Thin-section analysis of Late Roman Pottery from West Lilling, North Yorkshire

Alan Vince

Samples of nineteen late Roman pots were submitted for thin-section and chemical analysis. Visually, the pots had been classified into several fabric groups:

CALC, tempered primarily with large angular fragments of sparry calcite, often leached and represented by voids.

CALOX, as CALC but fired in an oxidizing atmosphere.

BLSF, as CALC but with rare or no sparry calcite inclusions.

GRQZ, tempered with a coarse quartzose sand.

In addition, one sample initially selected as GRQZ was subsequently identified as an Anglo-Saxon vessel, coded SST (Table 1).

Table 1

TSNO	Context	cname	Fabric Group
V1205	US	SST	2a
V1206	6262	CALC	1b
V1207	6262	CALC	1a
V1208	6000	BLSF	1a
V1209	6217	CALOX	1a
V1210	6292	CALC	1a
V1211	6292	GRQZ	2a
V1212	6291	BLSF	1a
V1213	6262	CALC	1a
V1214	4009	GRQZ?	2a
V1215	5000	GRQZ	2a
V1216	3003	GRQZ	2b
V1217	6075	BLSF	3
V1218	4002	GRQZ	2a
V1219	5000	CALC	1a
V1220	6166	GRQZ	2a
V1221	2018	BLSF	1a
V1222	2002	BLSF	1a
V1223	6261	BLSF	1a

Petrological Description

In thin-section three main fabric groups were identified (here termed groups 1, 2 and 3). Within these, four sub-fabrics were identified (1a and 1b and 2a and 2b).

Fabric Group 1

This group consists of a fine-textured groundmass of clay minerals with a mixture of fine-grained quartzose sand grains up to 0.3mm across and larger fragments of sparry calcite, rounded phosphate and fresh angular flint. The rounded sand is composed mainly of quartz grains with sparse fragments of fine-grained basic igneous rock. Iron-cemented sandstone fragments, plagioclase feldspar and the occasional grain of tourmaline are also present in this sand. One sample, V1221, contained moderate quantities of rounded shale of similar colour and texture to the clay matrix, but laminated. These may be detrital shale fragments or relict clay.

The thin-sections were subdivided into Fabric Group 1a and 1b depending on the presence/absence of abundant rounded glauconite grains. Only one glauconitic sample was recognised, V1206.

Fabric Group 2

This fabric group is tempered with a coarse-grained sand composed mainly of fragments of Lower Carboniferous sandstone, of Millstone Grit type. The fragments range up to 2.0mm across. In several sections trace fossils were present. They are represented now by clay infilling of some of the detail of the fossils but had clearly been present in the pot as limestone inclusions. They are tentatively identified as crinoid stems up to 1.0mm across. The groundmass consists of optically anisotropic clay minerals.

The fabric is sub-divided into 2a and 2b on the basis of the presence of a finer-grained, rounded quartzose sand, present in one sample (V1216).

Fabric Group 3

This fabric group contains a well-sorted angular fine sand. This sand is composed mainly of quartz grains up to 0.2mm across. The groundmass consists of optically anisotropic clay minerals.

Discussion

The characteristics of Fabric Group 1 identify its components as products of kilns located in the Vale of Pickering. Those with noticeable quantities of calcite temper have been classed as CALC and those without as BLSF. They are, in the main, identical to samples of these two fabric groups examined from West Heslerton. However, in these West Lilling samples there are no examples in which the rounded sand is sparse or absent, but given the small number of CALC samples in relation to the number of BLSF ones this may not be a real difference.

Fabric Group 2 is mainly identical in thin-section to samples of GRQZ from West Heslerton and there is no obvious petrological explanation for the chemical difference between the West Lilling and West Heslerton fabrics. There is also no difference between the fabric of the one Anglo-Saxon SST sample submitted as part of this batch and the late Roman GRQZ samples, nor between these samples and the remaining Anglo-Saxon SST samples from West Lilling. This suggests that the late Roman GRQZ industry continued into the early Anglo-Saxon period, or that later potters exploited exactly the same raw materials as their late Roman predecessors. Fabric Group 2b is interesting, in that two temper types which have not been observed to outcrop in the same area occur in the same pot. Given the complex nature of the Quaternary deposits of North Yorkshire, however, this may not be significant.

The sand in Fabric Group 3 is similar to those found in some Jurassic sands in the North Yorkshire Moors area, for example those exploited in the Crambeck area.

The thin-section analyses therefore suggest that the pottery at West Lilling was obtained from well-defined late Roman potteries with no evidence for local or domestic production.