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Assessment of residues from Kildare Village [17E0400]

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Abstract

The submitted items (7 pieces of slag from 4 samples) totalled approximately 1100g. All 7 pieces were either definitely or probably from smithing hearth cakes.

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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.

Description of the assemblage

General

The submitted items (4 pieces of slag from sample s#51 from context (209), plus single pieces of slags from contexts (223), (228) and, (238)) totalled approximately 1100g.

Iron smithing residues

The submitted slag fragments were from various forms of smithing hearth cakes (SHCs). Four of the seven pieces were certainly from very small SHCs (<300g in weight), but one may have derived from a slightly larger cake.

The piece with a weight of 196g is a fragment from a larger SHC than the other pieces. It shows a thin basal crust overlain by more porous slag.

The small 'puck' (or incipient SHC) from s#42, context (223) weighs just 74g and is suggestive of a very limited loss of iron during the work period in which it formed.

Interpretation

Iron smithing residues

SHCs with a low weight are typically waste from blacksmithing (the end use of iron) where the rate of iron loss is low. In general, smaller cakes tend to be from either the Iron Age, or from the later medieval period onwards. Cakes of 300g fuelled by charcoal are, however, not particularly indicative of age – with the potential to be from the Iron Age through to modern times.

Further work

The assemblage is extremely small (probably suggesting that metallurgical activity was not conducted within the investigated area) and does not have significant potential to yield additional useful information from further analysis, so none is therefore recommended. Unless the archaeological context of the residue finds raises particular questions, then the material is of low significance for retention.

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

Content	Sample	Item wt.	Item no.	Notes
c209	s#51	196	1	fragment of SHC with thin basal crust, highly vesicular rough textured slag; basal crust is discontinuous and stepped, finely dimpled; lowest section shows polished surface, some stone inclusions. Crust is strongly curved, precise location of this piece in the overall mass is uncertain, probably from a larger cake than other small pieces
		212	1	60x95x25mm D shaped SHC; smooth dimpled top; charcoal clasts; has several pieces of similar very dense slag on top, suggesting formation of incipient SHCs above the first
		298	1	well-formed SHC forming a dense transverse oval plate with a thin wedge of more vesicular slag thickening towards broken face on blast side; basal section is oblique cone with deepest part more distal than distal edge of disc, disc 85x60x12mm, overall SHC 75x85x40mm, disc thins towards blast side and is slightly D shaped with flatter edge distally
		162	1	open-textured SHC, charcoal clasts between fluid lobes in upper part, lower part more vesicular, finely dimpled lower part of lower lobes, upper surface shows deep dimples with charcoal in dimples
c238	s#94	132	1	dense fragment from central section of a (small?) SHC, bowl survives to 20mm, tubular vesicles, base dense hard smooth with very small fuel dimples, top not preserved, but has 10mm of vesicular upper slag with some probable charcoal
c223	s#42	74	1	60x60x15mm, subcircular puck with very dense slag, base shows fuel imprint (rather than dimples,) to a little rusty with some unroofed voids, interior is dense slag with tubular vesicles
c[228]157	s#101	26	1	dense but vesicular grey iron slag, probably worn, and in gravelly accretion, dense

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