APPENDIX 1 - DATING

1.1 Assessment of the Radiocarbon Dates

Introduction

1.1.1 Single samples from two burnt pits at Hurst Wood were submitted for radiocarbon dating. The samples were taken from pits which contrasted in size, form and location as far as was possible given the need to obtain datable sample. They were intended to provide an indication of the date, and hopefully the range of dates of the burnt pits on this site.

Method

1.1.2 The sample was analysed using an accelarator mass spectrometer to determine its conventional radiocarbon age, percent modern and $\Delta^{14}C$ based on the NBS-I oxalic acid standard, and the $\delta^{13}C$ was measured using a stable isotope mass spectrometer.

Material and Context

The two samples consisted of fragments of burnt plant material. From amongst the fragments of wood charcoal, two samples from small twigs or stems were selected, one probably *Maloideae* (hawthorn, apple, pear etc.) and the other probably *Clematis vitalba* (clematis) or *Vitis vinifera* (vine). The selection of twigs and stems ensures that the date obtained should be close to the date of death of the plant. The need to select material of this kind rather than unidentified wood charcoal, severely restricted the range of contexts which could be dated, and the original intention to date pits which differed in size, shape and location, and which thus might be of differing date, could not all be fulfilled. One sample was eventually taken from context 143, the upper fill of pit 140, a flat-based, rectangular burnt pit. The other was from context 107, the primary fill of pit 104, a concave-based circular pit. Although contrasting in shape, both are amongst the larger pits on the site, and both lie at the northern end of the site. The upper fill of pit 104 contained a few fragments of fired clay, whilst pit 143 also contained a few sherds of middle-late Iron Age pottery, two pieces of flint and what may be a grape pip. The dates may thus provide a test of the extent to which these finds are likely to be residual.

Results

The sample results are tabulated below.

Table 39: Radiocarbon results obtained during the assessment

Lab ref	Context	Sample	Date	1σ	2σ	Comment
NZA-12274	ARC HWD98 ctx 107 (sample 9)	Burnt plant material (clematis vitalba)	1076±60	895-1017 cal AD	820-843 cal AD plus 862-1035 cal AD	From charcoal-rich fill of burnt, circular, concave pit 104
NZA-12284	ARC HWD98 ctx 143 (sample 14)	Burnt plant material (maloidiae)	2742 ±45	922-828 cal BC	993-810 cal BC	From charcoal-rich fill of burnt, rectangular, flat-based pit 140

1.1.3 Widely divergent (Bronze Age and Late Saxon) radiocarbon dates have been obtained, indicating either that similar activities were carried out on the site over a very long period of time, or more likely, that the pits contain residual organic material as well as artefacts. If the former is true, all of the burnt features would

need to be radiocarbon dated in order to examine their chronology. If the latter is true, further radiocarbon results would not resolve the dating problem at all. Since in either case the function of the pits will remain uncertain, no further dating is recommended.

1.1.4 There would be some intrinsic value in confirming the Saxon date of the *clematis vitalba* or *Vitis vinifera* charcoal from pit 104 and/ or the grape pips from the pit 143, with another radiocarbon date, to establish the date of the possible vine cultivation.

1.1.5 No radiocarbon dating is recommended for other contexts in this group of sites as the features are either sufficiently dated by artefactual evidence or show evidence for a high level of residual material.

