making sense of heritage

Mythe to Mitcheldean Mains Reinforcement, Gloucestershire

Radiocarbon Dating

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MYTHE TO MITCHELDEAN, GLOUCESTERSHIRE (84963): RADIOCARBON DATING

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Two radiocarbon dates were obtained on samples submitted to the Scottish Universities Environmental Research Centre (SUERC) (Table 1). They have been calculated using the calibration curve of Reimer *et al.* (2013) and the computer program OxCal (v4.2.3) (Bronk Ramsey and Lee 2013) and cited in the text at 95% confidence and quoted in the form recommended by Mook (1986), with the end points rounded outwards to 10 years. The ranges in plain type in the radiocarbon tables have been calculated according to the maximum intercept method (Stuiver and Reimer 1986). All other ranges are derived from the probability method (Stuiver and Reimer 1993).

The aim of the radiocarbon dating programme was to determine the age of construction for gully 327, part of roundhouse A, through the precise dating of deposits of charred grain and human bone (Table 1). SUERC-50590 is on a fragment of human skull from gully 327 (slot 811, fill 812) and SUERC-50589 is on charred grain (slot 811, fill 812).

The radiocarbon result for SUERC-50590 (190 cal BC – 10 cal AD at 95% confidence) is likely to be earlier than that for SUERC-50589 (160 cal BC – 50 cal AD at 95% confidence) (72% probability), although it can be noted that both are statistically consistent (T'=0.8; v=1; T'(5%)=3.8) indicating that they could be of a similar date. However, the skull fragment is assumed to derive from a burial disturbed by the construction of the roundhouse gully and is therefore treated as a *terminus post quem* in Figure 1 (shown as *After*). In contrast the charred grain is considered to derive from the use of the roundhouse and is therefore closer in date to its construction and certainly its use (*120 BC – 30 AD (90.4%) at 95% probability and 60 cal BC – 10 cal AD (59.2%) at 68% probability).*

References

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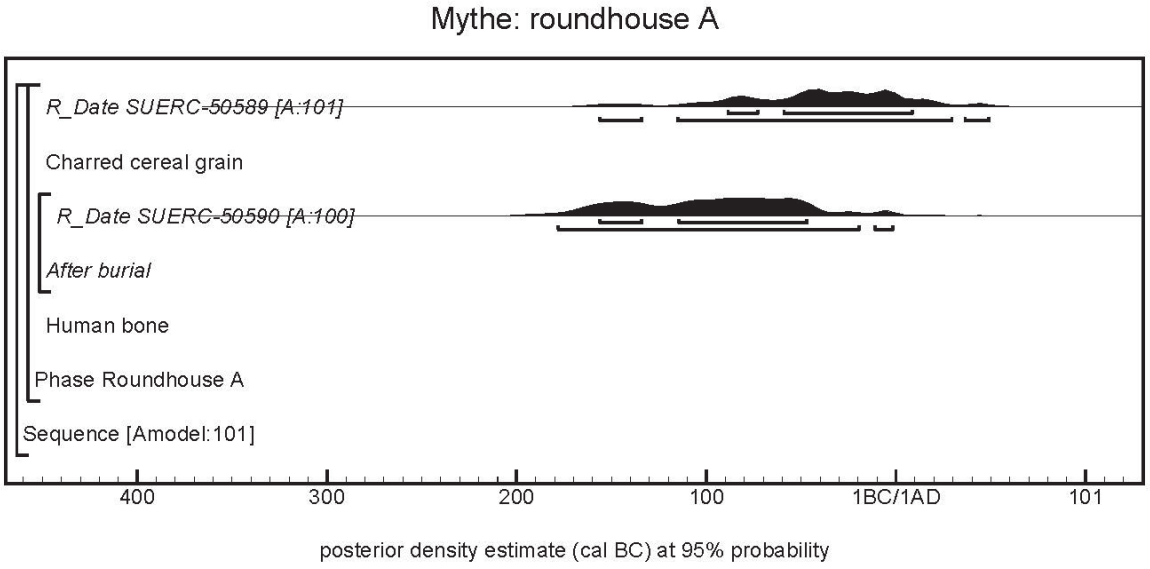
Table 1 Radiocarbon measurements on samples from Roundhouse A Gully 327

Laboratory Code	**Context & sample**	**$\delta^{13}C$ ‰**	**δ15 N‰**	**C:N Ratio**	**Radiocarbon age BP**	**Calibrated date range (95% confidence)**	***Posterior density estimate (95%) probability***
SUERC-50589	Charred cereal grain, Hordeum vulgare	-23.7‰			2035±29	160 cal BC – 50 cal AD	*120 BC – 30 AD (90.4%)*
SUERC-50590	Human bone, left parietal	20-9‰	8.4	3.2	2073±30	190 cal BC – 10 cal AD	*180- 20BC (93.9%)*

Figure 1 Posterior density estimate



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