GeoArch

Report 2023/21

Assessment of materials from the HS2 NSP Cell1

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Dr T.P. Young

Abstract

The submitted assemblage comprised 13 items weighing a total of 502g deriving from 4 contexts from watching brief 1S21NSPC1.

The assemblage was dominated by highly weathered fragments of tap slag from bloomery iron smelting. Such material is not closely dateable but is likely to be Roman or medieval in age. The assemblage may be related to the larger quantity of residues retrieved from the nearby Newyears Green site.

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Methods

All materials were examined visually, using a low-powered binocular microscope where required. The identifications of materials in this report, as an assessment during which no instrumental analysis was undertaken, are necessarily limited and must be regarded as provisional.

This assessment was conducted in July 2023 and was commissioned by Rhiannon Philp of Archaeology Wales. The materials derive from a watching brief (IS21NSPCl).

Results

Iron smelting slag

Five fragments of iron smelting slag (384g in total) comprised the bulk of the assemblage. The pieces are all deeply weathered. The largest fragment forms part of a tabular slag cake, 20-28mm thick. The fragments are not particularly indicative of age, but slag tapping technology was current during the Roman and medieval periods.

Indeterminate slag

Several fragments in the assemblage are indeterminate merely because of their small size. One fragment was larger; it was the base of a slag cake with a broad ridge across the lower surface and a vesicular interior. This piece is of uncertain origin and could be the base of a vesicular tap slag cake but could equally derive from a furnace slag or a smithing hearth cake.

Interpretation

The material is indicative of iron production in a slag-tapping bloomery furnace.

Although the present material is not closely dateable, it is tempting to suggest that it may be related to the rather more extensive collection of both iron smelting and bloom smithing residues retrieved from the nearby Newyears Green site (Young 2021).

As discussed by Young, the closest iron resources to the site lie in the Colne Valley. To the west of the Colne (approximately 5km NW of the site) a smelting furnace of Roman date was discovered at Denham Park Farm (Newton, 2020). A nearer example of a find of smelting residue is a tiny assemblage of just 250g of probable Iron Age date, from Plot 8 of the Harefield to Southall Gas Pipeline just 2km to the north (Mackenzie in Thorpe & Hounsell 2014). Despite these occurrences, there is little wider appreciation of the potential of the Colne Valley region for early iron production.

The slag assemblage is both sparse and poorly preserved and thus may be residual.

Further work

Detailed laboratory investigation and elemental analysis would be capable of providing further evidence for the nature of these residues, but this would be limited by the degree of weathering. The material from the adjacent Newyears Green site would be better placed to supply archaeological useful information, as recommended in its assessment.

Consequently, no further investigation is recommended.

References

NEWTON, A.S. 2020. Late Bronze Age settlement, Romano-British enclosures and industrial activity at Denham Park Farm. *Records of Buckinghamshire*, **60**, 1 – 25.

THORPE, S. & HOUNSELL, D. 2014. Harefield to Southall National Gas Pipeline: Analysis of the Archaeological Record. Network Archaeology, Unpublished Report, 483.

YOUNG, T.P. 2021. *Assessment of residues from Newyears Green (IS20NYGAR)*. GeoArch Report 2021/06, 20pp.

Table 1: summary catalogue, weights in g,

context	sample	s wt	l wt	l no	notes
25	1		<1	1	small rounded fragment of vesicular ?tapslag
29	3	200	184	1	highly weathered tapslag, 20-28mm thick, base rusty and with FAS-like material attached
			16	8	small fragments of tap slag, piece of dimpled basal crust, and prilly piece are largest three
31		162	50	1	highly weathered tap slag fragment
			110	1	tapering block of slag with dimpled base and large rounded voids, weathered tap slag
31	4	142	92	1	weathered slag piece with rough base, rounded channel, vesicular interior, base of furnace slag, SHC or tapslag?
			40	1	small fragment of weathered tap slag
			10	2	small fragments of indeterminate slag

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