

Ancient Monuments Laboratory
Report 34/91

A NOTE ON THE PETROLOGY OF SOME
MEDIAEVAL FLOOR TILES FROM POOLE
AND OTHER SITES

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Summary

Petrological analysis was undertaken on thirty-five samples of Mediaeval glazed tiles in a white-firing sandy clay, considered on typological grounds to have been made France, perhaps Normandy or the Saintonge region in the south-west. On textual grounds, thin sectioning suggested that the majority of tile samples may well share a common fabric. However, due to the general nature of the inclusions this was difficult to pinpoint. Limited heavy mineral separation suggested eastern Normandy was unlikely, though western Normandy / Saintonge were both possibilities.

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Introduction

A number of samples of Mediaeval floor tiles recovered from recent excavations at Scaplen's Court and The Foundry sites in Poole, together with additional material from Dorchester, Exeter, Plymouth, Carmarthen and Carew Castle, were submitted for a detailed fabric analysis in thin section under the petrological microscope. This group of decorated tiles, specially selected on typological grounds, are thought likely to have been imported from France. Possibly from Normandy, or perhaps even from the Saintonge district of south-west France.

All of the tile samples have been made from a sandy white-firing clay. The majority display areas of green glaze on the upper surface and occasionally on the lower surface as well. The purpose of the thin section examination was firstly, to describe in detail the fabric of the samples; secondly, to see if they could be grouped texturally, thereby implying a similar source area; and thirdly, to see if a likely origin, or origins, might be

suggested. Unfortunately, efforts to obtain comparable tiles of known French origin have so far proved unsuccessful.

Petrology

In this section, all but four samples (nos. 5, 23, 26 and 28) appear to have a reasonably similar fabric and may share a common origin. This consists of a groundmass of fairly well-packed subangular quartz grains mostly under 0.30mm in size, together with a scatter of larger-sized grains, sometimes ranging up to well over 1mm across. Also present are some clay pellets, quartzite, a little iron oxide, flecks of mica and occasional chert. Much of the clay seems to have received minimal attention, as irregular lenses can often be seen in the matrix, also sometimes in fresh fracture when viewed in the hand-specimen. The common nature of the non-plastic inclusions in the clay of this group make it extremely difficult to point to a particular source area.

Of the four samples which showed a somewhat different texture to that outlined above, nos. 5, 26 and 28, apart from plentiful quartz grains, also contained some small irregular-shaped pieces of calcite and limestone, not noted in the other samples. An origin nearby to limestone formations is obviously indicated, though it is not possible to be more precise than this. The average size-range of the frequent quartz grains in sample 23 from Plymouth was slightly higher than the rest of the

samples, with the average size up to 0.50mm, and a few somewhat larger grains. It was also noted that the grains appear to be more angular-shaped than is the case with the other tile samples examined. Flecks of mica, iron oxide, quartzite and some clay pellets were also present.

Due to the common nature of the range of non-plastic sandy inclusions found in the main textural group, it was thought worthwhile to subject two of the larger-sized samples to an alternative petrological method of analysis, namely heavy mineral separation. This technique can sometimes provide an objective means for classifying sand present in ceramics, and has sometimes produced worthwhile results for characterizing pottery [and tile] as well as indicating likely source areas [for the method and examples of its' use see Williams, 1983; 1990]. One of the drawbacks of heavy mineral separation is the comparatively large amount of sample required, usually some 20-30 gms weight. For this reason the method was restricted to two of the larger-sized samples, nos. 8 and 13 from Poole. In the event, both samples produced similar residues of heavy minerals, though unfortunately in both cases the number of grains was not large enough for a meaningful statistical tabulation. Zircon was the commonest non-opaque mineral present, with lesser amounts of kyanite and rutile. Taking into account the small number of grains present, and assuming that these two tile samples are representative of the others in their group, some useful information can perhaps still be obtained from the results. Both zircon and rutile are

highly stable and commonly found heavy minerals, kyanite on the other hand tends to occur generally in post-Triassic sediments [Milner, 1962]. On this basis, the Saintonge region and western Normandy/the Paris basin, both with predominantly post-Triassic rocks, would appear more suitable as a source than eastern Normandy, which has a wide range of older rocks [Carte Geologique Internationale de L'Europe 1:1500000, Berlin]. However, the above petrological evidence for any one particular region rather than another is rather tenuous, and other source areas, including England, should not at this stage be ruled out.

Catalogue of Tile Samples

Poole

The Foundry:

- 11. PM 46 (13) 1986.
- 21. PM 46 (17) 1986.
- 31. PM 46 (34) 1986.
- 41. PM 46 (34) 1986.
- 51. PM 46 (125) 1986.
- 61. PM 46 (209) 1986.

Scaplen's Court:

71. PM 41 (4) 1985.

81. PM 41 (4) 1985.

91. PM 41 (4) 1985.

101. PM 41 (4) 1985.

111. PM 41 (4) 1985.

121. PM 41 (4) 1985.

Dorchester

Methodist Chapel:

131. W16 (33) [84] 1982.

141. W16 (33) [85] 1982.

151. W16 (33) [78] 1982.

161. W16 (33) [78] 1982.

Greyhound Yard:

171. W67 (966) C 1984

Exeter

181. PS 384 1976-77.

191. EB 1976-77 u/s.

201. QS1 1979.

211. QS1 1979.

221. QS 15.

Plymouth

Vauxhall Street:

231. PVS 778 1990.

241. PVS 778 1990.

251. PVS 778 P271 T13.

Carmarthen

Greyfriars:

261.

271.

281.

291.

Carew Castle

301. 350 ATI 1989.

311. 350 ATI 1989.

331. 350 ATJ 1989.

331. 350 ATJ 1989.

341. 350 ATY 1989.

351. 350 ATY 1989.

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