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## **Evaluation of bioarchaeological remains from a site on the Chapel Haddlesley to Eggborough pipeline (site code: OSA99WB03)**

by

Allan Hall, Harry Kenward, Frances Large and Darren Worthy

### **Summary**

*A single sediment sample from a waterlogged deposit revealed by excavations on the Chapel Haddlesley to Eggborough Pipeline was submitted for an evaluation of its bioarchaeological potential. Moderately diverse assemblages of plant macrofossils and invertebrates were recovered, indicating that the deposit formed in a ditch or pond which was intermittently dry, and that the local environment consisted of fairly open country and grazing land. Further work on the present sample is not recommended unless dating can be refined and any other dated deposits of this kind should certainly be examined.*

**Keywords:** CHAPEL HADDLESLEY; EGGBOROUGH; EVALUATION; DITCH; POND; ROMAN; INVERTEBRATES; INSECTS; PLANT MACROFOSSILS; VERTEBRATE

Authors' address:  
Palaeoecology Research Services  
Environmental Archaeology Unit  
Department of Biology  
University of York  
PO Box 373  
York, YO10 5YW

Prepared for:  
On-Site Archaeology  
25A Milton Street  
York  
YO1 3EP

Answerphone: (01904) 433846  
Fax: (01904) 433850  
Website: [www.york.ac.uk/inst/eau](http://www.york.ac.uk/inst/eau)

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## Evaluation of bioarchaeological remains from a site on the Chapel Haddesey to Eggborough pipeline (site code: OSA99WB03)

### Introduction

Excavations on the Chapel Haddesey to Eggborough pipeline revealed a large cut feature with a waterlogged deposit at the base, interpreted as being either a small pond or a possible Roman ditch. A single sediment sample ('GBA' *sensu* Dobney *et al.* 1992) was taken and submitted to the EAU for analysis of bioarchaeological remains.

### Methods

The material was initially inspected in the laboratory and described using a standard *pro forma*. One 3kg subsample was processed for extraction of plant and invertebrate macrofossils following procedures of Kenward *et al.* (1980; 1986).

All invertebrate macrofossils were recorded semi-quantitatively using the scale described by Kenward *et al.* (1986) and Kenward (1992). Records were made on a paper *pro forma* for later transferal to a computer database (using Paradox software) for analysis and long-term storage.

### Results and Discussion

#### Context 1012, Sample 1/T

Laboratory description: *Moist, mid-dark brown, crumbly, humic, silty sand. The sediment was more silty and more sandy in places with some patches of paler brown and gingery coloured sand. Rotted fragments of wood and twigs and large*

*fragments of mammal bone were also present.*

There was a very large residue of 1400 cm<sup>3</sup> of woody detritus and sand, producing large sieve fractions throughout. Identifiable plant remains were abundant and mostly well preserved. The coarsest material comprised twigs, at least some of which were elder, *Sambucus nigra* L. (to about 50 mm in length and 20 mm diameter), whose pith often showed curious whitish vesicular non-calcareous mineral-replacement. Elder seeds were by far the most abundant remains amongst the seeds and fruits in the sample. Although the evidence from the invertebrates indicates aquatic deposition almost all the plant taxa were terrestrial, including other woody plants such as willow (*Salix*) and alder (*Alnus*). There was also a suite of biennial and perennial plants likely to have grown on neglected ground or on the bank of a stream or ditch (especially hemlock, *Conium maculatum*, and stinging nettle, *Urtica dioica*). Perhaps the lack of aquatic plants indicates shade from overhanging trees (accounting for the elder twigs and willow buds).

Evidence from the plant remains for human activity was, apart perhaps from the presence of some annual weeds of disturbed habitats (e.g. henbane, *Hyoscyamus niger*, fat-hen, *Chenopodium album*, and black nightshade, *Solanum nigrum*), restricted to records of a single seed of flax (*Linum usitatissimum*), a single fragment of a hemp (*Cannabis sativa*) achene, and a little charred cereal chaff, probably including remains from spelt wheat (*Triticum spelta*). The hemp and flax may have originated in crops retted in the body of

water (perhaps at some distance from the point of deposition, given the very low concentrations), whilst the cereal chaff presumably arrived in ash from a fire. All these remains might conceivably have originated in an adjacent cultivated area, however.

Traces of peatland/heathland taxa were recorded: leaves of *Sphagnum* and a capsule of heather, *Calluna vulgaris*; these may have originated in peat used as fuel as it seems unlikely they were part of the local flora.

A large and moderately diverse assemblage of invertebrates was recovered from the flot and residue. Evidence from the invertebrate remains accords quite closely with that from the plants except for a lack of indication of human settlement. Many of the aquatic beetles (for example *Ochthebius minimus* (Fabricius), *Hydrobius fuscipes* (Linnaeus) and *Hydrochus* sp.) and several carabids (*Bembidion* spp., *Pterostichus nigrita* (Paykull), *Nebria* sp. and *Loricera pilicornis* (Fabricius)) would have lived amongst vegetation in shallow water. All of the insects associated with the vegetation could have invaded within a year or so and the presence of several hundred water flea (*Daphnia*) resting eggs together with the rather poorly developed aquatic vegetation indicate that the body of water was probably subject to regular periods of dessication.

Several species of *Apion* and at least three individuals of *Cidnorhinus quadrimaculatus* (Linnaeus) suggest that the banks of the ditch/pond supported weedy vegetation which included vetches and nettles. The surrounding area was probably open country with short grassland, from where the elaterids, several ground beetles (*Calathus* sp., *Amara* sp., *Harpalus* sp., *Notiophilus* sp. and *Trechus quadristriatus/obtusus*) and *Phyllopertha horticola* (Linnaeus) may have

originated. Grazing of livestock would account for the presence of large numbers (at least ten percent of the assemblage) of dung beetles, most of which were *Aphodius* species typically associated with sheep, horses or cattle. There is no evidence from the insects to suggest the proximity of woodland; the single scolytid and woodworm (*Anobium punctatum* (Degeer)) could have originated from a fence post or stray branch.

The presence of nearby human habitation or dumping of domestic waste is not indicated from the invertebrate assemblage; the few facultative synanthropes (*Omalinae* sp. *Atomaria* sp. and *Ephistemus* sp.) could all have exploited litter on the banks of the ditch/pond.

A mandible and fragments of skull from a cow were also present in the residue.

## Recommendations

Any other deposits with this kind of waterlogged preservation from the excavation (provided they can be dated) should certainly be examined to establish whether further evidence for human activity and environmental disturbance exists. No further work is recommended for the present sample unless dating can be established reasonably closely, in which case the insect remains could provide a useful indication of local environment.

## Storage and disposal

The sediment sample should be retained for future analysis.

## Archive

All paper and electronic records pertaining to the work described here are currently stored in the Environmental Archaeology Unit, University of York.

It is recommended by the EH-funded staff that long-term storage of bioarchaeological remains should be in the local receiving museum.

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