Dallington Forest Archeological dig report. c. 2008.

The situation of the trench missed all the large roots associated with trees on top of the mound so giving the best chance of pottery finds before it fell further down the slope.

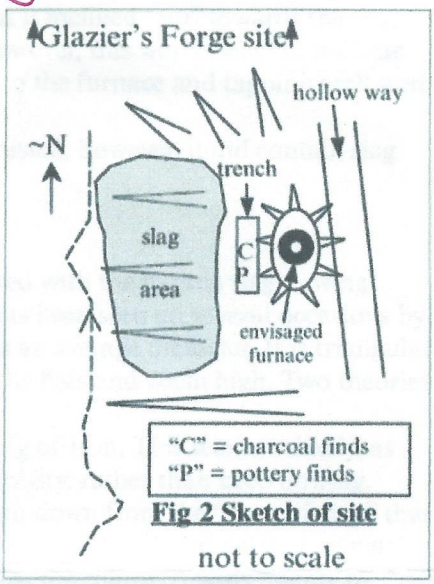

Fig 2 Sketch of site
not to scale

Finds in the trench

Finds from the trench included typical slag that would have been tapped from a Roman shaft furnace, invariably appearing as a planar, dense and smooth slag, occasionally almost shiny and NOT aerated, although some having a large pocket of air. There were no pieces of this slag having closely-spaced wrinkles.

Several pieces of charcoal, "C" Fig 2, were recovered from the trench directly W of the furnace structure and well down in the slag; these would be suitable for dating.

By far the most exciting find of the day were the many pieces of pottery, "P" Fig 2, possibly from two individual pots with one piece being part of a rim, Figs 3a & 3b. It has been identified as 1st century AD – late iron age/Romano British. The material was very fine-grained, resembling roasted ore and feeling slippery.

Fig. 4

As the trench was being cleared, the sub-soil became visible, showing that it inclined "up" towards the furnace structure and roughly followed the inclination of the valley-side. However, this would seem to indicate that the iron-workers would be standing on sloping ground… unless access to the furnace and tapping arch were on the east side.

The depth of top-soil was measured at 400mm, this seemed deeper than usual, however, it did contain slag and much furnace material.

Finds on the top of the mound

Two pieces of "rat tailed" runs of slag were noted; these are usually associated with the molten slag flowing directly down from the bloom when still within the furnace, see Fig 5, and has been seen on several occasions by the WIRG smelting team. The size of the rat tails is variable but 6 to 7mm is an average diameter. It is triangular in section having approximate dimensions of 18cm, 16cm and 13cm across the flats and 20cm high. Two theories on its unusual formation seem possible: -

1. That it was formed in a horizontal channel, in much the same way as a pig of iron. This seems unlikely, as the horizontal flow of "rats' tails" would be likely to flatten-out due to gravity, rather than keep flowing.
2. That, as seen in WIRG's experimental bloomery furnaces, the slag has run down from the "bath of slag" that the bloom forms in, but in this instance the mass has been restrained by the sides of the furnace structure. The rat's tails seem only to be on two sides of the triangular section, whilst the centre consists mainly of pieces of slag.

Fig.5 Rat-tailed slag, probably from under the bloom

Another surface find was part of a furnace shaft (assuming that a shaft furnace was being was being used) having a height of 24cm and width of 34cm. Unfortunately, the (small amount) of inside curvature varied from about 60cm diameter through to ∞, this latter probably due to the build-up of slag. It would seem to be much larger than WIRG's shaft furnace of 30-cm diameter and nearer to the shaft size of the Little Furnace Wood, Mayfield, Sussex, Roman furnace, report forthcoming.

Unique features of this find are the three distinct layers of slag, although of variable thicknesses, 1.1cm, 0.6cm and 1.6cm, starting at the inside. It would appear that these are not three relinings, but separate deposits of molten slag one upon another, see Fig.6. A thin layer of furnace lining remains on the outside. It might be thought that the once molten runs of slag would indicate its verticality, but it is not clear and further study is necessary.

B Herbert

Fig.6 Three distinct layers of slag on shaft of bloomery furnace

Fig.3a Pottery finds; outside view

Fig.3b Pottery finds; inside view