TWO BRONZE AGE BARROWS AT LONGSTONE EDGE, DERBYSHIRE: POST-EXCAVATION ASSESSMENT & UPDATED PROJECT DESIGN

compiled by
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(CfA project code 472)

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1 BACKGROUND

1.1 Introduction

> Morning very cold and foggy, quite nice on Longstone Edge as the sky was clear with a bright, warm sun. All around, the valleys were filled with white, rolling mist. One has the feeling of working above the clouds.
> (Site Diary, 24th September 1996)

Longstone Edge is found on the western end of High Rake, an east-west aligned limestone escarpment in the Peak District National Park, c 5 km north of Bakewell (NGR SK 2088 7341; *Figure 1*). The escarpment, in the north-eastern part of the White Peak limestone plateau, rises to 390 m above sea-level; its southern edge has been quarried during medieval and post-medieval lead mining and the two barrows discussed here came to be situated on the northern lip of the former quarry, known as Longstone Rake. They were threatened by slippage and collapse of the quarry edge and by subsidence cracks which were opening up to the north and west of this face. The threat was heightened because of vibration from ongoing fluorspar mining, carried out by Laporte Minerals, 180 m below the ground surface.

The site comprised two adjacent bowl-shaped round barrows of earth and stone construction (*Figure 2*). Barrow 1, the more easterly of the pair, was located on the highest point of the escarpment through which Longstone Rake is cut. When recorded by John Barnatt in 1988, Barrow 1 measured 21 m east-west and 19 m north-south; it stood to a height of 1.1 m above the hill crest, the top at 393.9 m OD (Barnatt 1996c, 186). Barrow 2 to the west was slightly smaller, measuring 16 x 13.5 m and standing 1 m above the crest. At the time of excavation the length of Barrow 1 had been shortened by 2 m and the southern 4 m of the monument had either subsided or fallen into Longstone Rake, due to the collapse of the edge. Barrow 2 survived relatively unchanged, although a prominent fissure had opened across its middle, effectively bisecting the monument. The overall area of the site and the space between the two barrows had also become badly fissured due to the splitting and movement of the underlying limestone.

It was thought that Barrow 1 had been excavated by the Derbyshire antiquarian, Thomas Bateman, in August 1848, although there was some doubt about which barrow was described. Bateman (1861, 41-2) discovered a rock-cut grave containing cremated remains of an adult, a child inhumation in one corner and two Food Vessels in the opposite corner. Animal bones (including 'rat bones') and flints were also found.

The setting of the monuments is significant for their interpretation. Today the landscape is open, covered by a thick spongy upland grass, grazed by flocks of sheep. The barrows are prominently sited on a local high spot, commanding views northwards across a steep dale towards High Fields, westwards over the expanse of Longstone Moor, eastwards towards the Derwent Valley (the river is 4 km distant) and southwards over the village of Great Longstone and the Wye Valley, the river

also 4 km away. The Longstone Edge barrows fit the trend for the limestone plateau of a ridge- or hill-top siting on the fringe of 'traditional cultivation zones' (Barnatt 1996a, 67). At least three other barrows are sited along or near High Rake, overlooking the Wye: the closest, also investigated by Bateman, lies just 200 m to the north-east; the now destroyed Glebe Low (Radley 1966) is 500 m to the south-west; and a site at Blake Low is 1 km to the west. A further group of monuments lies on Longstone Moor to the west.

1.2 Survey

A topographical survey of the site was undertaken in December 1995 by the Central Archaeology Service (CAS) of English Heritage, using a total station theodolite (Reeves 1996). As well as recording the two known barrows in detail a small mound, perhaps a natural knoll, was observed to the west of Barrow 2, and a circular depression further west again. In addition, investigation of a fissure through Barrow 1 yielded rodent bones, snail shells, large mammal bones and a fragment of human skull.

1.3 Geophysical Survey

A resistivity and magnetometer survey was carried out by the University of Sheffield in 1996 as part of a project to assess the usefulness of these techniques. However, neither revealed anomalies consistent with archaeological deposits associated with the barrows.

1.4 Excavation

1.4.1 Aims & Objectives

The excavation at Longstone Edge was undertaken over 10 weeks between August and October 1996, directed by Peter Reeves, with the following major aims and objectives (as set out in the original Project Design):

- to realise the potential of the site prior to its damage or destruction (determine method of construction and use; define burial practice; recover dating, artefactual and environmental evidence; investigate the use of space around the barrows);
- to aid in developing future policy for the designation and management of barrows in the Peak District National Park and elsewhere;
- to assess current interpretations of the nature of Peak District barrow activity and construction.

1.4.2 Methodology

1.4.2.1 General methods

> Although the deturfing is hard, spirits remain high, even to the extent of a sweepstake on what we will find, aside from spent .303 cartridges.
> (Site Diary, 16th August 1996)

The excavation was conducted using a range of trenches, open areas and quadrants. The precise methodology and layout were dependent upon the aims and objectives set out in the project design, the morphology of the monuments, and Health & Safety considerations.

Excavation and recording of the site were undertaken using the standards and guidelines set out in the English Heritage CAS Recording Manual (for context details see Appendix 1). All features were fully excavated. Plans were drawn at a scale of 1:20 and sections at 1:10. All finds and bulk samples were 3D recorded using a TC500 total station. Burial deposits and contexts containing significant artefact or ecofact assemblages were 100% bulk sampled, and transported to CAS headquarters for wet sieving.

All areas were hand-excavated, primarily because Health & Safety concerns dictated that no earth-moving machines could be used on site in case they caused further collapse of the quarry edge. It was also felt that a machine would compress the surviving stratigraphy and damage artefacts/ecofacts located within the upper levels. A secondary factor contributing to the hand excavation strategy was the nature of the vegetation: since the grass covering the site had an extensive and deep fibrous root system with the potential for trapping finds the backs of turves removed from the areas of excavation were sieved (until it became apparent that only cartridges deposited during wartime military exercises were being retrieved this way). Once an area had been stripped, it was then cleaned down to the barrow construction material, with selected samples being dry sieved for finds.

Quadrants 2 (Barrow 1) and 5 (Barrow 2) were the first two areas opened and excavation was initially undertaken with a very cautious approach. Material was removed in 10 cm spits and a rigorous sieving regime imposed. Subsequent quadrants were excavated by context layers as the stratigraphy of the barrows became apparent and the team gained confidence. In line with the growing understanding of the site, the sieving then became more targeted.

The trench layout was altered from that proposed in the project design if it became apparent that no archaeological feature existed, if significant sub-surface fissuring was uncovered following removal of the turf and subsoil, or if trenches/areas had to be expanded to take account of unexpected features.

1.4.2.2 Barrow 1

Barrow 1 was excavated by two quadrants (Areas 1 and 2) placed to the north of the fissure separating undisturbed barrow material from material which was slipping into the rake (Area 12). Area 2, the first to be opened, was treated cautiously, as outlined above. Within the individual layers a fixed sampling strategy was imposed of 10 L dry sieving from each metre square. All features and burials were bulk sampled and floated.

Area 12 covered the most complex and disturbed area of Barrow 1, due to the amount of movement within the underlying geology and the twisting, tearing and compression of the stratigraphy. The upper contexts were sampled intensively due to the truncation and mixing caused by strata movement, and samples were 3D recorded; the

lower contexts remained largely in place and finds could be 3D recorded individually. Areas of soil containing potsherds or bones were sampled. Although severely truncated, the sequence of events could be clearly elucidated; the main cist grave and the entire suite of Neolithic bones and pottery were retrieved from this area. The Food Vessel (squashed flat) was lifted in a block to be micro-excavated in the laboratory. Where possible, large sherds of pottery and large bones (animal or human) were 3D recorded.

Area 1, the largest area to be excavated, was cleared very rapidly due to time constraints. The excavation of Area 2 had already given the team an accurate understanding of the barrow's stratigraphy so layers were removed as entire units rather than spits; the amount of dry sieving for the upper contexts was also reduced although where burials were located packed into the interstices of the barrow material they were 100% bulk sampled.

1.4.2.3 Barrow 2

Barrow 2 was divided into four quadrants, Areas 3, 4, 5 and 6. Upon stripping the first quadrant (Area 5) it was found that the barrow was slightly smaller than anticipated and made use of the underlying surface of the limestone to enhance its height (a feature actually noted by Bateman, though his account was not originally thought to refer to this barrow). The consequence of this morphology was that the quadrants had been placed off-centre and therefore Area 3, which covered a very small area and was further reduced by truncation as a result of the construction of a reservoir (1.5.2), became redundant. For the same reason little mound material was excavated in Area 4. During excavation the 'central' rock-cut grave was located in the south-west corner of Area 5 by following Bateman's backfill. As a result of this discovery Area 5 was expanded into the redundant Area 3 in its north-west corner, in order to include the entire area of the grave and Bateman's trench. The fissure noted above ran through quadrants 5 and 6.

1.4.2.4 Other areas

The remaining excavation areas lay beyond the footprints of the two barrows and were laid out to look for features or evidence of activities taking place between or around the barrows. Area 8 was a large rectangular area opened up between Barrows 1 and 2; its southern portion was traversed by a series of linked east-west aligned fissures. Area 11, a large narrow rectangular area aligned north-south, was set out between Barrow 2 and the small mound found during the 1995 survey at the western end of the crest of Longstone Edge (1.2). Area 13, to the west of Area 11, consisted of a long narrow trial trench which was placed to explore this possible third barrow and the semi-circular depression which had also been identified during the topographical survey. Area 14 was an identical trench located to the east of Barrow 1. It had not been proposed in the project design but during the course of the main excavation a flat rectangular earthwork was noted lying in this area, beyond the limits of the 1995 topographic survey, and the regional curators (Ken Smith and John Barnatt) wished to investigate the possibility that the earthwork was a rare platform barrow.

Areas 7, 9 and 10, as outlined in the original project design, were dropped from the schedule of excavation because of discoveries on the site, and for Health & Safety reasons. Areas 7 and 9 were replaced by the single trial trench 13, while it was not felt prudent to excavate Area 10 as originally proposed.

In areas where no barrow material existed the exposed soils were left to weather. The lack of features observed following initial cleaning in these areas was thought to be due to the nature of the subsoil, a pale buff to orange silty sand. But when Area 8 was left exposed for the full ten week duration of the excavation, the lack of observed features was found to be a true reflection of the area. The two long trial trenches (Areas 13 and 14) were excavated down to bedrock.

In Areas 8 and 11 two sieving transects were set up to act as controls for the overall sieving and finds recovery strategy for the site. The detailed sieving regime imposed within these transects was devised to ensure that no evidence relating to possible use of the inter-barrow areas was missed. Within Area 11 the transect was aligned north-south along the centre of the area and sieved in spits down to bedrock. In Area 8 the transect was aligned east-west, also along the centre of the area, spanning the entire width between the margins of Barrows 1 and 2. This transect was also sieved in spits down to the bedrock, or the C-horizon of the subsoil: due to the depth of the subsoil encountered within Area 8 a sondage was excavated along its northern edge and all the spoil, composed of a light, slightly sandy silt, was dry sieved.

1.5 Results

This section is based on an interim summary by P. Reeves. Because of the limited information in the paper archive used by the present writer it is no longer easy to assess some of the interpretations and phasings which clearly derive from observations and discussions in the field. These issues are outlined in more detail below (2.1.2, 2.1.5).

1.5.1 Summary

Barrow 1 exhibited several phases of use in the Neolithic and Bronze Age, and was later reused in the Roman period. The first phase of the monument is interpreted as an excarnation platform, enclosed by a low dry-stone wall, with small, disarticulated fragments of bone surviving. Subsequently it became a formal burial site, probably in the Beaker period, comprising a cist with inhumations and two empty rock-cut graves. A small mound may have been constructed over the cist, but it was only after the deposition of a Food Vessel cremation in the Early Bronze Age that the main barrow mound was built. During the Roman period further burials may have been inserted into the barrow.

Barrow 2 had a less complex sequence, with fewer artefacts and ecofacts recovered. Some material (human and animal bone) was found on the land surface below the barrow mound but there is no clear evidence for a Neolithic or excarnation phase. The surviving mound also lacked secondary or intrusive burials, in contrast to Barrow 1. Although previously investigated by Thomas Bateman, who excavated the central rock-cut grave, it is suggested that some of the Bronze Age deposits in this feature may have survived, including human remains.

1.5.2 Barrow 2

> On the 29th of August [1848] we opened another barrow, near the last, situated on a part of the hill still more elevated. Externally it has the appearance of a cairn or tumulus solely composed of stone, which in fact it was, so far as artificial means had been employed, but in the middle the rock rose above the natural level, and caused the tumulus to appear of greater extent than it really was.
> (Bateman 1861)

> A very definite difference between the two barrows. Barrow 1 - large blocks of limestone, quite rounded and more natural looking. Barrow 2 - far smaller stone size and a great deal more angular, the whole appearance being inferior to Barrow 1 - why?
> (Site Diary, 19th August 1996)

Barrow 2 was the smaller of the pair and demonstrated a single phase of construction encompassing two distinct events (setting out and construction). As well as the ongoing ripping apart of the monument by shifts in the underlying limestone the barrow has also been modified by quarrying of unknown date (2055; fill 2053-4), Bateman's excavation (2061; fill 2060) and truncation during construction of a reservoir tank adjacent to the south-east quadrant of the barrow, when part of the mound was scooped out to form a level platform for the structure.

The barrow appears to have been set out and constructed in a single event. A rock-cut grave (2064) was excavated in its approximate centre, with the circumference of the barrow apparently delineated by a discontinuous circle of spaced small blocks of limestone set upright (2005, 2006, 2077). However, in the north-east quadrant (Area 5) these deposits appear to stand upon the basal layers of barrow construction. The area under the barrow was in part cleaned down to the underlying bedrock (2010, 2059, 2079); elsewhere a thin orange-brown silty clay subsoil survived (2009, 2058, 2078). In Area 3 the soil beneath the mound was sampled for molluscan remains (1109-10). In Area 5 the subsoil (2009) was mixed with the basal mound layer (2008), while in Area 4, to the north-west, layers of packed stones (2075, 2076) were placed between the subsoil and the mound material.

> In the centre was an irregularly shaped rock grave, about three feet deep, lined with flat stones placed edge-way, and covered with four or five large slabs laid over it without much regularity. It contained a deposit of calcined bones, evidently of an adult, with bits of stags' horn intermixed, laid in a heap near the middle of the grave, which was the chief interment; in one corner was the decayed skeleton of a child of tender age, around which were numerous rats' bones; and in the opposite corner were two vases of different shapes, … which yet stood upright in their original position, and contained nothing but fine mould; casually were found some cows' teeth, two hoofs of deer, and a bit of flint.
> (Bateman 1861)

Originally excavated by Thomas Bateman in 1848, the central grave contained a series of basal fills (2063, 2065-7), although it is unclear whether these had been left unexcavated by Bateman or merely represent recent inwash. The grave had originally been covered with limestone slabs (2062) which were randomly redeposited during Bateman's backfilling. Pieces of human bone appear to have been deliberately placed near the lip of the grave and covered with small flat flags of limestone (2008, 2058), while animal bones had been placed on the cleared rock surface (2059) within the footprint of the barrow. This material clearly formed part of the Bronze Age funerary

rites since Bateman's trench did not extend to this side of the grave and the assemblage was undisturbed. Bateman had himself noticed similar features, writing that 'we found a portion of the cranium of another subject just outside the lining stones of the grave' (Bateman 1861).

After a relatively short period of time the barrow mound (2002-4, 2007, 2057, 2072-4) was raised over the grave as a series of layers. In Area 4 the basal deposit (2074) comprised 80% loosely packed limestone blocks measuring 50 – 200 mm across and 20% dark brown sandy silt soil. Above this was a less stony layer (2073) comprising up to 40% soil and smaller stones (20 – 50 mm), while the uppermost layer (2072) was predominantly soil (60%) with still smaller limestone fragments (<20 mm), heavily disturbed by plant roots. Overall the size of stones in the cairn of Barrow 2 is smaller than those in Barrow 1.

It would appear that the builders utilised the limestone topography to give a false height to the structure. Rather than using blocks of stone (as in Barrow 1) the builders seem to have chipped at the limestone bedrock to create enough material to raise the mound. Excavation suggested that the soil cleared from the site during setting out of the barrow was mixed with these chippings and incorporated into the mound. Although the central burial and associated grave goods were formally laid out, the appearance of the barrow suggests a hurried construction. No secondary or satellite burials were located anywhere within the footprint of the mound and no definite evidence was found for any later insertions. However, Roman sherds came from 2073 and 2057, the latter accompanied by some human bone.

Prior to undertaking the excavation, the work of Thomas Bateman was studied intensively in an effort to discern which of the barrows at Longstone Edge he had excavated. Although Bateman was effectively a treasure hunter, excavating single exploratory trenches and primarily interested in human skulls and grave goods, he did keep detailed records (for the time) of his findings and backfilled his sites very carefully. Indeed, due to the method and materials used for the construction of Barrow 2, Bateman's trench was difficult to trace until the upper 0.5 m of its fill had been removed. The drawing illustrating Bateman's finds proved to be accurate: while the grave goods had been removed, the ledges upon which they had been placed were intact. Moreover, the child's skeleton was more or less intact and in its original position (Bateman 1861, 42). A lead plaque bearing the word 'BATEMEN' was retrieved from the base of the cut (2067), as in other excavations reinvestigating Bateman's trenches (Marsden 1970, 194). The results obtained at Longstone Edge demonstrate that once the precise location of excavated barrows is determined, Bateman's notes can be treated as a reliable source of information about their morphology.

1.5.3 Barrow 1

Quite different from Barrow 2, Barrow 1 was both better preserved and far more complex than anticipated, and had a longer than expected chronological range of activity. Spanning four cultural periods, the site demonstrates five phases of use or activity:

- Neolithic ?Excarnation Platform (two sub-phases)
- Beaker Open Cist Burials
- ?Beaker Barrow
- Early Bronze Age Barrow
- Roman Burials

1.5.3.1 Phase 1

The earliest phase identified (1a) includes two structural elements, a circular enclosure wall (1007, 1096), with a possible entrance facing north, and an arc of three marker stones (1014-16) placed opposite this entrance. The wall was of dry stone construction and comprised squared limestone blocks surviving to a height of four courses. It is unlikely that the wall was ever higher than this due to the lack of evidence of collapsed stone from higher courses. The marker stones were simple limestone orthostats set onto bedrock, two of which remained upright. Below the wall a surviving buried soil was sampled for molluscan remains (1103-08). For discussion of the interpretation as a free-standing wall see 3.2.1.

The enclosure defined by the wall may have been used as an excarnation area, evidenced by the retrieval of numerous small human bones and crushed or broken fragments of larger bones, in association with Neolithic pottery. The area within the possible excarnation platform was 100% sampled although human remains were restricted to the southern side of the enclosure, the point furthest from the entrance. They came from a thin deposit below the basal layer of the later barrow (1056, 1082) and from the underlying subsoil (1057). The type and condition of the human remains retrieved appeared consistent with corpses having been placed on the ground for exposure and the bones then removed for burial elsewhere: the assemblage apparently consisting of the small bones that would have become detached during the excarnation process (but see 2.8). Fragments of larger bones may be consistent with remains being disturbed by scavengers or crushed by individuals entering the enclosure to collect them.

Phase 1b comprises a single event: the blocking of the enclosure entrance. This may have occurred during the Neolithic period as a symbolic closure of the excarnation site, or prior to the site's re-use, perhaps in the Beaker period. On-site observation would suggest the former, since the construction method, height and finish of the blocking are identical to the original enclosure wall, comprising a central core with distinct inner and outer facings. The Beaker and Bronze Age mound construction methods are significantly different.

1.5.3.2 Phase 2

The enclosure was re-used as a burial site, marked by the presence of three rock-cut graves (1062, 3047 and an un-numbered grave in Area 12 destroyed by a fissure), all covered by large limestone flags. The main or 'central' grave (1062) contained a cist (1061) with two inhumations (skeletons 75502, 75503); a third skeleton (75501), though apparently deriving from 1061, was largely recovered from a recent fissure through the barrow (1050). Some Beaker fragments, a thumbnail scraper and part of a bone point(?) were also found in the cist, while some animal bone (a 'leg of pork') was apparently placed alongside the legs of one of the skeletons.

Grave 3047 contained just a single fragment of bone, suggesting that inhumations had been present but were subsequently removed; the other grave also lacked skeletal remains, though these may have been lost into the fissure.

1.5.3.3 Phase 3

Phase 3 as yet remains undated but could belong to the Beaker period or the Bronze Age proper. The central area of the enclosure, as defined by the dry-stone wall, and the three cists were covered by a mound of large limestone blocks (1018, 1019, 1095). Although irregular in shape the blocks were carefully placed and formed a compact mound of stone with very little or no interstitial material. This type of construction differs from both the faced Phase 1 structure and the main barrow mounds, which comprise smaller blocks and at least 20% soil. A partial, scattered human skeleton (75505) was recovered from context 1095; it is unclear whether this represents a later (Roman?) insertion (see 1.5.3.5).

1.5.3.4 Phase 4

Phase 4 dates to the Early Bronze Age and marks the final prehistoric phase of the monument's use. The Phase 3 mound was covered by layers comprising small pieces of limestone mixed with soil (1004-6, 1011-13, 1052, 1055, 1058, 1081, 1087), similar to the structure observed in Barrow 2. The mound extended over and beyond the enclosure wall, covering the orthostats that marked the Phase 1 entrance. It also covered a Food Vessel cremation burial in a shallow cut (3031), placed on the edge of the Phase 3 mound but much disturbed by the movement of the limestone. The badly crushed vessel had been placed on some unburnt human bones adjacent to the cremated remains (skeleton 75504).

The mound also contained burials placed within the structure during its construction (1099, 3040). These were found in pockets of the stone and soil structure, without evidence they had been cut into the mound at a later date – although they may be hard to distinguish from Roman insertions covered by subsidence or slumping of the mound. Also found within the mound (in disturbed context 1052) were several beads: one jet or shale biconical example and four annular forms in amber.

1.5.3.5 Phase 5

> The eastern end of Area 12 has now been cleared. Due to the jumbled nature of the deposit, all soil has been placed in blue buckets. The possibility exists that the area contained a Romano-British insertion burial - too unstable to record properly. The bones … were found in direct connection with fragments of 3rd-4th [century] Derbyshire Ware.
> (Site Diary, 24th September 1996)

Some possible Late Bronze Age/Iron Age sherds (see 2.2.1) are the only evidence for later prehistoric activity, but two shallow features capped with limestone fragments were placed on the fringe of the barrow during the Romano-British period (1091 and 1094, under small cairns 1089 and 1088 respectively). Neither of these seem to have contained any human bone. It appears that the upper part of the mound (1086) may subsequently have slumped over these, since the presence of numerous Roman sherds in both features (contexts 1090 and 1094) confirms their late date. It is also possible

that other cuts through the mound were not recognised: Roman sherds were found within mound contexts 1004, 1052, 1086, 1087 and 3041, in two cases (1052 and 3041) associated with human remains, as well as from the surface of Areas 2 and 12 and fissure 1050/1080. Occasional small fragments only came from basal mound contexts 1055 and 1058, excarnation deposit 1056, stone mound 1095 and wall tumble 1097; these are probably intrusive, perhaps introduced by faunal activity. In addition a Roman glass bead came from mound deposit 1012. It remains unclear which of the human remains within the mound are Bronze Age and which are Roman but 3041 is considered a discrete burial deposit (the remains labelled as context 3042) while the bones from 1080 (skeleton 75506) were apparently directly associated with Romano-British sherds, as outlined in the quotation above.

1.5.3.6 Phase 6

Recent disturbance of the upper levels of the mound is shown by finds of post-medieval sherds and bottle glass from contexts 1086 and 1087, as well as from supposed Roman deposit 1094. Glass only came from 1052 while a fragment of clay pipe stem was also recovered from 1086.

1.5.4 Other Areas

No evidence of features or other human activity was observed in Areas 11, 13 or 14, demonstrating that past activity was restricted to the structural limits of the two barrows. The slight mound located to the west of Barrow 2 proved to be a geomorphological feature, while the hollow to the west of this turned out to be a natural weathering feature of the underlying limestone bedrock. The possible platform barrow also proved to be of natural origin, a ridge in the bedrock.

2 ASSESSMENT

(Note that the specialist assessments have been written at various times since 1997)

2.1 Stratigraphic & Structural Data

2.1.1 The Archive

The site archive from the excavation at Longstone Edge comprises:

- 109 context sheets (3 incomplete; 10 more contexts have no sheets):
  - Barrow 1: 71 contexts
  - Barrow 2: 39
  - Other Areas: 12
- 6 skeleton sheets (all Barrow 1)
- 185 sample sheets
  - Barrow 1: 119
  - Barrow 2: 46
  - Other Areas: 19
  - Discarded: 1

(The total volume of samples taken was 3570 L. 35.5 kg of material was produced from sieving and sorting down to 4 mm.)

- 881 individual object (finds) records
  - Barrow 1: 636
  - Barrow 2: 224
  - Other Areas: 17
  - Unstrat: 4
- 70 site drawings (digitised as .tif files)
  - Barrow 1
    - Plans: 27
    - Sections/Elevations: 15
  - Barrow 2
    - Plans: 15
    - Sections: 8
  - Other Areas
    - Plans: 2
    - Sections: 3
- 218 photographs
    - B&W only: 4
    - Colour slide only: 10
    - Colour and B&W: 204

  + 56 photos from the survey
    - Colour slide only: 32
    - Colour and B&W: 24

  + 11 photos from a site visit in 1992
    - Colour and B&W: 11
- 3 survey notebooks (co-ordinates & levels)
- 1 site diary
- Video records

As part of a separate project (Video Evaluation - CfA 589) 5 Hi8 video tapes and 224 record sheets were produced during the fieldwork at Longstone Edge. The present author has not watched the tapes.

2.1.2 Statement of Potential

These data provide a full record of the stratigraphy and structure of the site, allowing the production of stratigraphic matrices for each barrow and composite plans and sections. Detailed locational data for samples and individual finds will enable the production of plans showing spatial distributions of material categories, as appropriate.

Interpretation is limited, however, by a number of factors:

- a lack of information on the context sheets, particularly the absence of dimension measurements and sketch plans/sections (and a few sheets missing altogether). This means that the extent of particular deposits is not clear (and not always reconstructable from the plans either, which are not in strict single context format), while the same goes for any disturbance to them (as indicated by the presence of individually recorded Roman and later finds). In these cases the entire context has to be regarded as potentially disturbed/redeposited - with implications for the specialist analyses (see below).
- a lack of correlation between some samples and specific contexts. A few samples are given either two or no context numbers; in these cases the samples have to be assigned to the later context, or remain unphased - again with implications for specialist analyses.
- a lack of plans/photos of some features and finds; this gives particular problems for understanding some of the alleged mortuary deposits both below and within the mounds.

The final publication will therefore acknowledge the uncertainties in the record (caused in part by the difficulty of interpreting deposits in the field).

2.2 Prehistoric Pottery

by Pauline Beswick

2.2.1 Factual Data

All the pottery sherds and fragments were rapidly scanned for diagnostic features of shape, decoration and obvious fabric characteristics.

2.2.1.1 Quantity of material

The assemblage comprises around 863 sherds and fragments, chiefly of prehistoric pottery, from 167 find spots, together with the remains of a Food Vessel.

[Note that 30 prehistoric sherds and *c* 100 crumbs were subsequently recovered from residues and are not included in this assessment - they include two Beaker sherds with comb impressions and one with fingernail impressions.]

2.2.1.2 Provenance of material

Most of the finds are from the central area of Barrow 1, from a variety of contexts. Only the Food Vessel was found *in situ* in a burial context. The rest are from soil

layers relating to the construction and use of the site; most are relatively small and abraded and represent only small portions of individual vessels.

Provisionally there appear to be about four Neolithic vessels represented, comprising two plain bowls and two probable impressed Peterborough ware vessels. On the basis of apparent fabric differences, there are also the remains of at least two Beakers present. All sherds are comb-decorated and one appears to be 'Bell Beaker'-shaped and therefore possibly early (i.e. later 3rd millennium BC). Some sherds of this vessel are unabraded and larger than most, suggesting this Beaker may have been protected for some time, perhaps in a burial context.

The Food Vessel from the burial is a simple bipartite vase, decorated with fingernail impressions in horizontal rows of herringbone motifs. Food Vessels are characteristic grave ceramics of the Early Bronze Age, often found in contexts secondary to Beakers.

In addition simple rims from four vessels were recognised. All are in coarse fabrics and in form and finish are analogous to local material of later Bronze Age or even Iron Age date. However, it is also possible that some are from earlier coarse wares which are as yet poorly recognised; further research is needed.

No one pottery type is exclusive to any one context, apart from the Food Vessel, so contamination and residuality are inherent to the assemblage. However, there do appear to be biases of certain types occurring in particular groups of contexts; detailed analysis of fabrics and findspots should reveal significant patterns in the distribution of sherds from individual vessels.

2.2.1.4 Condition of material

Apart from the Food Vessel burial, 54 of the samples were collected by hand and 113 retrieved from soil samples using 4 mm sieves. This strategy has resulted in saturation sampling and in a preponderance of small fragments of pottery, as opposed to sherds. Hence the small size and abraded condition of the majority of sherds is due to their depositional history and the sampling strategy used. Certain identification of all pieces, therefore, will not be achievable because of the small size of much of the evidence. Nonetheless, during rapid scanning for this assessment, about 50% of sherds collected by hand were found to have diagnostic features, compared with between 20% and 50% of those retrieved by sieving. In addition there were obvious fabric differences between individual vessels, and detailed fabric analysis, although very difficult with small pieces, is likely to improve on these identification levels in both types of samples. Recording of sherd sizes and condition will also be useful in determining the likely degree of disturbance during the site's use, as for instance in the case of the Beaker sherds (2.2.1.2).

Much of the one *in situ* find, the Food Vessel, is shattered into fragments and is not reconstructable. However, about 1/3 survives as sherds and a profile is retrievable, apart from the base. Also the sherds have not been cleaned and soil samples have been retained, so the material would be suitable for residue (lipid) analysis.

2.2.1.5 Other primary sources

The two Food Vessels found by Thomas Bateman when he excavated Barrow 2 in 1848 are in Sheffield City Museum (Howarth 1899, 105 - J.93.785; 109 - J.93.792), together with the rest of the Bateman Collection and Archive. Both vessels are complete but have been reconstructed and consolidated and are probably therefore unsuitable for residue analysis. They have not been adequately published so detailed comparison of their form and fabric with the newly found Food Vessel will enhance study of the site as a whole.

2.2.2 Statement of Potential

2.2.2.1 Research questions

Questions posed in the project design which the pottery has the potential to answer include:

- the chronology of activities on the site through typological identification of the pottery;
- location, number and possible nature of some of the activities on the site, through fabric analysis and analysis of the distribution of individual vessels;
- cultural relationships of the monument builders and users, regionally and nationally, through typological comparisons and the sourcing of inclusions used as tempering in fabrics;
- the nature of activities on the site through time - e.g. are any 'domestic'?
- how many burials were there and what pottery can be associated?

New research questions resulting from study of the pottery collection:

- does the evidence imply early Neolithic burial or ritual on the site;
- what type of food or drink, if any, was placed in the Food Vessel at burial? Evidence was found in one from Perthshire for a cereal-based liquid flavoured with meadowsweet, possibly a mead or ale (Barclay 1983, 180).
- does the evidence imply later Bronze Age/Iron Age burial on the site, and are there any other finds of later Bronze Age/Iron Age pottery from burial sites in the region which have been overlooked in the past?

2.2.2.2 Issues of regional importance

This is the first time that a complex funerary/ritual monument (Barrow 1) has been sampled to saturation level for ceramic evidence and the first time that long continuity of use may be demonstrable.

A number of recent excavations in the Peak District have produced evidence for some sort of Neolithic activity in the fourth and third millennia at what were later used as burial sites (e.g. at Wigber Low [Collis 1983, 53-7], Hognaston [Collis 1996, 160-2] and Liffs Low [Barnatt 1996b, 113-5]) but none has been demonstrated to have had any connection with burial or ritual; where evidence survived it pointed more to domestic activities. Clearer understanding of the relationship of Neolithic activity to

later burial sites is a priority for regional research and the sampling strategy used at Barrow 1 will throw new light on this problem.

Peterborough wares overlap with Beakers in the later Neolithic and sherds were also recognised recently at Wigber Low (Collis 1983, 57). Evidence for more than one Beaker is known from other burial sites regionally and comparisons of form, association, condition, etc. could aid elucidation of the complex Beaker phase at Barrow 1.

The Food Vessel burial is the first to be excavated on the limestone of the Peak District using modern scientific techniques. Sampling for residues and for radiocarbon dating, as well as detailed analysis of the cremation and comparison with the Food Vessels from Barrow 2, will be of considerable value to further understanding of this strong regional tradition.

Evidence for later Bronze Age and possible Iron Age activity has not been recognised at any other Bronze Age burial site in the region and confirmation of this at Barrow 1 is a research priority.

All the pottery types recognised can be related to national as well as regional typological and chronological frameworks and analysis will aid further understanding of these relationships.

2.2.3. Storage & Curation

All the pottery is suitably housed in plastic boxes with acid-free tissue and bagged and labelled, apart from about 10% of the >4 mm samples, which are bagged but not yet boxed. It is recommended that all the pottery be retained in one place, on the grounds that in its entirety it forms a unique sample.

2.3 Other Pottery

2.3.1 Romano-British

A total of 80 sherds and a number of crumbs of Romano-British date were found, belonging to four distinct fabrics. There are few diagnostic sherds, however, the vast majority being abraded body sherds.

F1	dense, greyish-brown fabric with rough, wiped surfaces of same colour; tempered with moderate fine to coarse rounded quartz. 17 sherds.
F2	dark grey fabric and surfaces with oxidised (red) core; rough, wiped surfaces as F1; moderate fine to very coarse rounded quartz. 59 sherds.
F3	buff fabric and surfaces (abraded); moderate fine sand and sparse fine/medium red grog. 2 sherds.
F4	bright orange fabric and rough, wiped surfaces as F1; common fine to very coarse quartz. 5 sherds.

Most of the material (F1-2) is Derbyshire Ware, mainly dated to the 3rd-4th centuries AD but starting in the 2nd century (inf. J. Evans). This has been described by Gillam (1939) whose work shows that the lid-seated rim from 1086 is a typical form. The sherds may comprise a single pot in each of the fabric variants, perhaps representing

cremations or votive depositions (the assemblage is not typical of an occupation deposit). F4 could be an earlier, 1st century ware in a native tradition. The two abraded fragments in F3 were not identified.

The main significance of the Roman material is its wide distribution across the site, indicative of the degree of Roman or post-Roman disturbance, particularly to Barrow 1. If the sherds do represent individual pots they have clearly been considerably disturbed since their deposition. Contexts with three or more sherds include possible Roman features 1090, 1094 and 3041/3042, disturbance 1050/1080, and supposed Bronze Age mound material 1004, 1052, 1086, 1087 and 1095. Single sherds or crumbs only came from 1055, 1056, 1058 and 1097 - given the nature of the site these can perhaps be regarded as intrusive without invalidating analysis of the prehistoric material from these contexts.

Less Roman material came from Barrow 2: two sherds each from 2060 and 2073, and a single example from 2057.

Further work should be targeted at examining the 'single vessel' hypothesis by seeking cross-context sherd joins within the assemblage.

(*by P. Beswick*)
Romano-British pottery is common on local barrow sites but is rarely associated with burial and could indicate a primarily ritual interest in such sites (Howard Jones, pers. comm.). Clarification of Roman activity at a barrow site by an excavation using modern scientific techniques is a significant addition to this evidence.

2.3.2 Post-Medieval

Sherds of post-medieval dark glazed earthenware were recovered from two mound contexts in Barrow 1 (1086, 1087) as well as supposedly Roman deposit 1094. Other sherds came from topsoil contexts 1085 and 2001.

2.4 Struck & Burnt Flint

by Peter Makey

Note: since the assemblage totals 100 pieces figures have not been expressed as relative percentages. The conventional term patina is used throughout this report to avoid confusion between the term cortex and the process of cortication. Patina is here used to refer to a visible discoloration and/or waxy staining of a flint's surface.

2.4.1 Introduction (see Appendix 2)

The combined flint assemblage from the excavation of Barrows 1 and 2 totals 100 (119.5 g) struck pieces of flint and chert plus 24 (31.3 g) pieces of un-struck natural flint and chert. Seventy-three of the struck pieces came from the area of Barrow 1 and 21 from the area of Barrow 2; a further 6 pieces came from the topsoil in Areas 8 and 11.

The retouched component of the assemblage totals 10 pieces (*Table 1*): one edge-retouched blade (small find 72457), one piercer/retouched point (sample 5103), one spur (sample 5161), three scrapers (sample 5070.1, small finds 72550 and 72395), one

leaf arrowhead (small find 72835), one ?barbed-and-tanged arrowhead (small find 72827) and two microliths (sample 5103 and small find 72734). The remaining 90 pieces can be considered to be knapping debitage. All of the retouched pieces come from Barrow 1. The arrowheads, microliths, piercer and the side (left) end-scraper (small find 72550) all came from pre-mound/cairn deposits.

2.4.2 Assemblage Traits

Despite the residual nature of much of the material, the majority of the assemblage has not been subjected to extensive edge damage and abrasion consistent with the nature of its deposition. Fourteen of the struck lithics are in a fresh state: it is notable that this material comes from subsoil deposits and particularly from the Barrow 1 cist fill in and around the area of skeletons 75502/75503. Only 28 of the pieces have been broken, seventeen of which come from Barrow 1 and nine from Barrow 2 - the remaining two pieces are unstratified. Barrow 2 has produced a higher proportion of broken pieces than Barrow 1 (42.8% vs 23%); however, this trait appears to be directly related to a higher proportion of the Barrow 2 material being derived from unstratified contexts and Bateman's backfill. The distribution of broken pieces does not appear to be age-related but it is clear that half of the retouched implements are broken; furthermore it is notable that only one distal fragment was recovered. This example was a flake from the Barrow 1 mound (context 1052, sample 5087.3).

None of the debitage possesses macroscopic traces of edge use-wear. In contrast, seven of the ten retouched pieces appear to have been used. These comprise all three scrapers, both of the microliths, the edge-retouched blade and the retouched point. Traces of burning are evident on eight pieces (samples 5076, 5090.2, 5134.2; small finds 72055, 72097, 72536, 72581, 72583). All burnt pieces are debitage (flakes, chunks and chippings) and the degree of burning is variable. Three burnt pieces come from Barrow 2 (two unstratified, one subsoil) and three from Barrow 1. The burnt material from Barrow 1 comes from the area of cist 1055. Traces of patina are present on 55 pieces: 39 are from the Barrow 1 area while Barrow 2 produced 13 examples. Three patinated pieces came from other areas.

In most instances the patination is dense and light grey to white in colour. The trait does not appear to have any spatial or temporal relationships. Contexts associated with burials contain a mixture of both patinated and unpatinated material.

2.4.3 Raw Material

Raw material appears to have been scarce since both flint and chert has been utilised. Twenty-two pieces of chert have been struck. The chert is coarse grained and tends to be olive black (Munsell 5Y 2/1) in colour. Chert occurs locally in the Carboniferous Limestone. The chert appears to be evenly distributed throughout all contexts and occurs in both barrows. The chert has not been employed in the production of retouched implements and no period-specific utilisation can be discerned. However there is a slight tendency for chert to occur in Barrow 1, phase 2 and Barrow 2, phase 4.

Of the 78 pieces of struck flint, 61 are of a medium-grained olive grey (Munsell 5Y 4/1) coloured raw material characteristic of that obtainable from till deposits in the

Yorkshire and Lincolnshire Wolds. The remaining 17 pieces are of a markedly coarser granularity. This material appears to be slightly more prevalent in Early Bronze Age phases.

2.4.4 Lithic Reduction Technology

With the exception of an unclassifiable, possible core fragment (sample 5072.2, context 1050) from the Barrow 1 fissure (area 12), no other cores or core rejuvenation flakes were recovered. The quality of knapping is generally low, with only ten of the pieces exhibiting traces of platform preparation. The majority of the flint and chert has been knapped via the application of hard hammers. Over half of the struck material comes from tertiary stages of lithic reduction.

Barrow 1 produced ten tertiary pieces and Barrow 2 produced 42. The distribution of tertiary debitage appears to slightly favour Neolithic and Beaker contexts, i.e. subsoils and burials. It is notable that Barrow 1 subsoil (context 1053, sample 5145) produced two tertiary spalls that refit. This demonstrates that a limited degree of knapping/tool trimming had taken place prior to the construction of the Barrow. The debitage has a tendency to be small and squat, most pieces having an average length of *c* 11-16 mm. The average breadth has a bi-modal distribution with pieces falling into either the 11-12 mm or 16-18 mm range.

2.4.4.1 The Scrapers

The scraper assemblage comprises one side and two side and end (one broken) varieties. All three examples have been manufactured on flakes and come from Barrow 1. Two come from the mound and one from the cist. The examples exhibit a dense white to grey patina and would appear to have been used. The flaking is fine, convex and scalar, with primary flake edge angles of 55°, 60° and 65°. It is uncertain what substance the scrapers were used on, although skins and plant fibres are the most probable.

2.4.4.2 The Arrowheads

Two arrowheads were recovered, one leaf type and one barbed-and-tanged. Both examples are poor and have been manufactured on a markedly coarse grained chalcedonic flint, that can almost be classed as chert. The arrowheads come from the tumble (context 1097) of the Barrow 1 enclosure wall. They are both damaged and are clearly residual.

The leaf arrowhead (small find 72835) is a very poor basal fragment with minimal flaking. The barbed-and-tanged example (small find 72827) is technically only a tanged variety since it does not possess barbs. The latter is notable for possessing four minute, crude serrations down its lateral margins. The tang has been broken but the tip is intact; it cannot be determined whether the projectile has been fired. The type is not listed as a notable form in Green's (1980) corpus. Serrated pieces are rare: although some Scottish barbed-and-tanged arrowheads have serrated edges, in most instances the serration of the Scottish examples is far finer than on the Longstone piece. One of the closest parallels is a specimen in the collections of the National Museum of Scotland at Edinburgh from Urquhart near Elgin (Evans 1897, 387, fig

325) in Moray. Notably, this piece was manufactured on chalcedonic flint and was found with un-serrated examples. The Longstone tanged arrowhead (small find 72827) has been manufactured on a type of flint consistent with material found in the Yorkshire and Lincolnshire Wolds though the precise source is not certain. Similar edge serrations are present on other local prehistoric implements: the Bateman collection contains a serrated edge dagger *c* 11 cm long and manufactured on white flint (Howarth 1899, 39: J.93-154 [I.211]). The piece came from Nether Low, Chelmorton in Derbyshire.

2.4.4.3 The Microliths

Barrow 1 contained two microliths: a small flake edge-blunted point (sample 5103) and an obliquely blunted point (small find 72734) made on a bladelet and possessing ancillary retouch. These came respectively from the disturbed fill around skeleton 75501 and subsoil. Both have been manufactured on till flint.

2.4.5 Chronology

Despite the small size of the assemblage, it does appear to contain a broad variety of chronologically discrete items. Based primarily on the Barrow 1 assemblage, the lithic component includes pieces from at least four separate archaeological phases. These phases are:

1) Middle to Later Mesolithic
2) Early to Middle Neolithic
3) Beaker (Later Neolithic / Early Bronze Age)
4) Early Bronze Age

The most chronologically diagnostic pieces in the assemblage are the microliths and arrowheads. The microliths are of typological forms that fall within the broad blade/narrow blade division and as such they probably date from the middle of the Mesolithic. The leaf arrowhead fragment (small find 72835) is indicative of an Early to Middle Neolithic date. Such pieces are frequently found in assemblages associated with Peterborough ware. The tanged arrowhead (small find 72827) is typically a Beaker form. Small scraper assemblages cannot be dated with any great degree of accuracy, although on stylistic and metrical grounds the Longstone examples are similar to ones most frequently found in Early Bronze Age and Beaker assemblages. The same date would encompass the remaining retouched component. The small size and lack of clear preparation and flake scars on the debitage is suggestive of an Early Bronze Age date, although one or two of the flakes and blades appear to be Neolithic. The inclusion of chert in the assemblage may be significant: Hart (1984, 35) has demonstrated that local chert appears to have been exploited to a lesser degree in the Neolithic than in the later Mesolithic and Early Bronze Age.

In all instances the Mesolithic material can be considered residual when incorporated into the Barrows. It is probable that the majority of the assemblage is Beaker and Early Bronze Age. A discrete Middle to Late Neolithic pre-barrow phase may be present in the sub-soil with a minor residual mid-Mesolithic background scatter. The presence of possible later Neolithic flintworking in Barrow 1 sub-soil deposits gives a pre-cairn *terminus ante quem* of later Neolithic.

2.4.6 Discussion

The mix of material is a fairly close match to the assemblage from the nearby barrow at Wigber Low (Phillips in Collis 1983, 61-66). The shortage of distal flake and blade fragments indicates that although flint knapping was being conducted in pre-barrow phases, the degree of knapping was limited. The most significant elements of the lithic assemblage are the arrowheads and microliths. The Longstone tanged arrowhead (small find 72827) has been manufactured on a flint that can be found in the Yorkshire and Lincolnshire Wolds but the source of the raw material is not certain and the possibility of a long distance import cannot be ruled out. However, one would normally expect imported pieces to be of a higher quality. It should be noted that projectile points are often found in their area of usage. The leaf type (small find 72835) may have been lost prior to the Barrows' construction and the tanged example may have been lost during the construction of Barrow 1.

The small size of the Barrow 2 assemblage and the lack of retouched implements may be related to the prior removal of flints by Bateman. Bateman's backfill contained 4 pieces of debitage, so it must be considered probable that Bateman left debitage but retained retouched tools. This may require further analysis of the Bateman Collection and Archive in Sheffield City Museum.

2.5 Stone (inf. D. Peacock)

A number of pieces of 'foreign' stone were recovered during the excavations; 35 of these are unworked, while nine appear to be worked. The majority of the former are stones from the Millstone Grit, including fragments from the cist graves in Barrows 1 (1059, 75502, 75503) and 2 (2063), and a burnt piece from mound deposit 1086. There is also one stone that may be lava (?Roman feature 1090) and another possibly chert (mound context 1087).

The worked pieces in contrast are typically Coal Measure sandstones, presumably selected for rubbers, etc. because they are smoother than the gritstone. These derive largely from the mound of Barrow 1 (1011, 1052, 1055, 1086) or topsoil deposits (1001, 1051 - a modern handstone).

Gritstone outcrops occur in the vicinity of Longstone Edge, both on the eastern moors across the Derwent and on Eyam Moor some 5 km to the north. The coal measures lie further east beyond the gritstone uplands.

2.6 Beads (conservation assessment)
by Glynis Edwards

The jet/shale bead has a light coating of soil which could be removed. There are some cracks although the splitting is not severe at the moment. It could be X-radiographed and analysed using XRF to see if the material can be confirmed. The other beads all appear to be amber - the large one (9572883) is breaking up in a characteristic fashion. There is little that can be done to prevent this and consolidants may upset any future analytical work. It should be recorded immediately and then handled as little as possible. The smaller beads, four all together, have the appearance of amber

but closer examination should be made to confirm this. Again no interventive methods are recommended.

[Note - the amber beads were subsequently drawn by Judith Dobie]

2.7 **Metalwork** (no formal assessment)

The assemblage is almost entirely modern, including 40 spent rifle cartridges (the live ones were apparently handed in to Bakewell police). No further work is required on these and it is recommended that all the modern and unstratified finds are disposed of (or in the case of the pound coin, spent).

2.8 **Human Bone**
by Simon Mays

2.8.1 Introduction

Human bone was received from a total of 38 contexts, of which four were articulated skeletons (or parts thereof) and one was a cremation. The remaining 33 contexts consisted of deposits of fragments of disarticulated inhumed and/or cremated bone. Of these 33, 11 can be considered primary contexts (1053, 1056, 1057, 1059, 1060, 1082, 2008, 2058, 2059, 3042 and 3045). The remainder represent disturbed material, either mixed with Roman or later material (1050, 1051, 1052, 1080, 2001, 2002, 2057, 2060, 2063?, 2065-7?, 3032 and 3041) or scattered within Bronze Age mound contexts (1019, 1055, 1055/6, 1058, 1081, 1081/2, 1098, 2003, 2004, 3040). Although the majority of human bone-bearing contexts were classified as disturbed, the amount of bone in them was fairly small. By far the majority of the human remains came from the contexts thought to represent undisturbed material.

It was decided that the redeposited material was not worthy of detailed study. The material from the primary contexts, and the further work which is recommended for it, is described below.

2.8.2 Discrete Inhumation Burials

Number	*Location*	*Date*	*Completeness*	*Bone preservation*
75501	Barrow 1	Beaker period	1/3 complete	Good
75502	Barrow 1	Beaker period	3/4	Good
75503	Barrow 1	Beaker period	1/3	Good
75505	Barrow 1	?Roman	<1/4	Moderate

The three skeletons 75501, 75502 and 75503 come from the main rock-cut ?Beaker grave. Burial 75505 was possibly inserted into the barrow during the Roman period.

The remains from the cremation burial, 75504, which was deposited in a Food Vessel beneath the mound of Barrow 1, weigh about 2350 g. Many fragments are more than 5 cm long.

2.8.3 Other Bone Deposits

Neolithic contexts 1053, 1056, 1057, and 1082 from Barrow 1 correspond to the area identified on excavation as a putative excarnation platform. The total weight of human bone from these contexts is approximately 0.3 kg. Except for a few fragments, the bone is unburnt. Although teeth, and hand and foot bones are present intact, all other bone from these contexts is highly fragmented; the great majority of fragmentation occurred in antiquity.

It is unclear at this stage whether the state of the bone supports the interpretation that it represents residues of excarnation. The presence of intact teeth and trabecular bone, together with the relatively unweathered nature of most fragments indicates that if this was an exposure platform, the skeletal material did not lie long exposed to the elements. The presence of a few fragments of cremated bone suggests that this area may have been used for deposition of cremated remains as well as for exposure of bodies.

Context 3042 was a discrete burial deposit within the mound of Barrow 1, the date of which is uncertain. There are 30g of bone fragments, all but one unburnt, deriving from various parts of an adult skeleton.

Context 3045, the upper fill of a rock-cut grave, produced one fragment of unburnt human bone.

Contexts 2008, 2058 and 2059, sealed beneath Barrow 2, produced *c* 50g of bone fragments from a child, which may be one individual.

2.8.4 Further Work

The cist burials and the ?Roman inhumation will be recorded as per Mays (1993). Disturbance of the former due to the proximity of the quarry to the grave in which they were interred has resulted in some mixing of bones; attempts will be made to re-unite mixed elements with their rightful owners prior to analysis and recording. The Bronze Age cremation will be recorded according to the protocol of Mays (1993); the nature of the remains suggests determination of age and sex will be possible.

Since numbers are small, the main purpose of studying the inhumations is to add to the corpus of osteological data on earlier human groups from this region. Data on burials from other sites (Barnatt 1996a) will be used to place the present results in context. Study of the cremation will shed light on burial practices and pyre conditions.

The following work will be conducted on the remains from the putative excarnation platform. The bone fragments will be identified. Minimum numbers of individuals present will be estimated, and age and sex of the individuals represented will be ascertained in so far as this is feasible given the highly fragmented nature of the material. Non-metric variants will be recorded. It is unlikely that useful measurement data will be gleaned from the bone. Pathological changes will be recorded. Identification of age, sex, non-metric traits, and pathologies will follow Mays (1993).

Comparisons will be drawn with other published sites. In particular, patterns of representation of skeletal elements and the demographic composition of the sample will be compared with that reported from Neolithic long-barrows. This may help to shed light on Neolithic mortuary practices. For example some Neolithic barrows appear to lack the smaller bones of the hands and feet (Mays 1998, 26-32), so these may be over-represented at Longstone if indeed this a place where bodies were exposed prior to the collection of the bones for final disposal elsewhere. However, the relatively small amount of material from this deposit may make it difficult to arrive at firm conclusions. Bone will be closely inspected for signs of animal gnawing (which might be expected in remains left in the open to rot) or of cut-marks which might indicate defleshing. Infants and juveniles may arguably be under-represented in long-barrow assemblages; it will be interesting to determine if the converse applies here.

2.9 Small Animal Remains

by Peter Andrews

2.9.1 Introduction

An assessment is made here to determine the potential of the hand-collected and sieved/floated microvertebrate assemblages from the Neolithic and Early Bronze Age deposits at Longstone Edge. Some levels have great abundance of microvertebrates, and if their mode of accumulation can be identified they could provide information as to the nature of the deposits and the environment existing during the Neolithic. The microfauna may further provide important clues about the taphonomic history of the barrows, including access to and exposure of the structures in different periods.

2.9.2 Summary of Results

Preliminary assessment is that there are significant differences in preservation of the small mammal bone between the two barrows. The bones from Barrow 2 have higher degrees of digestion than the bones of Barrow 1 and must have been accumulated by a different predator. This may indicate differences in human occupation of the two sites, for example, if the different predators have different tolerances of human disturbance. There are also differences within Barrow 1 between the grave fill deposits and the mound deposits, and again this indicates different processes of accumulation. For example, the lack of alteration of the grave fill bones could indicate occupation of the grave fill by microfauna (easy to burrow into the disturbed fill deposits) or perhaps human agency in the accumulation. There is also a difference between the two grave fill deposits, the empty grave apparently with higher degrees of alteration of the bones of the microfauna and similar to the bones from the fissure deposits.

At this stage I cannot say how significant these differences are, nor the processes leading to them, but it is possible to make several suggestions. No evidence of accumulation by mammalian carnivores was seen; the most likely accumulators of microfauna, indicated by the damage to the bones, are barn owl and/or short-eared owl; and the bones accumulated over time, for there is some variation in degrees of weathering.

2.9.3 Material

There are two sources of material. The first consists of the sorted bones (>4 mm fraction), which include mandibles and isolated teeth of the Northern water vole (*Arvicola terrestris*) and rodent postcranial bones of comparable size. Bones of large amphibians (probably toad) are common, and there are small numbers also of a smaller species of amphibian. There are also the remains of smaller rodents, including species of murine and microtine, in the richer samples. The second source of material is the screening residues themselves, and an assessment is made of the number of samples that should be further sorted and analysed.

The material is described in Tables 1 and 2 (Appendix 3). Table 1 lists the samples with microvertebrates, with a simple taxonomic breakdown. Presence/absence of digestion is indicated for most of the samples (column 6) as this relates to the mode of accumulation of the remains. On the right of the table are three columns which show, from left to right, the sample size on a scale of 1 to 4, the number of days needed to analyse an adequate subsample for taphonomic purposes (though not all will be fully analysed), and on the far right the average screening score, also on a scale of 1 to 4, with 1 indicating rich screening residues and 4 indicating absence of bone in the residues.

The screening scores are shown in detail in Table 2, with the scores shown opposite each sample as divided between the boxes of residues. Thus for sample 5118 shown at the top of the table, there are screening residues from the 2-4 mm sieves in Box 76 and from the 1-2 mm sieves in Box 66. Both sets of residues score 4 in the screening assessment, in other words having no bone. The averages of these scores are shown in the far right column of Table 1.

2.9.4 Methods

The methodology should follow that of Andrews (1990). Element counts of major cranial (skulls, mandibles, teeth) and postcranial (femur, tibia, humerus, ulna) elements should be made in the first instance. Breakage of postcrania and tooth loss from the jaws should be assessed. The degree and extent of digestion of the teeth and at least one major postcranial element should be made, including at least the molars, incisors and the femur. Finally, an assessment should be made of the post-depositional damage to the bones, including particularly surface and/or subsurface weathering, staining, and root marks. Most of the work can be done with binocular light microscope, but some microphotography is anticipated, using low vacuum scanning electron microscope, in order to define precisely the different levels of modification to the bones. Comparative data for all features can be found in Andrews (1990).

2.9.5 Analysis of Sorted Bones

Three small samples are available from the possible excarnation deposit below Barrow 1, contexts 1053, 1056 and 1057.

The cist burial contexts in Barrow 1 (1059, 1060 and 75502-3) are rich and preliminary analysis suggests that the bones are little modified. In many ways this makes the analysis more difficult and time-consuming.

Some of the mound deposits are also rich, particularly contexts 1052, 1055 and 1081. Finally there are several minor contexts of interest: the cremation fill (context 3030), the subsoil below the mound (1106) and the stone mound (1095).

There is little worth sorting from Barrow 2. Context 2058 has several samples and subsamples from the subsoil with bone (although nothing in the screening residues), and the bone is more heavily digested than that from Barrow 1, suggesting a different process of accumulation.

At this stage of preliminary analysis, there appears to be little difference in the taxonomic composition of the different samples. It is not likely that taxonomic analysis will provide much evidence of site differentiation. All species show evidence of digestion, and it is likely that further analysis will identify the predator, which in turn will provide evidence of site activity. For example, the ecological preferences of the predator can be used to indicate the amount of human activity at the site, for some predators are more tolerant of disturbance by people than others. In addition, possible indications of nesting as opposed to roosting behaviour and/or seasonal occupation of the site (for both, different degrees of digestion may occur for most predators) may indicate other aspects of the local environment. There is some indication that the predator is selectively targeting immature individuals of *Arvicola* and adults of *Microtus*, for the majority of *Arvicola* bones are relatively small and many have unfused epiphyses, whereas the *Microtus* are all similar in size with fused epiphyses. In Fig. 1, for example, 17 of the sample of 25 *Arvicola* femora from the grave fill in Barrow 1 (context 1059) are 22 mm or less, including the 7 specimens with unfused femoral heads.

Numbers of elements are shown in Table 3 and preliminary analyses of the numbers, breakage and digestion of crania and postcrania in Table 4. Timing of these analyses has formed the basis for the time estimates given in Table 1.

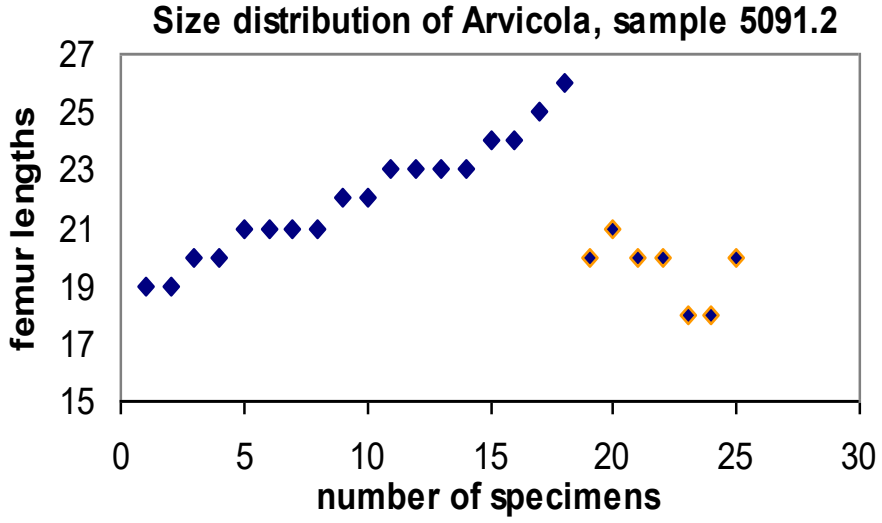

Figure 1: The size distribution of Arvicola based on maximum femur lengths (N = 25). The coloured dots on the right of the figure are specimens with the epiphyses of the head unfused.

2.9.6 Screening Residues

The great majority of the residues from all samples are not rich enough to justify further sorting. It is important to check a reasonable sample, however, for the samples already sorted include only the larger bones, and smaller species are almost certainly under-represented. These should be present in the finer screen residues. Samples with screening scores of 1 do not require sorting, for they are essentially all bone. They are listed as follows (key contexts in bold):

Sample 5111, context 1055
Samples 5090, 5095, 5096, context 1058
Sample 5093, **context 1059**
Samples 5106, 5107, 5108, 5110, 5183, **context 75502-3**

The samples requiring sorting are those with scores of 2:

Samples 5075, 5092, context 1055
Sample 5080, **context 1056**
Samples 5103, 5117, 5135, **context 1057**
Samples 5091, **context 1059**
Sample 5094, **context 1060**
Sample 5116, context 1081

None of the samples from Barrow 2 are rich enough to justify sorting except for two with a score of 3 or 3/2 from contexts 2065 (5084) and 2063 (5079), but both of these are potentially disturbed or recent grave fill. The mound contexts have no bone at all, and the key contexts at the base of the mound also have no bone, except for context 2008 which has a little.

2.10 Hand-collected Animal Bones

by Polydora Baker

In addition to the microvertebrate remains (2.9), a small quantity of animal bones was recovered by hand excavation. It is evident from the assemblage size and poor preservation of most of these that they hold little potential for informing on local economy or environment, apart from providing a species list. The assessment was undertaken in order to determine the potential of the remains to inform on depositional history - presence of possible predators and prey - and activities associated with the monument. With regard to the latter, deposits of single and articulated animal bones were noted during the excavations (P. Reeves, Site Diary) and thought to represent possible offerings: human and animal bones had apparently been placed on the cleared rock surface below Barrow 2 (2059) while a ‘leg of pork’ was noted alongside one of the skeletons in the cist beneath Barrow 1.

2.10.1 Methods

Given the small assemblage size, all of the bones were scanned and recorded in detail where identifiable to taxon. For mammals, the following bones and bone parts were recorded: all identifiable main limb bones where over half of the medial or lateral side of the distal or proximal articular or epiphysial surface was present; the innominate and scapula where at least half of the acetabulum and glenoid respectively were present. All carpals and tarsals, astragalus and calcaneum were recorded regardless of

fragmentation (all were over half complete). All phalanges were recorded where at least half of the proximal or distal articulation was present. The upper and lower teeth (where more than half of the crown was present) and occipital condyle were recorded. For birds, all long bones were recorded and the presence of the bony part of the beaks was recorded also, but these were not identified to taxon. Measurements were recorded following von den Driesch (1976) and Payne and Bull (1988). Tooth wear in cattle and pigs was recorded following Grant (1982) and that of sheep/goat follows Payne (1987). Sheep and goat bones and teeth were distinguished where possible, following Boessneck (1969), Payne (1985) and Prummel and Frisch (1976). The few secure identifications of postcranial elements are of sheep, but one deciduous fourth premolar may be from goat.

2.10.2 Results

The remains are poorly preserved, with most consisting of highly weathered unidentified fragments; only a small quantity are identifiable to taxon or element. A total of 278 bones were recorded, 264 from Barrow 1 and only 14 from Barrow 2. The latter are listed in Table 5 (Appendix 3) but do not merit further discussion, except for one foetal bone from context 2008 (see below).

The Barrow 1 assemblage includes 241 specimens identified to order, family, genus or species, eight identified to mammal size (MM2 or hare-fox size), four amphibian bones and thirteen bones of foetal animals, including one from a canid (Table 5). Further work is required to identify these latter to taxon, where possible. Small mammal remains were quantified but not identified to taxon. However, almost all appear to be from the water vole, *Arvicola terrestris*. The sieved remains of small mammals provide a more secure indication of species and element distributions in the deposits (2.9).

2.10.2.1 Taxonomic distribution

The taxonomic distribution is listed by area and phase in Table 5 and the number of ageable and measurable bones and teeth are provided in Tables 6 and 7. Highly disturbed or contaminated deposits and contexts are distinguished (e.g. barrow mound contexts with Roman material; fissure 1050) from the more secure ones.

Cattle, sheep/goat and pig dominate the assemblage. Dog bones and teeth are common also and are primarily from medium-large size dogs, with at least one approximating the size of a greyhound. Less common taxa include equid, fox, cervid, hare and amphibia. The few bird bones include probable Galliformes, Columbidae (pigeon), small corvid and a passerine size bird.

2.10.2.2 Element distribution

No clear deposition of animal skeletons or part carcasses was identified within the assemblage. In context 1053 (subsoil associated with the ‘excarnation deposit’), three bones of a juvenile caprine (scapula, radius, humerus) show a similar stage of ossification and may be associated. A number of foetal bones recovered from the barrow mound (context 1055) may be associated also, but further work is required to determine taxon (see below).

2.10.2.3 Age

Only a few bones and teeth provide fusion or tooth wear data, but the state of ossification of many other specimens suggests that they are from juvenile animals. In fact, the proportion of bones from juvenile-subadult animals seems high, but it is not known whether this is a feature of barrow activity, with the deposition of whole or part carcasses of young animals within the monument, or representative of local husbandry and economy. Bones of juvenile-subadult cattle, sheep/goat and pig were noted in most deposits. Foetal bones are present in the Barrow 1 cist (75502/03) and mound (1055 and 1052), as well as in Barrow 2 (2008) (Tables 5-6). Some or all of the foetal specimens from the barrow mound (Barrow 1) may be from canids, dog or fox, and if so may indicate denning.

2.10.2.4 Measurements

Very few measurements were recorded for the main domestic animals (cattle, sheep/goat, pig). These will provide limited information about Bronze Age livestock. A number of dog bones and teeth provide measurements and indicate the presence of at least two different sized dogs.

2.10.2.5 Worked bone

Two fragments of worked bone were recovered from the following contexts:

- 1055 (72452) - fragment of cortical bone from large mammal worked into a point;
- 75502 (72545) - fragment of polished bone (or antler?), possibly part of a pin.

2.10.3 Recommendations

The assemblage of hand-collected bones is very small and provides little information about local diet, economy or husbandry, other than to indicate the livestock raised in the area. Little further work is required to complete the archive.

The presence of very juvenile-subadult animals is of interest and comparison, albeit based on few data, with assemblages from other Bronze Age sites, including settlements and monuments, may indicate if this pattern is particular to this site or represented in the wider Bronze Age economy. The recovery of bones from foetal animals is of particular interest. The bones of foetal livestock may indicate local stockraising. However, some if not all of the foetal bones from the barrow mound may be from canids and as such may indicate denning within or near to the monument. These will be identified to taxon where possible, using foetal fox, pig and sheep reference material, and published guides (Prummel 1987; Amorosi 1989). The presence of adult dogs and foxes may indicate burial of domestic animals or denning within the barrow mound also, and should be considered further. This information would add to that provided by the microvertebrates about the taphonomic history of the site.

The bird bone identifications will be finalised and an appendix of measurements from all taxa will be provided as part of the final archive.

2.11 Charred Plant Remains
by Wendy Smith

2.11.1 Introduction

In total, 110 samples and/or sub-samples have been assessed for charred plant remains from Longstone Edge, covering all main phases of Barrow 1 and Barrow 2. All of the samples were collected at the excavators' discretion. Sample volumes ranged from 2.5 to 100 L, but typically were around 10 L. A CAS environmental officer processed the bulk soil samples using water flotation. Flots (the material which floats) were washed over a 500 μ mesh sieve and the heavy residues (the material which does not float) over a 1 mm mesh sieve; both were air-dried. The majority of heavy residues were sorted for charred plant remains and other artefacts by the CAS environmental officer. There are several heavy residues that have not been sorted, but since they were clearly rich in animal bone these were given to the EH archaeozoological specialist for assessment. This report only covers those heavy residues that were sorted by the CAS environmental officer.

This assessment is primarily designed to determine if charred plant remains are present and of interpretable value. In addition, the assessment aims to determine the potential for the charred plant remains to provide information about:

- the ritual use of plants at the barrow;
- agricultural practices in the period;
- the wider environment of the site.

Preliminary phasing was available for this assessment and has been used to identify those samples that have modern and/or Roman disturbance and, therefore, are not considered secure for analysis. However, at the time of the assessment site plans were not available and, therefore, it was not possible to explore any spatial patterning in the data.

2.11.2 Laboratory Method

The author assessed the flots with a low-power binocular microscope at magnifications between x12 and x25. Flots were rapidly scanned and, as a result, smaller seeds may have been overlooked. Although the English Heritage archaeobotanical comparative collection was consulted during the assessment, the identifications presented here are all provisional.

In almost all cases the flots contained modern root, worm cases and insects, which suggests that these deposits may have been quite near to the surface and were heavily bioturbated. It seems likely, therefore, that any ancient charred plant remains within these deposits were subjected to freezing and thawing action, as well as wetting and drying. All of the flots contained large quantities of soil nodules (>500 μ in diameter), which clearly did not break down during normal flotation. As a result, some of the flots were extremely large (1 L or greater). In order to reduce the volume of material to be assessed, large flots were sieved to 2 mm, and only the >2 mm fraction was assessed for charred plant remains.

All of the flots from Longstone Edge were fairly 'dirty', containing large quantities of soil nodules. This meant that scanning the flots for the assessment was fairly time-consuming and that the visibility of charred plant remains was most likely reduced. One flot (sample 5062.1) that contained large quantities of soil nodules was re-processed, in order to determine if simply pre-soaking in hot water for a few hours could break down the nodules. Although this required some manipulation of the resulting flot during sieving, the pre-soaking method did result in a much cleaner flot, which clearly will reduce the amount of time needed to sort the material and increase the visibility of any ancient charred plant remains. For example, in the un-treated flot only one hazel nutshell was observed during sorting, whereas in the re-washed flot six fragments of hazelnut were observed and recovered.

2.11.3 Results

The assessment results for charred plant remains from the flots are presented in Table 1 (Appendix 4), which also includes a semi-quantitative record of any other environmental remains (bones, molluscs or charcoal) observed during the assessment of these flots. Tables 2 and 3, respectively, present the identifications of material sorted from the heavy residues and handpicked on site. Table 4 summarises the quantity and potential for identification and for conventional dating of charcoal sorted from heavy residues (see 2.12). Nomenclature for charred plant remains follows Stace (1997).

In total, 42 of the 110 flots examined produced charred plant remains. Ten of these samples were from layers either of Roman/recent origin or contaminated by material of Roman/recent date and, therefore, are not recommended for further analysis. The charred plant assemblages recovered from the 32 flots recommended for full analysis were all assessed as poor, with no more than 25 identifiable plant remains present in the richest assemblages. The corresponding heavy residue also produced poor results for charred plant remains. In general, unidentified roots/tubers, hazel (*Corylus avellana* L.) nutshell and hawthorn (*Crataegus* sp.) seeds were most frequently observed in sample flots and/or heavy residues. Charred cereal grain and/or culm bases were not observed in any of these samples. The assessment also established that many of the flots contained animal bone (most likely rodent) and, therefore, would need to be fully assessed for faunal remains, in addition to the heavy residues.

Samples have been recovered from all prehistoric phases of the Barrow and it may therefore be possible to examine changes in the plants used at Longstone Edge over time.

Although charcoal was recovered in nearly all of the flots, in general the quantity was quite low and unlikely to support conventional radiocarbon dating. Most of the material was quite small-sized, but should still be identifiable. It is recommended that identification of charcoal present in the archaeobotanical heavy residues and flots should be restricted to key archaeological contexts, such as the cremations, where charcoal evidence can help to determine how wood was used at this ritual site (see 2.12).

2.11.4 Statement of Potential

Only one other site of this period had been studied in Derbyshire (Hunt in Collis 1996, 158-60). Although the assemblage recovered here is small and has limited interpretable value, the currently limited archaeobotanical results from Bronze Age sites in Derbyshire means that full analysis of those samples producing plant remains will form a base-line archaeobotanical data-set for the Bronze Age in this region.

Charred root and/or tuber remains, culm bases of wild grass and wild foodstuffs and/or plants dominate the archaeobotanical assemblage from Longstone Edge. This limited assemblage is similar to results from Bronze Age assemblages from other ritual sites, such as Hognaston, Derbyshire (Hunt, *ibid*.), Radley Barrow Hills, Oxfordshire (Moffett 1988) or Holme Pierrepont, Nottinghamshire (Moffett 1990). These may reflect fuelstuffs intentionally collected for the Bronze Age cremations, or plant material that has accidentally charred due to close proximity to funerary pyres. Full analysis of the limited assemblage from Longstone may potentially add to our understanding of the landscape and/or ritual activities of these sites.

The 32 flots which produced charred plant remains from securely prehistoric contents are all recommended for further analysis. This assemblage will not provide information on agricultural activities in the period, but does have potential to address the ritual use of plants at the barrows (possibly over time) and might provide information about the wider environment around the site.

I propose that full analysis of the Longstone Edge material includes both a test of the assessment methods used and a full analysis of those flots and heavy residues that have produced charred plant remains. In order to determine if the assessment of the >2 mm fraction was appropriate, it is recommended that 10 samples that do not contain charred plant remains in the >2 mm fraction are re-washed and fully sorted. This should establish if the use of a 2 mm sieve size was sufficient to allow for the effective identification of samples with charred plant remains from this site. It is recommended that the 10 test samples should be selected at the excavators discretion, perhaps from contexts which are considered archaeologically important due to their location within the barrows or due to recovery of other artefacts from a particular context.

All 32 flots that produced charred plant remains and were from securely ancient contexts should be re-washed (where appropriate). I recommend that all of the plant remains recovered in the heavy residues and the 32 flots are fully identified. I also recommend that those roots/tubers, which cannot be identified to species, genera or even family level, should be described and documented with Scanning Electron Micrographs, in order to aid future identification. Such an approach to poorly preserved and/or un-diagnostic roots/tubers is already well-established practice (e.g. Murphy 1989).

2.12 Charcoal

by Gill Campbell

2.12.1 Introduction

Following on from the assessment of the charred plant remains from this site, it was decided to assess 13 contexts for charcoal. This was based on the amount of charcoal observed during the assessment of charred plant remains and on the identification of contexts by the excavator which were of archaeological interest, and where there was no evidence of contamination. The aim of this assessment was to see if the charcoal assemblages could provide evidence for:

- Changes in the type of woods used over time which might reflect changes in local vegetation
- The types of wood used in funerary rites
- The types of wood burnt as part of the activities taking place prior to the construction of the barrows.

The following contexts were chosen for assessment: contexts 1053 and 1057 from the possible excarnation platform underlying Barrow 1 (phase 1), context 1059 and samples from skeletons 75502/03 from the cist (phase 2), context 3045 from a possible grave (phase 2) associated with Barrow 1, context 1019 from the first phase of the Barrow 1 mound (phase 3), the fill of a cremation, context 3030, associated with Barrow 1 (phase 4), and context 1058, the second phase of the Barrow 1 mound (phase 4). In addition to these contexts, charcoal assemblages from 5 contexts (2008, 2009, 2078, 2078 and 2058) associated with activity prior to the construction of Barrow 2 (phase ?4) were also assessed.

2.12.2 Methods

One sample from each of the selected contexts was chosen for assessment. The samples assessed, as well as the numbers of samples available from each context are given in Table 5 (Appendix 4). Samples chosen for assessment were sieved through 4 mm and 2 mm sieves, and each fraction sorted for charcoal. Fragments of charcoal greater than 2 mm across in all directions were sorted into rough taxonomic groups using a binocular dissecting microscope at magnifications up to x40. A few fragments from each of these groups, or where numbers were small, all fragments >2 mm across in all directions were then identified using a transmitted light microscope at magnifications up to x400. In addition to the identification of a small number of fragments from each sample, notes were made on the general condition of the charcoal fragments. The results of this work are given in Table 5.

2.12.3 Discussion of the results

No sample produced more than 20 fragments of charcoal >2 mm in diameter and in many of the samples pieces larger than 4 mm were absent. The surfaces of the majority of fragments were covered with sediment, with the exception of the fragments of pine charcoal recovered from sample 5092.2, context 1058. These were very fresh in appearance, suggesting that they may be of recent origin.

Samples from contexts associated with the excarnation platform of Barrow 1 produced small amounts of charcoal, principally hazel, with ash and *Prunus* sp. (sloe, plume, cherry etc.) also present. Contexts associated with pre-barrow activity under Barrow 2 produced ash, Pomoideae (hawthorn, apple, *Sorbus* spp.) and hazel fragments. Many fragments showed evidence of charring at high temperature, which might suggest that they derive from cremation pyres or large bonfires.

The charcoal associated with the cist (1059, 75502/03) produced ash and Pomoideae charcoal, and a possible fragment of oak. Some small diameter roundwood was also noted. Sample 5162 from context 3045 produced only very small fragments of charcoal, which may be derived from elsewhere. No further work is justified on this possible grave. The sample from the cremation (context 3030) appeared to contain only ash charcoal, though the fragments were small and rather friable. A single twig that had been burnt at high temperatures was also present.

The samples from both phases of the Barrow 1 mound produced heather type (from low-power scan) charcoal. This may be of recent origin, but did not have the fresh appearance of the pine charcoal recovered from context 1058. The mixed nature of the assemblage from 1058 and the paucity of charcoal remains from 1019 means that no further work is justified on these contexts. However, it might be worth dating the heather type charcoal to determine whether a change to heathland conditions took at some stage in the Bronze Age.

2.12.4 Statement of potential

The results indicate the use of ash, hazel and *Prunus* sp., and Pomoideae type wood at the site. The presence of heather type charcoal in the Barrow 1 mound contexts may indicate a change to heathland conditions in the local area or a shortage of wood fuel. However, the heather charcoal may be of recent origin.

The apparent absence of Pomoideae type charcoal in the contexts associated with the excarnation platform, as opposed to the charcoal obtained from later contexts, may indicate a slight change in wood use/ local woodland at the site. However, it may also relate to the nature of the later activity.

The fact that the contexts associated with pre-barrow activity at Barrow 2 and the charcoal associated with the cremation-related deposit (context 3030) both produced charcoal derived from high temperature fires might suggest some relation, although this requires further investigation. The apparent dominance of ash in the cremation-related deposit is consistent with the results from other cremation-related deposits studied in Britain, which also tend to produce assemblages where one taxon is dominant. This would appear to reflect the careful choice of fuel for cremation ritual. A number of factors may be related to this choice including gender, age, status, the physical condition of the deceased, and magical or ritual considerations as well as the local availability of woodland (Campbell, forthcoming).

Although the charcoal assemblages from each sample are very small, by combining samples from the same context or related contexts sufficiently large assemblages should be obtained to allow questions concerning wood use at the site to be addressed. The study of charcoal assemblages from Longstone Edge has the potential to provide

evidence of changing wood use through time and also provide evidence for the nature of the activity underlying Barrow 2 and its relation to cremation/burial ritual. Some of this work, however, will depend on the accurate dating of the contexts involved by means of radiocarbon dating.

2.12.5 Recommendations for further work

It is recommended that the charcoal assemblages from contexts associated with the possible excarnation platform and pre-barrow activity at Barrow 2 be analysed in full, making full use of the multiple samples obtained from these contexts. Full analysis of the charcoal from the cist burial and the cremation–related deposit is also recommended. No further work is recommended on the Barrow 1-mound contexts, although the dating of heather type charcoal from these contexts may be worthwhile.

2.12.6 Methodology for analysis

Between 20-30 samples will be analysed for charcoal as outlined above. All fragments of identifiable size (i.e. 2 mm across in transverse section) recovered from the samples will be examined. Fragments will be examined initially under a low power-dissecting microscope at magnifications up to x40 in order to determine the general structure and to aid fracturing in three planes (transverse, tangential and longitudinal). Identification will take place using a high power incident light microscope at magnifications between x50 and x500. Reference will be made to the modern comparative collections held at the English Heritage Centre for Archaeology or elsewhere, and to the identification criteria published in Schweingruber (1978), and Gale and Cutler (2000). Where whole branches or stems are recovered, annual rings will be counted and the diameter measured where possible. An attempt will be made to differentiate between narrow round wood (less than 20 mm) versus larger branches and mature timber. Nomenclature will follow Stace (1997).

2.13 Molluscs

by Peter Murphy

Nineteen samples were collected and processed specifically for analysis of molluscs. In addition, shell was extracted from the flots and residues from 227 bulk samples. Hand-collected material described as ‘marine mollusc shell’ was also received for examination. The samples showed little sign of intrusive material being present, though fibrous roots were noted in some cases.

Shell preservation was extremely variable. Some contexts included abundant well-preserved shells, but in others only weathered, pitted and perforated shells and fragments of large species were noted. This is thought to reflect, in part, the duration of exposure of shells on the soil surface prior to burial (though in superficial and relatively recent contexts the leached peaty matrix and/or the effects of acid rain are probably implicated). This variability may have some potential for evaluating the duration of phases of barrow construction.

The assemblages seem remarkably homogeneous in composition, dominated consistently by *Discus rotundatus*. Evans (1972, 287, 308-310) includes samples of this type in his group of ‘limestone scree’ faunas, composed of species commonly

associated with woodland. In this situation, however, some species appear to have been inhabiting shaded, moist cavities within limestone rubble, which mimicked woodland conditions (from a snail's point of view), whilst others were rupestral, living on rubble surfaces. Open conditions and stone-strewn surfaces are apparently indicated throughout.

There are few other studies of molluscs from Derbyshire barrows (but see McMillan in Radley 1966; Gilbertson in Collis 1983). At Glebe Low a substantial shell assemblage from a secondary burial was dominated by *Discus rotundatus* and *Vitrea contracta*, closely resembling assemblages from the present site.

The preliminary identification of *Pyramidula rupestris* (yet to be verified by comparison with modern reference shells) is of some interest, for this species has apparently not been reported from post-glacial deposits in mainland Britain. It occurs in limestone districts today, living on dry, exposed rocks. Its apparent presence here is unsurprising, for Longstone Edge would provide exactly the type of habitat required by this snail, but the determination would have some importance as a biological record.

No analysis of samples from superficial deposits and 'subsoil' is proposed, since only very sparse assemblages were obtained. The taphonomy of the samples from 'mound material' and from cists is uncertain, though shells were probably derived, in part, from re-working of soils at the sites. Again, no further work is proposed on samples from these contexts. Quantitative analysis of samples from buried soils is thought to be worthwhile, however: first, to produce full species lists and to define any differences between the successive phases of the two barrows; second, and perhaps more importantly, to assess shell preservation in detail, with a view to obtaining taphonomic and perhaps chronological data. The key point to be determined first is whether variation in preservation between samples from the same buried soil is greater or less than that between samples from different buried soils. Samples to be analysed will be: 5147 (context 1107), 5148 (1108), 5155 (1103), 5156 (1104), 5158 (1105) and 5159 (1106) under Barrow 1; 5151 (1109) and 5152 (1110) under Barrow 2; 8 samples in total.

221 samples of shell extracted from bulk samples were also received for examination. These had been sorted from 2 - 4 mm and >4 mm fractions of flots and residues. Hence they included only shell fragments from large species and adult snails, and were unsuitable for analysis. However, rapid scanning of these samples was thought worthwhile, in order to see whether any assemblages markedly different from those previously seen in samples taken specifically for mollusc analysis were present at the site. In fact, these samples proved to be very consistent in composition, including an identical range of larger species to the mollusc samples. *Discus* and *Cepaea* were predominant, with *Helicigona*, *Oxychilus* and *Clausiliidae*. No further work on material from the bulk samples is proposed.

Ten samples described as 'marine mollusc shell' were examined. In all cases these were of fossil shell from the Carboniferous Limestone; the more complete and unabraded fragments were of productid brachiopods. They are assumed to be of local origin. There is a possibility that some of these fossils were intentionally placed, but further work on them is not thought necessary.

2.14 **Radiocarbon Dating** (inf. Alex Bayliss)

The complexities of the site mean that a strategy for dating can proceed only once the stratigraphic sequence has been de- and re-constructed as far as possible, the human bone analysis is complete and any cremations have been identified. The aim will be to find articulated bodies; thus we need to be able to identify bones from single individuals among the groups which are not articulated, different individuals in the 'excarnation' deposit, and which ones have gnawing or defleshing marks.

The potential of the site for radiocarbon dating remains unclear until this work is done. If the Barrow 1 sequence spans a long period then the sequence will not greatly constrain the radiocarbon measurements - in this case it may be difficult to date either the Beaker or Food Vessel phase very precisely. On the other hand, uncertainties outlined above about both the Neolithic associations of the 'excarnation' deposit and the Beaker associations of the cist deposits mean that even the most basic dating will give added security to the stratigraphic interpretations.

2.15 **Overall Statement of Potential**

The stratigraphic sequence of the site was simple, only being complicated in localised regions where the stratigraphy had been truncated by fissuring and dipping of the underlying geological strata.

The Neolithic remains (Phase 1) were unexpected and not referred to in the original Project Design. The field interpretation that this represents an excarnation platform remains open, but some caveats should be noted:

- the compressed nature of the stratigraphy and some aspects of the recording mean that the quantity of disarticulated human remains from contexts considered primary is relatively small and this may hinder interpretation. Material assigned to Phase 4 context 1055, for instance, may actually derive from the 'excarnation platform' but this cannot be proven.
- there is no clear stratigraphic evidence that the enclosure wall and the 'excarnation deposit' are contemporary. This requires further assessment through work on the site plans and finds distributions.

The rock-cut graves (Phase 2) are also difficult to interpret in detail. The interpretation devised in the field is that after the closure of the enclosure entrance (Phase 1b) three graves were cut, two of which were emptied at some point. The presence of three skeletons in the central grave, the only one containing a cist of stone slabs, may suggest that the original inhabitants of the other two graves were moved to this one. Unfortunately the site records for the two empty graves are poor or lacking so construction details and spatial relationships remain uncertain. Similarly the spatial relationship of the cist grave to the earliest (stone) mound (Phase 3) is unclear and will require careful study of the plans to determine whether the latter is more likely to relate to the cist than to the later mound. The sparse associated material suggests a Beaker association, but there were no *in situ* vessels in the cist grave, only sherds.

The events marking Phase 4 of Barrow 1 are somewhat clearer: a shallow impression was cut into the limestone surface and a Food Vessel burial placed within it; a mound was then raised over both this and the earlier grave. Less obvious is whether and how many inhumations and cremations were placed within the mound - field-based interpretations suggest there were several but the context and sample record does not fully support this.

We know that Barrow 2 was constructed in the same period because the rock-cut grave there contained two more Food Vessels, removed by Bateman. There is no evidence that any secondary burials were placed in the mound. The different construction of and attitudes to the two adjacent barrows are intriguing and enhance the significance of the site.

It is clear, therefore, that the elements of the prehistoric site deemed to be of national importance will remain unproven until further analysis is done (especially on the human bone) and radiocarbon dates obtained. It remains possible, given the level of uncertainty generated through careful study of the archive, that the significance of the site will ultimately be judged to lie primarily at a regional level.

The later phases of activity on the site are also of potential regional significance, providing new information on Roman re-use of barrows (although there are major issues of interpretation and recording, as with the supposed secondary insertions into the mound during the Bronze Age) and allowing a comparison of Bateman's trenches with the records he left (despite the uncertainty as to which barrow he had investigated, the records of what he found appear to be quite accurate).

3 UPDATED PROJECT DESIGN

3.1 Review of Original Aims & Objectives

The unexpected discovery of a different class of monument beneath Barrow 1 and the recovery of a large microfauna assemblage means new aims and objectives have been set. The 1996 Project Design is now largely redundant with regard to research aims.

3.1.1 Curatorial Aims

The principal curatorial aim was to realise the potential of the site prior to its damage or destruction. This aim was fully met by the fieldwork as the site has been fully recorded. However, the full potential of the site will only be realised once post-excavation analysis has been completed.

The project was also designed to inform on the heritage management of Peak District barrows. Although the excavation yielded a negative result regarding inter-barrow areas and whether they should be scheduled, the results of the fieldwork, combined with re-analysis of Bateman's journals, pose new questions for barrow classification within the Peak Park (see below).

3.1.2 Research Aims

Results were obtained to address all the primary research aims outlined above, although evidence for use of the inter-barrow zone proved negative. In particular a full range of artefactual and ecofactual remains was recovered and these have generated additional research aims for the Updated Project Design.

The academic importance of the site resides in a number of features. There are several previously excavated Peak District sites of similar type with similar sequences, including Glebe Low (Radley 1966), Liffs Low (Barnatt 1996b), Wigber Low (Collis 1983), Hindlow (Ashbee & Ashbee 1981) and Bee Low (Marsden 1970) - all on the limestone plateau and all bar Glebe Low previously investigated by Bateman or his proteges. Environmental evidence has also come from Hognaston (Collis 1996), which lies off the limestone. The main features of Longstone Edge (pre-barrow Neolithic activity, excarnation, cist burials, multiple phases, post-Iron Age interments and quantities of water vole remains) are all found at one or more of these sites.

What Longstone Edge adds to the Peak District archaeological record is:

- a clear context for pre-barrow Neolithic activity (depending on the results of further analysis and a dating programme);
- a proper sampling strategy for finds & environmental assemblages (in particular the opportunity to address in detail the significance of the rodent bone assemblages previously recorded at other sites);
- the potential for radiocarbon dating a Beaker-Food Vessel sequence (and the possibility of lipid analysis on the Food Vessel);
- a significant contribution to the debate on the regional character of Bronze Age barrows and the nature of regional societies (J. Barnatt, pers. comm.);

- the added research value of analysing two monuments, their differences and relationship over time (P. Beswick, pers. comm.)

3.2 Aims & Objectives of Analysis

3.2.1 Research Agendas

As one of the few Peak District barrows excavated to modern standards the site is clearly of regional importance (Myers 2001). If Neolithic excarnation can indeed be demonstrated at the site, this phase of activity may be judged of national importance. Myers' recent resource assessment for Derbyshire terms the site 'remarkable' - and notes that it has yet to be reported or published (*ibid*.). A 1980's assessment of the research potential of Derbyshire's archaeology listed themes such as 'the colonisation of marginal land in the 2nd millennium BC' and 'the social and ceremonial life of prehistoric farmers', to which the site can clearly contribute (quoted in Myers, *ibid*.). The recent regional research agenda for the East Midlands includes more general themes which cover the same issues (Clay 2001). Dating and environmental analyses will address the stated aim in the Derbyshire resource assessment of a more holistic approach to the landscape (Myers, *ibid*.). The most relevant current study of a prehistoric landscape is that at Gardom's Edge on the Eastern Moors, c 10 km to the south-east.

The English Heritage document *Exploring Our Past 1998* (EoP 98) provides the basis for a national research agenda. As a unique landscape, the archaeology of the Peak District requires better understanding in order both to assess the surviving resource and provide information useful for management of the area. 'Upland area', including the Peaks, is one of a number of thematic projects being undertaken by the Survey Team of EH. The Longstone Edge barrows, though now lost themselves, show the potential of these sites to produce coherent evidence for pre-barrow activity as well as environmental evidence and material suitable for dating. Much of this was given little attention during older excavations.

Round barrows are a well-known but in many ways poorly understood aspect of our national archaeological resource. The CfA round barrows project aims to update our knowledge of these monuments. The Project Design points out that no research framework for round barrows has been compiled since Ashbee (1960) - although a recent, selective study by Ann Woodward (2000) has highlighted a number of issues of current interest. Particularly important are the analysis of site histories and the consideration of management issues. The relatively neglected topics of activity in the environs of barrows and their long-term significance in the landscape, as evidenced by re-use in later periods, should be key elements of such a programme.

3.2.2 Aims

The main aims of the analysis and publication phase for Longstone Edge are therefore:

1) to address the specific research themes and issues outlined above by completing the recommended programme of analysis (sections 3.3.1-7);

2) to address broader themes outlined in local, regional and national research agendas by placing the site in its landscape and period context (section 3.3.8);
3) to produce a publication appropriate to the perceived importance of the site (section 3.4.1).

3.2.3 Objectives

The specific objectives can be summarised as follows:

1) date and characterise the pre-barrow activity beneath Barrow, in particular whether the use of the term 'excarnation platform' can be justified (3.3.1; 3.3.6; 3.3.7);
2) determine as far as possible the sequence of events associated with the Barrow 1 cist and assess whether it was an 'open' feature (3.3.2; 3.3.6);
3) sort out the nature, sequences and dates of mound construction and burials at Barrows 1 and 2, including whether there is evidence for Bronze Age interments within the mound of Barrow 1 (3.3.2; 3.3.5; 3.3.7);
4) clarify the nature of Roman activity at the site, in particular whether any of the human remains can be assigned to this period (3.3.3; 3.3.5);
5) reconstruct the environment of the site and its surroundings (3.3.6);
6) re-assess the excavations of Thomas Bateman (3.3.4);
7) carry out sufficient background research to place the site in context (3.3.8).

3.3 Research Themes & Methods

3.3.1 Neolithic activity (Phase 1)

Phase 1 of Barrow 1 provides a clearer understanding of the relationship of Neolithic activity to later burial sites than previously found, and in a demonstrably funerary context, although Mays' assessment of the human remains (2.8) reserves judgement on whether this is truly an excarnation platform. Neolithic material has been attested at other Peaks barrow sites but the evidence generally looks more like domestic activity. However, the prevalence of Neolithic remains of some kind under barrows (of six comparable sites looked at, only two - Glebe Low & Bee Low - lack any mention of pre-barrow Neolithic activity) may indicate that deliberate choices were made in siting barrows over remains of earlier occupation. The lithic evidence for Mesolithic activity as well (2.4) only strengthens the argument that barrow sites were significant places in the landscape with long and varied histories.

Excarnation has previously been suggested as an activity occurring at other sites: in particular, the primary flat-topped cairn at Wigber Low is interpreted as an exposure platform, though all this activity is considered to be Early Bronze Age in date (Collis 1983). Barnatt (1996a, 48) states that 'it is … likely that the "open" pre-mound phases at barrows were used for similar ritual practices'. Longstone Edge may provide evidence to support this.

If excarnation were taking place in the Neolithic then the site might be related to mortuary activities taking place at long barrows and chambered cairns. Two such monuments lie in the vicinity of Longstone Edge, a long barrow on Longstone Moor, 2 km to the north-west, for which there are no documented excavations (Barnatt

1996a, 85), and a possible chambered cairn at Wardlow, now destroyed (*ibid*., 90). The deposits within the excavated Neolithic monuments of the Peak District are also unfortunately poorly documented and understood, but there is some suggestion that disarticulated remains were interred, though complete inhumations are also found (*ibid*., 37).

Whether the enclosure wall was really a free-standing structure defining the excarnation platform requires further consideration: at other sites, e.g. Glebe Low, retaining walls are associated with the construction of the barrow mound. However, Barnatt (1999) notes that there has been little serious investigation of the possibility such kerbs were originally structurally independent. The presence of an inner face and a possible blocked entrance appear to distinguish Longstone Edge. A similar but separate issue is the lapse of time between the two mound phases (3 & 4) and whether they in fact represent a single project.

Three approaches are therefore essential for understanding the Neolithic component of the site: one is a dating programme aimed at providing determinations for both the structural elements of this phase and the 'excarnation deposit'; the second is the evidence from further analysis of the human and animal bone assemblages, as outlined above; the third is an understanding of the spatial distribution of Neolithic material within the site compared to that of later date - utilising both point-plotted finds and those deriving from accurately located samples.

3.3.2 The Burial Site (Phase 2-4)

The burials at Longstone Edge fit many of the patterns for the Limestone Plateau, as summarised by Barnatt (1999), in particular the presence of multiple interments, inhumations, rock-cut graves/cists and few or no grave goods. However, the presence of multiple individuals in a single grave is unusual, with just 14 examples recorded previously. Several questions are raised regarding the Beaker/Early Bronze Age phases of the site, not all of which may be definitively answered:

- what is the sequence of events involving the rock-cut graves?
- were the graves open or sealed?
- are there two distinct phases of mound construction?
- are there Bronze Age burials within the mound?

Dating depends not just on appropriate radiocarbon determinations but also on understanding the relationships of features and finds, e.g. how secure is the Beaker association of the cist? Does the Food Vessel burial post-date the first phase of the barrow mound? Understanding the different phases of the mound may also depend on being able to work out spatial relationships, e.g. is the Phase 3 mound really centred on the cist rather than concentric with the later barrow?

Detailed analysis of the human and small animal remains may provide information on the immediate environment of the cist and the nature of fill processes. Empty graves have been found at other Peak District barrows: at Glebe Low the main cist, although apparently undisturbed, lacked human remains and 'was possibly designed to remain empty except for the grave goods' (Radley 1966, 60). Barnatt (1999) suggests many

sites were initially 'open', including Bee Low, where there were numerous graves with no evidence of insertion through the mound.

Although a reading of Bateman's reports suggests he found similar activities, Longstone Edge may be the first site where the practice of constructing cists not covered by a mound has been evidenced through modern excavation. The absence of a covering mound seems to be reflected in both the suggested removal of human remains from two of the graves and the large numbers of small animal bones found within and around the central cist (1057-1060). The presence of these bone deposits, well documented by Bateman, has been a puzzle for archaeologists researching his notes, many of whom have regarded his descriptions as exaggerated or mistaken (Radley 1966, 67). The quantities retrieved from Barrow 1, however, are further confirmation of the reliability of his notes.

Finally, the possible interments within the mound need to be understood through associated material and absolute dating.

3.3.3 Re-Use (Phase 5)

The exact nature of Roman activity on the site is not yet fully resolved. Roman interments in prehistoric barrows are a known but uncommon practice in the region (Barnatt 1996a, 56-7). However it is not clear whether any of the human remains genuinely belong to this phase. Barnatt notes that sherds and single coins are more common finds of this period, perhaps chance losses. The glass bead, however, may be indicative of burial activity: at Harley Hill a blue melon bead was associated with a cremation (*ibid*.). The Derbyshire Ware assemblage is of limited interest in its own right but may indicate the dispersal through the mound of vessels originally deposited whole. It is possible this might be the result of post-Roman disturbance through burrowing animals, especially given the putative identification of foetal carnivore bones within the mound (2.10.2.3). On the other hand the assessment of the microfauna does not indicate mammalian predators.

Again, plotting spatial distributions of artefacts relative to the putative Roman features/interments, especially any joining sherds, may provide some clues, though absolute dating may be required to resolve the issue of skeleton 75505.

3.3.4 Bateman (Phase 6)

One side-effect of the fieldwork at Longstone Edge is the opportunity to reassess the antiquarian excavation of Thomas Bateman, and to gain new information about his approach to archaeology. Although his descriptions are not detailed, except regarding the contents of graves, his work appears to have been relatively careful and tidy (judging by the backfilling and deposition of the plaque). Nevertheless, the quantity of archaeological material in his backfill shows that he was solely concerned with finding *in situ* burials rather than recovering representative material from mound or pre-barrow contexts. Bateman was also poor in providing locational information (see quotation heading 1.5.2), hence the initial assumption that it was Barrow 1 which he had investigated. The discovery that it was in fact Barrow 2 leaves a question as to why he ignored the larger monument.

3.3.5 Pottery

The pottery assessment notes that Longstone Edge represents the first time there has been full sampling for ceramic evidence at a barrow site in the region with demonstrable long continuity of use. Precise radiocarbon dating of the Food Vessel, if possible, will be particularly important for understanding this regional tradition, which is notoriously poorly dated. Sampling of lipid residues may also be worthwhile, but since no other sherds from the site were sampled in this way, only if it fits broader analytical programmes. Romano-British pottery is also common at barrow sites but rarely associated with burial; the finds from Barrow 1 therefore add significantly to this evidence. The pottery assemblage has also raised the possibility of a Late Bronze Age/Early Iron Age presence at the site, although this is not suggested by the stratigraphic evidence as provisionally presented here.

3.3.6 Environment

The mollusc and charred plant assessments note the scarcity of palaeoenvironmental work on barrow sites; hence even the moderate assemblages from Longstone Edge are of significance. The same is true of the small hand-collected animal bone assemblage. The environmental setting is an obvious omission from Barnatt's (1996a) otherwise comprehensive review and presumably reflects the absence of previous work. Further analysis proposed by Smith (2.11) and Murphy (2.13) is aimed at understanding the local environment and its change over time.

Perhaps the most interesting assemblage is the small animal remains, largely comprising water vole (2.9). The primary interest lies in their contribution to understanding the formation processes of the archaeological deposits, though they may provide some information on the broader environment, especially given the frequency of their occurrence on sites of this type. Their presence on Peak District barrow sites seems remarkably consistent (they were frequently recognised by Bateman, as mentioned; although he usually refers to 'rat bones' he sometimes specifically mentions water vole) and has implications for understanding both past environments and taphonomic processes. It may provide information, for instance, on whether carnivores had access to the 'excarnation platform' or whether the cist grave remained open after its construction. In recent times, assemblages of vole bones have also been recorded at Glebe Low (Radley 1966), Bee Low (Clegg in Marsden 1970), Wigber Low (Maltby in Collis 1983) and Hindlow (Ashbee & Ashbee 1981). At Bee Low many of the water vole crania were broken at the posterior end, suggesting an avian or small mammal predator.

A useful comparison beyond the Peak District may be Hardendale Nab, Cumbria, a Bronze Age funerary monument that produced 'numerous bones of water voles (*Arvicola terrestris*) on what is now a high, exposed and dry landscape' (Stallibrass 1991). In this case the presence of such bones within the primary cist 'suggests that, for some time at least, the cist did not have a capping stone'. However, most of the small animal bones were actually found on top of the mound, probably deposited in owl pellets, although it is suggested that this deposit accumulated quite rapidly.

At Longstone Edge owl pellets are also suggested as the source for this material, though natural deaths and human action are also possible; in particular, the quantity of

toad on the site may indicate the deaths of hibernating animals or in pitfalls (S. Payne, pers comm). The survival of this assemblage seems to imply some protection from the elements, i.e. a structure, rapid burial or deposition underground, although weathering may have 'over-written' the carnivore signatures that would aid interpretation. The possibility that some of the material has moved downwards through the mound, either through natural wash processes or human disturbance (from prehistory onwards) would further complicate interpretation. The assessment raises the possibility that the small animal remains will provide useful interpretative information but further analysis will be necessary to clarify the differences between assemblages and understand how they accumulated.

3.3.7 Dating

Radiocarbon dates for Peak District barrows are scarce and their precise chronology therefore remains obscure (Barnatt 1996a, 34). Collis (1983) discusses the problems of radiocarbon dating human bone twenty years ago. However, with advances in techniques the main objection of the quantity of bone required to be destroyed can now be overcome. Bone is generally considered a better material for dating than charcoal, which is more likely to be residual, as at Liffs Low (Barnatt 1996b). A series of six radiocarbon dates were taken on charcoal from Hognaston, giving one 4th and one 3rd millennium BC date for pre-barrow features and four dates for the barrow construction, burials and ditch silting, broadly spanning the first half of the 2nd millennium BC (Collis 1996).

The potential for producing a useful chronology of Barrow 1 at Longstone Edge is greater because of the lengthy sequence represented in terms of the monument itself and the presence of bone in most of the phases. In particular, as mentioned, the relative chronology of Beakers and Food Vessels, both of which are represented on the site, remains poorly understood. A dating programme will be devised once the assessment process has identified specific chronological questions. Samples will not be destroyed until full bone reports have been completed.

3.3.8 Landscape

The events taking place at Longstone Edge in prehistory need to be understood in terms of the broader inhabitation of the Peak District landscape. A number of surveys of the region in the Neolithic and Bronze Age have been carried out over the last 20 years. In the late 1970's Hawke-Smith (1979) looked at settlement patterns and environmental zones in the Peak District, with an approach deriving from the 'palaeoeconomy' school of Eric Higgs and others. In the earlier Neolithic period, Longstone Edge apparently lay close to a boundary between a zone of oak woodland to the south, and elm-lime woodland (more suitable for grazing/fodder) to the north. By the later Neolithic the area round the site seems to have been opened up as grazing land while in the Early Bronze Age almost all of the White Peak area was mixed arable and grazing. It will be interesting to compare the environmental evidence from Longstone Edge with this hypothetical model (note that Barnatt [1996d] has recently updated and critiqued the models provided by Hawke-Smith).

Hawke-Smith's model was the basis for an analysis of prehistoric settlement by Bradley and Hart (1983). The present site was clearly peripheral to the main areas of

Neolithic and Early Bronze Age settlement (as marked by flint scatters with diagnostic artefacts) which are concentrated to the south of the Wye - with local findspots most common around Edensor, some 5 km south-east of Longstone Edge. This fits the general pattern identified for the White Peak, contrasting somewhat with the closer relationship between settlement and burial sites on the gritstone areas east of the Derwent.

The evidence has recently been re-assessed by Barnatt (2000), who takes account of the new evidence from the landscape project at Gardom's Edge, on the gritstone Eastern Moors (http://www.shef.ac.uk/~geap). This recent work may provide the basis for a more phenomenological approach to the archaeological landscapes of the Peaks although, as mentioned, patterns of settlement and burial on the gritstone contrast in many ways with those on the limestone plateau.

More broadly the Longstone Edge barrows contribute to the picture of a regional society very different from that of Wessex, with little evidence for elite groups or high-status burials, but where barrows were used for multiple family interments into the Bronze Age (J. Barnatt, pers. comm.).

The Romano-British rural settlement of the Peaks has also recently been reassessed (Makepeace 1998). At least seven sites lie within *c* 5 km of Longstone Edge and could be the source of the visitors to the site in that period.

3.4 Publication and Presentation

3.4.1 Publication vehicle

The question of the appropriate place of publication is not straightforward, because although the site was originally perceived - due to the supposed evidence for excarnation - as being of national importance, and recommended by the excavator for *PPS*, it is possible, depending on the results of analysis (as outlined above), that a regional journal may be more appropriate. The editor of *Derbyshire Archaeological Journal* has indicated that they would be pleased to consider the report. A decision will be made once the specialist analyses are complete.

However, despite uncertainties over the Neolithic evidence and problems with the archive, Longstone Edge does represent a rare example of a modern excavation of a scheduled monument in the Peak District and should produce a better environmental context and a more precise chronology than any other site on the limestone plateau. There is no requirement to append a broader synthesis, as this has been well addressed in several publications by Barnatt (1996a, 1999, 2000), but the site clearly adds something to his speculations on excarnation and interpretation of changing burial practices through the Late Neolithic and Early Bronze Age. It also provides a good case-study through which to address his ideas about the nature of Peak District society in this period. If interpretation can be enhanced by the explicit application of some of the theoretical approaches referenced by Barnatt (1996a, 34-7), then the site might well be considered nationally important as a barrow, whatever the status of the Neolithic material.

3.4.2 Report structure

The report structure will depend to some extent on results obtained from the proposed analysis. A suggested outline is as follows:

Text	Illustrations
30,000 words	25-26

1. Introduction
Text (2500 words): background to the project, site location, topography, geology, landscape context and previous work (inc. Bateman).
Illustrations (2): site location plan, topographic survey/GIS

2. The excavation
Text (7500 words): methods, structural and stratigraphic descriptions for Barrows 1 & 2 integrated with relevant finds/environmental data.
Illustrations (16): overall excavation plan, showing trench layout; 7 phased site plans (5xB1, 2xB2); 6 sections of barrow mounds & graves (3xB1, 3xB2); 2 detail plans (cist & cremation)

3. Artefact analysis
Text (5000 words): specialist methods and analysis (pottery, lithics, beads, other material); discussion of finds distributions.
Illustrations (6): distribution plans (3), finds illustrations (3 figures, 2 pages)

4. Environmental analysis
Text (10,000 words): specialist methods and analysis (human remains, faunal, botanical, mollusca); discussion of distributions and formation processes.
Illustrations (1+ graphs/tables): distribution plan

5. Discussion
Text (5000 words): interpretation of site, discussion of burial practice, general reflections on Neo/BA of White Peak.
Illustrations (1?): Neolithic/Bronze Age landscape?

To be integrated as appropriate: radiocarbon dating

3.5 Archive

The research archive created during analysis will be created and managed in accordance with IMC procedures. All digital data which forms part of the project archive will be created and managed in accordance with the CfA Digital Archiving Strategy (Section 2: Pre-Preservation Management). All digital data commissioned from external consultants will be subject to an appropriate specification covering documentation, file formats, and data standards.

Upon completion of the project, the Project Manager and the Records Officer will liaise to ensure that the research archive is complete. The research archive will be then be accessioned and curated by IMC in accordance with the appropriate standards defined by English Heritage, the Institute of Field Archaeologists, the Museums & Galleries Commission, and the United Kingdom Institute of Conservation. The completed digital archive will be evaluated in accordance with Section 2.6 of the CfA Digital Archiving Strategy.

Final agreement for the deposition of the project archive will be sought from the intended recipient museum and the landowner (with respect to any artefacts). Upon

completion, the project archive will be deposited with Sheffield City Museum, which is registered with the Museums & Galleries Commission. The digital archive will be accessioned by IMC, for continued curation by the Centre for Archaeology, in accordance with Section 3 (Preservation Management) of the CfA Digital Archiving Strategy.

Details of the project will be submitted to the Derbyshire Sites and Monuments Record, and to the National Monuments Record. Metadata relating to the digital archive will be submitted to the Archaeology Data Service.

3.6 Resources & Programming

3.6.1 Task List (see attached Project Timetable)

Task No.	*Description*	*Personnel*	*Time Est. (days)*	*Staff Costs (ext. specialists)*
	Admin.			
-	admin. tasks	SK	3	-
056	IT support	BA	1	-
	Project Management			
024	meetings & liaison	JL	3	-
025	management tasks	JL	2	-
065	*Stratigraphic & Spatial Analysis*			
066	analysis & phasing, inc. site and research archive enhancement	JL	5	-
067	plot & analyse finds distributions	JL	5	-
068	report preparation & editing	JL	5	-
069	*Prehistoric Pottery*			
070	catalogue & fabric analysis	PBe	10	1200
071	analysis of Bateman's vessels	PBe	2	240
072	discussion	PBe	2	240
		JL	1	-
073	research & report writing	PBe	12	1440
074	*Roman Pottery*			
075	analysis of distributions and joins	JL	1	-
076	definitive id. of wares	RL	1	143
077	*Human bone*			
078	analysis	SM	15	-
079	report preparation	SM	5	-
116	*Microfauna*			
117	sorting sieved residues	tech	30	-
118	analysis of existing material	PA	20	3000
119	analysis of sorted material	PA	7	1050
120	SEM work	tech	4	-
121	report writing & editing	PA	10	1500
080	*Macrofauna*			
081	analysis and report preparation	PBa	2	-
082	*Plant macrofossils*			
083	re-washing & sorting 'dirty' flots (test)	WS	4	-
084	re-washing & sorting 'dirty' flots (analysis)	WS	10	-
085	identify charred plant remains	WS	4	-
086	SEM work	WS	2	-
087	report preparation	WS	3	-
088	*Charcoal*			
089	analysis of selected contexts	GC	12	-

090	*Mollusca*			
091	sample sorting	VF	5	425
092	identification of assemblages	PM	7	-
093	evaluation of preservation	PM	1	-
094	report preparation	PM	3	-
095	*Radiocarbon Dating*			
096	consultation & selection of samples	AB	2	-
		JL	2	
097	process samples	AB	1	-
098	analysis of results*	AB	1	-
		JL	1	-
099	*Text*			
035	research	JL	2	-
100	assimilate & edit specialist reports	JL	2	-
101	write introduction	JL	2	-
102	write discussion	JL	5	-
103	write synopsis	JL	0.5	-
104	report preparation & editing	JL	5	-
105	incorporate radiocarbon results	JL	5	-
106	edit & submit text & graphics	JL	2	-
107	*Illustrations & Graphics*			
108	site plans	JV	5.5	-
109	sections	JV	3.5	-
110	detail & distribution plans	JV	4	-
111	artefact ills.	JV	5	-
112	liaison	JV	0.5	-
113	*Archiving*			
114	archive preparation	CJ	5	-
115	deposition of archive	CJ	5	-

*timescale of 6 months on timetable is for the first round of dating; if warranted, a second round will take a further 12 months and delay Tasks 105-106, 114-115 accordingly.

3.6.2 Staffing

CfA Staff	*Abbrevn*	*Post*	*Tasks*	*Days*
Brian Attewell	BA	IT Manager	056	1
Poly Baker	PBa	Faunal Remains Analyst	081	2
Alex Bayliss	AB	Scientific Dating Specialist	096-098	4
Gill Campbell	GC	Archaeobotanist	089	12
Clare Jones	CJ	Archives Assistant	114-115	10
Sheila Keyte	SK	Data Processor	-	3
Jonathan Last	JL	Archaeologist (Project Manager)	024-025, 035, 066-068, 072, 075, 096, 098, 100-106, 122	48.5
Simon Mays	SM	Human Skeletal Biologist	078-079	20
Wendy Smith	WS	Archaeobotanist	083-087	23
John Vallender	JV	Graphics Manager	108-112	18.5

Other EH Staff	*Abbrevn*	*Post*	*Tasks*	*Days*
Peter Murphy	PM	Reg. sci. advisor	092-094	11
Technician(s)	tech	-	117, 120	34

Ext. Staff	*Abbrevn*	*Role*	*Tasks*	*Days*
Peter Andrews	PA	Small animal specialist	118-119, 121	37
Pauline Beswick	PBe	Preh. pottery specialist	070-073	26
Val Fryer	VF	Sample processing	091	5
Ruth Leary	RL	Roman pottery specialist	076	1

Total Days: 256

3.6.3 Project Costs

External specialist fees:

Personnel	*Daily Rate*	*Total Cost*
PA	150	5550
PBe	120	3120
VF	85	425
RL	143	143

Other costs:

Personnel	*Details*	*Total Cost*
PA	Travel	230
PBe/RL	Postage	20 (est.)

Total Costs:

(non-EH):	£9,488
EH (@ £150 a day):	£28,050
Overall total:	**£38,538**

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5 APPENDICES

Appendix 1: List of Contexts

Phasing

0 – subsoil/pre-barrow
1 – Neolithic ('excarnation platform')
2 – Beaker (cist burials)
3 – Beaker/Bronze Age (stone mound)
4 – Bronze Age (Food Vessel burials & barrow mounds)
5 – Roman (insertions into Barrow 1)
6 – C19/20 (recent disturbances)

Barrow 1

Context	*Area*	*Phase*	*Description*	*Above*	*Status*	*Photo*	*Plan*	*Section*
1001	2	6	deturfing & cleaning	1004, 1014-16		Y	-	Y
1002	2	0	subsoil layer = 1021	1003		Y	Y	Y
1003	2	-	natural	-		Y	Y	Y
1004	2	4	barrow mound (upper)	1005	poss. disturbed	Y	Y	Y
1005	2	4	barrow mound (lower)	1017-18		Y	Y	Y
1006	2	4	barrow mound = 1005	1017-18		Y	Y	Y
1007	2	1	enclosure wall	1021		Y	Y	Y
1008	2	1	core of 1007	1021		Y	Y	Y
1009	2	1	inner face of 1007	1021		Y	Y	Y
1010	2	1	outer face of 1007	1021		Y	Y	Y
1011	2	4	barrow mound = 1004	1005		-	-	-
1012	2	4	barrow mound = 1005	1021	poss. disturbed	Y	Y	Y
1013	2	4	barrow mound = 1005	1018		Y	Y	Y
1014	2	1	marker stone	1021		Y	Y	-
1015	2	1	marker stone	1021		Y	Y	-
1016	2	1	marker stone	1021		Y	Y	-
1017	2	1/4	tumble from 1010	1018		Y	Y	Y
1018	2	3	stone mound	1021		Y	Y	Y
1019	2	3	stone mound = 1018	1021		-	Y	Y
1020	2	1/4	tumble from 1010 = 1017	1021		Y	Y	-
1021	2	0	subsoil under barrow	1003		Y	Y	Y
1050	12	6	material in fissure	1051	mixed; skel. 75501	Y?	-	-
1051	12	6	deturfing & cleaning	1055		-	-	Y
1052	12	4	mound N of fissure	1050	disturbed	Y	-	Y
1053	12	0/1	subsoil	1054		-	-	Y
1054	12	-	natural	-		-	-	Y
1055	12	4	barrow mound	1059	poss. disturbed	Y	Y	Y
1056	12	1	excarnation deposit	1057		-	Y	-
1057	12	0/1	subsoil = 1053	1054		-	Y	Y
1058	12	4	barrow mound = 1055	1059	around cist	-	-	Y
1059	12	2	cist fill	1060	skels. 75502-3	Y	Y	Y
1060	12	2	cist fill	1061		-	Y	Y
1061	12	2	cist	1062		Y	-	Y
1062	12	2	rock-cut grave	1056		-	-	Y
1080	12	6	material in fissure = 1050	1081	mixed; skel 75506	-	-	Y
1081	12	4/5	barrow mound (upper)	1082	poss. disturbed	-	-	Y
1082	12	1	excarnation dep. = 1056	1053		-	-	Y
1083	12	0	subsoil = 1053	1054		-	-	-
1085	1	6	deturfing	1086		-	-	-
1086	1	4	barrow mound	1087-9	disturbed	Y	-	-
1087	1	4	barrow mound	1095, 1098?		Y	Y	Y
1088	1	5?	?Roman burial	1094		Y	Y	Y

Context	*Area*	*Phase*	*Description*	*Above*	*Status*	*Photo*	*Plan*	*Section*
1089	1	5?	?Roman burial	1090		Y	Y	Y
1090	1	5?	pit fill	1091		Y	-	Y
1091	1	5?	pit cut	1092		Y	Y	Y
1092	1	0	subsoil	1093		Y	Y	-
1093	1	-	natural	-		-	Y	Y
1094	1	5?	shallow feature?	1092		Y	-	-
1095	1	3	stone mound	1092?	skel 75505; poss. disturbed	Y	Y	-
1096	1	1	enclosure wall = 1007	1092?		Y	Y	Y
1097	1	1/4	tumble from 1096	1096		Y	Y	Y
1098	1	4?	fill of 1099	1099		-	-	Y
1099	1	4?	pit cut	1095		Y	-	Y
1103	1	0/4?	soil from gap in encl. wall	1104		-	-	-
1104	1	0/4?	soil from gap in encl. wall	1093?		-	-	-
1105	1/2	0	soil beneath encl. wall	1106		-	-	-
1106	1/2	0	soil beneath encl. wall	1093?		-	-	-
1107	2/12	0	soil beneath encl. wall	1108?		Y	-	-
1108	2/12	0	soil beneath encl. wall	1054?		-	-	-
3030	12	4	grave fill (FV)	3031	skel. 75504	Y	Y	-
3031	12	4	grave cut	1057		Y	Y	-
3039	1	4?	circle of stones	3040		Y	Y	Y
3040	1	1/4?	?grave (Neo pot found)	1092?		Y	-	Y
3041	1/12	4	barrow material	3043		Y	-	-
3042	1/12	4	human bone in 3041	3043		Y	-	-
3043	1/12	0	subsoil	1054		-	-	-
3044	1/12	2	cist cover	3045		Y	-	-
3045	1/12	2	grave fill	3046		Y	-	-
3046	1/12	2	grave fill	3047		Y	-	-
3047	1/12	2	rock-cut grave	3043		Y	-	-

Other Areas

Context	*Area*	*Phase*	*Description*	*Above*	*Photo*	*Plan*	*Section*
3001	8	-	topsoil	3002	-	-	Y
3002	8	-	subsoil	3003	-	-	Y
3003	8	-	natural	-	-	-	Y
3011	11	-	topsoil	3012	Y	-	-
3012	11	-	subsoil	3013	-	-	-
3013	11	-	natural	-	-	-	-
3021	13	-	topsoil	3022	-	-	Y
3022	13	-	subsoil	3023	-	-	Y
3023	13	-	natural	-	-	Y	Y
3036*	14	-	topsoil	3037	Y	-	Y
3037	14	-	subsoil	3038	Y	Y	Y
3038	14	-	natural	-	Y	Y	Y

*some finds labelled 3032 may derive from this context

Barrow 2

Context	*Area*	*Phase*	*Description*	*Above*	*Status*	*Photo*	*Plan*	*Section*
1109	3	0	soil beneath barrow	1110		-	-	-
1110	3	0	soil beneath barrow	natural?		-	-	-
2001	5	6	topsoil & cleaning	2002		-	-	Y
2002	5	4	top of barrow mound	2003		Y	Y	Y
2003	5	4	barrow mound	2004		-	-	Y
2004	5	4	barrow mound	2005		Y	-	Y
2005	5	4	retaining wall	2007		Y	Y	-
2006	5	4	limestone block = 2005	2007		Y	Y	-
2007	5	4	barrow mound	2008		-	Y	Y
2008	5	4	basal layer of mound	2009		Y	Y	Y
2009	5	0	subsoil	2010		Y	-	Y
2010	5	-	natural	-		Y	Y	Y
2051	6	6	topsoil & cleaning	2053, 2060		-	-	Y
2052	6	6	loose chippings	2051		Y	-	-
2053	6	6	fill of quarry pit	2054		Y	-	Y
2054	6	6	fill of quarry pit	2055		Y	-	Y
2055	6	6	quarry pit	2058		Y	Y	Y
2056	6	6	dump of pebbles	2057		-	Y	-
2057	6	4	barrow mound	2062, 2064	poss. disturbed	Y	Y	Y
2058	6	0	subsoil	2059		-	Y	Y
2059	6	-	natural	-		-	Y	Y
2060	6	6	Bateman's backfill	2061	mixed	Y	Y	Y
2061	6	6	Bateman's trench	2057		Y	Y	Y
2062	5	4	slabs of cist (redeposited)	2063	mixed	-	Y	-
2063	5	4/6	basal grave fill	2064	disturbed	-	Y	-
2064	5	4	rock-cut grave	2058		Y	Y	Y
2065	5	4/6	basal grave fill	2064	disturbed	-	-	-
2066	5	4/6	basal grave fill	2064	disturbed	-	-	-
2067	5	4/6	basal grave fill	2064	disturbed	-	-	-
2071	4	6	topsoil & clearing	2072		-	-	-
2072	4	4	barrow mound	2073	disturbed	-	-	-
2073	4	4	barrow mound	2074, 2077	poss. disturbed	Y	Y	-
2074	4	4	barrow mound	2075-6		Y	Y	-
2075	4	4	layer of stones	2078		Y	Y	-
2076	4	4	layer of stones	2078		Y	Y	-
2077	4	4	ring of barrow markers	2078		Y	Y	-
2078	4	0	subsoil	2079		Y	Y	-
2079	4	-	natural	-		-	-	-
2080	3	0	subsoil	natural?		-	-	-

Appendix 2: Composition of the Flint Assemblage

Flint ID	Total	Broken	Edge -Use	Weight (g)	*Barrow & Feature Type*																			
					Barrow Mound		**Barrow Subsoil**		**Barrow Quarry -Pit**		**Barrow 1 Stone Mound & Cairn**			**Barrow 1 Encl. Wall & Excarn. Dep.**		**Barrow 1 Cist, Skeletons, Food Vessel Burial & Mound Burials (MB)**				**U/S Disturbed Topsoil/Backfill, Barrow 1 Fissure, Barrow 2 Grave**			
DEBITAGE					B1		B2	B1	B2	B1	B2	B1	Cairn	B1	Exc	Cist	Sk	FV	MB	B1	F	B2	G
Cores	**1**	1		2.3																1			
Chunks	**9**	N/A		58.6	1	1	1						1		1	1			1		1		1
Chippings	**12**	N/A		2.8	1	1	4			1					1	2					1		1
Spalls	**3**	N/A		0.3		1	2																
Flakes	**60**	20		36	9	4	6	3		1	3	1	1	2	10	5		2	1	3	5	1	3
Blades & Bladelets	**5**	2		1.4	1*	1	1										1						1
RETOUCHED																							
Edge-retouched Blades	**1**	1	1	1.5	1																		
Piercers/Points (Edge-ret.)	**1**	N/A	1	3.4			1																
Spurs	**1**	1		1.7														1					
Scrapers	**3**	1	3	4.8	2										1								
Arrowheads - Leaf	**1**	1		2.7									1										
Arrowheads - Barb & Tang	**1**	1		2.1									1										
Microliths	**2**	N/A	2	1.9			1								1								
Total = 100		**28**	**7**	**119.5**	**15**	**8**	**16**	**3**		**2**	**3**	**1**	**4**	**2**	**14**	**8**	**1**	**3**	**2**	**4**	**7**	**1**	**6**

Natural = 24 pieces (31.3g). *= 1 from uncertain contextual integrity. B1 = Barrow 1. B2 = Barrow 2.

Appendix 3: Faunal Data

Table 1: Taxonomic composition and sample sizes of the sorted samples

Box	Box number in which sample is stored
Sample	Sample number
Context	Context number
Barrow	Number of barrow
Nature of fill	Short description of the deposit
Dig.	Presence/absence of digestion
Arvic.	Presence of *Arvicola* - indicates abundance from 1 to 1111
Micr.	Presence of *Microtus* - 1-1111 indicates abundance
Bufo	Presence of *Bufo* - indicates abundance from 1 to 1111
Talpa	Presence of *Talpa* - indicates abundance from 1 to 1111
Apo.	Presence of *Apodemus* - indicates abundance from 1 to 1111
Sample size	1 = sample <1000, 2 = sample 1000-5000, 3 = sample 5-10,000, 4 = sample >10,000
Days	Estimated numbers of days needed to process the sample(s), priority outlined in grey
Key	1 signifies key context
Screen score	0 = no residues, 1 = rich screen samples, 2 = samples with half bone, 3 = samples with little bone, 4 = no bone
Comments	data on digestion where available, in bold the screen size residues that have bone

Context	*Days*	*Key*	*Barrow*	*Nature of fill*
1053	3	1	1	excarnation level, continuous deposit lying on bedrock, north of fissure
1056	1	1	1	excarnation level, upper part of 1057 with 80% rodent bones
1057	0.5	1	1	excarnation level, continuous deposit covering central area, rodent bones on surface from overlying deposit
1057	1	1	1	excarnation level, continuous deposit covering central area, rodent bones on surface from overlying deposit
1059	1	1	1	grave fill cist, rodent bone layer
1059	5	1	1	grave fill cist, rodent bone layer
1060	3	1	1	grave fill cist, deposits below 1059
1081	1	1	1	mound
1081	2	1	1	mound
2008		1	2	layer of stones beneath main barrow, basal layer of barrow mixed with subsoil
2008		1	2	layer of stones beneath main barrow, basal layer of barrow mixed with subsoil
2058		1	2	subsoil tightly bound by roots
2060	1	1	2	C19 backfill, 90% limestone, ?Bateman's backfill?
2063		1	2	basal grave fill, may be inwashed as grave had previously been emptied by Bateman
2065		1	2	basal grave fill, may be inwashed as grave had previously been emptied by Bateman
3030	0.5	1	1	grave fill
3030		1	1	grave fill
75002	2	1	1	grave fill
75502	2	1	1	grave fill
75502	2	1	1	grave fill
75502	2	1	1	grave fill
75502	2	1	1	grave fill
1050	1	2	1	jumbled deposit of material collapsing into fissure
1052	2	2	1	mound, loose loamy soil, altered by soil movement by a major fissure
1055	3	2	1	mound, loose dark clay loam soil
1055	2	2	1	mound, loose dark clay loam soil
1095	1		1	stone mound, 90% stone
	38			

Box	*Sample*	*Context*	*Barrow*	*Nature of fill*	*Dig.*	*Comments* (digestion, screening worth sorting)	*Arvic*	*Micr*	*Bufo*	*Talpa*	*Apo*	*Sample size*	*No. days*	*Key*	*Screen score*
48	5018	2001		topsoil								1			
48	5026	1004	1	mound	0		1					1			4
48	5027	1004	1	mound	0		1					1			0
48	5030	1005	1	mound	0		1					1			0
48	5031	1005	1	mound	0		1					1			0
48	5033	2002	2	mound	1		11					1			4
48	5042	2003	2	mound	0		1					1			4
48	5043	1008	1	mound	0		1					1			3
48	5045	1013	1	mound	0		1					1			0
48	5046	1012	1	mound	0		1					1			4
48	5062	2008	2	mound	3		11					1		1	3~4
48	5063	1020	1	enclosure wall	2		1					1			3
48	5064	2057	2	mound	?	**no screen residues**	1					1			0
48	5065	1019	1	stone mound	?		1					1			3
48	5066	2008	2	base of mound	1		111					1		1	3~4
48	5068	1019	1	stone mound	0		111					1			4
48	5069	2001	2	topsoil	0		11	1	1						3~4
48	5070	1052	1	mound	2	*Microtus* only with digestion, all screens	111	11	1	1		2	**2**	2	2~4
48	5071	2060	2	C19 backfill	1	very rich sample, all screens	11	1	1			2	**1**	1	3
48	5072	1050	1	material in fissure	1	5072.1 Arv. mand. with dig., <4mm scr.	111	1	11			1	**1**	2	2
48	5073	2060	2	C19 backfill	1		1	1111	1			1			3
48	5074	1052	1	mound		large mammal only									3
48	5075	1055	1	mound	1	main sample from mound, all screens	1111	1	1			3	**2**	2	2~3
48	5076	2060	2	C19 backfill	0			0	0			1			3
48	5079	2063	2	basal grave fill	2		1	1111	11			0			3~4
49	5080	1056	1	excarnation level	11	Micr. dig. 23%, Arv. dig. 0, <4 mm scr.	111	11	11	1		1	**1.5**	1	2
49	5081	1057	1	excarnation level	1		1					1	**1**	1	3
49	5082	2060	2	C19 backfill	1		1					1			3~4
49	5083	75502	1	grave fill		**<4 mm screen**						2	**2**	1	2~3
49	5084	2065	2	basal grave fill	11		1					1		1	3~2
49	5085	2066	2	basal grave fill	11		1					1			3~4
49	5086	1052	1	mound			1					1			4

Box	*Sample*	*Context*	*Barrow*	*Nature of fill*	*Dig.*	*Comments*	*Arvic*	*Micr*	*Bufo*	*Talpa*	*Apo*	*Sample size*	*No. days*	*Key*	*Screen score*
49	5087	1052	1	mound	1	**1-2 mm screen**	1					1			2~3
49	5088	2067	2	basal grave fill	111		1					1			4~3
49	5089	1052	1	mound			1					1			4
49	5092	1055	1	mound	11	half bones stained, <4 mm screen	11	1	1			1	**1**	1	3~2
49	5093	1059	1	grave fill cist		mammals frag., Bufo complete, all scrs.	11		1			1	**1**	1	1
49	5094	1060	1	grave fill cist	1	Micr. dig. 30%, Arv. dig. 16% all scrs.	111	11		1	1	3	**2**	1	1
51	5095	1058	1	mound	1	bird bones, screening no bone	11		1	1		2	**1**	1	1
51	5100	2058	2	subsoil	111	**no bone in screening this level**	1					1	**1**	1	3~4
51	5102	1080	1	material in fissure			1					1	**1**		
51	5103	1057	1	subsoil	1		1					1	**1**	1	
51	5104	1080	1	material in fissure			1					2	**1**		
51	5096	1058	1	mound			1					1			
51	5105	1053	1	excarnation level		**<4 mm screen**	1					1	**1**	1	3
51	5106	75502	1	grave fill	1	**1-2 mm screen**	11		1			3	**2**	1	2
51	5107	75502	1	grave fill	1	**all screens**	11		1			3	**2**	1	1~3
51	5108	75502	1	grave fill	1	**all screens**	11		1			3	**2**	1	1
51	5111	1055	1	mound	1	1-2% digestion, screening no bone	11		1			2	**2**		1
52	5114	1081	1	mound			111	1	1			1	**1**	1	2~3
52	5116	1081	1	mound	11	Arv. 10-16% dig., Micr. 25-29% dig. All screens	111	11	1			3	**2**	1	2~3
52	5135	1057	1	excarnation level		**<4 mm screen**	1					1	**1**	1	2~3
52	5136	3030	1	grave fill	1	Arv. with digestion, all screens	1					2	**0.5**		3
52	5137	1098	1	grave fill/pit cutting		**all screens**	1					1			3
52	5138	1095	1	stone mound		mostly bone scrap	1					1			3
52	5140	3030	1	grave fill	1	Arv. maxilla with teeth, digestion	1		1			1	**1**	1	3
52	5141	1095	1	stone mound		almost all postcrania	1					1	**0.5**		0
52	5143	1095	1	stone mound	1	2 of 3 Arv. molars with dig., all screens	1					1	**0.5**		3
52	5144	1052	1	mound		mainly teeth	111					1			4
52	5151	1109	2	subsoil below mound		few postcrania, no screening	1					1			0
52	5159	1106	1	subsoil below mound		fragmentary teeth, no screening residues						1		1	0

Box	*Sample*	*Context*	*Barrow*	*Nature of fill*	*Dig.*	*Comments*	*Arvic*	*Micr*	*Bufo*	*Talpa*	*Apo*	*Sample size*	*No. days*	*Key*	*Screen score*
52	5161	3040	1	?grave below mound		**no screening**	1					1			0
52	5170	1106	1	subsoil below mound		teeth only, all screens	1					1	**1**	1	2~3
52	5171	1052	1	mound		**no screening**	11					1			0
52	5172	1055	1	mound		few mandibles, no screening	1					1			0
52	5177	2003	2	mound		jaws only, no screening	1					1			0
52	5183	75002	1	grave fill		**all screens**	111					2	**2**	1	2
50	5090	1058	1	mound		**all screens**	1111	1	1			5	**2**		1
50	5091	1059	1	grave fill		**all screens, no digestion seen**	1111	11	11		1	5	**2**	1	1
													42		

Table 2: Longstone Edge - Contexts with richness of small mammal remains (ordered by area and phase)

The richness (R) of different samples and contexts are shown on a scale of 1 to 4, with 1 = extremely rich (nearly all bone and little matrix), 2 signifies more than half bone and well worth sorting, 3 signifies some bone, and worth sampling if the context warrants it, and 4 means no bone. Intermediate richness is denoted by double numbers, with the first number being the more significant: thus 3-4 indicates some bone present in some subsamples but no bone in other subsamples. B = CfA Box No.

Barrow 1

Cxt	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res uns*	*R*	*1-2 mm res uns*	*R*	*Flot*	*Flot ass.*	*Description*
1087	5118	97			B76	4	B66	4			barrow mound (lower)
1087	5175	1									barrow mound (lower)
1098	5137	69			B77	3	B67	3	B43	++	fill of grave/pit cutting 1095
1098	5176	6									fill of grave/pit cutting 1095
3040	5161	85			B77	3-4	B68	3-4	B44	+/++	?grave below barrow
1095	5138	87			B77	4	B67	4	B43	++	stone mound
1095	5141	188	B86	3					B44	+++?	stone mound
1095	5143	10			B77	?	B68	3	B44	++	stone mound
1103	5155	3									subsoil below barrow
1004	5026	51	B87	4							barrow mound (upper)
1004	5027	40									barrow mound (upper)
1005	5030	50									barrow mound (lower)
1005	5031	1									barrow mound (lower)

Cxt	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res uns*	*R*	*1-2 mm res uns*	*R*	*Flot*	*Flot ass.*	*Description*
1011	5044				B69	4					barrow mound (upper) = 1004
1012	5046	1	B87	4							barrow mound (lower) = 1005
1013	5045										barrow mound (lower) = 1005
1019	5065	35	B87	3							stone mound
1019	5068	58	B87	4							stone mound
1008	5043	6	B87	3							core of enclosure wall
1020	5063	40	B87	3							tumble from enclosure wall
1050	5072	c.500	B87	2							material in fissure
1080	5102	735	B82	1-2					B98 B39	+ 3	material in fissure = 1050
1080	5104	c. 3700	B83, B82	2, 1	B74	2-3	B64, B56	3, 4	B99 B39	+++2	material in fissure = 1050
1052	5070	c. 1081	B87	2	B70, B69	4, 3	B57, B58	3, 4			barrow mound
1052	5074	15			B70	3	B58	3			barrow mound
1052	5086	121	B79	4							barrow mound
1052	5087	277	B79	4-3			B60	2-3			barrow mound
1052	5089	76	B80	4							barrow mound
1052	5144	105			B77	4-3	B68	4	B44	+	barrow mound
1052	5171	105									barrow mound
1055	5075	c. 3400	B78	3	B70	2	B59, B71, B56	2, 2-4 3			barrow mound
1055	5092	893	B81	3-2							barrow mound
1055	5111	1750	B84	1	B75	2-3	B65, B56	2, -	B99, B40	++ 2-3	barrow mound
1055	5172	38									barrow mound
1058	5090	10000			B72	1-2	B61, B56	1-2	B98, B97	3	barrow mound = 1055
1058	5095	1920	B81	1					B98	2	barrow mound = 1055
1058	5096	500	B81	1					B98		barrow mound = 1055
3030	5136	230			B76	3	B67	3	B43	++	grave fill
3030	5140	38			B77	3	B68	3	B43	++	grave fill
1081	5114	460			B75	2-3	B66, B56	?, ?	B40	++ 2	barrow mound
1081	5116	c. 2700	B84	2	B76	2-3	B66	3	B99, B40	+++ 2	barrow mound
1059	5091	5000			B73	1	B62, B56	1, 2	B98	2	grave fill (cist) with skeletons 75502, 75503
1059	5093	990	B81	1			B63	1	B98	3	grave fill (cist) with skeletons 75502, 75503

Cxt	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res uns*	*R*	*1-2 mm res uns*	*R*	*Flot*	*Flot ass.*	*Description*
1060	5094	3600			B74	2	B63, B56	1, 2	B98	1	grave fill (cist)
1056	5080	398	B78	2							excarnation deposit
1082	5115										excarnation deposit = 1056
1053	5105	637	B83	3					B40	++	subsoil
1053	5145	19			B77	3	B68	3	B44	++	subsoil
1057	5081	176	B78	3							subsoil = 1053
1057	5083	998	B79	1					B97		subsoil = 1053
1057	5103	444	B82	2					B98, B39	+++	subsoil = 1053
1057	5117	40	B84	2-3					B41	++	subsoil = 1053
1057	5135	c.1000	B85	4-3-2					B42	+++?	subsoil = 1053
3045	5162	24			B77	4	B68	4	B45	++	grave fill
3046	5163	0			B77	4	B68	4	B45	+	grave fill
1106	5159	22									subsoil below barrow
1106	5170	130			B77	2-3	B68 B56	3, 4	B45	++	subsoil below barrow

Barrow 2

Cxt	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res uns*	*R*	*1-2 mm res uns*	*R*	*Flot*	*Flot ass.*	*Description*
1109	5151	17									subsoil below barrow
2080	5132	5	B84	4							subsoil
2073	5113	2	B84	4	B75	4	B65	4			barrow mound
2074	5128	0			B76	4	B66	4	B42	0	barrow mound
2001	5069	156			B69	3	B57 B56	3-4 4	B24	++	topsoil & cleaning
2002	5033	360	B87	4					B18	+	barrow mound (upper)
2003	5042	129	B87	4-3					B23	++	barrow mound
2003	5177	55									barrow mound
2008	5062	67			B69	4	B57	3	B23	++	barrow mound (basal)
2008	5066	21	B87	4-3					B24	++	barrow mound (basal)
2063	5079	158	B78	3-4					B33	+++?	basal grave fill
2065	5084	144	B79	3-2					B33	++	basal grave fill

Cxt	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res uns*	*R*	*1-2 mm res uns*	*R*	*Flot*	*Flot ass.*	*Description*
2066	5085	156			B71	3	B60 B56	3 4	B34	++	basal grave fill
2067	5088	126	B80	4-3					B34	+	basal grave fill
2060	5071	c.1000			B94, B93	3 3	B92	3	B97, B29	++	C19 backfill
2060	5073	94	B78	3					B30	+++	C19 backfill
2060	5076	230			B71	3	B60	3	B33	+++	C19 backfill
2060	5082	172			B71	3	B60, B56	3 4	B33	++	C19 backfill
2057	5064	760									barrow mound
2058	5100	127			B74	4	B63	3-4	B38	+	subsoil
2058	5101	15	B82	4-3					B39	+	subsoil
2058	5112								B40	0	subsoil

Additional contexts with hand-collected bones and/or residues (SFN - small find number):

Barrow 1

Cxt	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res*	*R*	*1-2 mm res*	*R*	*Flot*	*Flot ass.*	*Description*
1090	5126		B76	4			B66	4	B41	0	fill of ?Roman pit/grave
1095	5141		B86	3			B68	4			stone mound
1097	5133		B84						B42	0	tumble from wall 1096 (=1007)
1097											tumble from wall 1096 (=1007)
1104											buried soil from gap in encl. wall
1004	5025B		B87	4					B16	0	barrow mound (upper)
1008											core of enclosure wall 1007
1014	5166										?marker stone
1002	5016				B69	4	B57	4	B16	0	subsoil
75501											human skeleton in cist 1061 (disturbed by fissure 1050)
75502	5106	340					B56	2			grave fill (cist) with skeletons 75502, 75503

Cxt	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res*	*R*	*1-2 mm res*	*R*	*Flot*	*Flot ass.*	*Description*
75502	5107	1700			B74	1-3	B64, B56	4, 4	B99 B40	+++	grave fill (cist) with skeletons 75502, 75503
75502	5108	57	B79	1	B74	1	B64, B56, B68	1-4 4, 1			grave fill (cist) with skeletons 75502, 75503
75502	5110	677			B74	2	B56	4	B99,B40	+++	grave fill (cist) with skeletons 75502, 75503
75503	5123	30									grave fill (cist) with skeletons 75502, 75503
75502	5124	6			B76	1	B66, B56	3, 4			grave fill (cist) with skeletons 75502, 75503
75502	5127	26			B76	1	B66, B56	3, 4			grave fill (cist) with skeletons 75502, 75503
75502	5183	750			B77	2	B56	4			grave fill (cist) with skeletons 75502, 75503
3041											barrow material assoc. human bone
3042											human bone in 3041

Barrow 2

Context	*Sample*	*Count >4 mm*	*<4 mm res uns*	*R*	*2-4 mm res*	*R*	*1-2 mm res*	*R*	*Flot*	*Flot ass.*	*Description*
2076	5131				B76	4	B67	?	B42	0	layer of stones at base of mound
2077											ring of barrow markers
2078	5134				B76	4	B67	4	B42	0	subsoil
2079	5139				B77	4	B67	4	B43	+	natural
2067											basal fill of grave
2004											barrow mound
2007	5061				B69	4	B57	4	B23	0	barrow mound
2009	5067		B87	4					B24	0	subsoil
2051											topsoil/cleaning
2053	5059				B69	4	B57	4	B23	0	fill of ?post-medieval quarry pit
2054	5060				B69		B57	4	B23	0	fill of ?post-medieval quarry pit
2059											natural

Table 3: Numbers of elements

CONTEXT	**1056**	**1056**		**1060**	**1060**		**1081**	**1081**		**1059**	**1059**	*Comments*
SAMPLE	**5080**	**5080**		**5094**	**5094**		**5116.2**	**5116.2**		**5091.2**	**5091.2**	
	Arvicola	*Microtus*		*Arvicola*	*Microtus*		*Arvicola*	*Microtus*		*Arvicola*	*Microtus*	
Number of mandibles	20	9		61	0		14	13		29	7	
Number of humeri	42	5		98	17		*37*	*5*		*21*	*4*	too many humeri?
Number of ulnae							14	*1*		*11*	*1*	
Number of femora							18	13		28	3	
Number of tibiae							13	*5*		*12*	*1*	
No. molars in jaws							50	8		56	8	
No. isolated molars							25	19		4	0	
Expected number of molars							48	45		87	21	molars being lost
No. incisors in jaws							9	10		28	7	
No. isolated lower incisors							12	5		7	0	
Expected numbers of incisors							16	15		29	7	some duplication from broken teeth

Table 4: Preliminary analysis of digested bones and teeth

CONTEXT		**1056**			**1060**			**1081**	
SAMPLE		**5080**			**5094**			**5116.2**	
Mandible									
Arvicola		No.	No. digested		No.	No. digested		No.	No. digested
	I+3M	0	0		2	0		0	0
	I+2M	9	0		30	7		7	1
	I+1M	2	0		4	0		2	0
	2M	8	0		17	2		1	1
	1M	1	0		8	0		3	0
	no teeth	0	0		0			1	0
	Total	20	0		61	9		14	2
	% digested	incisors	0			16%			0
	% digested	molars	0			16%			16%
Microtus									
	I+3M	0	0		0			0	
	I+2M	7	2		14	6		5	2
	I+1M	2	1		2	1		5	0
	2M	0	0		0	0		0	0
	1M	0	0		0	0		0	0
	no teeth	0	0		0			3	0
	Total	9	3		0	0		13	2
	% digested	incisors	22%			30%			0
	% digested	molars	24%			30%			21%
Arvicola									
	isolated M							19	2
	isolated I,							12	2
	isolated I'							19	1
	% digested	molars							11%
	% digested	incisors							10%
Microtus									
	isolated M							1	1
	isolated I,							5	1
	isolated I'							2	1
	% digested	molars							100%
	% digested	incisors							29%

CONTEXT		**1056**			**1060**			**1081**	
SAMPLE		**5080**			**5094**			**5116.2**	
Humerus									
Arvicola									
	complete	2	0		3	0		0	0
	no prox art.	29	0		75	8		26	0
	proximal	0	0		3	0		0	2
	distal	11	0		17	0		11	0
	Total	42	0		98	8		37	2
Microtus									
	complete	0	0		0	0		0	0
	no prox art.	5	0		17	2		5	2
	distal	0	0		0	0		0	0
	Total	5	0		17	2		5	2
	% digested		0			12%			20%
Ulna									
Arvicola	complete							6	1
	proximal							8	1
	Total							14	2
	% digested								14%
Microtus									
	complete							1	1
	proximal							0	0
	Total							1	1
	% digested								
Femur									
Arvicola	complete							8	1
	no head							5	0
	proximal							5	1
	distal							0	0
	Total							18	2
	% digested								11%
Microtus									
	complete							12	2
	no head							1	1
	proximal							0	0
	distal							0	0
	Total							13	3
	% digested								23%
Tibia									
Arvicola	complete							8	1
	proximal							1	0
	distal							4	0
	Total							13	1
	% digested								8%
Microtus									
	complete							4	1
	proximal							0	0
	distal							1	0
	Total							5	1
	% digested								20%
Arvicola	All pc								8%
Microtus	All pc								29%

Table 5: Longstone Edge, hand-collected assemblage: taxonomic distribution by area and phase (bone counts)

N.B. Disturbed contexts are distinguished; cleaning and surface layers are excluded.
Counts in [ ] refer to non-countable specimens (e.g. antler, pig metapodials 2 and 4).
Carn: carnivore; MM2: hare-fox size mammal
Small Mammals: x 1-10; xx 11-50; xxx 51-100; xxxx 101-150

Area	*Phase*	*Description*	*Contexts*	*Cattle*	*Sheep/goat*	*Pig*	*Equid*	*Lge Cervid*	*Roe deer*	*Dog*	*Fox*	*Canid*	*Hare*	*Other*	*Small M*	*Bird*	*Amphibia*	*Foetal*
Barrow 1																		
1\2	0	subsoil below encl. wall	1106										1					
12	0\1	excarnation deposit	1053, 1056, 1057, 1082	4	8	3				2	1			1 carn	x			
1	1\4	encl. wall & tumble	1008, 1097	1		1												
12	2	cist and skeletons	72549, 75501, 75502, 75502-3	5	10	9				1	3	1		1MM2	x	2		4
2	3	stone mound	1019, 1095	3			1								xxx	1		
12	4	cremation fill	3030	2		2	[1]											
12	4	barrow mound (undisturbed?)	1013, 1055, 1058, 1081, 1087	23	29	12+ [1]	1	[1 antler]	1	10	5	4		4MM2	xx	5	1	7
12	4/5	barrow mound (disturbed?)	1004, 1052	8	10	8	1			2	1			1MM2	xx	1		1
1\12	4	barrow material with human bone	1098, 3041, 3042	10	12	4	1	[1 antler]		12				1MM2	xx		2	
12	6	fissure	1050, 1080	3	7	1				5					xx	2	1	
Total Barrow 1				**59**	**76**	**40**	**4**	**[2 antler]**	**1**	**32**	**10**	**5**	**1**	**8**	**xxxx**	**11**	**4**	**12**
Barrow 2																		
4\6	0	subsoil	2059, 2078	7														
5	4\6	basal grave fill	2066			1									xxxx			1
4\5\6	4	barrow mound	2003, 2004, 2008, 2057, 2074	6											x		1	
Total Barrow 2				**13**		**1**									**xxxx**		**1**	**1**

Table 6: Longstone Edge hand-collected assemblage: numbers of ageable animal bones and teeth

Ageable teeth refer to teeth with recordable wear stage; for canids, tooth counts refer to presence of adult dentition, except where indicated
dvt: ageing based on juvenile state of ossification and size; counts in [ ] refer to non-countable specimens (e.g. pig metapodials 2 and 4)

Area	*Phase*	*Description*	*Contexts*	*Cattle*		*Sheep/ goat*		*Pig*		*Dog*		*Fox*		*Foetal*
				teeth	*bones*	*teeth*	*bones*	*teeth*	*bones*	*teeth*	*bones*	*teeth*	*bones*	*bones*
Barrow 1														
12	0\1	excarnation deposit	1053, 1056, 1057, 1082		3		5		1	1	1			
12	2	cist and skeletons	72549, 75501, 75502, 75502-3		2		3		6				2	4
2	3	stone mound	1019, 1095	2										
12	4	cremation fill	3030		1			2						
12	4	barrow mound (undisturbed?)	1013, 1055, 1058, 1081, 1087	2	7 + 1 dvt	3	2 + 1 dvt	3	4, [1 fu]	2	4	1	1	7 + 1 canid
12	4	barrow mound (disturbed?)	1004, 1052	1	1		6	2	3	1	1	1 decid		1
1\12	4	barrow material with human bone	1098, 3041, 3042		4 + 1 dvt		3 + 2 dvt	2	1	4	6			
12	6	fissure	1050, 1080	1		1	2		1 dvt	2	3			
Total Barrow 1				**6**	**19**	**4**	**24**	**9**	**16**	**10**	**15**	**2**	**3**	**13**
Barrow 2														
4	0	subsoil (2078)		4										
4\5\6	4	barrow mound			1									1
5	4\6	basal grave fill (2066)							1					
Total Barrow 2				**4**	**1**				**1**					**1**

Table 7: Longstone Edge: hand-collected assemblage: numbers of measurable bones and teeth of the domestic mammals and canids

Area	*Phase*	*Description*	*Contexts*	*Cattle*		*Sheep/ goat*		*Pig*		*Dog*		*Fox*	*Canid*
				teeth	*bones*	*teeth*	*bones*	*teeth*	*bones*	*teeth*	*bones*	*bones*	*bones*
Barrow 1													
12	0\1\2	excarnation deposit	1053, 1056, 1057, 1082						1	2		1	
12	2	cist and skeletons	72549, 75501, 75502, 75502-3										1
2	3	stone mound	1019, 1095	1									
12	4	barrow mound (undisturbed?)	1013, 1055, 1058, 1081, 1087			2	4	3		1	3	1	
12	4	barrow mound (disturbed?)	1004, 1052							1			
1\12	4	barrow material with human bone	1098, 3041, 3042					1		2	6		
12	6	fissure	1050, 1080				1			1	2		
Total				**1**		**2**	**5**	**4**	**1**	**7**	**11**	**2**	**2**

Appendix 4: Botanical Data

Table 1: Charred plant remains

Box No.	*Sample No.*	*Context No.*	*Prov. Date*	*Sample Vol. (L)*	*Flot Vol. (ml)*	*Sample Sieved? Y or N*	*>2 mm Flot Vol.*	*<2 mm Flot Vol.*	*Further Analysis*	*Bones**	*Mollusc**	*Modern Root Etc*	*Charcoal***	*Charred Plant Remains*
16	5016A	1002	N/A	10 L	750 ml	N			Yes	0	0	Yes	+	Small amount of charred plant remains present – mainly weed/wild unidentified. ASSESSED AS POOR.
16	5025	1004	N/A	10 L	1000 ml	N			Yes	0	+	Yes	+	Charred tuber/culm base / root observed. POOR.
16	5026	1004	N/A	10 L	2600 ml	Y	2000 ml	600 ml	No	0	+	Yes		Approximately 1/3 of >2 mm fraction of flot scanned. No charred seeds observed. POOR.
16	5028	2001	N/A	2.5 l	450 ml	N			No	+	0	Yes	0	Approximately 2/3 of flot scanned. No charred plant remains observed. POOR.
18	5033A	2002	BA	10 L	800 ml	Y	225 ml	575 ml	No	+	+	Yes	0	No charred seed observed in >2 mm fraction. POOR.
23	5042	2003	N/A	20 L	825 ml	Y	500 ml	325 ml	No	++	++	Yes	+	No charred seed observed in >2 mm fraction. POOR.
23	5043A	1008	NEO	10 L	225 ml	Y	100 ml	125 ml	No	+	++	Yes	0	No charred seed observed in >2 mm fraction. POOR.
23	5046	1012	BA	20 L	550 ml	Y	400 ml	150 ml	No	0	+	Yes	0	No charred seed observed in >2 mm fraction. POOR.
23	5059	2053	PM?	10 L	860 ml	Y	800 ml	60 ml	No	0	0	Yes	0	No charred seed observed in >2 mm fraction. POOR.
23	5060	2054	PM?	10 L	270 ml	Y	200 ml	70 ml	No	0	0	Yes	+	No charred seed observed in >2 mm fraction. POOR.
23	5061A on bag	2007	BA	10 L	540 ml	Y	400 ml	140 ml	No	0	+	Yes	+	Sample should be labelled 5061B – possibly mislabelled 5061A on bag. No charred seed observed in >2 mm fraction. POOR.
23	5062.1	2008	BA	70 L	1760 ml	Y	1250 ml	510 ml	Yes	0	++	Yes	+	Sample labelled 5062.1 – assumed to be same as 5062A on sheet. Scanned 1/3 of >2 mm fraction. Small amount of charred plant remains observed including hazel nut shell, possible root/tuber, possible capsule/fruit, and unidentified frag., possibly fruit. POOR. **RESULTS OF RE-PROCESSING SAMPLE 5062.1**: Flot volume reduced from 1760 ml to 1200 ml. Bone, mollusc, modern root and charcoal observations unchanged. Recovered 6 frags. hazel nutshell, 6 unidentified rhizomes/roots, 1 Poaceae culm node, 1 Poaceae culm base, 10 tuber frags., 6 unidentified leaves and 2 unidentified charred plant remains. Visibility much improved. **ASSESSED AS POOR TO GOOD.**
23	5062.2	2008	BA	20 L	210 ml	Y	55 ml	155 ml	Yes	++	++	Yes	+	Charred plant remains observed in >2 mm fraction include: *Prunus spinosa* L. stone, unidentified fruit/tuber, Poaceae culm node, unidentified tuber and unidentified weed/wild seed. POOR.
23	5063	1020	BA	20 L	1115 ml	Y	800 ml	315 ml	No	+	+	Yes	0	No charred seed observed in >2 mm fraction. POOR.

*SCALE FOR BONE & MOLLUSC OBSERVED - + <10, ++ >10 but <1000, +++ >100 and <500, and ++++ >500 items
**SCALE FOR CHARCOAL OBSERVED - + = < 10 ml, ++ = >10 ml but <100 ml and +++ >100 ml

Box No.	*Sample No.*	*Context No.*	*Prov. Date*	*Sample Vol. (L)*	*Flot Vol. (ml)*	*Sample Sieve? Y or N*	*>2 mm Flot Vol.*	*<2 mm Flot Vol.*	*Further Analysis*	*Bones**	*Mollusc**	*Modern Root Etc*	*Charcoal***	*Charred Plant Remains*
24	5065	1019	BKR/BA	20 L	710 ml	Y	300 ml	410 ml	No	++	+++	Yes	+	No charred seed observed in >2 mm fraction. POOR.
24	5066	2008	BA	10 L	50 ml	N			Yes	++	++	Yes	+	Small amount of charred plant remains observed – including possible tuber and possible fruit (both of which are unidentified). ASSESSED AS POOR.
24	5067	2009	BA (?pre)	10 L	100 ml	N			Yes	0	+	Yes	+	Sample bag labelled 5067, 1 of 2 – assumed to be 5067.1. Small amount of charred plant remains observed – including hazelnut shell and unidentified nut shell/ capsule fragment.
24	5067	2009	BA (?pre)	10 L	150 ml	N			Yes	0	0	Yes	+	Sample bag labelled 5067, 2 of 2 – assumed to be 5067.2. Charred hazelnut shell fragment observed. POOR.
24	5068	1019	BA	10 L	100 ml	N			Yes	++	++	Yes	+	Charred culm base or root (unid.) observed. POOR.
24	5069	2001	N/A	20 L	750 ml	Y	500 ml	250 ml	Yes	++	++	Yes	+	Charred fruit or tuber (unid.) observed. POOR.
24	5070.1	1052	NEO/BA	10 L	2000 ml	Y	900 ml	1100 ml	No	+	+	Yes	+	No charred seed observed in >2 mm fraction. POOR.
29	5071	2060	BA/C19	?70 L (no precise info)	1615 ml	Y	800 ml	815 ml	No	++	++	Yes	+	No charred seed observed in >2 mm fraction. POOR.
30	5072.1	1050	BA	10 L	150 ml	N			No	++	+	Yes	+	No charred seed observed. POOR.
30	5072.2	1050	BA	10 L	100 ml	N			No	+++	++	Yes	+	No charred seed observed. POOR.
30	5073	2060	N/A	20 L	100 ml	N			No	+++	+++	Yes	+	No charred seed observed. POOR.
30	5074	1052	RO?	15 L	500 ml	Y	200 ml	300 ml	Yes	++	++	Yes	+	Small amount of charred plant remains observed – including charred tuber/root (unidentified). POOR.
30	5075.1	1055	NEO/BA	5 L	300 ml	N			No	++	++	No	+	Scanned 80% of flot. No charred seed observed. POOR.
33	5076$^{\forall}$	2060	BA/C19	70 L	1825 ml	Y	1300 ml	525 ml	Yes	+++	+++	Yes	+	Approximately 50% of >2mm fraction scanned. Small amount of charred plant remains observed in >2mm fraction – including charred possible tuber and fruit/nut fragments. ASSESSED AS POOR.
33	5079 (1 of 3)	2063	BA/C19	10 L	60 ml	N			Yes	++	++	No	+	Flot assumed to be 5079.1 on sampling sheet. Charred culm base/ root observed. POOR.
33	5079 (2 of 3)	2063	BA/C19	10 L	40 ml	N			Yes	++	++	No	++	Flot assumed to be 5079.2 on sampling sheet. Charred tuber fragment observed. POOR.
33	5079 (3 of 3)	2063	BA/C19	5 L	40 ml	N			No	+	++	Yes	+	No charred plant remains observed. POOR.
33	5080	1056	BA	15 L	175 ml	N			Yes	++	++	Yes	0	Unidentified charred tuber and possible fruit observed. POOR.
33	5081	1057	BA	10 L	25 ml	N			No	++	++	Yes	0	No charred plant remains observed. POOR.
33	5082	2060	BA/C19	50 L	700 ml	Y	325 ml	375 ml	No	++	+++	Yes	+	No charred seed observed in >2 mm fraction. POOR.
33	5083$^{\forall}$	Skel. 75502	BA	20 L	175 ml	N			No	+++	+++	No	+	No charred seed observed. POOR.
33	5084	2065	BA/C19	30 L	125 ml	N			Yes	++	++	Yes	+	Unidentified charred root/tuber. POOR.

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**SCALE FOR CHARCOAL OBSERVED - + = < 10 ml, ++ = >10 ml but <100 ml and +++ >100 ml

*SCALE FOR BONE & MOLLUSC OBSERVED - + <10, ++ >10 but <1000, +++ >100 and <500, and ++++ >500 items
**SCALE FOR CHARCOAL OBSERVED - + = < 10 ml, ++ = >10 ml but <100 ml and +++ >100 ml

Box No.	*Sample No.*	*Context No.*	*Prov. Date*	*Sample Vol. (L)*	*Flot Vol. (ml)*	*Sample Sieve? Y or N*	*>2 mm Flot Vol.*	*<2 mm Flot Vol.*	*Further Analysis*	*Bones**	*Mollusc**	*Modern Root Etc*	*Charcoal***	*Charred Plant Remains*
34	5085	2066	BA/C19	48 L	300 ml	N			Yes	++	++	Yes	+	Charred plant remains observed include: *Galium* sp., possible tuber, possible fragment of fruit, unidentified nut shell or capsule fragment, and *Plantago* sp. POOR.
34	5086	1052	BA	10 L	550 ml	N			Yes	++	+	Yes	+	Charred plant remains observed include unidentified tuber or fruit fragment and an unidentified dicotyledon fragment. (Both items placed in tube). POOR.
34	5087.1	1052	N/A	10 L	1275 ml	Y	1000 ml	275 ml	No	++	++	Yes	0	Approximately 1/3 of flot scanned. No charred plant remains observed. POOR.
34	5088	2067	BA/C19	27 L	100 ml	N			Yes	+	+	Yes	+	Charred possible cereal grain (poorly preserved) and indeterminate seed coat/ capsule fragment observed. (Both items placed in tube.) POOR.
34	5089	1052	BA	70 L	525 ml	Y	200 ml	325 ml	Yes	+	+	Yes	+	Charred unidentified weed/wild seed observed. POOR.
36	5090.1$^{\forall}$	1058	BA	c. 48 L – 3 sub-samples but no vol. info	1775 ml	Y	775 ml	1000 ml	Yes	++++!	++	Yes	+	All 5090 sub-samples clearly rich in animal bone. One charred unidentified fruit – placed in tube. POOR.
37	5090.2$^{\forall}$	1058	BA	20 L	1825 ml	Y	1000 ml	825 ml	Yes	+++	+++	No	+	Approximately 1/3 of flot scanned. One unidentified charred seed observed – placed in tube. POOR.
37	5091.1$^{\forall}$	1059	BKR	35 L	550 ml	Y	275 ml	275 ml	Yes	++++!!	+6++	No	+	2 unidentified charred seeds/capsules observed. POOR.
37	5091.2$^{\forall}$	1059	BKR	Only 1-2 bags assessed - total vol. 65 L	1065 ml	Y	515 ml	550 ml	Yes	++++!!	++++	No	+	50% of >2 mm fraction assessed. Seven unidentified seed and/or seed/capsules observed – all placed in tube. POOR.
37	5092.1	1055	BA	10 L	350 ml	N			No	++	++	Yes	+	No charred plant remains observed. POOR.
38	5093$^{\forall}$ – 1 of 2 on bag.	1059	BKR	2.5 L	25 ml	N			Yes	+++	+++	Yes	+	Assume 5093 1 or 2 is = 5093.1 on sample sheet. Charred culm base/ root and 2 unidentified seeds observed – all in tube. POOR.
38	5093$^{\forall}$ – 2 of 2 on bag	1059	BKR	7 L	35 ml	N			Yes	+++!	++	Yes	No	Assume 5093 bag 2 of 2 = 5093.2 on sample sheet. Two charred, unidentified seeds observed. POOR.
38	5094.1$^{\forall}$ (also 5094.2$^{\forall}$)	1060	N/A	10 L	140 ml	N			Yes	++++!	+++	No	+	Unidentified charred tuber observed – placed in tube. POOR.
38	5095$^{\forall}$	1058/ 1059	BKR	15 L	125 ml	N			Yes	+++!	+++	No	+	Possible charred tuber – placed in tube. POOR.
38	5096$^{\forall}$	1058/ 1059	BKR	5 L	55 ml	N			Yes	+++	++	No	+	Charred unidentified seed and possible tuber observed – placed in tube. POOR.

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**SCALE FOR CHARCOAL OBSERVED - + = < 10 ml, ++ = >10 ml but <100 ml and +++ >100 ml

Box No.	*Sample No.*	*Context No.*	*Prov. Date*	*Sample Vol. (L)*	*Flot Vol. (ml)*	*Sample Sieve? Y or N*	*>2 mm Flot Vol.*	*<2 mm Flot Vol.*	*Further Analysis*	*Bones**	*Mollusc**	*Modern Root Etc*	*Charcoal***	*Charred Plant Remains*
38	5100.1	2058	N/A	10 L	250 ml	N			Yes	+	+	No	+	Charred vegetative fragments / tubers observed – placed in tube. POOR. If remainder of sub-samples from 5100 flots are re-processed, possibly could be ASSESSED AS POOR to GOOD.
39	5101	2058	BA	10 L	35 ml	N			Yes	+	+	Yes	+	One unidentified charred seed observed – placed in tube. ASSESSED AS POOR.
39	5102.1$^{\forall}$	1080	N/A	10 L	400 ml	N			No	+	+	Yes	+	80% of flot scanned. No charred plant remains observed. POOR.
39	5103$^{\forall}$	1057	N/A	12.5 L	100 ml	N			Yes	+++	+++	Yes	+	Two unidentified charred plant remains observed – both placed in tube. POOR.
39	5104.1$^{\forall}$	1080	BA	10 L	310 ml	N			No	+++	++	No	+	50% of flot scanned. No charred plant remains observed. POOR.
40	5105.1	1053	BA	10 L	150 ml	N			No	++	++	Yes	+	No charred plant remains observed. POOR.
40	5107$^{\forall}$ (1 of 2)	75502/ 03	N/A	10 L	50 ml	N			No	+++	++	Yes	+	Assume that this is 5107.1 – as on sample sheet. No charred plant remains observed. POOR.
40	5107$^{\forall}$ (2 of 2)	75502/ 03	N/A	5 L	25 ml	N			No	+++	++	Yes	+	Assume that this is 5107.2 – as on sample sheet. No charred plant remains observed. POOR.
40	5110$^{\forall}$	75502/ 03	BA	30 L	175 ml	N			No	+++	++	Yes	+	No charred plant remains observed. POOR.
40	5111.1$^{\forall}$ N.B. flots 1-3 com-bined	1055/ 56	BKR	10 L? – total vol 5111.1-3 = 30 L	375 ml	N			No	++	++	Yes	+	90% of flot scanned. No charred plant remains observed. POOR.
40	5111.4$^{\forall}$ (also 5-8$^{\forall}$)	1055/ 1056	BKR	10 L	100 ml	N			No	++	++	Yes	+	No charred plant remains observed. POOR.
40	5112	2058	N/A	10 L	60 ml	N			Yes	0	++	Yes	+	Charred plant remains observed include possible bud, hazelnut shell, and unidentified fruit/ capsule. (All plant remains placed in tube.) POOR.
40	5114	1081	N/A	20 L	300 ml	N			No	++	++	Yes	+	Approximately 50% of flot scanned. No charred plant remains observed. POOR.
40	5116.1$^{\forall}$ (also 5116.4-5116.7$^{\forall}$)	1081/ 1082	BKR	10 L	595 ml	Y	200 ml	395 ml	No	+++	++	Yes	+	No charred plant remains observed in >2 mm fraction. POOR.
41	5117	1057	N/A	6 L	15 ml	N			No	++	++	Yes	+	No charred plant remains observed. POOR.
41	5118.1	1087	N/A	10 L	1300 ml	N			No	+	0	Yes	0	No charred plant remains observed. POOR.
41	5125A	1089	N/A	10 L	600 ml	N			No	0	0	Yes	0	No charred plant remains observed. POOR.

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**SCALE FOR CHARCOAL OBSERVED - + = < 10 ml, ++ = >10 ml but <100 ml and +++ >100 ml

Box No.	*Sample No.*	*Context No.*	*Prov. Date*	*Sample Vol. (L)*	*Flot Vol. (ml)*	*Sample Sieve? Y or N*	*>2 mm Flot Vol.*	*<2 mm Flot Vol.*	*Further Analysis*	*Bones**	*Mollusc**	*Modern Root Etc*	*Charcoal***	*Charred Plant Remains*
41	5126 – (only bag 2 of 2 assessed)		N/A	12 L	500 ml (bag 2) Total = c. 1500 ml	N			No	0	0	Yes	+	Approximately 50% of flot scanned. No charred plant remains observed. POOR.
42	5128.6	2074	N/A	10 L	575 ml	Yes	100 ml	475 ml	No	0	+++	Yes	+	No charred plant remains observed. ASSESSED AS POOR.
42	5131.1	2076	BA	5 L	200 ml	No			Yes	0	+	Yes	+	Charred hazelnut shell fragment observed. POOR.
42	5131.2	2076	BA	2 L	200 ml	No			No	0	++	Yes	+	No charred plant remains observed. POOR.
42	5133.1	1097	BA	10 L	1000 ml	Yes	800 ml	200 ml	No	0	++	Yes	0	No charred plant remains observed. POOR.
42	5133.2	1097	BA	10 L	1000 ml	Yes	400 ml	600 ml	No	0	++	Yes	0	No charred plant remains observed. POOR.
42	5133.3	1097	BA	10 L	1020 ml	Yes	600 ml	420 ml	No	0	++	Yes	0	No charred plant remains observed. POOR.
42	5133.4	1097	BA	10 L	375 ml	Yes	150 ml	225 ml	No	0	+	Yes	+	No charred plant remains observed. POOR.
42	5134.1	2078	pre-BA/ BA	10 L	150 ml	No			Yes	0	+	Yes	+	Two possible charred fruit and/or tuber remains observed (both in tube). POOR.
42	5134.3	2078	pre-BA/ BA	10 L	100 ml	No			Yes	+	++	Yes	+	Three charred possible tuber/ fruit/ capsule observed (all placed in tube). POOR.
42	5134.2	2078	pre-BA/ BA	10 L	200 ml	No			Yes	0	++	Yes	+	Charred plant remains observed include: possible capsule fragment, possible charred leaf, and four possible charred tubers. POOR.
42	5135.1	1057	pre-BA/ BA	10 L	25 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
42	5135.2	1057	pre-BA/ BA	10 L	25 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
42	5135.3	1057	pre-BA/ BA	10 L	35 ml	No.			No	+	+	Yes	+	No charred plant remains observed. POOR.
42	5135.4	1057	pre-BA/ BA	10 L	100 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
42	5135.5	1057	pre-BA/ BA	10 L	50 ml	No.			Yes	0	+	Yes	+	One unidentified charred seed recovered. POOR.
42	5135.6	1057	pre-BA/ BA	10 L	150 ml	No.			No	++	+	Yes	+	No charred plant remains observed. POOR.
42	5135.7	1057	pre-BA/ BA	10 L	100 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
42	5135.8	1057	pre-BA/ BA	10 L	75 ml	No.			Yes	++	++	Yes	+	Hazel nutshell fragment recovered. POOR.
43	5135.9	1057	pre-BA/ BA	10 L	90 ml	No.			Yes	++	++	Yes	+	One unidentified charred seed recovered. POOR.
43	5135.10	1057	pre-BA/ BA	10 L	65 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
43	5135.11	1057	pre-BA/ BA	5 L	25 ml	No.			No	+	++	No	+	No charred plant remains observed. POOR.
43	5136	3030	BA	35 L	450 ml	Yes	150 ml	300 ml	Yes	++	+++	Yes	+	Hazel nutshell fragments and Hawthorn (Crataegus sp.) seed fragments, plus other unidentified nutshell/ seed fragments. POOR TO GOOD.
43	5137	1098	BA	10 L	150 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
43	5138.1	1095	BA	10 L	775 ml	Yes	400 ml	375 ml	Yes	++	++	Yes	+	Possible hawthorn (Crataegus sp.) seed, and one indeterminate charred seed. POOR.
43	5139	2079	pre-BA	10 L	3 ml	No.			No	+	+	Yes	+	No charred plant remains observed. POOR.
43	5140	3030	BA	10 L	30 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.

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**SCALE FOR CHARCOAL OBSERVED - + = < 10 ml, ++ = >10 ml but <100 ml and +++ >100 ml

Box No.	*Sample No.*	*Context No.*	*Prov. Date*	*Sample Vol. (L)*	*Flot Vol. (ml)*	*Sample Sieve? Y or N*	*>2 mm Flot Vol.*	*<2 mm Flot Vol.*	*Further Analysis*	*Bones**	*Mollusc**	*Modern Root Etc*	*Charcoal***	*Charred Plant Remains*
44	5141.1	1095	BA	10 L	550 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
44	5141.2	1095	BA	10 L	250 ml	No.			No	++	++	Yes	0	No charred plant remains observed. POOR.
44	5141.3	1095	BA	10 L	350 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
44	5141.4	1095	BA	10 L	600 ml	No.			No	++	++	Yes	0	No charred plant remains observed. POOR.
44	5141.5	1095	BA	10 L	750 ml	Yes.	250 ml	500 ml	No	++	++	Yes	+	No charred plant remains observed. POOR.
44	5143.2	1095	N/A	10 L	500 ml	No.			Yes	++	++	Yes	+	Unidentified charred capsule/ seed. POOR.
44	5143.3	1095	N/A	10 L	400 ml	No.			No	+	++	Yes	0	No charred plant remains observed. POOR.
44	5144	1095	N/A	10 L	500 ml	No.			No	+	++	Yes	0	No charred plant remains observed. POOR.
44	5145	1053	N/A	10 L	150 ml	No.			No	++	++	Yes	++	No charred plant remains observed. POOR.
44	5161.1 (only assessed 1 bag of 3)	3040	BA	100 L	525 ml	Yes	300 ml	225 ml	No	+	++	Yes	+	No charred plant remains observed. POOR.
45	5162.1	3045	BA	10 L	50 ml	No.			No	0	++	Yes	+	No charred plant remains observed. POOR.
45	5162.2	3045	BA	10 L	150 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
45	5162.3	3045	BA	10 L	30 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.
45	5163	3046	BA	10 L	25 ml	No.			No	+	+	Yes	+	No charred plant remains observed. POOR.
45	5170	1106	BA	10 L	125 ml	No.			No	++	++	Yes	+	No charred plant remains observed. POOR.

*SCALE FOR BONE & MOLLUSC OBSERVED - + <10, ++ >10 but <1000, +++ >100 and <500, and ++++ >500 items
**SCALE FOR CHARCOAL OBSERVED - + = < 10 ml, ++ = >10 ml but <100 ml and +++ >100 ml

Table 2: list of provisional identifications made for charred plant remains sorted from the heavy residues

SAMPLE NO.	CONTEXT NO.	HEAVY RESIDUE FRACTION	IDENTIFICATION
5004	N/A	> 4 mm	Modern worm casts
5025	1004	> 4 mm	Modern worm casts/puparia
5027	1004	> 4 mm	Modern worm casts
5032	1006	> 4 mm	Modern worm casts
5075.18	1055	> 4 mm	Highly vitrified charcoal (moved to charcoal bag in Box 91)
5100.5	2058	> 4 mm	Charcoal
5111.8	1055/ 1056	> 4 mm	Modern moss

Charred plant remains found with charcoal sorted from heavy residues:

SAMPLE NO.	CONTEXT NO.	HEAVY RESIDUE FRACTION	IDENTIFICATION
5033 B	2002	> 4 mm	1 tuber/ twig
5044	1011	> 2 mm	2 x root/ tuber/ culm base
5062A	2008	> 4 mm	3 fragments hazel nutshell 2 unidentified/ indeterminate seeds 2 x root/ tuber/ culm base
5084	2065	> 4 mm	Possible root/ tuber
5100.1	2058	> 4 mm	2 fragments hazel nutshell
5100.10	2058	> 4 mm	Possible culm base/ twig
5118.3	1087	> 2 mm	Possible culm base
5128.1	2074	> 2 mm	Possible root/ tuber
5143.3	1095	> 4 mm	Possible root/ tuber/ culm base
5143.5	1095	> 2 mm	2 x root/ tuber/ culm base
5161	3040	> 4 mm	4 x root/ tuber/ culm base and 1 possible culm base (poorly preserved)
5167	N/A	> 4 mm	Root/ tuber/ culm base
5169	N/A	> 4 mm	Root/ tuber/ culm base
5171	1106	> 4 mm	Root/ tuber/ culm base

Table 3: list of identifications of 'handpicked' archaeobotanical material

FIND NO.	CONTEXT NO.	IDENTIFICATION
72040	2001	Modern puff ball
72101	2001	Modern peach stone
72857	1095	Modern peach stone

Table 4: assessment results for charcoal sorted from Longstone Edge heavy residues

SAMPLE NUMBER	CONTEXT NUMBER	HEAVY RESIDUE FRACTION	NUMBER OF FRAGMENTS	SUFFICIENT SIZE FOR IDENTIFICATION	CONVENTIONAL C^{14} DATING POSSIBLE
5159	1106	> 5 mm	1	Yes	No
5171	1052	> 5 mm	1	Yes	No
5027	1004	> 4 mm	5	Yes	No
5033B	2002	> 4 mm	3	?Yes	No
5042	2003	> 4 mm	1	Yes	No
5062A	2008	> 4 mm	14	Yes	No
5066	2008	> 4 mm	1	Yes	No
5073	2060	> 4 mm	1	Yes	No
5075.15	1055	> 4 mm	6	Yes	No
5081	1057	> 4 mm	1	Yes	No
5085	2066	> 4 mm	1	Yes	No
5090.1	1058	> 4 mm	1	Yes	No
5100.10	2058	> 4 mm	3	Yes	No
5100.1	2058	> 4 mm	1	Yes	No
5100.4	2058	> 4 mm	5	Yes	No
5105.2	1053	> 4 mm	1	Yes	No
5105.3	1053	> 4 mm	3	Yes	No
5111.1	1055/ 1056	> 4 mm	2	Yes	No
5111.8	1055/ 1056	> 4 mm	1	Yes	No
5117	1057	> 4 mm	2	Yes	No
5126	1090	> 4 mm	2	Yes	No
5132	2080	> 4 mm	2	Yes	No
5135.7	1057	> 4 mm	1	Yes	No
5143.3	1095	> 4 mm	1	Yes	No
5161	3040	> 4 mm	11	Yes	No
5162.1	3045	> 4 mm	1	Yes	No
5167	N/A	> 4 mm	5	Yes	No
5169	N/A	> 4 mm	3	Yes	No
5044	1011	> 2 mm	12	Yes	No
5045	1013	> 2 mm	6	Yes	No
5061A	2007	> 2 mm	5	Yes	No
5062C	2008	> 2 mm	15	Yes	No
5118.3	1087	> 2 mm	4	Yes	No
5118.7	1087	> 2 mm	8	Yes	No
5128.3	2074	> 2 mm	1	Yes	No
5128.4	2074	> 2 mm	6	Yes	No
5130	1088	> 2 mm	3	Yes	No
5143.1	1095	> 2 mm	7	Yes	No
5143.5	1095	> 2 mm	5	Yes	No

Table 5: Charcoal samples assessed

Context	**No. of samples**	**Notes**
1053	2	1 fragment of hazel, 1 of ash, 1 not charcoal - from charcoal sorted from the residue. Fragments were coated and very brittle.
1057	13	1 fragment >4 mm identified as hazel. 7 fragments in 4-2 mm fraction: 2 twiggy pieces, 3 too small to identify, plus 1 fragment of hazel and 1 *Prunus* sp.
1059	4	>4 mm contained 5 fragments. 4-2 mm fraction contained 13 fragments, all of which were very small. >4 mm fragments included 1 indeterminate piece, 3 Pomoideae (hawthorn type) fragments and 1 possible fragment of ash. 4-2 mm included 1 possible fragment of oak. 1 cf. barley grain noted (placed in seed tube).
75502-3	4	No charcoal in >4 mm fraction. Very small fragments in 4-2 mm fraction, 11 in total, including 1 small diameter roundwood and 1 stem /stalk. 2 of the larger fragments were examined under high power: 1 was ash, the other was too poorly preserved for identification at this stage. All well-coated with sediment.
3045	3	No charcoal in >4 mm fraction. 4-2 mm contained very small fragments, 1 identified as ash, the rest not removed. No twiggy material.
1019	2	1 fragment of heather type charcoal only.
3030	2	2 fragments in >4 mm fraction and 6 fragments in 4-2 mm fraction. Some material suggests burning at high temperature (small twig). 1 fragment identified as ash (perhaps all ash).
1058	2	1 fragment of charcoal in >4 mm fraction. Twiggy material in 4-2 mm including heather type charcoal, 1 fragment of ?*Prunus* sp. burnt at high temperature and 1 fragment of Pomoideae type charcoal. Also 6 fragments of pine charcoal which are all very fresh in appearance.
2008	3	Fragments in 4-2 mm fraction are very small with some stem/straw. 4 fragments in >4 mm fraction, 2 identified as hazel and 2 as ash.
2009 (subsoil)	2	3 fragments in >4 mm fraction and 6 in 4-2 mm fraction. Preservation very poor - mixed taxa? 1 fragment was unidentified due to burning at high temperature. 1 fragment identified as mature hazel.
2078 (subsoil)	2	No fragments in >4 mm fraction. 6 largish pieces in 4-2 mm fraction: 1 twig/stem, 1 fragment of Pomoideae, 1 possible Pomoideae and 2 fragments of hazel.
2079 (natural)	1	1 fragment too small to identify.
2058 (subsoil)	3	Odd twiggy fragment and tuber. No wood charcoal.