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**Evaluation of biological remains from excavations south of Bishop Burton,
east of Dale Gate (site code: TSEP 373)**

by

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Summary

A series of sediment samples and small quantities of hand-collected bone and shell from deposits revealed by excavations south of Bishop Burton, east of Dale Gate, were submitted for an evaluation of their bioarchaeological potential.

The biological remains recovered from the samples were of no interpretative value beyond that given in the text but may provide sufficient material (charred plant remains) for AMS dating of some of the deposits to be attempted should this be required.

Although the vertebrate assemblage is dated to a period of particular interest from which little zooarchaeological information is known in the region, it is too small and the number of fragments providing biometrical and age-at-death information is insufficient for further, detailed analysis to be worthwhile.

KEYWORDS: SOUTH OF BISHOP BURTON; EAST OF DALE GATE; EVALUATION; ROMANO-BRITISH; PLANT REMAINS; CHARRED PLANT REMAINS; SNAILS; VERTEBRATE REMAINS

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Introduction

An archaeological evaluation excavation was carried out by Humber Field Archaeology south of Bishop Burton, east of Dale Gate (NGR: XX), as part of a series of interventions along the line of the British Petroleum Teeside to Humber pipeline.

A series of sediment samples ('GBA'/'BS' *sensu* Dobney *et al.* 1992), and small quantities of hand-collected shell and bone, were recovered from the deposits. Preliminary dating evidence (from the small quantities of recovered pottery) suggests a Romano-British date for the deposits.

All of the material was submitted to the EAU for an evaluation of its bioarchaeological potential.

Methods

Sediment samples

The sediment samples were inspected in the laboratory. Five of the samples were selected for investigation and their lithologies were recorded, using a standard *pro forma*, prior to processing, following the procedures of Kenward *et al.* (1980; 1986), for recovery of plant and invertebrate macrofossils. The washovers and residues were examined for plant remains. The washovers were also examined for invertebrate remains, and the residues were examined for other biological and artefactual remains.

Table 1 shows a list of the submitted samples and notes on their treatment.

Hand-collected shell

Brief notes were made on the preservational condition of the shell and the remains identified to species where possible.

Vertebrate remains

Data for the vertebrate remains were recorded electronically directly into a series of tables using a purpose-built input system and *Paradox* software. For each context (or sample) subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Additionally, where more than ten fragments were present, semi-quantitative information was recorded concerning fragment size, dog gnawing, burning, butchery and fresh breakage.

Where possible, fragments were identified to species or species group, using the reference collection at the EAU. Fragments not identifiable to species ('B' bones *sensu* Dobney *et al.* forthcoming) were grouped into categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal 1 (assumed to be caprovid, pig or small cervid), small mammal (rats, mice, voles etc), unidentified fish, unidentified bird, and completely unidentifiable.

Results

Sediment samples

The results are presented in context number order. Archaeological information, provided by the excavator, is presented in square brackets.

No insect remains were recovered from the samples.

Context 1010 [Fill of curvilinear gully. Contained 3rd/4th century pottery]

Sample 4/T (5 kg sieved to 300 microns with washover)

Just moist, mid to dark grey-brown, crumbly (working just soft), ?ashy clay silt. Chalk fragments (2 to 60+ mm) and charcoal were present in the sample.

The moderate-sized residue of about 500 cm³ consisted of chalk gravel (to 45 mm) and quartz sand with some rounded burnt soil/daub fragments (to 10 mm). The moderately large washover of about 70 cm³ consisted of more sand and some snails (mostly *Cecilioides acicula* (Müller) with a few fragments of other taxa including *Discus* sp., *Vitrea* sp., and *Vallonia* sp.), a little charcoal (to 10 mm), coal (to 5 mm, presumably from drift) and one charred barley (*Hordeum* sp.) grain. Other charred material included a possible heather (*Calluna vulgaris* (L.) Hull) twig/root fragments and some shiny vesicular material which may have been charred bread or some similar organic material.

Context 1023 [Fill of pit containing late 16th/early 17th century pottery]

Sample 3/T (3 kg sieved to 300 microns with washover)

Moist, light to mid brown to mid to dark grey-brown and light orange-brown in places (mottled on mm- and cm-scales), stiff and slightly sticky to crumbly (working just soft), very slightly sandy clay silt. Chalk fragments (2 to 20 mm) were also noted.

The moderate-sized residue of about 275 cm³ was of chalk gravel (to 65 mm) with traces of flint, ?baked soil/daub, ?pot, and bone. The small washover of about 40 cm³ comprised sand with many snails (almost all *C. acicula* with a single *Vitrea crystallina* (Müller) also noted) and a few charred cereal grains. The latter included ?bread/club wheat (*Triticum* cf. *aestivo-compactum*) and barley and were mostly very poorly preserved. The fine fraction of the washover contained modest numbers of silicified awn ('beard') fragments, suggesting that quite a large quantity of unthreshed grain or chaff contributed to the deposit. The few uncharred weed seeds present may well be of recent origin.

Context 1025 [Posthole fill. Undated, but probably Romano-British]

Sample 6/T (3 kg sieved to 300 microns with washover)

Just moist, mid brown to mid grey-brown, crumbly, slightly sandy slightly clay silt. Fragments of chalk (2 to 60+ mm) were common and modern rootlets were present in the sample.

There was a large residue of about 600 cm³ of chalk gravel (to 30 mm). The moderate-sized washover of about 50 cm³ consisted of sand and snails (mainly *C. acicula* with a few fragments of other unidentified land snails) and some modern rootlets, with modest numbers of charred cereal grains. The latter consist of what seemed to be a tetraploid wheat, perhaps spelt, *Triticum spelta* L., the grains varying in their state of preservation from very poor to moderately good, with a trace of barley.

Context 1056 [Fill of post-medieval field boundary]

Sample 2/T (3 kg sieved to 300 microns with washover)

Moist, light to mid grey-brown, slightly sticky (working soft and somewhat plastic), silty clay to clay silt with chalk fragments (2 to 60 mm) present.

The moderate-sized residue of about 300 cm³ comprised chalk gravel (to 55 mm) with traces of flint gravel and quartz sand; the small washover of about 30 cm³ was of sand with a small assemblage of land snails and there were traces of charcoal and coal (both to 5 mm). Again, there were many *C. acicula*, with other snail taxa (including *Vallonia costata* (Müller), *V. ?excentrica* Sterki, *Vitrea crystallina*, *Pupilla muscorum* (Linnaeus), *Aegopinella ?nitidula* (Draparnaud), and *Trichia ?hispidula* (Linnaeus)) also present.

Context 1067 [Primary ditch fill. Romano-British (2nd/3rd century)]

Sample 5/T (3 kg sieved to 300 microns with washover)

Just moist, light to mid grey-brown, stiff and slightly sticky (working soft and slightly sticky), silty clay (to clay silt) with abundant chalk fragments (2 to 60+ mm) and traces of rotted charcoal present.

This subsample yielded a very large residue of about 900 cm³ of chalk gravel (to 50 mm), with a little pot and a trace of bone; the small washover of a few cm³ was of chalk with *Cepea* sp. and other snails (*Discus rotundatus* (Müller), *Cochlicopa ?lubrica* (Müller), *Trichia* sp., *Aegopinella* sp., and *Vallonia ?costata*) and a little small (to 5 mm) charcoal.

Hand-collected shell

Six small bags of hand-collected snail shells (from six contexts; 1006, 1018, 1020, 1033, 1037 and 1056) were recovered. All of the shells were of fairly well preserved (possibly modern) *Cepaea* sp.

Hand-collected vertebrate remains

Deposits from this site produced little dateable material, but the spot dates that were available for the ten bone producing contexts (see Table 2) suggested occupation of Iron Age and Roman date. Vertebrate material amounting to 252 fragments was recovered, of which only 36 bones could be identified to species. Nine fragments were measurable and a single mandible with teeth *in situ* was noted.

Preservation was recorded as 'fair' or 'good', with only material from a single context (1033) being described as very poor. The two fragments from Context 1033 were also rather battered in appearance and had extremely eroded surfaces. Most of the other fragments recovered had sharp edges, although the extensive fresh breakage, occurring during excavation, made angularity difficult to determine. The very fragmented nature of the assemblage (particularly noticeable for Contexts 1006, 1008 and 1016) was also the result of this recent damage rather than fragmentation or butchery practices in antiquity. Bones from all the deposits were mainly fawn in colour.

Most of the bones (211) were recovered from Contexts 1006, 1016 and 1067. Cattle cranium fragments, broken during excavation and probably representing a single skull, formed the bulk of the assemblage from Context 1016. In general, cattle remains were most numerous, although horse, pig and caprovid bones were also present. A dog maxilla with teeth *in situ* were identified from Context 1067.

The deposits produced a mixture of rubbish, including both butchery and kitchen refuse but no distinct patterns of refuse disposal were discernible.

Discussion and statement of potential

The plant remains were of no interpretative value beyond that given in the preceding section (Results) but may provide sufficient material for an AMS dating of some of the deposits to be attempted.

The presence of the burrowing land snail *Cecilioides acicula* in three of the examined deposits indicates some degree of bioturbation. The small assemblage of land snails from Context 1056 was fairly typical of dry, calcareous, open places and that from Context 1067 of similar, but somewhat damper, conditions. Further study of the snail remains is unlikely to yield additional useful information.

Although the vertebrate assemblage is dated to a period of particular interest from which little zooarchaeological information is known in the region, it is too small and the number of fragments providing biometrical and age-at-death information is insufficient for further, detailed analysis to be worthwhile.

Recommendations

No further work is recommended on the current material except perhaps to provide dateable material if required.

Retention and disposal

All of the current material should be retained for the present.

Archive

All material is 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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Table 1. List of examined sediment samples from excavations south of Bishop Burton, east of Dale Gate, with notes on their treatment.

Context	Sample	Notes
1010	4	5 kg sieved to 300 microns with washover
1023	3	3 kg sieved to 300 microns with washover
1025	6	3 kg sieved to 300 microns with washover
1056	2	3 kg sieved to 300 microns with washover
1067	5	3 kg sieved to 300 microns with washover

Table 2. Summary of hand-collected vertebrate remains from excavations south of Bishop Burton, east of Dale Gate.

Context	No. of fragments	Notes	Spot date
1006	30	Much fresh breakage. Assemblage mostly large mammal ribs. Cow: pelvis, scapula and mandible fragments. Horse: calcaneum.	Iron Age through to early Romano-British
1008	7	Small assemblage. Cow: humerus shaft. Horse: upper tooth. Medium mammal 1: shaft, rib and vertebra fragments. 2 juvenile pelvis fragments ?cow.	Romano-British including mid 1st Gallo-Belgic
1010	19	Small assemblage. Cow: tibia, metatarsal. Large mammal: vertebra and rib fragments. Caprovid: phalanx and femur (burnt). Pig: tibia.	Possible Iron Age through to 3rd to 4th Century
1016	123	Cow: many fragments from cow skull (much fresh breakage damage) plus 2 horncores, also femur (dog gnawed), mandible, pelvis and metacarpal fragments. Caprovid: radius and metapodial shaft fragments.	Romano-British 3rd to early 5th
1018	1	Single caprovid scapula fragment with fresh breakage damage.	no dating evidence
1020	7	Very small assemblage - mostly unidentified - large-sized mammal rib and shaft fragments, 1 medium-sized mammal shaft fragment. Cow: upper deciduous premolar.	?3rd Century
1023	2	Two fragments. Medium-sized mammal: vertebra fragment (burnt). Caprovid: scapula (glenoid only), rather eroded.	no dating evidence
1033	2	2 extremely eroded bones - large-sized mammal humerus and scapula fragments. Chemical erosion?	no dating evidence
1061	3	Cow: first phalanx. Medium-sized mammal: tibia shaft. Large-sized mammal: vertebra fragment. Some dog gnawing.	Early 3rd to early 4th Century ?
1067	58	Moderate-sized assemblage - much fresh breakage damage. Mostly large mammal remains - shaft, mandible, pelvis and scapula fragments, one vertebra and several ribs. Cow: humerus x 3, tibia and pelvis x 2, mandible, metacarpal, astragalus (juvenile). Caprovid: second phalanx. Pig: calcaneum. Dog: maxilla plus teeth. Horse: scapula - small individual.	Late Iron Age through to early Romano-British (?2nd Century)