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1476

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Industrial remains from the Cakebread Robey sites, Canterbury SITE 1476

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The site produced evidence for both ferrous and non-ferrous metal working. The quantities were not large but were of some interest. Much of the material can be parallelled on other sites in Canterbury.

Iron smithing slag was found in contexts dating from Belgic to the 13th or 14th century. The very small quantities suggest the iron working was not being carried out in the area excavated but in the vicinity. Small-scale iron working is to be expected in any settlement of iron age or later date so the appearance here of small amounts of slag is not surprising. In association with the smithing slag were small amounts of fuel ash slag and hearth lining which are indicators of fires at high temperatures rather than of any specific process (see Bayley 1985 for details). Other features of various dates produced further amounts of these materials and a late Belgic pit [272] contained a fragment of a tuyere with a perforation of diameter c.2 cm as well as other pieces of hearth lining. Tuyeres protect the nozzle of a bellows from the heat of the fire and would have been needed in both iron smithing and non-ferrous metal working hearths. This example could have been used for either process.

The evidence for non-ferrous metal working is both more extensive and more varied. Two Phase I (ie up to 75 AD) pits [293 and 274] contained collections of crucible fragments, several dozen in all,which were not like any normal late iron age or Roman crucibles. They were of a fairly fine and not very refractory fabric and were reduced fired. All of them were vitrified to a greater or lesser extent on the outside and in a few areas this vitrified surface was coloured red by the presence of small amounts of copper. The inner surface was normally grey but in a few cases appeared a pinkish-purple colour. Some of the fragments had a two layer structure reminiscent of the extra outer layer found on many crucibles, though in this case the two layers appeared to be of the same fabric. The fragments seem to be from small (? 5 cm diameter) thumb-pots that are not very

circular, though there are some pieces whose curvatures cannot easily be fitted into this sort of shape. X-ray fluorescence (XRF) analysis of these sherds detected zinc and some copper. The interpretation of these fragments is not easy but comparison with similar material from other sites suggests they may have been from brass making crucibles (Bayley 1984). A complete example has been found in a 2nd century context at Palace Street, Canterbury.

Two further crucible fragments were found in medieval contexts [543 and 143]. The first was of the same form and fabric as a group of crucibles of late Roman date from the Marlowes sites (qv) while the other was of a similar type. As with the examples from Marlowes, XRF analysis of both sherds detected copper and zinc, suggesting they had been used to melt brass. These two fragments are most probably residual and are further evidence for the late Roman industry.

A small group of clay mould fragments were found in a mid-Saxon context. The fabric was very sandy and friable, and most of the pieces were a reduced-fired, mid-grey colour. Very little of the design to be cast survives so the objects being made cannot be identified, but the larger fragments at least are most probably from piece moulds. The metal being cast could not be determined.

A number of contexts from later 1st century to medieval produced small amounts of scrap metal. Some fragments were bits of objects that could have been collected for remelting but others were definite metal working waste; irregular lumps and dribbles and a bar ingot, the raw material for a wrought metal industry. The composition of the metal varied considerably, suggesting most of the finds were contemporary with the deposits in which they were found rather than all residual from an early industry. All the fragments from Roman contexts were bronze (copper + tin) while the later deposits produced mixed alloys with copper, tin, zinc and lead all present, though in varying quantities. The bar ingot was of a unique composition; the major element present was copper but silver, lead and possibly tin were detected in more than trace amounts.

References

Bayley J (1984) Roman brass-making in Britain. JHMS 18(1), 42-3.

Bayley J (1985) What's what in ancient technology: an introduction to high temperature processes. in P Phillips (ed) The archaeologist and the laboratory (41-4). CBA Res Rep 58.

Appendix 1: Material not previously reported on(AM 844375)

SF	Context	Date	Description
290	248	75-110	Scrap objects and metal waste All analysed fragments bronze (Cu+Sn) except rivet on iron which is copper with only a trace of tin
283	249	75-110	Sheet fragments and dribbles All analysed fragments bronze (Cu+Sn)
326	376	110-220	Deeply corroded object fragments
755	81	650-850	Irregular lump of metal - ? molten dribble. Bronze with a little lead and zinc
531	70	650-850	Mould fragments, possibly from piece mould(s). Fabric very sandy and friable, mainly reduced fired. Very little of design to be cast survives
580	80	1050-1200	Dribble of molten metal with weave impression on one side. Leaded gunmetal (Cu+Pb+Sn+Zn)
783	117	1050-1200	Bar ingot, 46x10x12 mm. Copper with some lead, silver and possibly tin
684	543A	?1050-1200	Thick sheet fragment, ? part of a casting. Heavily leaded bronze
317	237	1200-1300	Metal spilt on clay, firing it XRF detected Cu+Sn+Zn+Pb
56	35	?	Lump of metal, ? part of bar ingot size 29x15x20 mm. Bronze