

Assessment of Metallurgical Waste from Market Rasen, Lincolnshire (FMR08)

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Two fragments of iron-rich material were submitted to the author to establish whether they were of geological origin or metallurgical waste and for an assessment of their archaeological potential. They are both probably tap slag from bloomery smelting and indicate that iron was being produced nearby.

Description

Metallurgical waste

The two fragments both come from context 403. They were examined by eye and at x20 magnification using a stereomicroscope. Both are dense, black to purple in colour and show evidence for flow.



Figure 1

The larger lump (Fig 1), 224 gm, 85mm by 58mm by 35mm, has lava-like flow structures on all sides, but especially on one face (the "top") whilst the opposite face has quartz sand adhering to the surfaces.

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Figure 2

The smaller lump (Fig 2), 46 gm, 50mm by 45mm by 21mm, also has lava-like flow structures but quartz sand is present on all surfaces. Two opposing surfaces have roughly flattened parallel faces.

Assessment

The fragments are probably tap slag, produced during the bloomery process of iron production. This process was carried out from the Iron Age to the end of the medieval period and without specialist knowledge and experience (which the author does not have) it is not possible to date the period when these pieces were produced.

The precise details of early iron smelting practice are ill-known and require the presence of an archaeometallurgist as part of the excavation team. Therefore, if further work is planned on this site a specialist in early iron production should be commissioned and provision made for the sampling and analysis of residues, ores and fuel, preferably with the results being integrated by that specialist. A series of guidelines produce by English Heritage and the Historical Metallurgy Society may be useful (Bayley 1995; Bayley, Dungworth, and Paynter 2001; Starley 2002).

Bibliography

Bayley, J (1995) *Archaeometallurgy in archaeological projects*. Research & Professional Services Guideline 2 AML English Heritage & Hist Metall Soc

Bayley, J, Dungworth, D, and Paynter, S (2001) *Archaeometallurgy*. Centre for Archaeology, English Heritage

Starley, D (2002) *Metalworking Evidence and the Management of Archaeological Sites*. Leeds, Historical Metallurgy Society