Southampton French Quarter 1382
Specialist Report Download F11: Worked Stone

By Ruth Shaffrey

Worked stone Overview

The non-architectural stone retrieved from Southampton French Quarter includes rotary querns and mortars, whetstones, cannonballs and other items. The architectural stone is the subject of a separate report. Discounting the fragments of lava the assemblage includes 48 worked pieces of stone (summarised by phase in Table 1). More than half the assemblage is concerned with food processing in the form of querns (16) and mortars (13). A further 10 items are whetstones while artefacts represented in smaller numbers include cannonballs (3), slabs (1), palette (1), pestles (1), discs (1) and decorated items (1). The non-architectural worked stone is grouped into two categories: querns and mortars and then whetstones and other items.

Category	UNP	LSAX	AN	HMED	LMED	PMED	EMOD	Grand Total
Mortar	1			8	3	1		13
Other				2	3		2	7
Quern		1	7	6		1	1	16
Structural							1	1
Whetstone			5	1	1	2	1	10
Grand Total	1	1	12	17	7	4	6	48

Table 1: Quantification of worked stone artefact types by phase

Whetstones and other worked stone

A total of nine definite whetstones were recovered. Five of these were recovered from Anglo-Norman contexts, with one from each of the remaining phases. Three whetstones were recovered from Tenement 174 and a single whetstone each from Tenements 170, 177, 237, 239, 242 and 243. No other patterns of distribution were observed.

Four of the whetstones dated to the Anglo-Norman phase were recovered from Tenements 174 (3) and 177 (1) but all are hones representing casual usage, that is, they used or reused locally available materials in the form of pebbles (SF 91, 1294, 5172) or discarded objects such as roof stones (1266). These examples are made mostly of fine-grained sandstone such as Pennant sandstone. Only one primary whetstone was recovered, in this case from pit 366 (357) in Tenement 239. This example is the right size for a small or well-used rotating whetstone at 200mm diameter with wear around the edges. Although it seems a little on the thin side in comparison to an assemblage of nine rotating whetstones from Dorestad measuring 80-100mm thick (Kars 1983, 4), no other interpretation seems appropriate.

The only other whetstone of note is a largely unshaped schist rod, probably Norwegian Ragstone, recovered from an in-situ destruction layer (3028) of high-medieval date (1250-1350) within property 237. It is particularly noteworthy because it measures an enormous 550mm in length and is very well used (see the section on Tenement 237 for a full discussion of this item). It is in addition to two other much smaller fragments of the same lithology including a rod from an early modern deposit (8084) and an

unworked fragment from a fill of post-medieval rubbish pit 5180 (5177). Its presence suggests that its owner had well established connections and a high status. Its context of recovery within a kitchen however suggests it fulfilled a relatively domestic role. The general absence of well-crafted whetstones in the French Quarter (even the imported Norwegian Ragstone is not highly worked) suggests a lack of industry or workshops in this part of Southampton.

An assortment of other items of worked stone were recovered from the French Quarter including processors such as pestles, hammerstones.

Querns and mortars

A total of 15 rotary querns (including millstones) and 13 mortars were recovered during excavations in Southampton's French quarter with rotary querns occurring in higher medieval and earlier contexts and mortars in higher medieval and later contexts. Small lava fragments are not included in this count because of their fragmentary and weathered state but over 3kg of lava fragments were recovered from a total of 12 contexts. With the exception of 40g from post-medieval contexts, all the lava was found in higher medieval or earlier contexts.

Querns were found within the boundaries of seven tenements but noticeably higher numbers were recovered from Tenement 173 (four plus four contexts with small lava fragments) and 237 (five plus three contexts with small lava fragments). Slightly higher numbers of mortars were also found within Tenements 173 (three). The numbers and the presence of millstone and mortar fragments may indicate a concentration on food preparation in Tenement 173 (the higher number on Tenement 237 may simply be due to the larger size of the tenement).

A broad range of querns are represented including several of typically medieval designs such as collared querns (e.g. SF 198), projecting hopper querns (SF 282, context 7376 and 3474, Figures 1 and 2) and dished, pot querns (e.g. SF 310 complete with part of the iron spindle, Figure 3). Three examples, measuring over 550mm diameter may be large enough to be considered millstones (4801, Figure 4 and 7102 / SF 276, 4007 / SF 154) while a third from a higher medieval context in Tenement 173 (130) has the appearance of a millstone and is decorated (SF 1, Context 130, Figure 5). Decoration is an extremely rare feature on English medieval querns and suggests some form of high status was attributed to this item. One post-medieval example is unusually small at only 250mm diameter (SF 101, 3323) and may have been used for grinding something other than flour, perhaps malt (Medlycott 1996, 154).

The querns are mainly made from Lava but there are also querns of types of Greensand (including one possibly of Lodsworth Greensand: SF 276), two of sandstone and one of probable Purbeck limestone (SF 310).

As with the querns, the assemblage of mortars varies tremendously but the variation is not related to lithology and there are no patterns of distribution of the different types. The mortar types include some simple forms with two (non-pierced) ribs and two lugs, one of which also serves as the spout. These simple forms have either curved walls (SF 468) like many of the earlier Southampton examples or straight walls (SF 58, Context 1089, Figure 6 and ID 2203). Others are of slightly more elaborate or moulded form, (e.g. SF 468 not illustrated and 3149 Figure 7), sometimes chamfered (SF 302, Figure 8; ID 2205) or more carefully shaped ribs (SF 16, 353, Figure 9). There are no mortars with perforated ribs (handles) but there are some for which the ribs simply do not survive to a great enough height to be able to tell and thus their presence can’t be ruled out.

Others are not moulded but have differential tooling around either the top or the base or both to demarcate a band (SF 58, SF 16 and 3866 - Figure 10). This is not a common feature but can be compared to a single

other example in Southampton (West 1975, 307: ID 2213, Figure 269). They are not of the same lithology.

All the mortars were discarded during high medieval or later contexts and the high numbers of querns being discarded during the same phase, and their absence during later phases is an indicator that they were being replaced by mortars at this time. This is in keeping with findings at Winchester which produced no mortars earlier than the mid 12th - mid 13th centuries, evidence which was used as the basis for an assumption that mortars were introduced in the 13th century (Biddle and Smith 1990a, 891).

A range of limestone types, particularly shelly limestones, were used for mortars in the Southampton French Quarter. These include Purbeck marble, Quarr stone and Purbeck featherbed stone, all were relatively locally available and all but the Quarr were identified during earlier excavations in Southampton.

The querns are mainly made from Lava but there are also querns of types of Greensand (including one possibly of Lodsworth Greensand: SF 276), two of sandstone and one of probable Purbeck limestone (SF 310).

Discussion of the mortar fabrics

By Cheryl Allum

A mortar fragment of a very fine-grained facies of Quarr stone was recovered from a high medieval pit fill (599). Quarr stone is a creamy coloured shelly limestone consisting of dissolved clam moulds surrounded by a strong calcite cement (Bishop 2001, p34). This stone was exploited during the Roman, Saxon and medieval periods, until the main deposit, capable of providing a reliable and consistent supply, was exhausted by the end of the 12th century (*ibid.*, p167). Quarr stone mortars have been found at nine late medieval sites, including a late 13th to early 14th century context at Kings Lynn (Dunning 1977, 328), suggesting a small-scale industry in the production of mortars on the Isle of Wight (Bishop 2001, 276-7). The proximity of Southampton to the Isle of Wight makes the find relatively unsurprising.

At least one mortar of Purbeck marble from the French Quarter adds to a number from earlier excavations. Purbeck marble is a hard, blueish-grey limestone composed predominantly of the dark, fossilised shells of a small freshwater gastropod (*viviparus cariniferus*) within a fine-grained matrix. Purbeck marble was extensively exploited from the 12th century onwards as a building material, however the main period of mortar production appears to have been during the 13th and 14th centuries at quarries in the Isle of Purbeck, Dorset (Dunning 1977, p324). Four pieces were recovered from 13th and 14th contexts at Thoresby College, Kings Lynn (*ibid.*, p323), with Purbeck marble mortars found at over sixty sites in England, predominately in the south and East Anglia (*ibid*, p325). They were also traded by sea, explaining their presence in ports such as Southampton and in coastal areas of the continent, and complete vessels were found aboard a wrecked dredger off the coast of Suffolk (*ibid*).

The wear on mortars in Purbeck marble has revealed that most were used only for grinding as opposed to pounding due to susceptibility to splitting along the bedding planes (*ibid*, 321). Indeed, the lower, inner side of the Southampton fragment is worn smooth indicating that the mortar was used for grinding. Purbeck marble mortars tend to fracture at the thinnest part, where the margin of the base has been worn down by a pestle (*ibid*), perhaps explaining the absence of a base for this fragment. A small patch of mortar adhering to the Southampton mortar suggests re-use perhaps as a building material, a practise also identified at Kings Lynn.

A single mortar fragment was made of Purbeck featherbed stone (6249), also from the Isle of Purbeck, Dorset. This stone consists of *Neomyodon* moulds and the occasional ostrocod shell within a crystalline matrix, and was quarried from the 13th century (*ibid.*, p103).

General discussion

Most of the worked stone including the querns, whetstones and mortars, represents simple domestic activity. The whetstones are largely natural or secondary and even those that stand out for other reasons are not highly worked. A few items indicate higher than usual status for example the decorated possible gaming board and possible millstone and the unique whetstone. The millstones also indicate a higher level of food preparation than usual in small domestic settings.

Figure 1 SF 282 Context 7376

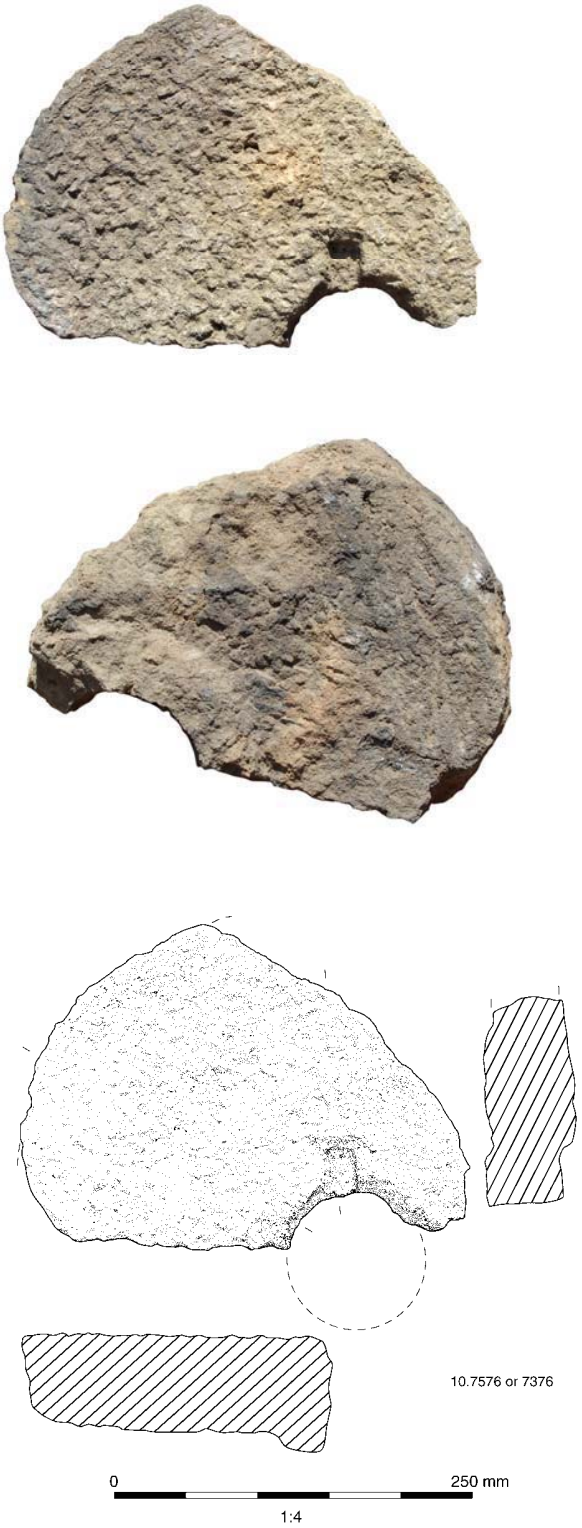


Figure 2 Context 3474

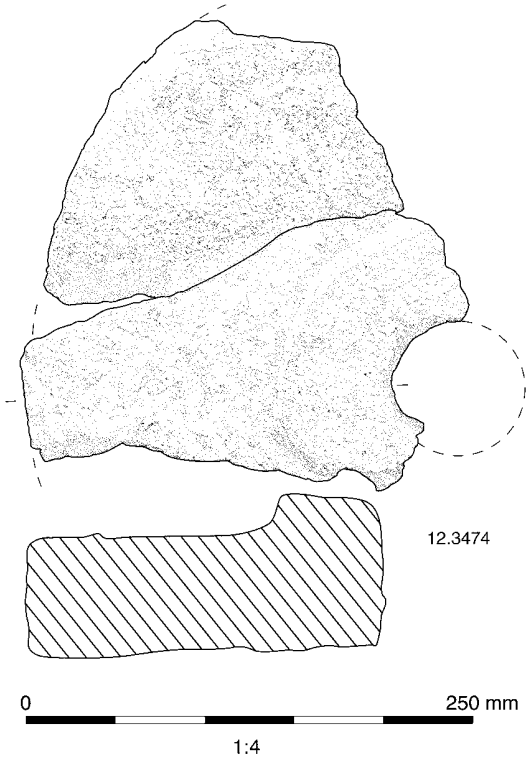


Figure 3 SF310, Context 8109

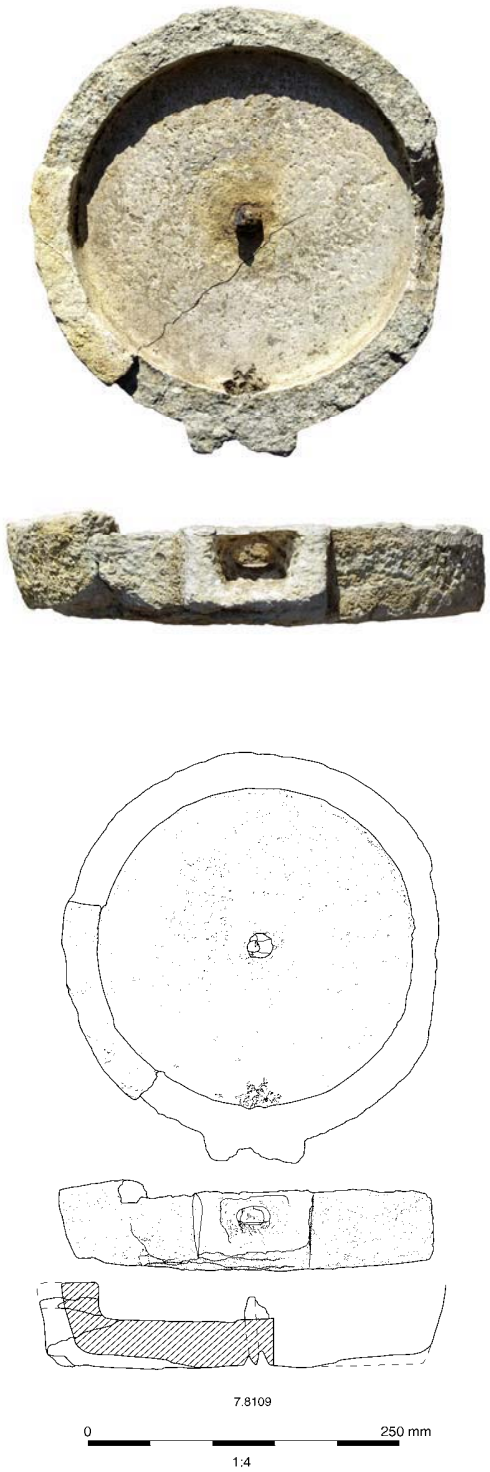


Figure 4, Context 4801

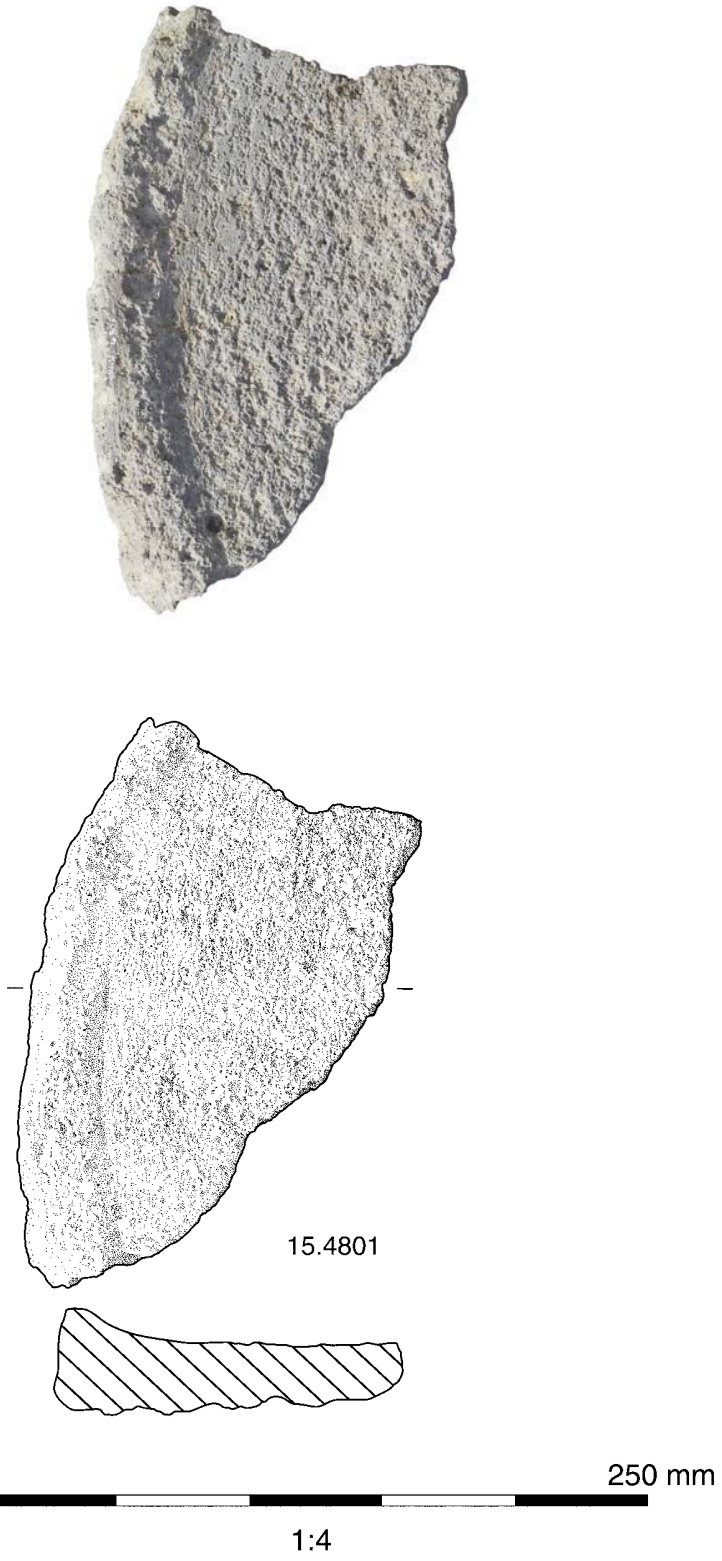


Figure 5 SF1, Context 130

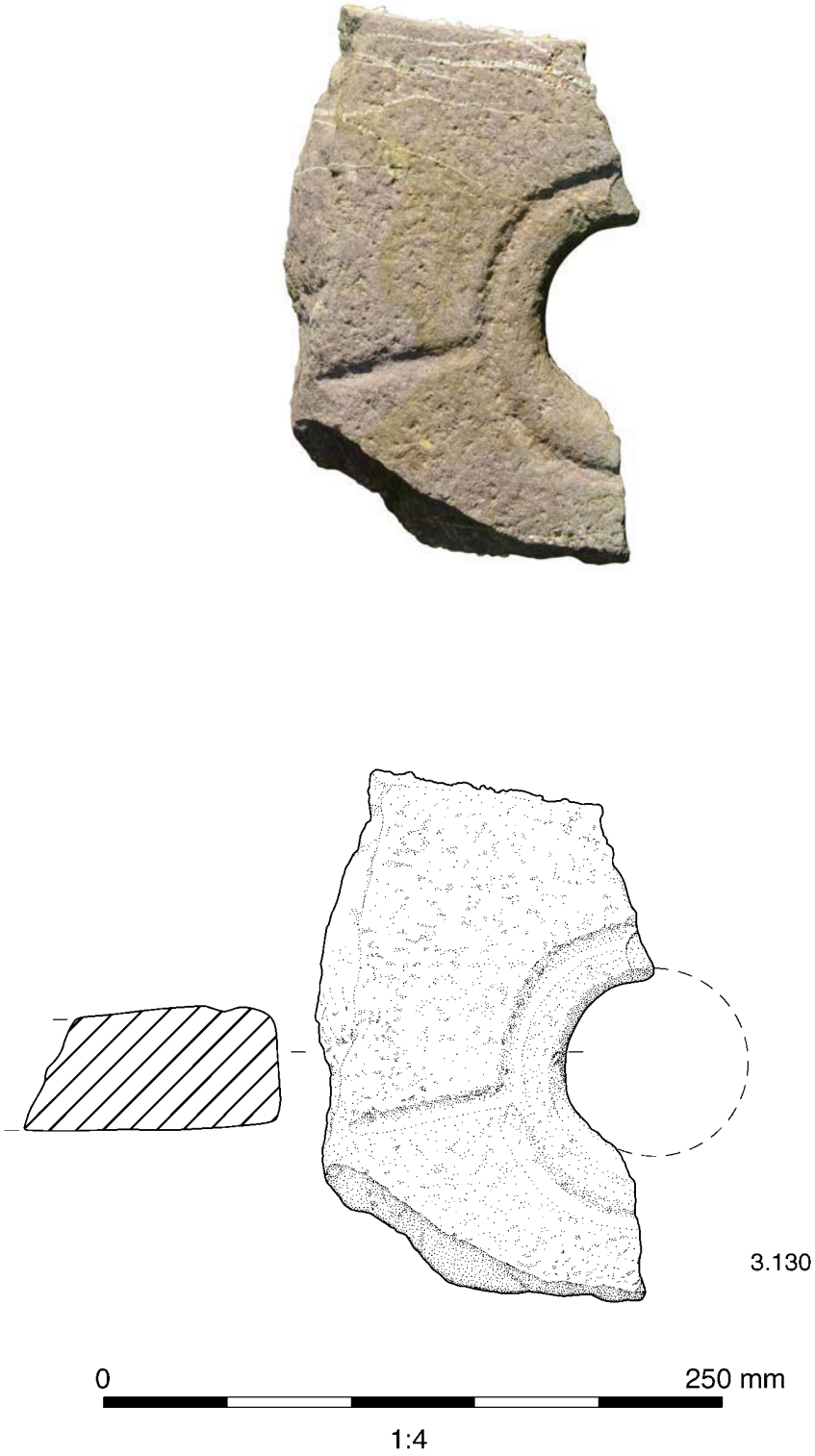


Figure 6 SF58, Context 1089

Figure 7 Context 3149

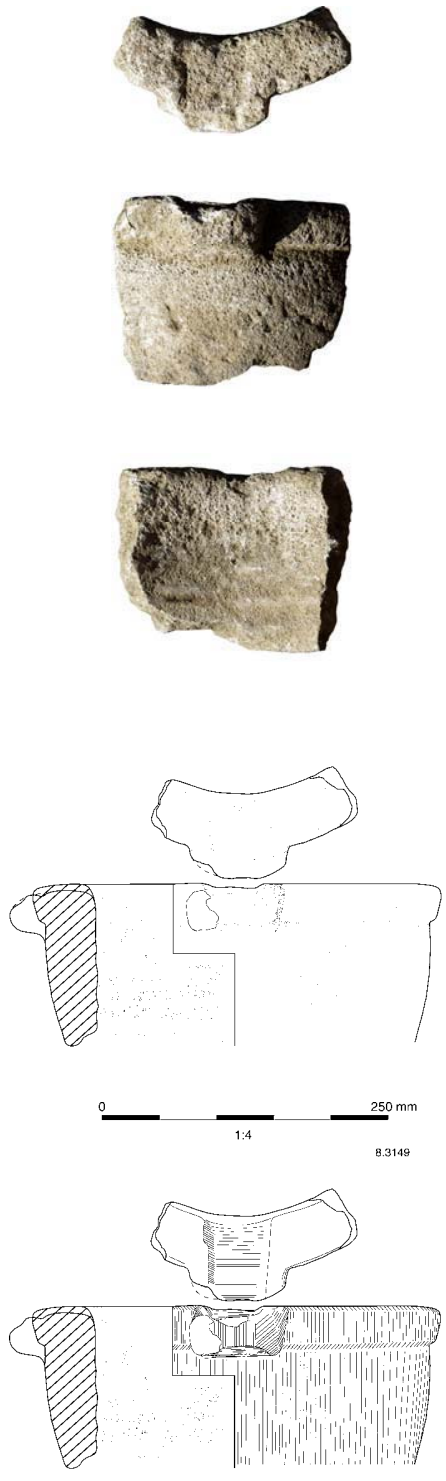
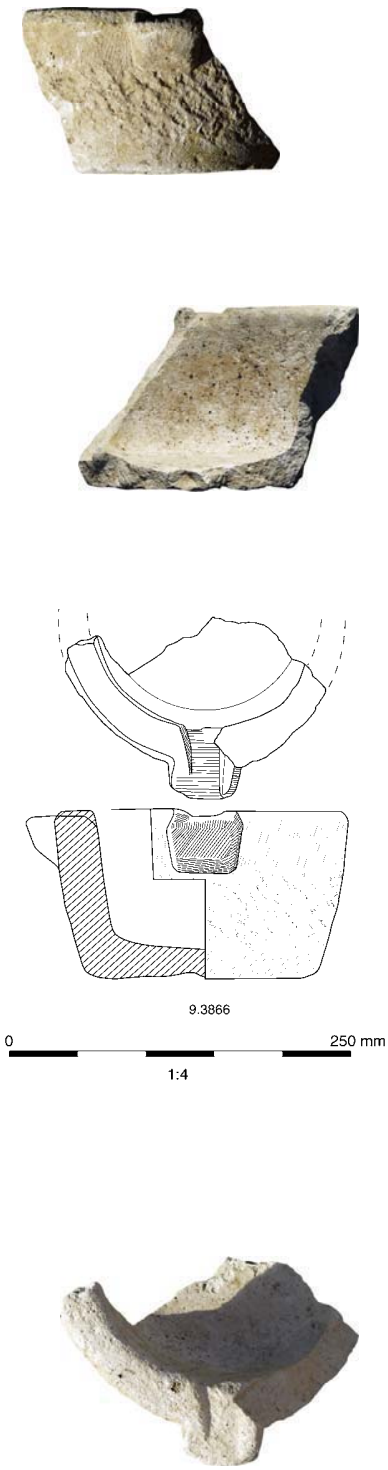


Figure 8 Context 302

Figure 9 SF16, Context353

Figure 10Context 3866



The Worked Stone by Tenement

By Ruth Shaffrey

Tenement 168

LMED

Tenement 168 produced only one piece of worked stone - a cannon ball (SF 315) found in pit 7763.

Tenement 169

PMED

Tenement 169 produced a single mortar rim fragment that had been reused in wall 6248 (6249). This is made of Purbeck featherbed stone.

Tenement 170

AN

A fragment of lava quern was found in pit 6160 (6163).

HMED

A fragment of mortar was found in pit 6385 (6388).

PMED

A single pebble whetstone was found in rubbish pit 6855 (6647, Figure 11); this is good evidence for the adaptation of natural materials as it is not intentionally shaped but is clearly used along two edges and is partially perforated.

Tenement 171

EMOD

A complete palette of a very fine grey marble was (Figure 12) associated with Tenement 171. It has a U-shaped shallow indentation on one surface. It is smoothed on all its sides and faces but not polished. This is certainly an item of high status but cannot be associated with specific occupants as it was recovered from an early modern context (6016).

Tenement 172

LSAX

Pit 287 produced a number of small weathered lava fragments, (originally querns), from two of its fills (288 and 289). Their friable state suggests they represent residual Roman activity.

AN
A fragment of probable Lodsworth rotary quern was recovered from pit 7091 (SF 276, 7102). This is also likely to be a residual Roman quern.

LMED

A single cannonball was found in Tenement 172 (SF 256). It is slightly damaged but otherwise complete.

Tenement 173

AN

Fragments from one pot quern and one possible millstone, both of Lava, were recovered from pits 210 (177) and 173 (174) plus a third small fragment of worn lava from another fill of pit 210 (456).

HMED

Fragments of three mortars were found within pit fills in Tenement 173. Two of these were from pit 1092 (SFs 58 and 59) and one from pit 598 (599). One of these is a large upper stone that appears to have been reused with a smaller lower stone (SF 58, Figure 6).

A fine-grained limestone disc was found in pit 680 (1078). The centre is absent so it is not possible to say whether it was perforated and there is no evidence of wear or burning, so it seems likely to have been some sort of base or stand for another item. The same phase also produced two substantial rotary quern fragments plus three contexts with small lava fragments (pits 598, 811, 932). The two larger rotary quern fragments are made of less usual materials. One is of Greensand (deposit 57) and the larger example, which seems likely to be from a millstone, is a greyish-red quartzitic sandstone (SF 1 fill of pit 165 (130)). This item is of especial interest because it is decorated with a ring around the eye and one surviving arm leading to the outer edge (Figure 5). Examples of querns and millstones with this sort of decoration of both Roman and medieval date are known but English medieval examples are extremely rare. Griffiths illustrated several Roman examples from Ireland and Wales with identical central decoration (1952) and an unprovenanced millstone in Tullie House Museum is almost certainly Roman date (Mus acc code 2000.709). During the medieval period, decorated rotary querns and millstones were relatively common in Scotland (e.g. Dunadd: Lane and Campbell, 2000, fig. 4.92) and Ireland (e.g. Tullydonnel, Co Tyrone) and examples are also known to have existed in Wales (Watts 1997). In England however, only one decorated example has been published; it was found during the construction of the Manchester Ship Canal (Watts pers. Comm; Bennet and Elton 1898). This example from the French Quarter is therefore very unusual.

Noticeably higher numbers of both querns and mortars were recovered from Tenement 173 suggesting a focus on food processing and cooking there or in the vicinity. This focus appears to have been predominantly during the higher medieval phase although the evidence suggests that it began during the Anglo-Norman phase.

Tenement 174

AN

Three whetstones were found within tenement 174. These all represent casual usage, that is, they are not primary whetstones designed for that specific purpose but either used or reused locally available materials in the form of pebbles (SF 87 and 91) or discarded objects such as roof stones (1266).

LMED

A single mortar fragment had been used as part of the stone lining in pit 1289 (1288, SF 92). The fabric is Purbeck marble, a hard, blueish-grey limestone composed predominantly of the dark, fossilised shells of a small freshwater gastropod (*viviparus cariniferus*) within a fine-grained matrix. The main period of

mortar production appears to have been during the 13th and 14th centuries at quarries in the Isle of Purbeck, Dorset (Dunning 1977, 324) so the original use of the mortar is likely to date to the medieval period.

EMOD

A small complete millstone was built into the structure of a modern cellar in Tenements 174/5 (1393). It is made of Old Red Sandstone from the Wye valley and could thus be of almost any date.

Tenement 175

One fragment of shelly limestone mortar was found in pit 3746 (3866, Figure 10).

Tenement 177

A single natural pebble whetstone and was found in pit 5172 (5171) in Tenement 177. This represents casual usage.

Tenement 180

LMED

A single processor or pestle was recovered from the late medieval fill of pit 5359 (5360). This makes use of a naturally occurring pebble but has a flat polished area on one end suggesting that it was used as a processor or more specifically as a pestle. Recovery of medieval pestles is rare and the assumption must therefore be that they were usually made of an organic material that does not survive in the archaeological record (e.g. wood). Using pestles made of softer but still effective materials may have extended the life span of the mortars by wearing them down more slowly. Using harder stone pestles is therefore likely to have been either for the grinding of specific substances and / or as a substitute when the preferred item was broken. This particular example has similar wear to a pebble identified as a pestle from a post-medieval context at Stonea (Jackson and Humphrey 1996, 518) and together they are useful indicators that stone pestles were occasionally used.

PMED

A large rod of Norwegian Ragstone was found in the fill of post-medieval rubbish pit 5180 (5177). It is unworked but was certainly imported for use as a whetstone. Its presence is likely to be connected to the massive rod found on property 237 in the higher medieval phase (see below).

Tenement 237

LSAX

A single Greensand upper rotary quern was found in pit 4496 (4446, Figure 13). This has deliberate and unusual concentric grooving on the grinding surface.

AN

Two querns were recovered, both of collared (projecting hopper) design but one being of Lava (3474 Figure 2) and one of probable Lodsworth Greensand SF 198, not illustrated).

HMED

Higher medieval contexts on Tenement 237 produced two quern fragments. These are of Lava (4007) and Upper Greensand (4441). The lava quern does not retain a rynd slot or other evidence for mechanical use but it measures 580mm diameter which is rather large for a hand operated lava quern (Parkhouse 1997, 98) and thus may be a small millstone. This tenement produced higher than normal numbers of querns across all phases; this may indicate food processing or may reflect the larger size of the tenement.

A single whetstone was recovered from an in-situ destruction layer (3028) of high-medieval date (1250-1350) within property 237 (Figure 14). It is particularly noteworthy because it measures a staggering 550mm in length. It is a largely unshaped schist rod, probably Norwegian Ragstone, which is very well used on three of its four faces. Flat wear, of the type found on this example, is consistent with the blade having been moved across the stone while the stone was static (Parkhouse 1997, 421), a method which also seems likely given the size of the stone. No markings are present on the stone to indicate how it might have been fixed in place but the wear is greatest towards both ends suggesting it was secured in the centre. The ends are rough, a feature observed on large rods of other materials for example at Fiskerton (Parker Pearson 2003, 122). It is in addition to two other much smaller fragments of the same lithology including a rod from an early modern deposit (8084, Figure 15) and an unworked fragment from a fill of post-medieval rubbish pit 5180 (5177).

A detailed petrographic study of whetstone fabrics determined that Norwegian Ragstone is indistinguishable in hand specimen to some other schists and indicated that microscopic identification is essential to make an absolutely positive identification (Moore 1978, 72). The same article, however, also showed that Norwegian Ragstone is one of a only a handful of popular whetstone materials and the single most popular during the medieval period in England (Moore 1978, 70). Thus on archaeological grounds, it is a reasonable assumption that most schist whetstones of medieval date will be Norwegian Ragstone and this, in combination with the complete nature of the whetstone, means it has not been subjected to damaging microscopic analysis.

The presence of this 'super-size' whetstone is most likely explained by Southampton's function as a port although interestingly, Norwegian Ragstone does not appear to have been particularly plentiful in the town as only four examples of schist have been found in earlier excavations (West 1975, 311). The closest example amongst these to the one from the French Quarter example is a long rectilinear example measuring >300mm in length (item 2229, West et al 1975, 311 and Figure 270). Although at only 35mm wide it seems unlikely to have been as long as 550mm, it hints at the existence of other large tools in the town and is still substantially larger than most medieval whetstones, which are about 100-150mm in length. The presence of multiple large whetstones may be taken as an indication that the large rods were imported into Southampton as a raw material and were manufactured into smaller whetstones nearer to, or at their destination, rather than at their source.

Further afield an extensive assemblage of 177 whetstones from Winchester produced a number of Norwegian Ragstone but the longest is 199mm and thus only one-third of the length of the Southampton example (Ellis and Moore 1990, 873 and Figure 264). No other parallels for the size of the French Quarter whetstone have been found in medieval contexts.

The two closest examples in size are from Saxon contexts and both from burials. The first, measuring 462mm in length and of unidentified lithology (Parker Pearson 2003, 123) was recovered from a grave in a pagan Saxon cemetery at Uncleby in Yorkshire (Bruce-Mitford 1978, 362-4). The second parallel is a great bar of 600mm from Sutton Hoo with decorative faces carved at both ends (Bruce-Mitford 1974). Although the Southampton whetstone is clearly not ceremonial in the same way, its size and rarity indicates that it was an object of some value.

A whetstone of this size, with regular wear along its length, would normally be interpreted as having been used for sharpening large scythe blades or swords (Parker Pearson 2003, 123). This does not seem to be in keeping with the domestic kitchen interpretation for the room in which it was found. An alternative

explanation is that its size owes nothing to function and everything to status and the connections of its owner. Perhaps it resulted from trade with another or was a direct gift, and, although presumably imported in this form with the intention of being broken down into smaller whetstones, it was retained in its complete form and subsequently used. This indication of wealth and connections with traders is in accordance with our understanding of Tenement 237, at least during the earlier part of the high medieval phase, as it is known to have belonged to leading townsman Richard of Leicester between 1254 -72.

LMED

Two mortars were recovered from late medieval contexts in Tenement 237. One was found in robber cut 3125 (3149, Figure 7) and another in Context 468, the fill of a cess pit (466).

PMED

Half an upper lava rotary quern was found in pit 3322 (3323). This is unusually small and indicates that something other than grain was being processed, perhaps malt (Medlycott 1996, 154).

Tenement 238

AN

A large lava quern or small millstone was found in pit 4799 (4801, Figure XXX). This seems a little large for a hand operated rotary quern (see Tenement 237 above) but may have been used as one in the later stages of its life when it was evidently paired with a much smaller stone.

Tenement 239

AN

A probable primary whetstone with part of a circular edge was found in pit 366 (357). There is considerable wear around the edge but no wear on the faces, a pattern consistent with use as a rotating whetstone. It is the right size for a small or well used whetstone at 200mm diameter, and although it seems a little on the thin side in comparison to an assemblage of nine rotating whetstones from Dorestad measuring 80-100mm thick (Kars 1983, 4), no other interpretation seems appropriate.

HMED

A fine-grained limestone mortar was deposited in pit 583 (353). It is a steep sided but shallow mortar with differential tooling around the outside used to suggest rims (SF 16, Fig 9).

Tenement 240

HMED

A small Bembridge limestone mortar fragment was recovered from pit 7395 (6708). This was the only worked stone artefact from Tenement 240.

Tenement 241

LSAX

Pit 8515 contained a flint hammerstone (8521).

AN

A single small weathered lava fragment (from a quern), was recovered from pit 8515 (8519).

HMED

Pit 7418 produced a single quern fragment with one arm of a rynd socket surviving (SF 282 Figure 1). It is not possible to determine whether this was part of a two, three or four-armed rynd but its presence on the grinding surface of the upper stone indicates that it was under-driven as seen on several examples from the Norman mill at Donington (Clay 1990, Fig 17). Rynd sockets are usually associated with mechanically operated millstones but this example is clearly on a quern small enough to have been manually operated. Pit 7199 also produced a small lava quern fragment (7198).

Tenement 242

HMED

A decorated corner of a slab was found in pit 8025 (8026, Figure 16). It is incised with a pattern of two sets of two rings, each linked by a groove. The function of this is unknown but it may be part of a gaming board. A single mortar fragment of Bembridge limestone had been utilised in floor make-up 8335.

LMED

The remains of a mortar (in four fragments) were found in demolition layer 8029 (SF 302 Figure 17), and are very heavily burnt. A single well used whetstones was also found in demolition layer 8029.

EMOD

A fragment of floor slab was recovered from context 8040.

Tenement 243

AN

The base of a Purbeck limestone pot quern was found in levelling deposit 8109 (SF 310, Figure 3). It retains its iron spindle and spout.

HMED

Several sandstone quern fragments were found in oven 8158 (8157).

EMOD

A single Norwegian ragstone whetstone was recovered (8084).

Figure 11 SF259 Context6047

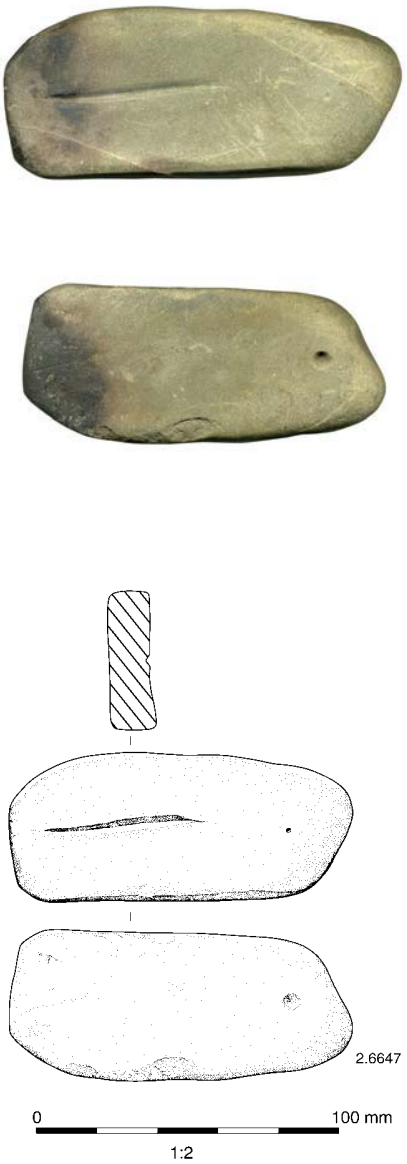


Figure 12 Context 6016

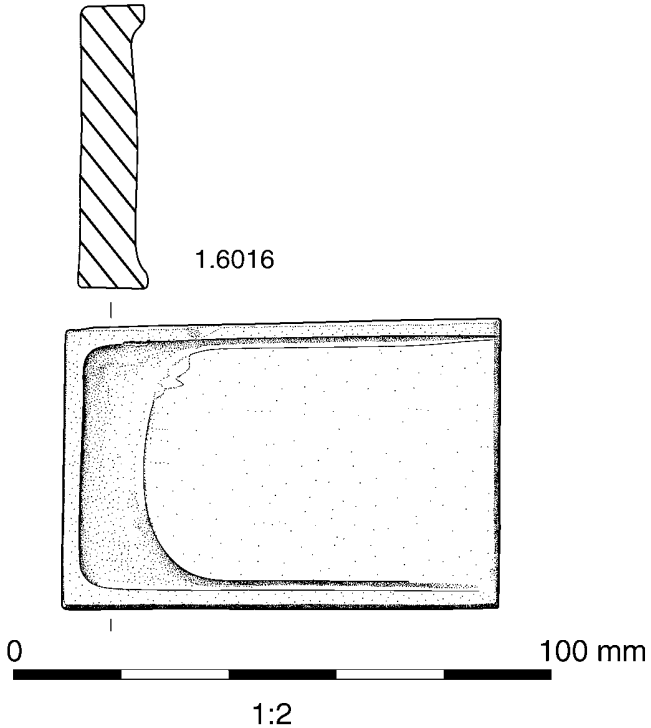


Figure 13 Context 4446

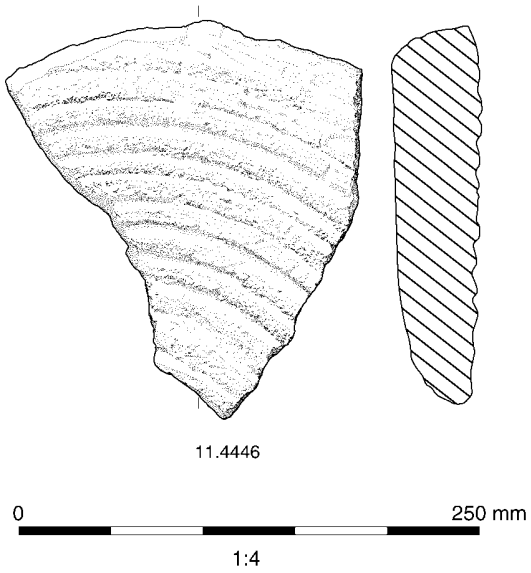


Figure 14 Context 3028

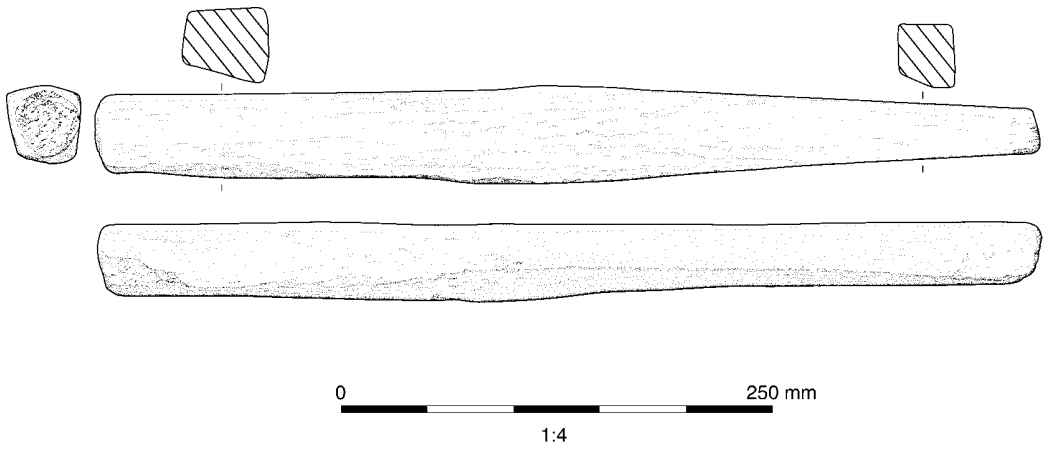


Figure 15 Context 8084

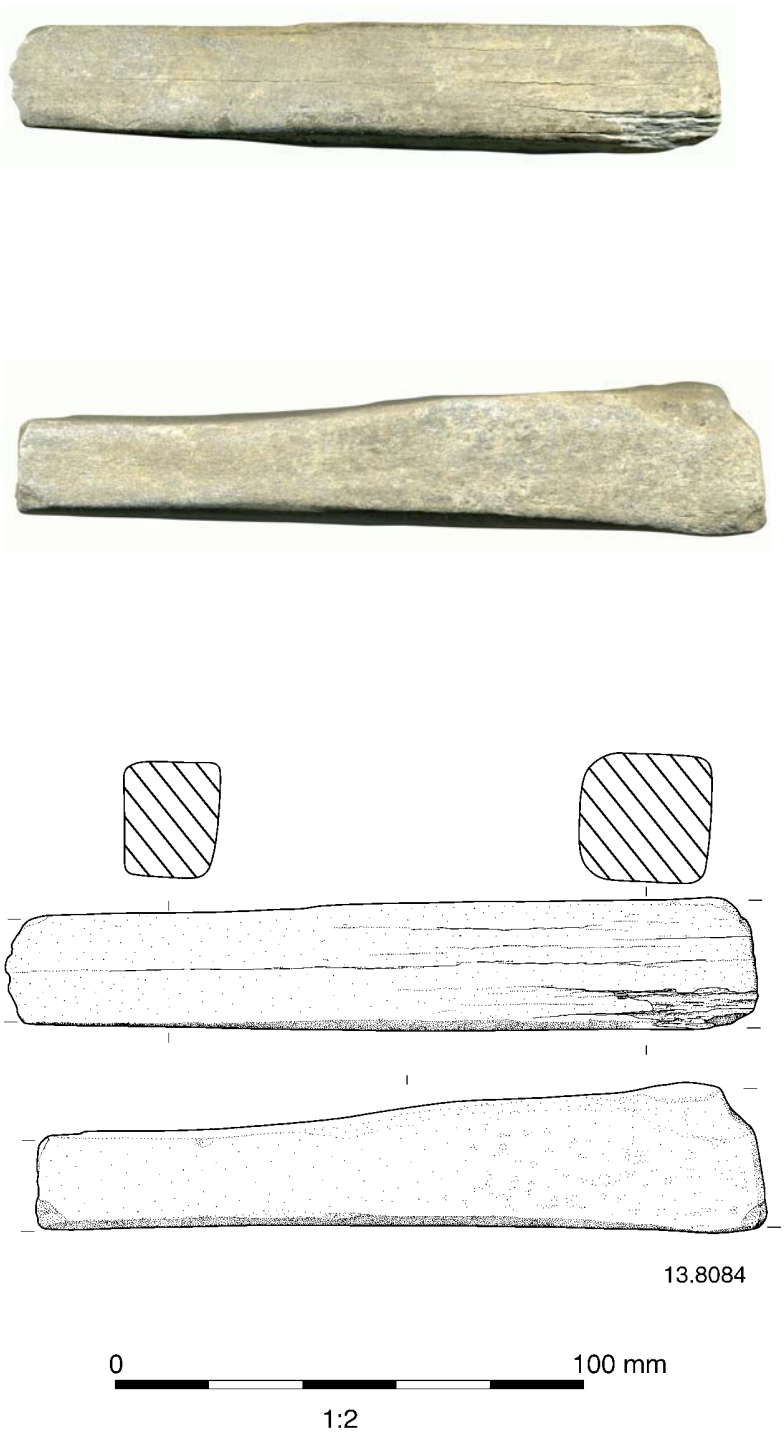


Figure 16 Context 8026

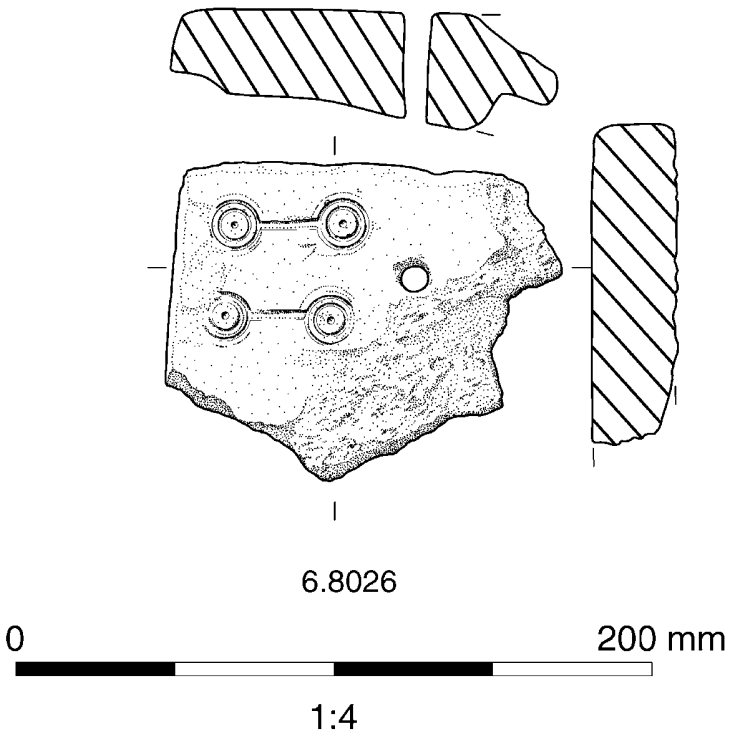


Figure 17 SF302, Context8029

Catalogue of mortar fragments

Mortar. Shelly limestone. Base is worn away altogether. Two ribs, two lugs, one of which is a spout. Vertical sided mortar, which is wider than it is tall. Measures 285mm external diameter. SF 58. Ctx 1089. Fill of pit 1092. Tenement 173. HMED

Mortar fragment. Probable Binstead limestone. Rim fragment with distinct horizontal band 32mm wide around external rim. It has one lug/spout. The mortar is fairly smooth all over with no tool marks present but inside the bowl is worn unevenly so that there are slightly more prominent and smoothed horizontal bands. Comparable to mortars 2217, 2208 from High Street Southampton (West et al 1975, 307 and Figures 268 and 269). Measures 350mm external diameter. Ctx 3149. Fill of robber cut fill 3125. Tenement 237. LMED

Mortar. Fine grained white limestone. Two ribs, two lugs, one of which is the spout. Vertical sides. Steep sided mortar, which is wider than it is tall. The sides are not moulded but it has different tooling around the top and bottom to indicate bands. Little used with tooling still clear on the internal faces. Measures 245mm diameter. SF 16. Ctx 353. Fill of pit 583. Tenement 239. HMED

Mortar fragment. Fine grained cream limestone, non shelly. Rim fragment oF straight-sided vessel with one square lug/spout measuring 50mm wide x 40mm high. The outside is tooled differently so that there is a band 40mm high around the top and the base. The inside is smooth, particularly on the base. The method of tooling to create a moulded effect is comparable to example 2213 from Cuckoo Lane Southampton (West et al 1975, 307 and Figure 269). Measures 210mm external diameter on base, 230mm on rim x 120mm high x 30mm thick on rim but thinner towards the base. Ctx 3866. Fill of pit 3746. Tenement 175. HMED

Mortar (not illustrated). Purbeck marble or limestone, sample taken. In two fragments, with remains of one rib, rounded profile. Smooth inside, pecked outside. Sides are straight but lean out slightly. Measures 210mm diameter external on the rim x 26mm thick. SF 92. Ctx 1288. Stone pit lining in 1289. Tenement 174. LMED

Mortar or vessel fragment (not illustrated). Bembridge limestone. Rim fragment with groove running around the edge 35mm from the top. Measures 44mm thick on rim, 40mm lower down. Diameter approx. 400mm but only about 5% survives. Ctx 6249. Wall 6248. Tenement 169. PMED

Mortar base (not illustrated). Shelly limestone. Flat base, two ribs, no lugs (as not enough height survives). Not much of the sides survive, mostly the base and this is moulded. Walls are thin at the base and the inside of the base is mostly worn around the edges. There is a moulded band which continues around the ribs as well. The ribs are deep rounded rectangular shape. It isn't possible to assign this to typological type very easily as it is incomplete but it is similar to several published Southampton examples including 2205, 2215. Measures 265mm diameter external diameter and 250mm internal diameter at base, walls 19mm thick at base. SF 468

Large mortar fragment (not illustrated). Very fine grained limestone, almost chalk. One large rib. The top and base are damaged. Measures 42mm thick and 77mm thick on rib. SF 59. Ctx 1089. Fill of pit 1092. Tenement 173. HMED

Mortar fragment (not illustrated). Bembridge limestone. Rim fragment with one surviving rib. The vessel has vertical straight sides and some evidence for vertical tooling on the exterior. The interior is smooth (not polished). Comparable to example 2203 from Cuckoo Lane Southampton (West et al 1975, 307 and Figure 268). Measures 80mm internal depth x internal diameter at rim of 160mm. F 227. Ctx 6388. Fill of pit 6385. Tenement 170. HMED

Mortar in four fragments (not illustrated). Shelly limestone, probably type of Bembridge limestone. One rib survives but the rest of the stone is damaged. Moulded band around the base chamfered along the top edge and quite pronounced. Deep probably rectangular rib, 40mm deep and curved in section. The inside of the mortar is worn smooth and more so towards the edges than in the centre. Measures 290mm diameter. Internal diameter at base = 240mm. Walls 35mm thick. SF 302. Ctx 8029. Demolition layer. Tenement 242. LMED

Mortar fragment (not illustrated). Probable Bembridge Limestone. Small rim fragment with part of rib or lug from a mortar and with the top surviving also. Ctx 6708. Fill of pit 7395.Tenement 240. HMED

Large mortar or bowl fragment (not illustrated). Bembridge Limestone, probably Quarr. Part of the base with rim attached and one rib. Base is flat inside and out. Inside is worn very smooth. Outside is neatly finished all over. Sides are slightly everted and only survive to 60mm high. It is burnt on the base inside and out. Measures 25-30mm thick x 270mm external diameter at base. SF 319. Ctx 8335. floor make-up. Tenement 242. HMED

Mortar fragment (not illustrated). Fine grained Quarr limestone. Curved segment broken on all four sides, so nothing determinable about the item. Diameter is just of the fragment, the edges are tapered so it would have had a greater diameter at the rim and smaller at the base. The sides are straight. Measures 250mm external diameter x 13-20mm thick. Pit 598 (599). Tenement 173. HMED

Catalogue of rotary quern and millstone fragments

Upper rotary quern or millstone fragments. Probable Lodsworth. Projecting hopper quern with pronounced rim on outside edge of grinding surface due to pairing with a smaller stone. It is tooled all over with moderate wear to the grinding surface, flat top, curved grinding surface and straight vertical edges. Only 10% survives. Measures 580mm diameter x max thickness of 58mm x 42mm min in between. SF 276. Ctx 7102. Fill of pit 7091. Tenement 172. AN

Upper projecting hopper quern. Medium grained, well sorted quartz sandstone. Part of a rectangular rynd socket in evidence on the grinding surface, 22mm deep. Burnt. Measures 500mm diameter. SF 282. Ctx 7376. The upper fill of pit 7418, Gp 7376. Tenement 241. HMED

Base of pot quern. Probable Purbeck limestone. Has remains of iron spindle (which penetrates to the base of the stone) in the centre. Vertical sides and rectangular spout measuring 39mm wide x 34mm high at external edge and 27mm wide inside. Inside of quern worn very smooth. Pecked all over and still visible inside. Measures 30mm deep inside, walls 31mm thick, 305mm diameter x 68mm max height. SF 310. Ctx 8109. Levelling. Tenement 243. AN

Upper rotary quern or millstone. Lava. One unevenly pitted surface. Concave grinding surface with lip formed by pairing of this stone with a much smaller one. The centre is missing and the edges are roughly pitted. Measures approx. 550mm diameter x 3mm max thickness on edge - 15mm min in centre and in a pit. Ctx 4801. Fill of pit 4799. Tenement 238. AN

Upper rotary quern fragment. Greensand, fine grained with lots of fine dark glauconite.1/7 upper stone of disc type. Roughly flat surfaces roughly dressed with edges dressed and grinding surface bearing deep concentric grooves which are deliberate, not worn. .Measures approx. 450mm diameter x 41mm max thickness. SF 187. Ctx 4446. Fill of pit 4496. Tenement 237. LSAX

Upper rotary quern or millstone fragment. Greyish red quartzitic sandstone with veins of quartz. Central fragment with a very nice finish. It is decorated /moulded with a circular groove around the eye measuring approx. 120mm in diameter and at least one groove running from the groove to the outside edge. The top is very slightly convex and the grinding surface is flat. It is nicely pecked all over but the

grinding surface is worn very smooth with some polish on it. Measures 47mm thick x unknown diameter. SF 1. Ctx 130. Fill of pit 165. Tenement 173. HMED

Upper rotary quern (not illustrated). Probably Upper Greensand. Tooled all over. In flat-topped style, slightly tapered towards the centre with curved sides leaning in and slightly concave grinding surface. Is burnt and blackened. SF 188. Ctx 4441. Fill of pit 4494. Tenement 237. HMED

Probable millstone (not illustrated). Lava. Five big chunks of lava rotary quern but with no discernible features. There is rough pecking on one side and it seems very thick so possibly from a millstone. Measures. Ctx 177. Fill of pit 210. Tenement 173. AN

Rotary quern fragment (not illustrated). Fine grained slightly micaceous sandstone. Two adjoining fragments of possible upper stone. Grinding surface is smooth and appears to be very slightly concave. The eye is slightly oval and measures 22 x 20mm. The base or top surface is absent and so are all the edges. No handle or hopper evident. Measures all unknown. Ctx 8157. Fill of oven 8158. Tenement 243. HMED

Small complete millstone (not illustrated). Old Red Sandstone, Quartz Conglomerate. Broken in two halves. Crudely made with rough surfaces but the millstone is basically flat with a circular cylindrical eye measuring 70mm diameter. Measures 565mm diameter x 140mm thick. SF 169. Ctx 1393. Early modern cellar masonry. Tenement 174-5. EMOD

Lower pot quern fragment (not illustrated). Lava. Fragment of lower pot quern, of which only the rim survives. Original tooling does not survive on any surface and all appear quite rough. The edges are damaged. Measures 55mm thick on rim and 23 mm thick on inside bit. Ctx 174. Fill of pit 173. Tenement 173.AN

Upper rotary quern half (not illustrated). Lava. Approximately 40% survives. Unusually small stone with circular cylindrical eye and straight flat or vertical surfaces. Segmented radial grooving on grinding surface and vertical striae on edges. Base is roughly tooled. No hopper or evidence of handle slot. Eye measures 44mm diameter. Measures 250mm diameter x 61-65mm thick (max at edge). SF 101. Ctx 3323. Fill of pit 3322. Tenement 237. PMED

Upper projecting hopper quern (not illustrated). Lava. Very thick quern with wide hopper rim measuring 61mm wide x 16mm high. Two fragments crudely worked (or weathered). Projecting hopper measures 70mm internal diameter, 60mm wide. Measures 470mm diameter (E) x 94mm thick max on rim. Ctx 3474. Fill of pit 3475. Tenement 237. AN

Rotary quern fragment, lower (not illustrated). Greensand, slightly glauconitic. Of flat disc type, slightly tapered to edges with slightly angled but straight grinding surface About 10% of quern survives. Measures unknown diameter (not enough edge survives) x 45mm max thickness at centre. Ctx 57. Tenement 173. HMED

Upper rotary quern (not illustrated). Lava. Slightly concave pecked grinding surface and sides but rough other. Disc type and very plain. Measures 580mm diameter x 71mm max thickness. SF 154. Ctx 4007

Catalogue of whetstones and other worked stone

Whetstone, primary. Norwegian Ragstone? Large whetstone. Crudely shaped with sub-rectangular cross section. Has been well used on at least three faces so that they are worn smooth and are flat across the width. The ends are rougher. Measures 550mm x 26-56mm x 34-46mm. SF 36. Ctx 3028. Occupation horizon in situ destruction layer. Tenement 237. HMED

Natural whetstone, complete. Very fine grained grey sandstone. Pebble whetstone straightened along the two long edges and then used so that they are worn very smooth and straight with clear edges to the next faces. One end has some scratches on it which might result from its shaping while the other is natural. Incompletely perforated and with a single long deep groove. Measures 116 x 4 x 16-21mm thick. SF 259. Ctx 6647. Fill of rubbish pit 6855. Tenement 170. PMED

Natural pebble whetstone (not illustrated). Grey fine grained sandstone. Pebble. Unworked but utilised as a whetstone so is now clearly bevelled along two of the long edge. Measures > 146 x 66 x 36. SF 91. Ctx 1294. Fill of pit 1295. Tenement 174. AN

Whetstone, secondary (not illustrated). Fine grained greyish red sandstone, possibly Pennant. Probably reusing a piece of roof stone or similar. One face is quite smoothed with a few grooves, the other is rougher. Only one edge survives, this is perfectly flat and very smoothed. Measures >76 x >31 x 11mm. Ctx 1266. Fill of pit 1261. Tenement 174. AN

Whetstone, pebble (not illustrated). Fine grained grey sandstone. Badly chipped all round the edges but smoothed over the main faces. Perforated off centre but at one end. Measures 94 x 50 x 15mm thick. SF 87. Ctx 1270. Fill of pit 1269. Tenement 174. AN

Whetstone (not illustrated) in two fragments. Rectilinear and broken along the bedding plane and across the width. Extremely worn on the one surviving main face and polished across most of this surface. Measures >121mm long x 29mm wide x >10mm thick. Ctx 8029. Demolition layer. Tenement 242. LMED

Whetstone rod (not illustrated). Schist, probably Norwegian Ragstone. Largeish rod. It has not been used as a whetstone and is not shaped but is a whetstone raw material. Measures 132 x 21 x 21mm. Ctx 5077. Fill of rubbish pit 5180. Tenement 180. PMED

Whetstone, pebble (not illustrated). Reddish brown sandstone pebble. Natural pebble whetstone unshaped but used along one edge for smoothing so that edge now smoothed flat along length and across width. Measures 100 x 60 x 2mm. Ctx 5171- the fill capping of 5172 a rubbish pit (1066-1250). AN

Disc, probable rotating whetstone (not illustrated). Probably Pennant or Old Red Sandstone. Edge fragment of large disc, possibly of rotating whetstone as the edges are flat and worn smooth. The faces are rough and not utilised. Less than 5% survives. Measures 200mm diameter x 22mm thick. Ctx 357. Fill of pit 366. Tenement 239. AN

Natural pestle (not illustrated). Naturally elongate pebble with oval cross section. It is broken at one end. The other is rounded with a small flat polished area suggesting use as a pestle or processor. Measures >84mm remaining length. Ctx 5360. Fill of pit 5359. Tenement 180. LMED

Cannonball (not illustrated). Oolitic limestone. Spherical ball, pecked into shape all over but slightly damaged. Measures 140mm diameter. SF 256

Cannonball (not illustrated). Limestone. Spherical ball, finely pecked into shape all over. Measures 170mm diameter. SF 125

Cannon ball (not illustrated). Fine grained limestone / hard chalk. Perfectly spherical pecked cannon ball. Measures 118mm diameter. SF 315. Ctx 7760. Fill of pit 7763. Tenement 168. LMED

Disc (not illustrated). Fine grained white shelly limestone. One rough face, one smoothed face and curved smoothed edges. The centre does not survive. Some sort of base. Measures 270mm diameter x 22-25mm thick. Ctx 1078. Fill of pit 680. Tenement 173. HMED

Decorated item. Very fine-grained non-shelly limestone. Of unknown function and perforated. Possible corner of a gaming board or decorated slab of which one corner survives. It is decorated with four double circles with a pin prick in the centre. The four are divided into two sets joined by a single groove. On the opposite side the stone is very slightly v-shaped leading to a slight groove. Ctx 8026. Fill of pit 8025. Tenement 242. HMED

Palette, complete. Very fine grey marble. It has a U-shaped shallow indentation that is narrow along the two long sides and wide along the short side. It is smoothed on all its sides and faces but not polished. Measures 81 x 53 x 11mm. Ctx 6016. Tenement 171. EMOD

Southampton Roof slates overview

By Ruth Shaffrey

Higher Medieval

A total of almost 14kg of roof slates were recovered during the excavations, the bulk of which were found in higher medieval contexts (Table 1). No tenements produced significant quantities of slate during any phase although >1kg by weight was recovered from each of tenements 173, 237 and 241.

The slates vary in colour from light to dark grey, and rarer brown and purple slates. Despite these differences, they all probably originated in the South-west and are derived from Devonian formations (Williams pers comm). Devon has previously been identified as the most common source for roofing slates in Southampton from the 1170's AD (Platt and Coleman-Smith 1975, 25).

Table 1: roof slates by phase

Phase	Total
HMED	6188
LMED	1647
PMED	1743
EMOD	103
UNP	3688
Grand Total	13369

A range of roof slates are represented and although few are complete, all are of typical medieval shapes and sizes (Holden 1965, Fig 2; Allan 1984 Fig 168; Jope and Dunning 1954, Platt and Coleman Smith 1975, Fig 271). They vary from almost square to rectangular to tapered with at least one example shaped to fit a particular spot (862 unphased). Several examples have double perforations, one with two holes positioned relatively close together (624 unphased), and another with a hole very close to each side edge (17 and 12mm, 60, unphased). The perforations are generally circular or oval although there is the occasional rectangular one (7409, unphased). One slate retained its iron nail (60) but although there are other slates with small perforations which may have been for nails, the majority seem to have larger holes of 10-12mm diameter/width suggesting the more common use of wooden pegs (Jope and Dunning 19654, 213). The perforations are variably placed with some being central at the top of the slate and others being in one of the top corners.

Later Medieval

Almost 2kg of roof slates were recovered from later medieval contexts. None are complete and most are small fragments. One example has two perforations (8029).

Post-medieval

Almost 2kg of roof slates were recovered from post-medieval contexts. One of these is complete (from cess pit 300) and the remainder are fragmentary.

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