

BRITISH MINING No.61

MEMOIRS 1998



Fairbairn, R.A. 1998
“A Lead Smelting Site at Haltwhistle Hill, Allendale”
British Mining No.61, NMRS, pp.20-21

Published by the
THE NORTHERN MINE RESEARCH SOCIETY
SHEFFIELD U.K.

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ISSN 0309-2199

A LEAD SMELTING SITE AT HALTWHISTLE HILL, ALLENDALE

by Raymond A. Fairbairn

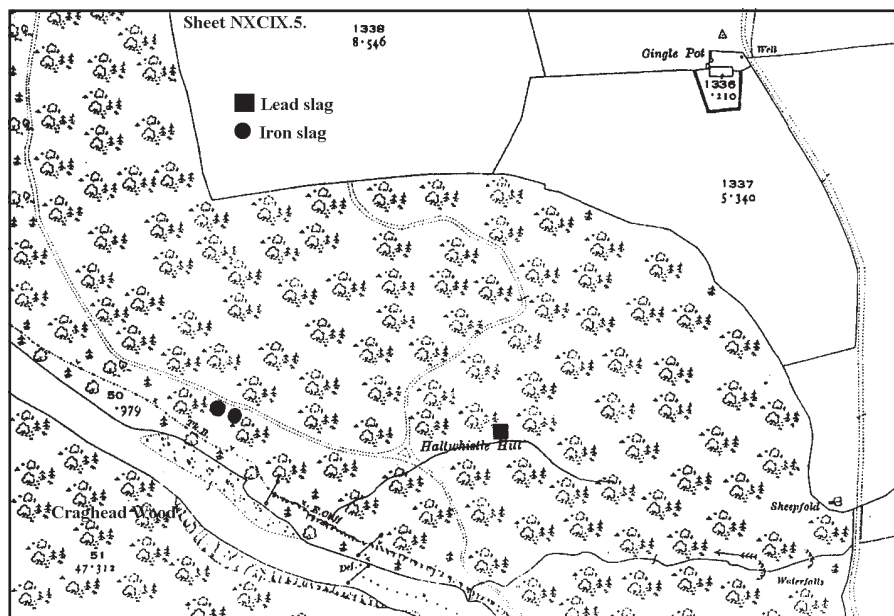
SUMMARY

A previously undescribed spread of black lead slags has been found at Haltwhistle Hill, deep in the gorge of the River Allen. The presence of a nearby iron smelting site is also noted.

THE SITE

This site is in an unlikely location [NY80495992] and no record of it has been found. It was discovered by accident when looking at bloomery sites associated with ironstone workings in the Oakwood Limestone [NY80255995], where the combined East and West Allen flows through a 100 metre deep gorge, which is about 400 metres wide at the top. The site is separated from the river by a high promontory between two minor tributaries. The River Allen flows from south to north, but the gorge is sinuous and runs west-north-west at the site.

The site is not exposed to the prevailing wind, which suggests water power was used. However, the runnel that passes the site is hardly large enough to be called a stream and no leats have been found. The one attraction to a



smelter is that the gorge has been a natural wood, though much of this has been recently felled and replanted, mainly with conifers. If the slag had not been revealed by this work, the site would probably have gone unnoticed.

The slag has all the appearance of being from a slag hearth rather than bale. Most of it is black or sometimes olive green, vitreous and with occasional small prills of lead. Some pieces are up to five centimetres thick with few vasculae, whilst others contain many bubbles. No evidence of buildings or furnace debris has been found, and the occasional small pieces of sandstone within pieces of slag may be impurities in the ore. Imprints in the surface of the slag of what is thought to be charcoal have been seen and a few small pieces of charcoal have been found. No coal or coke has been seen.

The site is covered by young Sitka Spruce and it is difficult to get an accurate measurement of the area covered by the slag, much of which is under a 10 centimetre layer of humus. Small pits, dug on a grid at about five metre intervals, showed slag under an area of about 15 metres by 12.5 metres. A small heap of slag near the centre of the spread proved to be at least 0.4 m deep. Some slag, found on the surface outside the area of the main deposit, was probably scattered when trees were either extracted or planted. The volume of slag present is about 20 cubic metres. If 20% is allowed for voids, this is reduced to 16 cubic metres. The slag's specific gravity is about 3.4, so there must be about 54 tons of it. Assuming that the ore was 75% pure, this represents 160 tons of galena or about 87 tons of lead metal.

OWNERSHIP

This remains unresolved and it may be just a coincidence that the nearby Staward Peel and Low Staward once belonged to the Bacon family. George Bacon, of Clay Linne in Derbyshire, moved to the region in the mid 17th century, and in 1664 George's son, John, and his son held the lease of all the lead ore of Alston Moor. The link with the Bacons can only be speculation, however, as the date of the venture is not known.

ACKNOWLEDGEMENT

The author is grateful to Mr Lloyd Billingham who drew his attention to the iron slag in the Allen gorge which resulted in the discovery of the lead slag.

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