Palaeoecology Research Services

Evaluation of biological remains from excavations at Millfield Farm, Wheldrake (nr York), North Yorkshire, a site on the Elvington to Riccall water pipeline (site code: ERP02)

by

Allan Hall, Deborah Jaques and John Carrott

PRS **2003/19**

Palaeoecology Research Services
Unit 8, Dabble Duck Industrial Estate
Shildon, County Durham DL4 2RA

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Summary

Sixteen sediment samples (of twenty-seven collected), two fragments of hand-collected shell, and a single box of hand-collected bone, recovered from excavations at Millfield Farm, Wheldrake (nr York), North Yorkshire, a site encountered along the route of the Elvington to Riccall water pipeline, were submitted to PRS for an evaluation of their bioarchaeological potential. The deposits were mainly of Romano-British date, but the nature of the excavation (i.e. within the area designated for the pipeline) made detailed phasing of the site impossible. Three broad phases of activity were tentatively identified as ?pre-dating the Romano-British settlement (Phase 1), Romano-British (Phase 2), and indicative of medieval agriculture (Phase 3).

Fourteen of the samples were processed for the recovery of plant and invertebrate macrofossils. All of the resulting washovers consisted of (at most) a few cm^3 of material, much of it small clasts of concreted sediment (perhaps pan?). With this were small amounts of charcoal, coal, and sometimes traces of cinder-like material and a very few charred plant remains, thought mostly to be ancient. The uncharred seeds and roots present in most samples were clearly modern. No invertebrate remains were recovered from the samples. The residues were all mostly of stones and sand and, with the exception of occasional fragments of unidentified bone, were barren of biological remains.

One box of hand-collected bone was recovered from excavations, the bulk of which was recovered from Phase 2 deposits. All of the major domesticates, i.e. cattle, caprovid, and pig were identified, whilst additionally dog and horse bones were present. Preservation was rather variable and very few fragments were recovered that could provide biometrical and age-at-death data.

No further work on the current material is recommended. In view of the fact that this evaluation has most probably encountered only the periphery of the main settlement area, any future excavation at the site should allow for the recovery of additional hand-collected material, and the collection and assessment of further samples of well-stratified archaeological deposits for biological remains.

KEYWORDS: MILLFIELD FARM; WHELDRAKE (NR YORK); NORTH YORKSHIRE; ELVINGTON TO RICCALL PIPELINE; NORTH YORKSHIRE; EVALUATION; ROMANO-BRITISH (AND ?EARLIER) TO MEDIEVAL; CHARRED PLANT REMAINS; SHELL; VERTEBRATE REMAINS

Contact address for authors:

Palaeoecology Research Services
Unit 8
Dabble Duck Industrial Estate
Shildon
County Durham DL4 2RA

Prepared for:

Northern Archaeological Associates
15 Redwell Court
Harmire Road
Barnard Castle
County Durham DL12 8BN

4 March 2003

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Introduction

An archaeological evaluation excavation was carried out by Northern Archaeological Associates at Millfield Farm, Wheldrake (nr York), North Yorkshire (NGR SE 668 443), during June 2002. This work was undertaken in association with the construction of a water pipeline between Elvington and Riccall.

The archaeological features encountered were four graves and several pits and ditches, forming the edge of a multi-phased enclosure, with an associated trackway. The area of excavation was dictated by the route of the pipeline and formed a narrow strip across one corner of the settlement. This limiting of the excavation area prevented detailed phasing of the site but three broad phases of activity could be tentatively identified.

Phase 1: mostly ditch features perhaps representing early activity predating the main period of settlement.

Phase 2: the main period of activity comprising the Romano-British (most of the recovered pottery was Roman of the 3rd to 4th century AD) settlement, trackway ditches and graves.

Phase 3: medieval agricultural activity represented by a series of plough furrows and a field boundary ditch.

Sixteen sediment samples ('GBA'/'BS' *sensu* Dobney *et al*. 1992), from a total of twenty-seven collected, two fragments of hand-collected shell (from Context 200), and a single small box of hand-collected bone, were submitted to PRS for an evaluation of their bioarchaeological potential.

Methods

All sixteen of the submitted sediment samples were inspected in the laboratory and their lithologies were recorded, using a standard *pro forma*. Fourteen of the samples were selected for processing, following the procedures of Kenward *et al*. (1980; 1986), for recovery of plant and invertebrate macrofossils.

The washovers resulting from processing were examined for plant and invertebrate macrofossils. The residues were examined for larger plant macrofossils and other biological and artefactual remains.

The hand-collected shell fragments were examined and a brief record made.

For the hand-collected vertebrate remains that were recorded, data were entered directly into a series of tables using a purpose-built input system and *Paradox* software. Subjective records were made of the state of preservation, colour of the fragments, and the appearance of broken surfaces ('angularity'). Brief notes were made concerning fragment size, dog gnawing, burning, butchery and fresh breaks where applicable.

Where possible, fragments were identified to species or species group using the PRS modern comparative reference collection. Fragments not identifiable to species were described as the 'unidentified' fraction. Within this fraction fragments were grouped into a number of categories: large mammal (assumed to be cattle, horse or large cervid), medium-sized mammal (assumed to be caprovid, pig or small cervid) and totally unidentifiable.

Results

Sediment samples

All of the washovers consisted of (at most) a few cm^3 of material, much of it concreted sediment (perhaps pan?), in clasts of no more than about 1 mm in size. With this were small amounts of charcoal, coal, and sometimes traces of cinder-like material and a very few charred plant remains, thought mostly to be ancient. The uncharred seeds and roots present in most samples were clearly modern. No invertebrate remains were recovered from the samples.

The residues were all mostly of stones and sand, ranged from 0.3 to 0.6 kg in dry weight, and, with the exception of occasional fragments of unidentified bone, were barren of biological remains.

The results of the evaluation of the samples are summarised in Table 1.

Hand-collected shell

Only two small fragments of very eroded ?oyster (cf. *Ostrea edulis* L.) shell were recovered, both from Context 200 (topsoil).

Hand-collected bone

A single box (approximately 20 litres) of hand-collected bone was recovered from the site. The hand-collected animal bone assemblage amounted to 666 fragments representing 39 deposits, of which 25 were assigned to Phase 2; no bone was recovered from Phase 3 deposits. The bulk of the assemblage was retrieved from ditch fills. Table 2 shows the number of fragments by species by phase.

Preservation of the bones was quite varied between contexts. Fragments from 14 of the deposits were described as being of poor or very poor preservation, whilst material from 19 was recorded as 'fair'. Many of the more poorly preserved fragments had very degraded surfaces, which was primarily a consequence of chemical erosion while in the ground. Other bones were rather brittle and had split in to layers (Contexts 407 and 471). Tooth enamel, which normally survives in the most adverse conditions, was, in some cases, very degraded (Contexts 264, 437 and 449). Only six contexts produced bones that were well preserved. Fragmentation was extensive and largely the result of fresh breakage damage. Evidence of dog gnawing was present but minimal.

The poor preservation and extensive fragmentation resulted in few identifiable fragments. Many of the bones recovered could only be identified to categories such as large or medium-sized mammal. Identified fragments indicated a restricted range of species, which included cattle, horse, caprovid and pig. A single dog mandible was also recovered (from Context 215). The most numerous elements identified for both cattle and caprovid were isolated teeth and other elements of denser bone, which are more robust and generally survive better. Skeletal element representation is, therefore, more likely to reflect the preservational conditions rather than any particular disposal patterns.

In total, 12 measurable fragments and six mandibles with teeth *in situ*, of use for providing biometrical and age-at-death data, were recorded.

Discussion and statement of potential

It is evident from the extremely small amounts of material (allowing for the size of the samples processed) that these deposits will not repay further analysis in their own right, nor does it seem likely that further deposits from the site will be likely to furnish more useful assemblages. The presence of small amounts of charred ?heather root/twig (and some other

charred remains: root/rhizome fragments and unidentified herbaceous material) is of interest however. This kind of material is being recorded from many late prehistoric and Romano-British sites in the southern (and especially south-eastern) Vale of York (and elsewhere: see Hall 2003) and it is thought that it may represent remains from the burning of peat and/or turves. The deposits examined for this evaluation thus have a value in adding to the corpus of records for such material in the area and more than justify the investment in this investigation of plant remains. The retention of any unprocessed material does not, however, seem worthwhile.

The two very poorly preserved fragments of shell were recovered from a topsoil layer and of no interpretative value.

The bone assemblage recovered from this site was too poorly preserved and fragmented to be of much interpretative value. Clearly the ditches were convenient places for the dumping of rubbish, but whether or not this was the primary place of deposition could not be confidently ascertained because of the poor condition of some of the fragments. However, evidence of dog gnawing was minimal, and this may suggest that the bones were quickly incorporated into the deposits and not easily accessible for scavenging.

These deposits show little potential for the preservation of a vertebrate assemblage of sufficient size to provide useful archaeological and zooarchaeological data. Additionally, dating of the deposits appears rather uncertain beyond the broad category of Romano-British.

Recommendations

No further work on the current material is recommended.

In view of the fact that this evaluation has most probably encountered only the periphery of the main settlement area, any future excavation at the site should allow for the recovery of additional hand-collected material, and the collection of further samples of well-stratified archaeological deposits, for assessment.

Retention and disposal

All of the remaining unprocessed sediment samples and the hand-collected material may be discarded unless they are required for other purposes.

Archive

All material is currently stored by Palaeoecology Research Services (Unit 8, Dabble Duck Industrial Estate, Shildon, County Durham), along with paper and electronic records pertaining to the work described here.

Acknowledgements

The authors are grateful to Peter Cardwell and Phil Neal of Northern Archaeological Associates for providing the material and the archaeological information.

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Table 1. Plant remains and other components from samples from Millfield Farm, Wheldrake, North Yorkshire, a site on the Elvington-Riccall water pipeline,. Key: P=Phase; CN=Context number; S=NAA sample; PRS=PRS sample; Wt (kg)=weight of processed subsample (kg); Rem (l) = approximate volume of unprocessed sediment remaining (litres) – figures in parentheses indicate the number of additional unseen tub; Proc=how processed – NFA=No further action (i.e description only); wo=subsample sieved to 300 microns with washover. Components from the washovers are recorded in the first four of the last five columns as: ch—charcoal (C=includes conifer; Q=includes oak, Quercus*); co—coal; ?Ca—charred cf.* Calluna vulgaris *(L.) Hull (?heather) root/basal twig fragments; and other remains: a=amphibian bone; b=bone fragments; C=sedge (*Carex*) nutlet; ce=cereal, indet.; chd=charred herbaceous detritus; ci=cinder-like material; H=barley (*Hordeum*); P=pale persicaria (*Polygonum lapathifolium *L.) nutlet fragment; R=dock (*Rumex*) nutlet; rr=charred root/rhizome; T=wheat (*Triticum*); Tg=wheat glume base). No material was present in more than 'trace' amounts (given the sample size of 3 kg throughout); the figures are maximum dimensions (in mm). Biological and artefactual components of the residues are given in the final column as: b=bone fragments (with their weight in grammes in brackets); p=pot sherds (single fragments in each case).*

P	CN	Context type	S	PRS	Sediment description	Wt (kg)	Rem (l)	Proc	ch	co	?Ca	Other components			R
												cereals	other charred plants	bone and other materials	
2	210	grave fill in 208	AB	21001	Dry, light to mid grey-brown to light to mid orange-brown, brittle and stiff to crumbly (working more or less plastic when wetted), stony (stones 2 to 20 mm were common and larger stones (20 to 60 mm) were present), ?slightly sandy clay, with some modern rootlets.	0	all	NFA	-	-	-	-	-	-	-
2	213	grave fill in 211	AA	21301/T	Just moist, light to mid grey-brown to light to mid orange-brown, stiff to crumbly (working soft and somewhat plastic when wetted), sandy clay (to clay sand). Stones (2 to 20 mm) and fine charred material were present.	3	7 (+1)	wo	5		5	?T		b	b (2)
2	228	upper ditch fill in 229	AA	22801/T	Just moist, mid to dark grey to mid brown (mottled on a cm-scale) with a reddish-brown cast in places, brittle to crumbly (working soft and slightly sticky when wetted), ?slightly silty sandy clay. Stones (2 to 6 mm and 60+ mm) and fine charred material were present.	3	7 (+1)	wo	10	5	5	ce	chd rr		p

P	CN	Context type	S	PRS	Sediment description	Wt (kg)	Rem (l)	Proc	ch	co	?Ca	Other components			R
												cereals	other charred plants	bone and other materials	
1	253	upper ditch fill in 255	AB	25301/T	Moist, mottled (cm-scale), mid grey-brown to light to mid orange-brown to mid to dark grey, stiff to crumbly (working plastic), ?very slightly sandy clay. Fragments of pot and traces of fine charred material were present.	3	4	wo	10C					ci	P b (1)
1	266	fill of ditch 265	AA	26601	Just moist, mid grey-brown to ligh to mid grey, crumbly (soft and then more or less plastic when wetted), stony (stones 6 to 60 mm were common and smaller and larger stones were present), silty clay.	0	all	NFA	-	-	-	-	-	-	-
1	279	fill of ditch 278	AA	27901/T	A just moist to dry, light to mid grey-brown to mid grey, brittle to crumbly (working more or less plastic in the more moist and more clay parts), mix of sand and clay (in varying proportions). Stones (6 to 60 mm) and traces of fine charred material were present.	3	4 (+2)	wo	10Q	10	5	?T			
1	284	upper fill of ditch 282	AA	28401/T	Dry, light yellow-brown to dark grey (with shaded of grey-brown between), indurated to brittle (working crumbly), ?sandy clay. Stones (6 to 20 mm and 60+ mm), fine charred material, rotted bone and modern rootlets were present.	2	2	wo	5		2		C rr	b	P b (14)
?	407	group number	AB	40701/T	Moist, mid brown to mid to dark grey-brown to mid grey, crumbly and slightly sticky (working more or less plastic), slightly sandy clay, with patches of yellow-brown sand (to 5 mm, possibly from very rotted sandstone). Stones (2 to 60 mm), traces of fine charred material, fragments of root/twig and modern rootlets were present.	3	5 (+1)	wo	2	5	5	?H ?T		a	b (<1)

P	CN	Context type	S	PRS	Sediment description	Wt (kg)	Rem (l)	Proc	ch	co	?Ca	Other components			R
												cereals	other charred plants	bone and other materials	
2	430	fill of ditch 429	AA	43001/T	Just moist, light to mid grey-brown to mid grey (slightly orange-brown in places), crumbly working soft (where more sandy) or plastic (where more clay), sandy clay to clay sand. Stones (2 to 6 mm and 60+ mm) and fine charred material were present.	3	6 (+1)	wo	5	5	5	T, Tg			b (<1)
2	432	fill of ditch 431	AA	43201/T	Moist, mid grey to mid grey-brown, crumbly and slightly sticky (working plastic), ?slightly silty clay, with some stones (2 to 20 mm) and fine charred material.	3	7 (+1)	wo	3		5	ce ?T	chd	a	
?	463	fill of pit 462	AA	46301/T	Just moist, mid grey to light to mid grey-brown to orange-brown, indurated and brittle to crumbly (working more or less plastic when wetted, ?slightly sandy clay, with small patches of buff ?silty clay (to 10 mm). Stones (2 to 20 mm) and fine charred material were present.	3	4	wo	5	5	5	?T	R		
2	465	fill of ditch 464	AA	46501/T	Just moist, light to mid grey-brown to mid to dark grey-brown, crumbly (working more or less plastic), sandy clay. Large stones (60+ mm), rotted charcoal and modern rootlets were present.	3	4 (+1)	wo	5	5	3		chd	ci	
2	469	fill of ditch 468	AA	46901/T	Just moist, mid brown to mid grey (reddish-brown in places), brittle to crumbly (working sticky and slightly plastic), gritty sandy clay with some lumps of light grey-brown indurated clay (to 7 mm). Stones (2 to 60 mm), coal (to 4 mm) and modern rootlets were present.	3	4 (+1)	wo	2					b	b (3)
1	473	fill of ditch 472	AA	47301/T	Just moist, mid grey-brown (lighter in places), crumbly (working soft and somewhat plastic), sandy clay, with stones (2 to 20 mm), ?fine charred material and modern rootlets.	3	8 (+1)	wo	5	5	3	ce			

P	CN	Context type	S	PRS	Sediment description	Wt (kg)	Rem (l)	Proc	ch	co	?Ca	Other components			R
												cereals	other charred plants	bone and other materials	
1	481	fill of ditch 480	AA	48101/T	Dry, light to mid brown to mid grey-brown to mid to dark grey, indurated and brittle to crumbly, sandy clay (to clay sand). Stones (2 to 20 mm), fine charred material and modern rootlets were present.	3	6 (+1)	wo	10	5	3		P R	ci	
2	489	fill of ditch 444	AA	48901/T	Moist, mid to dark grey to mid grey-brown, unconsolidated to slightly sticky (working plastic), ?slightly silty clay, with some stones (6 to 20 mm).	3	5 (+4)	wo	5		5	ce	rr		b (1)

Table 2. Hand-collected vertebrate remains from Millfield Farm, Wheldrake. Key: ?=phase uncertain.

Species		**1**	**2**	**?**	**Total**
Canis f. domestic	dog	-	1	-	1
Equus f. domestic	horse	-	5	-	5
Sus f. domestic	pig	-	6	-	6
cf. *Sus* f. domestic	?pig	2	-	-	2
Bos f. domestic	cow	1	46	2	49
Caprovid	sheep/goat	1	20	1	22
Unidentified		143	371	67	581
Total		**147**	**449**	**70**	**666**