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^bhelmsford, the Slags and other technological remains

CHELMSFORD - The Slags and other technological remains

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Slags from a number of Roman sites in Chelmsford with dates ranging from mid 1st century to 4th century were examined and identified.

Site CHAR produced about 4 kg of slaggy material, with both iron working slag and vitrified clay in various forms present in approximately equal amounts. The majority of the material (over 3 kg) belonged to periods II and III, representing military and probable military use of the site respectively. The buried soil and other features belonging to period II (c.65-80 AD) both produced fairly equal amounts of vitrified clay (including hearth lining) and smithing slag. Two pieces of slag, one from each sub-group, were rather denser than the rest and looked more like smelting slag but there is no positive evidence for smelting. Periods III and IV A (c.80-125 AD) produced mainly smithing slag and period IV B (c.125 AD) both smithing slag and vitrified clay. Period V and VI (late 2nd-early 3rd century) material was mostly vitrified clay but also included some smithing slag.

Site CHAA produced three pits containing 11.7 kg of slag, about a quarter dating from the early 2nd century and the rest from the late 2nd century. The material was very similar to that from CHAR being mostly smithing slag and vitrified clay (including hearth lining). In addition there was evidence for copper alloy working - both crucibles and spilt metal were noted in the later deposits.

Site CHS produced about 12 kg of slag. Over half this came from phase V (c.80/90-165/170 AD) which was the civilian development of the town and nearly a quarter from the two 1st century military phases (II A and IV). The material was again similar to that from CHAR.

All three sites have produced substantial evidence for ironworking although the waste (slag) appears to have survived better than the associated features (hearths etc.). The bulk of the material seems to date from the late first and second centuries AD. If the amount of material found can be taken to represent the level of activity and hence the importance of a site, then CHAR was at its peak in the late first century followed by CHS in the early second and CHAA in the late second century.

Site CHAR also produced the base of a pot containing pigment (A.M. No. 780275) and a fragment described as '?glass slag' (780276). The pigment was a red ochre (Munsell 10R3/6 "Dark red"). On the outside of the pot the red overlies a white layer and so appears paler (Munsell 10R 5/4 "Weak red"). The glass is most probably a fragment that has accidentally been remelted. It is highly vesicular. The green/brown/amber colour is due to the presence of a small amount of iron in the glass.

MALDON - The Slags

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The slag showed a fairly wide range in both composition and size of pieces. There were fluxed-surfaced stones, vitrified clay (including pieces of hearth lining) and fuel ash slags containing varying amounts of iron as well as iron smithing slag. Some of the slag was very dense, suggesting either that the smithing hearths were being worked at high temperatures or (possibly) that the slag had been formed in a smelting operation.

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Three of the pieces of smithing slag were in the form of round plano-convex 'buns', the pool of slag that collected at the bottom of the hearth. One piece of comparable size was in the form of a triangular prism.

The 'slag' also included a number of pieces of corroded metallic iron. The '? bloom fragments' (A.M. No. 7716342) were just flakes from the surface of one or more badly decayed iron objects.

The finds from later levels are not significantly different from those from 11th-12th century contexts. They could well have been derived from the earlier material. All the slags examined could have been produced in a hearth used for iron working. As no associated features were found it is impossible to say where the slag was produced, although its weight and bulk make it an unlikely candidate for long-distance transport.