

**Channel Tunnel Rail Link
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**The radiocarbon dates from Cobham Golf Course,
Kent**

by Michael J. Allen and Simon Davis

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1 INTRODUCTION

The aim of the radiocarbon programme was specific and attempted to provide a *terminus post quem* date for the silting of the ring-ditch which would aid in defining the relative chronology of the site. Other questions were specifically directed at chronology of Late Bronze Age ceramic forms and relatively occurrence in Kent. Strict selection and scrutiny of material was made in an attempt to ensure that all items dated specific events (cf. Allen and Bayliss 1995; Allen *et al.* 2004) and were not just datable items.

Three radiocarbon results were obtained and are presented in Table 1 and figure 1; all have been calibrated with the atmospheric data presented by Stuiver *et al.* (1998) and performed on OxCal ver 3.9 (Bronk Ramsey 1995; 2001) and are expressed at the 95% confidence level with the end points rounded outwards to 10 years following the form recommended by Mook (1986).

2 RING DITCH 61

No suitable material was available from primary fills, but roundwood *Corylus/Alnus* charcoal was selected from a charcoal lens (context 229) at the terminus, which interpreted as a dump (Davis pers. comm.) near the top of the secondary fills of the ring ditch. This result provides an indication of the duration of the ditch infill, there being a number of Early Bronze Age sherds below and in directly adjacent contexts. This submission, therefore, helps to constrain the date of construction of the ring ditch, and to define if the dumping near the top of the ditch was contemporary with other Late Bronze Age (1100-700 cal BC) activity on the site.

The result (914±30 BP, NZA-20963), however, clearly indicates that that the dated charcoal fragment in the charcoal inwash an early Medieval event in this ring ditch, rather than the suspected Late Bronze Age activity. It does not help constrain the date of construction of the ring ditch, but does provide both re-interpretation of the original deposition mode, now considered by to be inwash not dump (Davis pers. comm.), and an indication of early Medieval activity not otherwise represented on the site.

3 CERAMIC CHRONOLOGY

Two results were obtained on sooting and residues adhering to specific pottery forms to aid with the refining pottery chronology and introduction in Kent. This is discussed by Morris elsewhere.

3.1 Late Bronze Age plainware and Saltworking

Pottery sherd PRN 1022 is a Late Bronze Age shouldered jar with heavy sooting, deposited with a quantity of other pottery in pit 137 (context 136). This style of pottery was recovered elsewhere on the site and is associated with saltworking. It is considered to fall into a range of 1100-900 cal BC. This is significant as it may be one of earliest saltworking events in Kent – as the majority of evidence for salt production and distribution is later Iron Age and Roman in date (e.g. Philp 2002; Miles 1975), though some later Bronze Age saltworking is known (e.g. Moore 2002; Masefield *et al.* 2003; Masefield *et al.* 2004). Ultimately it is expected that this is contemporary with other plainware assemblages, i.e. Tollgate, Whitehorse Stone, Tutt Hill. The results from this will confirm contemporarity, and define the duration of the occurrence of this form.

A radiocarbon result of 2741±30 BP (NZA-21143) gives a date of 980-820 cal BC which falls just outside the estimated range. This is very late in the Late Bronze Age, rather than within the Middle Bronze Age as expected, (see Morris for discussion), and but is contemporary with plain Late Bronze Age assemblages from Runnymede Bridge.

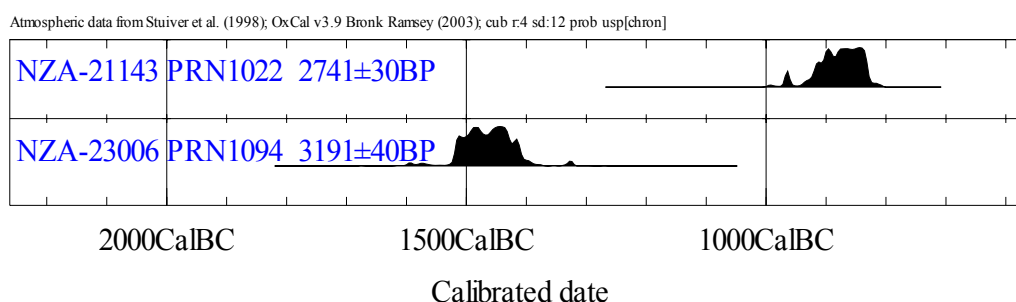


Figure 1. radiocarbon distributions from sooting/residues on Bronze Age pottery.

Pottery sherd PRN 1094 from pit 137 is jar with a horseshoe shaped cordon (illustration 16) considered part of the Deverel-Rimbury tradition which is broadly dated to 1500-1150 cal BC spanning some 350 years. Dating evidence for this period in Kent is currently very limited and ‘suggests that Kent Deverel-Rimbury pottery belongs to the latter part of the wider

Deverel-Rimbury tradition' (Hamilton and Seager Thomas 2005, 26). This submission is to confirm this assumption and define if this pottery style in Kent falls into the earlier or later part of this tradition, and to aid in examining whether this is contemporary with other assemblages such as White Horse Stone, Tutt Hill and Saltwood Tunnel (see Morris).

The result for the adhering sooting and residue is 3191±40 BP (NZA-23006) dating to 1530-1390 cal BC, clearly falling into the earlier part of the Deverl-Rimbury tradition in Kent, *contra* Hamilton and Seager Thomas (2005, 26). The significance of this in ceramic terms is discussed elsewhere by Morris.

4 SUMMARY

The three results for Cobham Golf Course have significantly clarified the age of specific events (upper silting of ring ditch 61) and the range and introduction of ceramic styles and forms. It has indicated activity on site in the early Medieval period not recognised from the archaeological evidence.

5 REFERENCES

Allen, M.J. and Bayliss, A. 1995. Appendix 2: The Radiocarbon Programme, in R.M.J. Cleal, Walker, K.E. & Montague, R., *Stonehenge in its Landscape: twentieth century excavations*. London: English Heritage Archaeological Report 10.

Allen, M.J., Rhodes, E., Beavan, N. and Groves, C., 2004. Absolute Chronology, in Ellis, C.J., *A Prehistoric Ritual Complex and Eynesbury, Cambridgeshire*. Salisbury: EAA Occasional Paper 17 2004, 60-68.

Bronk Ramsey C., 1995. Radiocarbon Calibration and Analysis of Stratigraphy: The OxCal Program. *Radiocarbon* 37(2) 425-430

Bronk Ramsey C., 2001. Development of the Radiocarbon Program OxCal, *Radiocarbon* 43 (2A) 355-363

Hamilton, S. and Seager Thomas, M. 2005. Neolithic and Bronze Age Pottery, in B. Bishop, M. and Bagwell, M., *Iwade: occupation of a north Kent village from the Mesolithic to the medieval period*. Pre-Construct Archaeology Monograph 3, 20-38.

Masefield, R., Branch, N., Couldrey, P., Goodburn, D. and Tyers, P., 2003. A later Bronze Age well complex at Swalecliffe, Kent, *Antiquaries Journal* 83, 47-121

Masefield, R., Bayliss, A., and McCormac, G., 2004. New scientific dating of the later Bronze Age wells at Swalecliffe, Kent, *Antiquaries Journal* 84, 334-9

Miles, A., 1975. Salt-panning in Romano-British Kent, in K. de Brisay and K. Evans (eds), *Salt; The Study of an Ancient Industry*. Colchester, 26-31

Moore, C., 2002. Late Bronze Age, Romano-British and early/middle Saxon features at Hoo St Werburgh, *Archaeologia Cantiana* 122, 259-274

Mook, W.G. 1986. Business meeting: recommendations/resolutions adopted by the twelfth International Radiocarbon Conference. *Radiocarbon* 28, 799.

Needham, S 1996. Chronology and periodisation in the British Bronze Age, *Acta Archaeologica* 67, 121-140

Philp, B., 2002. *Archaeology in the Front Line; 50 years of Kent rescue 1952-2002*, Dover

Stuiver M., Reimer P.J., Bard, E., Beck, J.W., Burr, G.S., Hughen, K.A., Kromer, B., McCormac, G., van der Plicht, J. and Spurk, M., 1998. INTCAL98 Radiocarbon Age Calibration, 24000-0 cal BP *Radiocarbon* 40(3) 1041-1083

<i>Feature</i>	<i>context</i>	<i>sample</i>	<i>context details</i>	<i>material</i>	<i>result no.</i>	δC^{13}	<i>result BP</i>	<i>cal</i>
ring ditch 61	229	21	dump in ring ditch	Corylus/Alnus charcoal	NZA-20963	-26.25	914±30	AD 1030-1210
pit 137	136	-	deliberate deposit	PRN 1022	NZA-21143	-25.64	2741±30	980-820 BC
ditch 197	196	-	Primary fill	PRN 1094	NZA-23006	-28.7	3191±40	1530-1390 BC

Table 1. Radiocarbon determinations from Cobham Golf Course