

Technological finds from the CEU excavations at Mucking, Essex

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The items submitted for examination included slags, scrap metal, stones and fired clay; each group is described below.

Most of the slag was pieces of off-white fuel ash slag. This is formed when the ash in a fire reacts with some silicate-rich material such as clay or sand. The pale colour indicates that it contains very little iron, which is unusual. Fuel ash slag is not necessarily an indicator of metallurgy; any process which is associated with a fire at high enough temperatures can produce it. It can even result from an intense wood, thatch or hut fire.

One unstratified piece (A.M. No. 7825310) was an iron-working slag. It was about 13 cm across and 7 cm thick but originally would have been larger. It contained many impressions of pieces of wood, presumably the fuel used in the hearth or furnace where it was produced. In appearance it is unlike ordinary smithing (forging) slag and so is probably the product of a primitive smelting operation. This could be of Iron Age date but it is interesting to note that slags of similar appearance, although larger in size, have been found at Mucking in features said to be of Anglo-Saxon date. The piece will be further examined in an attempt to confirm its connection with iron smelting.

The final 'slag' (7824513) was a piece of overheated clay material, probably a fragment of a crucible or mould.

There were three pieces of scrap metal, two of them semi-manufactured. All were of copper alloy. The first (7823949) was a bronze bar containing a little lead, 3-4 mm in diameter, in some places square and in others round in cross-section. The second (7825306) was a small piece of sheet metal about 2 mm thick. It was a more heavily leaded bronze than the bar. The final piece (7824338) was a blob of copper, presumably spilt when pouring molten metal from a crucible. (The analyses were carried out by x-ray fluorescence.)

The two stone samples (7820854 and 7824508) are lava, similar in appearance to Mayen lava. This is a not uncommon find on Roman and later sites in south-eastern England but it is unusual to find it in a prehistoric context.

The fired clay submitted for examination was made up of a variety of fabrics and included both crucible and mould material. The most obvious crucible fragment (7822814) had been heated from above as is usual with pre-Roman crucibles; part of its inner surface was vitrified and below that was a vesicular zone, produced by the local overheating of the clay fabric.

A second clay fragment (7823048) displayed similar changes and may also be a crucible fragment as may the piece of 'slag' described above.

All the fired clay is undergoing a fuller investigation and it is hoped that more detailed descriptions will be added to these interim notes at a later date.