

ART. III.—*An iron bloomery at Drigg.* By J. CHERRY
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Read at Grange-over-Sands, September 1st, 1967.

THE picture of iron manufacture in the sand-dunes near Ravenglass¹ would not be complete without mention of the bloomery site at Drigg. This has already been recorded on the distribution map by Mr W. Alp of Seascale.

The site lies on the raised gravel beach on the west bank of the Irt about one mile from Ravenglass; the map reference taken from the Ordnance Survey Sheet SD 09 is 30674966.

The river bank was sown with anti-personnel mines during the 1939-45 War and the slag is now scattered over a wide area. The material is similar in all respects to that from Eskmeals, being small in size and with some of the pieces of slag having burnt clay fused on to them. There is no sign of a hearth but small pieces of haematite can still be found here and there, and there is no true tap-slag.

Apart from the flint artefacts of Bronze-Age occupation,² the habitation debris is mainly Romano-British. This includes a broken jet finger-ring, 2 spindle whorls, 2 fragments from different glass bangles and some potsherds of black calcited ware.

Another piece of glass bangle was picked up about a quarter of a mile south of the site, and 50 yards or so to the west, fragments of the upper and lower stones of a rotary quern; a small piece of medieval pot and a medieval coin were picked up in the same gravel bed as the quern fragments.

Lying close to the place where the spindle whorls were found were two interesting stone objects. They are

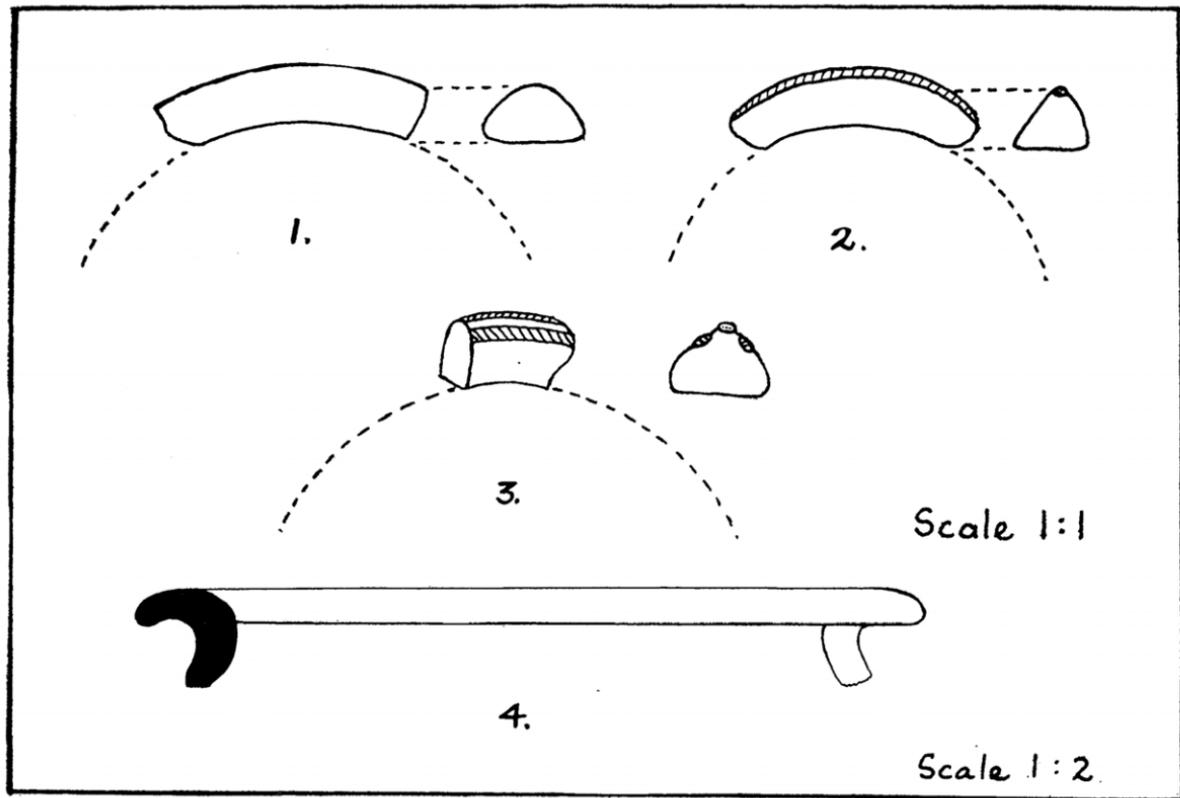


FIG. 1.—Romano-British bangle and rim fragment.

small pieces of red sandstone of indeterminate shape about 2 in. thick, each having a circular depression about 3 in. diameter and $\frac{1}{2}$ in. deep. These stones probably served as bases in which the ends of the spindles were rotated.

Professor Birley writes of one of the fragments of calcited ware, "The Drigg rim is of the type which could be as early as A.D. 350, though not necessarily so early". This is in close agreement with the late 4th-century date given for the cooking-pot debris from the most northerly of the Eskmeals bloomeries. Fragments of similar rims have been found by Mr J. H. Macdonald and Mr F. Barnes at the same place.

The analysis of a representative piece of furnace bottom is given below.

Slag Analysis (expressed as per cent)

FeO	Fe ₂ O ₃	SiO ₂	H ₂ O	MgO	TiO ₂	MnO	Al ₂ O ₃	CaO	Na ₂ O	K ₂ O
59.3	7.7	27.2	2.5	0.33	0.10	0.10	1.13	1.27	0.25	0.25

There is little that can be deduced from these figures for dating purposes, except that they are in good

Fig. 1.

1. Bangle fragment in white opaque glass with no ornamentation.
2. Bangle fragment in green translucent glass with a blue band forming a slightly raised ridge on the outer circumference.
3. Bangle fragment in greenish translucent glass with a yellow band forming a slightly raised ridge on the outer circumference, on either side of this is a band of blue glass. The bands are about $\frac{1}{8}$ in. across and are less than $\frac{1}{16}$ in. deep.

It was impossible to do more than guess at the diameter of bangle no. 3, since the fragment was so small, but bangle no. 2 was definitely much smaller in diameter than the other two.

4. Fragment of black calcited ware rim badly damaged by sand. This has come from a pot which was about 8 in. in diameter at the rim.

agreement with similar material from Eskmeals,¹ which is typical of material from primitive bloomeries using good quality haematite. The potassium present derives from the use of charcoal in the smelting process, but that it is less than could be expected is probably due to the continual leaching of the slag with rainwater.

The quern fragments were shown to me by Mr Barnes and are at present in the museum at Barrow. Both upper and lower stones are made of granite heavily weathered and worn by sandblast. It is plain from the depth of the upper stone, that it formed part of a Romano-British type of beehive quern.

The coin is a "short-cross" silver penny; these were minted from 1189 until 1247. The stylised curls on the portrait on the obverse would seem to rule out the early coinage of Richard I, therefore the coin must have been minted between 1199 and 1247.

There was no stratified material on the site, and since bloomeries of this sort, which used primitive bowl furnaces, were in use right into the Medieval Period, we cannot date the site with certainty. Since the artefacts associated with the slag are Romano-British in type, I feel confident that this bloomery is contemporary with that at Eskmeals, operating in the later part of the 4th century.

Acknowledgements.

We would like to thank Professor Birley for identifying the pottery fragments and Mr F. Barnes for making available to us material from the Barrow museum.

References.

- ¹ J. Chery, "Eskmeals sand-dunes occupation sites, phase II—Iron manufacture", CW2 lxvi 46.
- ² J. Chery and W. Pennington, "Flint-chipping sites at Drigg", CW2 lxxv 66.