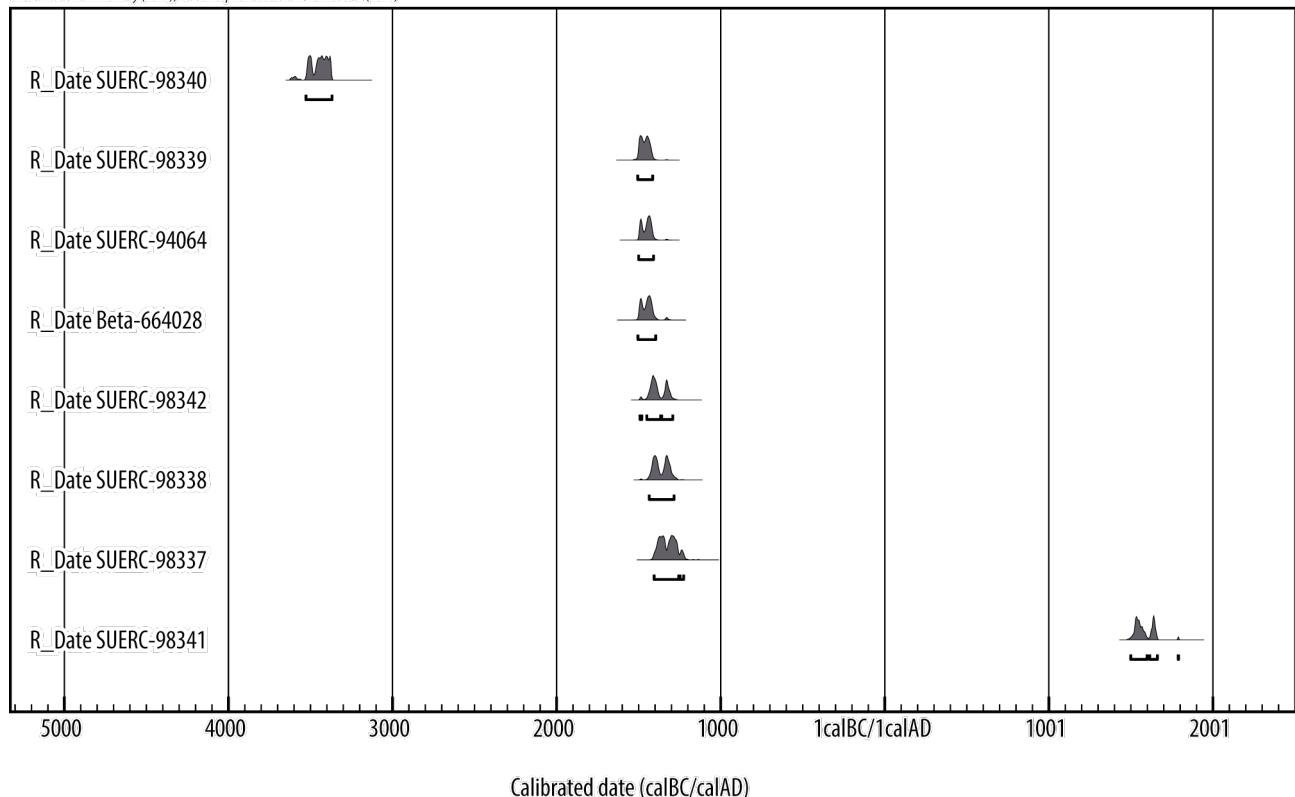


### 3. DATING

Due to the lack of stratigraphic relationships between features and the general lack of spot dates for the cultural assemblage, the radiocarbon dates provided the strongest evidence for the dating and phasing of the site. Eight radiocarbon dates were obtained for material recovered from the archaeological features (Illus 2). Seven non-oak charcoal samples were selected in order to maximise the accuracy of the radiocarbon dates and avoid the 'old wood effect' (Bowman 1990: 51); the eighth sample was from an *in situ* oak timber preserved by waterlogging. Two of the radiocarbon dates came from charcoal recovered from the fill of post pipes associated with the roundhouse. The charcoal in both cases is interpreted as either the decayed *in situ* remains of the post or material from activities within the roundhouse that filled the post

cavity. Four radiocarbon dates were obtained from material associated with the souterrain, namely two fragments of charcoal and the carbonised residue from a fragment of pottery, all retrieved from the basal fills, and a preserved waterlogged oak post that formed part of the support for the souterrain roof. The oak sample was selected for radiocarbon dating despite the risk of the old oak effect, as it was thought that the result would still contribute to the discussion regarding the origin and use of the souterrain. Radiocarbon dates were also obtained from a fragment of charred hazelnut kernel from a pit in the north-east of the site and a fragment of charcoal from a large pit in the north-west of the site. The radiocarbon dates were calibrated using OxCal v4.4.4 (Bronk Ramsey 2021) and the atmospheric calibration curve for the northern hemisphere (Reimer et al 2020) and are presented in Table 1 and Illus 2.

OxCal v4.4.4 Bronk Ramsey (2021); r5 Atmospheric data from Reimer et al (2020)



Illus 2 Overview of radiocarbon dates obtained from the Mauchline site

**Table 1** Overview of radiocarbon dates obtained from the Mauchline site

Feature	Context no.	Lab code	Material	Radiocarbon age BP	2 $\sigma$ calibrated date	Location on plan
Pit 0081	0082	SUERC-98340	Hazelnut kernel: <i>Corylus avellana</i>	4686 ± 29	3530–3370 cal BC	Illus 3, no. 1
Souterrain entrance passage	0167	SUERC-98339	Charcoal: <i>Alnus glutinosa</i>	3189 ± 29	1505–1415 cal BC	Illus 4, no. 4
Souterrain entrance passage	0167	SUERC-94064	Charcoal: <i>Alnus glutinosa</i>	3171 ± 24	1500–1410 cal BC	Illus 4, no. 5
Souterrain chamber post hole 0287	0288	Beta-664028	Wood: <i>Quercus</i> sp	3170 ± 30	1505–1395 cal BC	Illus 4, no. 8
Souterrain chamber	0212	SUERC-98342	Pottery internal residue	3121 ± 29	1490–1295 cal BC	Illus 4, no. 6
Post hole 0034 (roundhouse)	0036	SUERC-98338	Charcoal: <i>Alnus glutinosa</i>	3105 ± 29	1435–1285 cal BC	Illus 4, no. 3
Post hole 0028 (roundhouse)	0030	SUERC-98337	Charcoal: <i>Alnus glutinosa</i>	3054 ± 29	1405–1225 cal BC	Illus 4, no. 2
Pit 0161	0162	SUERC-98341	Charcoal: cf Ericales	289 ± 29	cal AD 1500–1790	Illus 3, no. 7