IRON AGE SLAG – NO PUNS PLEASE!

June 29, 2012 Dawn McLaren Commercial Archaeology, Day of Archaeology 2012, Finds, Iron Age AOC Archaeology Group, Artefacts, Artifact, Blacksmith, Bronze Age, coarse stone tools, Edinburgh, finds specialist, http, Iron Age, Loanhead, Metallurgy, metalworking technology, multi-phase site, post-excavation services, post-medieval metal finds, Rob Engl, Scotland, Slag, Smelting, Steelmaking, urban site

I'm Dawn McLaren and I'm a finds specialist at AOC Archaeology Group based at Loanhead, Scotland. On a day-to-day basis I'm principally involved in the post-excavation analysis of artefacts recovered as the result of developer-led excavations ranging from early prehistoric through to post-medieval in date. To give you an idea of the range of finds that I deal with, in the last couple of weeks I've been looking at coarse stone tools and querns from an Iron Age settlement, some pottery from a Bronze Age burial and post-medieval metal finds from an urban site in Edinburgh. It definitely keeps me on my toes!

Today I've been examining some later prehistoric ironworking waste from a multi-phase site at Beechwood, Inverness and I'm really excited about what it is telling us about metalworking on the site. The site, which was excavated by my colleague Rob Engl and others, revealed several Bronze Age/Iron Age timber roundhouses, palisades and enclosures together with evidence of Neolithic settlement.

Starting from the beginning, what is ironworking waste? Basically, it is the non-iron component of ore that is separated out from the iron during smelting and smithing but there is inevitably other associated debris such as bits of ceramic hearth lining and vitrified stone which don't necessarily need to be connected to metalworking. I'm terribly over simplifying, of course, but I hope this gives you an idea. Visually, this material doesn't look like much, I admit! It often looks like rusty or glassy shapeless ugly lumps. But I've been trying for years to convince people that it's really interesting and can tell us a lot about metalworking technology.

Dawn identifying slag from Beechwood

My first step is always to visually examine (macro and microscopically) the individual pieces looking at the colour, texture, shape and how melted and fused the material is. Another important part of the initial identification is to determine whether the material is magnetic. All of this information helps me to split the assemblage into broad categories: what is ironworking waste and what has been formed as the result of another pyrotechnic process, what is diagnostic of iron smelting and what might be bloom- or blacksmithing debris. Once I've identified the individual pieces, I record all the details (e.g. weight, quantity of pieces and measurements) into a spreadsheet so that I can feed in the contextual data later.

Small smithing hearth bottom from Beechwood

I'm pleased to say that the assemblage from Beechwood has a bit of everything! It's not a large assemblage but so far I've identified several smithing hearth bottoms and fragments of smelting waste so that I can say that both processes were taking place on or around the site.

Smelting slag from Beechwood

Now that my catalogue of the slag is complete I've started to look at where the pieces were recovered from. The excavations at Beechwood covered a very large area and I can see from my initial examination that the ironworking debris is focused in two quite disparate parts of the site. One area, which we'll call A, includes a possible metalworking hearth or furnace associated with smelting slags and the other area, B, which is quite a distance away and must represent a separate focus of activity, has small residual amounts of both smelting and smithing debris. We've already had some of the pits and postholes from these areas radiocarbon dated and those associated with the ironworking waste have provided wonderful Iron Age dates.

Looks like my task for tomorrow is to see how the Beechwood evidence fits in to other Iron Age metalworking sites in the area!

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