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Evaluation of residues from M1 Northern Motorway (J2009): Sheephouse 2 (01E0810)

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Abstract

The residue assemblage includes a small quantity of fuel ash slags, derived from the kilns within the site. A very low background distribution of iron slags probably represents residual material from activity elsewhere.

As with the adjacent Sheephouse 3 site, this site shows fairly frequent iron and manganese ores, probably as an entirely natural occurrence.

Contents

Background

This report is an evaluation of archaeometallurgical residues from Sheephouse 2 (01E0810) on the M1 Northern Motorway development, excavated by D. Moore on behalf of Irish Archaeological Consultancy Ltd.

Methods

All materials were examined visually and using a low-powered binocular microscope where necessary. As an evaluation, the materials were not subjected to any high-magnification optical inspection not to any other form of instrumental analysis. The identifications of materials in this report are therefore necessarily limited and must be regarded as provisional.

It should be noted that after washing the overall weights of the material submitted in many cases differs significantly from those originally recorded.

Description

The catalogue for this site is presented in Appendix 1.

Approximately 1.3kg of material from this site was submitted for investigation. Of this total, lightly fired clay provides 649g, but little can be added beyond noting its occurrence. The assemblage also includes 311g of iron and manganese ores of very similar types to the material observed at Sheephouse 3 (Young & Kearns 2010). These ores are pieces of rock ore, with the iron oxides pseudomorphous after pyrite.

The assemblage included two small pieces of corroded iron (from c351 and c390). The piece from c351 was a piece of small, but stout, iron tube. The form of the piece from c390 is unknown.

Pale, vesicular, glassy fuel ash slag was recorded from c440 (a fill of a cereal kiln) and from ditch fill c253. Such fuel ash slags are a common residue from cereal kilns (e.g. Young 2010). The cereal kilns also appear to be the source of much of the fired clay.

Metallurgical activity is represented by only a very small quantity of material, with just six fragments (133g) of slag and one piece (1g) of vitrified hearth/furnace ceramic. Of the slag fragments, although all are strictly indeterminate, three are likely to have been smelting slags, and are in the form of dense flow slags. The slags occur in contexts c43, c69, c87, c253, c326, with the hearth ceramic also from c253. These small fragments are all likely to be residual and display no focus of distribution.

Interpretation

The presence of iron ore on a site would often suggest some iron smelting activity but the wide distribution of rock ore fragments both on this site and at Sheephouse 3 suggests these materials are a natural occurrence.

The slag assemblage provides a hint of iron working and probably iron production in the area, but the focus of that activity clearly lies elsewhere.

The cereal drying kilns have contributed both fired clay and fuel ash slags to the assemblage.

Evaluation of potential

The materials from this site have only a very limited potential for yielding additional useful information by detailed analysis. No additional study is therefore recommended. The material is not high priority for retention.

References

YOUNG, T.P. 2010. Fuel ash slags from corn-drying kilns, South Hook LNG Terminal. *GeoArch Report 2010/04*, 24 pp.

YOUNG, T.P. & KEARNS, T 2010. Evaluation of residues from M1 Northern Motorway (J2009): Sheephouse 3 (01E0811). *Geoarch Report 2010/28*, 2pp.

Appendix 1. Summary catalogue of material

Site: Sheephouse 2 – 01E0810

area	*context*	*sample no*	*weight (g)*	*quantity*	*description*
A	1	63	17	1	iron ore – dense possible pseudomorphs, plus botryoidal veins. Haematite-rich
A	1	199	5	1	Small fragment of manganese ore
A	1	64	5	1	Small fragment of manganese/iron ore
A	1	261	5	1	Tubular hollow concretion, possibly formed around corroded iron
C	13	224	132	4	chunks of clay, possibly lightly fired material included. Mildly concretionary. Contains some charcoal
C	13	245	440	19	Lightly concretionary lumps of clay, possibly ashy, few indeterminate moulds
C	13	242	2	2	Iron ore fragment
A	43	150	9	1	low density, vesicular indeterminate slag with microprilly base. Resembles base of a 'thin-crust' SHC
A	65	472	4	1	Fragment of worn pseudomorphous iron ore
C	66	253	3	1	oxidised fired clay
A	69	73	15	1	fragment of dense flow slag lobe
A	87	447	2	1	Manganese oxides coating browner material, possibly sphalerite
A	87	467	2	1	indeterminate slag, grey, vesicular with included charcoal
A	253	202	55	2	fragments of vesicular grey iron slag, both appear worn, larger piece has moderately large fuel moulds
A	253	65	61	4	low density vesicular fuel ash slag. One side of each piece is smoothly lobate, one probably rougher
A	253	66	1	1	Small fragment of oxidised fired hearth lining with dark vitrified surface
A	261	67	240	2	Dense iron-manganese ore
A	326	166	52	1	indeterminate blebby/prilly dense slag. Quite possibly a smelting slag.
C	351	257	23	13	small fragments of corroded iron – probably a disintegrated tube, 12mm long by 15mm outside diameter.

area	*context*	*sample no*	*weight (g)*	*quantity*	*description*
C	373	250	157	1	natural chert with fossils
C	373	491-496	21	5	Concretionary, possibly slightly fired clay, binding gravel of chert
C	373	249	4		clay
C	389	412	37	4	fragments of lightly fired clay, two with smooth convex faces, voids suggest organic temper
A	390	235	12	1	concretion surrounding corroded iron
	421	490	36	1	Dense manganese ore with white (chert?) clasts
C	440	383	1		Tiny fragments of pale green fuel ash slag in rounded blebs
C	441	408	18	6	lightly fired/burnt clay
C	491	453	12		clay - possibly lightly fired
D	438	354	6	1	oxidised lightly-fired clay
		total	*1376*		

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