Reports from the Environmental Archaeology Unit, York **2001/11**, 3pp

Station Rise, York: *dark earth*?

by

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Summary

Layers of dark greyish-brown materials overlying post-Roman deposits were observed during excavations at Station Rise, York.

Micromorphological analysis showed that the materials of the layers were not comparable to those from samples of dark earth *observed in Southern England.*

Keywords: DARK EARTH; YORK; MICROMORPHOLOGY; SOILS; GEOARCHAEOLOGY; SEDIMENTS

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14 February 2001

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Introduction

A layer observed during excavations at Station Rise, York, was made of dark greyish-brown material post-dating Roman contexts. It was suggested that such dark layer was a *dark earth*. The aim of this study was to establish whether the context was comparable to other dark earth materials observed elsewhere in England.

Sample stratigraphy

A sample containing the material under exam was located at 48-69 cm below modern concrete layers.

The layer containing the sample was sandwiched between, above, materials described by the excavators as dump/build up deposits of the 11th Century (Context 1029) and, below, materials described as dump/build up post-Roman deposits of the 3rd-4th Century (Context 1042). Beneath this, was Context 1098, described as a possibly late-Roman build-up deposit.

Methods

An undisturbed sample for micromorphological analysis was collected at 48-69 cm. The sample contained a succession of three contexts spanning from the 2nd/4th Century (lower part of sample, Context 1030) to the 10-11th (middle part, Context 1032) and 11th Century (upper part, Context 1037).

A thin section was obtained from the sample, and micromorphological analysis was carried out mainly with the method of Bullock *et al.* (1994)

Results

Results of micromorphological analysis of the thin section are summarized as follows:

Apedal material, with few < 500 μm to 2 mm vesicles and/or chambers and rare channels, all with a random orientation. Brown opaque or clouded, undifferentiated fine material with frequent punctuations. Coarse fraction of silt and sand size or other fragments of up to 8 mm, including charred plant tissue (in some cases fragmented/disintegrated, in other cases intact), other charcoal, relatively fresh plant tissue, large fragments of charred bone, other bone fragments, fragments of brick, schists, limestone, oolitic limestone, sandstone, siltstone, and rare excrement features. Gefuric related distribution of coarse and fine material. No coatings present. Black/opaque typic and nucleic nodules.

The three contexts in the thin section appear only slightly differentiated from each other, in that the coarse fraction of the upper Context 1037 was more abundant and almost entirely inorganic (with exception of a few charcoal fragments and rare excrements), whilst the coarse fraction of the lower context (1030) was less abundant, smaller in size (only up to 3/4 mm) and, again almost totally inorganic. Most of the bone material, charred plants, and excrements were in the central Context (1032).

Discussion

There is no evidence of compaction (as suggested by the lack of any orientation or preferred distribution of components).

All the three contexts observed (Contexts 1030, 1032 and 1037) were different from, and not comparable to other samples of dark earth observed in Southern England, such as those described by Macphail (1994).

The main differences were that the three contexts in question did not contain significant traces of earthworm activity, and other signs of biological activity were also very scarce. Evidence for plant remains was very rare, and only a few channels could possibly have formed under the influence of vegetation growth.

The three contexts did not show signs of mixing, alteration or weathering, and even most rock fragments were only slightly weathered. The lack or scarcity of organic-derived porosity, and the undifferentiated fabric suggest that the material had undergone only slight weathering and/or pedogenesis since the time of its deposition. Thus, the layers under investigation are likely to have been deposited above the late- or post-Roman contexts (1042, 1098) and then rapidly covered by other sediments.

Retention/disposal

The thin section at the EAU and should be retained for the time being.

Archive

Data, reports, diagrams and photographs are retained at the EAU.

References

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