

ROMAN POTTERY FROM THE KILNS ON DERBY RACECOURSE

27 SEP 1977

B / JD
unamended

*merely
an alternative
to
(yet...?)*

All five sherds submitted were examined in thin section under the petrological microscope. Samples 75536-39 contained a groundmass of angular quartz grains averaging 0.05-.10mm., and a scatter of larger quartz grains up to 0.40mm. across (some polycrystalline), set in an anisotropic matrix of fired baked clay. Also present are frequent tiny flakes of muscovite (clearly visible in the hand specimen), some fine-grained sandstone grains, reddish-brown iron oxide particles and a few pieces of detrital (d) felspar. Sample 756540 was similar, except that it contained many more quartz grains in the 0.20-.40mm. size range.

The petrology of the sherds suggests that the clay used was obtained from the local Keuper Marl (unfired colour) red clay deposits, situated just to the east of the site, which contains bands of micaceous 'skerries'. A heavy mineral separation conducted on samples 756536 and 756540 would seem to support this view, as it shows that almandite, known to occur in the Keuper Marls of the area, is present in some numbers.

*a kind of yellowish garnet,
very distinctive*

D.F. Williams, Ph.D.,

Department of Archaeology,

University of Southampton.

Examination of three pieces of iron/steel from

Derby sites

RACE COURSE

AM.

Little Chester 768524

A piece of iron with ferrite with a little angular pearlite; it looks very like a modern mild steel, with an average carbon content of about 0.1%. The hardness is 120 HV1 which suggests that the phosphorus content is low.

AM.

Little Chester 768505

This is a nice piece of high carbon steel. It is very homogeneous and consists of pearlite with cementite. Judging by the amount of cementite the carbon content must be of the order of 1.2%. The grain size is very large suggesting that it was held at a temperature of about 1000°C for some time and then slow cooled. The cementite has an unusual lathy look about it which suggests to me that after it had formed, i.e. just below about 800°C, it received some deformation that caused the normal grain boundary brittle cementite film to split.

The hardness of the predominant pearlite was 330 HV1, and that of the cementite 740 HV1.

A polaroid photograph has been taken of this specimen (X 50).

Derby Race Course. 74.I,F5 (A). (AM 756411)

Another piece of mild steel with an average carbon content of about 0.15%. Again the structure consists of ferrite and pearlite. The hardness is 138 HV1 and, again, I would say that this has a low phosphorus content.

R F Tylecote

5.7.77