

THE OXFORD ROAD WATERMILL, AYLESBURY

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The history of the Oxford Road Watermill (formerly the Spital Mill) in Aylesbury is examined, drawing on documentary references and the results of an excavation carried out on the demolished remains of the mill building prior to the redevelopment of the site.

The excavation did not reveal the presence of a Saxon or medieval mill, though a 14th-century mill channel and dumped layers indicated the probable presence of the medieval mill within the general area.

The earliest elements of the mill buildings recorded were of seventeenth-century date; it is probable that earlier mill building was relocated at this time. The excavations revealed a complex sequence of modifications, refurbishment and rebuilding of the mill from the seventeenth century through to the 1920s after which time the building was no longer used as a mill. The changing technology of milling through the industrial period at Aylesbury is traced through documentary sources and to an extent the archaeological data, though successive rebuilds destroyed much of the detail of the earlier buildings, workings and processes.

The finds data provides an insight into everyday life around the mill, and evidence for an early post-medieval tanning or tawing industry within the mill environs was also recorded. The site of an adjacent leper hospital was sought but not located.

INTRODUCTION

During January-April 1998, the Hertfordshire Archaeological Trust (HAT) carried out a combined archaeological evaluation and excavation on the site of the former Oxford Road Watermill in Aylesbury, Buckinghamshire (Fig. 1). This included two areas of potential archaeological interest: the site of the former mill, millhouse and associated buildings (Area A) and land to the north west of the mill which was thought to be associated with a leper hospital (Area B). The work was commissioned by Crest Homes (Eastern) Ltd. in advance of proposals to redevelop the area for housing. The redevelopment work in the area of the mill largely consisted of the reprofiling of the mill stream to graduate the fall of water. The site was of particular interest as being 'the only site in Aylesbury, apart from the parish church where there is continuous documentary evidence for activity since the Norman Conquest' (Parkhouse 1997).

Site Description, Location, Topography, Geology and Soils

The development area was located to the south east of the Oxford Road on the west side of central Aylesbury (SP 8139 1368) (Fig. 1). The railway formed its southern boundary and a boggy, rough-grassed area which was previously an oil depot, most of its southern section. The north and eastern limits of the development area were bounded by housing. Its central section contained standing buildings prior to the redevelopment work, including the mill itself; a nineteenth-century brick building which caught fire in 1993 and was bulldozed into a heap for safety. Other buildings associated with the secondary use of the former mill buildings for light industry (such as a car breaker's yard) were demolished prior to the archaeological excavation. Ground contamination resulting from use of these buildings led to decontamination procedures, which consisted of stripping between 0.5 to 2m of material from the area immediately north of the former mill building and replacing it



PLATE 1 The Oxford Road mill as photographed in 1991, looking north east (copyright Mike Farley).



PLATE 2 The mill stream running north-west towards the former mill complex.

with clean soil (thus removing archaeological deposits, had they been present). The main mill-stream ran NW-SE across the site through rough ground and directly through the former mill complex. An additional channel of the Bear Brook ran to the south of the area of the former mill buildings, fed by a modern flood-relief channel from the mill stream which had been cut by the Environment Agency. Two areas were examined.

Area A was situated 75m from the Oxford Road and consisted of the site of the former mill, mill-house and associated buildings (Fig. 1). Prior to excavation this area was mainly occupied by the mill demolition mound up to 1.5m high, with weeds and small trees growing from it. The main mill stream ran through the mound (under the site of the former building), through a culvert and out towards the Oxford Road. The second channel of

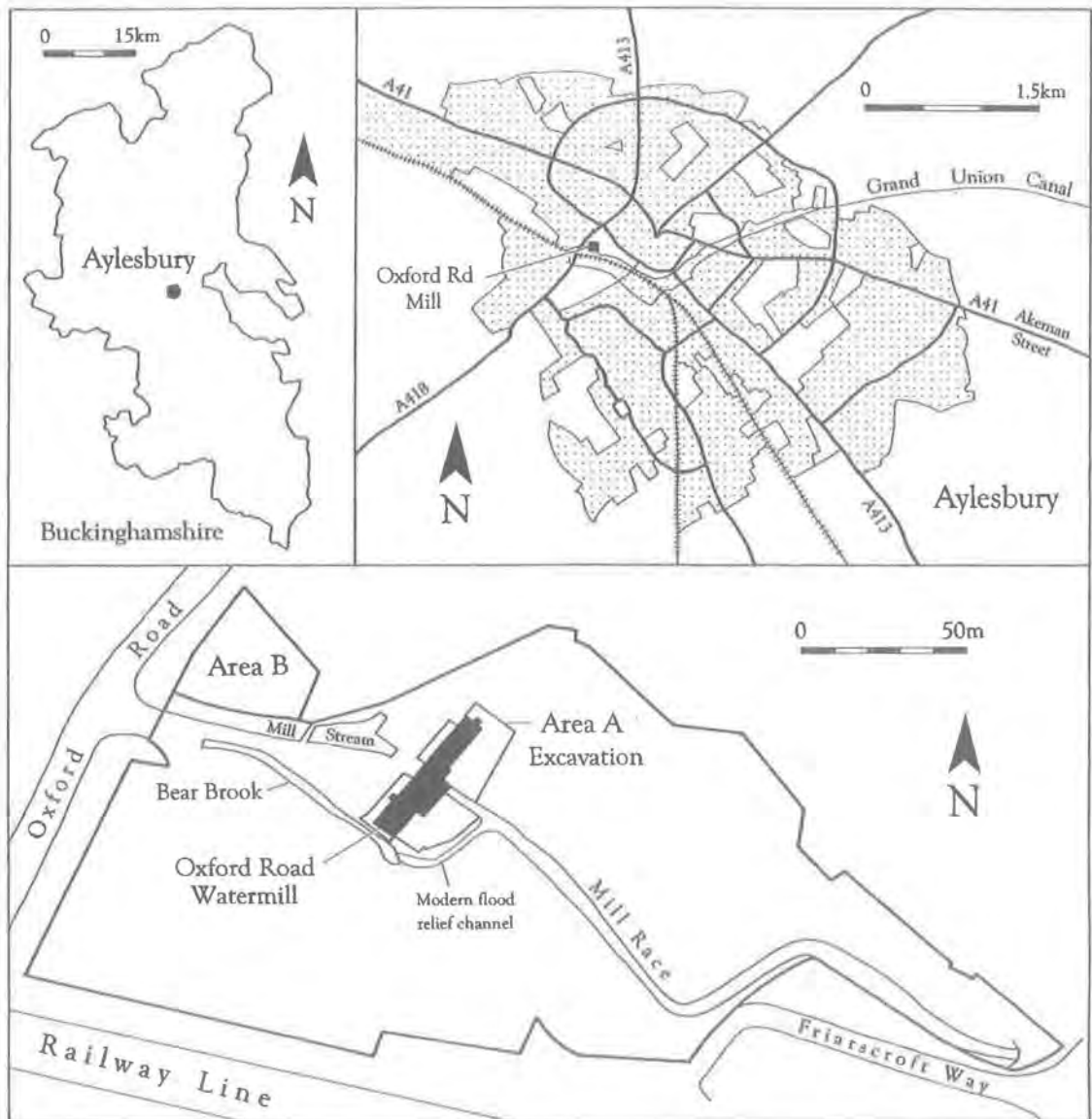


FIGURE 1 The Oxford Road Watermill and environs.

the Bear Brook formed the southern boundary of Area A; the modern flood-relief channel formed the south east boundary and the decontaminated section of ground formed the north and north east boundaries.

Area B lay adjacent to the Oxford Road and consisted of rough ground which formerly contained a scout hut defined by the mill stream to the south, houses to the north and Mill Way footpath to the east (Fig. 1).

The whole area lies on relatively low-lying ground at a height of *c.*74.5m OD. The ground slopes gently to the south west. It is within the shallow river valley of the Bear Brook and California Brook. The Bear Brook flows through the development area, the California Brook some 100m to the south. The site lies on alluvium consisting of silty clay with a layer of sand or gravel between 0.3–1.1m thick at its base of the deposit. The alluvium overlies the Jurassic Kimmeridge Clay formation. The soils of the area are of the Denchworth formation which are 'pelo stagnogley soils' described as 'slowly permeable, seasonally waterlogged clayey soils' (Soil Survey of England and Wales 1983).

Alluvial deposits were encountered all over the

excavated area. The lower levels of the silty clay were semi or fully-waterlogged and preserved some organic remains. It became clear during the course of the excavation that the environs of the mill (within the river valley) were very active in terms of water flow, flooding and consequent deposition of alluvium during the life of the mill. This depositional environment meant that some complicated stratigraphy was encountered on site, for example archaeological layers occurring within alluvial layers, and the probable reworking of finds.

Evaluation and Excavation

The 1990's demolition deposit was removed mechanically from the area of the former mill building and mill house. It was then possible to excavate to the levels of the floor of the nineteenth-century mill, removing almost all of the spoil. A deep deposit of modern dumped material to the east of the mill was also mechanically removed. The floors, remaining walls, external surfaces and other features of the nineteenth-century mill and mill-house buildings were then recorded (Fig. 2 and Plate 5).

The main area of flooring, walls and later deposits were then mechanically removed to search

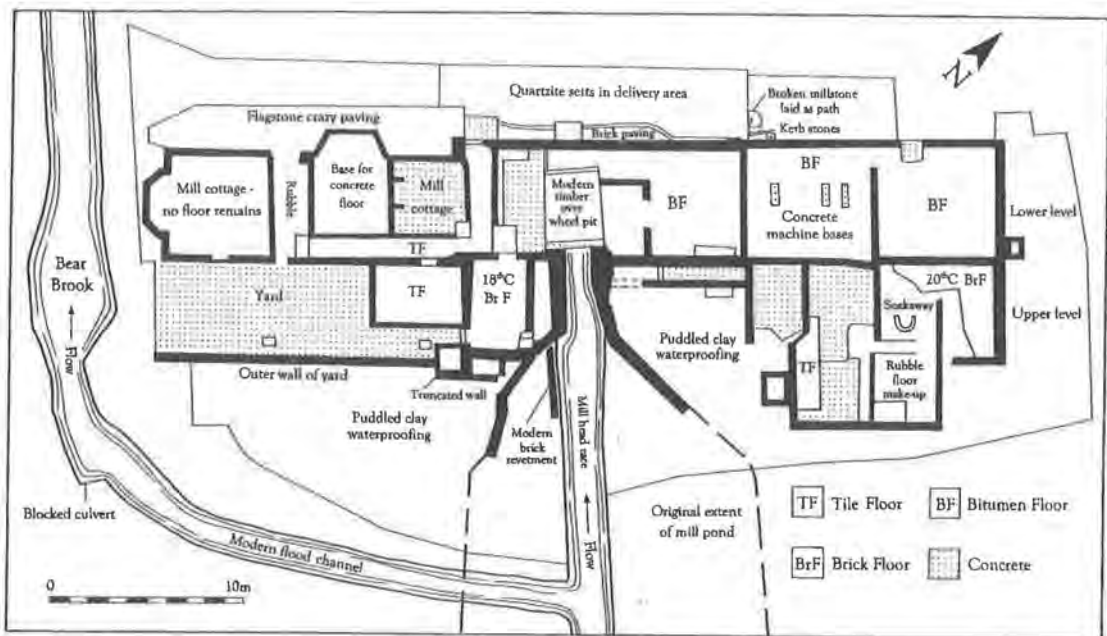


FIGURE 2 Plan of the Oxford Road Watermill revealed after the removal of the demolition rubble.

for earlier structures. Earlier floors were recorded and then also mechanically removed. Trial trenches and test pits were excavated to better understand the partially-revealed layers and stratigraphy (Fig. 3).

The flow of the mill stream through the site was temporarily diverted into the modern flood-relief channel into the southern Bear Brook channel by Crest Homes engineers and the modern covering of the mill wheel-pit then removed. The silted mill wheel-pit was carefully mechanically excavated and the exposed building fabric examined and recorded.

High groundwater level and excessive rainfall caused problems during the excavation. The clay subsoil retained all surface water and the main excavation site effectively functioned as a large sump for the surrounding area. Excavation was made possible by pumping water around the site.

Area B was investigated by two trial trenches. These exposed deep alluvial deposits, a small number of probable post-medieval drainage ditches, and a large, late nineteenth/early twentieth-century rubbish pit. No deposits or features related to the leper hospital (see below) or obviously related to the mill, were observed.

The mill buildings had been the subject of research by a student with the Buckingham County Museum Archaeological Service in 1992 who examined the various documentary references to the mill (Westmore 1992). An archaeological appraisal of the site was later carried out by Buckingham County Museum Archaeological Service (Parkhouse 1997). Much of this work forms the basis of the documentary research elements of this text.

The paper archive and finds will be deposited at Buckinghamshire County Museum.

THE MILL

Many mills had a long history of use. The mechanisms, buildings and layout of mills were changed, replaced or altered as they wore out or as new technology was adopted. The Oxford Road watermill, a corn mill, appears to have been subject to frequent change.

Saxon Period

The Domesday Survey of 1086 lists two mills at Aylesbury, valued at 23 shillings. These are likely to

be a mill at Walton and the Oxford Road Mill (Westmore). No Saxon structure or finds were recovered during the investigation which has led to the conclusion that the Saxon mill was in a different location to the later mill buildings on the site, outside of the area of archaeological investigation.

Medieval Period

A Documentary Evidence

Documentary evidence, chiefly legal, provides information on owners, lessees, rent, repairs and the development of the mill from the fourteenth century (see Appendix 1). It was known as Spital (or Spittle) Mill from this time until the nineteenth century. The name is thought to derive from the nearby St. Leonard's Hospital, founded for the benefit of lepers and the destitute in the twelfth century. Leper hospitals in England were often called 'Spitals' and there are many examples where this has remained as part of a place-name such as Spitalfields in London (Gibbs 1885). The hospital was probably situated near the bridge (*Spetil-brugge*) where the Oxford Road crosses the Bear Brook (Parkhouse 1997).

The Spital Mill was acquired by the Earl of Ormonde in the early fifteenth century. The manorial account rolls record extensive repairs to the mill in 1447/1448. Thomas Russell, the carpenter, and two mates worked for ten and a half days to build a new platform for the waterwheel and worked beneath the outer wheel of the mill. For this they were paid 6d. per day at a total cost of 5s. 3d. Two sawyers were paid 2s. 11d. to saw 250 feet of board for the repair and Adam Dyker was paid 3s. 4d. to waterproof around the new platform and forebay with clay and dung. The total cost of the repairs was 11s/11d (Elvey 1965). Five years later the mill was bringing in a rent of 70s with a rebate of 10s.

Many details of fifteenth-century life in Aylesbury are recorded in the notebook of John Bally, bailiff of Aylesbury (Elvey 1965). He recorded business in the manor from 1461–68 at the beginning of the reign of Edward IV, including repair and maintenance required at the Spital Mill. An undated entry reads:

Item for ye making of melle welle (mill wheel) and ye ij water gates to Johannes Jhesses for timber and workmansep of ye spetelmelle xxxiijs.

iiijd. (33 shillings 4 pence)
Therof ressyfed of Thomas Alen (the tenant) xxs.
Item of me ressyfed vjs. viijd.
Item of a hundred bord to ye waterwall ijs. viijd.
Item for naylls to ye same werke ijs.
Item for ramyng of ye same werke xvjd. viijd.
 (sic)
Item ressyfed of me anoder tym vjs. viijd
Item for viij karfoll (cartloads) of clay for dykyng
and karyage vjd.

An entry dated 1464 also lists repairs to Spital Mill and a settlement with the tenant:

Item reparasyons of spetelle melle
For magyng of ye spendelle xijd.
Item draynge (dredging) of ye broke xijd.

A reconyng mad be twene Thomas Alen and me
ye xxviiij day of May in ye v yer of ye K E ye iiij
for ye rent of Mechelmas term be for passed and
for ye hors payed and so remayneht be heynd of
ye same term iijs. iiijd. (cancelled)

Rental payments for 1466/7 are listed:

Ressyfed of Thomas Alen for ye rent of ye
spetelmelle and of ye wendmelle for ye term of
Mechelmas laste paste and me ye xxviiij day of
May in ye vj yer of K E ye iiij xvjs. viijd. and so
alowed for ye reperasyon of ye spetelmelle and of
ye wendmelle vjs. vd.
Item ressyfed of ye same Thomas for rent for
Seynt Mary Day be for paste xxs. ye xxiiij day of
Jenner' and so remayneht be heynd at yt day (so
remaineth behind at that day) iiij marks iijs. iiijd.

Further small repairs are dated to the following year (1467):

Now for ye costes of ye watrmell.
forst for ye makyng of an hope of tre (hoop of
wood) about ye stone ijs. iijd.
Item for an iron spendelle xijd.
Item for ramynge ijs. vjd.
Item for herht (earth) for to rame vjd.
Item for ij bordes vjd.

b Archaeological Evidence

Medieval mill buildings were not located during the excavation. It is probable that the medieval mill lay

north of the area of excavation as some layers of dumped material datable to the fourteenth century, and a channel/water-control feature, were recorded at the northern extent of the excavation (Figs. 6 & 8).

The dumped material (1133, 1128, 1132, 1131, 1121) may have been dredging deposits related to landscaping of the medieval mill environs. They were dated by fourteenth-century pottery. Layer 1132 contained four scraps of shoe leather (see Leather Report below).

The medieval channel (1167) (Fig. 3, 6 & 9) was only partially revealed and its course can only be suggested; it appeared to run east-west, probably parallel to, and north-east of the later water channel 1071/1134 (Fig. 3) which truncated it and was probably part of the water management system of the medieval mill. It was waterproofed with a thick layer of puddled clay (1155) (Fig. 9). John Balky (above) mentions the use of clay at Spital Mill. Puddled clay was also used on later mill buildings on the site to waterproof and support structures.

The main complex of later buildings on which the excavation was centred (see below) had its origin in the seventeenth century. It seems that the earlier mill was rebuilt and relocated at this time. However, many reused limestone blocks were included within the seventeenth-century construction and stray limestone blocks were found within the alluvium adjacent to the later buildings. These may have come from the medieval mill building or other associated buildings on the site. John Balky's records state that repairs were carried out under an *external* waterwheel. As the seventeenth-century arrangement had an *internal* waterwheel with the mill stream passing below the building this suggests that the medieval mill was completely rebuilt and reordered.

It is possible that the medieval mill was powered by a northern channel of the Bear Brook. The Ordnance Survey 25" map of 1877 shows this channel and shows a widening to the NE of the mill complex which could conceivably be the remnants of a mill pond (Fig. 12). It ran NE-SW towards the mill buildings before passing underground, presumably to the mill tail, as no trace of it was found within the area of excavation. The former northern channel is now infilled but is shown on the 1965 Ordnance Survey map.

Medieval activity on site was indicated by quantities of medieval pottery (eleventh-fifteenth century) recovered both from later deposits in

residual contexts, and from the lower levels of alluvium which covered much of Area A and probably accumulated at this time. Part of a dog skeleton was also recovered from the lower levels of alluvium (1005). The bones indicate the young animal probably had rickets and may have resembled a bull-baiter. Several cut marks suggest that either the dog did not die of natural causes, or that it was skinned, or possibly both (see below).

Post-Medieval: The first building period 17th-early 18th century

Seventeenth-century records refer to various millers in Aylesbury but it is generally unclear as to whether they worked at Spital Mill or Walton Mill. Seventeenth-century lease agreements (see Appendix 1) refer to mills called Spittle Milles/Mills whereas all earlier records refer to a single mill. The documents may indicate more than one set of mill stones under one roof (Watts 1991), or that for a time two mills were operating at the site. The earliest building to be examined was dated by a layer of construction debris (1147/1127) containing a sherd of post-medieval Staffordshire stoneware pottery. It also contained a few residual late-medieval finds, such as a large iron door key (Fig. 14.1).

a) The Mill Building

The main seventeenth century mill building (1168) (Fig. 3) was rectangular (approximately 12m NE-SW and 6.5m NW-SE) with an internal wheel-pit which housed an overshot waterwheel. The mill stream passed beneath the building, rather than to one side of it, and the wide mill pond was funnelled towards the wheel pit by a limestone-revetted head race. A channel (probably a bypass sluice) ran NW-SE adjacent, and parallel to, the northern edge of the building (Figs. 3-4, 6-9).

The building was constructed of limestone; probably local Portland stone, possibly reused from the medieval mill or other associated building on the site. Many of the blocks around the mill had clearly been originally cut for a different purpose. Its walls (diagonal hatching on Fig. 3) were well-built (0.6m thick) and consisted of large, mostly roughly-dressed and squared blocks in uneven courses, with occasional areas of well-faced stone, such as around the external (readily visible) southern build of the wheel pit, where the blocks were ashlar finished (Fig. 7). The masonry was bonded with a white lime mortar and an orange sandy-mortar. Small quanti-



PLATE 3 The drop of the wheel pit, excavated after the mill stream was diverted.

ties of roof tile were also included to even up the coursing. The foundations were similarly solidly-built but in more uneven courses of roughly-squared limestone blocks, bonded with a mixture of white and orange mortar.

The limestone was extensively waterproofed with puddled-clay. Thick clay was laid beneath floor levels and around the bases of the main limestone foundations to prevent flood water rising through the floor of the mill (Fig. 7). The flooding of the area, which was also indicated by the deposition of deep alluvium over Area A during the medieval and post-medieval periods, may have been a contributory factor in the decision to relocate and rebuild the mill. The base of the wheel pit was also lined with puddled clay (Fig. 8c). The clay within the wheel pit may originally have been sealed by a limestone floor as some large blocks of limestone were excavated from the lower part of



PLATE 4 Wooden structure 1136 east of the mill (see Figure 3 for location).

the modern rubble fill of the wheel pit.

Much of this phase of the seventeenth-eighteenth century mill was destroyed by later building work and little survived structurally to indicate exactly how it functioned. The position of the mill gearing was indicated by the limestone-built pit-wheel pit adjacent and to the north of the wheel pit (Fig. 9) which housed the wheel which transmitted the power from the waterwheel either directly or via other gears to the mill stones above.

b) The Northern Channel

A bypass channel (1071/1134 Figs. 3, 6, 8b & 9) which ran NW-SE adjacent to the northern edge of the building, was partly revetted along its northern edge by rough-coursed limestone and sandstone, the inner (visible) edge of which was well-finished. This northern edge truncated the infill of the earlier mediaeval channel 1167 (Figs. 6 & 9). The southern edge may have been revetted with wood of which no trace survived, backed by a deposit of hard-packed gravel (Figs. 6 & 9).

Parts of an *in situ* wooden structure (1125/1135)

interpreted as the remnants of a sluice gate were revealed in the western excavated section of the channel. It consisted of a large rectangular-section timber running NW-SE, (1125: length 0.84m+, width 0.21m, depth not revealed, Fig. 8b) with a mortise hole to take an upright timber. A similar timber (1135, Fig. 9) butted up to it at right angles to it (across the channel). Fragments of planking ran over both timbers, aligned with the channel; they probably originally covered the whole of the base of the channel with gaps for the upright elements. A slight recess was cut into the top of timber 1135 to hold one of the planks in place. The timbers appeared to be set into the base of the channel. The planking would have helped to maintain a good flow and allowed the channel to be easily cleared of any silt that did accumulate (Fig. 8B).

A second wooden structure (1136) was revealed in a machine-dug test pit to the east of the mill (Fig. 3 & Plate 4). It was sealed by a deep deposit of puddled clay (1122) used to waterproof the back of the mill building and line the edges of the mill pond.



PLATE 5 Upper: footings of mill after initial clearance, looking south-west. Photo County Archaeological Service.

Lower: wheel pit to left (under wood sleepers), cast iron pit-wheel pit adjacent and brick floor to right with earlier pit-wheel pit. Photo County Archaeological Service.

The structure was of a similar style of construction to structure 1125/1135 within the channel and may also be part of a sluice gate frame. The timbers lay on an old ground surface and did not appear to be *in situ* but may have been moved from their original position and dumped outside of the mill during a period of refurbishment. Structure 1136 consisted of six sawn timbers. A rectangular-section timber (1138) was aligned E-W (length 1.32m+, width 0.23m, depth 0.12m+) with two mortise holes to take upright elements. Two similar timbers (1137 and 1140) ran almost at right angles to it: one of the timbers (1137) had a single drill hole and appeared to be cut to fit with it but no joint was visible, the other (1140) had a single mortise hole at its north end and butted onto the end of it. A triangular bracing or planking piece (1141) was joined with nails to main elements 1138 and 1140, let into a shallow recess at the edges of the timbers. This recess also contained nails where other pieces were originally held. The recess did not run the length of the timbers suggesting that it was in fact intended to hold corner bracing pieces. A plank (1142) lay on the edge of the excavated area and was probably originally fixed within this recess. Another rectangular section timber (1139: length 1.10m+, width 0.22m+, depth 0.10m) with a mortise hole at the west end lay on top of timber 1140 and was clearly displaced from its original position.

c) Alluvial deposits

The mill was built on thick deposits of alluvium. The upper part of the alluvium was darker (anaerobic 1030) beneath the first phase of mill building and lighter external to it. The finds from the darker deposit are of seventeenth century date (such as a rose farthing of Charles I, date: 1625–44, (37)). The lighter alluvium (1003) incorporated finds from the seventeenth-nineteenth centuries, including seventeenth- and early eighteenth-century coins and other everyday items and building debris. Both deposits contained stray lumps of roughly dressed limestone which were probably derived from earlier buildings on the site which may have been used as stepping stones over a wet area.

d) A bone deposit south of the mill

An extensive 'industrial' deposit of sheep foot bones (1022) was located in the area of the southern limit of the mill, and is also thought to be of seventeenth century date (Figs. 8a section & Fig. 10 plan). The deposit was within the upper parts of the alluvium

(1030) and probably totalled several thousand bones; a sample of which were collected. The bones were also found widely throughout the upper part of the alluvial deposits south of the mill, away from the main concentration. It is probable that there was some water reworking of the bones, though these seem to have been scattered around the site environs in large numbers anyway. The deposit is interpreted as waste material from the processing of sheep skins, probably some form of tanning or tawing (see Animal Bone Report) which must have been carried out on or near the site, although no tanning or tawing pits were discovered. It is probable that the feet were left on the skins during the butchery of the animals, transported to the processing site attached and then removed and dumped near where the skins were washed; probably in one of the adjacent water-courses. The tanning may have immediately preceded the seventeenth-century rebuild of the mill, the commencement of the construction work leading to the clearance of the area.

The tanning activity was associated with a structure just south of the mill which may be the remains of a small building (Fig. 10). This consisted principally of a well-built, L-shaped limestone foundation (1047/1048) which included small fragments of tile and brick. It was dated by a sherd of post-medieval glazed, redware pottery which was also within the fabric. Spreads of limestone rubble, mortar, roof tile and a layer of puddled clay (1028) were located around the foundation and a few post holes appeared to also be associated though no clear plan of the structure emerged. Post-medieval pottery and clay-pipe stem fragments were associated with the structure.

Rebuilding in the 18th century

During the eighteenth century, the basic structure of the mill was repaired and extended. The earliest changes were to the south side of the mill where the wall was rebuilt in limestone (sealing a remnant of the earlier limestone foundation and clay waterproofing) and extended eastwards (Fig. 5).

The northern bypass channel (1071/1134) went out of use; it was allowed to silt and was eventually backfilled. This was probably a consequence of using a new bypass channel: the southern channel of the Bear Brook. Examination of the latter channel showed that it once continued east of the area of excavation via a culvert to link with the main mill stream. Water, controlled by a sluice gate

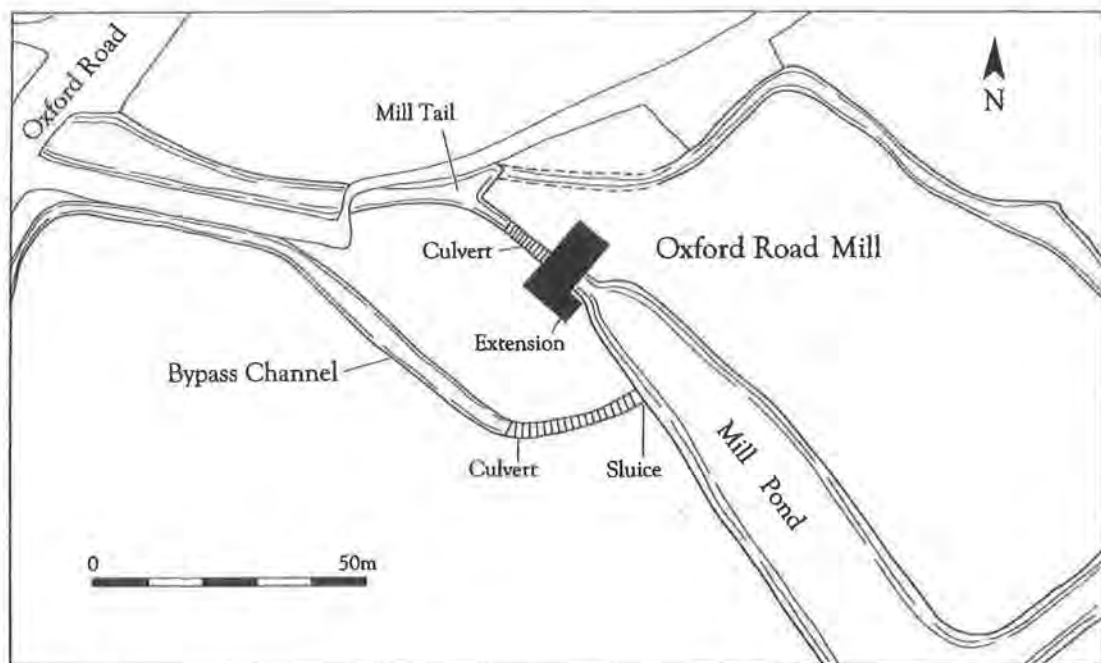


FIGURE 5 Late seventeenth/eighteenth century plan and layout of the mill.

(shown on the 1:500 Ordnance Survey plan of 1877, Fig. 12), would be directed along this channel when the mill was not in use.

An external limestone surface (1075 Fig. 9) was constructed over the backfilled northern bypass channel to the west of the mill building (Fig. 8b section). This formed a yard or track where much of the busy to and fro delivery work would have taken place. The heavy wear of the limestone blocks is a testament to the intensive use of this area. The northern edge of the surface incorporated a drain (draining to the north west) which was built with a recessed section of limestone blocks laid like setts. The surface showed signs of having been partly relaid and was also completely resurfaced, probably in the eighteenth century.

The first positive identification of the miller in this period is in 1774, when Thomas Hoare held Spital Mill along with other properties in Aylesbury, by a 21 year lease drawn up in 1756 from the late Dowager Pakington (Rentals and Particulars of Manor of Aylesbury with Berton 1774). It is not clear whether the lease was granted to Hoare in person or whether he took it over, but Hoare was an Aylesbury resident at the time that

the lease was drawn up as his name appears as a juror on the manorial court rolls for 1750–58. The mill had passed to John Hoare by 1798 when his name appears on the *Posse Comitatus*, a nationwide census categorised by trade of men available for military service against revolutionary France (Beckett 1985). Milling was a reserved occupation, so John Hoare would not have had to serve in the militia (Westmore 1992).

During the eighteenth century the mill was extensively repaired and altered using red, unfrosted brick. The earlier extension in stone to the south eastern side of the mill was rebuilt in English bond brickwork (Fig. 7). This consisted of a room (measuring 5.5m x 3.5m) with a vaulted ceiling and brick floor and walls extending to the east of this (Figs. 2–3, 7). The brickwork was built directly onto earlier courses of limestone and keyed into the edge of the limestone build. The upper parts of the wheel pit were also rebuilt, though the earlier form seems to have been largely followed.

A culvert that conveyed water from the wheel pit to the tail race was also built in red brick (Fig. 5). Drainage was improved in the eighteenth century with a complex of drains constructed to the south

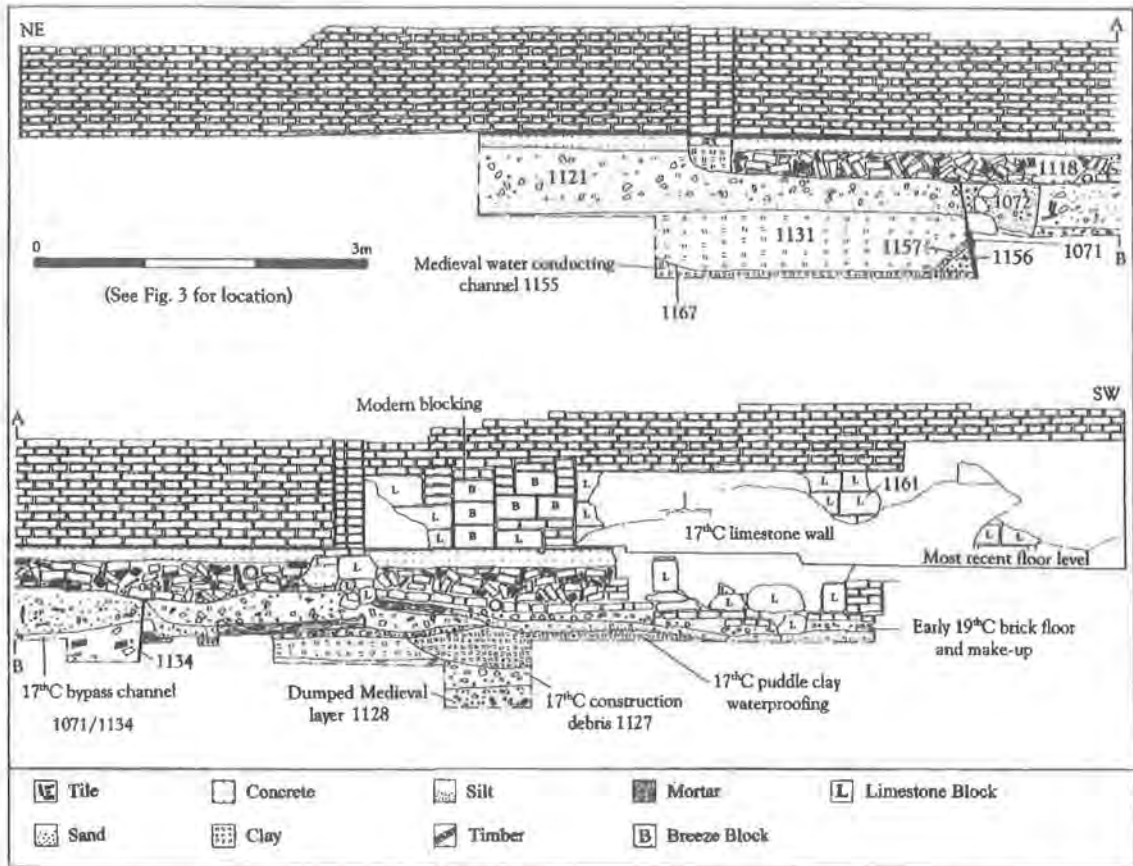


FIGURE 6 NE-SW section showing mill walls, floors and features to the north east of the mill wheel-pit (see Figure 3 for location).

of the mill, draining into the southern bypass channel. The main drainage channel (1024/1041 Fig. 3) contained a large assemblage of everyday mill rubbish and lost items which date broadly from the late eighteenth century.

Early 19th century

In 1800 the manor of Aylesbury put various properties up for sale including the mill (Lot 5), which was still occupied by John Hoare and held at an annual rent of £97.0.0 (Rentals and Particulars of Manor of Aylesbury with Bierton 1774). Lot 5 consisted of Mill Close, a corn water mill, a dwelling house, offices, a cowhouse and the islands. It was bought c.1814 by the Grand Junction Canal Company after the construction of the canal had seriously affected the volume of water in the mill stream (Hanley and Hunt 1993).

This problem may have prompted the introduction of additional power to the mill. In 1831 Thomas Turpin took the mill over and in the 1840s Joseph Moores and then Jeffery Gadsden owned it (Pigot and Co's Directory 1831–32, 1842, PO Directory 1847). In 1851 the mill was taken over by John Hill, a miller from Monks Risborough (Census of Population for Aylesbury). His sons Augustus, Claudius and George were also millers. Augustus and Claudius ran Bassetbury Mill at High Wycombe, Claudius later taking over Walton Mill in Aylesbury (PO Directory 1864, Freese 1946). George eventually took over Spital Mill from his father. By George Hill's time the mill was powered by a ten-foot overshot waterwheel, together with a sweet running single-cylinder overhead beam engine, worked with a low pressure boiler, both housed in separate buildings. The drive was

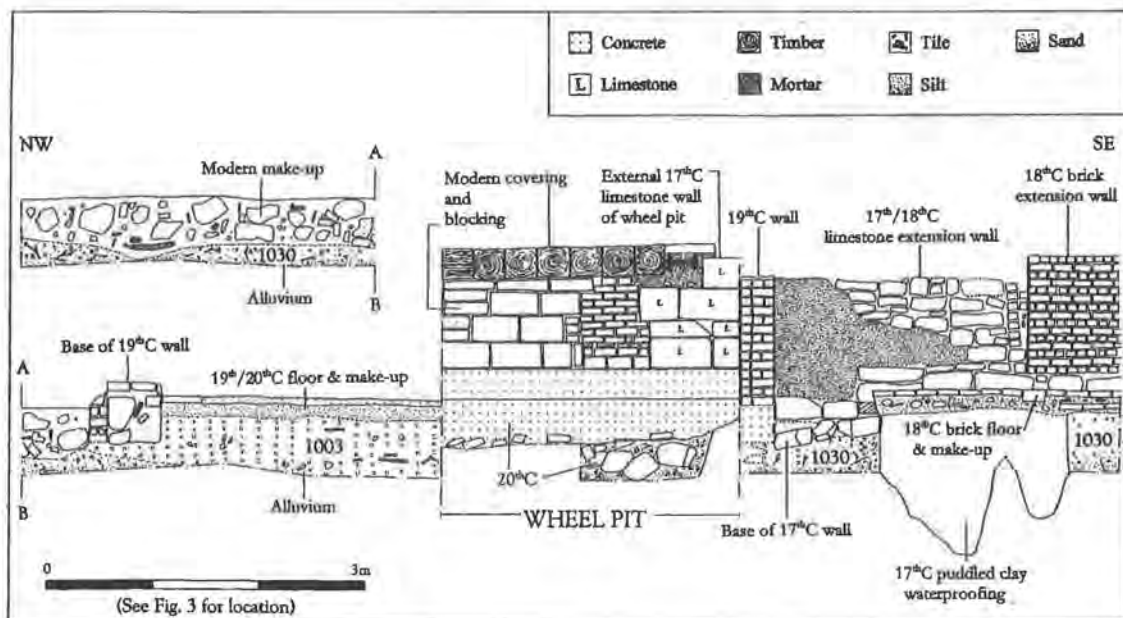


FIGURE 7 NW-SE sections showing mill walls, floors and features to the south-west of the mill wheel-pit (see Figure 3 for location).

conveyed to the mill by a 9 inch double belt and together they drove four pairs of millstones (Simmons n. d.). The 1st Edition 25" Ordnance Survey map of 1877 is the earliest map that enables the layout of the mill to be discerned. It shows the main-mill building, engine house, boiler and chimney and various other outbuildings (Fig. 12). The excavation confirmed that much of the mill fabric was refurbished in the early part of the nineteenth century. This can be attributed to the demands of new equipment and machinery. A red brick floor was laid north of the wheel pit (Fig. 3), brick and limestone bases were constructed to support the mill gearing and hurst frame and the pit-wheel pit was rebuilt in brick. The bricks differed from those used in the eighteenth century parts of the mill in having small frogs. A clay pipe from the floor make-up layer (1109) dated this construction as 1810–1840.

Mid-late 19th century

The mill developed rapidly during the latter half of the nineteenth century as different types of power were used in conjunction with the water wheel. Hours were long at the mill (5am – 8pm) and work

was reported to be very hard. This form of hard work was not it seems suitable for everyone, as in 1871 when Ben Burton went to work at the mill, being small and young (17) he was obliged to leave after 9 months (Simmons n. d.). In the 1870s the mill was taken over by John Terry, a corn merchant (Harrods Directory 1876). He was succeeded by Joseph Rogers from Princes Risborough who also ran Haydon Mill in Hartwell parish and was responsible for updating the machinery, firstly with a roller plant installed by Henry Simon, driven by steam and water and later a compound condensing engine by Robinson of Rochdale who remodelled the roller plant (Kelly's Directory 1895, 1899, Simmons n. d.). The principal mill gearing was also changed when one of these improvements were made. This was shown archaeologically by the changed position of the pit-wheel pit and alterations to the wheel pit. The earlier pit-wheel pit was filled with coarse concrete and a cast iron pit-wheel pit (1094) was concreted in place (Figs. 7 & 9 and Plate 5). The hole in the wheel pit that the wheel axle passed through was blocked with bricks (Fig. 8c).

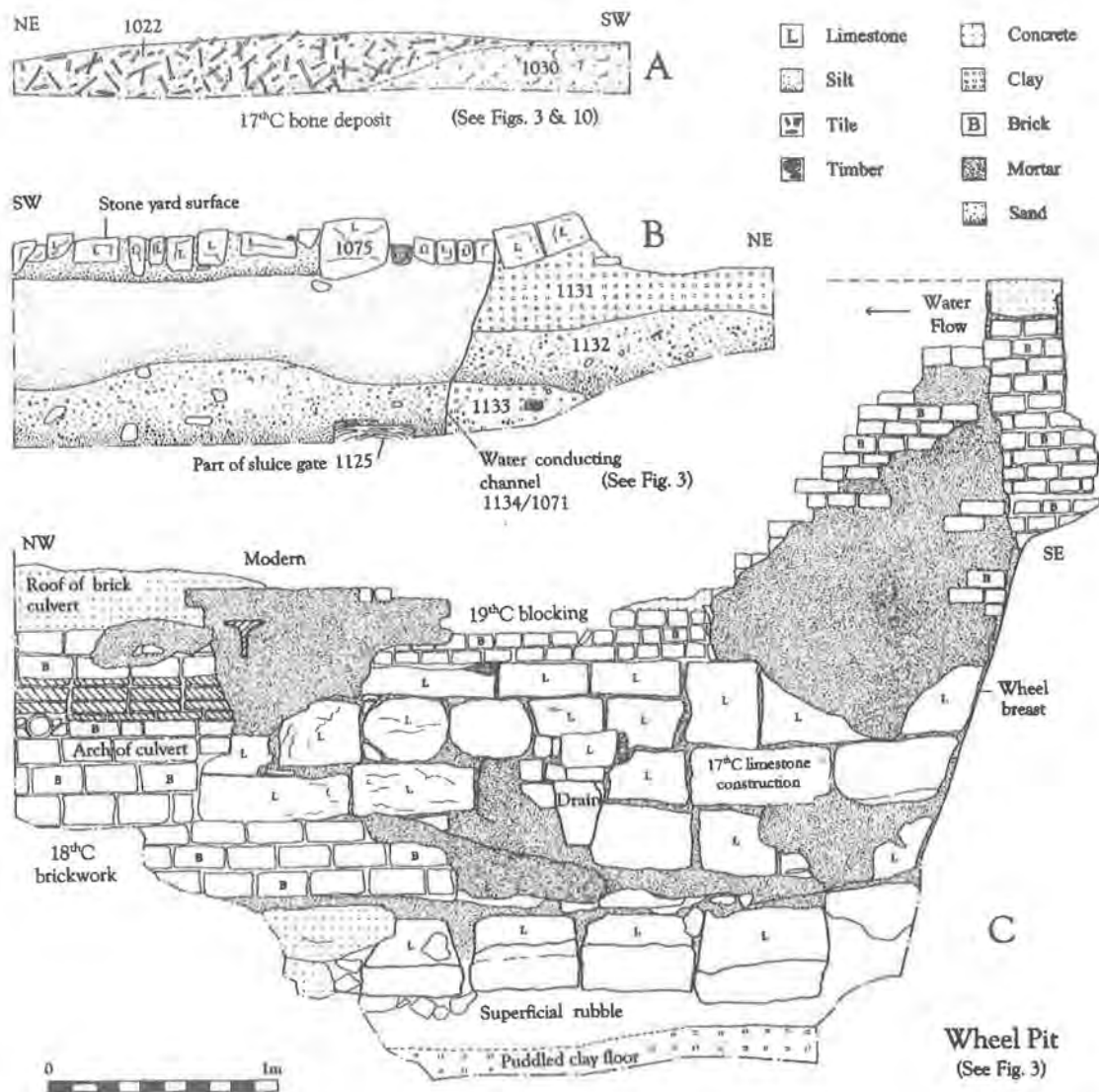


FIGURE 8 Sections (see Figure 3 for locations). A: industrial deposit of sheep bones. B: Medieval dumped layers, seventeenth-century conducting (bypass) channel. C: Masonry recorded within the wheel pit.

1890s-early 20th century

That the mill was rebuilt during the 1890s is shown by the very different ground plans of the mill on the 1st and 2nd edition 25" OS maps of 1877/8 and 1899 (Fig. 13). The final form of the buildings consisted of three units built end to end: two mill buildings dated 1897 at the north east end, 1893 in the centre and a residential unit at the south western

end (Plate 1). The mill buildings (Figs. 3&6) were subject to a preliminary historical survey by Buckinghamshire County Museum in 1992 (Westmore) and were described from photographs in the archaeological appraisal of the site in 1997 by Parkhouse, as follows:

The 1897 building was of four bays and four

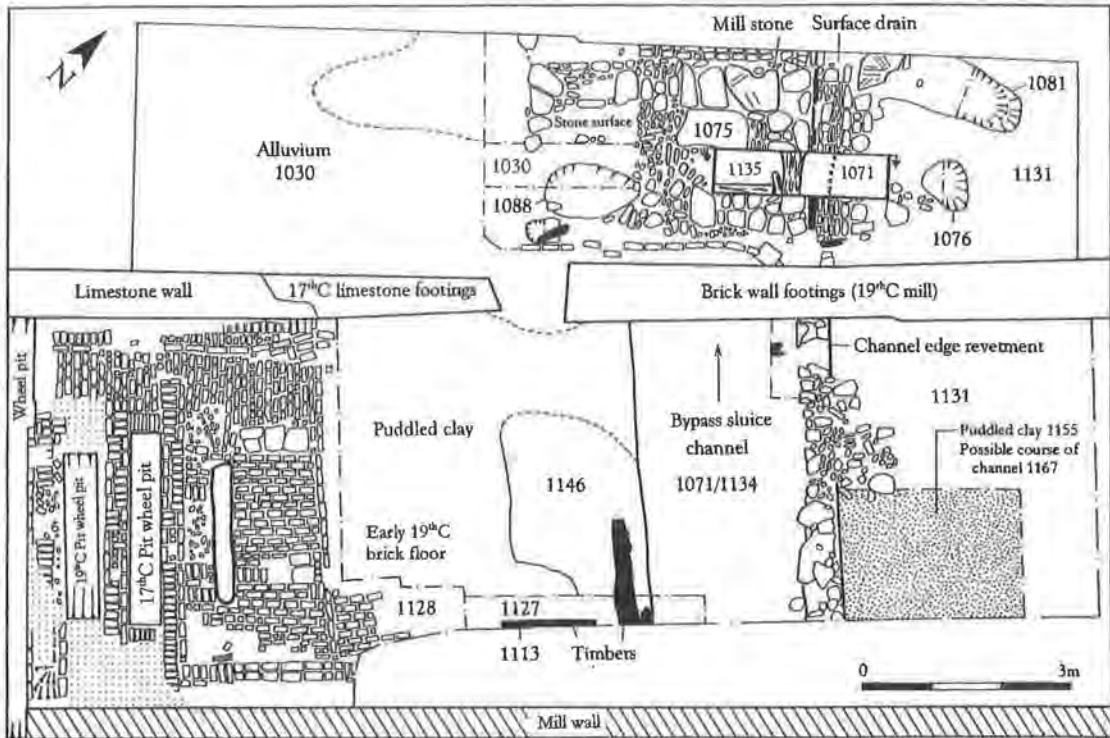


FIGURE 9 Detailed plan of the excavated area to the NE of the mill wheel pit (see Figure 3 for location). This shows the seventeenth-century bypass channel, the eighteenth-century stone yard surface, the early nineteenth-century brick mill-floor and the position of two pit-wheel pits.

storeys in red brick with a slate roof. A datestone on the north west wall read simply '1897'. Photographs appear to show a straight joint in the brickwork between the north eastern two bays and the rest of the building and there is also some irregularity in the pointing of the brickwork of the end bay, in the region of the 1897 datestone, perhaps suggesting that the datestone commemorates a repair or extension rather than a complete rebuild. A sack-hoist protected by weatherboarding protruded from the north east gable. Fenestration consisted of simple nine or sixteen-light windows with segmental brick arches and concrete sills throughout, together with a circular window high in the south west gable, overlooking the lower roof of the 1893 building. Some windows had been bricked-up, while others on the ground floor had apparently been replaced by sliding doors. Decoration was restricted to dog-tooth brickwork in the gable

beneath the verge and along an attenuated architrave and burnt, chamfered bricks beneath the eaves.

The 1893 building was of five bays and three storeys, in yellow brick with a slate roof. The datestone on the north west face read 'G. J. C. Co. rebuilt 1893' (*Grand Junction Canal Company*). Fenestration was identical to that in the 1897 building, with segmental arches using red bricks. There was a sack-hoist, similar to that on the 1897 building, protruding from the bay closest to the 1897 building in the centre of the industrial ensemble. Decoration was similar to that in the 1893 building with additional burnt header decoration in the gable, together with recessed brickwork in the upper floor, defined by chamfered red and burnt bricks.

It is unclear whether the datestones commemorate refurbishment or complete rebuilding. A photo-

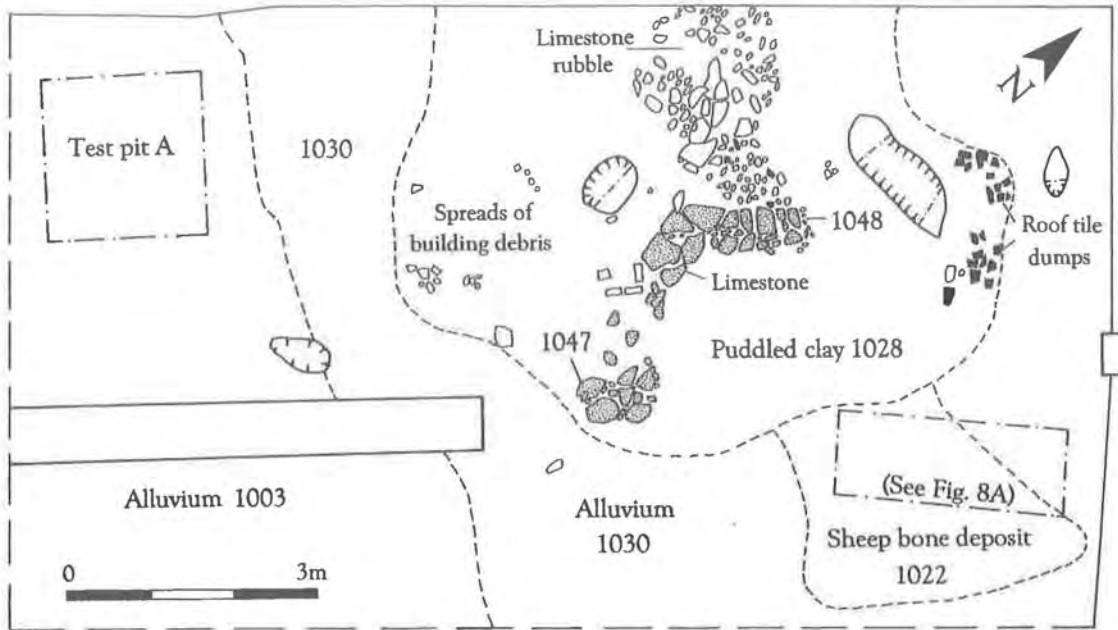


FIGURE 10 Detailed plan of the structural remains located south of the mill (see Figure 3 for location). The structure was associated with an industrial deposit of sheep bones, the waste from tanning or tawing.



PLATE 5 Area of stone surfaced trackway, with millstone in foreground, looking south-west.

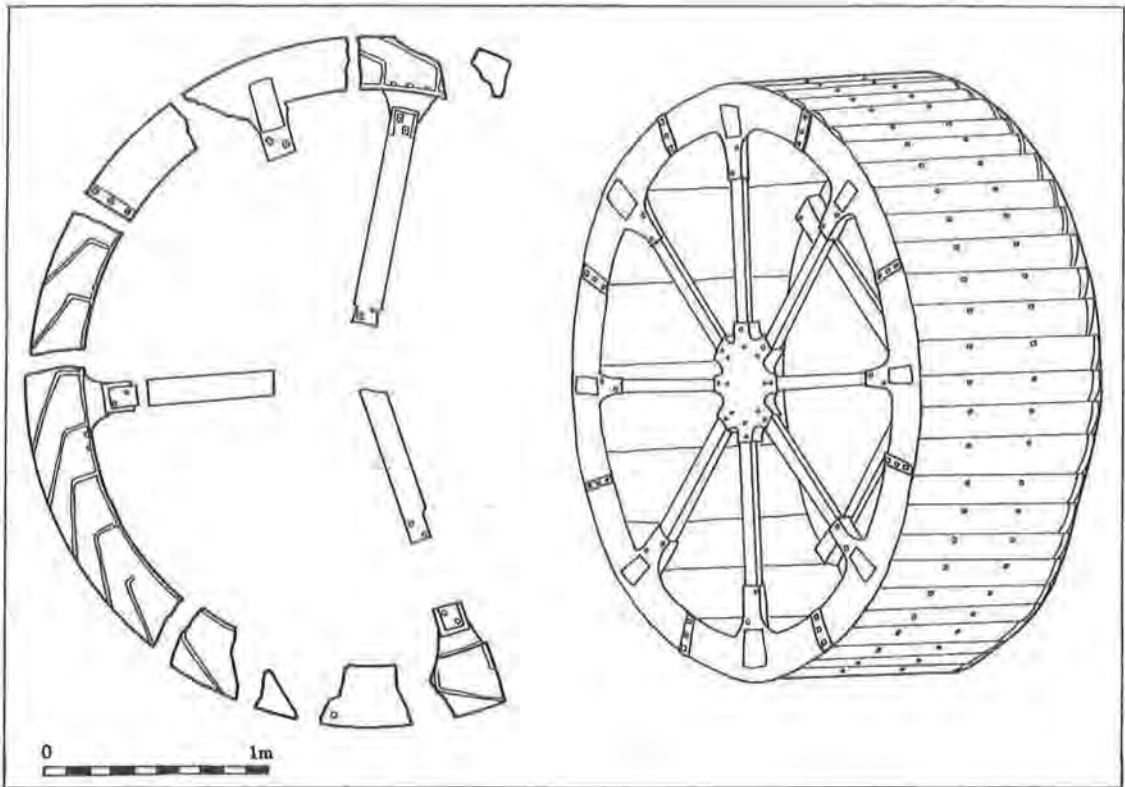


FIGURE 11 Late nineteenth-century water wheel fragments recovered from the wheel-pit silts (left) and a possible reconstruction of the wheel (right).

graph of 'Roger's Mill' taken from the west in 1894 shows a distant view of the mill which does not seem to differ greatly from the 1897 structure. The photograph also shows the tall chimney to the north east of the mill; evidence of the steam power used in conjunction with water power during this period.

The brickwork of the '1893' building was built on courses of limestone of the seventeenth-century mill. The floors of both these buildings were of heavy, coarse concrete with a bitumen skin. The floor of the northern '1897' building included three stone and concrete machinery bases, the construction of which destroyed much of the earlier floor levels. The southern '1893' building contained the wheel pit and remnants of iron machinery fixings. A concrete ramp was visible behind the east wall which was probably used for hauling grain to the stone floor. The yard or loading area on the west side of the '1893' building was resurfaced with quartzite setts (Fig. 2).

The third unit consisted of a pair of cottages, one of three storeys and two bays (one bow-fronted) next to the 1893 building and one of two storeys and three bays, constructed of rendered brick. A short gable-ended extension protruded from the rear (south east) of the cottage nearer to the 1893 building. The fenestration was of more recent design and was presumably a replacement (Parkhouse 1997).

Joseph Rogers died in 1903 and the mill was taken over by Edward Phillip Collier who ran it until it ceased operation in the 1920s (Kelly's Directory 1903, 1924). Collier replaced the condensing engine with a suction gas engine and the mill was connected to the town electricity supply around 1917 (Simmons n. d.) after the local authority had set up its own electricity generating works in 1915 (Hanley and Hunt 1993). The south side of the wheel pit was also rebuilt in the early twentieth century, probably after a 'washout' of the

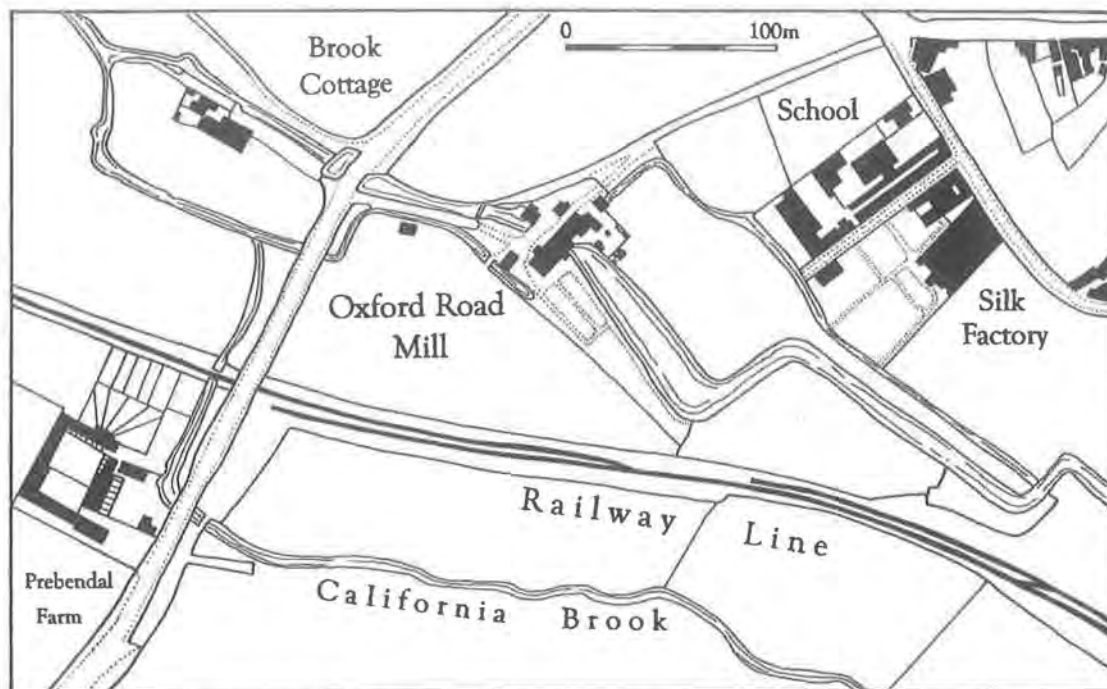


FIGURE 12 The Oxford Road Mill and environs reproduced from the 1st edition Ordnance Survey map of 1877/8.

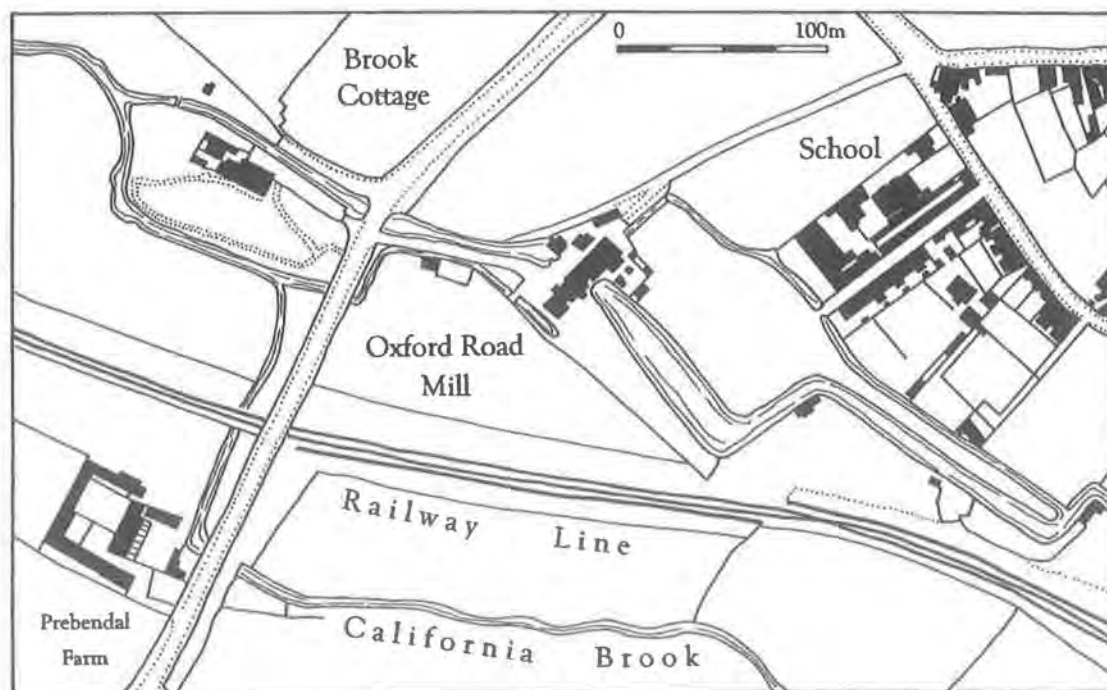


FIGURE 13 The Oxford Road Mill and environs reproduced from the 2nd edition Ordnance Survey map of 1899.

walls. It was hastily rebuilt with concrete, brick and stone. The concrete underpinned the remnants of the original seventeenth-century limestone build. The rubble and silt removed from the wheel pit during excavation contained fragmented sections of a cast iron waterwheel. Approximately a fifth of the wheel was recovered and recorded on site. This was probably the last ten-foot wheel used in the mill: it had been cast in several pieces and bolted together with slots for buckets (Fig. 11). Unfortunately no maker's mark was discernible on any of the fragments.

The Ordnance Survey map of 1925 shows that the mill stream was narrowed by this time; the mill pond was partially filled and the stream edge revetted with brickwork. The mill machinery was sold around 1930 and the buildings were subsequently used for a number of light industrial concerns until they were destroyed by the fire in October 1993 (*Kelly's Directory* 1931, 1948; *Bucks. Advertiser* 1993).

FINDS

Pottery by Andrew Fawcett

A total of 287 sherds from 35 contexts were recovered. The pottery is generally in good condition and spans the early medieval (AD1150–1250) to modern (AD1900+) periods. There are few diagnostic medieval sherds, and many of the medieval sherds are small. The majority of large, diagnostic sherds are of eighteenth-twentieth century date. The nature of some of the contexts was such that multi-period ceramics were recovered, and many contexts contained insufficient pottery to securely date them.

The medieval pottery (30% of the assemblage by sherd number) is mostly of local origin, thirteenth-fourteenth century, mainly cooking pots and jugs made at the Brill/Boarstall kilns. Only a small number of sherds are from outside of the county; these are South Hertfordshire greywares.

The post-medieval pottery (20% of the assemblage by sherd number) includes glazed red earthenwares and black-surfaced wares of a local origin, stonewares and Staffordshire slipwares.

The eighteenth-twentieth century pottery (50% of the assemblage by sherd number) includes creamware, porcelain, transfer printed, stoneware and china wares.

A few sherds of interest are described below but not illustrated:

1026 Glazed, red earthenware pipkin rim. Fabric is orange and sandy with an internal olive green glaze. Paint drips on the outside of the vessel may relate to its function. Date: seventeenth–eighteenth century.

1087 Glazed, red earthenware pipkin. Fabric is orange and sandy with an internal olive green glaze and an external glaze which encompasses the upper half of the vessel. Sawn or smoothed handle may indicate reuse. Date: seventeenth–eighteenth century.

1121 Brill/Boarstall ware jug rim. Oxidised fabric, glazed with copper additives, sandy texture, irregular fracture with abundant quartz inclusions. Date: thirteenth–fourteenth century.

1127 Cooking pot. Partial clear glaze on body. Dark orange/brown sandy fabric with a dark grey core. Texture is fine to irregular with an irregular fracture. Abundant clear quartz and sparse rounded, black iron ore inclusions. Date: fifteenth–sixteenth century.

1131 South Hertfordshire greyware cooking pot. Light grey fabric with darker grey surface. Fine texture with irregular fracture. Moderate clear and white quartz, frequent but well sorted rounded black iron ore and sparse large irregular chalk inclusions. Date: thirteenth–fourteenth century.

Metalwork by Nina Crummy

The implements and objects recovered reflect some of the activities carried out on the site, but the range is surprisingly restricted. There were, for example, no tools (mill-bills) used for the constant recutting required by the millstones recovered (de Little 1972, 44–5). The implements and objects are suggestive of general domestic and personal life around the mill rather than industry.

Iron Implements (Fig. 14)

1. Key. Fig. 14.1. L 158mm. A complete and well preserved iron rotary key with an oval bow. The solid shank is hexagonal in section for most of its length and has three transverse grooves at the end. The bit has symmetrical clefts, grooves along the side on both faces and notches that, with the ends of the grooves, give the edges a beaded form. The tapering pin projecting beyond the bit terminates in a small, narrowed tip.

The projecting pin indicates that the key fitted a

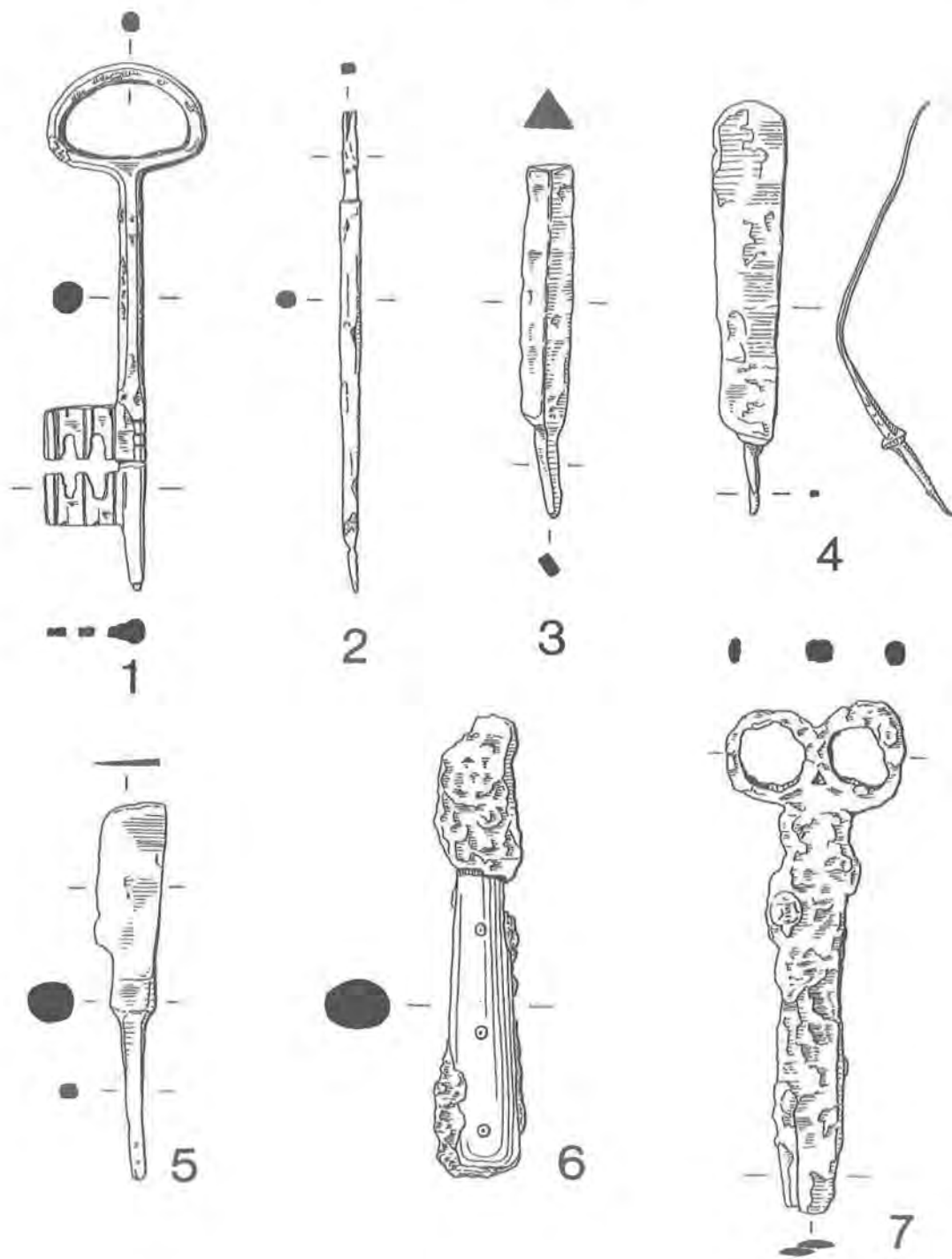


FIGURE 14 Iron objects (scale 1:2).

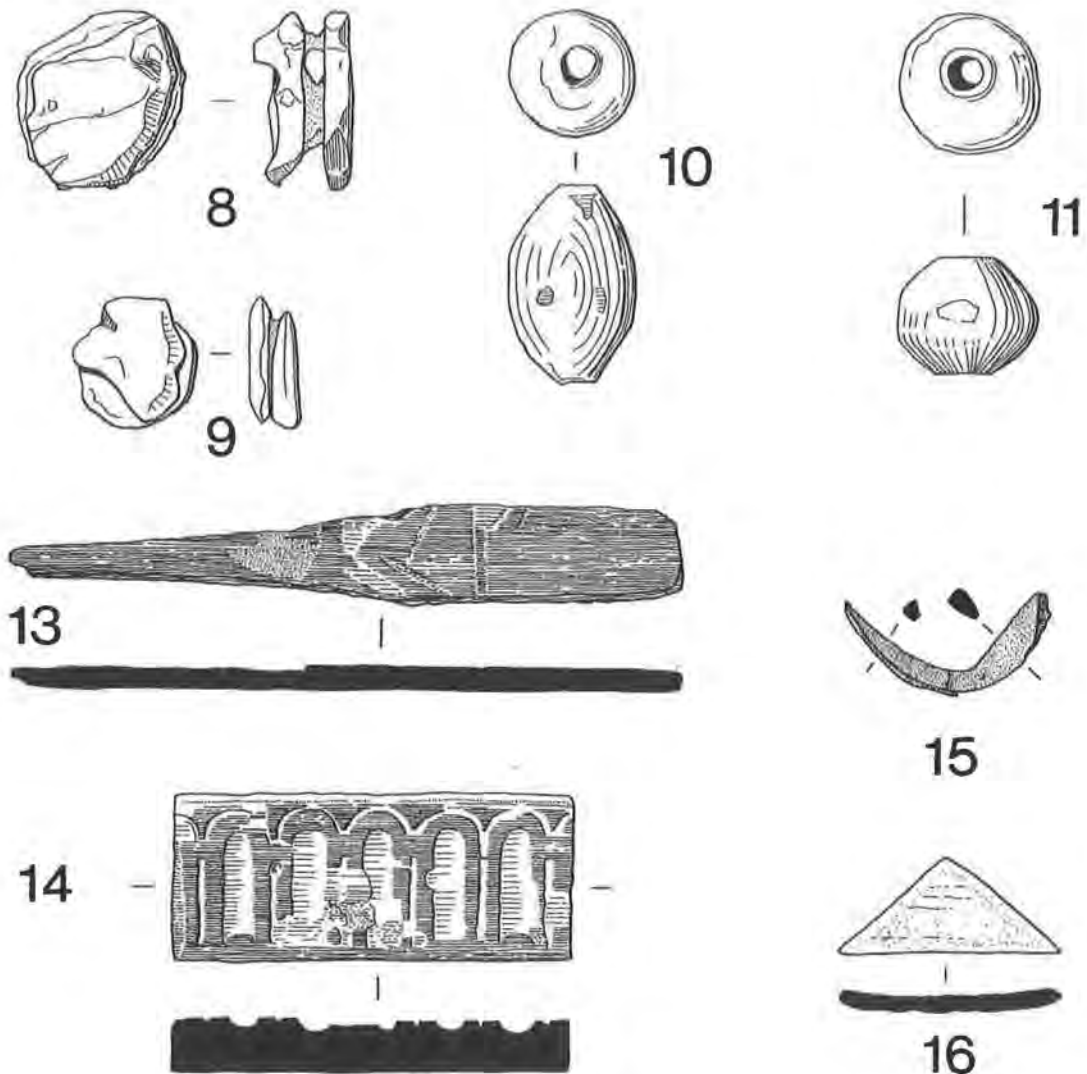


FIGURE 15 Lead objects (8–11, scale 1:1), wooden objects (13–14, scale 1:4), leather objects (15–16, scale 1:2).

door lock, not a plate lock on a chest (Moorhouse & Goodall 1971, 39–40) and the symmetrical bit shows that it could be used from both sides of a door, ruling out use for a cupboard. The decorative detailing on the bit suggests that it is a key of some quality.

The type is later medieval in origin, running into the post-medieval period. The bow begins as an oval, developing over the centuries into a fully stylised kidney-shape. The sequence of develop-

ment may be seen on assemblages from Winchester (Goodall 1990), Battle Abbey (Geddes 1985), Sandal Castle (Goodall 1983, fig 7, 127–38, Basing House (Moorhouse and Goodall 1971, fig 18, 22–26) and dating from 1670–1770 from Aldgate, London (Grew 1984, fig 49, 26–27).

The Oxford Road Mill key is early in form. It shares many characteristics with London examples dated to the second-half of the fourteenth century (Egan 1998, fig 90–91), particularly to two exam-

ples from the Baynard's Castle site in the City. Both have kidney-shaped bows, solid shanks and narrowed pins; one has the same polygonal shank with grooved end and narrowed tip to the pin (*ibid*, fig 90, 326) and the other has a bit of exactly the same size, cleft in exactly the same way (*ibid*, fig 91, 327). Both come from a late fourteenth century dump deposit, associated with the filling of a Thames-side stone-walled dock known as the East Watergate (Vince 1987, 2; Egan 1998, 14). This deposit included much material of high quality and may possibly be linked to the Great Wardrobe nearby (Egan and Pritchard 1991, 3), apparently confirming the high quality of the Oxford Road Watermill key. (*SF 44; construction debris 1147*).

2. Stabbing awl, Fig. 14.2. L: 144mm, probably for leather-working, with short rectangular tang for a handle. A similar example came from Basing House, Hampshire (Moorhouse & Goodall 1971, fig 20, 69), dated to before 1645. (*SF 36; alluvium 1030*).

3. File, Fig. 14.3. L:105mm. Three-square (triangular-section) with short rectangular tang. All the faces are very worn but traces of single-cut teeth are visible on all three. Part of the most worn face has broken away near the junction with the tang. Used, in particular, for sharpening saws (Blandford 1974, 215, fig 40c). It may also have been used in general woodworking (Salaman 1997, 195). (*SF 10; fill 1026 dated as late eighteenth/early nineteenth century in drain 1024*).

4. Knife blade, Fig. 14.4. L:(bent) 124mm. Spatulate, with thin disc-shaped bolster and whittle tang. Bolsters made in one with blade and tang first appeared in the middle of the sixteenth century (Moorhouse & Goodall 1971, 38). Knives with a similar bolster to this example came from mid seventeenth-century contexts at Basing House, Hampshire (*ibid*, fig 17, 10), and Sandal Castle, Yorkshire (Goodall 1983, fig 5, 66, fig 6, 73). The form of the blade may be close to that of a seventeenth-century one from Chelmsford, though that is lacking its tip (Goodall 1985, fig 31, 15). (*SF 41; 1112; dated as eighteenth century, in mill bypass channel 1071/1134*).

5. Knife blade, Fig. 14.5. L:112mm. Fragment, whittle-tang with circular bolster. A standard post-

medieval form. (*SF 9; fill 1026 dated as late eighteenth/early nineteenth century in drain 1024*).

6. Knife, Fig. 14.6. L:135mm. Fragment, scale-tang with stout circular bolster and well polished bone handle, fixed by three iron rivets. A long-lived post-medieval type. Comparable handles come from Sandal Castle, Yorkshire, dated to the mid seventeenth century (Goodall 1983, fig 6, 79), and from London, dated to the eighteenth century (Grew 1984, fig 52, 51). (*SF 17; fill 1025 dated as late eighteenth/early nineteenth century in drain 1024*).

7. Scissors, Fig. 14.7. L: 150mm. Narrow plano-convex blades; the tip of each is broken off. The finger loops are of narrow rectangular section and may have been made separately then forged onto the handles. Possibly of eighteenth-century date. (*SF 31; alluvium 1003*).

Lead Objects (Fig. 15 8–11)

8. Plug, Fig. 15.8 Diameter 25mm, thickness 14mm. One flange well-formed, oval, and slightly concave in the centre and the other rough above an irregular constriction. Lead was used to plug holes in ceramic vessels from the Roman period (Miles 1977, fig 16, 3). In the Anglo-Saxon and medieval periods there are examples of the practice from West Stow, Suffolk (West 1985, fig 231, 1), Rumney Castle, South Glamorgan (Evans 1992, fig 20, 4), and London (Egan 1998, fig 188). (*SF 15; 1131; dumped layer, dated as fourteenth century*).

9. Plug, Fig. 15.9 Diameter 16mm, thickness 8mm. As SF 15: here the well-formed flange is flat and circular. (*SF 34; unstratified*).

10. Fishing weight, Fig. 15.10 L 26.5mm, diameter 27mm. Barrel-shaped. (*SF 26; fill 1025 dated as late eighteenth/early nineteenth century in drain 1024*).

11. Fishing weight, Fig. 15.11 L 16mm, diameter 19mm. Globular. (*SF 16; 1002; mill pond silt, nineteenth century*).

Copper-Alloy Pins

The excavation produced 101 small pins with wound-wire heads and a few fragments of pin shafts. The pins were recovered from the fills of bypass channel 1071/1134 and drain 1024/1041;

both of eighteenth century date. On eight pins the head was obscured by corrosion products. The remainder could be divided into the two main types noted at sites such as Northampton (Oakley 1979, 260–2), Sandal Castle (Caple 1983), Chelmsford (Caple 1985) and Colchester (Crummy 1988, 7–8). On Type 1 pins the wire of the head is wound, usually twice, around the shaft but not usually shaped. On Type 2 pins the wire head has been shaped to globular form, probably by using a pair of hemispherical-hollowed punches (Caple 1985, 47). There may be a third form, part way between Types 1 and 2 (Caple 1983; 1985) but the pins here have been assigned to the type they most resemble on the basis that they may be either damaged or less well-made examples rather than a deliberate form (Crummy 1988, 7).

From the medieval period onwards, pins with wound-wire heads were primarily used to fasten clothing (Margeson 1993, 11) but were also used in dress-making and other sewing such as haberdashery. Several studies on the shaft diameter and length as well as on the form of the head have been carried out (Oakley 1979, 260–2; Caple 1983; *id* 1985; Biddle 1990, 552–60; Biddle and Barclay 1990, 560–71). All have shown that short, fine pins are generally later in date than long thick ones. The difference in size could indicate the type of material on which a pin was used (Margeson 1993, 11) as well as a difference in function (Biddle and Barclay 1990, 560).

Very short, fine pins such as those from the Oxford Road watermill (lengths 18–34mm) are likely to be of post-medieval or modern date though one larger pin could be residual medieval.

12. Type 2 pin. Not illustrated. L (bent) 41.5mm. (SF43; Fill (1112); dated as eighteenth century, in mill bypass channel 1071/1134).

Type 1 pins appear to die out in the early post-medieval period. This is borne out by their low level of representation here as compared to Type 2 pins (Type 1: 12, Type 2: 81, Head damaged/obscured: 8).

The quantities of pins recovered at Oxford Road Watermill need not necessarily indicate sewing of any kind on an industrial scale. Studies at Chelmsford recorded a maximum rate of deposition of 6.43 pins per year (Caple 1985, Table 2) while here the rate over an estimated period of 250 years is approximately 2.47 per year. Their concen-

tration in channel 1071/1134 and drain 1024/1041 appear merely to indicate concentrations of finds, not particular craft activities.

Dress Accessories and Personal Objects

Five copper alloy buttons of standard seventeenth–nineteenth century type and a small, plain copper alloy finger ring of similar date were recovered from the alluvium (1003/1030) and from the fill of drain 1024/1041.

Wooden Objects by Nina Crummy (Fig. 15, 13–14)

13. ?Spatula, Fig. 15.13 L 353mm, w 48mm. Narrow, flat blade and rounded shaft. May have had a domestic use, perhaps for stirring the contents of wide shallow vessels. (SF 45; 1087; dated as eighteenth century, in mill bypass channel 1071/1134).

14. Carved block, Fig. 15.14 L 20.8mm, w 88mm, thickness 25.5mm. Block carved with a row of tall arcades separated by pillars. Its scale suggests that it derives from furniture, coming perhaps from a cupboard, chest, settle, chair, or bench, though it may possibly have had a structural origin, such as from a mantel, plinth, or wainscot. The design clearly continued on either side, and the lack of peg or nail holes on any of the edges or the back suggests that this may be a fragment cut down from a larger piece though it may simply have been slotted into position. The design appears ecclesiastical and its context precludes a Gothic revival date, though it would fit well into the Elizabethan and Jacobean periods, when heavy carved furniture was popular. (SF 46; 1087; dated as eighteenth century, in mill bypass channel 1071/1134).

Leather by Nina Crummy (Fig. 15, 15–16)

This small assemblage contains slight evidence for shoe-making or repairing in the area during the medieval period. A dumped layer (1132) dated to the fourteenth century, produced four fragments of which one (Fig. 16.15) is a strip of thick leather cut from around the back of a heel, almost certainly when the sole was repaired. Shoe-making is suggested by a cut triangular fragment (Fig. 16.16). Similar pieces were used to fill in gaps in uppers, as tongues, or as heel-stiffeners in the late medieval period (Grew & de Neergaard 1988, figs 94, 96–8, 101). One of the other fragments from this context is a crumpled piece of thin leather that may be a

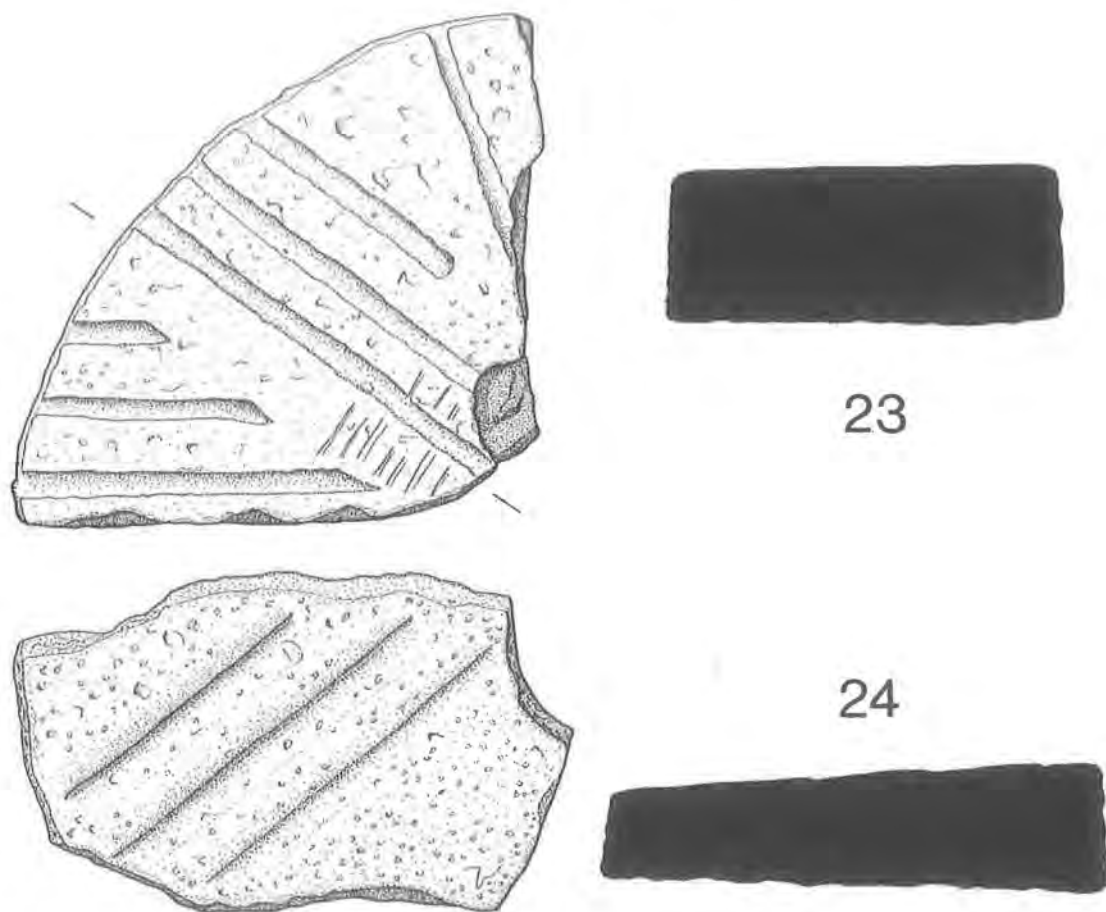


FIGURE 16 Mill stones (scale 1:8).

scrap left after cutting out shoe uppers, and the fourth is decorated with parallel raised bars. Somewhat similar decoration was used on late fourteenth-century shoes from London (*ibid*, fig 119).

The remaining material is all post-medieval in date. A small fragment of a shoe and part of a pierced strip were recovered from water-conducting channel (1071/1134, fill 1112). Shoe fragments were recovered from a dumped deposit (1144).

15. Offcut, Fig. 15.15 L 48mm, maximum thickness 5.5mm. Curved offcut of thick leather trimmed

from the back of the heel. (1132; *dumped layer, dated as fourteenth century*).

16. Scrap, Fig. 15.16 L 58mm, w 25mm, thickness 4mm. Triangular piece of thick leather, no stitching. (1132; *dumped layer, dated as fourteenth century*).

17. Scrap. Not illustrated. L 57mm, w 48mm. Crumpled scrap of thin, worn leather with no edges and no visible stitching. (1132; *dumped layer, dated as fourteenth century*).

18. Scrap. Not illustrated. L 23mm, w 23mm,

thickness 3mm. Rectangular scrap of leather decorated with parallel slightly raised bars. No original edges and no stitching. The decoration may have been achieved by scraping back the surface, but there appear to be traces on the poorly preserved underside of the same pattern in negative, in which case the design was probably impressed. (*1132; dumped layer, dated as fourteenth century*).

19. Shoe fragment. Not illustrated. L 127mm, height 53mm. Fragment of a shoe quarter, with the bottom part missing. There is edge/flesh stitching down one vertical seam for attachment either at the heel or to a separate heel piece. On the vamp wing side there is a short (incomplete) vertical seam with edge/flesh stitching, which continues along the contiguous lower horizontal edge of a triangular forward projection. The upper edge is strengthened by a reinforcement seam of short tunnel stitches set side by side to produce a corded effect. (*1112; dated as eighteenth century, in mill bypass channel 1071/1134*).

20. Strip. Not illustrated. L 75mm. One cut edge and one worn edge. A row of perforations is set at 9mm intervals along the cut edge, and one end has broken across a perforation. The other end has been cut. This is unlikely to be a strap, and the apparent lack of wear around all but the hole at the broken end makes it unlikely to be from the throat of a laced shoe or boot or from a drawstring bag. (*1112; dated as eighteenth century, in mill bypass channel 1071/1134*).

21. Shoe fragment. Not illustrated. L 73mm, width 62mm. From the composite heel of a nailed shoe, worn through at both ends. (*Layer 1144, eighteenth century*).

22. Scrap. Not illustrated. L53mm, w 33mm. Rectangular fragment, no stitch holes. One end is slightly thicker with traces of an incised groove. (*Layer 1144, eighteenth century*).

Millstones by Nina Crummy (Fig. 16)

Nine fragments of coarse sandstone millstones were recovered, most of them unstratified. Two types of sandstone are present: imported Cullin (Cullen/Cologne) stone from Germany, also known as blue stone, and Millstone Grit from the Peak District. Both were used to make one-piece

millstones (Stowers 1967, 212). Cullin stone, being harder and smoother than the native variety, was used to grind flour for human consumption, while Millstone Grit was used to grind cattle-food (Petchey & Giggins 1983, 89; Wood 1995, 545).

All four fragments of Millstone Grit are dressed with widely-spaced sloping facets set at a tangent to the edge (Fig. 16.23–24). On the larger piece there are two groups of facets at an angle to each other. The usual method of dressing was to cut either spirals or tangential sets of broad grooves, producing raised areas, lands, which were then dressed with fine grooves (Stowers 1967, fig 118). The lands did the grinding, while the grooves directed the ground material off the stone at its outer edge for collection. The sloping facets on the Oxford Road millstones perform both functions, being a land on one side and a groove on the other. The stones also decrease in thickness from centre to edge, helping the material off the stone. This odd method of dressing may pre-date the seventeenth century spirals illustrated by Stowers and be late medieval or early post-medieval in date.

Fig. 16.24 comes from a stone about 1.2m in diameter, and Fig. 16.23 also had a diameter in excess of 1m. The maximum thickness noted is 170mm.

By contrast, the Cullin stone fragments are slightly thinner with a maximum thickness of 121mm. None is large enough to enable an estimate of total size to be made; dressing in the form of fine grooving was visible on one fragment. Two of the three pieces have some clean broken edges, suggesting that they were prepared for reuse as cobbles, paving, or building stone though neither bears any trace of mortar or cement. They may have been more recently broken during the demolition of the mill. The third fragment has almost certainly been recut for use as a paving slab. It has a straight worn and weathered edge; its rough outer face appears to have been reduced and its grinding surface has been worn smooth.

Millstone Grit stone fragments

23. A large fragment, diameter greater than 1m. Fig. 16.23. Thickness: tapers from 170mm near the centre to 158mm at the edge, weight c. 80kg. Approximately a quarter of a stone but short of a full radius. The grinding face has two sets of widely spaced tangential grooving. *Unstratified*.

24. A large, irregularly shaped fragment with part of an edge and the central hole. Fig. 16.24. Diameter of hole *c.* 180mm, total diameter 1.2m, thickness from 140mm at the centre to 94mm at the edge, weight *c.* 60kg. The grinding face has widely spaced tangential grooving, the edge and outer face are pecked. *Unstratified.*

25. An edge fragment, with straight inner broken edge. Not illustrated. Thickness tapers from 136mm on one side to 110mm on the other, but no noticeable fall to or from the edge, weight 15kg. The grinding face has the remains of widely spaced tangential grooving, the edge and outer face are pecked. *Unstratified.*

26. Triangular edge fragment. Not illustrated. Thickness tapering from 125mm at the inner point to 113mm at the edge, weight 12kg. The grinding face has widely spaced tangential grooving, the edge and outer face are pecked. *Unstratified.*

27. A small fragment. Not illustrated. L 125mm, w 93mm, depth 59mm. Cut into a rectangular brick-shaped block with five worked faces and one broken end face. It was probably reused as a building stone or a cobble though none of the faces bears any trace of mortar. *Alluvium 1030.*

28. A small fragment with no surviving worked surfaces. Not illustrated (*1025 dated as late eighteenth or early nineteenth century in drain 1024*).

Cullin Stone fragments

29. An irregularly shaped fragment with part of edge of central hole. Not illustrated. Thickness tapering from 112 to 91mm, weight 6kg. The grinding face has fine grooving running towards the centre, the outer face is roughly pecked, some edges recently broken. *Unstratified.*

30. A rectangular block. Not illustrated. Thickness tapering from 121–68mm, weight 3kg. The grinding face is very worn, there are traces of a slight groove along one edge, the outer face is roughly pecked; one end is worked, the other end and one side have been recently broken, the other side was broken earlier. *Unstratified.*

31. A triangular fragment. Not illustrated. Thickness tapering from 94–55mm, weight 5kg. The

long edge is straight, apart from at one corner where weathering has reduced it, the other edges are broken. The worked face has worn smooth. The rough outer face may not be original. *Unstratified.*

Trade token by Nina Crummy

32. Very worn copper-alloy token, probably of mid seventeenth-century date. No individual letters can be distinguished. The design on what is probably the obverse appears to be a coat of arms, perhaps including a chevron. The other side shows an animal, probably a horse. Tokens of the period issued by farriers and blacksmiths usually carried the blacksmith's arms, 'a chevron between three hammers crowned' (Whiting 1971, 51). No Buckinghamshire tokens appear to have been found with this design, though there are Hertfordshire examples, such as those issued by Peter Langthorne of Stevenage (Williamson 1967, Hertfordshire 188), while the tokens of Timothy Marley of Baldock had a horse on the obverse (*ibid.*, Hertfordshire 12). (*SF 7; alluvium 1030*).

Coins

33. Farthing; James I, 1621–25. (*SF2; alluvium 1003*)

34. Farthing; James I, 1621–25. (*SF4; alluvium 1003*)

35. Farthing; James I, 1621–25. (*SF30; alluvium 1003*)

36. Rose Farthing; Charles I, 1625–44. (*SF 28; fill 1025, residual in drain 1024*)

37. Rose Farthing; Charles I, 1625–44. (*SF21; alluvium 1030*)

38. Halfpenny; William III, third issue, 1700 or 1701. (*SF3; alluvium 1003*)

Slate pencil

39. L (snapped) 23mm; end sharpened. (*early nineteenth century; fill 1025 in drain 1024*).

Building Material and Fittings

A large quantity of iron nails were recovered, primarily from post-medieval contexts. Post-medieval fragments of copper alloy, tin and iron sheet, scrap lead, iron fittings, iron and copper alloy

TABLE 1 Clay pipe fragments.

Context Number	Oswald's type/date					Undiagnostic	Number of stems
	G10: 1700-1740	G23: 1760-1800	G24: 1810-1840	G29: 1850-1900	? c. 1850+		
1002				1			1
1003	1						
1021					1		2
1025							1
1042							5
1049							1
1056							1
1064							2
1078							1
1087							3
1109			1				2
1112							6
1119							1
1158		1	1			1	22
U/S	2						

wire, a fragment of lead window kame, a small quantity of window glass and a lead counterweight were also recovered. These represent fittings from around the mill buildings. Much of the material was recovered from the fills of the eighteenth-century bypass channel 1071/1134 and the late eighteenth/early nineteenth century deposits in drain 1026/1041.

Brick and Tile

Large quantities of fragmentary, flat peg-hole roof tile and brick were recovered from post-medieval contexts. Tile and brick was reused in some contexts as levelling or packing material such as layer 1118, a make-up deposit for the concrete floor of the late nineteenth-century mill building (Fig. 6).

Bottle Glass

A small amount of bottle glass (27 fragments) including wine bottle fragments of mid-late eighteenth century date and beer, pop and wine bottle fragments of Victorian date was recovered. The finds were mainly from drain 1024/1041, alluvium 1003 and mill pond silt 1002,

Clay Tobacco-Pipes by Tora Hylton

A total of 57 clay tobacco-pipe fragments were recovered. The assemblage comprises 9 pipe-bowls and 48 stem fragments, which together span the period c. 1700 to c. late nineteenth century (Table

1). There are no bowls displaying seventeenth-century characteristics.

Eight bowls are sufficiently complete to enable dating (Table 1), following the simplified typology using bowl and foot/spur forms (Oswald 1975, 37-41). A small number of stems indicate moderate abrasion, suggesting that they might have been residual. No single fragment measures more than 110mm long and 2 fragments include mouth-pieces.

Five bowls are undecorated, but four bowls are ornamented with relief-moulded decoration in a form which occurs on bowls of the nineteenth century. Two bowls have repeating leaves along the joining seams of the bowl, a motif in use throughout the country and occurring on bowls dated to 1820-60 (Mann 1977, 23). Often, such motifs are combined with other designs, like the example (from 1158) decorated with a possible armorial motif comprising three skulls separated by clasped hands.

After c.1850 more complex designs appeared, under the influence of Meerschaums types and French competition. One is in the form of a claw grasping a pipe-bowl (1021). Similar pipes are known from Coventry (Muldoon 1979, fig 12, 52) and Northampton (Moore 1981, fig 14, 59); the latter example is almost identical to that from 1021.

Five bowls have makers marks/symbols, two in relief on the foot/spur, two on the underside of the

heel (one indeterminate) and one stem/bowl with the vestige of a name incuse on the stem. Naming individual makers was hampered by their fragmentary condition and poor moulding and stamping.

One unstratified example is marked with 'I S' on the underside of the heel. The form of the bowl (Oswald's Type G10) indicates that it was made c. 1700–40. The I is interchangeable with J. Oswald (1975, 161) lists two manufacturers within Buckinghamshire who used these initials in the early eighteenth century, both worked in Aylesbury (Moore 1979): John Smith – c. 1709–1732 and John Sedall/Sedwell – c. 1724–1730.

On the stem of another pipe (1158) the word "APPELBY" is flanked by a foliate motif. It has not been possible to decipher the letters on the opposing side of the stem.

Two have marks either side of the spur, one with 'S S' (context 1158) and the other with a star motif (context 1109).

Animal Bone by Ian L. Baxter

Introduction

The total assemblage for the site amounts to approximately 18kg of bone representing 1227 fragments. Over 98% of fragments could be identified to species or a wider taxonomic category. Almost 90% of bone fragments represent the foot elements of sheep and derive from an extensive industrial deposit dating from the early post-medieval period. This report will discuss the faunal remains by period with particular emphasis on the early post-medieval period.

The Number of Identifiable fragments of bones of each Species (NISP) for the site are presented in Table 2. Epiphyseal fusion of sheep/goat metapodials and phalanges from early post-medieval contexts in Table 3, and a summary of early post-medieval sheep metapodial measurements in Table 4. The site archive contains further details of cut marks identified on sheep metacarpals and metatarsals respectively for the four main contexts where they were found in significant numbers and the measurements taken on the bones of all species.

Methodology

Bone was identified by comparison with published descriptions (in particular Schmid 1972, Boessneck 1969, Sisson and Grossman 1953, Cohen and Serjeantson 1986, Amorosi 1989), and

reference material in the collection of the author. Bone measurements and withers height calculations are based on von den Driesch 1976, Boessneck 1969, Payne 1969, Teichert 1975, Kiesewalter 1888, Harcourt 1974, and Clark 1995. Long bone, vertebrae and rib fragments indeterminate regarding species are recorded as Large Mammal, Medium Mammal and Medium/Small Mammal.

High – late medieval period

Only 48 fragments were recovered from deposits of this period, 22 of them belonging to a single dog,

Horse

Two horse teeth and a tibia fragment with cut marks came from probable dumped deposit (1132). The teeth are from animals aged approximately 7 and 9 years (Levine 1982).

Dog

The partial skeleton of a dog was found in alluvial layer (1005). Originally considered to be a possible victim of drowning (Humphrey 1998), this seems unlikely as several bones have cut marks. Based on the state of eruption of the permanent dentition and epiphyseal fusion of the long bones (Sisson and Grossman 1953; Sumner-Smith 1966), the dog was about five months old at time of death. The face was probably foreshortened with a congenital lack of the lower P1 and crowding of lower P4–M2. The permanent carnassial is large. The humerus, radius and ulna are very bowed, possibly due to rickets as the distal radius and ulna are expanded and the bone in these areas is poorly calcified (Riser 1964). Calculations based on the humerus, with unfused proximal epiphysis, suggest the dog stood around 42.3 cm high at the shoulder at time of death (Harcourt 1974), while the fused metapodials indicate a potential height of around 46.5 cm (Clark 1995). This was a stocky animal with a midshaft diameter index of 8.8 for the humerus and, with its foreshortened and possibly undershot jaw, may have resembled the old bull-baiter.

Early post-medieval

The remains from contexts of this period comprise over 94% of fragments recovered from the site and will be considered in more detail than those from the other periods.

TABLE 2. Number of identifiable fragments of bones of each species (NISP).

Taxon	High-late	Early post-medieval	Later post-medieval/ medieval	Total early modern
Horse <i>Equus caballus</i> L.	3	12	1	16
Cattle <i>Bos f. domestic</i>	2	5	12	19
Fallow Deer <i>Dama dama</i> L.	0	0	2	2
Pig <i>Sus f. domestic</i>	2	0	3	5
Sheep/Goat <i>Ovis/Capra f. domestic</i>	2	1105	11	1118
Large Mammal	5	1	3	9
Medium Mammal	1	0	2	3
Medium/Small Mammal	2	3	1	6
Dog <i>Canis familiaris</i> L.	1*	3	2	6*
Cat <i>Felis catus</i> L.	0	0	1	1
Fowl <i>Gallus f. domestic</i>	0	1	0	1
Indeterminate Bird	0	1	0	1
Indeterminate	9	7	3	19
Total	27*	1138	41	1206*

TABLE 3. Epiphyseal fusion of sheep/goat metapodials and phalanges from early post-medieval contexts.

Proportions of fused epiphyses (fused/total) grouped in approximate sequence of fusion (based on Silver 1969)

Skeletal element	Age at fusion	Fused/Total	% Fused
Phalanx I	13–16 months	173/201	86.1
Distal Metacarpus	18–24 months	207/289	71.6
Distal Metatarsus	20–28 months	164/241	68.0

Horse

The remains of horse are more frequent than those of any other species, apart from sheep, in the early post-medieval deposits. They include five bones, possibly from the same individual, in alluvial layer (1003). The mandible from this deposit came from an animal over 19 years of age based on the crown height of the lower M3 (Levine 1982). The third metacarpal came from a small animal, a pony rather than a horse, with a withers height of 113.0 cm or under 12 hands. A third metacarpal (also from the right side) from a similarly sized animal was recovered from alluvial layer (1030). A poste-

rior mandible fragment recovered from the sheep foot bone deposit (1022) has cut marks on the inner surface below the articulation.

Sheep

As noted above, the remains of sheep, and almost exclusively elements of the foot, account for 97% of fragments recovered from early post-medieval deposits. The main concentrations of sheep foot bones were in contexts (1003), (1030), (1022) and (1028). Nothing that could be identified as goat was seen among these remains, which seem, therefore, to belong exclusively to sheep. A plot of

TABLE 4 Summary of early post-medieval sheep metapodial measurements.

Metacarpus					
	GL	Bp	SD	Bd	Withers Height (m)
Range	101.3 – 135.1	18.6 – 26.1	11.3 – 16.7	21.0 – 27.5	0.49 – 0.65
Number	170	164	170	191	170
Mean	114.8	21.9	13.2	24.3	0.56
SD	6.5	1.268	1.052	1.282	3.193
Metatarsus					
	GL	Bp	SD	Bd	Withers Height (m)
Range	99.8 – 145.7	16.7 – 22.6	9.3 – 13.7	19.0 – 26.3	0.45 – 0.66
Number	148	142	147	137	148
Mean	122.7	19.2	11.4	23.1	0.56
SD	8.9	1.1	0.942	1.3	4.023

metacarpal distal width against length (based on Bourdillon and Coy 1980) and width of condyle against width of trochlea (Payne 1969) (see site archive, as above) failed to produce clusters attributable to sheep or goats, confirming the impression gained during examination of individual bones that only one species was present. This is largely confirmed by indices of width of trochlea/diameter of verticillus in the metacarpus (Boessneck 1969) which produced scores below 63 in only 5 cases (under 3%). Three horn cores were recovered from contexts (1030), (1022) and (1063 – finds associated with the structure south of the mill). Only one was sufficiently complete to measure, but all are from young ewes. A minimum number of individuals can be calculated on the basis of recovered proximal metacarpals as 174. However, the collected bone represents only a small fraction of a considerable deposit estimated as “several thousand” (Humphrey 1998), principally concentrated in alluvial layer (1022). Finds of carpals and tarsals, together with the recovery of quantities of phalanges suggests that the feet were originally deposited intact. This is consistent with finds from other sites such as Walmgate, York (O'Connor 1984) and Bonners Lane, Leicester (Baxter Forthcoming and Unpublished). One foetal metacarpus, one neonatal metacarpus and one foetal metatarsus were recovered from (1030) and two neonatal metacarpi from (1022) (Prummel 1989). However, most of the sheep were over 2 years old (Table 3) which is broadly similar to the two sites cited above. It therefore seems unlikely that many of these sheep were killed for prime meat

(cf. O'Connor 1984:35). The Oxford Road sheep range in size from 0.45 cm to 0.66 cm high at the withers and average 0.56 cm. This is shorter than the eighteenth-century animals from Walmgate but similar to the late medieval animals from Bonners Lane. However, the Oxford Road assemblage includes animals both shorter and taller than any recovered from Bonners Lane. This variability could be caused by differences in husbandry or by the samples having been drawn from several different flocks, perhaps composed of different breeds (cf. O'Connor 1984:41). An attempt has been made to establish the sex of the animals represented at Oxford Road. This did not prove possible at either Walmgate or Bonners Lane. A plot of metacarpal width at epiphyseal junction against distal width (based on Hesse 1984) suggests two groupings, while a plot of greatest length against shaft width (based on O'Connor 1984) (see site archive, as above) suggests three groupings, possibly ewes, wethers and rams. By analogy with the bones of modern sheep of known weight, it is possible to suggest that a mature ewe would have reached around 37.5 kg liveweight (Dobney *et al* 1996).

Most of the cut marks on metacarpals are antero-posterior and concentrated on the proximal medial shaft. Significant numbers are also recorded on the posterior midshaft, medial midshaft, and anterior proximal surface. Most of the recorded cut marks on metatarsals are antero-posterior and concentrated on the proximal medial surface. No cuts were seen on the proximal articular surface or distal articular surface. This is consistent with the deposition

of metapodials still attached to the phalanges. Some metapodial shafts were polished during defleshing resulting in repeated medial and anterior oblique marks (not necessarily recorded as cuts). It seems highly probable that sheep skins were transported to the site with the feet still attached and that these elements were detached and dumped and the skins washed on site. Serjeantson (1989:141) has suggested that the foot bones were left attached to skins so that the neatsfoot oil could be utilised in the tanning process. It seems probable that the sheep foot remains from Oxford Road are the waste from some form of tanning process conducted on or very near the site by a fellmonger, whittawyer (or tawyer) or glover (Thomson 1981:170-4). The washing of skins was a very necessary part of the process and was probably done in the Bear Brook or the mill race. There are numerous complaints about and orders against the washing of skins from various parts of the country during this period (Thomson 1981:173). In the medieval and early post-medieval period the leather industry was second only in economic importance to that of wool textiles but is still little known archaeologically (op. cit.:175).

Pathological specimens seen include a very short immature proximal Mt. III+IV with a greatly thickened distal shaft found in (1028). The bone is spongy and the condition may be due to infection following trauma, possibly osteomyelitis. In context (1030) a proximal Mt. III+IV is expanded with the centrotarsale fused in place. Possibly a case of infective arthritis, there are transverse cut marks on the posterior centrotarsale and medial/posterior Mt. below the articulation. Three metatarsals from the same context have raised ridges on the anterior medial shaft and three have a spur of bone on the posterior medial side, probably an elongated Mt. V. These osteological changes are probably age related. A Mc. III+IV from (1022) has ossified medio/lateral tendons on the proximal posterior surface, and another metacarpal from the same context has lumps on the anterior lateral surface probably resulting from trauma.

Dog

A proximal left ulna fragment with unfused tuber from a medium sized dog under 5-8 months of age (Sumner-Smith 1966), and a small proximal tibia shaft fragment from a second individual were found in (1030). The calcaneum of a medium sized dog was found in (1022).

Later post-medieval and early modern periods.

The sheep metapodials found in later post-medieval contexts are most probably derived from the earlier post-medieval deposits (Humphrey 1998). The fill of the main eighteenth century drainage channel (F1024/1041) (1042) is noteworthy for the occurrence of fallow deer (*Dama dama*), a proximal humerus fragment and distal Mt. III+IV fragment. Also in the same context were a cat radius and a proximal tibia fragment of dog or fox (tabulated as dog). The few remains from nineteenth-century contexts are unremarkable.

Summary and conclusions

The only significant assemblage from the site consists of considerable quantities of sheep foot remains in early post-medieval contexts. This industrial assemblage indicates the activities of someone connected with the working of sheepskin in the seventeenth century operating on or very near to the site, a fellmonger, tawyer or glover. Horse remains in this period, which are relatively numerous compared to other domestic species except sheep, belong to small ponies of under 12 hands. The young dog whose remains were found in an alluvial deposit of medieval date may have suffered from rickets and/or may have been an early bull-baiter.

APPENDIX 1 DOCUMENTARY EVIDENCE

Documents relating to Spital Mill from *Calendar of the Hampton Collection of Manuscripts, being documents relating to the Pakington family and estates in the Counties of Worcester, Buckingham and Pembroke and elsewhere, compiled from the originals deposited on permanent loan in the Birmingham Reference Library by the Rt. Hon. Herbert Stuart Pakington, D.S.O. 4th Baron Hampton* (1941).

487838

Grant from William son of the late John le Clerk of Waltone near Aylesbury to Simon le Budel of Watford and Alice, his wife of a water mill called Spitemulle, lands and appurtenances in Aylesbury. (21 July 1323)

489248

Lease from John Parage of Baldock with the consent of Alice, his wife to Roger atte Schore, of a

- mill called Spitelmuine, a curtilage and appurtenances in Aylesbury, to hold for the life of the said Alice. (1 November 1330)
- 490210
Quitclaim from Roger atte Schore of Linford to Richard le Warde of Wotton (Underwood), Basile, his wife and Robert, their son, of a water mill called Le Spitelmuile with appurtenances in Aillesbury. (12 March 1338)
- 489818
Quitclaim from Simon son of Sinon de Watford of Weedon to Richard le Warde of Wotton and Basile, his wife and Robert, their son, of a water mill called Le Spitelmul with appurtenances in Aylesbur'. (14 March 1339)
- 494349
Quitclaim from Henry Nauger and Joan, his wife, of Stoke Hallunge to Thomas atte Lude, of a water mill called Spytelmuile with appurtenances in Aillesbury. (2 November 1400)
- 494353
Indenture of fine between Thomas atte Lude, plaintiff, and Henry Nauger and Joan, his wife, defendants, of a mill and appurtenances in Ayll'. (15 November 1400)
- 494190
Quitclaim from Joan daughter of William Jakeman of Aillesbury to Thomas atte Lude of a mill with appurtenances called Spytelmuile in Aillesbury. (28 November 1400)
- 497306
Grant from Robert Lee of Sutton in Colefield, co War, formerly of London, gent., to Thomas Lovell, Humphrey Stanley, knts., James Cayley, esq, Robert Hasse, Roger Nolden, Robert Lee of Bury St Edmunds, John Lee of the same place, William Rockett, Robert Hubberd of Sutton, John Daffy of Brommesgrave, co. Worc., Richard Harpecote, Henry Paytour of the same place, John Bedford of aylesbury, co. Buckingham, John Goodman and William Bassett of the same place, of a messuage, lands and premises in Sutton, and a croft in Ashefurlong; a messuage, lands and premises in Woodcote, in Bromsgrove: a water mill called Spittelmylne with lands and premises in Aylesbury, and a meadow in Heydon. (10 April 1487)
- 497312
Lease from Thomas, Earl of Ormond, to Rauf Johnson of Aylesbury and [], his son, of a water mill called the Spittill mill, lands and appurtenances in Aylesbury, to hold for the term of their lives. (7 October 1487)
- 497312
Appointment by Thomas, Earl of Ormond, of William Leysetter and Thomas Skytweell as attorneys to deliver possession to Ralf Johnson of Aylesbury and [], his son, of a water mill called the Spytill Mylle and a parcel of meadow in Aylesbury. (5 November 1487)
- 495779
Counterpart of a lease for fifty years from Thomas, Earl of Ormond, to John Latham of Fletemarston, co Buckingham, grazier of the watermill called Spittill Mille and a parcel of meadow in Aylesbury, co Buckingham. (8 February 1492/3)
- 498725
Lease for fifteen years from Sir John Ledbury, clerk, John Halle late of Aylesbury, co Buckingham, and John Cooke of Springfield, executors of the will of Christopher Davyson, to Thomas Thorley of Aylesbury, miller of a mill called Spitilmylle and lands belonging to the said mill in Aylesbury. (3 May 1522)
- 498727
Bargain and sale from Sir John Ledbury, clerk, and John Halle gent., executors of the will of Christopher Davyson, to William Baldwyn, gent., of a water mill called Spittell Mylle and lands in Aylesbury, co Buckingham with the reversion of the said mill and lands on the determination of a lease to Thomas Thorley. (4 March 1524/5)
- 498402
Lease for twenty one years from John Baldewyn, esq., to John Thorley, of a mill called the Spyttyllemylle Aylsburys, co Buckingham with a tenement, lands and appurtenances. (10 June 1531)
- 498726
Assignment of lease from John Baldewyn, esq., to

John Elmys and William Smyth of Hecham of a watermill called the Spyttil mylle with lands in the town and fields of Aylesbury. (20 June 1531)

498728

Counterpart of lease for twenty one years from John Baldwyn, esq., to John Thorley, miller, Franncseys Tempui, gent., and John Clerke of Stoke (Mandeville) of a mill called the Spyttille Mille in Aylesbury, co Buckingham, and a tenement and lands in Aylesbury. (14 August 1531)

498374

Counterpart of lease for fourteen years from John Baldwyn, knt., Chief Justice of the Common Pleas to Harry Horewood of Alysburye, co Buckingham, butcher, and John Weston of Wendover, miller of a mill called the Spytill Myll in Aylyburye, with a tenement, lands and appurtenances. (8 April 1539)

501872

Counterpart of lease for twelve years from Edmund Hoskins of the Inner Temple, London, esq., and George Gosnold of Beaconsfeild (sic) co Buckingham, gent., to Henry Rye and John Dover of Aylesburie, co Buckingham, of water mill called Spittle Milles and land in Aylesburie. (20 May 1650)

502731

Memorandum of agreement between George Gosnold gent., on behalf of Sir John Pakington, bart., and Samuel Sexton, inholder and Dennis Dover widow, for a lease for twenty one years from the said Sir John Pakington to the said Samuel Sexton and Dennis Dover, of the Spittle Mills and St Leonards Close. (13 April 1662)

ACKNOWLEDGEMENTS

The investigation was funded by Crest Homes (Eastern) Ltd. who also provided practical help with the on-site work, notably the diversion of the Bear Brook during the 1998 floods. Particular gratitude is extended to Peter Craske and Mike Walker.

Mike Farley, Jonathan Parkhouse and Julia Wise from the Buckinghamshire County Museum provided useful advice throughout the duration of the project, and the photograph of the mill pre-demolition was provided by Mike Farley.

Adrian Gibson OBE, Peter Doel and Tom

McDonald MIFA provided advice regarding structural aspects of the mill, and the illustrations were prepared by Kathren Henry.

The project manager was Tom McDonald MIFA, the site work was supervised by Ron Humphrey AIFA, with site assistants Peter Doel and Jonathan Crisp. Tom Clark helped with metal detecting and provided local knowledge.

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This article has been published with the aid of a grant from Crest Homes (Eastern) Limited.