



Dowd's Farm
Hedge End, Hampshire

Supplement to Publication
Radiocarbon Dating

by Ruth Pelling

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Introduction

A total of 15 radiocarbon measurements were obtained during the post-excavation analysis. The radiocarbon dating programme was used to assist in building a chronological framework for the site and to date specific features and objects which otherwise lacked dating evidence. Broadly, the dating was designed to separate the late prehistoric from Saxon phases of occupation at the site. All dates were undertaken at the Rafter Radiocarbon Laboratory, New Zealand.

Sampling and Calibration

Features for which dating was required tended to lack charred plant remains. Samples of wood charcoal were therefore used in most cases. Where possible samples were obtained from shorter lived species such as alder (*Alnus* sp.) or Pomoideae species (an anatomically similar group of species including apple (*Malus* sp.), pear (*Pyrus* sp.), hawthorn (*Crataegus* sp.), whitebeam and service fruit (*Sorbus* sp.). In a number of cases only oak (*Quercus* sp.) was available and it was not possible to select twig or sap wood. Given the longevity of oak (+300 years) any interpretation of these dates must be taken with care.

The calibrations of the radiocarbon measurements into calendar years are given in Table 1 and are plotted in Figure 1. All dates have been calibrated against the IntCal09 Northern Hemisphere radiocarbon calibration curve of Reimer *et al.* (2009), using the computer program OxCal v4.1.6 (Bronk Ramsey 1995; 2001). The calibrated date ranges cited in the text are those for 95.4% (2σ) confidence. They are quoted in the form recommended by Mook (1986), with the end points rounded outwards to the nearest 10 years.

Results

Late Bronze Age

Two charcoal samples were submitted from tree-throw holes in the south and south-western part of the site. Large tree-throw hole 13323 situated at the western edge of Area C produced a charcoal assemblage completely composed of oak. A date of 1130-930 cal BC (NZA-31244; 2864 \pm 25 BP) was obtained on a fragment of oak. A similar date of 1120-890 cal BC (NZA-32365; 2821 \pm 35 BP) was obtained from oak recovered from tree-throw hole 10182 in the south-western part of the site (Area B). This feature also contained dumped hearth debris, burnt flint and undiagnostic flint tempered pottery. The longevity of oak is such that these dates could encompass substantial errors of as much as 300 years. Nevertheless, the similarity in date, and the fact that several tree-throw holes were present on the site, many with large amounts of charcoal associated with them, raises the possibility that this represents a period of clearance. Alternatively, it is possible that a period of natural tree fall occurred, for example in stormy conditions, and that these dates represent human activity exploiting the resulting hollows.

Iron Age

A number of features produced Iron Age dates which cluster between about 400 cal BC and cal AD 50 (Middle to Late Iron Age).

A date was obtained on oak from posthole 10878, one of four postholes (10872, 10874, 10876 and 10878) forming a four-post structure (group 10881) just to the north of the central working area (12218). A small quantity of grain was recovered from posthole 10878. The small assemblage of grain was such that no confidence could be placed on the integrity of the assemblage however. The charcoal from this feature was composed entirely of oak, presumed to be the remains of the post. An Early Iron Age date of 730-380 cal BC (NZA-32362; 2366±35 BP) was obtained on oak, although again given the longevity of the genus it is feasible that the four-post structure is somewhat later. Pottery of Late Iron Age date was recovered from posthole 10876.

Dates were obtained from charcoal from a number of shallow hearths, all morphologically similar and producing no datable finds. The dates obtained proved to be close, all falling in the Middle to Late Iron Age and consequently suggesting these features represent a contemporaneous period of activity. Small 'cooking pit' 3103, located in the south of the Area G, which had signs of intense *in situ* burning, produced a date of 360-110 cal BC (NZA-31246; 2166±25 BP) on a fragment of oak charcoal. A small hearth (12023) in Area A, which similarly showed signs of intense *in situ* burning, produced a date from ash (*Fraxinus excelsior*) charcoal calibrated to 400-200 cal BC (NZA-32167; 2248±40 BP). Feature 13219, one of five undated hearths in Area C, also produced a Middle Iron Age date on oak of 380-200 cal BC (NZA-31242; 2218±25 BP). Hearth 12102 in the north-west of the site (Area A) produced a date of 370-110 cal BC (NZA-32364; 2174±30 BP) on Pomoideae charcoal. This hearth contained a large part of a single vessel (deposit 12087) apparently deliberately placed in the centre as well as a single piece of briquetage which may relate to its function. Finally, a hearth (13314), situated south-east of Enclosure A in Area C, was dated on a fragment of aspen/willow (*Populus/Salix* sp.) to 360-90 cal BC (NZA-32367; 2153±30 BP).

Three further features produced Middle Iron Age dates. A date of 370-90 cal BC (NZA-32369; 2159±35 BP) was obtained on a possible stake of aspen/willow apparently driven through the base of feature 10412 into the natural greensand (monolith 87, see Norcott, Sediment report). Pit 10861 was the deepest of three inter-cutting pits in group 10904, situated to the west of activity working area 12218, and was one of three in the group to contain a hearth or hearth debris. A fragment of alder (*Alnus* sp.) produced a date of 360-50 cal BC (NZA-32363; 2142±30 BP). A date, also obtained on alder, from the northern terminal of Enclosure A (intervention 10021) was again similar, at 210-40 cal BC (NZA-32366; 2108±30 BP). These slightly later ditches and the hearths do appear to cluster fairly tightly, suggesting a concentration of activity in the Middle to Late Iron Age at the site.

Middle Iron Age/early Romano-British

A sample of alder or birch (*Alnus/Betula* sp.) charcoal from ditch 14244 from Enclosure B (ditch 14317) in Area C produced a slightly later Middle Iron Age to early Romano-British date of 160 cal BC - cal AD 60 (NZA-32168; 2033±30 BP). Given the stratigraphic relationship between this feature and other Middle Iron Age features, this date would suggest that the ditch remained open beyond the period of the bulk of the Middle Iron Age archaeology.

A date of 110 cal BC – cal AD 50 (NZA-31243; 2035±25) was obtained on alder charcoal from deposit 14130, the fill of a re-cut (14129) through a sub-rectangular features of uncertain function (feature 14127). This context produced a triangular loomweight (one of four recovered from the site) which is of Late Iron Age /early Romano-British date. These two later dates then suggest some continued activity at the site at the end of the Iron Age.

Saxon activity

While no direct evidence for a Saxon settlement was identified on the site, artefact and dating evidence certainly demonstrate continued activity. Wood charcoal of indeterminate genus from Late Iron Age/early Romano-British enclosure ditch 13593 (section 14214, context 14217, 54cm from top of monolith 201) produced a date of cal AD 540-770 (NZA-31247; 1392±55 BP). Assuming the charcoal does not represent later, intrusive material, this date would appear to indicate the presence of activity on the site, and the final infilling or re-cutting of this enclosure ditch, in the early to middle Saxon period. The sediments within the features are indicative of gradual weathering back of the ditch sides and surrounding ground surface rather than rapid infilling of dumped refuse. Assuming the early Saxon date does relate to the later infilling of the feature then it would appear that this ditch was likely to have been kept clear for some time, gradually being allowed to infill over a period lasting into the Saxon period.

A late Saxon/early medieval date of cal AD 1020-1160 (NZA-32368; 955±30 BP) was obtained on Pomoideae charcoal from a hearth (feature 13445) cut into the top of the ditch of Enclosure A.

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Table 1: Radiocarbon determinations (all charcoal, except NZA-32369, which is on waterlogged wood)

Lab Code	Feature Type	Feature No	Context & /or sample	Comments	Species	Date BP	$\delta^{13}C_{\text{‰}}$	Calibrated Range (95%)	Date
NZA-31244	Tree-throw hole	1333	13326	large irregular hollow undated	oak (<i>Quercus</i> sp.)	2864±25	-27.9	1130-930 cal BC	1130-930 cal BC
NZA-32365	tree-throw hole	10182	10183	dump of charcoal in tree-throw hole	oak (<i>Quercus</i> sp.)	2821±35	-23.6	1120-890 cal BC	1120-890 cal BC
NZA-32362	posthole	10878	10800	posthole in 4-post structure	oak (<i>Quercus</i> sp.)	2366±35	-26.4	730-380 cal BC	730-380 cal BC
NZA-32167	hearth	12023	12025	small undated hearth	ash (<i>Fraxinus</i> sp.)	2248±40	-25.2	400-200 cal BC	400-200 cal BC
NZA-31242	hearth	13219	13220	undated pit adjacent to 13314	oak (<i>Quercus</i> sp.)	2218±25	-26.3	380-200 cal BC	380-200 cal BC
NZA-32364	hearth	12102	12164	hearth	apple/hawthorn etc (Pomoideae)	2174±30	-26.3	370-110 cal BC	370-110 cal BC
NZA-31246	hearth/cooking pit	3103	3104	small hearth/cooking pit	oak (<i>Quercus</i> sp.)	2166±25	-25.6	360-110 cal BC	360-110 cal BC
NZA-32369	stake	10412	monolith 87	The stake. Wood in natural greensand from monolith 87	Poplar/willow (<i>Populus/Salix</i> sp.)	2159±35	-29.6	370-90 cal BC	370-90 cal BC
NZA-32367	hearth	13314	13316	undated hearth	Poplar/willow (<i>Populus/Salix</i> sp.)	2153±30	-26.3	360-90 cal BC	360-90 cal BC
NZA-32363	pit	10861	10867	intercutting pit group	alder (<i>Alnus</i> sp.)	2142±30	-27.2	360-50 cal BC	360-50 cal BC
NZA-32366	enclosure terminal	10021	10024	Enclosure A terminal	alder (<i>Alnus</i> sp.)	2108±30	-24.5	210-40 cal BC	210-40 cal BC
NZA-31243	feature of unknown function	14129	14130	dump within re-cut of sub-rectangular feature	alder (<i>Alnus</i> sp.)	2035±25	-26.4	160 cal BC – cal AD 50	160 cal BC – cal AD 50
NZA-32168	enclosure ditch	14244	14246	Enclosure B ditch	alder/birch (<i>Alnus/Betula</i> sp.)	2033±30	-26.8	160 cal BC – cal AD 60	160 cal BC – cal AD 60
NZA-31247	enclosure ditch	14214	14217	Monolith 201 in Enclosure A ditch (54 cm from top)	non-oak indet or oak (<i>Quercus</i>)	1392±55	-28	cal AD 540-770	cal AD 540-770
NZA-32368	hearth	13445	13446	undated hearth in top of Enclosure A ditch	apple/hawthorn etc (Pomoideae)	955±30	-27.5	cal AD 1020-1160	cal AD 1020-1160



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