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**Evaluation of biological remains from excavations at
Bolton Common (site code: TSEP 243)**

by

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Summary

A series of sediment samples from deposits revealed by excavations at Bolton Common, were submitted for an evaluation of their bioarchaeological potential.

Two of the samples (Sample 1, Context 2014 and Sample 3, Context 2005) gave modest assemblages of both plant and invertebrate remains. The biological remains recovered from larger subsamples of these deposits would provide information of use in interpreting these cuts. The ecological information so gained would also be valuable in an area and time period (assuming this can be confirmed and refined) for which such data are limited—radiocarbon (AMS) dating of the biological remains recovered should be employed if artefactual or stratigraphic dating is not available.

KEYWORDS: BOLTON COMMON; EVALUATION; LATE PREHISTORIC; PLANT REMAINS; CHARRED PLANT REMAINS; INVERTEBRATE REMAINS

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Introduction

An archaeological evaluation excavation was carried out by Humber Field Archaeology at Bolton Common (NGR: XX), between 17 and 24 November 1999, 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) were recovered from the deposits. The only artefacts recovered of use in dating the deposits were two sherds of handmade late prehistoric pottery recovered from Trench 2 (one from a ditch fill and the other from a pit fill).

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

Methods

The sediment samples were inspected in the laboratory. Three 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.

Results

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

Context 2005 [Ditch fill. Contained late prehistoric pottery, possibly Iron Age]
Sample 3/T (2 kg sieved to 300 microns with washover)

Moist (locally wet), mid to dark greyish brown, plastic, slightly humic slightly clay sand with patches of pale buff sand.

This subsample yielded only a small residue of about 40 cm³ of sand and ?iron pan and a small washover of a few cm³ of fine (to 5 mm) charcoal and very decayed plant detritus, much of it embryos from water-plantain (*Alisma*) fruits—likely to represent deposition in shallow water. There were also traces of charred root/twig material (to 5 mm) which may have come from heather (*Calluna vulgaris* (L.) Hull).

Invertebrates were very decayed (E = 4.5 on the scale of Kenward and Large 1998). There were several ?*Notaris* sp. (waterside) and some aquatic and terrestrial taxa. Some of these remains could be identified with care, and a very large subsample would provide some useful ecological information if this were of particular interest.

Context 2014 [Primary fill of ditch cutting that from which Context 2005 (above) came. Undated, possibly Iron Age]
Sample 1/T (2 kg sieved to 300 microns with paraffin flotation)

Moist (locally wet), unconsolidated (locally brittle), bright orange (mottled with pale grey) fine sand and more or less black amorphous organic sediment with a fine sand component—internally black, locally weakly panned, and traces of plant detritus.

There was a small residue of about 150 cm³ of which about one third by volume was sand and gravel, the latter consisting of iron-concreted sand grains, perhaps from iron pan. The remainder was herbaceous detritus including fragments of tree leaves. Preservation was often excellent, the small fragments of a variety of mosses present generally still retaining chloroplasts. Notable amongst the vegetative remains were leaves and leafy shoot fragments of gorse, *Ulex* (probably *U. europaeus* L.),

as well as some legume pod fragments which also seemed to be from this plant. Also notable in the sample were some large capsule segments of violet or pansy (*Viola* sp(p).), probably from one of the woodland violets, since there were some short, fat seeds more typical of this group than the field pansies. Overall, the deposit appeared to have formed in water, as some of the material was stained black with iron sulphide (though some material was orange with oxidised iron), and the most abundant plant remains were achenes of water-crowfoot (*Ranunculus* Subgenus *Batrachium*). However, a diverse group of plants of marsh, wet meadow and waste places was present and the record of traces of cinders indicates some human influence, though no clear component of waste from human habitation was recognised.

Insect remains were moderately abundant and often well preserved (there were whole froghopper, *Auchenorhyncha* spp., heads, for example). Aquatics were rare, and deposition may have been in a shallow swampy pool with some litter, perhaps overhung by trees (*Otiorhynchus singularis* (Linnaeus) and *Acalles* sp. may have been associated with these). This was an unusual assemblage of remains. It should be recorded fully, and a larger subsample should be analysed (and preferably also fully recorded) to provide a wider range of taxa and in the hope of recovering species of use as indicators of climatic change.

Context 2019 [Fill of post-pit. Contained late prehistoric pottery, possibly Iron Age]
Sample 5/T (2 kg sieved to 300 microns with washover)

Moist, brittle and slightly indurated (working plastic) amorphous organic sediment with some rootlets (?ancient) present.

There was a small residue of about 100 cm³ of sand with a little charcoal (to 10 mm), charred ?heather root-basal twig fragments and a charred rhizome fragment, perhaps all from burning of peat or turf. The moderate-sized washover of about 30 cm³ contained more charcoal and some reddish unburnt material looking rather like bark. No invertebrate remains were recovered from the sample.

Discussion and statement of potential

The plant and invertebrate remains show potential for further investigation. Some additional processing and study (particularly

of the insect assemblages) would perhaps allow further reconstruction of the conditions in and around these cuts. Recovered biological remains could also provide material for radiocarbon dating (AMS) of the deposits.

Recommendations

Additional material from samples 1 and 3 (Contexts 2014 and 2005) should be processed and the biological remains recorded in some detail to allow reconstruction of conditions in and around these cuts. The ecological information so gained would also be valuable in an area and time period (assuming this can be confirmed and refined) for which such data are limited. Radiocarbon (AMS) dating of the biological remains recovered should be employed if artefactual or stratigraphic dating is not available.

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 at Bolton Common, with notes on their treatment.

Context	Sample	Notes
2005	3	2 kg sieved to 300 microns with washover
2014	1	2 kg sieved to 300 microns with paraffin flotation
2019	5	2 kg sieved to 300 microns with washover