman, height 55mm, width 25mm, described as a ‘Castle carved from small reused piece of architectural stone (clunch) decorated crudely with two arched doors on adjacent faces. String course running above is formed by pre-existing features’. (C129, P5). Fig. 63A.

2. Coffin with a well-made head-hole and shouldered sides, carved from one piece of clunch which measured 1.95m in length, with walls 90mm thick. It is likely to have had a coffin lid about 100mm thick. Traces of a centrally placed drain hole were found in the coffin base. In more recent times a severe fracture, presumably caused by frost, had split the coffin in two at the east end’. (C145). NI.

3. Coffin Lining. Fig. 63B shows a number of stones, lining a coffin, consisting of seventeen individual very large, tooled clunch blocks which were not reused material. The east ‘feet’ end consisted of a single rectangular block laid long-ways, 340mm long by 220mm in depth. The cist tapered outwards to a maximum width of 500mm at the shoulders, *i.e.* the west end, with straight edges formed by the faced blocks placed side by side. The adjoining faces were partially dressed for a snug fit and were not mortared. A head socket carefully carved from five blocks of clunch was constructed at the west end, resting on two large blocks which had been placed in a hole much deeper than the rest of the cist. A single cap stone was found sealing the head socket only. (C229).

4. Marble Fragment. A piece of porphyry (a purple-red stone comprising a fine grain matrix of crystals of feldspar or quartz) in the shape of a triangular prism with two polished faces of size approximately 20mm square. Two of the sides appear to have been cut. Probably part of an inlay from an important place or feature in the church. (C108). Fig. 63C.

Painted Wall Plaster (Fig. 63)

by Mark Collard and Peter Yeoman

Less than 400 square centimetres of painted wall plaster was recovered, 90% coming from Area 1 and the remainder from Area 2a. Of these fragments 95% were white, 3% red with a few fragments which were pink, cream or blue. The mortar was white with angular flint inclusions of

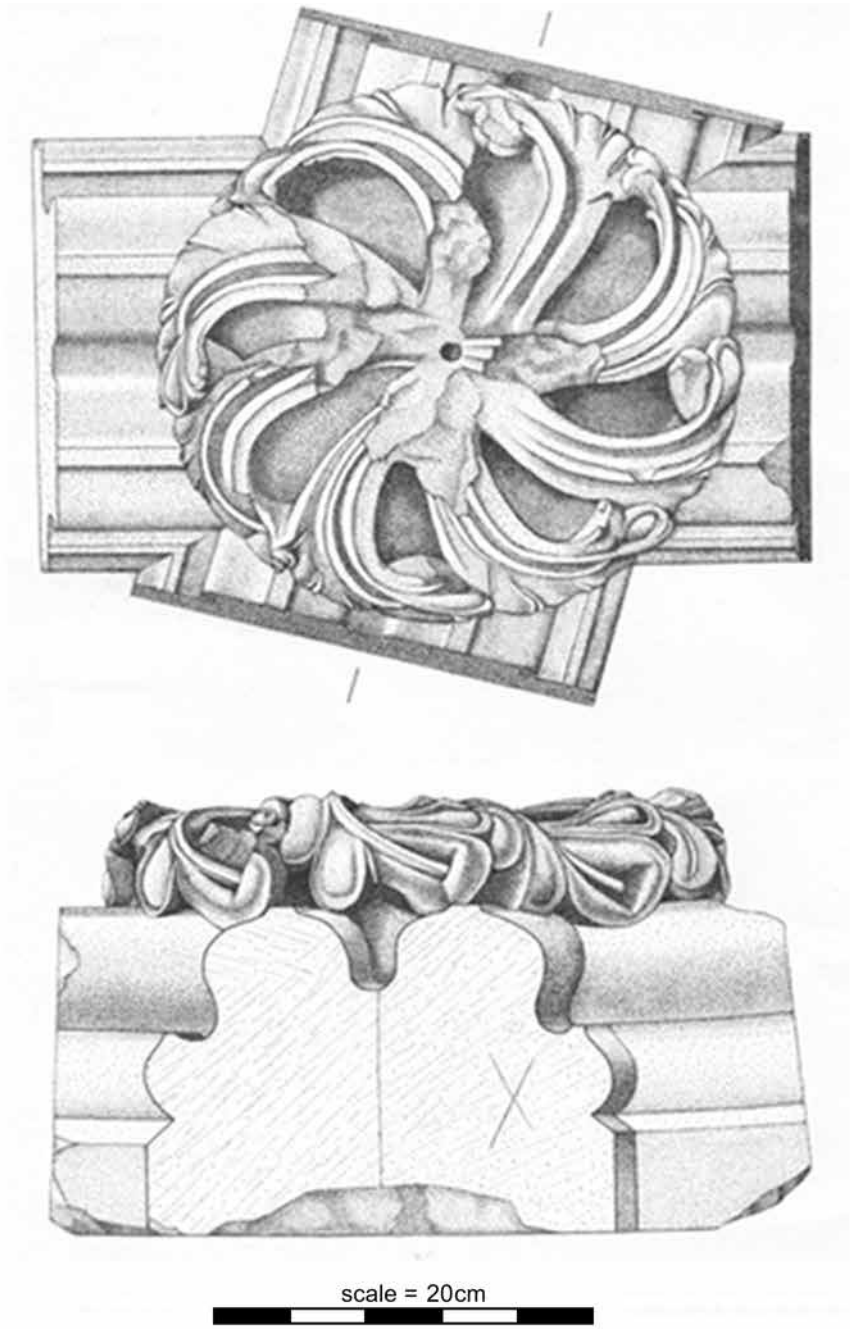


FIGURE 62 Architectural stone fragments: vault boss (scale 1:4)

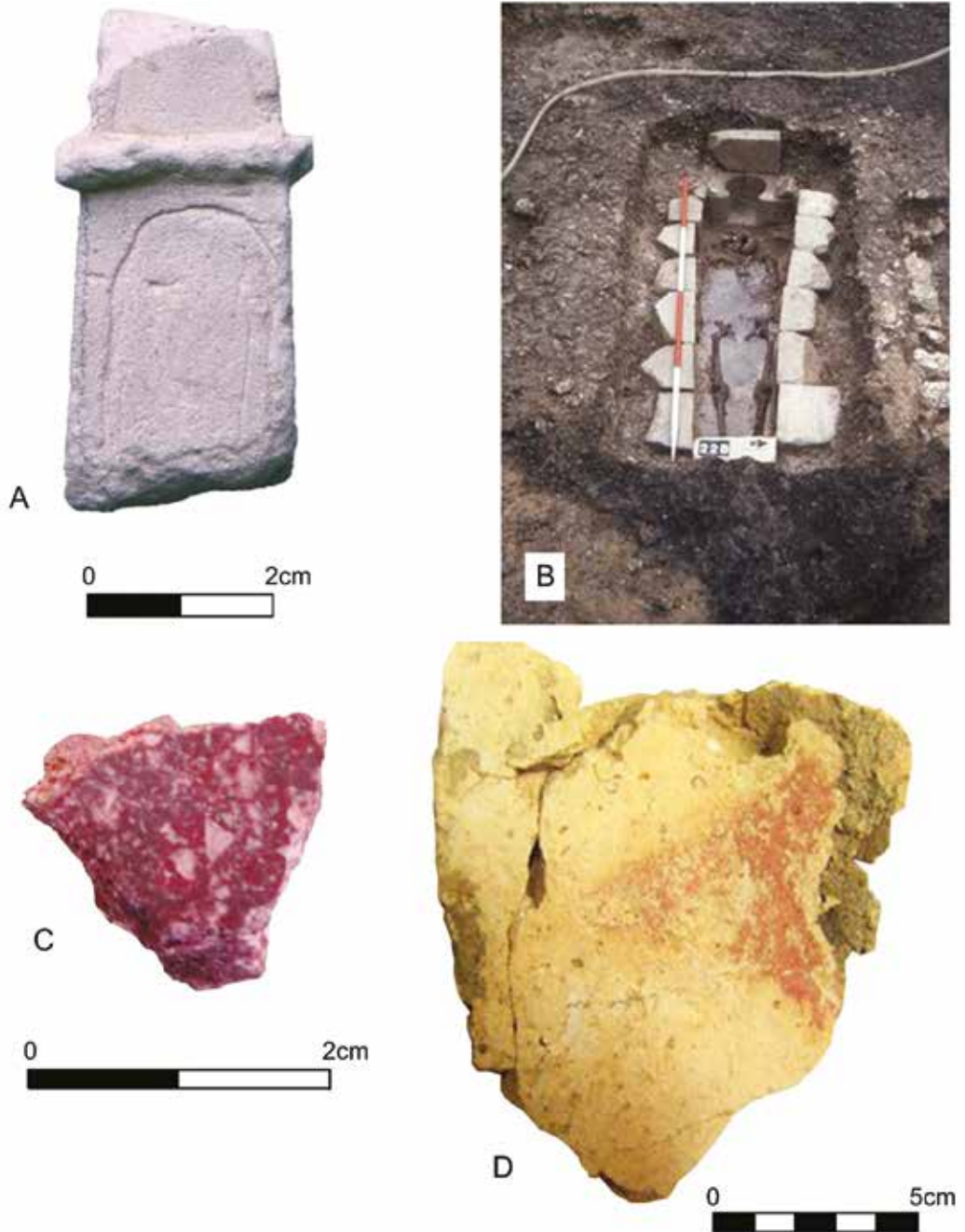


FIGURE 63 Various stone objects and painted wall plaster (*scales as shown*)

up to 8mm in size. Some traces of decoration were noted on the plaster from Area 1, but all the colours were very faded. These pieces are described below.

1. Two joining fragments about 70 square centimetres formed the largest piece recovered. The plaster was cream with a red design and showed evidence of a repair. (C34). Illustrated (Fig. 63D).
2. One very small piece of white plaster showed a straight black line 5mm wide, less than 11mm away from a curved red line *c.*3mm wide, suggesting a panel outlined in black with a red line decoration. (C81).
3. Two pieces showed a white/dark red junction suggesting a coloured border around a central white panel. (C118).
4. A small pink fragment with hints of a white line decoration. (C191).

Bone Objects (Fig. 64)

by Mark Collard

Unfortunately the bone objects have not been located, so what follows derives from an original report and information retrieved from the site archive. All the bone objects are from Area 1 apart from the bobbin/toggle and a peg which come from Area 3. C=Context, P=Phase.

1. Bobbin/Toggle. This item has a perforation through the shaft and wear marks around the hole. Diagonal scoring of the shaft is visible in places. The length is 57mm, and the hole is 5mm deep. (A3, C421).
2. Harp/Fiddle tuning peg. A knife-trimmed peg with a squared head and shaft broken at the tuning hole; length more than 42mm. There is a scoremark above the hole and damage to the head in the form of notches on each corner, suggesting the use of a wrench. This item was likely used for tuning an instrument with a peg-hole accessible from either side e.g. a lyre, frame harp, lute or fiddle. (Egan 1998, 286). (A1, C74, P6).
3. Pin. A pin broken along the shaft. (A1, C108, P4).
4. Unidentified. Two unidentified bone objects were found in A1, C14 & C37, only one of which is illustrated.
5. Pegs. Three pegs were recovered. One, with a length of 22mm. was knife-trimmed, exposing a rectangular section and tapering to a blunt point, (C108, P4). The remaining pegs, from A1, C108

and A3, C401, were of little interest. Not illustrated.

Window Glass (Fig. 65)

by Jill Kerr (HBMC)

The glass was catalogued with notes available in the site archive. These finds are summarized below. Much of the glass dated to the 14th century, suggesting possible re-building/redesign of this area of the church. Some glass showed signs of long-term placement *in situ* prior to burial and before decay/corrosion, while other glass appeared to have been disturbed prior to burial by falling stonework sometime in the 16th century. There was no evidence of fire/burning in this area of the church.

Definitions: Grozing = a method for cutting and shaping glass used in the middle ages pre-diamond cutting. This results in a characteristic bitten edge. Came = a lead divider for holding together glass in a stained-glass window. Lead shadow = where the glass fits into a came. Quarry = pieces of glass cut into regular geometric shapes.

Abbreviations used in the text: CND = colour of glass not discernible; NPV = no paint visible; NGE = no grozed edges; T = thickness; C=Context; P=Phase. NI = not illustrated.

Area 1

1. White glass, now almost completely opaque. Very flat. One grozed edge. Exterior corrosion pits/surface scuffing. 3mm lead shadow. Broken preburial. 14th century. T = 2mm. NPV. (C1, P7). NI.
2. Too small for detailed comment. T = 2mm. CND. NPV. NGE. (C8, P7). NI.
3. White glass. Minimal external surface weathering. Possibly vessel glass. T = 2mm. NPV. NGE. (C24). NI.
4. Five fragments of flat white glass, 15th to 16th century, now corroded to brown. The largest piece has a very precisely grozed edge. Other fragments NGE. No lead shadow. The interior surface bright while exterior surface is scuffed with pronounced white/brown deposit. T = 1mm. NPV. (C44). NI.
5. One fragment of flat white glass, as seen in 4 above. T = 1mm. NGE. NPV. (C59). NI.
- 6–8. Small fragments of flat white glass. (C60), (C67), (C74). NI.

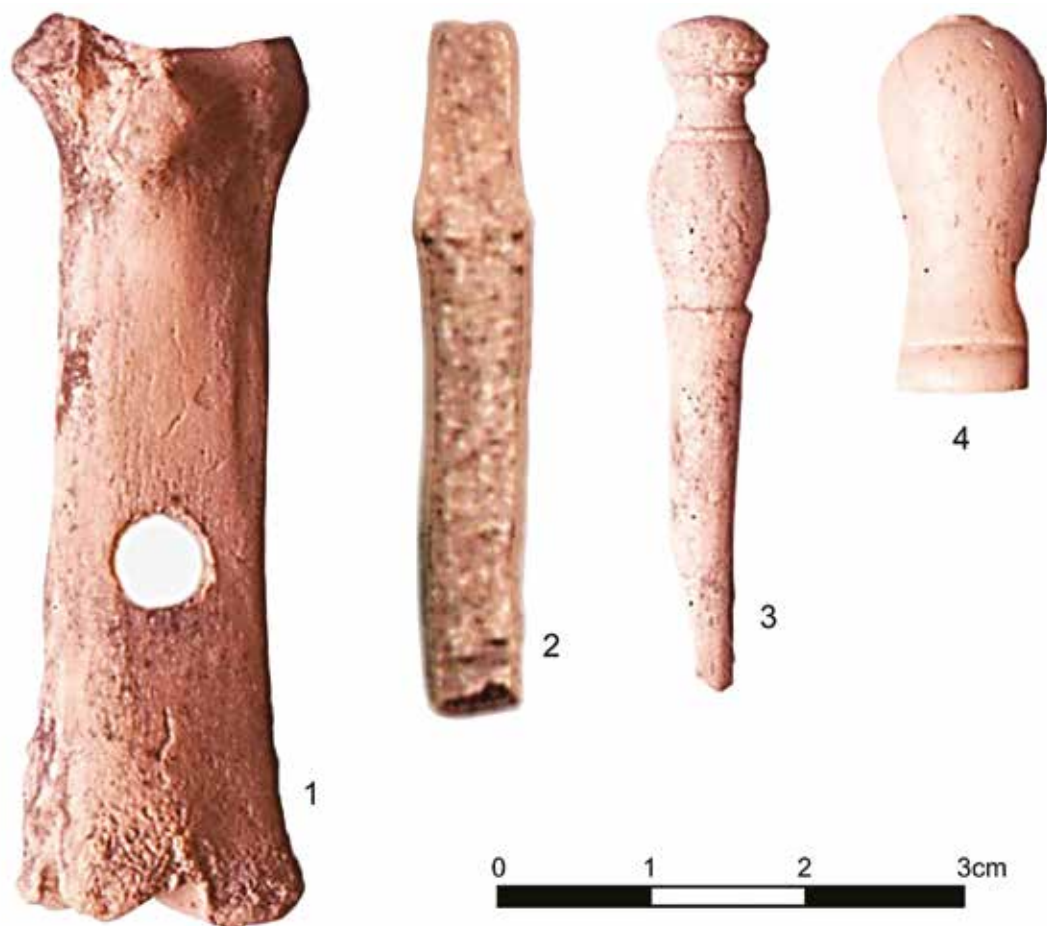


FIGURE 64 Bone objects 1-4 including a bobbin, tuning peg and pin (*scale 2:1*)

9. 14th century, painted glass broken into 2–3 fragments; background shows foliate design with circles and stems picked out of matt wash. Very perished; pronounced exterior corrosion with heavy pitting. T = 3mm. CND. NGE. (C76). Fig. 65A & B.

10. Glass fragment painted with two lines of red paint. No exterior corrosion. T = 3mm. CND. NGE. (C81). NI.

11. 15th to 16th century date, with one roughly grozed edge. Traces of paint on interior surface but design not discernible. Slight scuffing on both surfaces. T = 3mm. (C81). NI.

12. As for 4 above. (C93). NI.

13. Core white. Cut/grozed edges. Possibly from an ornament. T = 8mm. NPV. (C93). NI.

14. Off-white glass. Surface shaled, some exterior weathering. Iridescent. T = 2mm. NGE. (C102). NI.

15. Very crude grozing. Surface covered with accretions. T = 2mm. CND. NPV. (C108). NI.

16. Border strip. Green, complete. Some grozing. T = 3mm, Length = 40mm, Width = 25mm. (C108). NI.

17. Border strip. CND. Grozing. Exterior corrosion. T = 34mm, Length = 80mm, Width = 25mm. (C108).

18. Nimbus or central boss design from decorative window. Cross-hatching picked out of matt wash. (C108). Fig. 65C & D.

19. Painted fragments. Possibly drapery. Very perished exterior. Corroded. CND. NGE. (C108). NI.

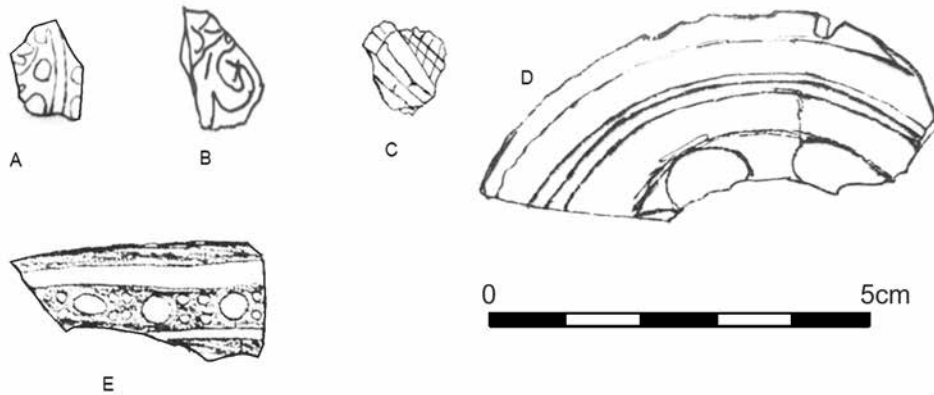


FIGURE 65 Medieval window glass, fragments of various designs from Areas 1 and 19 (scale 1:1)

20. Fragment, shaded and fissured. T = 2mm. CND. NPV. (C134). NI.

21. Fragment, one grozed edge. Very decayed. CND. NPV. (C178). NI.

Area 2a

22. White glass fragment with exterior corrosion. 15th to 16th century. Interior core glassy. T = 1mm. NGE. NPV. (C1001). NI.

23. Fragment with exterior pitting. T = 3mm. CND. NPV. NGE. (C1001). NI.

Area 3

24. White glass fragment, very decayed but no exterior corrosion. No lead shadow. Very similar 21. T = 2mm. NPV. NGE. (C401). NI.

25. Fragment perished. T = 1mm. CND. NPV. NGE. (C403). NI.

26. 15th to 16th century fragment. (C413). NI.

27. 15th to 16th century fragment. (C424). NI.

28. Two fragments with red colour but corroded. Good grozed edge. T = 3mm. NPV. (C451). NI.

Area 19

The floor level of the chancel, [379], was found to be completely covered in a fine layer of smashed window glass [380], originating presumably from the destruction of an east end window (notes by Peter Yeoman). Many of these fragments had corroded surfaces and only a few showed grozed edges: however, two showed discernible patterns:

29. The corner of a quarry trellis design of intersecting lines. NI.

30. A formalised border design picked out of a matt wash on white glass and consisting of a beading

set between a cluster of four dots within a line strip. Grozed edge. Other fragments had painted lines but were too small to ascertain the design. Fig. 65E.

Lead Comes

Seventeen medieval lead comes were found in Areas 1 and 3, none earlier than Phase 4 (14th century), which ties in with the general dates for the glass.

Post-Medieval Window Glass

Twenty-six post-medieval clear glass window fragments were also recovered from Areas 1, 2a and 3. Also present were some early post medieval rilled comes.

Vessel Glass (Fig. 66)

by Jill Hender and Marion Wells

The vessel glass was very fragmentary and most of the fragments were found in post-medieval contexts and are not discussed here. However, three pieces were found in Area 1 in medieval contexts and are briefly described below. C=Context.

1. A glass button, black with a copper attachment ring, dated to the mid to late 13th century. (C150).

2. A clear body sherd dated to the 14th century (not shown). (C158). Not illustrated.

3. Two fragments of a blue vessel with gold painted decoration. Dated to the 14th century although they could be earlier, possibly the 12th century. (C195).

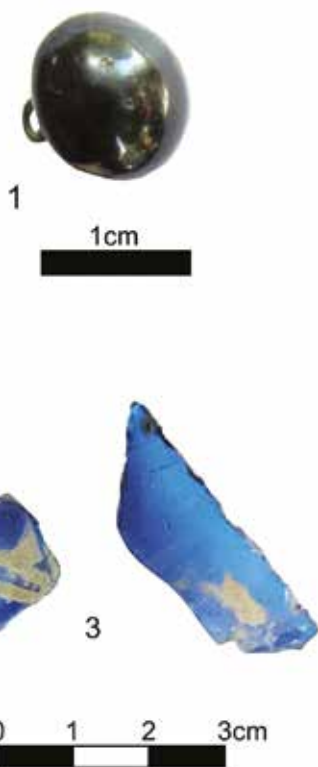


FIGURE 66 Vessel glass of the 13th and 14th centuries (*scales as shown*)

Wine Bottles (Fig. 67)

by Jill Hender and Marion Wells, based on an earlier report by Mark Collard and G. Speed

Ninety-five wine bottle sherds were recovered, mostly from Area 1. No whole bottles were found. All the glass is deemed to be post-medieval. These sherds were mostly green in colour with an occasional brown fragment, and very variable in thickness. Many of the bases and necks were iridescent and exfoliating. Seventy-one of the pieces, consisting of twelve base fragments, five neck fragments, and 54 body sherds, were too small to be dateable. Of the remaining dateable fragments, thirteen were necks and eleven were bases.

NI = not illustrated.

Necks

1. Seven necks had a single string-rim which was nearer to the lip, and either bevelled, rounded or flat.

One of these (Fig. 67A) had a short neck at 80mm. These are dated to *c.*1690 (Dumbrell 1983, 30).

2. Ten of the necks had single string-rims and tapered sides, and so should date to before *c.*1770–1780 (Dumbrell 1983, 31). One of these (Fig. 67B) had a single thin string-rim which is far from the lip, and is dated to *c.*1670 (Dumbrell 1983).

3. One fragment (Fig. 67C) has a long neck at 100mm. This has been given a date of *c.*1710 by Collard & Speed, although it could be slightly later (Dumbrell 1983, 30).

4. One neck (Fig. 67D) is unlike the others in that although the neck is tapering, the single string-rim is flat, deep and regular. It has been dated to *c.*1822 by Collard & Speed. However, Dumbrell (1983, 39) shows a similar English neck dated *c.*1789, and a French neck dated *c.*1850. If it is English, then the date of *c.*1789 could be correct (Dumbrell 1983, 31). However, it was found in the same context as a base with ‘PARIS’ on the bottom, so it could be French with a date of *c.*1850.

Three necks had double string-rims and bulbous sides, and so date to post-1770:

5. One (Fig. 67E) dated to *c.*1800 (Dumbrell 1983, 32).

6. The second has been dated to *c.*1815 (Dumbrell 1983, 32). NI.

7. The third (Fig. 67F) has a very deep string-rim and so has been dated to the late 19th century (Dumbrell 1983, 32).

Bases

8. One of the bases was manufactured in France and was different from the others, with ‘Co. PARIS’ on the bottom and ‘E’ in the centre of the punt, which was very shallow at 10mm. This has been dated to the 19th century. (Dumbrell 1983, 31). (Fig. 67G)

Of the remaining ten bases, the diameter range was 69–87mm and the kick-up height range was 20–38mm. All had straight sides, indicating a late 18th-century date. None are illustrated.

Summary

Regarding the thirteen necks, a broad range of dateable types was represented, ranging from *c.*1670 to the late 19th century, although the majority (nine) dated from the late 17th to early 18th century. The eleven bases had a much smaller date range, ten being late 18th-century types. One,

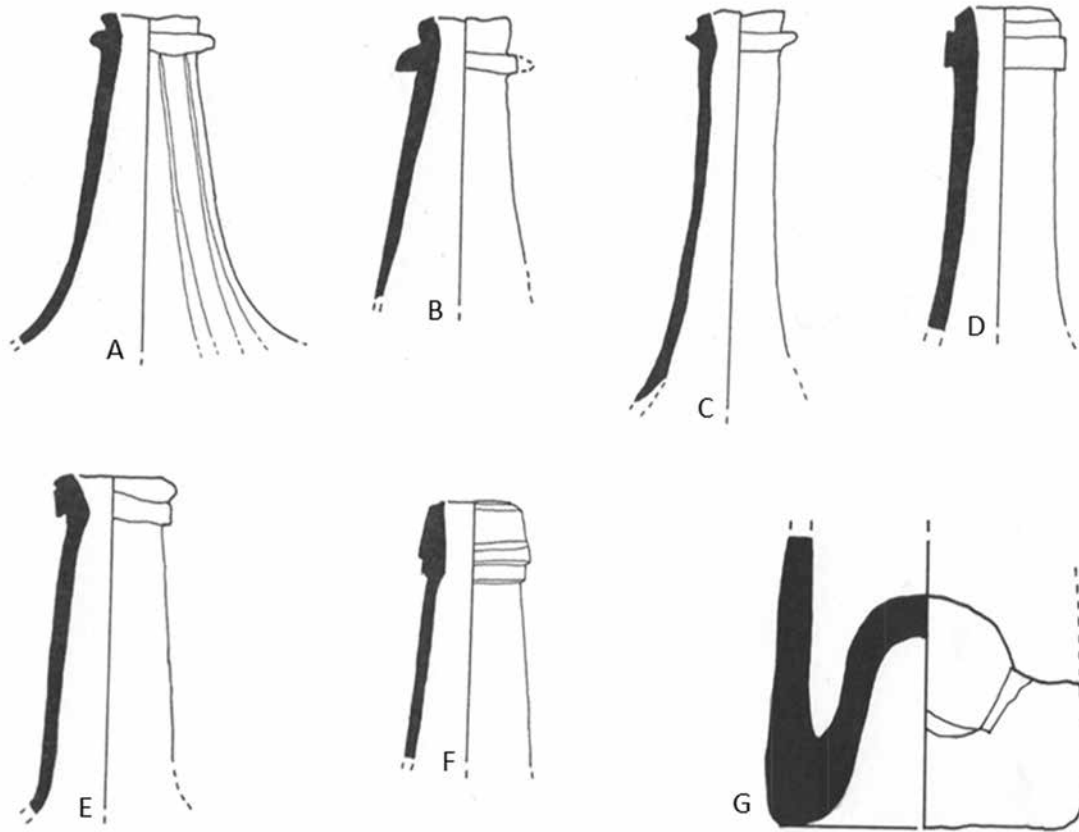


FIGURE 67 Post-medieval wine bottles, necks and bases, 17th-19th century

manufactured in Paris, dated to the 19th century.

The post-medieval kitchens and cellars were close to Area 1, so it is not surprising that so many wine bottle pieces were found. It is interesting to note the preponderance of late 18th-century bases, as this was of course the period when Charles Oldham bought the house and let it to successive tenants. Perhaps they were the remnants of house-warming parties!

Mineral Water & Medicine Bottles (Fig. 68)

by Sue Barton and Marion Wells

Seventy-four glass fragments from bottles other than wine bottles came from Area 1 Phase 7. 70.3% were mineral water bottle fragments and 23% came from medicine bottles. There were no complete bottles. The fragments comprised necks, bases and body sherds. Many of the fragments were light green and iridescent. None of the bottles bases had pontil marks, which usually indicates

that the bottle was made before 1860 (Historic Glasshouse – antique bottles and glass <http://www.antiquebottles-glass.com/learn/determining-the-age-of-antique-bottles/>), and therefore the bottles appear to date to the 19th or early 20th century.

The following reference works were consulted: Hedges (2011); Beck (1973); Historic Glass Bottle Identification and Information Website <http://www.sha.org/bottle/index.htm> (Society for Historical Archaeology); Breweries and Bottles – Newport Pagnell Historical Society (Mkheritage.co.uk); Bottlebooks.com (Digger Odell Publications); Antiquebottles.co.za; Antique-bottles.net.

Abbreviations: C = context: NI = not illustrated.

Mineral Water Bottles

1. A thick glass pointed base of a Hamilton bottle. Embossed 'Co', 'EET' and 'OR'. The Hamilton bottle was patented in 1814 but did not become

popular until the second half of the 19th century. It was egg-shaped so that it had to be stored on its side. C1. NI.

2. Three body sherds and a base which fit together to form the lower part of a bottle with 6 dimples, embossed with a lion and ‘MINERAL WATERS’, ‘WER’ and ‘... MARK’, the lion being the trademark of the Lion Brewery in Princes Risborough (risborough.org/history/princes-risborough-town/). C1. NI.

3. Part of a dimpled bottle with a punt and with ‘1877’ and ‘...TLEFORD’ embossed on the side of the bottle (see 6, below). C1. NI.

4. A 19th-century neck fragment with metal insert of diameter 2cm. The metal insert would have held a marble which constituted the stopper. The marble was kept pressed against the metal insert and a rubber washer by the gas pressure of the carbonated drink. C1. NI.

5. A body sherd embossed ‘TRADE’ and ‘BR’. C14. NI.

6. The bottom half of a six-dimpled bottle 5cm in diameter, embossed ‘SYKES, MACVAY & CO MAKERS CASTLEFORD’ around the base. Lettering on the side of the bottle is indistinct but ‘PATENT’ can be read. Sykes MacVay and Co. acquired the Albion Glass Works in Newcastle on Tyne and moved it to Castleford, Yorkshire where they were operating by the 1880s. They were taken over by John Lumb and Company and finally closed in 1983 (castleford.org/history/cas049.html). C14. NI.

7. Mineral water body and base. embossed with a lion, ‘RISBORO BREWERY’ and ‘MINERAL WATER’. 6cm diameter (see number 2 above). C30. NI.

8. Green base, of irregular thickness (up to 0.8cm) and diameter 8 cm with a small punt. The wording around the base reads ‘C. OPPEL & CO FRIEDRICHSHALL’. German 1880s. C. Oppel & Co. exported worldwide ‘bitter water’ for its healing powers. C32. (Fig. 68A).

9. Light green Hamilton bottle (torpedo shaped) body embossed on the glass with ‘HWEPPE & CO’, ‘WATERS’, ‘D STREET’ AND ‘ERS STREET’. J. Schweppe and Co became Schweppes Ltd in 1897. From 1832 until 1895 their address was 51 Berners Street, off Oxford Street. C32.

10. A group of 5 clear glass narrow necks, dated to the late 19th century, a bottle commonly called “a bullet-stopper”. C32. (Fig. 68B, C & D).

Medicine Bottles

11. Octagonal clear glass base. Embossed: ‘ENO’S ... VESGING ... SALT’. Eno’s salts have been available since the early 1890s. C32. NI.

12. The body of a blue polygonal medicine bottle with no markings. Length 7.5cm, width 5cm. C32. NI.

Other Bottles

13. Early screw top. Thin transparent glass. The screw top began to be common in the 1920s. C32. NI.

14. Two unusual small mid-green bases approximately 3.5cm and 5cm in diameter with punts and sloping sides. C32. (Fig. 68E & F).

Glass Panels (Fig. 69)

by Jill Hender and Marion Wells, based on an earlier report by W. Cole

In the entrance hall of Missenden Abbey is a window containing nine panels of German and Netherlandish glass which were recorded and described by W. Cole with a view to publishing in the *Corpus Vitrerum* as part of a catalogue of Netherlandish glass in the UK. These panels were originally displayed in the library and dining room and are the only ones saved from the 1985 fire (Cole, pers. comm. 1987).

A. St Cornelius (17th century). He stands in a landscape with the pope’s tiara and cross. He holds his symbol, a horn.

B. Christ Blessing (17th/18th century). A bust of Christ, with ‘Salvator Mundi’ on a scroll at the base. May not be Netherlandish.

C. St Anne holding the Virgin and Child (1613) and standing in a landscape with the inscription ‘Anna Vrancx beghyken 1613’ at the base.

D. The Last Supper (1525). An early roundel design with some of the figures reminiscent of Leuven.

E. St Louis with Donor (1525–1540). The saint has a fleur-de-lys on his robe. A cleric kneels and his coat-of-arms hangs from a tree. It is possibly of the school of Leuven.

F. Burial of a Monk (1525–1540). A monk is being put into a grave and by the graveside is a staff and bell. It may be the burial of a leper. Two lions by the grave have human faces.

G. St Matthew. Standing looking at a book, and holding a builder’s rule; the latter is generally associated with St. Thomas. In the distance are a

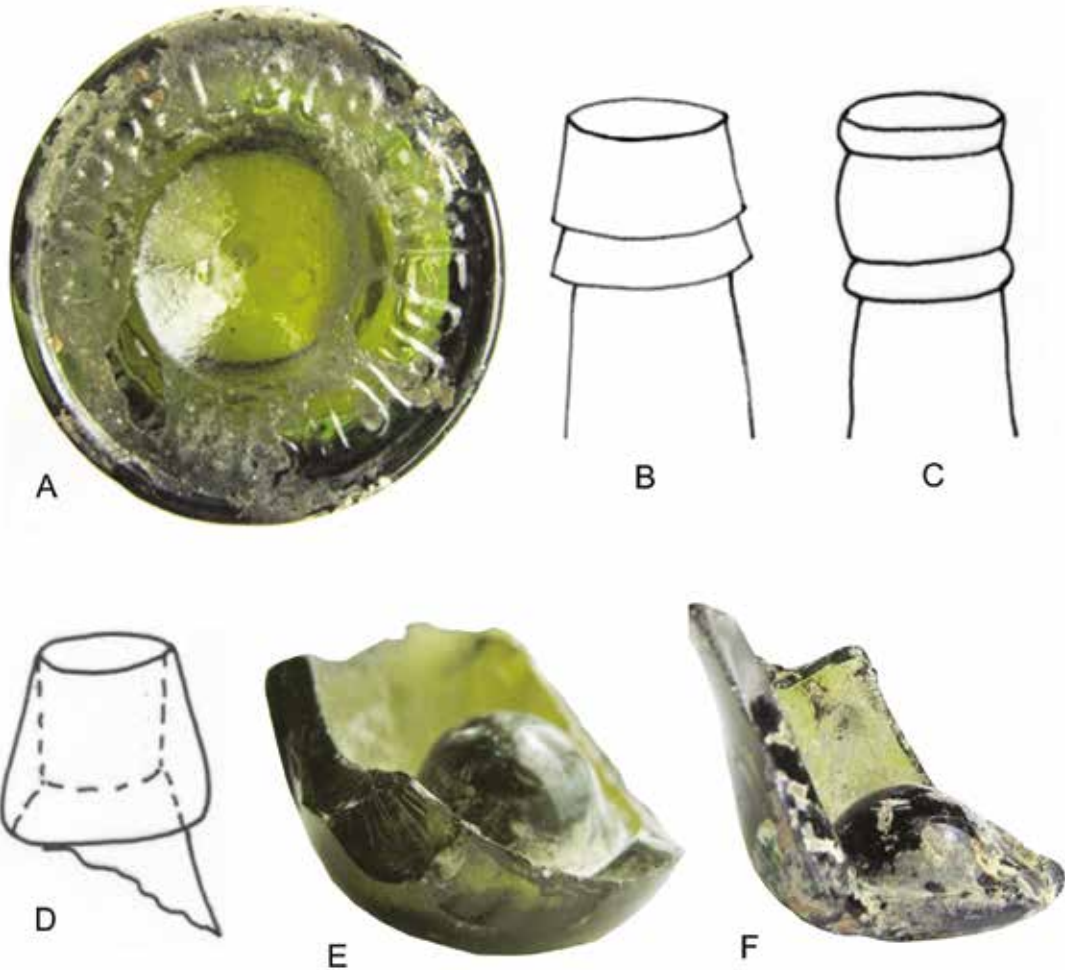


FIGURE 68 Mineral water and medicine bottles, 19th and 20th century

castle and a church tower. Inscription 'S. Matheus 1621'

H. A Battle Scene (1525). In the foreground is a warrior who has fallen from a horse. God the Father blesses a woman and other warriors.

I. St Adrian (17th century). He holds the anvil and sword with a lion at his feet.

Floor Tiles (Figs 70–74)

Jill Hender and Marion Wells, based on earlier reports by G. Stevenson and Mark Collard. Drawings by members of CVAHS.

This report deals with the floor tiles found in the excavations in 1983, the subsequent watching briefs 1984–1986, and the excavation in 1988. Also

included is information describing a large bequest of Penn tiles given to the County Museum in 1947 by the Carrington family, then the owners of Missenden Abbey. In addition, there are descriptions of 72 decorated Penn tiles laid on either side of the church altar in St Peter and St Paul in Great Missenden. These are thought to have been given to the church by the Carrington family when the church was restored in the 19th century. Decorated Penn tiles recovered during an excavation in 2006 in the church and two Penn tiles found during renovation of Abbey Farmhouse are also included (Table 7).

Stevenson (1985) made a careful study of the Missenden Abbey floor tiles from the 1983 exca-

TABLE 7 Floor tiles from Missenden Abbey and other sites in the immediate vicinity. Tiles are shown as total numbers with those in brackets indicating intact tiles. St Albans floor tiles and others are also listed

<i>Area</i>	<i>Penn: decorated and recognised</i>	<i>Penn: decorated but unrecognised</i>	<i>Penn undecorated</i>	<i>St Albans</i>	<i>Other</i>	<i>Total</i>	<i>In Situ</i>
1	75 (5)	42 (1)	153 (3)	15	51	336 (9)	
2a	1				12	13	
3	11	23	42	2	44	122	
2b					2	2	
6	4 (1)		6 (1)		3 (3)	13 (5)	11 large undecorated tiles
12	12 (9)	2	7 (3)			21 (12)	5 Penn tiles
22					6 (2)	6 (2)	Floor of Tudor tiles
28	14 (14)	4 (4)	5 (5)			23 (23)	
32	5 (3)	1	10 (9)			16 (12)	
36	1		2 (1)		2 (1)	5 (2)	Pavement of re-used Penn decorated tiles
43	1 (1)				4 (3)	5 (4)	
Given to museum in 1947	7 (3)	8 (7)	53 (18)	1 (1)	3 (3)	72 (32)	
Abbey Farmhouse	2 (2)					2 (2)	
Total	133 (38)	80 (12)	278 (40)	18 (1)	127 (12)	636 (103)	
Chancel of Great Missenden Church	72 (72)					72 (72)	
Excavation in Great Missenden Church	12					12	

vations: the present report builds on and extends his work. For the present study, 636 intact tiles and fragments were examined. Where possible, tiles decorated with a recognizable pattern have been

identified with numbers from Hohler (1942) and Eames (1980). A photographic record has been deposited in the site archive.



FIGURE 69 German and Netherlandish decorated glass panels, each showing a religious scene/context, and dating to the 16th to 18th century

Tile Types

Penn-Type Tiles

Most of the tiles from the abbey are Penn-type tiles of the 14th century, made either in Penn, about 10km from Great Missenden, or elsewhere in Buckinghamshire or Hertfordshire using

designs common in Penn tiles. An established industry was active in Penn by 1332 but had ceased production before the beginning of the 15th century (Stevenson 1985, 71). Penn tiles are usually square in a hard, red sandy fabric with the edges bevelled to slope inwards from the top of the tile. The size is variable and ranges from

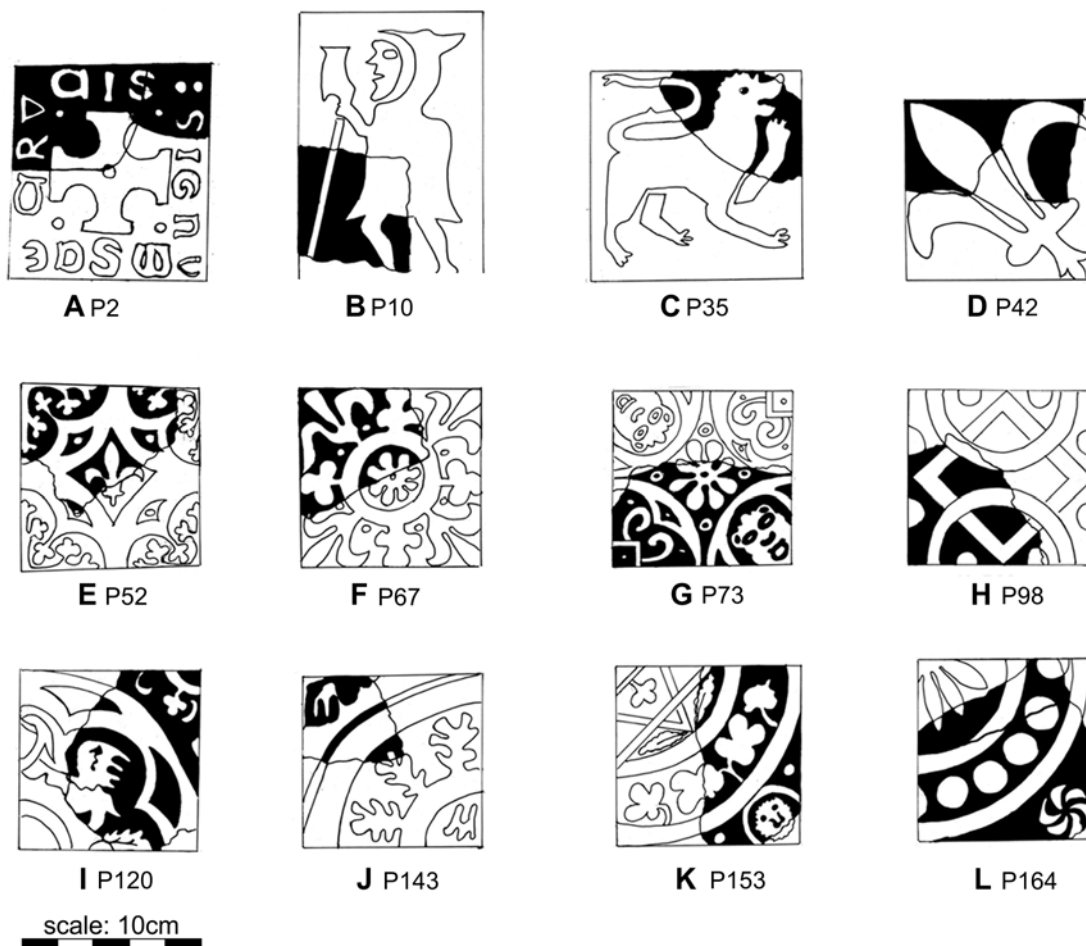


FIGURE 70 Fragments of Penn tiles (black) from Areas 1, 2a, 3 and 12, matched with complete Hohler designs (*scale 1:4*)

103 x 103 x 17mm to 120 x 120 x 20mm, with a weight range from 390g to 670g. Some tiles have an inlaid decoration. It is thought that the earliest tiles had a deep inlay which was filled with a white slip. However, by the middle of the 14th century the tilers had developed a cheaper product for the mass market where the impression was more lightly stamped (Eames 1980). The tiles were glazed after firing with a lead glaze which appeared brown and the inlay yellow against the red tile. Undecorated tiles were also produced. These were either glazed directly after firing or the tile surface was coated with slip and then the glaze applied. Sometimes copper or iron was added to the glaze and, in this way, a large range

of colours from yellow through green to black could be produced.

Penn-type tiles have been found in Buckinghamshire at Amersham, Flaunden, Pitstone, Little Marlow Priory, Great and Little Kimble and Monks Risborough. They were also distributed to surrounding counties and as far away as Kent, Surrey and Sussex (Hohler 1942, 104122). The commercial tiling in Penn was producing tiles in large quantities, as can be seen from a wealth of documentary evidence (Green 2003; Cauvain & Cauvain 1991; 2002) and it is not surprising that most of the Missenden tiles came from this local source. Examples of Penn tiles are shown in Figures 70–72, identified by their Hohler number.

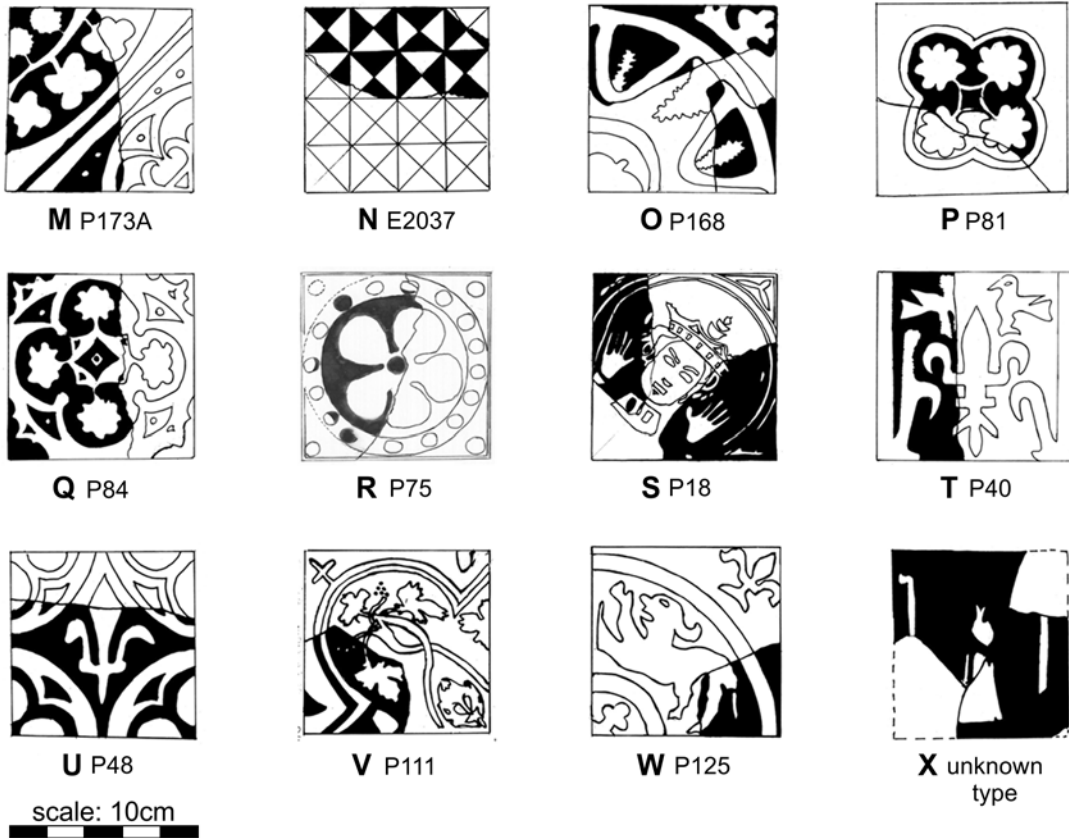


FIGURE 71 Fragments of Penn tiles (black) from Areas 1, 12 and 32, matched with complete Hohler designs. Other pieces were recovered during the St Peter and St Paul church excavation and tile X is of unknown design (scale 1:4)

St Albans-Type Relief Tiles

These are rectangular or square decorated relief tiles in a hard, rough sandy fabric with bevelled edges. The tiles were stamped and then glazed with a clear yellow glaze. Their rather impractical surface suggests that they were used only in particular areas, such as on walls. These tiles were found in the Chapter House at St Albans Abbey and are dated to the second half of the 12th century (Stevenson 1985, 71). Although there are fourteen known designs from St Albans Abbey only three have been identified at Missenden Abbey.

Miscellaneous Tiles

This group comprises all the floor tiles which are neither Penn nor St Albans type, and includes

plain unglazed tiles in red or white fabric with no bevelling on the edges.

1983 Excavation

Tiles were found in Areas 1, 2a, 2b and 3: none were found *in situ*.

Area 1

Nine intact and 327 fragments of floor tiles were recovered, including 51 miscellaneous fragments. Although none of these tiles were found *in situ*, the excavator (Yeoman 1984, 10–11) commented that seven floor surfaces, with incidental repairs and dating to the late 12th/early 13th century, were found alongside the wall of the church. He further proposed that these areas would have been covered with pavements of plain and decorated floor tiles.

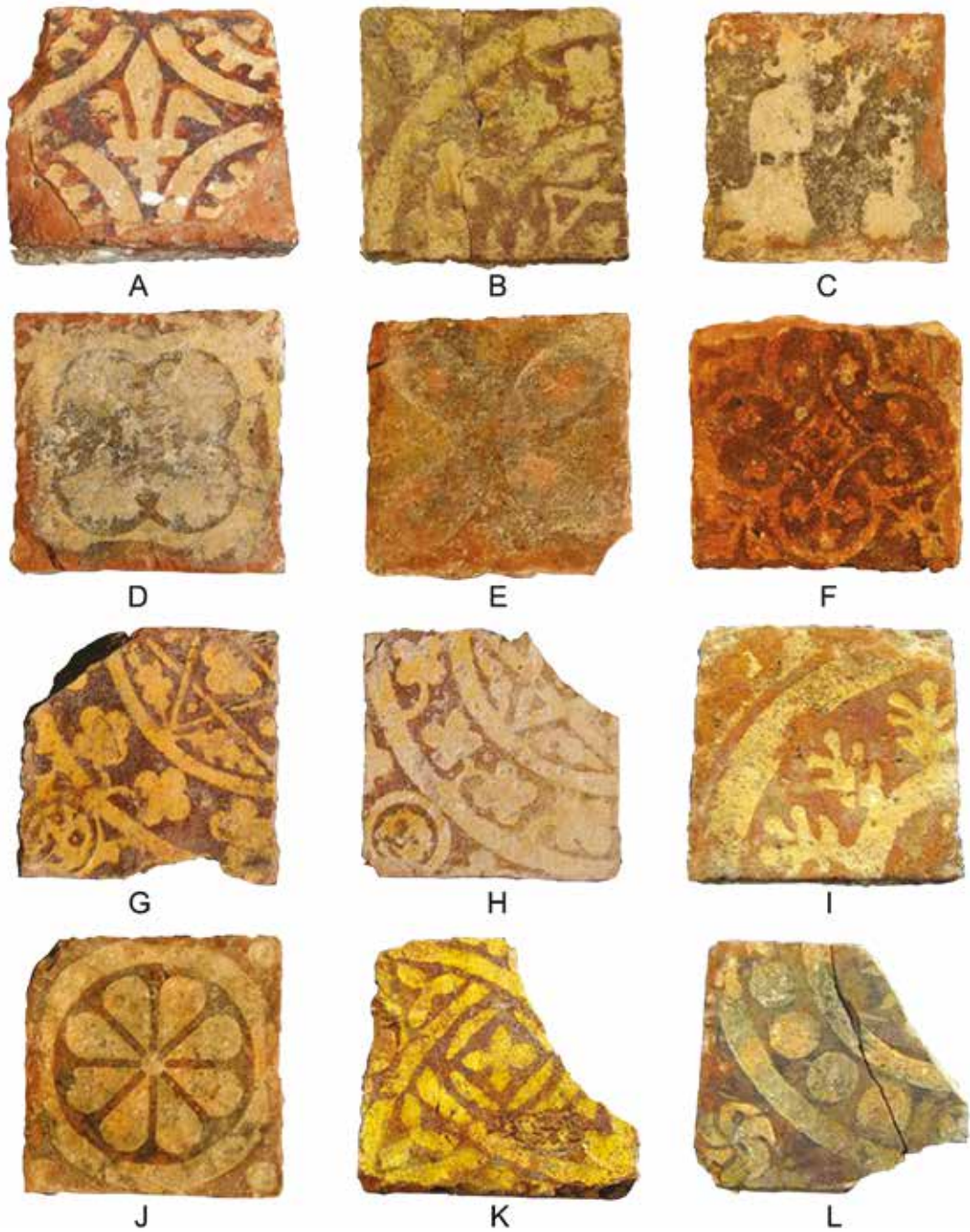


FIGURE 72 Examples of Penn tiles recovered from Areas 1, 12, 28, 32 and 43

Penn type tiles: In Area 1, nine intact and 261 fragments were recovered. A small number were scored diagonally, perhaps to use as edge tiles. These tiles and tile fragments were sorted into three categories:

1. Table 8 lists those tiles with a recognizable design in order of their Hohler/Eames number. Several of these tiles are illustrated (Fig. 70, A-C, E-I; Fig. 71, M-N; Fig. 72, A-B).

2. There were a number of tiles in which the pattern

was unrecognizable. In some of these the slipped pattern was overlain by a glaze turning them into plain tiles.

3. Undecorated fragments include 46 which were unglazed, twelve with a yellow glaze, 23 with a green glaze and the remainder with very dark coloured glazes varying through black, brown and very dark green. A number of the unglazed fragments had traces of glaze on the surface and, although some tiles were of very good quality,

TABLE 8 Area 1, Penn tiles in context, with Eames/Hohler numbers for recognised designs

<i>Context</i>	<i>Number</i>	<i>Weight (g)</i>	<i>Eames No.</i>	<i>Hohler No.</i>
37, 93	3	170	1407	P2
103	2	80	–	P9
74	2	125	1327	P10
62	1	215	1774	P35
182	1	115	2125	P42
63, 73, 74, 81, 94	8 (2 intact)	1595	2232	P44
74	2	400	2230	P52
58, 74	2	305	2329	P59
74, 172	2	295	2340	P67
74	1	270	1827	P73
49, 63, 65, 74	4 (1 intact)	1080	2283	P80
74	1	140	2426	P86
108	14	310	2535	P88
93	1	95	2474	P91
237	1	230	2064	P98
1, 74, 165	7	875	–	P120
187	1	305	2819	P139
74	1	260	2821	P143
63	1 (intact)	520	–	P147
63	1 (intact)	540	1847	P152
65, 67	10	259	1846	P153
78	1	380	1846	P155
172	1	455	2114	P164
63, 93	2	345	2870	P173A
81, 93	4	610	1846, 1848	LB15
74	1	175	2037	–
Total	75	10,149		

others appeared to be very poor with some wasters amongst them.

St Albans Tiles: Of the fifteen tile fragments recovered from Area 1, nine were of Eames design B, three of Eames design G and three were too small to identify. Details appear in Table 9.

Area 2a

From this area, a fragment of a decorated Penn tile was recovered from context [1001], Hohler number P143 (Fig. 70J: Table 10), together with twelve unglazed fragments of miscellaneous tiles.

Area 2b

Two fragments of a dark brown overfired tile with shelly inclusions were recovered from context [1201].

Area 3

Four tile fragments from context [413] are thought to have come from an unknown kiln in Hertfordshire using Penn designs and operating at the beginning of the 14th century (Stevenson 1985, 73). These tiles have a deep inlay filled with white slip similar to the earliest Penn tiles which are also dated to the beginning of the 14th century (Eames 1980). These Hertfordshire type tiles, which were glazed and well fired and often had a darker surface than the tiles from Penn, have been found at the Palace at King's Langley, and since this is only ten miles away from the site it is possible that tiles of this type could have been used at Missenden Abbey.

Table 10 lists the eleven decorated Penn type tile fragments in order of Hohler number (one is shown in Fig. 70D). 23 decorated but unidentifiable tile fragments were also recovered together with 42 undecorated Penn tile fragments. There were also 44 fragments of miscellaneous tiles. Of these fragments, some were unglazed and the remainder

were glazed with yellow, green or brown glazes. In addition, there were two small fragments of St Albans tiles.

Watching Briefs, 1984–86

Tiles were found in Areas 6, 12, 22, 28, 32 & 36.

Area 6

Five intact tiles and eight tile fragments, all un-stratified, are preserved in the archive. Four of these are decorated and recognizable as Penn tiles (Table 10), and six are plain unglazed Penn tiles with one intact. There are also three miscellaneous large intact tiles probably from the east walk of the cloister, probably dated to the 15th century (Stevenson 1985, 71). These are square, with sides 135mm long and depth 25mm, with traces of a brown/green glaze. In addition, a patch of eleven tiles, ten of which were paired [320], was left *in situ* (Fig. 20). The tiled area was situated in the cloister.

Area 12

All the tiles recovered were Penn type tiles from context [347] which was a tile pavement. Fourteen were decorated, and those that were recognizable are listed in Table 10. Two are shown in Fig. 72C-D, and two others in Fig. 70K and Fig. 71P. Amongst the seven undecorated Penn tiles, three were unglazed and intact. In addition, five almost complete worn tiles were left *in situ* (Yeoman 1984–5).

Area 22

Two intact and four fragments of miscellaneous tiles were recovered from Area 22, located in the south-west corner of the present house. These included both unglazed and yellow/green glazed tiles. A complete late Tudor tile pavement was found in contexts [395] and [397] (Fig. 73A). Context [395], apparently the earlier, was

TABLE 9 Area 1, the St Albans tiles

<i>Eames Number</i>	<i>Contexts</i>	<i>Number</i>	<i>Weight (g)</i>
377 (B)	1, 74, 80, 93, 153, 172	9	1085
267 (G)	74, 150, 165	3	445
Not Identified	81, 150	3	95
Total		15	1625

TABLE 10 Areas 2a, 3, 6, 12, 28, 32 and 43 showing Penn tile numbers, weights and their Eames/Hohler numbers

<i>Area</i>	<i>Context</i>	<i>Number</i>	<i>Weight g</i>	<i>Eames No.</i>	<i>Hohler No.</i>
2a	1001	1	130	2821	P143
3	403	1	150	1407	P2
3	413	3	310	2125	P42
3	403	1	60	2283	P80
3	401	1	150	2819	P139
3	403	1	115	–	P161
3	401	2	45	2115	P163
3	413	1	235	2114	P164
3	413	1	165	–	P168
Total		11	1230		
6	Unstrat.	1		2474	P91
6	Unstrat.	1		–	P120
6	Unstrat.	1 (intact)	490	2821	P143
6	Unstrat.	1	645	2818	P160
Total		4	1135		
12	347	1	610	1342	P15
12	347	4 (3 intact)	1975	–	P81
12	347	1	135	2820	P142
12	347	1 (intact)	465	1845	P151/P153
12	347	5 (4 intact)	1935	1845/6	LB15
Total		12	5120		
28	554	1 (intact)	505	2230	P52
28	554	1 (intact)	615	2322	P60
28	554	1 (intact)	465	2340	P67
28	554	1 (intact)	640	2283	P80
28	554	2 (intact)	1280	2426	P86
28	554	1 (intact)	415	2819	P139
28	554	2 (intact)	1035	–	P147
28	554	1 (intact)	485	1846	P153
28	554	1 (intact)	610	2114	P164
28	554	3 (intact)	1661	1848/1846	LB15
Total		14	7711		
32	808	1 (intact)	615	2232	P44
32	808	1	440	2550	P84
32	808	1 (intact)	760	2830	P140
32	808	2 (1 intact)	840	2821	P143
Total		5	2655		
43	Unstrat	1	650	2322	P60



FIGURE 73 Examples of Tudor, Penn, and St Albans tiles

made up of alternate mottled green and yellow glazed tiles (200 x 200 x 25mm) laid diagonally. Sealed in the mortar bedding [396] was a Hans Krauwinkel jetton of 1580–1610 (coin report, no. 6). To the west of (395) was (397). Here the tiles were slightly larger at 220 x 220 x 42.5mm, laid square to the walls, and decorated with green streaks in a yellow glaze, much of which had been removed.

Area 28

All the tiles were intact Penn type and within ash layer [554]. Table 10 lists the recognizable tiles and four are shown in Fig. 72.E-H. Four other tiles were recovered with unrecognizable patterns. Five glazed plain tiles were also recovered ranging in colour from yellow through green to black. One tile was scored across the diagonal and another had an incised cross which was perhaps a maker's mark.

Area 32

All the tiles recovered were of Penn type, from context [808]. Three intact and two fragments of decorated and recognizable types (Table 10) were identified. One is shown in Fig. 72.I and another in Fig. 75.Q. Also, ten plain tiles and one, very worn, patterned but unrecognizable tile fragment were recovered.

Area 36

Three unstratified Penn tiles were recovered; one was a decorated fragment, another was unglazed and intact and the other was a yellow glazed fragment. Also collected were one brown glazed tile broken into two fragments and one unglazed fragment from context [938]. Part of a pavement of floor tiles was encountered at the bottom of the trench; the tiles only survived to the west of a 19th-century drain. The pavement included decorated Penn type tiles dating to the mid-14th century. The tiles were judged not to be in their original position as they were arranged singly rather than being made up into a pattern of four tiles.

The location suggests this was the same pavement uncovered by Mr McVicar, a gardener who, in a letter to his employer Mrs G. Carrington dated 8 February 1876, reported finding a tile pavement outside the library: *'In digging for the main drain by the Library we found an old paved passage*

*laid with 4³/₄" paving tiles showing a smooth even surface just as if it had been laid down recently. I have secured 88 whole tiles and a number of pieces... Of course there are a number of them only plain tiles and some of them defaced by wear and time. I have no doubt we could find more, but thought it best to leave them where they are until I received your instructions. The passage runs past the Library door straight across the walk in front of the house and may extend both ways as we did not find the end on either side of the new drain, but as the tiles are between three and four feet below the walks they are safe'. McVicar drew a map to show the position of the trench and sketched eight of the Penn designs (an example is shown in Fig. 73.B). Some of the tiles removed by Mr McVicar may be the same ones that were viewed by BAS ('The Proceedings of the Bucks Architectural and Archaeological Society', *Recs Bucks* 6, 268) during a visit to Mrs Carrington in 1888. The exposed section of this pavement was photographed (Fig. 73.C, D & E) and left *in situ*, making it possible to identify a number of Penn type designs (Table 11). Similar tiles were found in other areas of Missenden Abbey and in St Peter and St Paul Church.*

1988 Excavation (Area 43, Fig. 3)

One intact tile was recovered, which was unstratified and was a decorated Penn tile, Hohler P60 (Eames number 2322) (Fig. 72.J; Table 10). Of the four miscellaneous tiles recovered, two were over-fired, one was unglazed and one had a brown glaze.

The Carrington Collection

These tiles were given to Aylesbury Museum by the Carrington family, owners of Missenden Abbey when the property was sold to Bucks County Council in 1947. The abbey had been in the Carrington family for approximately 130 years and the tiles donated probably came from the abbey. The tiles can be divided into five categories:

1. One intact St Albans type F tile of size 245 x 125mm (Fig. 73.F)
2. Three intact and four fragments of Penn decorated and recognizable tiles are shown in Table 12, in which tiles are listed in Hohler number order (two are shown in Fig. 72.K & L, and two in Fig. 70.L and 71.O).

TABLE 11 Area 36; decorated Penn tiles shown in photographs of the pavement

<i>Eames No.</i>	<i>Hohler No.</i>	<i>Location of Similar Tiles Found Elsewhere</i>
1953	P22	GM Church Chancel, McVicar
2125	P42	Areas 1 and 3
2340	P67	Areas 1 and 28, GM Church Chancel
2550	P84	Area 32, GM Church Chancel, McVicar
Nearest 2426	Nearest P86	Area 1, GM Church Chancel, GM Church Excavation
2474	P91	Areas 1 and 6
–	P95	
2114	P164	Areas 1, 3 and 28, Donated in 1947
1846	LB15	Areas 1, 12 and 28, GM Church Chancel, McVicar

TABLE 12 Penn tiles donated in 1947, of a recognised design with Eames/Hohler numbers

<i>Number</i>	<i>Weight (g)</i>	<i>Eames No.</i>	<i>Hohler No.</i>
1 (intact)	625	1407	P2
1 (intact)	615	1774	P35
1 (intact)	695	2232	P44
1	335	2377	P101
1	510	2114	P164
1	270	–	P168
1	375	–	P173A
Total = 7	3425		

3. Seven intact and one fragment of unrecognizable decorated Penn tiles.

4. Eighteen intact and 35 fragments of plain Penn tiles, some with a dark green or yellow glaze and some with a slipped pattern covered with glaze.

5. Three intact miscellaneous plain tiles, two of which are unglazed.

A number of Penn tiles, most intact, are on loan to Missenden Abbey from Aylesbury Museum and are displayed in the entrance hall.

Abbey Farmhouse

A number of tiles were found within the house, of which two could be identified as Penn tiles. Using the Hohler Catalogue definitions, one tile is a P22 and the other tile, which is quite worn, could be either P160 or P140.

St Peter and St Paul Church, Great Missenden

Penn tiles are set in two panels either side of the altar. Four tiles are grouped to make a square: in all there are nine grouped sets either side of the altar (Figs 74a and b). Other areas of the chancel floor were laid with Victorian copies of Penn tiles. These tiles might well have been given to the church by the owners of Missenden Abbey in the 19th century, probably at the time the church was restored, since all the designs sketched by Mr McVicar appear in the church.

In 2006 the south transept of the church was redeveloped, involving the creation of a new floor and a trench deep enough to take the concrete foundation for a new sculptured glass screen. CVAHS carried out a watching brief and a small-scale excavation (Davis, Wells & Edwards 2006, 14–18).



FIGURE 74 a & b Penn tiles from Great Missenden Parish Church shown in separate blocks as they are laid, left and right of the altar

A mortar floor with tile ‘ghosts’ was uncovered which was cut along the west side by a longitudinal south-north ‘ditch’. The fill comprised a layer of loose rubble that included fragments of Penn tiles. The importance of these tile fragments is that they relate exactly to the ‘ghost’ tiled floor and had been laid in the south transept. These tiles may have come originally from the abbey, but they could equally possibly have been laid in the church in

the 14th century. Study of the fragments identified eleven tile designs (Fig. 71.R to X), but six did not appear in the Missenden Abbey assemblage. Table 13 shows other locations where similar tiles were found.

Summary

Most of the Penn tiles were found in the vicinity of the original abbey church in Areas 1, 3, 6, 12,



28 and 32. Tiled pavements were also found *in situ* in Areas 6, 12 and 36. Only three Penn tiles were recovered from Area 36 where the pavement was almost certainly re-laid. Single tiles were recovered from Areas 2a and 43, and none from Area 2b. Missenden Abbey appears to have been richly tiled in both ecclesiastical and domestic areas. Being situated in a rich area for tiles, particularly the nearby Penn commercial tiliary,

there would not have been much difficulty in obtaining floor tiles. The abbey is also important in being the first location outside Hertfordshire where the St Albans-type relief tiles have been recognized. It is also interesting to note that Missenden Abbey is the only Augustinian house where this type of relief tile has been found, the others being Benedictine houses.

TABLE 13 Tiles found during excavation in Great Missenden Church

<i>Eames No.</i>	<i>Hohler No.</i>	<i>Location of Similar Tiles Found Elsewhere</i>
1357	P18	
–	P40	
2232	P44	Areas 1 and 32, GM Church Chancel, McVicar
Nearest 2232	Nearest P44	Areas 1 and 32, GM Church Chancel, McVicar
2242	P47	
2224	P48	GM Church Chancel
2324	P75	
–	P81	Area 12, GM Church Chancel
2426	P86	Areas 1 and 36, GM Church Chancel
1838	P111	
1925	P125	

TABLE 14 Amounts of roof tile fragments from Areas 1, 2a, 2b and 3

<i>Area</i>	<i>Tiles n</i>	<i>Weight (kg)</i>	<i>% Weight of Total</i>
1	625	57.18	62.8
2a	146	12.60	13.8
2b	26	3.96	4.4
3	267	17.34	19.0
Total	1064	91.08	–

Roof Tiles (Fig. 75)

by Irena Lentowicz

This is a much-condensed version of a report written by Irena Lentowicz for her Diploma in Post-Excavation Studies at the University of Leicester. The full text and catalogue is lodged in the site archive. The material considered in this report came from the 1983 excavation and included Areas 1, 2a, 2b and 3. A total of 1064 fragments weighing 91.08kg was recovered (Table 14), with most of the assemblage coming from Area 1. The tiles were fragmentary and could not be reconstructed or measured.

Fabrics & their Source

The tile was sorted into three distinct fabric types identified on the basis of inclusions and texture. Details of the three fabrics are shown in Table 15. Samples from these fabric types were then

thin-sectioned by Anne Woods (University of Leicester). It was not possible to provenance the tile fabrics, although Peter Yeoman (pers. comm.) expressed an opinion that Fabric 2 was similar to Brill products in consistency and colour (Ivens 1982, 144145), though no direct links could be proved. Brill was in full production by the mid-13th century and continued, on a considerable scale, into the 14th century (Jope 1960, 40). Locally, Penn was a well-established centre for tile making by the 14th century (Hohler, 1940/41, 6) and indeed many floor tiles from Penn were recovered from the excavation. There is no evidence for tiles being produced on the abbey site but there is a contemporary production site at Potter Row, Great Missenden, which was owned by the abbey, where kilns produced pottery and perhaps tile.

The tile was weighed and divided into three categories: Peghole/flat tile (c.92% total weight);

TABLE 15 Description of roof tile fabrics from Missenden Abbey

<i>Fabric</i>	<i>% present</i>	<i>Colour</i>	<i>Inclusions</i>	<i>Frequency of inclusions</i>	<i>Size Range</i>	<i>Rounding</i>
1	55%	Brick-red	Quartz	20%	0.1-1mm	Sub-rounded
1			Small quartzes	common	<0.01mm	
2	20%	Light orange/buff	Quartz	30%	0.01-0.7mm	Angular to rounded
2			Clay pellets-colour varying from white to red			
3	25%	Brick red	Quartz	7%	0.05mm	Sub-angular

Ridge tile (c.5% total weight); Roof furniture (c.3% total weight). Fragments not identifiable as ridge tile or roof furniture were classified as peg tile.

Forms

by Peg Tiles

All the tiles were perforated with two holes close to their upper edges. Some tiles bore traces of lime mortar, which may suggest that the roof had been pointed to provide extra weather protection, or repaired (Pavry & Knocker 1960, 136). Three tiles had flanges, one of which may be a Roman tegula. Flanged tiles similar to Roman tegulae have been found in medieval contexts in London and at Reading Abbey (Armitage, Pearce & Vince 1981, 351; Slade 1973, 111).

Ridge Tile

A=Area, C=Context, P=Phase

Ridge tiles were identified based on a distinct curve or thickening at the edge of the tile. Only 27 identifiable fragments were recovered and their size made their complete form difficult to ascertain. The only decorative feature was glazing (below). One ridge tile fragment is illustrated:

1. A very fragmentary portion of a ridge tile, with a red/brown glaze. (A3, C413, Fabric 3). Fig. 75.A.

Roof Furniture

Thirty-five fragments of roof furniture were recovered, of which three were of Fabric 1 and the remainder of Fabric 3. Four pieces are illustrated and are described below.

2. A green glazed 'cross' finial, pierced by central hole. The arm length was 105mm with the top and the left arm damaged. The left arm was probably attached to a following cross, while the right arm was finished off and smoothed (*cf.* Nash Hill, Lacock: McCarthy 1974, 129). (A1, C151, P4, Fabric 3). (Fig. 75.B)

3. A fragment of a green/brown glazed solid roof fitting. (A3, C422, P2, Fabric 3). (Fig. 75.C)

4. A circular or semicircular red/brown glazed fragment of roof furniture with a central perforation. (A3, C439, P2, Fabric 3). (Fig. 75.D)

5. A red/brown glazed fragment of roof furniture with one definite edge and an indentation on the opposite side. (A1, C150, P3, Fabric 3). (Fig. 75.E)

Impressions and Marks

6. A fragment of a peg tile with an encircled cross which may be a maker's or tilery mark, although these are not common. Some years ago a cartwheel stamp on a roof tile from Mancetter was recorded (Scott 1983, 159). (A2b, C1201, Fabric 1). (Fig. 75.F).

7. A ridge tile fragment with a sheep's hoof print. (A1, C202, P3, Fabric 1). (Fig. 75.G).

8. A peg tile with a dog's paw print. (A2a, C1043, P6, Fabric 3). (Fig. 75.H).

9. A peg tile with an impression of oat grains, *Arrhenatherum elativus* (identified by J. Royston, BCM). (A1, C191, P3, Fabric 2). (Fig. 75.I).

10. A tile with a plant impression (A1, C221, P2, Fabric 2). Not illustrated.

A number of tiles also had fingerprint impressions which are common on roof tiles.

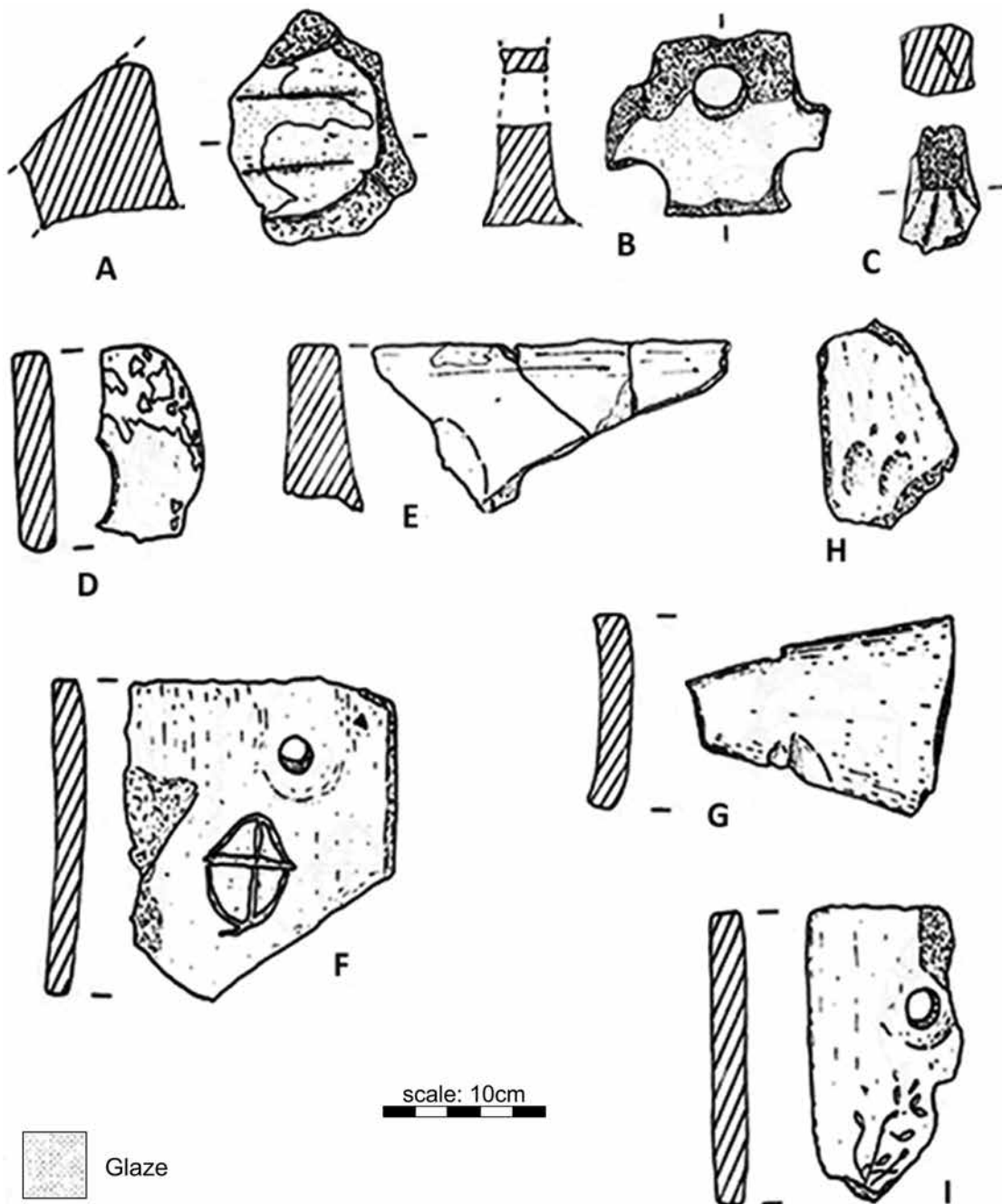


FIGURE 75 Roof tiles and roof furniture (scale 1:2)

Glazes

Of the total number of fragments from all three tile forms, 20% were glazed. This comprised 18% of peg tiles, 33% of ridge tiles and 63% of roof furniture. In 50% of cases the glaze was red/brown with 22% green, 9% yellow and 15% plum. It was frequent practice to glaze roof tile, although ridge tile and roof furniture were usually given preference over peg tile and this appears to be reflected in the above results. There was no obvious correlation between glazing and the tile fabric, although a higher proportion of Fabric 3 tiles were glazed.

Summary

In terms of the tile providing dating evidence, nothing conclusive can be proved but early roof tiles were generally large and hung by means of projecting nibs (Drury 1981, 131) and no evidence for nibbed tiles was found in the excavation. Smaller peg tiles, such as those in this assemblage, came into general use later. It is therefore of interest that quantities of peg tiles seen in Phase 2 of the excavation appear to be very similar to those assigned a 12th to early 13th-century date associated with Areas 1 and 3. These particular tiles were found among the stonedressing debris associated with the early construction phases of the church, considered to be late 12th-century date. It is known that tiles were being produced at Brill by the mid-13th century (Ivens 1982, 169) and ceramic roof tiles are known in building records from the early 13th century (Salzman 1952, 223). Archaeologically, tiles have been found in London in late 12th-century contexts, while similar tiles found elsewhere have been ascribed to the mid-13th century (Drury 1981, 131).

A study to compare the source of roof tiles and floor tiles found at Missenden Abbey was carried out. This microscopic examination proved that the roof tiles were more crudely made than the floor tiles and were probably made nearby, perhaps in the immediate vicinity of the abbey.

Clay Tobacco Pipes (Fig. 76)

by Jill Hender and Marion Wells: based on an earlier report by A.J. Hawkins.

During the 1983 excavation a total of 124 fragments of clay pipes was found, comprising 40 bowls, 76 stems, two possible mouthpieces and six near-mouthpieces. These were retrieved from Areas 1, 2a, 2b and 3.

Bowls

There are several techniques for dating clay tobacco pipes, but Oswald's (1975) typology based on bowl shapes is used here. Of the 40 bowl fragments recovered, 30 (75%) have Oswald numbers and 23 (57.5%) have stamps, either on the base of the foot (20) or on the spur (3). The bowls were divided into nine different forms (G4, 5, 6, 8, 9, 12, 20, 24 and 26) (Oswald 1975), covering a date range from 1600 to 1840. Two of the bowls were decorated, one with an oak leaf pattern on the mould seams similar to Fig. 76.10, and the other had 'fluting' on the bowl similar to Fig. 76.11. By the mid-18th century some London pipe makers commonly used leaf or barley patterns to cover seams on the bowl (CAFG 2012).

Stems

Of the 76 stems recovered, three (4%) had stamps.

Stamps

Stamps were present on three stems, three bowl spurs, and 20 bowl feet. Ten different stamps were identified: nine are illustrated.

12. 'HF' within a heart. In this assemblage there are 13 examples of this mark. The maker is a known Buckinghamshire pipe-maker, Henry Flooke, who was manufacturing in Aylesbury and High Wycombe in the 1680s and 1690s. The mark was recorded at High Wycombe in 1692, and was also found at the Castle Street kiln and the Whitehall Street site in Aylesbury (Moore 1979) suggesting that Flooke moved from Aylesbury to High Wycombe just before 1692.

13. 'HF' surrounded by dots within a heart. This variation was found in another stamp. Whitehall Street pipes with this mark are dated by Oswald to *c.*1700 ± 15 (Moore 1979).

14. 'TD' within a heart with a rose. This was the most common stamp found in the George Street, Aylesbury excavation (Jones 1983), and in field walking north of Aylesbury, but the pipe maker is unknown.

15. 'TW' within a heart with a star. This mark on a pipe was found on a field walk north of Aylesbury. According to Tatman (1985, 366), this is a London mark, dated 1690–1710, although Oswald (1975) suggests that TW is Thomas Wingrove (Wingrave) from Aylesbury, who took on an apprentice in 1706.

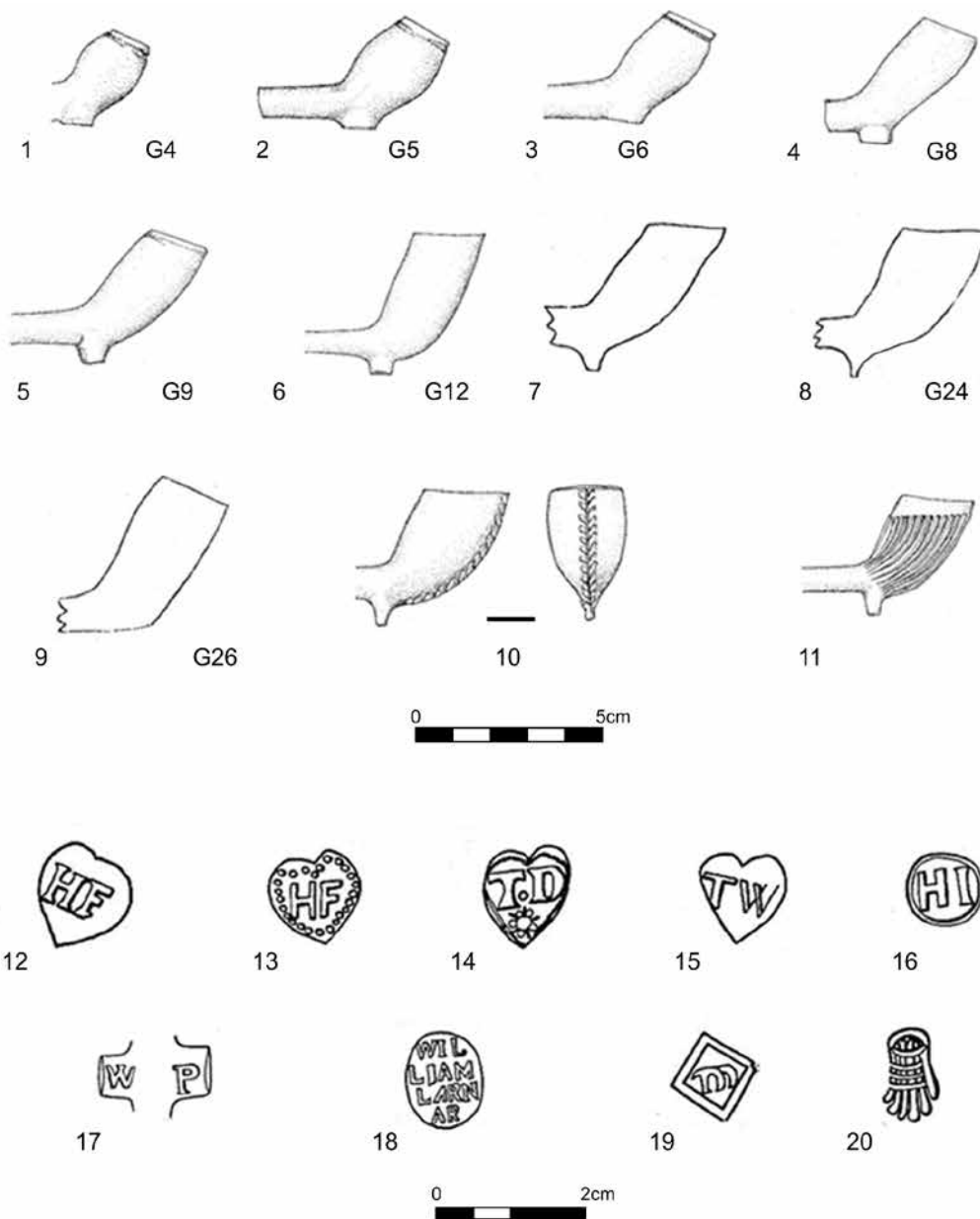


FIGURE 76 Clay tobacco pipes and stamps dated between 1600 and 1840. (*scales as shown*)

16. 'HI' within a circle. This mark is commonly found in Bucks but the pipe maker is unidentified.
 17. 'W' with 'P'. This mark, common in Bucks (Dalwood 1986), has been found on excavations in Aylesbury. It is possibly that of an Aylesbury pipe maker (Jones 1983) or the mark of

William Pearce 1733–74 from Bristol who was an out-voter in London by 1754 (Oswald 1985). This mark is found in the Hemel Hempstead collection, and in St. Alban's Museum where it is described as 'probably local' (Higgins 1985, 349).

18. 'WILLIAM LARNAR' within a circle. This incuse (impressed) stamp occurred on two stems, but is previously unrecorded in Bucks.

19. 'M' within a diamond. Pipe maker unidentified in Bucks.

20. Bundle of tobacco leaves? Stamp incuse on the base of a foot. Pipe maker is unidentified in Bucks.

21. Hand with the initials 'TD' above it, on a stem. The hand may be that described in Tatman (1985, 364) as a 'dexter gauntlet', which is a London variation of an original Wiltshire mark. Oswald (1975) identifies the gauntlet as a Salisbury mark, dating to c.1650–60. Not illustrated.

Flints (Fig. 77)

by Dr Angela Theodoropoulou and Norah Maloney (Institute of Archaeology UCL)

This report focuses on worked flints representing residual redeposited material recovered from Area 1. The flints were largely scattered throughout the levels of Phases 6 and 7 of the excavation and are related to activities post-dating the destruction of the church. There are a small number of exceptions which are listed below with their contexts. The flints recovered from Area 1 might have derived from the local soils near to the river Misbourne which runs through the Missenden Abbey grounds. The presence of flints was noted during the 16th/17th centuries when earth/loam from areas alongside the river was dug out and early worked stone was recovered but not recorded.

The assemblage includes blades and elongated flakes, scrapers, complete and broken flakes together with a possible core-rejuvenation flake which would have been removed to allow further reduction of the core. Some of the pieces show edge damage which is probably post-deposition but with some use-wear. Five blades and five flakes all showed evidence of soft hammer percussion and the large end scraper could be attributed to either the Upper Palaeolithic or the Mesolithic. Selected items are illustrated in Fig. 77.

Upper Palaeolithic/Mesolithic

1. A natural backed blade, 30 x 10mm, grey, with possible use-wear on edge opposite cortical edge, and found in context [118], the filling of a post-hole which cut through a possibly 15th-century floor surface.

2. A blade, grey, damaged at the tip, 40 x 25mm.

3. A complete blade, black, 35 x 20mm.

4. An incomplete blade with trimmed parallel sides, grey, 40 x 10mm.

5. A large end-scraper, blue/grey, 60 x 40mm, found in context [217] associated with slag deposits which formed the base of early walls.

6. A complete Creswellian type blade, pale grey, possibly unused, 95 x 15mm. Similar to blades recovered from Valley Farm, Sarratt (Edwards, Gover & Wells 2009, 15).

7. Five complete flakes all produced by soft hammer percussion, 30mm x 30mm or less, one terminating in a hinge and with edge damage. Not illustrated.

Mesolithic

8. An elongated cortical flake, grey, 40 x 10mm; plus two edge core flakes.

9. Seven incomplete flakes, in range 40 x 25mm. Not illustrated.

10. Eleven complete flakes, size variable from c10 x 10 to 35 x 20mm. Not illustrated.

11. A complete cortical flake with hinge termination, 45 x 20mm.

12. A silet flake fragmented along the perpendicular axis due to excessive force, 20mm x 20mm, grey.

13. A substantially complete cortical flake, 35 x 20mm, creamy patina. Found in a flint cobbled area, context [235], which lay below contexts [217] and [240].

14. Three incomplete flakes, grey: (a) 30 x 10mm; (b) 40 x 25mm; different patination on each side, one side perhaps affected by heat; (c) 35 x 15mm; very pale grey with evidence of use.

Neolithic/Bronze Age

15. A cortical, denticulate thumb scraper, dark grey, 50 x 40 mm.

16. A scraper, pale grey, with evidence of use, 25 x 30 mm.

17. A cortical flake, possibly affected by heat, 25 x 30mm. Not illustrated.

18. A complete cortical flake with patination, found in context [186]. Not illustrated.

Summary

The flints discussed above were all recovered during the 1983 excavations from Area 1 where the medieval abbey church once stood. They were largely scattered throughout the upper layers of occupation and their presence post-dated the

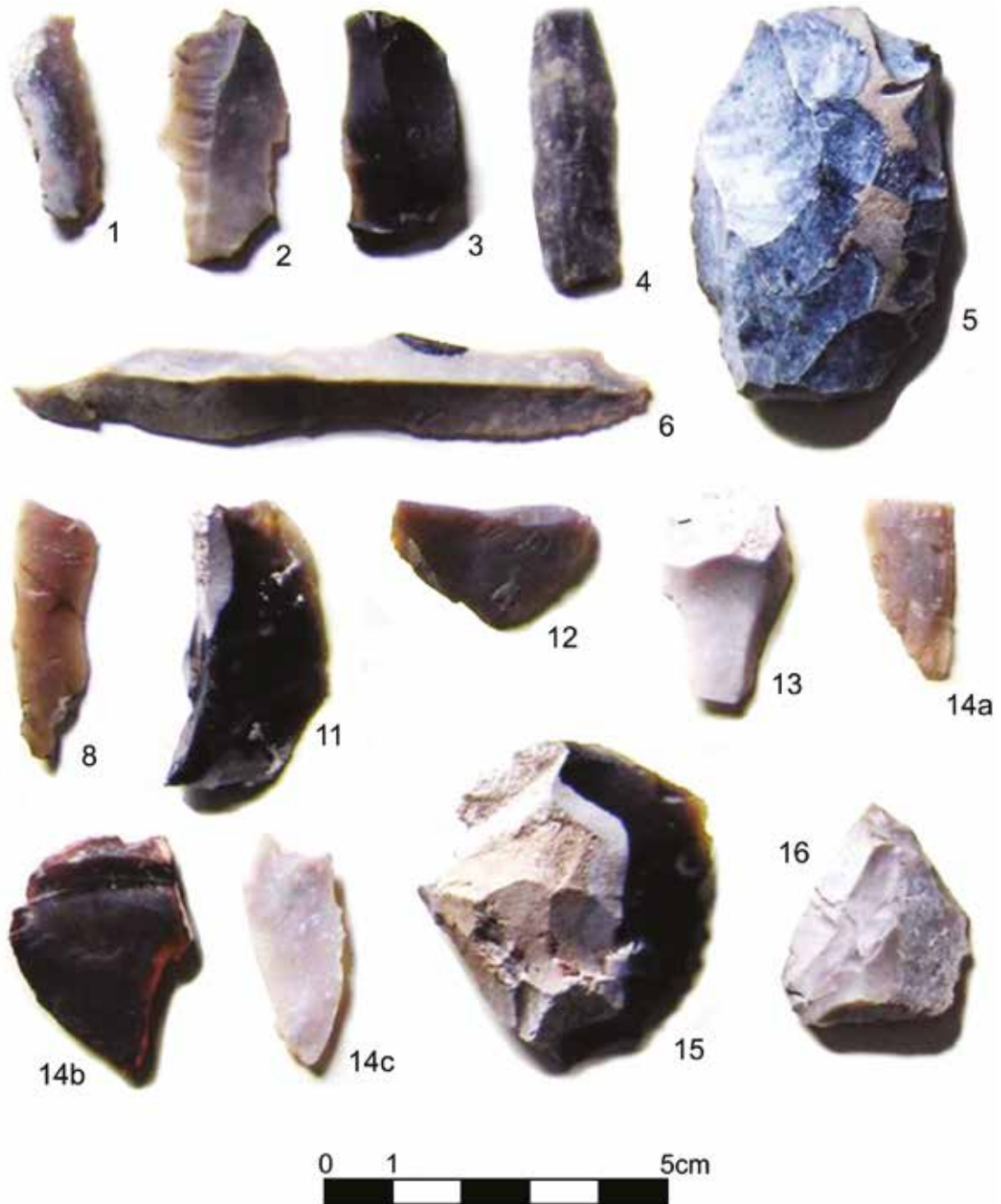


FIGURE 77 Prehistoric worked flints from Area 1 excavation (scale 1:1)

destruction of the church which, from the late 16th century onwards, was dismantled and the site used for other purposes. The land on which the abbey was built lay close to the river Misbourne, which in those days was a significant year-round river and source of water. The presence of these ancient finds in the upper levels indicates that during the 16th–17th century soil containing flints was either brought in by workers preparing the ground or the area was subject to occasional ground flooding from the river.

The flint finds themselves emphasise the importance of the river to humans, from the Upper Palaeolithic/Mesolithic to the Bronze Age. Indeed, this is one of many similar sites in this area of the Chilterns where there is evidence of such occupation with associated flint material. These include the river Misbourne where flints were recovered at Little Missenden and Amersham (Stainton 1993). Finds have also been made alongside the nearby river Chess including Stratford's Yard, Chesham (Stainton 1983; 1989), Latimer Park Farm (Stainton 1990) and Sarratt Bottom on the Chess (Edwards, Gover & Wells 2009).

Shells

Marion Wells

Oysters would have been a valuable food especially in religious houses, as it was forbidden to eat meat for about a third of the year. However, only ninety oyster shells (*Ostrea Edulis*) were recovered from Areas 1 to 3. These were thinly and evenly distributed throughout the contexts, with 80% found in Area 1. A midden containing a large number of oyster shells was found in Area 43, but the shells were recorded and left *in situ*.

Oyster shells kept as a sample comprised 44 flat upper valves and 46 curved lower valves. Although a cultivated oyster growing where it is not overcrowded tends to be large and well rounded, a natural oyster often exhibits irregular shell growth due to overcrowding (Borgelin 1997). In this sample a group of 26 measurable lower valves were examined. The group had a mean height of 65.9mm indicating that the oysters were of medium size. The height to length ratio (HLR) can be used to measure the “roundness” of the oyster (Kent 1988). For example, if the height/length ratio of the shell is within the range 0.8 to 1.2, the oyster would be considered “round”, indicating that it had been cultivated in good conditions. In the present

sample 88.5% of lower valves were found to have an HLR ratio in this range.

Only 10% of the sample showed worm infestation, while 3.3% showed holes made by the boring bivalve, *Ocenebra*. It has been found that high levels of sunlight retard the growth of parasites, so the indication is that most of the oysters derive from shallow or intermediate depth waters.

In addition to oysters, 20 other shellfish (cockles and mussels) were recovered. This is a good number, compared to the oyster shells, supporting the view that these were also a source of food.

Charcoal

by Anne Miles

Three hundred and twenty-seven charcoal samples were recovered from the earliest to latest contexts during the 1983 excavations. Of these, the majority (96%) were identified as beech (*Fagus* sp.) which is perhaps not surprising in the Chilterns.

Slag (Fig. 78)

by Michael F. Charlton (Institute of Archaeology, UCL)

Excavations at Missenden Abbey yielded deposits of slag in the foundation trenches of early building works. A sample of this slag was submitted to the Wolfson Archaeological Science Laboratories (UCL) for initial characterisation. The goals of the study were limited to i) identifying the process that produced the slag; ii) suggesting possible explanations for its presence in a context not correlated to pyrotechnological activities and iii) advising on research avenues for future investigations.

Five slag specimens from the abbey plus a sample from The Lee, 5km north of the abbey, were submitted for analysis. Macroscopic characterization included a qualitative assessment of physical properties (colour, density, magnetism and morphology) used to assign the slag to morpho-types defined by Historic England (Dungworth 2015). Selected specimens were sectioned using an abrasive tile cutter, mounted in a polymer resin and polished to 1µm finish. Specimen microstructures were then examined via reflected light microscopy to establish microstructural characterization which tests the processes that generated slag.

Results

The density, texture, and rusty corrosion products found for the specimens indicated that they all

derived from ferrous metallurgical processes. Despite the small sample size, a wide range of slag types were observed including tap slag, dense tap slag, a dense slag cake and a plano-convex bottom (PCB), all as incomplete fragments. The presence of tap slag is a strong indicator of bloomery iron smelting, while the other types may derive either from iron smelting or refining activities. However, dense cakes are more commonly associated with iron smelting and PCBs are more frequently linked to various blacksmithing operations.

All specimens share the same dominant phases of fayalite (Fe_2SiO_4 — grey lathes), wüstite (FeO — white dendrites and globules), and glass (dark grey matrix), and are consistent with ferrous metallurgy. The fayalite crystals showed no apparent orientation, a pattern that is expected when slag is allowed to cool slowly within the furnace or hearth. Micrographs of the slag specimens suggest no major differences in dominant microstructural features. The dense slag cake (Sample Number YE-002) contains larger concentrations of glass, the presence of which is hypothesized by the slag pooling at the base of a smelting furnace and dissolving higher volumes of fuel ash. Fuel ash tends to be rich in CaO and K_2O , both of which can serve as network modifiers in silicate glasses.

Some minor variability is also observable in microstructures that aid in the identification of process. A few small magnetite (Fe_3O_4) crystals were observed in YE-001 (Fig. 78A). Magnetite is often observed in smithying slag because of oxidising conditions in the hearth and is common on the surface skins of tap slag. In the case of YE-001, the phase is not abundant enough to hypothesize this fragment as a smithying slag. Rather it may be a remnant property of the ore.

Small metallic iron prills were noted in both YE-002 and YE-005 (Fig. 78B). Iron prills are a common phase in smelting slags, interpreted as reduced iron particles that failed to reach the bloom prior to completion of the smelting process. Metallic iron can also be found in smithying slag as a consequence of small pieces being unintentionally removed from metallic objects during refining and repair operations. The sub-rounded morphology of the prills observed in these specimens are indicative of reduced iron particles rather than fragments of iron that dropped into the slag matrix.

Finally, the microstructure of the PCB fragment

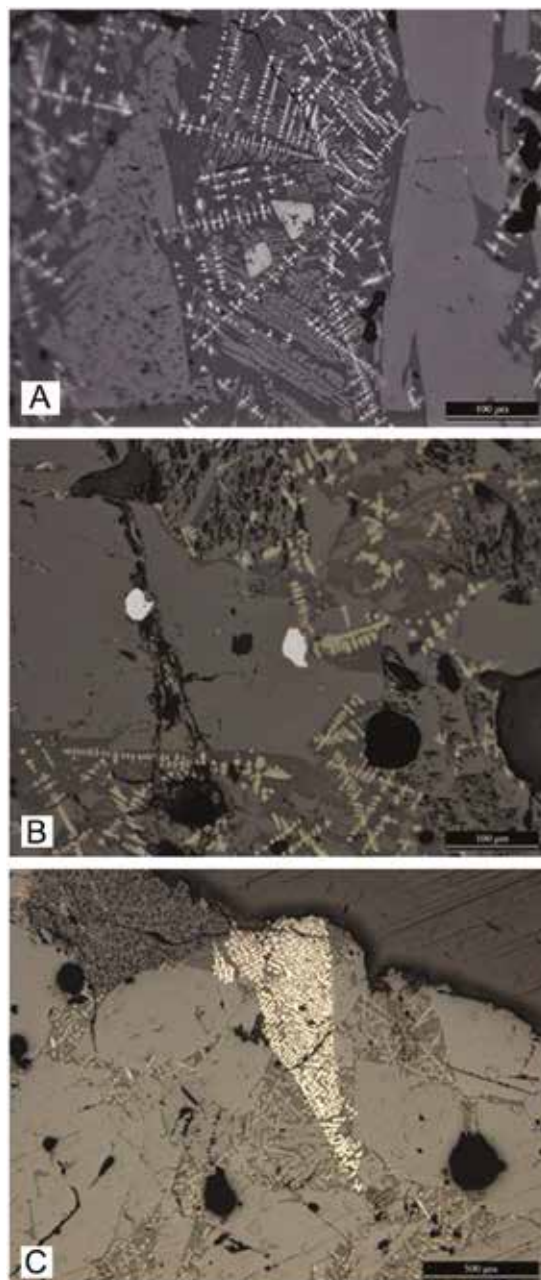


FIGURE 78 Microstructure of the slag samples from Missenden Abbey

(YE-003) included an angular area rich in wüstite globules (Fig. 78C). Such structures can be found in both smelting and smithying slag, indicating

incomplete reduction in the former and partially dissolved hammer scale in the latter. The feature's morphology, strongly magnetic character and PCB shape are most consistent with this slag being a product of smithying rather than smelting.

Conclusions

Bloomery iron production involves tasks that all result in the production of a ferro-silicate slag. These include smelting of ore to bloom, consolidating and refining the bloom into a billet (primary smithying), refining and drawing the billet into a bar (secondary smithying), and ultimately forging the bar into a finished object (tertiary smithying). The bloom is a spongy network of scinted iron particles entangled with variable quantities of slag. The first stages of smithying involve ridding the metal of unwanted slag and welding the disconnected strands of iron into a cohesive mass. Primary smithying slag therefore closely resembles the smelting slag, but altered by additions of the smithying hearth wall, fuel ash and hammerscale, *i.e.* oxidized iron formed at the object's surface in the hearth flames. The iron is further cleaned and shaped in successive stages, each adding more impurities of different proportions. By the final smithying stage and during repair operations, hammerscale becomes one of the dominant slag formers and is visible in both microstructure and chemistry.

The small sample of slag from Missenden Abbey represents at least two iron production activities, smelting and smithying. Given the microstructural similarity of the lone PCB (YE-003) to that of the remaining slag specimens, it is reasonable to hypothesize this as an example of primary smithying slag. It seems probable that the slag at Missenden Abbey was used as rubble in the foundation structure, either for convenience or because of a lack of suitable stone. The density of slag and the associated expense and effort of transporting it suggests that the ironworks that produced it were in proximity to the abbey. Monumental stone buildings often required large quantities of iron, and were sometimes surrounded by iron producers (Threlfall-Holmes, 1999). Indeed, the sixth sample (a PCB, but otherwise unanalysed) comes from a metalworking site at The Lee, not far from the abbey.

Future work may be able to identify the precise source of the slag through bulk and trace element

analysis of the foundation slags and compare it with similar analyses from nearby sites. A first step would be to survey the immediate surrounding area for iron smelting sites whose slag might have been transported to the abbey site without great cost.

SUMMARY & CONCLUSION

The inspiration for the team who took on the investigations was based on the knowledge that the remains of the medieval abbey lay beneath the grounds of the present house, alongside early written documents which supported this understanding. The aims of the excavation were to establish the position, dimensions and general nature of the conventual church, and the position and use of other related medieval buildings. The work began in 1983 and continued until 1988, led by Peter Yeoman and later Mark Collard. This work covered excavations, together with watching briefs of the standing building which spanned 1984–1986. These activities provided important information regarding the early history of the abbey.

The Early Church

The Area 1 excavation provided crucial information, confirming the presence of an early church which showed sustained development from the 12th to the 16th century. The chancel revealed early human burials of different periods, some of which may have had familial connections. Proof of an early date for the church was substantiated by the presence of pottery, dating Phase 1 to the mid to late 12th century. The dating of pottery in most phases was extremely useful: for example, the presence of Brill/Boarstall-type ware helped date the early 13th-century levels. It is of interest that new walls underlain by slag were a feature of this 13th-century level. The slag was mixed with various animal bones, probably indicating that the builders of the time were either 'eating on the job' or dumping waste food. Furthermore, animal bone fragments were found at the base of a socket pillar of this period, which was being repaired or removed. The 14th century marks a period of upheaval and a need for renovation which was apparently underway, judging by the appearance of new postholes with dumps of animal bones associated with the laying of a new slag layer. This

evidence of active rebuilding seemed to indicate a lengthening of the nave. The 15th century saw no further major changes to this area of the church apart from general maintenance and redecoration. It is worth noting that by the mid to late 13th century, an area typical of a south transept linked the church to the monastic buildings, though we cannot be certain that there was not a previous alternative connection.

Exploration of Area 19 appears to have revealed an extension to the church, comprising the remains of a late 14th/early 15th-century building. The collapse of this structure was represented by the remains of window glass alongside architectural, decorated stonework, suggesting a complex designed/redesigned building.

The Monastic Ranges

Evidence from watching briefs enabled the identification of walls which were part of monastic buildings in the East and South ranges. A survey carried out on the existing roof of the East range prior to the 1985 fire provided evidence of a superb 15th-century roof, probably of the Dorter.

Area 43 provided an extensive ground plan showing the size and complexity of an original abbey building forming the western range. This structure was associated with a large number of rooms, not dissimilar in configuration to the 'attached building' at Notley Abbey (Pantin 1941). It was noteworthy that finds of late 12th to 13th-century pottery in Area 43 confirmed the early establishment of this significant and complex extension which seems likely to have been part of an area occupied by the abbot.

The External Areas

In the 12th century one section of Area 2a was close to a fishpond and an outdoor 'scooped' area where a good-sized pot was found, perhaps for feeding animals. This area was scattered with many pottery sherds. Nearby, in the 13th century there followed the building of a barn, perhaps for storing crops and/or animals, although a 'guest range' has also been suggested. Expanses of decay, cess and dung were noted in the same period, suggesting that the whole of Area 2a was part of the Abbey's farmyard. The pottery assemblage from Area 3 suggests that it too was a working area.

The Finds

Supporting features of the work described in this volume are the finds which range from human burials, pottery and animal bone to metalwork, coins, glass, tiles and finally flints through to slag; these items are all recorded in detail. They provide an essential insight into the daily life in 11th to 16th-century Missenden Abbey and beyond. In particular, the function of the pottery and the nature of the metalwork provides information about the monks' personal belongings, the animal bones and oyster shells give us clues as to their diet, while the architectural stone, marble, painted wall plaster, painted window glass and floor tiles all indicate high-status buildings. The abbey appears to have been richly tiled, with Penn and St Albans tile floors and was notable in being the only Augustinian house outside Hertfordshire where St Albans-type relief tiles have been recognized.

Missenden Abbey was one of the earliest and largest of the nine Arroasian houses in the country. Not only were Missenden Abbey and Notley Abbey the wealthiest of Buckinghamshire's abbeys, they were the only two Arroasian houses in the county. This report will therefore add to our knowledge of one of Buckinghamshire's most important abbeys.

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Accounts of the excavation of the early church and associated buildings were largely written by Peter Yeoman and Mark Collard, and have been used in the current text, revised and expanded where necessary. Finds reports of varied quality had been written and in some cases revised, including:

Coins by D.M. Metcalf (Ashmolean Museum) and G. Lamb (BCM)

Metalwork, stone and bone objects by Mark Collard

Window glass by Jill Kerr

Roof tiles by Irena Lentowicz

Charcoal by Anne Miles

Roofs by John Chevenix Trench and John Bailey

Human Burials by Anne Stirland

Architectural Stone by Michael Oates, Richard Halsey (HBMC) and Nick Griffiths (Museum of London)

Bottle Glass by Mark Collard and G. Speed

Glass Panels by W. Cole

Floor Tiles by G. Stevenson and Mark Collard

Clay Tobacco Pipes by A.J. Hawkins.

The architectural stone drawings were prepared by Rowena Day. Drawings of the Abbey Farmhouse were recently provided by David Birkett, architect and historic building consultant, and other drawings were by Melanie Steiner.

We would like to thank the following people who have contributed more recently to this report. In particular, Andrew Sage who undertook examination and reporting on the pottery, Michael Charlton (Institute of Archaeology, UCL) who analysed and reported on the slag and Dr Angela Theodoropoulou and Norah Moloney (Institute of Archaeology, UCL) who examined and dated the flint assembly. Thanks also to Buckinghamshire County Museum staff, specifically Brett Thorn, Keeper of Archaeology, Ros Tyrrell, Finds Liaison Officer for Buckinghamshire. Mike Farley, former County Archaeologist, has supported and encouraged us in this undertaking. Barbara Hurman gave help and advice on the pottery and floor tiles. Most of the photographs were taken by CVAHS's photographer Phil Nixon, while Mike Corcoran assembled the coin photographs. Other photographs were obtained from the County Museum Archive.

Help with recording, cataloguing and drawing were provided by sterling members of CVAHS including Sue Barton, Polly Buston, Mike Davis, Janet Dineen, Andrew Edwards, John Gover, Georgina Lomnitz, Jean Staveley, Sally Stott, Barbara Ward, and Jim West. We also thank Bob Zeepvat for his careful review and improvement of this report.

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Missenden Abbey: unknown artist, late 17th century (*reproduced with permission from Buckinghamshire County Museum, AYBCM: ARTT.744*)