

Two examples of Roman pottery repair in antiquity

Two examples of the use of resin to repair Romano-British (RB) vessels in antiquity are described: one from Manor Farm, Guildford and the other from the King William IV site at Ewell.

A fieldwalking survey was undertaken in 1997 on land near Guildford (area SU 967 495) likely to become the subject of a planning application by the University of Surrey, and which had previously shown evidence of RB occupation. A concentration of pottery was found and in 1998–9 small-scale excavation demonstrated the presence of a low-status RB settlement probably enclosed by ditches, as well as Late Bronze Age and Middle Iron Age activity. The earliest ditch was dated by pottery from the primary fill to the Late Iron Age–pre-Flavian period, *c*AD 30–60 (Lyne 2000) and the main phase of occupation dated to that period; however, significant amounts of 2nd and early 3rd century sherds in the plough-soil located both during fieldwalking and excavation indicate later occupation in the area. The site has since undergone evaluation by Oxford Archaeological Unit (1997; 2002) and Wessex Archaeology (2003) and excavation by Thames Valley Archaeological Services. A full consideration of the site should result from this work.

A substantial proportion of the pottery was coarseware originating from the Alice Holt/Farnham area kilns situated some 18km to the south-west. A number of sherds (55) from a single vessel recovered from the upper fill of a ditch, a C1.3A cordoned jar dated *c*AD

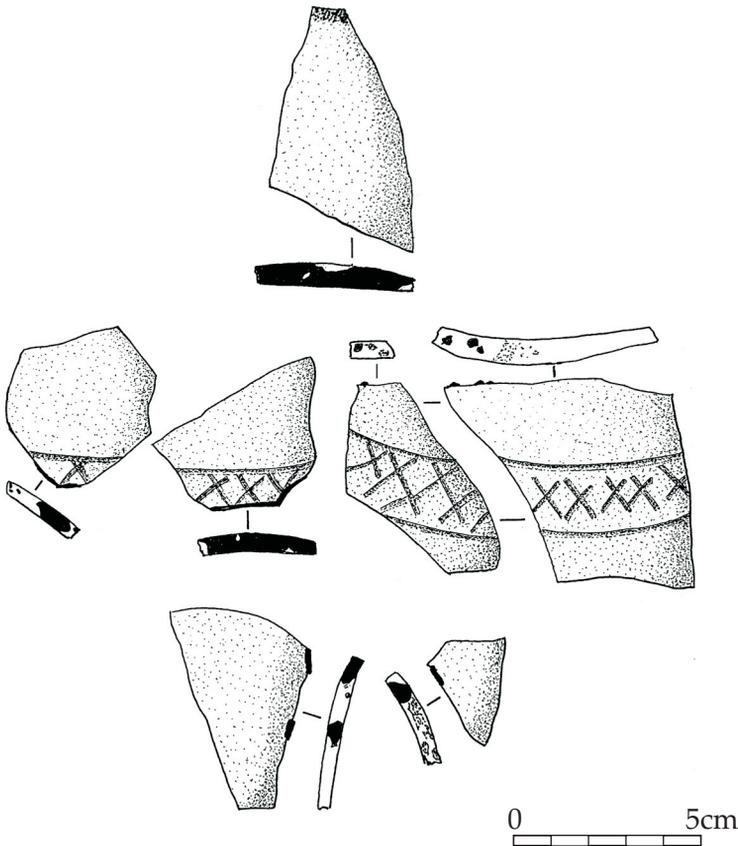


Fig 1 Sherds of greyware pottery showing location of areas of adherent black substance (drawn by Alan Hall).

43–80 (Lyne & Jefferies 1979; Lyne 2000), had a black substance adhering to several of the broken surfaces (fig 1). As none of this substance was found elsewhere on the sherds the distribution appeared to result from an attempt to mend the vessel in antiquity.

The black substance was analysed by Dr John Evans (University of East London). After removal of any surface contamination the substance was subjected to sequential extraction with organic solvents (hexane, chloroform and 2-propanol) and the residues examined by infrared spectroscopy. Where relevant, further analyses by thin-layer chromatography, gas–liquid chromatography and high-performance liquid chromatography were undertaken. These analyses strongly suggested that the major component of the substance used to mend the vessel was birch resin utilised in a mixture with clay. Also detected in the resin were traces of glycerides and their associated fatty acids – the glyceride pattern was dominated by saturated fats suggesting an animal fat origin. No cholesterol was detected, indicating that meat as such was not present. The mend was presumably successful, at least in the short term, although it seems unlikely that this type of repair would result in a watertight vessel (Robin Symonds, pers comm). The glycerides and fatty acids detected within the resin may have resulted from storage of animal fat or, less likely, a dish involving a meat-derived stock in the repaired vessel. However, a further possibility arises with the finding of mixtures of birch bark tar and fat on pottery from RB contexts elsewhere: first, as the contents of a small enamelled vessel at Catterick in Yorkshire and, secondly, as the adhesive used to repair a ceramic jar at West Cotton in Northamptonshire (Dudd & Evershed 1999). In both these examples the fats were derived from animal sources, and treatment of the mixture of resin and fat with high temperature during manufacture of the adhesive would have been necessary to produce the triterpene fatty acyl esters identified.

Another attempt to repair RB pottery using what appears to be a similar resin was found during excavation of the King William IV site in Ewell (Orton 1997). A beaker or small jar of micaceous London Ware (Robin Symonds, pers comm) had a hole in its base repaired by gluing a carefully shaped piece of pottery over the hole on the inside of the vessel. This jar would have been of relatively high status.

Other examples of mending high-quality pottery have recently been found at Staines, where three Samian vessels had been drilled for repair using lead rivets (McKinley 2004). However, the same author also reports ‘a black, pitch/resin-like’ substance used, in combination with a copper rivet, to mend a coarseware vessel (*ibid.*, 31). Manor Farm, although not of high status, was well provided with ceramic vessels – quite why a utilitarian piece of coarseware, broken into many sherds, should be mended must remain uncertain but the suggestion in the Staines report that this may indicate the presence of ‘inhabitants at the lower end of the social stratum’ seems apposite.

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