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PETROLOGICAL EXAMINATION OF POTTERY FROM THE ANGLO-SAXON CEMETERY AT LOVEDEN HILL, LINCOLNSHIRE.

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Summary

A number of representative sherds of Anglo-Saxon pottery from Loveden Hill were thin sectioned and studied under the petrological microscope. The fabric groupings were: (1) sandstone, (2) ?granite, (3) organic, (4) limestone and (5) argillaceous. While the majority of the pottery may have been made fairly locally, it seems unlikely that this was the case for Group 2.

Author's address :-

Department of Archaeology
University of Southampton
Highfield
Southampton
SO9 5NH

0703 559122

PETROLOGICAL EXAMINATION OF POTTERY FROM THE ANGLO-SAXON CREMATION CEMETERY AT LOVEDEN HILL, LINCOLNSHIRE

D.F. Williams, Ph.D., FSA

(HBMC Ceramic Petrology Project)

Department of Archaeology, University of Southampton

Introduction

A small number of representative sherds from the Anglo-Saxon cremation cemetery at Loveden Hill, Lincolnshire, were submitted for a detailed fabric examination in thin section under the petrological microscope. The main objective of the analysis was to confirm the validity of a provisional identification of sherds in the hand-specimen into fabric groups. All the sherds submitted were initially studied macroscopically with the aid of a binocular microscope (x 20). Munsell colour charts are referred to together with free descriptive terms. The site at Loveden Hill lies about seven miles north of Grantham on the Jurassic Ridge on Middle Lias formations, closeby to glacial deposits, and with Triassic rocks some six or seven miles to the east.

Petrology and Fabric

On the basis of the range and texture of the non-plastic inclusions present in the pottery samples, a number of broad fabric divisions have been made. The original fabric numbering of the samples has been retained.

(1) Sandstone

Fabric Type 'A' C141,326

Fabric Type 'A1' C291,C295

Fabric Type 'B' C149

Fabric Type 'H' C777

Fairly hard, roughish sandy fabric with many quartz grains protruding through the surfaces. Fabric Types 'A', 'B' and 'H' are darkish grey in colour (7.5YR N4/ to 5YR 4/1), while Fabric Type 'A1' is a lighter colour of grey (between 2.5Y N5/ and 5/2), with a scatter of red argillaceous lumps. Thin sectioning shows inclusions of quartz-sandstone and frequent discrete subangular grains of quartz up to 1.50mm in size, together with a little quartzite, shale/mudstone and flecks of mica. The sandstone in Fabric Type 'H' is composed of a finer-grained size of quartz than is the case in the other three samples. While slightly more shale/mudstone is present in Fabric Type 'A1'(the red lumps visible in the hand-specimen).

(2) ?Granite

Fabric Type 'C' C147B

Fabric Type 'C1' C191

Fabric Type 'E1' C321

Fabric Type 'E2' C328

Fabric Type 'F' C184

Hard, rough sandy fabric, with visible inclusions of quartz, some felspar and sparse large flakes of golden mica, normally darkish grey in colour (5YR 4/ to 7.5YR 3/). In thin section the most prominent inclusions are large discrete grains of potash and plagioclase felspar and occasional fragments of granite or grano-diorite, together with quartz, some of it polycrystalline, biotite mica and the odd piece of sandstone. In addition, Fabric Types 'C1' and 'F'

contain some red iron ore, while Fabric Type 'E2' has some mudstone.

(3) Organic

Fabric Type 'D' LH72 C971

Fabric Type 'E' C159

Soft, slightly rough fabric, reddish-brown (between 2.5YR 4/2 and 4/4) to grey (5YR 4/1) in colour, with frequent elongate voids which probably once held grass or chaff. These voids not only appear on the surfaces of the sherds but are also present in the paste, suggesting that vegetable matter was deliberately added to the clay at some stage of the making of the pottery. In thin section, Fabric Type 'D' is seen to contain little else but these voids, while Fabric Type 'E' has slightly less voids and more quartz grains and a little sandstone.

(4) Limestone

Fabric Type 'G' C237,C423

Soft, soapy fabric with conspicuous inclusions of white limestone, darkish-grey throughout (between 5Y 4/1 and 3/1). Thin sectioning shows irregular lumps of limestone with a little calcite and shell and some subangular grains of quartz.

(5) Argillaceous

Fabric Type 'F1' C186

Soft, slightly rough fabric containing numerous rounded voids and rounded argillaceous inclusions, grey (5YR 4/1) to reddish-buff (5YR 6/6) in colour. Thin sectioning shows rounded grains of mudstone and frequent rounded voids commensurate with the size and shape of the mudstone, together with a sparse scatter of quartz grains and a little iron ore.

Comments

From the above thin section results it is clear that the majority of the Anglo-Saxon pottery from Loveden Hill was made from raw materials that may have been obtained locally or fairly locally. The sandstone inclusions which characterize Group 1, for instance, may possibly have derived from the nearby Triassic formations, while the Shelly limestone and mudstone of Groups 4 and 5 probably point to the local Jurassic clays as a likely source (Kent, 1980). Organic tempered Saxon pottery is fairly widely distributed, but trying to tie down sources given such common inclusions is difficult.

Group 2 poses the hardest problem, for the likely source area of this pottery is difficult to determine. The nearest appropriate igneous formations to Loveden Hill lie in the Charnwood Forest area (including the Mountsorrel grano-diorite) to the south-west of Leicester and the post-Tremadoc 'diorites' around Nuneaton. Alternatively, as Loveden Hill is situated closeby to Boulder Clay glacial deposits it may possibly be that this pottery represents fairly locally made products, the granitic inclusions being present in the clays due to glacial action. However, previous work on the Chalky Boulder Clays of the east Midlands has revealed comparatively few far-travelled erratics (Perrin, Davies and Fysh, 1973, 102). Similar granitic inclusions have been found in early - middle Saxon pottery from a growing number of sites (Walker, 1978; Williams, 1979), and it seems unlikely that there would be enough igneous erratics in the local drift to satisfactorily account for the scale of manufacture indicated by these results. More work is obviously needed in order to locate the source of this distinctive pottery fabric.

References

Kent, P. (1980) Eastern England from the Tees to the Wash, British Regional Geology, London.

Perrin, R.M.S., Davies, H. and Fysh, M.D. (1973) 'Lithology of the Chalky Boulder Clay', Nature Physical Science, 245(1973), 101-104.

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Williams, D.F. (1979) 'Petrological analysis of Saxon pottery from St. Peters and Briar Hill, N'ants', St. Peters Street Northampton, Excavations 1973-1976, Northampton, 155.

LOVEDEN HILL 1972, PROVISIONAL FABRIC DESCRIPTIONS

These descriptions are intended as a guide only and are based on visual examination of sherds and depend upon their major visible characteristics.

FABRIC TYPE A

Fairly fine with many small rounded quartz grits.

FABRIC TYPE A1

Fairly fine with many small rounded quartz grits, but with addition of red (oxidised) 'crushed tile' particles.

FABRIC TYPE B

Fine with some rounded quartz grits, but also with larger 'agglomerations' of rock crystal.

FABRIC TYPE C

Fairly fine with some rounded but predominantly more angular quartz grits.

FABRIC TYPE C1

Some rounded and angular grits, but with some red fired clay lumps and fragments of ironstone.

FABRIC TYPE D

Fairly coarse, a lightweight fabric with a high vegetation content and very little obvious temper.

FABRIC TYPE E

Fairly coarse with sparse small rounded grits, but also with significant amounts of vegetable temper.

FABRIC TYPE EI

Fairly coarse, sparse angular grits, significant vegetable temper.

FABRIC TYPE E2

Fairly coarse with angular grits, vegetable temper and fragments of bright red ?crushed tile.

FABRIC TYPE F

Rather coarse with prominent whiteish quartz grits, some rounded but mostly angular, some iron pyrites.

FABRIC TYPE FI

This closely resembles type F, but has the added feature of small red (oxidised) clay lumps and occasional iron 'clinker' fragments.

FABRIC TYPE G

Coarse, small rounded and occasionally angular pieces of lustreless ?limestone. Rather 'corky' surface.

FABRIC TYPE H

Very fine with occasional angular opaque dull grits.