D5. Radiocarbon dating

D5.1 Introduction

Eleven radiocarbon age determinations have been obtained from the triple-ditched round barrow, the outer ditch of the central henge, the inner ditch of the southern henge, and the double pit alignment. This includes one autoduplicate date from the double pit alignment.

D5.2 The samples

Four single-entity samples of disarticulated human bone from the triple-ditched round barrow were submitted for dating. They are from two closely associated and stratified features. From 037, the fill of pit 036, was a cranial fragment (SF623) and a medial hand phalanx (SF624). This feature had been dug within the inner area of the site and immediately backfilled, most likely during the monument’s earliest development. The two other samples of a carpal hand bone (SF608) and medial hand phalanx (SF609) came from 032, the fill of pit 031 cut into the earlier feature. SF623 refits with a parietal bone from 032, suggesting that the digging of this later feature redeposited some of the bone from pit 036. These four samples are from a minimum of two adults, one most likely 40–60 years old and the other below the age of 24–25 (D4.3). It is not possible to assign biological sex to these samples, although a skull and mandible from 032 were most probably male.

Three samples of charcoal were submitted for dating from the henges. From the outer ditch of the central henge was a single piece of *Betula* sp. charcoal (SF41) from the top of 717, a context formed through natural in-wash and erosion, close to its interface with both 705 and 710. From the inner ditch of the southern henge was a single piece of *Corylus* sp. roundwood (SF102), found on the interface between 622, a basal ditch fill, and the overlying secondary fill of 620. Both samples are either residual or intrusive. Another piece of charcoal, representing a mix of *Acer* sp., *Betula* sp., and *Rosaceae indet.* (SF112), was from 619, a secondary ditch deposit. It was found along with other charcoal
pieces within a discrete dump of stone, suggesting it is unlikely to have got there through bioturbation from a higher level. Since all the taxa are short-lived, they are unlikely to be significantly older than their context.

Two of the three submitted samples from the double pit alignment were of charcoal. A small fragment of *Quercus* sp. charcoal (SF86) from the post-pipe of pit 902 is unlikely to be the result of bioturbation given its location amongst the stony fill. It could have come from the post originally inserted into the feature. A single piece of *Corylus* sp. charcoal (SF122), taken from an irregular lens of burnt wood and shale from the top of the backfill into pit 927, may be from in situ burning after the standing post had rotted and any resulting void been infilled. Hence, it post-dates the construction and use of the monument. The remaining sample from the double pit alignment was taken from the carbonised organic accretion, presumably of foodstuffs, on the interior of two middle Bronze Age sherds (SF1, SF34) in the upper fill of pit 918. A total of 167 sherds from the same vessel were found in this context. It seems likely that the pot had originally been deposited against the standing post.

**D5.3 Methods**

The human bone from the triple-ditched round barrow, the charcoal samples from the southern and central henges, and the carbonised organic accretion from the double pit alignment were all submitted to Beta Analytic Inc. The carbonised organic accretion was detached from the pottery sherds prior to despatch. The charcoal samples from the double pit alignment were submitted to the Oxford Radiocarbon Accelerator Unit at Oxford University, funded through the ORADS programme (P12806-7). The charcoal and the carbonised organic accretion were pre-treated using the acid/alkali/acid protocol with purified CO₂ converted to graphite and measured by Accelerator Mass Spectrometry (AMS). Collagen extraction with alkali was completed on all four human bone samples, the purified CO₂ then converted to graphite and measured by Accelerator Mass Spectrometry (AMS).
D5.4 Results

The radiocarbon results, including their calibration, are given in Table D5.1 and discussed in the relevant sections of Chapter 4. They are conventional radiocarbon ages. The calibration of the Beta Analytic results from the triple-ditched round barrow and the henges was calculated using the Pretoria Calibration Procedure and the computer program IntCal98 (Stuiver et al 1998; Talma and Vogel 1993). The more recent Beta Analytic result from the carbonised organic accretion was calculated using the program IntCal09 (Heaton et al 2009; Oeschger et al 1975; Reimer et al 2009; Stuiver and Brazinunas 1993; Talma and Vogel 1993). The calibration of the Oxford Radiocarbon Accelerator Unit results used the program OxCal v3.5 (Bronk Ramsey 1995) with atmospheric data from IntCal98 (Stuiver et al 1998). The calibrated date ranges used throughout the report are those for 95% confidence, although Table D5.1 also includes those for 68% confidence: in both instances the extremes of the date range are given. The ORADS-funded dates have previously been published in Bronk Ramsey et al (2002, 40-1).