

**A NOTE ON THE PETROLOGY OF A RANGE OF LATE IRON AGE AND
EARLY ROMAN POTTERY FROM ELMS FARM, HEYBRIDGE, ESSEX**

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A small programme of thin sectioning was undertaken on a varied range of late Iron Age and early and later Roman pottery from recent excavations at Elms Farm. The main objects of the analysis were to characterize those pottery samples where little or no previous petrological work had been done before and secondly to suggest origins for those sherds where comparative results have already been published.

PETROLOGY

AREA L KILNS

1] 14564 BSW

2] 14564 GRF

3] 14564 GRS

All three groups are in a hard-fired, rough sandy fabric, dark to lighter grey in colour, with glassy quartz grains protruding through the surfaces, together with a few scattered pieces of white flint but with some coloured examples as well. In thin section they all share a common range and texture of non-plastic inclusions. Each shows a clay matrix containing a groundmass of frequent silt-sized monocrystalline quartz grains with flecks of white mica. Also present is a scatter of larger ill-sorted subangular to subrounded quartz grains, including some polycrystalline grains, and pieces of flint of variable size. A few examples of quartz and flint are over 1mm across. There is also a little iron-rich argillaceous material and opaque iron oxide. No. [3] is slightly sandier than the other examples. The site at Elms Farm is situated in an area of London Clay, covered in part by Boulder Clays and Brickearth, and the clay used in the pottery seems to reflect a certain intermingling of sources.

AREA W KILNS

4] 1539 GRF

5] 1539 GRS

Both groups are in a reduced sandy fabric with visible quartz grains together with some small pieces of flint. The sherds from No. [4] appear in a rather friable condition. In thin section, both of these groups of sherds have a generally similar fabric to example No. [3].

6] 1619 BUFM

A hard-fired light coloured sandy fabric, somewhat friable to the touch. The trituration grits are composed mainly of flint together with some large quartz grains. Thin sectioning shows a somewhat similar fabric to Nos. [4] and [5] although there is hardly any flint visible in the clay matrix.

SILTY WARE

All of the sherds here are thin-walled, fine-textured and range in colour from light red to reddish-grey.

7] 14226

8] 14206

9] 24135 A.2284

Thin sectioning shows a groundmass of frequent silt-sized quartz grains, with a moderate scatter of slightly larger grains, flecks of white mica, small pieces of flint and a little iron-rich argillaceous material.

10] 14289

This is a finer-textured fabric than Nos. [7] - [9], with much fewer silt-sized and larger quartz grains in what is a moderately micaceous clay matrix. There are also moderately frequent inclusions of iron-rich argillaceous material.

11] 14022

A moderate scatter of silt-sized quartz grains, a little white mica and some opaque iron-oxide.

Taken as a whole, the fabrics of Nos. [7] – [11] compare well with similar oxidized thin-walled “silty wares” recovered from the late Iron Age cemetery at King Harry Lane, St. Albans, where it was suggested that this type of pottery could be a local or, given the nuances of fabric within the group, perhaps a regional product [Freestone and Rigby, 1988, 110; Freestone, 1989, 265].

GROG-TEMPERED POTTERY

12] 15416 A.2163

13] 15416 A.2173

14] 15416 A.2166

15] 15416 A.2168

16] 15416 A.2174

17] 15416 A.2153

18] 15416 A.2167

19] 15416 A.2170

The above eight sherds all contain small angular pieces of grog in the fabric. Normally these can readily be seen in the hand-specimen [previously fired and crushed pottery deliberately added to the clay as a form of temper by the potter in the preparation stage]. In two of the sherds, Nos. [16] and [17] elongated voids can be seen in thin section commensurate with the addition of organic material and

sometimes this still remains in carbonized form in the voids. There is some variation in the size and frequency of the quartz grains present amongst the eight sherds. This is present as moderately frequent silt-sized quartz grains in [12] – [17] and less frequent slightly larger grains of quartz in [18] and [19].

Taken as a whole, the fabrics of this group are closely paralleled by the grog-tempered wares at King Harry Lane, where a local origin was assumed [Freestone, 1989, 265]. Freestone suggested that the quartz grains present in the fabric of the King Harry Lane material were likely to be naturally present in the clay rather than added like the grog, while dung was suggested as the organic material which was also added to the clay [Freestone and Rigby, 1988, 109]. The Elms Farm results might now point to a production on a regional scale for this distinctive type of pottery.

POMPEIAN-RED WARE

20] 15416 A.2156

Thin sectioning shows that discrete grains of green and colourless clinopyroxene are scattered throughout the clay matrix, together with some quartz grains, biotite mica, a little sanidine feldspar and some small inclusions of volcanic rock. This sherd clearly belongs to Peacock's Fabric 1 in his classification of Pompeian-red ware, with a source in the region of Pompeii and Herculaneum [1977].

RED-SLIPPED CENTRAL GAULISH

21] 11487 TRCG

22] 4000 TRCG

Hand-specimen study shows that under the red slip this is a very micaceous fabric, containing both white and golden flakes of mica. This is confirmed in thin section, where numerous flecks and strands of mica are scattered throughout the clay matrix. These are mostly muscovite but some of the larger strands tend to be biotite. Also present are a moderate number of poorly-sorted quartz grains, a few small discrete grains of plagioclase feldspar, a little volcanic material, some small grains of amphibole and clinopyroxene, and opaque iron oxide. This range of minerals and rock fragments would tie in well with the varied range of igneous formations that are to be found in the region of the Central Massif of France [cf. Freestone, 1989, 264].

CENTRAL GAULISH FLAGONS

23] 15418 A.2155

In thin section, these two thin-walled sherds have a generally similar fabric to the red-slipped central Gaulish sherds, Nos. [21] and [22], and a central Gaulish origin again appears likely.

?CENTRAL GAULISH

24] 11261 CGMIC

In the hand-specimen, this is a much more sandy fabric than the red-slipped central Gaulish sherds above, Nos. [21] and [22], and this is borne out in thin section. Frequent poorly-sorted grains of quartz are scattered throughout the clay matrix and, although there are some flecks of mica present, these are not a particular feature of the fabric. Quartz and mica are common inclusions in pottery and it is not possible to suggest a central Gaulish source on this evidence alone.

25] 15416 A.2161

Thin section shows frequent silt-sized quartz grains scattered evenly throughout the clay matrix. Also present are a few larger grains, a little white mica and some opaque iron oxide. This is not the micaceous fabric normally associated with central Gaulish wares and the relatively high quartz content present in the clay body points more towards the Gallia-Belgica Terra Rubra range of fabrics [Tomber and Dore, 1998, 17-20]. In the hand-specimen, the sherds can be seen to be well-burnished, allowing the glassy quartz grains to reflect the light in much the same way as mica plates.

MICACEOUS TERRA NIGRA

26] 15416 A.2157

Thin sectioning shows a fine-textured micaceous clay matrix with frequent flecks and strands of white mica with lesser golden mica. Also present is a moderate amount of silt-sized quartz grains and a few discrete grains of plagioclase feldspar. This fabric appears to be closely comparable with similar material from King Harry Lane, where a central Gaulish origin was suggested [Freestone, 1989, 264].

MORTARIA

27] 4286

28] 14226

Both sherds have a fine-textured, strongly micaceous clay matrix, with a moderate scatter of poorly-sorted quartz grains. Also present are a few small pieces of quartz-mica-schist and a few small discrete grains of plagioclase feldspar. The inclusions of quartz-mica-schist and the high tenor of mica, which presumably derived from the same parent rock, points to an origin in an area of metamorphic rock. The nearest appropriate formations lie in Brittany and the Massif Central area, although other sources, somewhat further away, might also apply.

29] 11101

30] 9497

These two sherds have a fabric reminiscent of the mortaria sherd from Area W kilns, No. [6], but here the clay matrix is slightly more sandy and also contains a number of small pieces of flint.

31] 8262

Thin sectioning shows that this fabric is not as micaceous as [27] – [28] while having a larger size-range of quartz than is the case with No. [6].

IMPORTED BUFF MORTARIUM

32] 15416 A.2162

This sherd has a similar fabric to Nos. [27] and [28].

TERRA RUBRA

33] 15416 A.2158 (Cam 2)

34] 15416 A.2159 (Cam 5A)

35] 15416 A.2160 (Cam 5B)

The fabric of all three sherds is very similar and consists of frequent well-sorted quartz grains which are generally below 0.20mm in size although a few rise to 0.30 across, together with a little white mica, chert and a few opaque iron oxides. The Elms Farm sherds appear to fall within the Gallia-Belgica Terra Rubra 1B classification of the National Roman Reference Collection, with a suggested origin in the Marne-Vesle area [Tomber and Dore, 1998, 18].

NORTH GAULISH WHITE FABRIC

36] 15418 A.2151

Thin sectioning shows frequent very well-sorted grains of quartz scattered evenly throughout the clay matrix. Also present are some flecks of white mica, a few pieces of chert of a similar size-range as the quartz and some opaque iron oxide. This fabric description would place the Elms Farm sherd in the North Gaulish white ware 3 classification of the National Roman Reference Collection, with a suggested origin in northern France [Tomber and Dore, 1998, 24].

?PULBOROUGH SAMIAN

37] 17197

38] 5602

39] 5610

40] 5607

All four sherds appear very similar in the hand-specimen with characteristic blisters breaking the surface on occasions. Only No. [37] was thin sectioned. This showed an isotropic clay matrix containing moderately frequent silt-sized quartz grains, some flecks of white mica, a little cryptocrystalline limestone and a few siltstones. Both in the hand-specimen and in thin section, this fabric is very close to Pulborough samian previously examined by the writer [Williams, 1979].

EARLY SHELLY WARE

41] 15416 A.2164

Thin sectioning shows a moderately frequent scatter of silt-sized quartz grains and a few flecks of white mica. Also noticeable are a number of variable-sized voids randomly scattered throughout the clay matrix. Some of these may represent air pockets resulting from poorly wedged clay in the preparation stage. However, others could once have held some form of calcareous material, as in the hand-specimen occasional small pieces of soft white shell can be seen. The latter could be missing from the thin section due to its friable condition and the rigours of the manufacturing process of the section.

HADHAM WARE

42] 8802 FSR

Thin sectioning shows moderately frequent poorly-sorted quartz grains, flecks of white mica and some iron-rich opaques.

43] 20188 LESTA

44] 10182 LESTA

45] 6378 LESTA

46] 9205 LESTA

Thin sectioning reveals frequent silt-sized grains of quartz scattered throughout the clay matrix, with the odd larger grain, moderately frequent flecks of white mica and some red iron oxide. These results shows that the fabric of the four decorated sherds is more sandy and micaceous than the plain rim sherd No. [42], although both fabrics seems to be catered for in the fabric descriptions of the range of products produced at the Hadham kilns [Tomber and Dore, 1998, 151].

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