

- 5) The main piece is very similar in appearance to the residues produced in foundries when, after a mould has been filled, the excess metal remaining in the ladle is dumped into a hollow in a bed of sand, so that it will not solidify inside the ladle. This treatment is commonly known as "pigging". The rough bottom and edges of the piece are similar to surfaces produced by molten metal penetrating sand. In addition, it is common to put a piece of pipe or rod in the hole before the metal is poured in, so that the solidified mass can be lifted more easily by a crane. The disposal of residues from several ladles would produce a layered structure.

Other foundry residues from furnaces or ladles, known as "skulls" could have similar shapes but are commonly more nearly basin-shaped.

EXAMINATION OF SAMPLES

Chemical Compositions

Metallic Samples

Compositions of samples from both magnetic and non-magnetic layers were determined using spectroscopic, chemical and electron microprobe analysis, and metallography. Three samples from each layer were examined though not all were analysed completely, the main purpose being to examine the homogeneity of the layers.

Compositions of the two layers are listed below.

<u>Elements</u>	<u>Magnetic</u> (%)	<u>Non-Magnetic</u> (%)
Fe	84.70	96.30
C	1.06	0.22 (see below)
Mn	12.37	0.72
Si	0.40	0.24
S	0.01	0.035
P	0.03	0.025
Ni	0.07	0.09
Cr	0.75	0.34
Cu	0.10	0.10
Sn	0.01	0.03
Trace Elements } less than 0.01% }	Co, Al, Nb V, Mo, Pb	Co, Mo, V, Al Ti, Nb, B