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An assessment of biological remains from excavations associated with improvements to the A1 between Leeming and Dishforth, North Yorkshire (site code: LEE95)

by

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Summary

Sixty-eight samples of sediment from excavations associated with improvements to the A1 between Leeming and Dishforth, North Yorkshire, were submitted for an assessment of their bioarchaeological value.

Biological remains were extremely thinly distributed in the sampled deposits. A good proportion of the samples contained traces of charcoal, and a few gave very small numbers of charred cereals and other plant remains. A few of the samples yielded very small numbers of invertebrate remains and poorly preserved fragments of bone. None of the samples gave sufficient numbers of remains to be of interpretative value.

Keywords: A1; LEEMING; DISHFORTH; HEALAM BRIDGE; NORTH YORKSHIRE; FLINT

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An assessment of biological remains from excavations associated with improvements to the A1 between Leeming and Dishforth, North Yorkshire (site code: LEE95)

Introduction

Sixty-eight 'general environmental samples' (GES - as defined by the archaeological contract specification) from eight sites adjacent to the A1 between Leeming and Dishforth, North Yorkshire were submitted for an assessment of their content of biological remains and their potential for further bioarchaeological analysis. Only one of the sites is identified by place name - Healam Bridge - and the rest are distinguished by area/trench number.

Methods

Twenty-eight subsamples were taken from selected GES samples and processed as 'general biological analysis' samples (GBAs *sensu* Dobney *et al.* 1992) for assessment of their content of biological remains. These were mostly samples indicated by the excavator as those offering the greatest potential for preservation of biological remains.

Excess material from twenty-four of the samples was sieved to 500 µm, primarily to recover artefacts, small bone and larger plant macrofossils. Where requested by the excavator, a subsample of unprocessed sediment was retained to allow for the possibility of further work.

Five of the samples were processed as 'bulk sieve' samples (BSs *sensu* Dobney *et al.* 1992), primarily for recovery of any small finds.

Five samples from Contexts 3902 and 3904, site 39B were sorted for flints prior to sieving. From six to eleven flints were extracted from these samples, bagged individually and forwarded to Penny Spikens, MacDonald Institute, Cambridge, for microscopic examination of surface wear. The remaining sediment was sieved to 1 mm to recover additional flints.

None of the samples were deemed suitable for examination for the eggs of parasitic nematodes.

The GBAs were described in the laboratory using a standard *pro forma*. The 'test' samples selected were processed following methods outlined by Kenward *et al.* (1980; 1986).

Results

The results of the investigations are grouped by site (area/trench) and presented in context number order, with information from the excavator concerning context types in square brackets.

Almost all of the samples showed evidence of bioturbation by modern rootlets and/or earthworm activity.

The GBA residues were small and of extremely uniform composition - mostly sand and gravel with some stones (to 30 mm) and occasionally a trace of fine charcoal (to 5 mm). Any deviations from this general description are noted in the text below.

Similarly, the residues from sieving of excess material and BS samples were very uniform - sand, gravel and stones with fragments of charcoal and poorly preserved bone in some of the residues. Any deviations from, or additions to, this general description are noted in the text below.

Site: 15F

Two samples from this site were selected: **Context 1503** [Man-made, shallow pit] Sample 2 and **Context 1512** [Shallow pit] Sample 5.

The samples were moist, mid brown to mid orange-brown, crumbly to unconsolidated, slightly silty sand with very small, small and medium-sized stones (2 to 60 mm).

The small washovers from these samples were mostly sand with some charcoal fragments (to 5 mm) and modern rootlets. Sample 2 contained a few earthworm egg capsules and Sample 5 a few seed fragments, a modern mite, an unidentified insect abdominal segment and a single *Trechus quadristriatus* or *obtusus* head.

Site: 19B

One sample from this site was selected:

Context 1906 [Fill beneath Context 1902 in ditch (cut number 1903)] Sample 9

Wet, light to mid brown, crumbly to sticky (working plastic), clay with fragments of ?land snail present.

The small washover was mostly undisaggregated sediment, sand and charcoal (to 5 mm) with some modern rootlets, fragments of earthworm egg capsule, a single *Chenopodium* sp. seed and other seed fragments, two complete landsnails (?*Vertigo* sp.) and other fragments of mollusc.

Site: 34

Two samples from this site were selected:

Context 3401 [Layer in North end of Trench 34 over slight hollow parallel to field boundary] Sample 15

Just moist, mid reddish grey-brown, crumbly (working soft and sticky when wetted), slightly sandy silty clay.

The small washover was mostly sand, rootlets and a little charcoal (to 5 mm). A fragment of fly puparium, a staphylinid abdominal segment and a fragment of *Atomaria* sp. were also present.

Context 3411 [Floor surface] Sample 11

Just moist, mid brown, unconsolidated, silty sand with very small, small and medium-sized stones (2 to 60 mm) present and abundant lumps of compacted orange-red clay.

The small washover was mostly rootlets with some sand and charcoal (to 10 mm) and a single earthworm egg capsule.

The modest residue (GBA) was almost entirely lumps of compacted orange-red clay (to 20 mm) with a few very small stones (2 to 6 mm).

Site: 1A

One sample from this site was selected:

Context 0104 [Fill of 0101] Sample 14

Just moist, light to mid brown, crumbly to unconsolidated, slightly clay sand with very small to large stones (2 to 60+ mm) present.

The small washover was mostly sand, charcoal (to 5 mm) and a few rootlets. A fragment of fly puparium, an earthworm egg capsule and a few weed seed fragments (at least one of which was ?modern) were also noted. The latter included *Chenopodium* sp., *Polygonum* sp. and *Aethusa cynapium* L. (Fool's Parsley).

Site: 19H

No samples were selected from this site.

Site: 39B

An apparent variation in the deposits was examined on-site and proved to be the result of 'hill wash'.

Five samples from this site were selected: **Context 3902** [Subsoil layer - very rich in flint flakes] Samples 19, 20 and 21 and **Context 3904** [as for Context 3902] Samples 22 and 23.

From six to eleven flints were removed from each of these samples to be examined for surface micro-wear markings by an external specialist. With the exception of a 1 kg subsample from Sample 22 (see below) the excess sediment was sieved to 1 mm to recover the remaining flints to be forwarded to the external specialist.

The samples were dry to just moist, mid brown, crumbly to unconsolidated, sand with a variable silt component. Very small and small stones (2 to 20 mm) were present in all the samples with larger stones present in Samples 19 and 22 (to 60 mm and to 60+ mm respectively) .

The small washover from a subsample of Sample 22 was mostly sand, charcoal (to 5 mm) and rootlets with many earthworm egg capsules.

Site: 11E

Four samples from this site were selected:

Context 1103 [Fill of ?shallow pit] Sample 26

Dry, light to mid orange-brown, unconsolidated (working sticky when wet), slightly clay sand. Very small and small stones (2 to 20 mm) were present in the sample.

The small washover contained a few weed seeds, some ?*Cenococcum* (soil fungus) sclerotia and plant detritus, and a little charcoal and sand.

Context 1106 [Lowest deposit in Feature F1102 - basal ditch deposit with more rubble than overlying deposits] Sample29

Just moist, mid reddish brown, crumbly (working soft), silty clay with small to large stones present (6 to 60+ mm).

The small washover was mostly sand with a little charcoal (to 5 mm), a few rootlets and a single earthworm egg capsule.

Context 1111 [Fill] Sample 31

Just moist, mid grey-brown, crumbly to unconsolidated (working slightly plastic), sandy silty clay with small to large stones present (6 to 60+ mm).

The large washover was mostly modern rootlets and sand with some fragments of charcoal.

Context 1114 [Fill] Sample 32

Just moist, mid reddish brown, crumbly (working soft), silty/clay or clay/silt with some small stones (6 to 20 mm) present.

The small washover was mostly sand with some charcoal (to 5 mm) and a few modern rootlets. A few ?*Chenopodium* sp. seeds, a charred grain and a charred seed, a few earthworm egg capsules and a ?modern *Anotylus tetracarinatus* (Block) head were also noted.

Site: Healam Bridge (H.B.)

Twenty-two samples from this site were selected:

Context 4 [Pit fill] Sample 34

Just moist, mid to dark grey-brown, crumbly to unconsolidated (working plastic), slightly silty clay with some very small stones (2 to 6 mm).

The moderate-sized washover was mostly modern rootlets and sand with some charcoal (to 5 mm). Fragments of fly puparia and a single *Urtica* sp. (nettle) seed were also noted.

Context 5 [Fill of circular setting of stones] Sample 36

Just moist, mid to dark grey-brown, crumbly to unconsolidated (working soft), very slightly sandy clay silt. Small stones (6 to 20 mm) and flecks of dry clay (to 4 mm) were present.

The moderate-sized washover was mostly small particles of undisaggregated sediment, sand and modern rootlets, with some charcoal (to 5 mm) and earthworm egg capsules.

Context 11 [Fill] Sample 37

Just moist, mid to dark grey-brown, crumbly to unconsolidated (working soft and slightly plastic), clay silt with very small and small stones (2 to 20 mm) and charcoal fragments present.

The small washover was mostly modern rootlets with some sand and charcoal (to 10 mm) and a few earthworm egg capsules.

Context 12 [Fill] Sample 39

Just moist, mid to dark grey, crumbly to unconsolidated (working soft), slightly sandy silty clay. Very small to medium-sized stones (2 to 60 mm) and fragments of ?mortar/plaster were present in the sample.

The small washover was mostly sand. Some charcoal (to 5 mm), modern rootlets, many earthworm egg capsules and a beetle larval head capsule were also present.

Context 15 [Basal primary fill of ditch 13] Sample 42

Moist, mid slightly orange brown to mid grey-brown, crumbly (working slightly plastic), silty clay. Very small stones (2 to 6 mm), flecks of charcoal and small fragments of rotted ?mammal bone were present.

The moderate-sized washover was mostly modern rootlets, charcoal (to 10 mm) and sand. Two seeds (*Rumex* sp. or *Polygonum* sp.) and a fragment of ?charred grain were also noted.

Sample 45

Just moist, mid grey-brown (lighter in places), stiff to crumbly (working plastic), slightly silty clay with very small stones (2 to 6 mm) and charcoal present.

The moderate-sized washover was mostly charcoal (to 10 mm) with some sand, modern rootlets, earthworm egg capsules and a single unidentified seed.

Context 18 [Fill of ditch section] Sample 38

Dry, light to mid grey-brown, indurated (working crumbly, but working plastic when wetted), very slightly sandy clay.

The small washover was mostly sand, charcoal and modern rootlets. Earthworm egg capsules, a few fragments of *Chenopodium* sp. seeds, a mite and a beetle head (*Trechus quadristriatus* or *obtusus*) were also noted.

Context 36 [Layer - ?building platform] Sample 47

Just moist, mid grey-brown, crumbly (working slightly plastic), slightly sandy slightly clay silt with clasts of light brown clay. Very small and small stones (2 to 20 mm), ?pot and charcoal were present in the sample.

This sample was processed as a BS.

Context 46 [Fill in shallow bowl shaped depression between Layers 31 and 33] Sample 51

Just moist, mid grey-brown, crumbly (working soft when wetted), clay silt. Very small and small stones (2 to 20 mm) and rotted fragments of ?mortar, ?brick/tile and charcoal were present in the sample.

The large washover consisted of modern rootlets, charcoal (to 10 mm) and sand.

Context 47 [Layer below Context 39 below Ditch 38] Sample 48

Moist, mid grey-brown, crumbly (working slightly plastic), slightly sandy clay silt with mm-scale red flecks and some parts ?burnt. Very small and small stones (2 to 20 mm) and mm-scale flecks of indurated clay were present.

The small washover was mostly sand and charcoal (to 5 mm) with some modern rootlets, earthworm egg capsules, a *Chenopodium* sp. seed and an

elaterid beetle larva (*Actenicerus sjaelandicus* (Müller)).

Context 52 [Linear' deposit] Sample 60

Just moist to dry, mid grey to mid grey-brown, crumbly (working plastic), slightly sandy silty clay. Very small to medium-sized stones (2 to 60 mm), ?brick/tile, charcoal and fragments of mammal bone were present in the sample.

This sample was processed as a BS.

Context 54 [Layer - maybe a surface] Sample 58

Just moist, mid to dark grey, crumbly to unconsolidated (working soft), slightly silty clay with very small stones (2 to 6 mm), ?mortar/plaster and fragments of mammal bone present.

This sample was processed as a BS.

Context 57 [Deposit below Context 56] Sample 56

Moist, light to mid grey, crumbly (working plastic), very slightly sandy clay silt. Very small and medium-sized stones (2 to 6 and 20 to 60 mm) and charcoal were present.

The small washover was sand and charcoal (to 10 mm) with a few modern rootlets and a single charred grain.

Context 60 [Layer] Sample 57

Just moist, mid grey, crumbly to unconsolidated (working soft), slightly sandy slightly clay silt with very small to medium-sized stones (2 to 60 mm) present

The small washover was mostly modern rootlets with some sand and charcoal (to 5 mm). A single fragment of a *Chenopodium* sp. seed, two ?modern grass caryopses, a fragment of mammal bone and remains of several invertebrates were also present. These latter comprised an unidentified mollusc fragment, a fly head, a few earthworm egg capsules, a beetle larval head capsule, a *Quedius* sp. head and a *Cercyon* sp. elytral fragment.

Context 62 [Fill] Sample 63

Just moist, light to mid grey-brown to light grey with patches of red-brown and dark grey, brittle to stiff (working plastic), clay with fragments of brick/tile.

The large washover was mostly modern rootlets with a little charcoal and sand. A single ?modern weevil head was also noted.

Context 64 [?Fill] Sample 64

Just moist, mid brown, stiff (working plastic), clay with some rotted charcoal.

This sample was processed as a BS.

Context 66 [Posthole fill] Sample 62

Just moist (dry in places), light to mid brown, stiff (working plastic), clay with large stones (60+ mm) present.

This sample was processed as a BS.

The residue contained a single well preserved female pig canine.

Context 69 [Fill of Ditch 68] Sample 61

Just moist, mid orange-brown, crumbly, slightly sandy clay silt with a trace of burnt soil (to 5 mm) and very small stones (2 to 6 mm).

The small washover was sand, charcoal (to 5 mm) and rootlets.

Context 70 [Fill of Feature 70] Sample 66

Just moist, mid brown, unconsolidated (working soft), slightly silty clay with some medium-sized stones present.

The small washover was sand, charcoal (to 10 mm) and modern rootlets. Several earthworm egg capsules, a mollusc, a ?modern *Aphodius* sp. and a *Xantholinus* sp. head were also present.

Context 72 [Linear feature] Sample 65

Just moist, mid brown, crumbly to unconsolidated (working soft when wetted), clay silt.

The small washover was mostly undisaggregated sediment with some charcoal (to 10 mm), sand and modern rootlets. One *Chenopodium* sp. seed and a fragment of mollusc were also noted.

Context 76 [Top fill of ditch (F82)] Sample 67

Moist, light to mid reddish brown, sticky (working plastic), slightly silty clay with very small and small stones (2 to 20 mm) present.

The small washover was sand with some modern rootlets and charcoal (to 5 mm).

Context 77 [Lower fill of ditch (F82)] Sample 69

Just moist, light to mid grey-brown, crumbly (working plastic), slightly sandy slightly silty clay with some charcoal fragments present.

The small washover was mostly sand with some charcoal (to 5 mm), a few earthworm egg capsules, a few tiny fragments of bone and a single fragment of elder seed.

Discussion and statement of potential

The few, and generally poorly preserved, biological remains offer no potential for recovery of information about site activities and functions, even if very large subsamples were to be processed.

Recommendations

No further analysis of biological remains is recommended. On the basis of the present sample, further excavations would probably provide little or no useful additional material. However, should further excavations take place, deposits with organic preservation in any deep features should be recorded and sampled if feasible, and a careful watch should be kept for such deposits during road construction.

Retention and disposal

There is no justification on bioarchaeological grounds for retention of the samples.

Archive

All extracted fossils from the subsamples, and the residues and washovers are currently stored in the Environmental Archaeology Unit, University of York, along with paper and electronic records pertaining to the work described here.

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