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An Assessment of Charred Remains from Kenbury Wood, Dorset

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Summary

An archaeological evaluation was carried out at Kenbury Wood landfill site, Devon by SLR Consulting. A total of four samples were assessed for charred remains from a ditch and urned cremation both dating to the Romano-British period. An inhumation was also recorded and this, along with a sample from the upper fill of the ditch, were submitted for radiocarbon dating. The assessment did not record any charred plant remains but did show an abundance of charcoal. This was mainly oak and alder/hazel indicating that these species were being exploited as a source of fire fuel. Oak was the only firewood selected for the funerary pyre which is a standard practice given its high energy properties. The radiocarbon dates confirmed the inhumation and ditch were of the Romano-British period but it was the stratigraphic relationship which determined which was the oldest feature. It appears the burial was cut by the ditch and is therefore the oldest feature. If further excavations taken place it may be possible to employ Bayesian modelling to these and subsequent dates in order to refine the chronology. No further work is recommended for the charred samples.

KEYWORDS: Romano-British, cremation, ditch, charcoal

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1. INTRODUCTION

An archaeological evaluation was carried out by SLR consulting at Kenbury Wood landfill site, Devon (centred on NGR SX 9194 8710). Archaeological deposits including a ditch of probable Romano-British date, a cremation and an inhumation also of Romano-British date.

A programme of soil sampling was implemented during the excavation, which included the collection of soil samples from sealed contexts. A series of four samples were submitted for a post excavation assessment. The aim of the sampling was:

- To assess the type of preservation and the potential of the biological remains
- To provide material for radiocarbon dating
- To record any human activities undertaken on the site – both domestic and industrial
- To provide comparative material which will contribute to our understanding of the site within the area as a whole

2. METHODS

Four samples were submitted for assessment:

Sample number	Context	Feature	Amount processed	Amount remaining
1	21	Upper fill of ditch	29.6K	17.7Kg
2	22	Lower fill of ditch	21Kg	None
3	33	Fill of Cremation Urn	4.1Kg	None
4	21 (C14 sample)	Upper fill of ditch	1Kg	None

Table 1: Samples from Kenbury Wood

The samples were examined in the laboratory, where they were described using a pro forma. The subsamples were processed by staff at Birmingham Archaeology using their standard water flotation methods. The flot (the sum of the material from each sample that floats) was sieved to 0.3mm and air dried.

The heavy residue (the material which does not float) was also examined, and the remains of charcoal and plant macrofossils were removed and sent to the author for identification and incorporation into the report. The results presented here incorporate both material from the heavy residue and the flot. The material was examined under a low-power binocular microscope at magnifications between x12 and x40.

A four point semi quantitative scale was used, from '1' – one or a few specimens (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix). Data were recorded on paper and subsequently on a personal computer using a Microsoft Access database.

The flot was then sieved into convenient fractions (4, 2, 1 and 0.3mm) for sorting and identification of charcoal fragments. Identifiable material was only present within the 4 and 2mm fractions. A random selection of ideally 100 fragments of charcoal of varying sizes was made, which were then identified. Where samples did not contain 100 identifiable fragments, all fragments were studied and recorded. This information is recorded with the results of the assessment in Tables 2 and 3 below. Identification was made using the wood identification guides of Schweingruber (1978) and Hather (2000).

Taxa identified only to genus cannot be identified more closely due to a lack of defining characteristics in charcoal material.

A total of two samples were submitted for radiocarbon dating to BETA Anlaytic Laboratories, Florida. A piece of *Alnus/Corylus* (alder/hazel) roundwood was submitted from the upper fill of the ditch (SN.4) and a piece of skull from the inhumation. Each sample underwent acid/alkali/acid pre-treatment prior to dating.

3. RESULTS

Charcoal fragments were present in all of the samples, and scored a maximum of '4' on the semi quantitative scale. Due to the small size of these charcoal fragments and their poor preservation, little interpretable information can be gained from the samples investigated.

The preservation of the charcoal was relatively variable even within the samples. Some of the charcoal was firm and crisp and allowed for clean breaks to the material permitting clean surfaces where identifiable characteristics were visible. However, most of the fragments were very brittle, and the material tended to crumble or break in uneven patterns making the identifying characteristics harder to distinguish and interpret. Table 2 below shows the results of the charcoal assessment. *Quercus* (Oak), and *Alnus/Corylus* (Alder/Hazel) were recorded with *Quercus* being the most frequently recorded.

The total range of taxa comprises oak, and alder/hazel. These taxa belong to the groups of species represented in the native British flora. There are various, largely unquantifiable, factors that affect the representation of species in charcoal samples including bias in contemporary collection which are inclusive of social and economic factors, taphonomy and preservation (Thery-Parisot 2002). The identified taxa are not considered to be indicative of the availability of woodland resources in the local area and are possibly reflective of particular choices of fire making fuel from these resources. The charcoal recovered from the cremation urn was *Quercus* with no other species recorded suggesting that this species was preselected as the most suitable material to form the pyre.

Root / rootlet fragments were also present within all of the samples. This indicates disturbance of the archaeological features, and this may be due to the shallow nature of the topsoil coverage of the archaeological features. This is further confirmed by the presence of earthworm egg capsules in one of the samples.

The radiocarbon date from the upper fill of the ditch (context 21) confirms this upper fill was Romano-British, Cal AD140 to 260 (Cal BP 1680-1670) and Cal AD 280 to330 (Cal BP 1620 to 1520). The inhumation also dated to the same period, Cal AD 260 to 280 (Cal BP 1810-1680) and Cal AD 330 to 420 (Cal BP 1670-1620). The calibrated range of these dates overlap at 2 sigma hence it is not possible to definitively state which feature is the oldest. However, stratigraphically the inhumation was shown to be truncated by the ditch places it at an earlier date.

5. CONCLUSIONS

The charcoal remains show the exploitation of oak and alder/hazel woodland and with the wood collected being used for fire material and also in the construction of a funerary pyre. The sole use of oak in cremation pyres is not unusual and appear to have been selected for its firm support of the body and its properties as a long lasting, high energy fuel (Brickley in Hewson 2006:95).

A basic pH colorimetric test was carried out on the soils from the ditch which gave a pH of 5-6 indicating acidic conditions prevail at the site. This may explain the lack of faunal remains and the poor preservation of bone.

However, due to the small amount of charred material, there is no further interpretable value to these samples.

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Table 2: Components of subsamples from Kenbury Wood (BA2150/KWL'11)

Semi-Quantitative score on a scale of 1 – 4: from '1' – one or a few (less than an estimated six per kg of raw sediment) to '4' – abundant remains (many specimens per kg or a major component of the matrix).

Component	**SN. 1 (21) Ditch Fill**	**SN. 2 (22) Ditch Fill**	**SN. 3 (33) Pyre Material**	**SN. 4 (21)**
Charcoal fgts.	4	1	2	3
Earthworm egg capsules		1		
Root/rootlet fgts.	3	4	4	2
Sand	2	3	1	4

Table 3. Complete list of taxa recovered from deposits at Kenbury Wood (BA 2150/KWL'11)

Taxonomy and nomenclature follow Schweingruber (1978). Numbers are identified charcoal fragment for each sample.

Latin Name	**English Name**	**Sample 1 (21) 100+ fgts. max. size – 12mm**	**Sample 2 (22) 28 fgts. max. size – 13mm**	**Sample 3 (33) 100+ fgts. max. size – 4mm**	**Sample 4 (21) 50+ fgts. max. size – 17mm**
Alnus / Corylus	Alder / Hazel	5			2
Quercus	Oak	41	1	16	38
	Indeterminate	45	27	84	10

Table 4. Radiocarbon dating results

Sample/ Beta code	**Material**	**13C/12C**	**Radiocarbon Age**	**Calibrated Age**
BA2150-BONE BETA-296234	Bone, collagen extraction with alkali	-20.8 ‰	1670+/- 30BP	Cal AD 260 to 280 (Cal BP 1810-1680) and Cal AD 330 to 420 (Cal BP 1670-1620)
BA2150-4-21 BETA-296233	Charred roundwood (alder/hazel) acid/alkali/acid	-24.5 ‰	1790+/- 30BP	Cal AD140 to 260 (Cal BP 1680-1670) and Cal AD 280 to330 (Cal BP 1620 to 1520)