Uley Long Barrow
(Hetty Pegler’s Tump)
Gloucestershire

Post-Excavation Assessment and Updated Project Design

for

English Heritage

CA Project: 9125
CA Report: 12048
April 2012
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CA Project: 9125
CA Report: 12048

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Issue: 01 Date: April 2012

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SUMMARY

Site Name: Uley Long Barrow (Hetty Pegler’s Tump)
Location: Gloucestershire
NGR: SO 7895 0003
Type: Evaluation and Excavation
Date: 13-26 April 2010 and 11 April-9 May 2011
Location of archive: To be deposited with English Heritage
SMC: 5381 (2010 works); 6244 (2011 works)
Site Code: ULB10 and ULB11

A programme of archaeological investigation was undertaken by Cotswold Archaeology during April 2010, and between April and June 2011 at the request of English Heritage at Uley Long Barrow (National Monument No. 22858). The works were undertaken in connection with remedial work to the structure of the barrow and had the limited aim of recording remains that were to be affected by the structural repairs and subsequent public access. An initial trial excavation provided information on the extent of Neolithic barrow deposits and the 19th-century excavations. The later larger trench re-excavated backfill deposits of the 19th-century excavations to expose Neolithic structural remains. The underlying buried soil was examined in two locations. Finds relate overwhelmingly to the antiquarian excavation backfills. These comprise predominantly modern artefacts, but also small fragments of disarticulated human bone, animal bone, and prehistoric and Roman pottery. Of most archaeological significance is the buried soil which was analysed in a monolith sample and shown to be a truncated Neolithic brown earth with low levels of preserved pollen. Two column samples through the same deposit contained charred hazelnut shells and snails relating to the pre-barrow environment.

This document presents a quantification and assessment of the evidence recovered from the excavation. It includes a summary narrative of the excavation and considers the evidence individually and collectively, and presents an updated project design for a programme of further post-exavocation analysis to bring the results to appropriate publication.
1. INTRODUCTION

1.1 In April 2010 and between April and June 2011 Cotswold Archaeology (CA) carried out successive phases of archaeological fieldwork at Uley Long Barrow (Hetty Pegler’s Tump), Gloucestershire (centred on NGR: SO 7895 0003; Fig. 1), which is a relatively well-preserved example of a Neolithic Cotswold chambered tomb. English Heritage (EH) have recently completed structural repairs to the monument, which had been damaged by vandalism in recent years leading to the closure in 2008 of the interior of the barrow to visitors. The 2011 repair works included consolidation of orthostats and capping stones associated with four burial chambers within the barrow.

1.2 A small evaluation trench in April 2010 at the request of EH provided information on the likely extent of surviving Neolithic barrow mound deposits within the area of proposed repairs, and of the nature and extent of later excavations. The work was undertaken in accordance with a Written Scheme of Investigation (WSI) produced by CA (2010) and approved by English Heritage, and in accordance with Scheduled Monument (class 6) Consent (ref. no. 5381) issued on 10 March 2010 by David Bull, EH Inspector of Ancient Monuments. The subsequent excavation of a second, larger, trench in April 2011 to enable access for the consolidation works outlined above, and an associated watching brief, were also undertaken at the request of English Heritage in accordance with an Outline Brief for Archaeological Excavation (EH 2010), a subsequent detailed Written Scheme of Investigation (WSI) produced by CA (2011a) and approved by English Heritage, and in accordance with a Scheduled Monument (class 6) Consent (ref. no. 6244) issued on 22 September 2010 by Melanie Barge, EH Inspector of Ancient Monuments.

1.3 The fieldwork also followed the Standard and Guidance for Archaeological Field Evaluation issued by the Institute for Archaeologists, the Statement of Standards and Practices Appropriate for Archaeological Fieldwork in Gloucestershire issued by Gloucestershire County Council Archaeology Section, and Management of Research Projects in the Historic Environment (MORPHE): Project Manager’s Guide (EH 2006).
1.4 Notification of the start of site works was made to EH prior to the commencement of both phases of excavation so that there were opportunities to visit the monument and check on the quality and progress of the work. Regular site visits were made by Ian Ashby, EH Project Manager, Heather Sebire, EH Property Curator, Melanie Barge, EH Inspector of Ancient Monuments, Arthur McCallum, EH Conservation Engineering Technician and Chris Lay, Project Manager, Ward & Co. Jan Wills, County Archaeologist, Gloucestershire County Council, and Toby Catchpole, Senior Project Officer, Archaeology Service, GCC, visited the site in 2010 and 2011.

**Location**

1.5 Uley Long Barrow is located approximately 1.2km to the south-west of the village of Nympsfield. The site lies on the western edge of the Cotswold escarpment, at approximately 250m AOD, with ground level dropping sharply away to the north towards the Severn valley (Figs 1, 2).

1.6 The underlying geology of the area is mapped as Salperton Limestone Formation (Oolitic Limestone) of the Middle Jurassic period (BGS 2010). The natural bedrock was encountered within two small sondages (one immediately west of burial chamber B and one within burial chamber D) during the 2011 excavation (Figs 3, 6 [2], 7 [1]).

1.7 Uley Long Barrow is Scheduled as National Monument no. 22858 (DNH) and is in the Guardianship of English Heritage. It lies within an arable field.

**Archaeological background**

1.8 Uley Long Barrow is a prehistoric long barrow, of transepted terminal chamber form, and one of the Cotswold-Severn group of such monuments. The monument has recently been the subject of detailed documentary research (GCC 2009). That report set out in detail the archaeological and historical background of the barrow, and considered the history and nature of previous investigations at the site. This is summarised below:
1.9 There are surviving records of partial excavations of the barrow by Dr Fry in 1821 and by Dr Thurnam and Professor E.A. Freeman in 1854. The 1821 excavations revealed two human skeletons and several wild boar jaws within the blocked tomb entrance, and 13 human skeletons within the tomb itself (six, including two crouched examples, from the entrance passage; four from the eastern side chamber, in association with Neolithic pottery; one from the western chamber together with further Neolithic pottery; and two from the north-eastern chamber). A Roman burial was also recorded cut into the mound above the north-eastern chamber.

1.10 The 1821 plan of the barrow is shown in Figure 4, taken from Clifford's 1966 re-assessment and showing the numbering used in the present report. Written accounts (primarily a contemporary note by Lloyd-Baker; Gloucestershire Archives ref. no. D3549/23/3/9) indicate the then recent removal of beech trees from the mound, describe orthostat and capping stones being exposed and broken up, state that bones were found but not kept, and suggest that the mound was 'completely examined'.

1.11 Further, disturbed, human bone was identified within the passage during the 1854 excavations. Thurnam's report noted that the north side chamber was completely broken up in 1821, and that neither the north-western or north-eastern chambers survived (Thurman 1854).

1.12 There are several extant depressions within the top of the long barrow (Fig 3). These appeared to relate to one or both of the 19th-century excavations, although it was uncertain how much of the original long barrow structure survived and how much has been reconstructed (GCC 2009).

1.13 Evaluation by CA in 2011 identified fragmentary limestone and clay deposits which appeared to represent surviving Neolithic material used in the mound construction. Structural remains associated with the south-western and western burial chambers (including orthostats and capstones) were partially revealed at the limit of excavation. In addition, an east/west-aligned cut, excavated at least to the level of these burial chambers, was noted within the northern part of the trench, correlating with the position and orientation of an extant depression in the tail of the mound. Post-medieval artefacts recovered
from its loose stone and soil backfill deposits, together with residual prehistoric and Roman pottery, worked flint and human bone, suggested that this represents one of several documented 19th-century investigations of the long barrow. At least one of the chamber capstones had been removed during this activity, the western chamber capstone lying directly upon post-medieval backfill.

2. AIMS AND OBJECTIVES

2.1 The objectives of the excavation, as set out within the Written Scheme of Investigation produced by CA (2011a) in accordance with the Outline Brief for Archaeological Excavation (EH 2010), were as follows:

The primary objective of the excavation was:

- to undertake archaeological excavation and recording necessary to facilitate safe access during repairs to the monument. On completion this would enable public access to the monument.

Additionally, the excavation sought to:

- establish how much of the barrow mound in the area of consolidation works was original undisturbed Neolithic work and how much had been disturbed by later excavation.
- understand the nature of antiquarian investigations.
- record the nature of the main stratigraphic units encountered
- assess the overall presence, survival and potential of structural remains
- seek to understand the development of the monument and its later uses
- assess the overall presence, survival, condition and potential of artefactual and ecofactual remains
- record any evidence of past human activity or other land use
- seek to recover material which may be used for scientific dating of deposits, artefacts or ecofacts encountered
- sample and analyse environmental remains to create a better understanding of past land use
- disseminate the results of the work to the widest possible audience
- prepare an archaeological archive of the site including the treatment
and preservation of any finds, and the detailed analysis and publication of results to an appropriate level

2.2 In addition it was considered that the project results might contribute to a number of Research Aims (RAs) outlined in the *South West Archaeological Research Framework* (Webster 2008) namely:

- RA 4: Encourage wide involvement in archaeological research and present modern accounts of the past to the public
- RA 54: Widen our understanding of monumentality in the Neolithic and Early Bronze Age.
- RA 57: Widen our understanding of Neolithic and Early Bronze Age mortuary practice

2.3 Following the fieldwork, more detailed objectives were proposed for taking forward the assessment and analysis of the soil monolith, together with the artefacts and biological remains (including human bones) retrieved. The aim was to take analysis as far as possible within a reasonable timeframe and produce an enhanced report which would give a clearer indication of the potential of the discoveries than a conventional assessment.

2.4 The objectives are re-iterated here:

- to provide an account of the main stratigraphic units and sequences discovered by the excavation, with a particular emphasis on identifying and characterising intact Neolithic deposits and assessing their significance
- to identify the artefacts discovered and assess their significance both intrinsically and in relation to their context
- to identify the stone recovered and determine its likely origin
- to process the 3 bulk soil samples (100L) and identify and assess the charred plant and other remains (molluscs, artefacts) recovered.
- to assess the monolith sample through a geoarchaeological description, which will aim to determine the soil's origin and significance.
- to subsample the monolith and assess its potential for preserved pollen and other palaeo-environmental indicators
- to identify the human and animal bones recovered and assess their significance in relation to their context and their potential for further study
(e.g. age, sex, pathology, minimum numbers of individuals)

- to consider the potential for useful scientific dating of human or other remains

3. METHODOLOGY

3.1 The 2010 fieldwork comprised the hand excavation of a single evaluation trench, 5m in length and 2m in width at ground level (Figs 2 and 3). Excavation was undertaken in order to partially expose the capstones, supporting orthostats and drystone walling of the western and south-western burial chambers (B and C). Excavation halted at a maximum depth of 2.2m below present ground level (bpgl) in consultation with Ian Ashby, EH Project Manager, Heather Sebire, EH Property Manager and Arthur McCallum, EH Conservation Engineering Technician.

3.2 The 2011 fieldwork comprised the following stages of work:

- a watching brief during the installation of supports for a temporary, scaffold-built protective structure over the working area.

- a watching brief during the re-excavation of the 2008 blocking to the chamber entrance and the removal of the 2010 spoil heap from the top of the barrow, ensuring that earlier mound material (below terram marker sheets) remained undisturbed.

- the lifting of turf from the area outlined in green on EH Dwg No.03 (EH 2010), measuring approximately 9m by 7m, together with topsoil to an initial depth of approximately 300mm. This was followed by hand-cleaning of the top of underlying deposits to allow the extent of 19th-century or other intrusions to be identified and planned

- excavation to remove 19th-century and later backfill down to the level of the underside of the capstones in burial chambers B and C across the extent of the area outlined in blue on EH Dwg.No.03 (EH 2010). Original Neolithic stonework was identified and left in situ.
• continued excavation downwards, where necessary, to remove 19th-century or later backfill to the level of the chamber floors in chambers B and C. Original Neolithic stonework and 19th-century or later backfill which was in a structurally stable condition (as advised by the EH Conservation Engineering Technician) was identified and left in situ.

• excavation to reveal the sides of burial chamber D, and to remove sufficient backfill deposits within it in order to check for the presence or absence of a chamber floor, and to examine any underlying pre-barrow soil horizon and natural bedrock.

• a watching brief during the removal of a series of wooden fence posts surrounding the monument.

3.3 All work was undertaken by hand by CA archaeologists. The excavation area was set out by Ward and Co., as Principal Contractor, using the permanent marker stones surrounding the long barrow. The final 'as dug' areas were recorded by CA using GPS and a Leica Total Station instrument. Turf was stripped by CA staff and then stored by Ward and Co. in accordance with English Heritage’s requirements, with excavated spoil stored on boards within the site compound east of the monument. Archaeological features thus exposed were hand-excavated to a limit of excavation determined following on-site meetings between CA and Ian Ashby, EH Project Manager, Chris Lay and Jason Nurding, Ward and Co., Heather Sebire, EH Property Manager, and Arthur McCallum, EH Conservation Engineering Technician.

3.4 Initially, all topsoil encountered was sieved through a 10mm mesh for the purposes of artefact recovery. It rapidly became apparent, however, that even small artefacts could be discerned visually without the need for sieving, and this process was consequently reviewed on site with Ian Ashby, Heather Sebire and Melanie Barge. It was agreed that a flexible approach could be taken to only hand sieve specific deposits which merited such an approach. All features were planned by hand and recorded in accordance with CA Technical Manual 1: Excavation Recording Manual. Deposits were assessed for their environmental potential and sampled appropriately in accordance with CA Technical Manual 2: The taking of samples for paleoenvironmental
and palaeoeconomic analysis from archaeological sites. Two deposits were identified that required bulk sampling, and a monolith sample was also taken through one of these deposits. All artefacts recovered from the excavation were retained in accordance with CA Technical Manual 3: *Treatment of finds immediately after excavation*.

3.5 An exhumation licence was obtained from the Ministry of Justice at the commencement of works, and when human remains were encountered, the client and Melanie Barge, Inspector of Ancient Monuments, English Heritage were informed immediately. The disarticulated human remains encountered were treated in accordance with the CA Recording Manual and IfA Technical Paper 13: *Excavation and post-excavation treatment of cremated and inhumed human remains* (McKinley and Roberts 1993) and IfA Professional Practice Paper No. 7 *Guidelines to the standards for recording human remains* (Brickley and McKinley 2004).

3.6 The trench was backfilled by Ward and Co. at the conclusion of the works and the turf carefully replaced. The archive and artefacts from the evaluation are currently held by CA at their offices in Kemble. The site archive (including artefacts) will be deposited with English Heritage.

4. RESULTS

*Fieldwork summary*

4.1 This section provides an overview of the excavation results; detailed summaries of finds and environmental samples (biological evidence) are to be found in Appendices 1 to 5. The periods identified in the excavation include the following: natural geology (Period 0), Neolithic (Period 1), Roman (Period 2, only identified in the artefact assemblage), Post-medieval (Period 3) and Modern (Period 4).

*Period 0: Geology*

4.2 The underlying Salperton Limestone Formation (Oolitic Limestone) was encountered, as deposits 2032 and 2049 respectively, within two small
sondages excavated immediately west of the exterior face of orthostat 2026 of burial chamber B (Fig. 6[BB]), and against the internal faces of orthostats 2033 and 2034 within burial chamber D (Fig. 7[DD & CC]). Hand-excavation, to a depth of approximately 0.25m, confirmed both deposits to be the surface of the natural substrate.

**Period 1: Neolithic**

4.3 Red-brown stony-clay soils 2031 and 2047, each 0.25m in thickness, overlay the natural bedrock immediately west of burial chamber B and within burial chamber D (Figs 6[BB], 7[DD]). These deposits appear to represent remnants of a former soil horizon predating construction of the long barrow. Both soils were excavated and column-sampled in 0.05m horizontal spits for palaeo-environmental analysis and artefact recovery. Small quantities of charcoal, hazelnut shell and snails were recovered throughout soils 2031 and 2047 (Appendix 4), while the latter deposit also produced fourteen small fragments of human bone, including tooth, rib and hand and foot bones (Appendix 2), and a bone of a sheep-sized animal, embedded in its surface (Appendix 3). A monolith sample through the soil profile of 2047 was taken for geoarchaeological and pollen assessment (Appendix 5). The geoarchaeological assessment suggests some disturbance to the upper part of soil 2047, and it is unlikely that the immediate pre-barrow soil has survived (French, Appendix 5). However, the lower soil profile appears to be intact. Pollen was present although poorly preserved (Scaife, Appendix 5).

4.4 No construction cuts associated with burial chambers B, C and D could be discerned within soils 2031 and 2047. It was apparent, however, that orthostat 2026 of burial chamber B and orthostat 2023 of burial chamber D had both been set directly upon the natural bedrock, in both instances having required excavation through the pre-barrow soil horizon prior to construction of the chambers (Figs 6[BB]), 7[DD]).

**South-eastern burial chamber A (Fig. 3 )**

4.5 As no consolidation works were required to the orthostats, dry-stone walling or capstone of burial chamber A, no structural remains associated with the
chamber were exposed during the course of the 2010 and 2011 works.

**South-western burial chamber B (Figs 3, 5, 6[BB])**

4.6 Consolidation works necessitated only a partial exposure of the exterior (normally hidden) faces of the orthostats and dry-stone walling on the southern and western sides of burial chamber B. The 2011 excavation nevertheless revealed several structural elements associated with the chamber more fully than exposed during the 2010 evaluation.

4.7 A large limestone orthostat 2026, 1.25m in height and at least 0.85m in width, appears to represent an original, undisturbed, section of the chamber’s western wall. The orthostat was set directly upon the natural bedrock 2032, with the lowermost 0.3m of the stone abutting and apparently cut through stony clay 2031. The latter deposit appeared undisturbed, and unlikely to represent an infilling event behind the chamber orthostats. As discussed above, clay 2031 had the appearance of a pre-existing soil horizon, cut through during construction of burial chambers B and C. Although no construction cut was discernible within 2031, it appeared likely that orthostat 2026 had been set directly against the edge of a cut through 2031.

4.8 A 0.2m wide, 0.7m high, dry-stone wall 2030, comprising at least fifteen courses of limestone, had been built up against the northern edge of orthostat 2026 as part of the construction of the west wall of chamber B (Fig. 6[BB]).

4.9 Dry-stone wall 2030 appeared relatively loose where it joined with the south wall of burial chamber C (see below) and required stabilisation during the consolidation works.

**Western (rear) burial chamber C (Figs 5, 6[AA], 13)**

4.10 A limestone orthostat 2025, at least 0.95m in height and over 0.8m in width, formed, with dry-stone walling 2030, part of the south wall of chamber C. The top of a second orthostat 2024, west of orthostat 2025, was only partially exposed. Internal inspection of the chamber by Arthur McCallum, EH Conservation Engineering Technician, and Jason Nurding and Chris Lay,
Ward and Co., indicated that orthostat 2024 may represent a section of stone originally derived from adjacent orthostat 2025 to its east.

**North-western burial chamber D**

4.11 Although the consolidation works necessitated only partial exposure of burial chambers B and C, on-site discussions with English Heritage led to a decision to take the opportunity to extend the excavation area slightly northward of the main east/west passage. This led to the successful identification of burial chamber D, which documentary sources suggested had been wholly destroyed during 19th-century investigations. No *in-situ* capstone was encountered over chamber D.

4.12 No construction cut for chamber orthostats could be discerned at the level of stony-clay 2047. A sondage excavated through this deposit identified, however, that orthostat 2033, forming the west wall of chamber D, was set directly upon the underlying natural bedrock (Figs 7[EE], 16). Limestone orthostat 2033, up to 1.1m in width, survived to a maximum height of 1.4m but was typically just 1m in height. This is much lower than the height of all other chamber orthostats encountered, and it appears likely that this orthostat was damaged or deliberately broken when chamber D was first investigated. An adjacent section of well-constructed dry-stone wall 2048, 0.15 to 0.25m in width and 0.35m in height, survived ten courses high and may represent part of the original Neolithic construction of the chamber (Fig. 16).

4.13 The south wall of the chamber was formed by a limestone orthostat 2023, 1.7m high and 0.6m wide, and an adjacent section of dry-stone wall 2036, 1.35m high and approx 0.7m wide, which survived to 21 courses in height (Figs 7[DD], 15). This dry-stone walling appeared, on its northern (exterior) side, to be relatively loose, and was further stabilised as part of the consolidation works.

4.14 Limestone orthostat 2034, at least 1.8m high and 1.15m wide, formed the east wall of the chamber (Figs 7[CC], 14). At the limit of excavation no evidence for an original orthostat or drystone wall on the north side of the chamber was encountered, the existing orthostat, 2035, clearly being a later
insertion resting on infill deposit 2052 (Figs 7 [FF], 14 [left side]).

**North-eastern burial chamber E (Fig. 8)**

4.15 At the limit of excavation structural remains were encountered which appear to be associated with conjectured chamber E. A limestone orthostat 2040, visible in the north, interior, face of the entrance passage appears to have formed the south wall of a burial chamber. An adjacent dry-stone wall 2041, at least 12 courses in height but partially obscured by modern cement repairs, appeared to represent a blocked former entrance to the chamber. The west wall of the chamber would have been formed by orthostat 2034 of the east wall of burial chamber D.

4.16 No evidence for any further orthostats, or dry-stone walling, marking eastern and northern walls to a chamber was encountered. Since such structures ought to have been present in the area exposed, it is assumed that they had been removed during earlier investigations.

**Barrow mound material (Figs 5, 10)**

4.17 In-situ Neolithic barrow mound deposits 2003 and 2004, comprised compact, bedded, sub-rounded, angular and flat limestone fragments and sandy-clay. They were encountered within the southern part of the trench, and at its north-western corner, at between 0.15m to 0.35m below present ground level (bpgl). Both deposits were unaffected by consolidation works and were retained in situ, and thus were hand-cleaned but otherwise not investigated. There were no discernible differences in the composition of these mound deposits where exposed within the excavation area, and no artefactual material was encountered within deposits 2003 or 2004 during surface cleaning.

*Period 2: Roman*

4.18 No features have been assigned to this period, which is based upon three sherds of Roman pottery and a Roman bead, all recovered as residual finds within post-medieval backfill deposits (below and Appendix 1). However, the presence of these artefacts suggests contemporaneous activity on or in the
vicinity of the site, and conceivably relate to antiquarian accounts of a Roman
burial having been discovered set into the barrow mound close to its
entrance.

*Period 3: Post-medieval*

4.19 A continuation of the steep-sided east/west-aligned trench, encountered
during the 2010 evaluation as trench 1015, was noted during the excavation.
At the western end of the excavation area this trench (2005/2006) had
parallel sides, 5.5m apart, correlating with the edges of an extant linear
depression discernible along the spine of the monument and readily
interpretable as the product of antiquarian investigations. The trench
thereafter turned north-eastward and south-eastward beyond the excavation
area. It was apparent that rather than a trench having been excavated tight
to the back of the burial chambers, the antiquarian investigations involved
opening up a much wider area around the chambers such that 19th-century
backfill deposits were encountered across most of the excavation area.

4.20 The trench edges within the working area were not fully exposed during the
excavation due to the limited working area required for the consolidation
works, but at the limit of excavation contained a lower fill 2016 of stony soil,
0.3m to 0.5m in thickness, a localised stony backfill deposit 2045 west of
burial chamber D (not illustrated) and a main overlying fill 2007 of clean,
loose, small, angular limestone fragments across all four exposed burial
chambers and the central passage (Fig. 5). A sample (40L) of reddened
limestone from 2007 was taken for examination by Fiona Roe who concluded
that it was all burnt local limestone. The pieces appeared to be larger than
those normally used in domestic cooking in the Neolithic but had no clear
origin. Post-medieval backfill deposits, and areas where chamber structural
remains had been disturbed or replaced during this period, are discussed in
more detail in the following sections.

*South-western burial chamber B (Figs 5, 6)*

4.21 A backfill deposit 2016, comprising clay soil and abundant fragmentary
limestone, overlay stony clay soil 2031 and had accumulated against the
exterior faces (western and southern faces respectively) of burial chambers
B and C to a height of 0.95m. Backfill 2016 contained six residual human bone fragments (skull, rib and vertebrae bone fragments) together with one fox bone, two post-medieval/modern brown bottle-glass fragments, a Roman rectangular glass bead, a modern tea-light candle, several modern metal trinkets, a fragment of fired clay, one rock quartz fragment and five coins ranging in date from 1975 to 1983. Three courses of large, sub-rounded and angular, limestone pieces 2014 rested upon backfill 2016 and supported a limestone capstone 2011, 1.7m in length, 1.6m in width and 0.2m in thickness. Deposit 2014, resting upon loose backfill and extending around the southern edge of the chamber, identifies a reconstruction of burial chamber B such that the capstone was no longer directly supported by the chamber orthostats (Fig. 6[BB]).

Western burial chamber C (Figs 5, 6)

4.22 Three unmortared stones 2029, built up in courses above soil 2031, abutted wall 2030 Fig. 6[AA]. This appeared to represent an attempt to provide additional support to the rear of dry-stone wall 2030 prior to deposition of backfill 2016 following the 19th-century investigations.

4.23 Clay and stone backfill deposit 2016, which overlay clay soil 2031 and stones 2029, had accumulated against the rear (southern) face of orthostat 2025 to a height of 1m. This was overlain by a series of sub-rounded and angular limestone fragments 2015 which supported limestone capstone 2011 of chamber C. The capstone, approximately 1.5m long, 1.2m wide and 0.18m thick, no longer rested directly upon the orthostats of chamber C and had clearly been reset in place following the 19th-century investigations.

North-western burial chamber D (Figs 5, 7, 14, 15)

4.25 of the lowest fill of burial chamber D was a gritty, stony, clay 2052 to a height of 0.5m. This deposit, which contained three, residual, human skull and foot bones, was overlain by a large limestone block 2035, 1.25m high and up to 1.7m wide, which formed a new northern side to the chamber (Figs 7[FF], 14). Block 2035 appeared similar in form and size to capstones recorded overlying chambers B and C and the central passage, and may represent the former capstone of chamber D reused as an orthostat. A smaller limestone block 2051, only partially revealed behind stone 2035 may represent a
fragment from the same stone, appears to have acted as a packing stone behind the probable former capstone to help secure it in place.

4.26 Following reconstruction of the north wall of chamber D a stony-clay backfill 2042 was deposited within the chamber above primary backfill layer 2052. It contained 36 residual human bone fragments including skull, arm, vertebrae, pelvis, leg, rib, hand and foot bones. A residual sherd of Roman grey ware pottery, eleven animal bone fragments (pig, sheep/goat and bird bones), a nail, two modern batteries, a fragment of modern brown bottle glass and a 1983 coin were also recovered. The deposit also contained numerous large limestone fragments with smooth, curving, edges identical to those seen on surviving chamber capstones, suggesting that these represent pieces from one or more capstones broken in antiquity.

4.27 Backfill deposit 2042, contained wholly within chamber D, was overlain by stony backfill 2007 which extended around and over all of the other burial chambers and the main passage. It yielded 14 fragments of human bone, including two canine teeth, hand and foot bones, vertebrae, rib and skull fragments, together with five sherds of calcareous-tempered Neolithic pottery and three fragments of burnt limestone. Seven animal bone fragments (including one burnt example), three fragments of post-medieval green bottle glass, three fragments of post-medieval clay tobacco stem, a piece of pencil graphite, five modern tea-light candles, a 1971 halfpenny and three decimal coins dating to 1971, 1993 and 1997 were also recovered.

**North-eastern burial chamber E (Fig. 5)**

4.28 A loose stony-clay backfill deposit 2050 abutted surviving orthostats 2023 and 2034, and contained four human skull and rib fragments, five animal bone fragments and a brown bottle glass fragment. It was overlain by stony backfill 2007.

**Central passageway (Fig. 5)**

4.29 At the limit of excavation two large capstones 2010 and 2019, approx 0.25m thick, formed part of the main roof to the central east/west passageway. These capstones may have been replaced following previous investigations, and a series of smaller stones 2013, 2020, 2021, 2022 and 2046 blocked
small, presumably non-original, gaps between the passage capstones.

Period 4: Modern

4.30 The modern topsoil 2002 and turf 2001 had been cut through by 2010 CA evaluation trench (2009), containing a lower backfill 2008 and an upper fill 2017.

4.31 Several areas of modern repair had been made to sections of drystone walling within the burial chambers. These repairs, effected from within the passage and chambers, had been undertaken using a hard grey cement. The repairs comprised a repair 2018 to the drystone walling of the south wall of chamber C (Fig. 6[Aa]), repair 2038 to drystone wall infill 2037 between orthostat 2023 of north wall of the central passage and chamber C (Figs 7[DD], 13), a repair 2039 to walling 2036 between orthostat 2023 of the north wall of the central passage and east wall orthostat 2034 of chamber D (Fig. 7[DD]), repair 2043 to dry-stone walling 2041 between the north wall of the central passage and east wall orthostat of chamber D, within the area of conjectured former chamber E, (Fig. 8), repair 2027 to drystone walling 2030 of chambers B and C, and repair 2028 to the rear of the west wall of chamber C (Fig. 6[BB]).

4.32 Modern artefacts were recovered as intrusive finds within post-medieval backfill deposits, having been inserted through gaps in the internal dry-stone walls of the barrow passage and chambers into backing deposits. Finds associated with visits by members of the public included modern tea-lights, batteries, a propeller from a child’s model plane, a crystal, costume jewellery and modern coins.

Stratigraphic Record: factual data

4.33 Following the completion of the excavation an ordered, indexed, and internally consistent site archive was compiled in accordance with specifications presented in the Management of Archaeological Projects (EH 1991). A database of all contextual and artefactual evidence and a site matrix was also compiled and cross-referenced to spot-dating. The excavations and
watching brief comprise the following records:

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4.34 The excavations were limited in scope and largely excavated post-medieval and modern deposits. In general, the differentiation of Neolithic from post-medieval/modern deposits could be made with confidence, although the structure of the barrow had been modified and repaired on numerous occasions and it was not always clear whether Neolithic stonework was strictly in situ, or had been subsequently moved and re-set. There had clearly been a number of previous interventions, as the stratigraphic record, finds and the occasional use of cement bonding in the chamber structures indicate.

*Stratigraphic record: statement of potential*

4.35 This assessment has shown that the main archaeological potential of the excavation relates to the pre-barrow soil, which was discovered and sampled for geoarchaeological and palaeo-environmental study. This was shown to survive to a depth of 0.25m. There was some disturbance noted to the upper 80-100mm of the soil profile (resulting in the inclusion of fragments of human bone and other material) which would appear to be the result of trampling, quite probably during post-medieval excavations, as well as a result of any Neolithic activity, but this has not penetrated the soil to a great extent.

4.36 The fabric of the monument itself has less potential for further examination. There are a number of orthostats, shown to cut the buried soil, which appear likely to be in situ. Others may have been removed and re-set, and there is evidence that in a number of cases the capstones had been re-set. There is significant new evidence that there was originally a north-western chamber (Chamber D), although this was in a poor state of repair with the capstone
and the northern wall missing and containing no in-situ deposits. The former presence of a north-eastern chamber (Chamber E) is indicated, but as far as the excavation can demonstrate, this had been destroyed in antiquity. The exact extent, sequence and effect of these interventions will be difficult to resolve from the present results. The minor structural features, the drystone walling filling the gaps between the orthostats, is intrinsically more susceptible to damage than the orthostats themselves and it unclear at this stage how much, if any, are original Neolithic structures. The Neolithic mound has been exposed on the western side of the trench only and was not excavated. It has limited potential for further analysis. The written and photographic archive record does, however, provide a body of evidence for any future interpretations and investigations of the monument.

4.37 The post-medieval and modern deposits from around and within the chambers contained a range of redeposited and intrusive finds. The limited stratigraphic information, in conjunction with the historical record, may assist in determining the date of the interventions carried out, but the potential is low and any conclusions in this regard are likely to be highly speculative.

**Artefactual record: factual data**

4.38 All finds collected during the excavation have been cleaned, marked, quantified and catalogued by context.

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18
There is a very limited quantity of non-modern finds and none was recovered from archaeologically useful contexts (Appendix 1). The minimal amount of Neolithic flintwork can be remarked upon as, where originally present, this normally survives redeposition.

**Prehistoric pottery**

Six bodysherds recovered from modern fill 2007 and one from modern fill 2016 are identified as probably of Early Neolithic plain bowl. Without useful context they have limited value.

**Roman pottery and glass bead**

Three sherds of Roman pottery from modern fills, one from Chamber D, one from Chamber E and the other from backfill 2007, have no potential for further examination, although they are interesting in suggesting Roman activity on the northern side of the mound. The bead is of similar significance. There is a report of a Roman skeleton having been found in one of the early antiquarian investigations.

**Metal objects and coins**

None of the metal objects are of much archaeological value. The identifiable ones are modern. There is a small collection of modern coins (1970s-1990s) which, in common with other modern finds (listed in Appendix 00) must have been inserted between the orthostats from the inside of the chambers in order to have been found within the antiquarian trench fills.

**Bottle glass and clay tobacco pipe**

The clay tobacco pipe stems appear to be the earliest of the identifiably modern finds. The bottle glass is less intrinsically datable but, like the pipe-stems, may relate to the 19th-century antiquarian investigations (as might the pencil graphite fragments).
Artefactual record: statement of potential

4.44 None of the finds has potential for much further analysis although the Neolithic pottery is of some value and requires detailed characterisation for wider comparisons. The pottery is likely to have originally come from within the chambers or passageway of the barrow as it is fragile and unlikely to have survived much redeposition. The Roman pottery is likewise likely to have been related to Roman use of the barrow, rather than brought in from elsewhere, and the Roman bead is of intrinsic interest. There is a notable lack of medieval or early post-medieval finds (eg. earthenware, CBM) which can be common as residual finds, suggesting little activity in the barrow until the investigations and visitor interest of the modern era.

Biological record: factual data

4.45 All ecofacts recovered from the excavation have been cleaned, marked, quantified and catalogued by context. Both column samples, the pollen monolith, and the bulk sample of burnt stones, have been fully processed and examined.

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Human bone (Appendix 2)

4.46 There were 90 disarticulated fragments of human bone, but only 14 of these, from layer 2047 (the disturbed remains of the Neolithic land surface within Chamber D) are potentially close to their original place of deposition. The rest are from backfills of the antiquarian trenches. There are a minimum of four individuals of indeterminate sex, three of whom are adult and one adolescent. There are no child bones.
**Animal bone (Appendix 3)**

4.47 A total of 99 animal bones and fragments were recovered, 74 of which could be broadly identified. Most (44) were rodent bones. Other burrowing animals represented include vole, rabbit, and fox and all are likely to have been intrusive. Domesticates are represented by pig and sheep/goat and these may have derived from Neolithic deposits, although all were within antiquarian backfills. Bird bones from the Neolithic buried soil outside Chamber B (layer 2031) may have been a Neolithic deposit, although it is perhaps more likely to represent more recent prey concealed by a fox.

**Palaeo-environmental indicators (Appendices 4 and 5)**

4.48 Two column samples through the buried soil beneath the monument (layers 2031 and 2047) were analysed in 50mm spits. Charred remains comprised unidentifiable wood charcoal and charred hazelnut shells, both probably relating to Neolithic or pre-Neolithic activity on the site. Mollusc shells were also recovered and it is recommended they are analysed. Bone fragments from these samples are either unidentifiable, or derive from small rodents.

4.49 A monolith sample from buried soil layer 2047 (within concealed chamber D) was geoarchaeologically assessed and considered to be a truncated Neolithic soil. Micromorphological examination has confirmed this to be the case, and characterised the soil as the B horizon of a calcareous brown earth. Pollen analysis has confirmed the presence of (poorly preserved) Neolithic and pre-Neolithic pollen, dominated by hazel, but with alder and lime also present, and herbaceous vegetation in lower quantities. The latter included a single cereal pollen grain suggesting cultivation after initial forest clearance. The integrated sedimentological and pollen analysis is presented in Appendix 5.

**Biological record: statement of potential**

4.50 The fragments of human bone have been examined in detail and do not have the potential for further physical examination. The report can be usefully summarised for publication and comparisons made with human remains from other long barrows and Neolithic sites as appropriate. The lack of contextual integrity limits the usefulness of the material for biochemical analyses (such
as stable isotope analysis), although it would be worthwhile obtaining radiocarbon dates from a small selection of bones to confirm their Neolithic date, or test the possibility of interments of other periods (of which the Roman period may be the most likely).

4.51 Likewise, the animal bones have been examined in sufficient detail for the purposes of reporting and do not have the potential for further useful analysis. It seems likely that some of the bones of domesticated animals (eg. pigs, caprovinies) are Neolithic in date, but a number are clearly from burrowing animals and may be of any date. Perhaps of most interest are the bird bones from the soil layer 2031, which according to context, may be contemporary with (or pre-date) the construction of the barrow, but in view of the possibility that the mound was a foxes’ den at some point, may have been more recent concealed prey.

4.52 The soil micromorphology and pollen analyses have demonstrated that a shallow and truncated pre-barrow soil survives and contains a sequence of pollen. The sequence is dominated by arboreal species, particularly hazel, but also including lime and alder, suggesting that the local vegetation was a post-primary woodland hazel which followed the substantial clearance of the lime-dominated primary woodland. There is little more potential to the soil monolith or the pollen itself, although the palaeo-environmental interpretation can be enhanced further by detailed analysis of the mollusca from both column samples through the buried soil. The truncated nature of the buried soil suggests that the palaeoenvironmental data relates to pre-barrow conditions, rather than being contemporary with the construction of the barrow. There is also the potential to date charred hazelnut shells by radiocarbon in order to establish whether these relate to an pre-barrow Neolithic occupation, or one substantially earlier. Further integration of these data may help amplify the palaeo-environmental narrative for the monument and its setting.

**Unworked stone**

4.53 A sample of stones (from backfill deposit 2007) was confirmed by Fiona Roe to be local limestone, much of it burnt. The stones would appear to be similar
to those in the fabric of the barrow mound (rather than the typically smaller material used in hearths), but the extant mound did not comprise notable quantities of burnt stone and it is not clear that the burning is original. It is recommended that the stone is discarded.

5. SUMMARY STATEMENT OF POTENTIAL

Stratigraphy and structure

5.1 The archaeological works have enabled a record to be made of parts of the structure of the long barrow that had not been visible since the antiquarian investigations of the 19th century and had not at that time been recorded to a high standard. This relates principally to the stone mound itself, the exteriors of Chambers B and C and what remains of Chambers D and E.

5.2 The existence of Chamber D has been confirmed (it was absent from Clifford’s 1937 plan) and approximates to its depiction on Fry’s 1821 plan, although the chamber lacks a capstone and the northern orthostat is not original to the barrow. Chamber E (not shown in 1821) no longer exists, although the presence of dry-stone walling between orthostats on the southern (passageway) side suggests a blocked entrance to the former chamber. The presence of rubble backfill rather than in situ mound stone in this location perhaps also indicates that a chamber had originally been here.

5.3 The extent of antiquarian disturbances to the monument have also been defined within the limits of the excavation area, but these clearly extended a good distance further in most directions and it has not been possible to clarify their sequences or extents.

5.4 There has been some modification and repair to the structure of the passageway and chamber in modern times. It is not absolutely clear which orthostats and stone walls are original and which have been re-set/repaired, although some alterations, such as the re-positioning of the north orthostat of Chamber D, structural stones resting on fill, and the repair of dry-stone walls using cement, are evident. Two of the orthostats in Chambers B and D have been shown to have been founded on the natural substrate with sockets.
apparently cut through the pre-barrow soil.

5.5 There is no further analysis of the site record to be undertaken. The findings made should be summarised for publication with an illustrative plan. An elevation of a cross-section through the mound and chambers showing the height of the buried Neolithic soil would also be useful.

**Palaeo-environment**

5.6 A buried soil upon which the barrow was constructed has been defined and examined with a monolith sample. The upper (A horizon) soil has been truncated or disturbed. The B horizon contains palaeo-environmental evidence which can be further enhanced by an examination of molluscs from two column samples of the same soil. There is the potential to provide radiocarbon dates from charred hazelnut shell from the column samples to support the palaeo-environmental information. The enhanced report should be summarised for publication.

**Human remains**

5.7 There were no *in situ* human remains in the barrow, but the presence of redeposited disarticulated bones confirms the use of the monument for burial. These have been fully analysed and provide some information on the people buried, including data on pathology. Almost all the bone was from backfill and is of little value for spatial analysis, although it is possible that bone fragments from the disturbed upper part of the buried soil 2047 in Chamber D are close to their original place of deposition. There is no potential for further physical examination of the bones, but radiocarbon dates from a small sample of them may help confirm the Early Neolithic date for the primary use of the monument, or may indicate burials of a later date. The 1821 report of a Roman burial here may be confirmable.

**Animal bones**

5.8 There is little further work that can be done with the animal bones, the overwhelming majority of which are either redeposited or intrusive. The
collection provides limited data on the original contents of the barrow.

**Artefacts**

5.9 The only items with some potential for further examination are the seven Neolithic pottery sherds. The pottery can be characterised in more detail under magnification and the fabrics compared with material from other Early Neolithic sites. The other finds only need cataloguing for the archive and summarising for publication.

6. **STORAGE AND CURATION**

6.1 The archive is currently held at CA offices, Kemble, while post-excavation work proceeds. The site archive and artefactual collection will be deposited with English Heritage, which has agreed in principle to accept the complete archive upon completion of the project.

7. **UPDATED AIMS AND OBJECTIVES**

7.1 The archaeological work culminating in the present report has achieved a number of the original aims of the project, detailed in the WSI (CA 2011a) and its supplement provided for this assessment report (CA 2011b and Section 2 above). In particular, the fundamental aims of facilitating the repairs to the monument and recording the barrow structure as revealed by this process have been achieved, while the aim of defining the surviving extent of Neolithic deposits has been achieved to a realistic degree given the limited nature of the intervention.

7.2 The aim of providing information on the barrow structure has been achieved and is presented within the site narrative and illustrations of this report.

7.3 The artefacts have been assessed and shown to have limited potential for any further analysis, the exception being the Neolithic pottery which would benefit from more detailed characterisation.

7.4 The human and animal bones have been physically examined and identified
in as much detail as can be justified. No further work is recommended.

7.5 The sample of stone from backfill deposits has been assessed as burnt local limestone, but no comparable *in situ* material was recorded and the wider implications are not clear.

7.6 The two column samples through the buried Neolithic soil contained identified charred plant remains, and small animal (mostly rodent) bones. The charcoal is not identifiable to species, but charred hazelnut shells are present. Molluscs are also present but have yet to be identified to species and interpreted as environmental indicators.

7.7 The monolith sample through the buried Neolithic soil has been analysed and shown to be an *in situ* calcareous brown earth with the upper (A) horizon disturbed. Pollen survives and has been identified and interpreted. The palaeo-environmental information is comparable to that from beneath excavated long barrows such as Hazelton North and Ascott-under-Wychwood.

*Further work*

7.8 Provide identifications and a contextual analysis of the mollusc sequence from two soil columns.

7.9 Obtain an AMS radiocarbon date on each of:
   1 charred hazelnut shell from context 2031 spit 0.10-0.15m
   2 charred hazenut shell from context 2047 spit 0.20-0.25m
   3 human bone (adolescent thoracic vertebra) from context 2016
   4 human bone (suitable adult bone) from context 2047

The hazelnut shells are from different levels within the buried soil in spatially distinct areas. The human bones do not duplicate an individual and are from spatially distinct areas.

7.10 Provide a detailed description of the Neolithic pottery sherds for wider comparisons as appropriate.
7.11 Summarise the results of the work so far and the proposed new work in a brief illustrated publication in the county archaeological journal *Transactions of the Bristol and Gloucestershire Archaeological Society*, to include:

- The structure of the barrow (including plan as revealed)
- A composite cross-profile of the chambers and mound using the drawn elevations and survey data provided by English Heritage (showing present and Neolithic ground levels)
- Summary of finds
- Summary of dating as appropriate
- Summary of integrated palaeo-environmental analyses.

8. **PUBLICATION**

8.1 The results from this excavation are of clear regional significance. It is proposed that a summary report be published in the *Transactions of the Bristol and Gloucestershire Archaeological Society*
Synopsis of Proposed Report

Investigations in Hetty Pegler’s Tump Neolithic Chambered Tomb, Uley, 2011
by Alastair Barber and Andrew Mudd

Abstract
Brief summary of main findings of the project 200 words

Introduction
Project background, archaeological background, topography 500 words

Description of main structural elements 1500 words

Artefacts 500 words

Human bones 300 words

Animal bones 200 words

Palaeoenvironmental 2000 words

Discussion and Conclusions 800 words

Acknowledgements & Bibliography 600 words

TOTAL 6600 words (c.13 pages)

Illustrations:
Location of site 1 page
Site plan 1 page
Lloyd Baker site plan 1821 0.5 page
Structure plan 1 page
Cross-profile 1 page
Photographs 1 page 5.5 pages

Tables:
Pollen 1 page
Molluscs 1 page 2 pages

Total Publication Estimate: 20.5 pages
9. PROJECT TEAM

9.1 The post-excavation and publication programme will be under the management of Martin Watts MIfA (Head of Publications: HP)/Andy Mudd MIfA (PX Manager; PM/SA), who will co-ordinate the work of the following personnel:

Alistair Barber, MIfA (Senior Project Officer: SPO):
Draft excavation report preparation

Ed McSloy, MIfA (Finds Officer: FO)
Neolithic pottery characterisation

Angus Crawford PIfA (Assistant Finds Officer: AFO):
Specialist report preparation and liaison

Sarah Cobain AIfA (Environmental Officer: EO)
Biological remains and radiocarbon liaison

Peter Moore, MIfA (Senior Illustrator: SI):
Production of site plans, sections and artefact drawings (exc. pottery).

9.2 Contributions by the following external consultants will be managed by the Project Manager:

Mike Allen, MIfA (Allen Environmental Archaeology):
Mollusca and environmental overview

Rafter Radiocarbon Dating Laboratory
Radiocarbon dating

9.3 The final publication report will be edited and refereed internally by CA senior project management, will be externally refereed by Prof. Tim Darvill (Bournemouth University).
10. TASK LIST

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<td>AA</td>
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<td>Deposition</td>
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<tr>
<td>Printing</td>
<td>TBGAS</td>
<td>FEE</td>
</tr>
</tbody>
</table>

AA Archives assistant; AFO Assistant Finds Officer; EO Environmental Officer; FO Finds Officer; GO Geomatics Officer; HP Head of Publications; PM Project Manager; SA Senior Author; SI Senior Illustrator; SPO Senior Project Officer

11. TIMETABLE

11.1 CA will aim to have completed a publication draft within eight months of receipt of commission. A detailed programme will be produced upon approval of the Updated Project Design and associated costs.
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APPENDIX 1: ARTEFACTS

Angus Crawford and Ed McSloy

Pottery

Prehistoric
Seven sherds of prehistoric pottery weighing 68g were recovered; single sherds from evaluation deposits 1013 (=2007) (Ra 4), 1014 (=2016) (Ra 3), and five sherds from 2007. All are therefore redeposited. The sherds are undecorated, with the majority having sparse calcareous fabric inclusions. All are unfeatured bodysherds; the fabrics and characteristics of firing were consistent with an Early Neolithic date and most likely derive from vessels in the Plain Bowl tradition.

Roman
The Roman pottery assemblage consisted of three sherds weighing 55g. This included a base sherd from a jar in a sandy greyware fabric, from deposit 2042 (backfill in Chamber D) which could only be broadly dated across the 1st to 4th centuries AD. An everted rim-sherd from deposit 2050 (backfill in Chamber E) occurs in a brown-slipped oxidized fabric of North Wiltshire origin. It derives from a narrow-necked jar and probably dates to the 2nd century AD. A single, very abraded, bodysherd in a hard, oxidized sandy fabric from deposit 1013 (= 2007) (Ra 7) was unfeatured but considered to be of Roman date.

Post-medieval
A single sherd of glazed earthenware was recovered from deposit 1002 (topsoil) and appeared to be a sherd from a pressed platter of probable late 17th or 18th century date.

Potential
Although redeposited the prehistoric pottery is of archaeological significance as evidence for ceramics contemporary with an important Early Neolithic monument. It is recommended that the prehistoric pottery be examined under x20 magnification and described in detail. Comparisons with other published prehistoric assemblages from the surrounding and wider area may confirm the ware and dating, and identify any variation within the assemblage. The final results should then be published in the final report.

The Roman pottery is of significance as it relates to the usage of the site during that period and should be included in a descriptive paragraph as part of the final publication.

The post-medieval pottery is of little significance and the archive report is sufficient.
Flint

Three pieces of flint were recovered. They included two burnt and broken flakes from deposits 1013 (= 2007) (Ra 12) and 1014 (= 2016) (Ra 1). A probable core fragment with, post-depositional breakage, was recorded from deposit 1013 (Ra 13). None of the lithic material could be closely dated than prehistoric.

Potential

While dating the flint pieces is problematic, they are of some archaeological interest as they are indicative of prehistoric activity on site. The flint pieces should be catalogued for the archive and summarised in the final publication.

Fired clay

A small piece of possible fired clay was recovered from deposit 1013 (= 2007) (Ra 11). The piece had been substantially burnt, becoming vitrified with most of the surfaces having a dark glassy appearance. The object could not be further identified or dated and is not discussed further.

Glass

The glass assemblage consisted of a single glass bead of Roman date and nine pieces (64g) of 19th and early 20th-century vessel glass fragments. The vessel glass, all from backfill (deposits 1001, 1002, 2007, 2016, 2042 and 2050) consists of brown bottle glass, probably from beer bottles, and finer clear glass that may have been from smaller bottles or drinking vessels and is of very limited archaeological value.

Roman glass bead

The glass bead (4g) was recovered from backfill deposit 2016. It is in yellow translucent glass and of a long, square-sectioned type. Guido (1978, 92; fig. 37, 6–7) identified these as a Late Roman form that probably dates c. AD 300-400.

Potential

While the modern glass assemblage was of limited archaeological significance, a brief description should be included in the final publication. The Roman bead is of more significance as evidence for Roman activity at the site, which is reported to have included a Late Roman burial. The bead should be described and illustrated as part of the site publication.
Iron nails

An iron nail, from deposit 2042 (backfill of Chamber D) was hand-made and of large size. The shaft was of rectangular section 100mm long and tapered from 7 to 4.5mm. The head of the object was obscured by corrosion products though appeared to be a thickened ‘T’ shape. The tip was squared rather than pointed and had been bent to form a small right-angle. The length of the shaft between the head and the tip indicated that the nail had been used to fasten material with a total thickness of 100mm.

Another iron nail of 55mm length was recovered from deposit 1013 (= 2007). It was of hand-made type with a squared shaft with a partial flat disc-shaped head.

Dating was not possible for either nail, though a post-medieval origin is, perhaps, most likely.

Clay tobacco pipe

Single fragments of tobacco pipe stem were recovered from deposits 1013, 1015 and 2015, with two fragments retrieved from deposit 2007. The material could only be broadly dated to the 17th to early 19th century. However, the stem from deposit 1013 still retained a pronounced spur and part of the rear of the bowl, both of a type suggestive of a late 17th to early 19th century date of manufacture.

While the clay-pipe material was probably indicative of visits to the site during the 17th to early 19th century, they were of limited archaeological significance. No further work is required on the material, though a brief description should be included within the final report.

Miscellaneous 20th-century artefacts

Coins

Eleven coins were found. All were of late 20th century date and summarised in Table 1. None are of individual significance though they provide evidence for visitations to the monument as a tourist and mystical site at a time concurrent with improved independent travel and widening spiritual beliefs. The table should be included though, as part of the finds assemblage record, within the appendixes of the final publication.

Table A1.1: Coin list

<table>
<thead>
<tr>
<th>Context</th>
<th>Classification</th>
<th>Date range</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Queen Elizabeth II: 1971 ½ penny; 1971 two pence; 1997 two pence; 1993 twenty pence</td>
<td>1971-1997</td>
<td>No further work required</td>
</tr>
<tr>
<td>2008</td>
<td>Queen Elizabeth II: 1971 ½ penny</td>
<td>1971</td>
<td>No further work required</td>
</tr>
</tbody>
</table>
Metal buttons
A thin, disc-shaped button came from deposit 2007. It was undecorated and made from white metal, possibly silver. It would have had an attached loop to the rear which is now missing. A 19th or 20th-century date of manufacture is likely. Of similar date was a button from deposit 1013 (= 2007) (Ra 5). This was made from composite materials with only the decorative copper cover with a cut weave pattern remaining.

Batteries
Two batteries of ‘Double A’ size were retrieved from deposit 2042.

Quartz crystals
A piece of pale pink quartz (33g) and another of crystalline rock quartz (75g) were recovered from deposits 2016 and 2002 respectively.

Graphite
Two fragments of pencil graphite were recorded from deposit 2007.

Personal items
A small assemblage of personal jewellery was present. This included a small silver ‘sleeper’ earring, and a silver pendant-mount for a crystal with a dolphin appliqué, were recorded from deposit 2016. A copper alloy pendant, from deposit 2016, was in the form of a ships propeller and featured a broken suspension mount to one blade.

A ring in gold coloured alloy or aluminium was retrieved from deposit 2016. The internal diameter of the object, at 30mm, suggests that the object was a component piece, possibly a decorative coloured spacer from an as yet unidentified object.

Candles
The remains of five candles known as ‘tea-lights’, were recovered from deposit 2007. A further ‘tea-light’ without its aluminium holder was retrieved from deposit 2016.

Plastic
A small piece of hard thin plastic from deposit 2042 had a shell-like surface. This may have been a decorative finish to a modern manufactured object such as a hair comb.
A lump of powdery material weighing 31g was recovered from 2016. The material was difficult to identify but was a fine and homogenous pink consistency and may be decomposing putty or plasticized compound.

**Potential**

While 20th century artefacts were of limited archaeological significance, they formed a social record of people’s visits and interactions with the monument during this period. While certain objects had obvious functional purposes, such as batteries that may have come from a small torch, others such as the crystals were probably representative of individual spiritual beliefs or attitudes. It is therefore recommended that the 20th-century material is tabulated with a brief descriptive paragraph as part of the final publication.
APPENDIX 2: HUMAN BONE

Jonny Geber

Introduction

A small amount of disarticulated human remains recovered from the archaeological excavation at Uley Long Barrow have been analysed. The remains were primarily found in backfill deposits from nineteenth-century excavation trenches, and none of the bones are considered to be in-situ. The antiquarian excavations reported the presence of a Roman period burial on top of the mound, why it is possible that the bones have a date range stretching from the Neolithic to the Roman period. None of the bones have been made subject to radiocarbon dating.

The bones were quantified according to part of element present, side, age estimation and size, and each bone fragment was weighed using a digital weight scale with 0.01g accuracy (QHAUS ScoutPro SPU402). The preservation of each bone fragment was assessed following McKinley’s descriptive categories. Living stature was estimated using the methods by Byers et al. (1989), Meadow and Jantz (1992) and Holland (1995).

Results

Taphonomy

The majority of the bones were very well preserved, and only a minor proportion was of moderate or poor preservation (Table A2.1). The best preservation was observed in contexts 2050, 2047 and 2042, which were all protected deposits within the chamber or floor level of the monument. The poorest bone preservation was observed in contexts 1013, 2045 and 2016, most of which were from backfill soil from the modern cuts.

<table>
<thead>
<tr>
<th>Context</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>5+</th>
<th>mean</th>
<th>SD</th>
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<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2.00</td>
<td>1.73</td>
</tr>
<tr>
<td>2007</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0.86</td>
<td>1.17</td>
</tr>
<tr>
<td>2016</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.00</td>
<td>1.26</td>
</tr>
<tr>
<td>2042</td>
<td>25</td>
<td>5</td>
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<td>3</td>
<td>2</td>
<td>0</td>
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</tr>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.64</td>
<td>0.93</td>
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<td>2050</td>
<td>10</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.17</td>
<td>0.39</td>
</tr>
<tr>
<td>2052</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.67</td>
<td>0.58</td>
</tr>
<tr>
<td>Total</td>
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<td>5</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0.72</td>
<td>1.12</td>
</tr>
</tbody>
</table>

The material by context

43
Evaluation Context 1013: This was the fill of modern (antiquarian) cut 1015, equivalent to 2005/6. It contained three adult human bones comprising of a proximal hand phalanx, the proximal phalanx for the right first metatarsal and a proximal phalanx of an unknown metatarsal.

Context 2007: This context comprised the backfill of modern cut 2005. It contained only adult human bones: the petrous process of a left temporal bone, a complete axis vertebra, a cervical vertebra, a thoracic vertebra, a right twelfth rib and two additional rib fragments, the proximal diaphysis of an ulna, a proximal hand phalanx, an acetabular rim fragment of a hip bone from unknown side, a diaphyseal fragment of a tibia, the proximal epiphysis of a right fibula, a right talus and a right cuboid bone.

Context 2016: This was the lower fill of modern cut 2005. It contained six human bone fragments, of which one was identified as a fragment of a thoracic vertebra from an adolescent individual. The remaining fragments were of adult elements only, and comprised fragments of a parietal bone, a cervical vertebra, two rib fragments and a left second metacarpal.

Context 2042: This context was the tertiary fill within Chamber D, and contained the largest quantities of human bone recovered from the archaeological excavation. Two adolescent bones were present in this sample: a fragment of a rib and a half proximal epiphysis of a right tibia. The adult bones comprised two parietal bone fragments, one thoracic vertebra, one left third rib twelve additional rib fragments, two left first metacarpals, one left second metacarpal, one left and one right third metacarpal, one left fourth metacarpal, three proximal and two middle hand phalanges, the pubic symphysis of a right hip bone, a diaphyseal fragment of a fibula, two left third metatarsals, one left fifth metatarsal and two proximal foot phalanges.

Context 2045: Two human bones were recovered from this context, which was an infill layer behind the west wall of Chamber D: a right adult rib fragment and a left fifth metacarpal from an adolescent individual.

Context 2047: This context comprised the original ground level in Chamber D prior to the barrow construction. The human bones recovered from this context are however likely to have been trampled into it, and therefore of a later date. Fourteen adult bone fragments were identified: a parietal bone fragment, four mandibular teeth, an atlas vertebra, the left auricular surface of a sacrum, three rib fragments, a right third metacarpal, a proximal hand phalanx, fragment of the proximal epiphysis of a right tibia and a left second cuneiform bone.

Context 2050: This context constitute the secondary infill of Chamber E, and contained 12 human bones: two right temporal bone fragments, the right greater horn of a hyoid, an atlas
vertebra, two cervical vertebrae, three rib fragments, a middle hand phalanx, a calcaneus fragment and a right fourth metatarsal bone. All the fragments were of adult elements.

**Context 2052:** This context comprised the basal fill of Chamber D. It contained three adult bones: a parietal bone fragment, a left second metacarpal and a left fifth metatarsal.

**Quantification: age and sex**
In total, the human bone material comprised 90 fragments (334.23g) from a minimum of four individuals; one adolescent individual (13–17 years) and three adults (> 18 years) of unknown sex. The calculation is based on four adolescent bones found in contexts 2016, 2042 and 2045, and three adult (fused) second metacarpals found in 2016, 2042 and 2052.

It was not possible to sex any of the bones, due to absence of sex morphologically distinct elements.

**Stature**
Estimated living stature could be estimated from ten bones, which gave a mean estimate of 167cm (5 feet 5 ½ inches), ranging from 154cm (5 feet ½ inches) to 173cm (5 feet 8 inches) (SD = 6.69). The wide range in stature estimates probably suggest that both males and females are represented in the human bone material from Uley Long Barrow, although it was not possible to morphologically sex any of these elements.

*Table A2.2. Stature estimates from tarsal and metapodial bones from Uley Long Barrow. Three bones (*) from the same context (2042) are likely to derive from the same skeleton.*

<table>
<thead>
<tr>
<th>Context</th>
<th>Element</th>
<th>Side</th>
<th>Estimated living stature (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>Talus</td>
<td>Right</td>
<td>160.34</td>
</tr>
<tr>
<td>2016</td>
<td>Mc II</td>
<td>Left</td>
<td>171.08</td>
</tr>
<tr>
<td>2042</td>
<td>Mc I*</td>
<td>Left</td>
<td>171.38</td>
</tr>
<tr>
<td>2042</td>
<td>Mc III*</td>
<td>Left</td>
<td>171.11</td>
</tr>
<tr>
<td>2042</td>
<td>Mc IV*</td>
<td>Left</td>
<td>171.31</td>
</tr>
<tr>
<td>2042</td>
<td>Mc II</td>
<td>Left</td>
<td>159.19</td>
</tr>
<tr>
<td>2042</td>
<td>Mc III</td>
<td>Right</td>
<td>153.66</td>
</tr>
<tr>
<td>2042</td>
<td>Mt III</td>
<td>Left</td>
<td>170.12</td>
</tr>
<tr>
<td>2052</td>
<td>Mt V</td>
<td>Left</td>
<td>166.93</td>
</tr>
</tbody>
</table>

**Skeletal pathologies**
The pathologies identified in the assemblage relate to degenerative joint diseases, periosteal inflammatory reactions and pulmonary infections. Three vertebrae displayed evidence of spinal degenerative disease, all from the same context (2007) and possibly from the same individual. An axis vertebra recovered from context 2007 displayed slight marginal osteophytosis along the margins of the intervertebral surface of the body as well as an
eburnated patch - indicative of spinal osteoarthritis (Rogers and Waldron 1995) – on the left inferior articular process. Intervertebral osteophytosis was also observed on a cervical and thoracic vertebra. These are relatively common pathologies in archaeological skeletal populations.

Two rib fragments displayed new bone formation on the visceral surface, and indicate the development of a pulmonary infection. A rib in context 2007 displayed only very fine and subtle lesions, while more osteolytic and proliferated new bone formation, which included a small patch of spiculated bone, was present on a rib fragment in context 2050.

Another periosteal reaction was observed on the distal diaphysis of a left fifth metatarsal found in context 2052. The lesion was very small in size (4x2mm), and may simply reflect localised micro-trauma resulting in haemorrhage with consequential periostitis.

A probable intra-articular fracture was identified on the trochlea of a proximal foot phalanx from context 2042. The lesion displayed compact bone build-up, and hair-line fracture line was visible across the articular surface. No degenerative changes were observed around the joint, and would indicate that the lesion may have been asymptomatic once it was properly healed.

Summary
The human remains recovered from Uley Long Barrow were disarticulated, with the majority recovered from the backfill of nineteenth-century trenches. While the bones would be the remains of people buried either in or on the monument, their unknown original location and date of the bones makes an interpretation difficult.

The bones represent remains of only adolescent and adult individuals, and they may indicate that only burial of socially defined adults were buried in the monument. The palaeopathological evidence indicate that some of these individuals suffered from degenerative joint disease – which probably indicate an advanced age – and respiratory disease, which was indicated from inflammatory reactions on the visceral surface of some rib fragments.

One individual displayed subtle periosteal proliferations on a metatarsal in the left foot, which probably indicate a bony reaction due to direct soft-tissue trauma. Another foot pathology was observed on a proximal phalanx displaying a probable intra-articular fracture.
Annexe 1. Identified human bone elements.

<table>
<thead>
<tr>
<th>Context</th>
<th>Element</th>
<th>No. fragm.</th>
<th>Side</th>
<th>Part</th>
<th>Age</th>
<th>Sex</th>
<th>Pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph1Mc</td>
<td>1</td>
<td>?</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Ph1MtI</td>
<td>1</td>
<td>Right</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Ph1Mt</td>
<td>1</td>
<td>?</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>Temporal</td>
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<td>Left</td>
<td>Petrous process</td>
<td>Adult</td>
<td>?</td>
<td></td>
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<tr>
<td>Axis</td>
<td>1</td>
<td>Axial</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>SDJD, OA</td>
<td></td>
</tr>
<tr>
<td>Thor. vert.</td>
<td>1</td>
<td>Axial</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>SDJD</td>
<td></td>
</tr>
<tr>
<td>Rib</td>
<td>1</td>
<td>Left</td>
<td>Body</td>
<td>?Adult</td>
<td>?</td>
<td>Periostitis</td>
<td></td>
</tr>
<tr>
<td>Rib</td>
<td>1</td>
<td>?</td>
<td>Fragt.</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
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</tr>
<tr>
<td>Rib (12th)</td>
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<td>Adult</td>
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<td>?</td>
<td></td>
</tr>
<tr>
<td>Ulna</td>
<td>1</td>
<td>Left</td>
<td>Prox.diaph.</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Ph1Mc</td>
<td>1</td>
<td>?</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Coxa</td>
<td>1</td>
<td>?</td>
<td>Acetabular rim fragm.</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Tibia</td>
<td>1</td>
<td>?</td>
<td>Fragm.</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Fibula</td>
<td>1</td>
<td>Right</td>
<td>Prox.epi.</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Talus</td>
<td>1</td>
<td>Right</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Cuboid</td>
<td>1</td>
<td>Right</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>Parietal</td>
<td>1</td>
<td>?</td>
<td>Fragm.</td>
<td>Adult; 18–44 years</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Cerv. vert.</td>
<td>1</td>
<td>Axial</td>
<td>Complete</td>
<td>Adult</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Thor. vert.</td>
<td>1</td>
<td>Axial</td>
<td>L transv. + inf. art. proc.</td>
<td>Adol.</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Rib</td>
<td>1</td>
<td>Left</td>
<td>Fragm.</td>
<td>Adult</td>
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<td>Ph2Mc</td>
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<td>Adult</td>
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<td>Mt IV</td>
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<td>&quot;complete&quot;</td>
<td>Adult</td>
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<td>2052</td>
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</tbody>
</table>

Periostitis
APPENDIX 3: ANIMAL BONE

Jonny Geber

Introduction
A total of 99 animal bone fragments from the archaeological excavation at Uley Long Barrow have been analysed. The bones derive from contexts primarily relating to the backfill of nineteenth-century excavations through the mound.

The bones have been identified with the aid of an osteological reference collection (Cotswold Archaeology) and reference literature (Iregren (ed.) 2002; Schmid 1972). The remains were quantified according to part of element present, side, age estimation and size, and each bone fragment was weighed using a digital weight scale with 0.01g accuracy (QHAUS ScoutPro SPU402). The quantification is presented in Annex e 1 of this report. None of the bones have been subject to radiocarbon dating.

Result

Evaluation Context 1013 (= 2007)
This was a fill of modern cut 1015 (= 2005/6). Five animal bones were recovered, of which part of a right ulna of rabbit (Oryctolagus cuniculus) could be identified. Two fragments derived from small mammal species, and a hip bone fragment from an unknown neonate mammal was also found in this deposit.

Evaluation Context 1014 (= 2016)
This lower fill of modern cut 2005/6 contained an unidentifiable bone fragment from a species of large mammal.

Context 2007
This context comprised the upper backfill of modern cut 2005. It contained seven animal bones, of which two where teeth of pig (Sus sp.) and one the spinous process of a caprovine (Ovis aries/Capra hircus) thoracic vertebra.

Context 2016
This was the lower fill of modern cut 2005. Four animal bones were present: a tooth and a fragment of a hip bone from pig, and unidentified fragment and a carnivore tooth. The latter was a mandibular canine, and taking its size into consideration it was probably belonging to a fox (Vulpes vulpes).

Context 2031
This was a soil-horizon outside Chamber B, comprising stony clay which appears to pre-date the construction of the monument. It contained a right humerus, a left femur and a right tarso-metatarsus from a passerine bird (*Passeriformes sp.*).

**Context 2042**
This context was the tertiary backfill within Chamber D. It included a rib and a tooth of pig, a radius and metatarsal of caprovine, a humerus of a passerine bird and five unidentified bone fragments of which one derive from a small sized mammal.

**Context 2047**
This context comprised the original ground within Chamber D prior to/contemporary with the barrow construction. The animal bones recovered (mainly from a bulk soil sample) comprise a pig tooth, a beak from a small bird, three unidentified fragments and 44 rodent bones. Of the latter, it is clear that at least six bones derive from a vole (*Microtus sp.*). It also contained two vertebrae from a small fish (*Pisces sp.*).

**Context 2050**
This context constitutes the secondary infill of Chamber E. There were eleven animal bones, comprising the temporal styloid process and a tooth of pig, three caprovine ribs and six unidentifiable fragments.

**Context 2052**
This context comprised the basal fill of Chamber D. Only one unidentifiable animal bone fragment was found in this deposit.

**Summary**
The animal bones derive mainly from backfill deposits relating to the nineteenth-century excavations. It is impossible to determine whether these remains relate to the funerary use of the monument, or whether they are inclusions of post-medieval date, although no slaughter or butchery marks were identified on any of the bones.

Of the bones recovered from fills within the chambers, it is clear that intrusive species such as rodents were present. The find of a possible fox tooth may indicate that the monument was a fox den at some point, and this could explain the find of the bones from both domestic and wild fauna. There were, however, no gnaw marks on any of the fragments.
Annexe 1. Identified animal taxa

Table AA1.1. Identified animal taxa by fragment count (NISP) and context. LM = Large size mammal; MM = Medium sized mammal; SM = Small sized mammal; ROD = Rodent

<table>
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<th>S/G</th>
<th>Pig</th>
<th>?Fox</th>
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<th>SM</th>
<th>ROD</th>
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**NISP:** 6 9 1 1 1 1 4 44 6 5 2 19 99
APPENDIX 4: PLANT MACROFOSSIL AND CHARCOAL

Sarah Cobain

Introduction

Two column samples were taken for plant macrofossil and charcoal assessment. These came from two deposits interpreted as a buried soil layer pre-dating construction of the Long Barrow dating to the Neolithic period. Sample 1 (layer 2031) was divided into four spits and sample 2 (layer 2047) into five spits, each 0.05m deep. The aim of this assessment is to determine the type, preservation and quantity of plant macrofossil and charcoal remains recovered and use this to assess the potential of these remains to provide evidence of socio-economic activities being undertaken on the site (crop husbandry, diet, living conditions of communities, exploitation of woodlands for fuel, woodland management), and to infer the composition of the local flora and woodlands.

Methodology

Following flotation (CA Technical Manual No. 2), the residue was dried and sorted by eye, the floated material scanned and seeds identified using a low power BSM stereo-microscope at magnifications of x10 to x40. Identifications were carried out with reference to images and descriptions by Bekker et al. (2006), Berggren (1981) and Anderberg (1994). Nomenclature follows Stace (1997).

A selection of charcoal fragments were fractured by hand to reveal the wood anatomy on radial, tangential and transverse planes. The pieces were then supported in a sand bath and identified under an epi-illuminating microscope (Brunel SP400) at magnifications from x40 to x400. Identifications were carried out with reference to images and descriptions by Cutler and Gale (2000) and Heller et al. (2004) and Baas et al. (1989). Nomenclature of species follows Stace (1997).

Results

The results are presented in tabular form (Table A4.1) and are discussed below. SS refers to the Soil Sample number.

Column sample 1 was taken from buried soil layer 2031 to the west of Chamber B. Small quantities of moderately to poorly preserved carbonised hazelnut shells were recovered from the spits 0-0.05m, 0.1-0.15m and 0.15-0.2m in depth. There were small fragments of charcoal recovered from all four spits, but they were too small to identify.
Column sample 2 was taken from buried soil layer 2047 within Chamber D. Small quantities of moderately preserved carbonised hazelnut shells were recovered from the spits 0.1-0.15m and 0.2-0.25m in depth. Small fragments of charcoal recovered from all five spits were all too small to identify.

**Discussion**

The carbonised plant macrofossils recovered from Uley Long Barrow consisted of small quantities of poor to moderately preserved hazelnut shells. The charcoal was recovered in small quantities and the small size of the fragments meant none of the charcoal was suitable for identification.

Hazelnut shells are a common find on Neolithic sites. They would have been hand-collected locally and would have been an important part of the diet, providing additional vitamins and minerals as well as making food more palatable. Hazelnuts have for example been found in relatively large numbers in midden material and soil beneath the cairn at Hazleton North Long Barrow, Gloucestershire (Straker 1990, 215-216) and within pits excavated at the Cotswold Community excavations, Gloucestershire (Smith 2010, 169). The carbonised hazelnut shells recovered from Uley Long Barrow appeared very abraded which suggests they were residual fragments that have become incorporated into the buried soil by trampling and bioturbation. Since hazelnut shell remains are common finds on Neolithic sites, and it is likely they were associated with the period of use of Uley Long Barrow, although they could pre-date its use by an unquantifiable period of time as they were also common as an aspect of diet in the Mesolithic.

There is no remaining soil to process from samples taken from the site, however since there has been little work done on this period within this area (Straker and Wilkinson 2008, 68), it is recommended that the material that has been found is written up in a summary paragraph to add to general evidence of Neolithic plant remains recovered in Gloucestershire.

**Other biological information**

The recovery of molluscs from the samples shows that there is the potential for further evidence concerning the immediate environment of the barrow before and/or after its construction. The quantities of small bones recovered, including rodent bones, suggest a degree of disturbance to the soils by burrowing wild animals (Geber, Appendix 3).

**Radiocarbon Dating**

Any of the larger fragments of carbonised hazelnut shell would be suitable for radiocarbon dating.
Table A4.1: Plant macrofossil identification for Uley Long Barrow (Hetty Pegler’s Tump) from buried soil beneath barrow

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<tr>
<td>Burial Chamber</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>Spit (depth m)</td>
<td>0-0.05</td>
<td>0.05-0.10</td>
<td>0.10-0.15</td>
<td>0.15-0.20</td>
<td>0-0.05</td>
<td>0.05-0.10</td>
<td>0.10-0.15</td>
<td>0.15-0.20</td>
<td>0.20-0.25</td>
</tr>
<tr>
<td>Flot volume (ml)</td>
<td>11.3</td>
<td>1.9</td>
<td>15.2</td>
<td>2.9</td>
<td>6.3</td>
<td>4.1</td>
<td>3.3</td>
<td>11</td>
<td>1.3</td>
</tr>
<tr>
<td>Sample volume (l)</td>
<td>10</td>
<td>9</td>
<td>10</td>
<td>10</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Soil remaining (l)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Phase</td>
<td>Neo Pre barrow construction</td>
<td>Neo Pre barrow construction</td>
<td>Neo Pre barrow construction</td>
<td>Neo Pre barrow construction</td>
<td>Neo Pre barrow construction</td>
<td>Neo Pre barrow construction</td>
<td>Neo Pre barrow construction</td>
<td>Neo Pre barrow construction</td>
<td></td>
</tr>
<tr>
<td>Plant macrofossil preservation</td>
<td>Poor</td>
<td>N/A</td>
<td>Moderate</td>
<td>Moderate</td>
<td>N/A</td>
<td>N/A</td>
<td>Moderate</td>
<td>N/A</td>
<td>Moderate</td>
</tr>
<tr>
<td>Recommendations for full analysis</td>
<td>Summary</td>
<td>N/A</td>
<td>Summary</td>
<td>Summary</td>
<td>N/A</td>
<td>N/A</td>
<td>Summary</td>
<td>N/A</td>
<td>Summary</td>
</tr>
<tr>
<td>Habitat Code</td>
<td>HSW Betulaceae</td>
<td>Corylus avellana Hazelnut</td>
<td>cf 1</td>
<td>3</td>
<td>6</td>
<td>cf 1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flot Inclusions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Charcoal</td>
<td>+ (s)</td>
<td>(s)</td>
<td>+++ (s)</td>
<td>++ (s)</td>
<td>(s)</td>
<td>+ (s)</td>
<td>++ (s)</td>
<td>+ (s)</td>
<td>+++ (s)</td>
</tr>
<tr>
<td>Bone</td>
<td>++</td>
<td>++</td>
<td>+++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molluscs</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td>+++</td>
<td>+++</td>
<td>++</td>
<td>+</td>
<td>++</td>
<td></td>
</tr>
</tbody>
</table>

**Key**

Habitat code: HSW = hedgerow/scrub/woodland

+ = 1-5 fragments; ++ = 6-20 fragments; +++ = 21-40 fragments; ++++ = 41-100 fragments
APPENDIX 5: BURIED SOIL; GEOARCHAEOLOGY AND PALAEO-ENVIRONMENT

Michael J. Allen, Charles French and Rob Scaife
(AEA 155)

Excavated evidence, sampling and analysis programme

Michael J. Allen

The extant soil within chamber D of Uley long barrow was sampled in a monolith (monolith sample 3, from context 2047). The upper surface in the sample was the exposed soil surface (after removal of detritus) in the chamber which is essentially inaccessible to present day visitors. Hence there was gap at the top of the monolith. It is assumed by the excavators that this is the original floor of the chamber (Darvill pers. comm.). The base of the monolith is the limestone rock. The monolith is 25cm × 10cm × 10cm and the sampled soil occupied the lower 16-17cm of the monolith (Fig. 1).

Geological and soil background

The underlying geology of the area is mapped as Salperton Limestone Formation (Oolitic Limestone) of the Middle Jurassic period (BGS 2010). The soils are mapped as brown rendzinas of the Elmton 1 association 572h with stagnogelytic argillic brown earths of the Ardington and Harwell Associations locally (Findlay et al. 1984).

Research Aims

The aims of the initial investigation were to determine if this was likely to be the original ground surface/buried soil predating the construction of the barrow. If this was likely, then, via geoarchaeological investigation (M. Allen), soil micromorphology (C. French), pollen (R. Scaife) and land snail analysis (M. Allen) the research aims were to:-

- Define the nature of the soil, and how much of the original profile was present
- Determine if the barrow constructed on top of it, or was it altered in any way to form a ‘clay’ surface to use as the tomb floor.
- Determine the presence of a deliberately laid floor layer

The palaeo-environmental aims were more specific and were to aid in determining the land history prior to the barrow construction and in particular evidence for pre-barrow activity such as the Mesolithic activity seen at Hazelton North long barrow (Saville 1990). The research aims were defined as:-

- Provide a landscape and land-use history prior to barrow construction
- Determine if clearance activities occurred for the barrow construction or considerably prior to that activity
Defining events such as disturbance, cultivation, trampling and burning
Identifying the presence of clay translocation relating to previous wooded environments
Determining the extent to which preserved pollen are recent (i.e. relating to modern and antiquarian disturbance or disruption of the soil) or is coeval with the buried soil

Geoarchaeology and Soil Micromorphology

Michael J. Allen and Charles French

A monolith sample (context 2047, sample 3) of undisturbed soil was taken through the base of the rubble mound and the buried soil to the limestone bedrock from within chamber D. The upper surface is essentially the exposed surface (after removal of detritus) within the chamber.

The profile was lightly cleaned exposing some of the stones (Fig. A5.1) and examined under natural light and illuminated magnification and described following terminology outlined in Hodgson (1976). The extent of some of the stones became apparent after removal of the contiguous pollen samples which left an almost complete ‘wall’ of large subrounded (?subangular) limestone fragments with little soil. The upper portion of the monolith was void, and measurements were taken from the stop of the soil, rather than the top of the protruding stones (see below). The soil (Fig. A5.1) was described from the monolith. Although a few medium to large stones were present in the face of the profile a dark reddish brown to reddish brown silty clay massive soil was present throughout the sample, becoming yellowish red towards the base. This is a typical B horizon of rubified clayey brown rendzinas and rubified (iron rich) clayey calcareous brown earths. Detailed description and pollen samples are given below.

<table>
<thead>
<tr>
<th>Context</th>
<th>Pollen sample</th>
<th>Description</th>
<th>Interpretation/comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2047a</td>
<td>0-8cm 1cm</td>
<td>Frequent large (&lt;8cm) subrounded to rounded limestone fragments in a dark reddish brown (5YR 3/4) silt clay loam – no structure or macropores visible, no root disturbance or intrusive matter present</td>
<td>Possibly all dumped material or rubble over / incorporated within B horizon</td>
</tr>
<tr>
<td></td>
<td>2cm 4cm 5cm 6cm 7cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>8-10cm 8cm 9cm 10cm</td>
<td>Dark reddish brown (5YR 3/4) to reddish brown (5YR 4/4) massive silty clay with few stones- no structure observed</td>
<td></td>
</tr>
<tr>
<td>2047b</td>
<td>10-16.5cm 11cm 12cm 13cm 14cm 15cm 16cm</td>
<td>Reddish brown red (5YR 4/4) massive silty clay to clay with common to frequent medium subrounded fine limestone fragments (&lt;1cm subangular to subrounded), rare small flint/chert pieces. The lighter colour of the matrix may be more calcareous at the base of the sample</td>
<td>Bw and lower B horizon</td>
</tr>
<tr>
<td>2049</td>
<td>16.6cm+</td>
<td>The base of the monolith contains recently fractured limestone bedrock, with silty clay matrix C horizon</td>
<td></td>
</tr>
</tbody>
</table>

Note samples in bold were analysed
**Micromorphological analysis of the buried soil**

**Charles French**

Two continuous samples (4–12.5cm and 12.5–20.5cm) from this soil profile were prepared for thin section analysis (after Murphy 1986) and described using the accepted terminology of Bullock *et al.* (1985) and Stoops (2003). The detailed soil micromorphological descriptions are in Annex 5.1.

**Thin section descriptions (Photographs held in archive)**

Both samples (2047/1 and /2) exhibited a similar soil fabric (c. 40-50% of the slide) between large limestone pebbles (c. 50-60% of the slide) ranging in size from 1cm to >5cm. The soil fabric was an aggregated fine sandy/silty clay loam with minor micrite calcium carbonate. It was dominated throughout by humic and amorphous sesquioxide staining giving it a very strong reddish brown colour. Very rarely, there were partial coatings or discontinuous infillings of strongly amorphous iron impregnated clay with a hint of a phosphatic component.

**Interpretation**

Although there was not great visibility in these thin section slides due to the amount of amorphous iron impregnation throughout, there was sufficient to suggest that this was a bioturbated soil fabric which was subject to much oxidation of both iron and humic matter. In addition, there was some very minor disturbance and possible influence of grazing livestock indicated by the very few phosphatic-iron-clay coatings/infillings, many more of which could have been removed (depleted) through the influence of percolating groundwater. The whole fabric has also been much affected by the proximity of the groundwater table and much oxidation leading to strong rubification with secondary iron oxides and hydroxides (see Hazleton North, Allen and Macphail 1987).

This palaeosol would appear to be the base of a Bw or cambic B horizon of a rubbly and ferruginous calcareous brown earth (cf. Avery 1980; Limbrey 1975). Its organic A horizon has been removed, and perhaps also the upper part of the Bw horizon, no doubt as part of the construction of the chamber and long mound above. Indeed the removal of the A (and upper Bw) horizon during construction and the coincident exposure as a ‘new’ old land surface presumably led to groundwater rich in iron (from the underlying limestone) moving to a more oxidising environment which caused the enhanced formation of secondary iron oxides and hydroxides, resulting in the strong reddening and oxidation features of this soil (Stoops 1983, 184; Lindbo *et al.* 2010, 140). It is also possible that the very fragmentary, mixed and rubbly nature of this buried soil may even reflect earlier Neolithic clearance itself, as was suggested at Hazelton North (Macphail 1990), but there are no noticeable translocated dusty clays to corroborate this suggestion.
Land snails

Michael J. Allen

It was the intention, after removal of pollen samples to remove small 50g spot samples at 3-5cm intervals (to retain for soil chemistry), and remove the remaining in 3-5cm intervals and process for snails and ecofacts. The stoniness of the remaining sample did not allow this. The nature of the soil, however, meant that shell survival was likely to be low, and suitable sample size would not have been possible from the monolith regardless of the stones.

Pollen Analysis of the Old Land Surface

Rob Scaife

Pollen analysis was been carried out on four samples through the buried soil/old land surface at 4cm, 6cm, 8cm and 12cm to provide data on the vegetation which was present at, and immediately before, the construction of this Neolithic long mound. Palynological studies of sub-barrow, Neolithic soil profiles in areas of limestone geology has, in the past, shown that such studies of calcareous soils may provide useful palaeoenvironmental data (Dimbleby and Evans 1974). The relatively nearby Hazelton North Neolithic Cotswold Severn long mound produced such data (Scaife 1990) from just one sample that was analysed, and prompted the possibility of analysis similar rendzina soils preserved here.

Pollen Sampling

Michael J. Allen

The profile was prepared for sampling in contiguous 1cm intervals. The large stones made any subsampling difficult, nevertheless, suitable samples were obtained at every level interval excepting 3cm. The upper portion of the monolith is void and all measurements were taken from the top of the soil profile, though one stone protrudes above this.

Pollen Analysis

Rob Scaife

Methods

Samples of 2–3ml volume were processes using normal techniques for deflocculation of the clay soils (10% KOH) and removal of silica (HF digestion). Coarse debris was removed by sieving at 150μm and clay with micromesh (10μm). Residues were stained and mounted in semi permanent glycerol jelly. Pollen was identified and counted at magnification of ×400 and ××000 (with phase contrast) using an Olympus biological microscope. Sub-fossil pollen and spores was found to be (typically) sparse in these calcareous soil samples. Consequently, pollen counts of 50 grains per sample from 3 of 4 samples was obtained and an even more diminutive total of 8 grains from one sample were obtained. Spores, as might be expected in these poor pollen preserving conditions were more abundant with totals per sample ranging from 43 to 112.
Pollen Data
The poor preservation and small absolute pollen frequencies encountered typical of such prehistoric palaeosols formed on limestone lithology. Enough pollen, however, was present to enable assessment counts to be obtained from all of the four samples examined, although one sample (at 6cm) was especially poor. Pollen count data are given in Table 5.1.

Preliminary pollen analysis was carried out in order to ascertain if sub-fossil pollen and spores survive in this palaeosol and, if so, to provide a preliminary view of the past vegetation and environment at the time of the long barrow construction. Pollen is present in all of the samples examined. The assemblages have strong similarities with those obtained from the Hazelton North long barrow (Scaife 1990). However, the taphonomy of the assemblages is complicated by the poor pollen preserving conditions, the resulting differential preservation of some taxa and the resulting, skewed pollen assemblages. A further, and possible complicating, factor was the probability that the soils may have been disturbed by antiquarian archaeologists. With regard to the latter, this was not seen to be a problem. Pollen was in a relatively poor state of preservation. More recent pollen, if found, might be expected to be ‘freshener’. Furthermore, pine pollen (and other recent/historic period exotics) might be expected in the upper samples coming from introduced plantations from c. 1750-1800. None was present.

Table A5.1: Pollen count data obtained from the Uley Neolithic long barrow palaeosol

<table>
<thead>
<tr>
<th>Sample depth (cm)</th>
<th>2</th>
<th>6</th>
<th>8</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trees &amp; Shrubs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pinus</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Quercus</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Tilia</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>Alnus</td>
<td>6</td>
<td>-</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Corylus avellana type</td>
<td>31</td>
<td>5</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td><strong>Herbs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dianthus type</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Fabaceae</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Apiaceae</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Plantago media/major</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Lactucoideae</td>
<td>1</td>
<td>-</td>
<td>7</td>
<td>-</td>
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<tr>
<td>Poaceae</td>
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<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Cereal type</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Unidentified/degraded</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>Fern spores</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryopteris type (monolete)</td>
<td>26</td>
<td>27</td>
<td>89</td>
<td>67</td>
</tr>
<tr>
<td>Pteridium aquilinum</td>
<td>20</td>
<td>13</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Polypodium</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total pollen</strong></td>
<td>50</td>
<td>8</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td><strong>Total spores</strong></td>
<td>49</td>
<td>43</td>
<td>112</td>
<td>77</td>
</tr>
</tbody>
</table>
It is clear that the pollen assemblages contain higher proportions of tree and shrub pollen and fern spores compared with pollen from herbs (Table 5.1). The pollen spectra enable analysis and interpretation of the past environment, and that produced here is better than that at Hazelton North long barrow (Scaife 1990), where only a single samples was analysed. Analysis of further samples intervals here would not significantly enhance interpretation further. The pollen spectra recorded are characterised as follows.

Trees and shrubs: These are the dominant group with higher numbers lower down in the soil profile. *Corylus avellana* (hazel) is the most, especially in the upper and lower samples. Clusters (most likely coming from single anthers) were recovered in these samples at depths of 2cm and 12cm. Other tree taxa include *Tilia* (lime/linden) which is more abundant in lower levels along with *Alnus* (alder). There are also occasional occurrences of *Pinus* (pine) and *Quercus* (oak) although these are not of regarded as of any significance.

Herbs: There are relatively few herbs in these samples with only sporadic occurrences of Poaceae (grasses), Apiaceae (cow parsley) and Lactucoideae (dandelion types). A single cereal pollen grain was also recovered from 8cm in the profile.

Fern spores: These are abundant with relatively high numbers of *Pteridium* (bracken) and monolete Pteropsida (of *Dryopteris* type). *Polypodium* (polypody fern) is also present.

Vegetation and environment

Because the preservation is typical of calcareous soils, that is, poor in comparison to more acid habitats, the taphonomy is also more complicated involving the possibility of differential preservation of robust pollen types and fern spores compared with pollen having thinner exine (pollen wall). This is certainly the case here with certain pollen types such as *Tilia* and also, especially, the spores of ferns (*Dryopteris* type) which may have a long residence time in soils when other thinner walled taxa have been degraded. However, the pollen of even less robust forms, which was produced and deposited in the periods immediately prior to burial of soils, may survive (Dimbleby and Evans 1974). This is also the case here, with presence of some grass pollen, albeit in small numbers.

There are a range of trees and shrubs present in the pollen spectra. *Corylus avellana* (hazel) is most important and, as the samples at 2cm and 12cm contained small clusters of pollen grains, probably anthers, it is clear that hazel woodland was growing on the site. This bears a close resemblance to the pollen spectra obtained from Hazelton (Scaife 1990) where open hazel scrub woodland was also suggested. Other trees recorded from their pollen include *Alnus* (alder), *Pinus* (pine), *Quercus* (oak) and *Tilia* (lime/linden). *Alnus* is anemophilous, produces substantial quantity pollen and as such, may represent growth from wetland at some distance or, from more local, occasional trees growing in adjacent wet valley bottoms. *Tilia* pollen was recovered in larger numbers from the lower sample levels and was substantially degraded. Lime (*Tilia*) pollen may remain in soils for substantial periods
(Keatinge 1982; 1983) because of its robustness and here, the pollen certainly represents the last vestige of the primary (middle Holocene) woodland which would have existed on this site prior to Neolithic clearance. The high numbers of monolete fern spores (Dryopteris type and Polypodium) are probably also referable to this pre-existing woodland habitat the latter being an important epiphytes of mature trees.

The importance of hazel woodland colonising and/or expanding in the post-primary woodland phase is seen in many Neolithic and Bronze Age sub-barrow palaeosols (Dimbleby 1962; 1985) and in many cases is superseded by open agricultural ground. Here, however, and compared with the Neolithic soil examined at Hazelton North, there are far fewer numbers of herbs. For example, Plantago lanceolata (ribwort plantain), at Hazelton along with grass pollen and Lactucoideae (dandelion types), were suggestive of grassland, possibly pasture. These are largely absent in the Uley profile with only small numbers of Poaceae and Lactucoideae and no Plantago lanceolata present. This may indicate that the local/on site habitat was largely hazel woodland. The only indication of agriculture found was a single, badly preserved cereal pollen grain at 8cm. This pollen may also have remained in the soil for a substantial period, and we may speculate initial cultivation after forest clearance.

Summary and Conclusions

The following main points have been made in this study.

- Pollen has been recovered from four samples examined and some useful information has been obtained which can be compared with the Hazelton North Cotswold Severn barrow.

- In all of the samples, absolute numbers are small and there are clear signs of differential preservation in favour of the most robust pollen types which may have had a long residence time in the soils. This is typical of such calcareous, limestone soils.

- Pollen of lime/linden (Tilia) is present in the lower levels and is a differentially preserved remnant from the primary woodland which was growing on the site and was cleared, presumably in the early Neolithic.

- Hazel (Corylus) pollen is most important and a number of clumps, possibly in anthers, suggest that hazel (? scrub) woodland was growing actually on the site.

- Alder (Alnus) pollen may have come from some growth in a local river valley or from carr woodland at some distance. Other tree taxa recovered are not considered to be of importance as they are anemophilous types, high pollen producers and may disseminate pollen over great distances.
There are relatively few herbs and little indication of either grassland or arable agriculture, although a single cereal pollen grain was recorded. This may have come from an earlier archaeological phase.

The pollen data are very comparable with those from Hazelton showing the importance of hazel, but differs in the lesser importance of herbs of grassland/pasture.

Discussion: the pre-barrow buried soil and environmental history

Michael J. Allen

The exposed sampled soil in chamber D represents a remarkable survival of an exposed in situ, albeit truncated, Neolithic buried soil on which the barrow was constructed. Truncation is considered to be largely a result of the construction of the Neolithic monument, though some further truncation by antiquarian cannot be discounted. There is no evidence of detritus, or proxy palaeo-environmental data, relating to the latter. The rubified nature of the soil is not a result of a clay surface for the tomb floor, but the in situ lower profile of the natural soil. The compacted ‘surface’ is a result of weathering, surface drying and prehistoric to antiquarian trampling.

The mound and buried soil

The soil survives as a severely truncated rubified (iron-rich) calcareous brown earth, from which the A horizon (topsoil) and top part of the Bw horizon had been removed. The stone-rich upper part of context 2047 (designated 2047a) indicates dumped (or fallen) limestone rubble or incorporated into the upper portion newly exposed soil soon after truncation and construction of the mound and chamber.

The reddish brown soil indicates long weathering of the limestone and the presence of a Neolithic soil. It is in total contrast to the recent/modern brashy yellow soils. Localised groundwater conditions have exacerbated oxidation and rubification.

The origin of the large number of subrounded limestone clasts probably derive from stones collected for the construction of cairn and drystone walls within the chamber. But their subrounded to subangular appearance indicates that they had not been recently quarried and have been buried and subaerially weathered.

Environmental history

The general evidence for the Neolithic environment for the Cotswolds is relatively sparse (Bell 1984), despite recently published work such as Ascott-under-Wychwood. The environmental history at Uley, as defined by the pollen, and to a lesser extent by soil micromorphology, is obtained from the lower portions of the buried Neolithic soil, and thus the environmental history contemporary with the construction of the long barrow is not present. Direct comparisons and parallels with environmental
histories from the soils at Hazleton North (Macphail 1990), and Ascott-under-Wychwood (Macphail 2007; Evans 2007a) may not entirely equatable.

The evidence of trees and shrubs that dominated the lower profile indicates the presence of a probably secondary hazel scrub woodland, and thus the earlier clearance of heavier deciduous woodland. This suggests the existence, and subsequent local removal of a former deciduous woodland typical of postglacial Mesolithic and Neolithic environments. Despite recent evidence that large natural openings in the post-glacial woodland existed (French et al. 2007; 2003; in press; Allen and Scaife 2007) and were then specifically chosen as loci for Mesolithic and Neolithic activity (Allen and Gardiner 2009; in press, French et al. Forthcoming/in press), postglacial woodland seems to have existed across most of the Cotswolds and was cleared for, or before, the construction of Neolithic long barrows.

The fewer numbers of herbs seen here than at Hazelton North, may reflect the lack of the comparable upper profile contexts sampled at Hazelton. The presence of these herbs, and of a single cereal grain hint at clearance, opening of the woodland and tillage well before the construction of the Uley long barrow – a situation seen at both Hazleton North and Ascott-under-Wychwood. The light hazel woodland here might, tentatively be paralleled with the Mesolithic woodland clearance and subsequent woodland re-growth at Ascott-under-Wychwood (Evans 2007a). Secondary woodland there was, however, cleared immediately prior to barrow construction as land snail assemblages of open grassland only occur in the Ah (turf) of the buried soil at Ascott-under-Wychwood (Evans 2007b, 59-60).

Evidence of pre-mound human activity
There is evidence of pre-barrow clearance and possibly limited cultivation from the pollen evidence, and the fragmentary and mixed nature of the soil itself, as seen in the micromorphology study, may be a consequence of Neolithic, or even Mesolithic, clearance or disturbance. In addition to this, minor disturbances and evidence in the soil fabric may reflect the influence of grazing livestock (?cattle), which may be taken as evidence of herding or deliberate coralling of wild or domestic animals in areas cleared of woodland. This activity may, however, considerably pre-date the construction of the barrow.

Pre-barrow clearances
Removal of trees and woodland locally is obviously required to provide the space in which to construct the long barrow. What is often less clear is how long prior to construction of the Neolithic monuments such clearance occurred. Was the removal of the tree cover specifically for the barrow construction, or had clearance created an area of importance that was then later used in the Early Neolithic for the location of the barrow? Such clearances can made specifically for barrow construction are suggest by the land snail evidence at Ascott-uder-Wychwood, or may indicate a longer history of Mesolithic activity as suggested at Hazelton North and by the Mesolithic clearance
and subsequent regrowth Ascott-under-Wychwood. Many such Mesolithic foci (Hazeleton, Gloucestershire, Saville 1990; Thickthorn Down, Dorset, Drew and Pigott 1936 amongst others), then became centres of Neolithic activity (Allen and Gardiner 2002; 2009). The clearance of woodland at the Chedworth 1, long barrow, Guiting Power also seems to potentially considerably pre-date barrow conditions (Allen 1988), and the Uley barrow seems to fit with this model. The early clearance at Uley may tentatively be taken to suggest Mesolithic activity.

Acknowledgements
Charles French would like to thank Tonko Rajkovaca of the McBurney Geoarchaeology Laboratory, Department of Archaeology, University of Cambridge, for making the thin sections.

Figures
Figure A5.1. Monolith after cleaning, sampling and preparation for pollen subsampling

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Annexe A5.1: Detailed soil micromorphological description

Samples 1 and 2 (context 2047; 4-20.5cm)

Structure: small aggregated, 0.5-8mm, irregular to sub-rounded, between limestone pebbles; Porosity: 10-20% open interconnected to sub-rounded vughs, <1mm; 2% very fine channels, irregular, <2mm long, <75um wide; Mineral components: >50% limestone gravel, <8mm, sub-rounded to rounded; coarse/fine ratio: 30/70; coarse fraction: 10% medium sand-size limestone, 250-750um, sub-rounded; 10% fine limestone and 10% quartz sand, 100-250um; fine fraction: 10% very fine sand-size limestone and 10% very fine quartz, 50-100um, sub-rounded; 10% micrite calcium carbonate; 40% silty clay, strong to very strongly impregnated with amorphous sesquioxides; reddish brown (PPL), dark reddish brown to black (CPL); Organic component: fine groundmass with amorphous humic matter staining throughout; Pedofeatures: Textural/Amorphous: whole fine groundmass is strongly amorphous sesquioxide impregnated silty or dusty clay, weak birefringence; rare (<1%) amorphous iron-phosphatic-clay coatings/fragments between the aggregates, orangey red (CPL), weak birefringence.

Figure A5.1. Monolith after cleaning, sampling and preparation for pollen subsampling. Scale 10cm (photo: Mike Allen)
# Uley Long Barrow (Hetty Pegler’s Tump), Gloucestershire: Post-Excavation and Updated Project Design

## OASIS REPORT FORM

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<td>Archaeological removal of antiquarian backfill ahead of remedial works examined the structures of some of the burial chambers and confirmed the presence of one (damaged) chamber that had remained hidden. The pre-barrow soil was sampled and contained sparse Neolithic pollen and other environmental indicators. Finds from backfill deposits included fragments of human and animal bones, small quantities of Neolithic and Roman pottery, and modern artefacts.</td>
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<td>Laurent Coleman/Andrew Mudd</td>
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<td><strong>Project supervisor</strong>*</td>
<td>Alistair Barber and Stuart Joyce</td>
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<tr>
<td><strong>Author(s)/Editor(s)</strong></td>
<td>Alistair Barber &amp; Andrew Mudd</td>
</tr>
<tr>
<td><strong>Date</strong></td>
<td>April 2012</td>
</tr>
<tr>
<td><strong>Issuer or Publisher</strong></td>
<td>CA Report no.12048</td>
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<td><strong>Place of issue or publication</strong></td>
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*Mandatory fields*
Site location plan, showing locations of 2010 and 2011 trenches

- site
- 2011 evaluation trench
- 2010 evaluation trench
Trench location plan showing internal features and extent of identified in-situ Neolithic mound

In situ Neolithic mound

Background hachure plan from Guardianship deed plan (1937)

axcavation area showing recorded archaeology
evaluation trench
internal features recorded during EH survey
extent of barrow (EH plan)
current burial chamber lettering
Plan produced in 1821 (from Clifford 1966) showing burial chambers A to E.

Fig. 2. Plan of Hetty Pegler’s Tump made in 1821 by J. T. Lloyd-stokes.

A current burial chamber lettering.
Detailed plan of 2011 trench

Uley Long Barrow (Hetty Pegler's Tump)
Gloucestershire

in situ Neolithic mound
capstones
other stonework
elevations (Figs 6-9)
Section AA - south facing exterior elevation of chamber C

Section BB - west facing exterior elevation of chamber B

20th century cement repairs

Orthostat 2024

Capstone raised on props

2018

2015

2012

Infill 2016

2027

2028

2026

Orthostat 2026

Soil 2031

Bedrock 2032

W 249m

AOD

2011

2014

2016

2008

2012

2015

2018

2029

2018

2025
Section CC - west facing interior elevation of chamber D

Section DD - north facing interior elevation of chamber D

Section EE - east facing interior elevation of chamber D

Section FF - south facing interior elevation of chamber D

Text:

- Capstone
- Fragment
- Orthostat
- Chamber
- Infill
- Passage
- Wall
- Soil
- Natural Bedrock
- Void
- 20th Century Cement Repairs

Uley Long Barrow (Hetty Pegler's Tump)
Gloucestershire

Interior (previously hidden) elevations of burial chamber D

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PROJECT NO.
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FIGURE TITLE
FIGURE NO.
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REVISION

9125
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9-3-2012
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20th century cement repairs
Section GG - north facing interior elevation (normally hidden) of chamber E
Section HH - east facing elevation showing mound material 2003 and detail of chambers B and D
10 In Situ Neolithic mound material 2003 and capstones, looking south-west (scales 1m)

11 Capstones above south-western and western burial chambers (chambers B and C) and central passage, looking east. Capstone 2012 to the fore (scales 1m)
12 Stone courses on south side of south-western burial chamber B, looking north-west. Capstone 2011 to fore (scales 1m)
13 North face of burial chamber C, showing normally hidden exterior face of wall 2037, looking south. Orthostat 2023 is to the left (scales 1m and 0.4m)
14 Burial chamber D, looking south. Orthostat 2034 is facing (scales 1m)

15 South face of burial chamber D, showing soil 2047, orthostat 2023 and wall 2036, looking south (scale 1m)
16  West face of burial chamber D, showing bedrock 2049, overlying soil 2047, orthostat 2033 resting on bedrock and wall 2048, looking west (scale 0.4m)