# Channel Tunnel Rail Link London and Continental Railways Oxford Wessex Archaeology Joint Venture

# The radiocarbon dates from Tutt Hill, Westwell, Kent

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#### **1** INTRODUCTION

The aim of the radiocarbon programme was to determine the chronological nature of the cremation and barrow rites both on site and within a scheme-wide context, and to determine if the Iron Age activity at Tutt Hill was contemporary with similar activity at Eyhorne Street, White Horse Stone, Cuxton, Tollgate and Northumberland Bottom.

More detailed questions included determining:

- the chronological origin of the barrows (i.e. did they have Neolithic origins)
- the chronological relationship of the different funerary rites (cremation and barrow tradition)
- if the different burial rites occurred at common periods on a scheme-wide basis.
- if the cremation burials belonged with the phase of round barrow use or field systems
- if the barrows were contemporary with each other sites such as Beechbrook Wood
- if specific pottery fabrics and forms indicate a transitional phase between the Middle and Late Bronze Age, *c*. 1200-1050, as seen at the perceived transitional phase at Beechbrook Wood and Saltwood Tunnel

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. Six 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 PRE-BRONZE AGE ACTIVITY

Two samples were submitted from mid to late Bronze Age (pit 14 context 13), and Iron Age (pit 5, context 7) contexts, however, the results obtained were considerably earlier than expected (Table 1). Residue from pottery PRN 1063 was expected to provide a result of 500-250 cal BC and enable comparison with similar activity at Eyhorne Street, White Horse Stone, Cuxton, Tollgate and Northumberland Bottom. A surprising result of 5996±45 BP (NZA-23007) is difficult to comprehend. There is no other evidence for late Mesolithic activity on the site, and we must assume that the  $\delta$  C<sup>13</sup> of -35.36 which falls well outside the expected ranges indicates an error with this result. A second determination, also on residues from pottery (PRN 1139, from pit 14), was hoped to aid in refining and confirming the mid to late Bronze Age date of this 'transitional' form of pottery. The result however, of 4962±40 BP (NZA-23008), is more than 2½ millennia earlier than expected (1200-1050 cal BC)

and calls into question the result. Here, however, the  $\delta$  C<sup>13</sup> measurement of -23.5 falls within the expected range. Nevertheless, once again there is no other evidence for activity of this date (Early Neolithic) on site, and we are forced to discount this result.

#### **3** BRONZE AGE BARROWS AND CREMATION BURIALS

Two ring ditches (89 and 156) were excavated; barrow 89 contained sherds of Peterborough Ware indicating that it might have Neolithic origins, or these sherds may have been residual from earlier phases of activity. Clear dumps of charcoal were present in the primary fill (barrow 156) and main secondary fill (barrow 89).

The result of  $3789\pm35$  BP (NZA-21141) from the dumped deposits in the primary fill of ring ditch 156 indicate construction soon after 2340-2040 cal BC, i.e. very early Bronze Age. Secondary fills from ring ditch 89 gave a result of  $3383\pm30$  BP (NZA-21140) and is early to middle Bronze Age (1750-1530 cal BC. Although results were obtained from different deposits (i.e. primary vs secondary fill), the radiocarbon distributions indicate a period of *c*. 350 to 500 years between the two which cannot be accommodated by differences between the primary and secondary fills, and thus barrows 89 and 156 are clearly not contemporary with each other (Figure 1). This also confirms that the Peterborough Ware from the ditch of barrow 89 is residual from earlier activities in the locality. Thus, the barrow suspected to be the earlier of the two dated examples (89), is in fact the later of the two barrows (Figure 1), and neither are early enough to be contemporary with Peterborough Ware activities (*c*. 3300-2800 cal BC). The earlier barrow here (156) can be seen to be contemporary with barrow 851 at Beechbrook Wood which dates to 2310-2030 cal BC (3774±40 BP, NZA-20027).



Figure 1. Radiocarbon distributions of Bronze Age funerary events

Charred alder/hazel from the pyre material of cremation burial 98 gave a determination of 3094±40 cal BC (NZA-20102). This middle to late Bronze Age date of 1440-1210 cal BC is earlier than the

establishment of the late Bronze Age field systems (estimated at 1100-700 BC) and is clearly later than the barrows, spanning 1750-1530 cal BC. If the dated cremation burial is typical of, and represents a single phase of burial, then this event is only 200-300 years later than the last dated barrow event (89). It is however, closer in age to the last dated barrow, than to the two dated barrows are to each other (Figure 1). This is one of the earliest dated prehistoric cremations within the project, being contemporary with Saltwood Tunnel cremation 602 (Table 2, Figure 2), those at Beechbrook Wood and White Horse Stone are at least 100-200 years later.



Figure 2. Radiocarbon distributions of selected prehistoric cremation burials from the project

#### 4 LATE BRONZE AGE AND IRON AGE ACTIVITY

Samples from three features were submitted to address specific questions of the Iron Age activity and the nature of the middle to late Bronze Age 'transitional' pottery. These included the furnace in pit 35, activity represent by pit 5, and pottery forms and fabrics recovered from pit 14 (context 13). Unfortunately none of the results was Bronze Age or Iron Age (see Table 1).

#### 5 EARLY MEDIEVAL

Pit 35 was a non-domestic furnace and a result from young wood (Maloideae) charcoal gave a result of  $960\pm35$  BP (NZA-21142) indicating an early medieval (late Saxon) date of cal AD 1000-1170. This confirms the possibility that activity on this site extended into and beyond the Saxon period.

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# Table 1. Radiocarbon results from Tutt Hill

Feature	context	sample	context details	Material	result no.	$\delta C^{l3}$	result BP	cal	estimated
Pit 35	36	6	charcoal (industrial furnace)	Maloideae r/w	NZA-21142	-27.68	960±35	AD 1000-1170	100-AD43
SW Pit 5	7		4 vessels (ctx 7,8,9,10) in pit with one backfill (6)	PRN 1063	NZA-23007	-35.36	5996±45	4990-4780	500-250
SW Pit 14	13		Final fill of 3 in a pit	PRN 1139	NZA-23008	-23.5	4926±40	3790-3640	1200-1050
cremation burial 98	99	21	pyre debris	Alnus/Corylus	NZA-20102	-25.92	$3094 \pm 40$	1440-1210	1400-600
ring ditch 89	74	19	charcoal dump	Prunus	NZA-21140	-24.8	3383±30	1750-1530	3200-2800
ring ditch 156	164	44	charcoal in primary fill	Fraxinus excelsior	NZA-21141	-24.31	3789±35	2340-2040	2600-2200

Site	cremation burial	result no.	result BP	cal
Saltwood Tunnel	1726	NZA-20598	2499±30	790-450
White Horse Stone /PIL	948	NZA-21492	2791±35	1010-830
White Horse Stone /PIL	852	NZA-21505	2868±35	1190-920
Beechbrook Wood	1290	NZA-21507	2870±30	1190-920
Beechbrook Wood	1294	NZA-20050	2921±40	1270-990
Saltwood Tunnel	3602	NZA-20655	3063±30	1410-1210
Tutt Hill	89	NZA-20102	$3094 \pm 40$	1440-1210

# Table 2. Results from other for prehistoric cremation burials