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Assessment of residues from Dunshaughlin SHD AA3 [18E0495]

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Abstract

The submitted sample comprised a single smithing hearth cake (SHC) produced during charcoal-fuelled blacksmithing (the end use of iron). It is not of itself diagnostic of age but is particularly of interest because hazel nuts from the same context (context (307), the secondary fill of the inner ditch of a bivallate ring barrow, AA3) have provided a radiocarbon date (FTMC-LV20-2) that calibrates to the early Iron Age 796 – 740, 694 – 663 and 648 - 547 Cal. BC (broadly speaking the eighth to early sixth century BC), a period for which very few SHCs are known from Ireland.

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Methods

All materials were examined visually, using a low-powered binocular microscope where required. As an assessment, the materials were not subjected to any high-magnification optical inspection, not to any form of instrumental analysis.

The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

This assessment was conducted in July/August 2021 and was commissioned by IAC.

Distribution of the assemblage

This single item of archaeometallurgical residue derives from context (307), the secondary fill of the inner ditch of a bivallate ring barrow, AA3.

Description of the assemblage

The submitted sample comprised a single rather irregular smithing hearth cake (SHC). It weighed 260g and measured 75x95x50mm the top was flat with fuel dimples; base has pendent lobes but was very rusty, so it is unclear if they were fluid prills or entrained gravel A large void in one end beneath one of these lobes is void formed from loss of a large charcoal clast. Minor traces of metallic iron were found with a metal detector.

Discussion

The submitted sample comprised a single smithing hearth cake (SHC) produced during charcoal-fuelled smithing. It is not of itself diagnostic of age but is particularly of interest because hazel nuts from the same context (context (307), the secondary fill of the inner ditch of a bivallate ring barrow, AA3) have provided a radiocarbon date (FTMC-LV20-2) that calibrates to the early Iron Age 796 – 740, 694 – 663 and 648 - 547 Cal. BC (broadly speaking the eighth to early sixth century BC), a period for which very few SHCs are known from Ireland. If the SHC dates from the same period as the nuts (and context (307) did not accumulate over a prolonged period of time), then the piece is very unusual.

On Middle Iron Age (c.5th-2nd centuries BC) smelting sites in the UK (e.g. Hartshill Copse, Young 2020, and sites referenced therein) the SHCs from the working of blooms were typically over 1000g in weight. They thus resembled the bloomsmithing slags of the Roman period. It would appear likely that a cake of just 260g would be likely to have been produced during blacksmithing (the end use of iron).

Further work

This SHC might well be capable of producing useful additional information through further analysis. However, it is an isolated find, without supporting evidence for iron working, so no further work is proposed. The item is however of significance and should be retained with the site archive.

Reference

YOUNG, T.P. 2020. Archaeometallurgical residues from Hartshill Copse (HCB01). *GeoArch Report 2020/17*, 34pp.

Table 1: summary catalogue of materials. Weights in g. Dimensions of SHCs expressed as L x W x D (depth of bowl).

Context	Weight	No.	Description
c307	260	1	Rather irregular SHC, 75x95x50mm, flat top with dimples, base has rather pendent lobes, but very rusty so unclear if they were fluid prills or gravel, large void in one end beneath one of these lobes is a large charcoal clast void. Minor traces of iron found with metal detector

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