

## 5 Early Prehistoric Activity: Radiocarbon Dates from the Human Remains

In 1979/80, samples of human bone from Burials 4, 10 and 11 were submitted for dating to the Department of Chemistry, University of Glasgow. [Table 6](#) provides the determinations returned, containing calibrated ranges at 2-sigma (95.4% confidence) based upon both the original lab error quoted (as cited by eg Sheridan, in [Clarke & Hamilton 1999](#), 196) and the adjusted errors recommended by Ashmore ([Ashmore \*et al\* 2001](#)). Calibrated ranges based upon original errors were calculated using OxCal v 3.5 ([Bronk Ramsey 2000](#)), and those relating to the adjusted errors are the ranges produced previously ([Ashmore \*et al\* 2001](#)).

The scale of the errors associated with these determinations allowed the burials to be dated only in broad terms. To offset the problems associated with these dates, fresh samples were submitted for dating from each of the four skeletons. Samples were submitted to SUERC (see [Section 2.2.3](#) for discussion of the rejection of an intermediate set of dates). The results are collated in [Table 7](#), with calibrations obtained by SUERC using OxCal v 3.5 ([Bronk Ramsey 2000](#)).

These determinations have much tighter calibrated ranges than can reliably be interpreted for the original radiocarbon dates, and all fall almost wholly within the calibrated ranges of the earlier dates. The date ranges of the four burials are generally consistent, albeit that a result from one of the dated samples from Burial 5 (SUERC-4072) has a slightly younger range than the others. The results indicate that all four individuals most probably died within the period 2300–2000 cal BC. Assuming that the Beaker vessel recovered from above the burial chamber in Cist 2 formed part of the burial rites associated with Burials 10 and 11, its implied date fits well with the dates of other dated Beaker vessels (Sheridan in [Section 4.3, illus 14](#)).

There is no dating evidence to indicate a chronological sequence of burial within either cist. It is not justifiable to attempt to combine the radiocarbon dates from the burials within each cist, based upon the assumption of contemporaneity of death of the two individuals, in order to tighten the calibrated range (cf [Ward & Wilson 1978](#)). This is because it

**Table 6 Radiocarbon dates from Cists 1 and 2; 1979/1980**

Lab no	Sample context	Material	Lab Age	Lab error $\pm$ 1 sigma	2-sigma range using lab error (cal BC)	Adjusted Error $\pm$ sigma	2-sigma range using adjusted error (cal BC)	$\delta^{13}\text{C}$ (‰)
GU-1406	Burial 4, Cist 1	Femur	3850	160	2900–1800	225	2900–1600	–21.4
GU-1408	Burial 10, Cist 2	Femur	3620	85	2300–1700	120	2400–1600	–20.6
GU-1409	Burial 11, Cist 2	Tibiae	3550	80	2140–1680	110	2200–1600	–23.1

**Table 7 Radiocarbon dates from Cists 1 and 2; 2005**

Lab no	Sample context	Material	Lab age	Lab error $\pm$ 1 sigma	2-sigma range (cal bc)	$\delta^{13}\text{C}$ (‰)
SUERC-4071 (GU-12240)	Burial 4, Cist 1	L Ulna	3765	35	2290–2030	–20.4
SUERC-4082 (GU-12251)	Burial 4, Cist 1	Rib and scapula	3760	40	2300–2030	–20.1
SUERC-4072 (GU-12241)	Burial 5, Cist 1	L Humerus	3615	40	2140–1820	–21.8
SUERC-4083 (GU-12252)	Burial 5, Cist 1	L Radius	3725	35	2280–1980	–21.0
SUERC-4078 (GU-12246)	Burial 10, Cist 2	R Ulna	3755	35	2290–2030	–21.2
SUERC-4079 (GU-12247)	Burial 11, Cist 2	Thoracic vertebra	3720	35	2280–1970	–21.7

cannot be demonstrated on archaeological grounds that the burials contained in each case died at the same time (discussed further in [Section 6.2](#)).

The determinations from the skeletons from the two cists are statistically indistinguishable, suggesting that these burials structures were in use broadly,

if not exactly, at the same time. However, this does not mean that the cists were necessarily constructed at the same time: it cannot be assumed that a full record of burial within each cist remained at the time of excavation, and that the primary burials for which each cist had been built were preserved.