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Evaluation of Archaeometallurgical
Residues from the
M8/N8 Cullahill-Cashel: AR15 (E2367)

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Abstract

Submitted material from this site comprised two pieces of slag, both from the upper fill of burnt pit c13. Both pieces of slag are likely to have been produced during iron-working (smithing). One of the pieces is probably identifiable as a pro-tuyère tongue – a type of slag which was formed during high temperature smithing using a ceramic tuyère, as was the practice in Ireland from the early medieval period until the early modern period. The dimensions of the feature (0.74m diameter) are small, but compatible with those of a small floor-level smithing hearth.

If the 14C dates from other burnt features on the site indicate a possible late medieval age for this feature, it may indicate a link with other sites in which clusters of late medieval to post-medieval floor-level smithing hearths have been found isolated from other activities.

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Methods

All investigated materials were examined visually, using a low-powered binocular microscope where necessary. All significant macroscopic materials were summarily described and recorded to a database (Table 1). As an evaluation, the materials were not subjected to any high-magnification optical inspection, nor to any other form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

Results

The materials comprised two slag fragments from c1. One was a ceramic-influenced slag, with a lobate form compatible with an origin as part of a pro-tuyère tongue. This slag type forms immediately in front of a ceramic tuyère in a smithing hearth and may be the zone of mixing of the melted ceramic with iron and iron oxides lost from the workpiece. The other piece was a fragment of slag sheet which is likely, but not certain, to be a smithing residue.

Interpretation

Pro-tuyère tongues have been described, for instance, from Clonfad and from Woodstown (Young 2009a and b). The use of ceramic tuyères in Irish ironworking was long-lived from the early medieval period until the progressive introduction of cast iron tuyères in the nineteenth century; the occurrence of pro-tuyère tongues would be expected to have similar longevity.

In this instance 14C dates from elsewhere on the site suggest a possible late medieval date for the activity here. The occurrence of clusters of late medieval to post-medieval floor level smithing hearths can be paralleled at Clonfad, where many distinct hearths were found scattered over the northern part of the site (Young 2009a). An earlier parallel might be Coolamurry (Young 2008), where a cluster of 3 hearths of 10th-11th century age did not appear to be directly associated with other activity. Here, two of the hearths were of fairly conventional dimensions (Hearth A, 1.0 x

0.9 x 0.2m, Hearth C, 1.20 x 0.80m), but the third was smaller and more circular, being only slightly larger than the present example (Hearth B, 0.92 x 0.82 x 0.30m). Coolamurry differs from both the AR15 and Clonfad examples in having abundant deposits of metallurgical waste adjacent to the hearths.

Evaluation of potential

The limited amount of material from this site means that further analytical studies are not required. There would be no especial reasons for retention of the slag finds.

References

YOUNG, T.P. 2008. Archaeometallurgical residues from Coolamurry 7, 04E0323. *GeoArch Report 2006/10*. 46pp.

YOUNG, T.P. 2009a. Archaeometallurgical residues from Clonfad 3, Co. Westmeath (A001: 036 E2723). *GeoArch Report 2008/17*. 173pp.

YOUNG, T.P. 2009b. Ferrous archaeometallurgical residues from Woodstown 6. *GeoArch report 2009/22*. 66pp.

<i>site</i>	<i>sample</i>	<i>context</i>	<i>weight</i>	<i>no</i>	<i>notes</i>
e2367	10	1	50	1	lobate slag with lots of included melted ceramic material - probably from a tongue
			106	1	indeterminate, internally prilly, thin slag sheet with dimpled base

Table 1: summary catalogue

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