Channel Tunnel Rail Link

London and Continental Railways

Oxford Wessex Archaeology Joint Venture

The radiocarbon dates from Little Stock Farm, Smeeth, Kent

by Michael J. Allen and Kevin Ritchie

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1   INTRODUCTION

The aim of the radiocarbon programme was to determine if cremation burial, flexed inhumation and disarticulated discard funerary practices were contemporary with each other, or belonged to defined chronological phases. If these belong to definite phases can they be related specifically to any of the phases of Iron Age settlement? It was also attempted to define if the Fengate Ware in pit 2507 fell later than the normal distribution of Peterborough Ware vessels. A subsidiary aim was to provide dates of Iron Age ceramic forms to compare with known dated Continental examples and with dated ranges 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.

Five radiocarbon results were obtained and are presented in Table 1 and figures 1 and 2; 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   IRON AGE BURIALS

Four burials were dated. Two comprised a radius each from flexed inhumations 2033 and 2030 from pit 2031/2037. The semi-articulated inhumation (2033) lay at the base of pit 2037, while higher up the same pit, and within a recut (2-31), was disturbed inhumation 2030. It was thought, based on the artefactual assemblages, that the lower grave was Early-Middle Iron Age (700-100 cal BC) and recut grave to be Middle to Late Iron Age 100 -1 BC. Here, not only can the burial practices be compared chronologically, but also the minimum longevity of the use of the pit discerned. Two other burials were a discarded human skull (2442) from pit 2441, and charred hawthorn thorns and monocot stems from the pyre remains of cremation burial 2408 (Figure 1).

The isolated skull in pit 2441, and the disturbed inhumation (2030) in recut 2031 of pit 2037 produced results which calibrate to 800-510 and 770-440 cal BC respectively. These are earlier Iron Age dates and are indistinguishable at the 68% confidence limit (Ward and Wilson 1978). The dated individuals belong to the same phase of activity even if they are not contemporary within three generations (i.e. 75 years). However, the flexed semi-articulated inhumation (2033) in the pit 2037 below inhumation 2030 gave a determination of 2203±35

BP which calibrates to (380-170 cal BC) i.e. Late Iron Age 770-400 cal BC. This clearly demonstrates that pit 2037 had been to re-bury an individual, or part of, who had been dead for between 75 and 400 years. This individual buried at the base of pit (2033) died 380-170 cal BC, but was accompanied with a 'painted' vessel attributed to *c.* 125-25 cal BC which falls clearly outside the calibrated range.
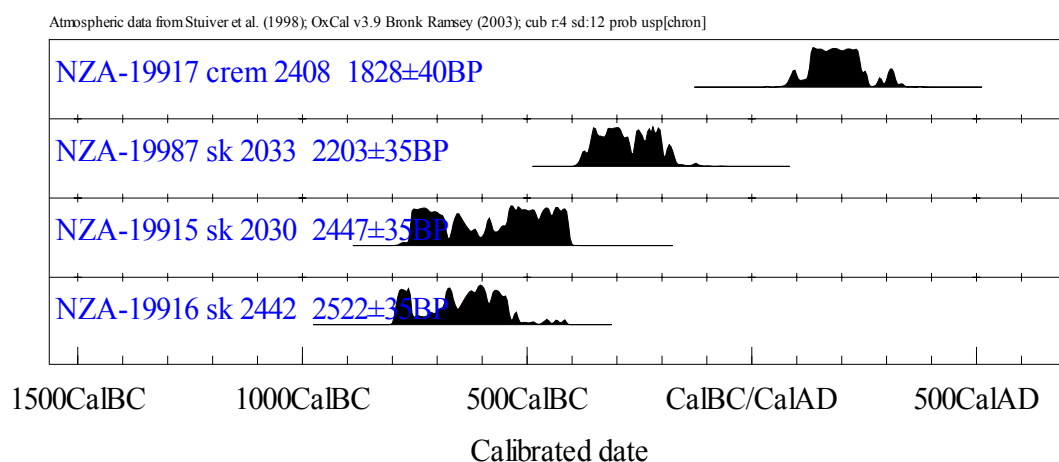

Atmospheric data from Stuiver et al. (1998); OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

NZA-19917 crem 2408 1828±40BP

NZA-19987 sk 2033 2203±35BP

NZA-19915 sk 2030 2447±35BP

NZA-19916 sk 2442 2522±35BP

1500CalBC   1000CalBC   500CalBC   CalBC/CalAD   500CalAD

Calibrated date

Figure 1. Radiocarbon distribution of the Iron Age and Romano-British funerary events.

The resolution of the two Early Iron Age dates is poor as they fall onto the Iron Age radiocarbon plateau and have large ranges spanning three to four centuries each.

The cremation burial, by contrast, clearly post dates all the dated inhumation events with a result of 1828±40BP (NZA-19917) which calibrates to cal AD 80-330. The majority of this distribution (90%) however falls between cal AD 80 and 260 in the early to mid Roman period. The dated cremation burial is at least 300 years later than the last dated Iron Age inhumation burial.

The evidence of reburial of long deceased Early Iron Age remains (skull 2442, inhumation 2030) seems to have occurred, and in one case this was several probably centuries later in the Late Iron Age. The single dated flexed inhumation is Late iron Age, but the dated cremation is early to mid Romano-British. These results provide some insight to burial practices, but caution must be used when using this single example to generalise about funerary customs or practices.

3   FENGATE WARE

One ancillary question at Littlestock concerned the relative chronological position of sherds of Fengate (Peterborough) Ware and how this related to the limited set of dated Peterborough Ware contexts in Kent. Pit 2507 contained Fengate Ware and a petit tranchet derivative. Although a few charred cereal grains were present in the same context, we could not be sure that any were not intrusive, so hazelnuts were selected from a what was described as a 'single context dump' of charred hazelnuts within context 2506 (sample 3024).
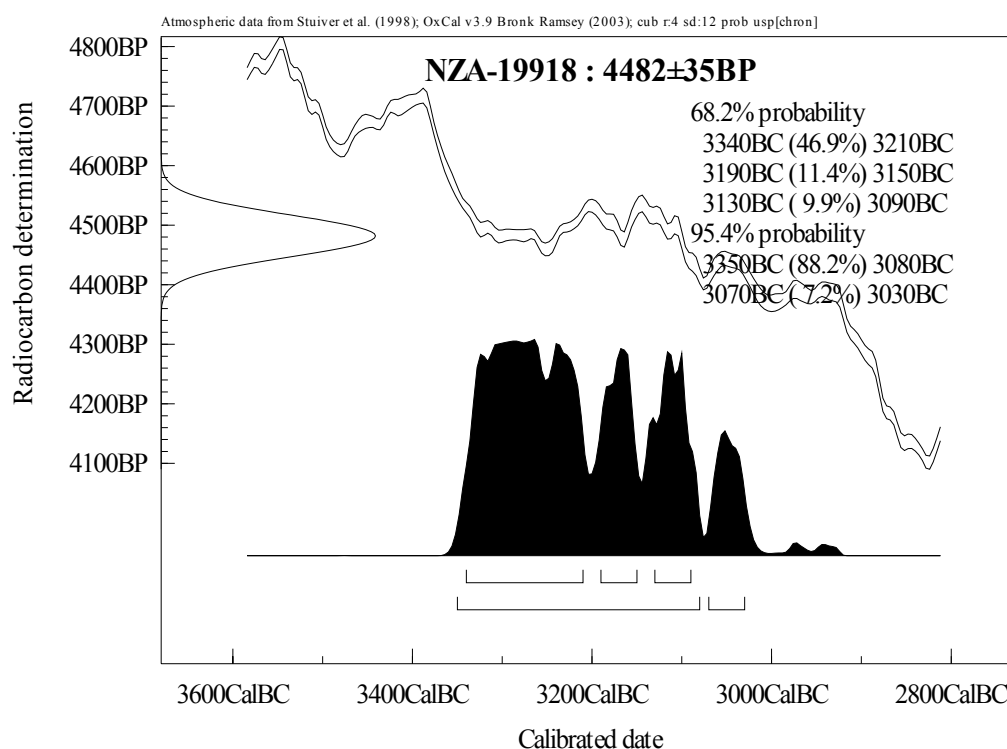

Atmospheric data from Stuiver et al. (1998); OxCal v3.9 Bronk Ramsey (2003); cub r:4 sd:12 prob usp[chron]

NZA-19918 : 4482±35BP

68.2% probability
3340BC (46.9%) 3210BC
3190BC (11.4%) 3150BC
3130BC (9.9%) 3090BC
95.4% probability
3350BC (88.2%) 3080BC
3070BC (7.2%) 3030BC

Figure 2. Radiocarbon distribution of hazelnuts relating to Fengate Wares

Defining a period within the Peterborough Ware phase (3350-2900 cal BC) is virtually impossible as there are two plateaux in the curve in this range. The first is at *c.* 3177-2900 cal and a second at *c.* 3200-3100 cal BC. Reducing the error was crucial in attempting to achieve anything valid from this submission. The result of 4482±35 BP (NZA-19918) has an error range of less than 1% (±35) giving a precise date and calibrates to 3350-3030 cal BC comfortably spanning almost the entire Peterborough Ware phase. The radiocarbon distribution (Figure 2) shows multimodal distribution across the whole range. There is a slightly higher probability (88%) that the date falls in the slightly earlier part of this range (3350-3080 cal BC), but otherwise is an expected and not highly useful result.

4   REFERENCES

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Feature	context	sample	context details	material	result no.	δC^{13}	result BP	cal	estimate
cremation burial 2408	2409	2019	?E/MIA cremation burial	monocot stem, hawthorn thorns	NZA-19917	-26.41	1828±40	AD 80-330	125 BC-AD 25 (700-100 BC)
Cut 2037	sk 2033		E/MIA inhumation	L radius	NZA-19987	-19	2203±35	380-170 BC	150-1 BC (700-100 BC)
Cut 2031	sk 2030		M/LIA inhumation	L radius	NZA-19915	-20.54	2447±35	770-400 BC	150-1 BC (400BC-AD43)
Pit 2441	sk 2442		isolated human skull frag	skull frag	NZA-19916	-20.39	2522±35	800-510 BC	550-1 BC (700-100 BC)
pit 2507	2506	3024	single fill in Neo pit	hazelnuts	NZA-19918	-25.9	4482±35	3350-3030 BC	3000-2400 BC

Table 1. Radiocarbon results from Littlestock