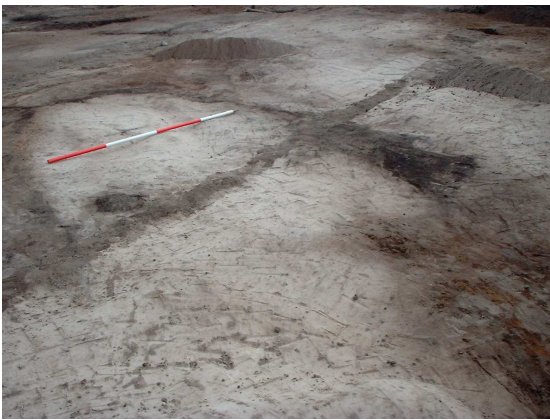


Manor House Farm, South Marina Basin, Rufford Lancashire



Environmental Assessment



Oxford Archaeology North

October 2008

Stephen Baldwin

Issue No: 2008/877

OAN Job No: L9991

NGR: SD 428 418

NGR SD 408 462

Document Title: MANOR HOUSE FARM, SOUTH MARINA BASIN,
RUFFORD, LANCASHIRE

Document Type: Environmental Assessment

Client Name: Stephen Baldwin

Issue Number: 2008/877
OA Job Number: L9991

National Grid Reference: SD 428 418 and SD 408 462

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MANOR HOUSE FARM, SOUTH MARINA BASIN, RUFFORD, LANCASHIRE: ENVIRONMENTAL ASSESSMENT

1 INTRODUCTION

- 1.1 Oxford Archaeology North (OA North) was commissioned by Stephen Baldwin (Archaeological Consultant), on behalf of his clients Mr and Mrs V Fitzel, to assess four environmental bulk samples from Manor House Farm, Rufford, Lancashire for charred plant remains and select material for radiocarbon dating. The details of the four samples are shown in Table 1. Material from an earlier phase of the development (Manor House Farm, Diamond Jubilee Road, Rufford, Lancashire SD 4632 1564) provided radiocarbon dates of 3640-3380 cal BC (SUERC-7535; 4755 ± 35 BP) and 2200-1960 cal BC (SUERC-7539; 3690 ± 35 BP). Due to the scarcity of Bronze Age sites in the area (Cowell and Innes 1994), any charred plant remains potentially from deposits of this date at Manor House Farm, South Marina Basin, Rufford would add significantly to our understanding of Late Neolithic/Early Bronze Age activity in the area.

Sample No	Context No	Feature Type
04	<i>1014</i>	Gully/Foundation Trench
07	<i>1014</i>	Gully-south-west terminus
12	<i>1148</i>	Posthole from putative oval structure (<i>133</i>)
13	<i>1133</i>	Gully from putative oval structure (<i>133</i>)

Table 1: Manor House Farm, South Marina Basin Rufford environmental sample information

- 1.2 Following discussions with S. Baldwin, charcoal fragments from two of the samples, 12 (Context *1148*) and 13 (Context *1133*) were submitted for radiocarbon dating.

2 METHODOLOGY

- 2.1 The samples were hand-floated, and the flots were collected on 250 micron mesh and air-dried. The flots were scanned with a Leica MZ6 stereo microscope. Any charred plant remains (CPR) and charcoal fragments were quantified, as were any waterlogged remains (WPR), insect remains and molluscs. Materials such as coal and clinker were also quantified and the presence of modern contaminants, such as roots, insect eggs, and modern seeds, was also noted. Any charred seeds and charcoal fragments within the bulk samples were provisionally identified where possible. The results are shown in the accompanying table (Table 2) and the remains are quantified on a scale of 1-5 where 1 is rare (less than 5 items) and 5 is abundant (more than 100 items). Plant nomenclature follows Stace (1997).

3 RESULTS

3.1 The results of the assessment are shown in Table 2. The samples contained no identifiable charred plant remains other than charcoal. However, charcoal was common in samples 07, 12, and 13 and was dominated by *Quercus* (oak) with some small roundwood and fragments of short-lived wood species, including *Salix* sp. (willow), *Ilex aquifolium* (holly), *Alnus* (alder) and Maloideae (includes pear, apple, rowan, whitebeam, and hawthorn, which are anatomically indistinguishable) in Samples 12 and 13. There were no waterlogged plant remains or insect remains were recorded in the samples.

3.1.1

Context No	Sample No	Feature Type	Sample vol. (litres)	Flot description	Charred plant remains (CPR) and Charcoal	Potential for CPR	Potential for dating
1014	04	Gully/ Foundation Trench	10	Fire-hardened? soil (5), iron-stained root casts (2), coal (2), clinker (2), woody frags (2), insect frags (1), indeterminate charred material (2)	No CPR; Charcoal: >2mm (1)	None	None
1014	07	Gully Terminus	10	Fire-hardened? soil (5), iron-stained root casts (2), coal (3), clinker (3), indeterminate charred material (2)	No CPR; Charcoal: >2mm (3), >4mm (3). Charcoal very clinkered, mainly <i>Quercus</i>	None	Yes
1148	12	Posthole	10	Modern weed seeds (1), insect frags (1), coal (2), clinker (2), indeterminate charred material (2), fungal sclerotia (1)	No CPR; Charcoal: >2mm (2), >4mm (2). Mostly <i>Quercus</i> , little <i>Salix</i> sp and small roundwood	None	Yes
1133	13	Gully	5	Modern weed seeds (1), woody frags (1), coal (1), fungal sclerotia (4)	No CPR; Charcoal: >2mm (3), >4mm (2). Mostly <i>Quercus</i> , little <i>Ilex</i> , <i>Alnus</i> and Maloideae.	None	Yes

Table 1: Assessment Results of the charred and waterlogged plant remains from Manor House Farm South Marina Basin, Rufford. Plant remains are scored on a scale of 1-5, where 1=0-5 items, 2=6-25, 3=26-50, 4=51-100 and 5=>100 items.

3.2 Charcoal fragments from two of the features were submitted to the Scottish Universities Environmental Research Centre (SUERC) for radiocarbon dating, the results of which are shown in *Appendix 1*. The charcoal from sample 12 (context **1148**), from the posthole feature, provided a date of 1470-1650 cal AD (SUERC-19619; 335±30 BP), and the charcoal from sample 13 (context **1133**) provided a date of 1320-1110 cal BC (SUERC-19620; 2975±30 BP).

4 DISCUSSION, POTENTIAL AND RECOMMENDATIONS

4.1 There are no charred plant remains preserved in the four samples assessed by OA North except for charcoal. However, it was possible to select charcoal from short-lived trees for radiocarbon dating. The date of 1320-1110 cal BC (SUERC-19620; 2975±30 BP) from sample 13 (context **1133**, the gully associated with the putative oval structure (**133**)) was as expected but the post-medieval date from sample 12 (context **1148**, the posthole adjacent to the oval structure) was more recent. This indicates that the posthole was a later feature

adjacent to oval structure **133** rather than associated with it as originally interpreted (Stephen Baldwin *pers comm*).

4.2 Given the low quantities of material in all four of the samples there is no potential for further analysis of the charred plant remains.

5 ACKNOWLEDGEMENTS

5.1 Sandra Bonsall processed the samples and Denise Druce undertook the assessment and wrote the report. Elizabeth Huckerby and Alan Lupton both checked the report and managed the project. Thanks to Gordon Cook at SUERC for providing the radiocarbon dates.

6 BIBLIOGRAPHY

Cowell, R and Innes, JB, 1994, *The Wetlands of Merseyside*, Lancaster Imprints **2**, Lancaster

Stace, C. 1997, *New Flora of the British Isles*, 2nd ed, Cambridge

APPENDIX 1: RADIOCARBON DATES



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01355 229898

Director: *Professor A B MacKenzie*

RADIOCARBON DATING CERTIFICATE

31 July 2008

Laboratory Code	SUERC-19619 (GU-16938)
Submitter	Denise Druce Oxford Archaeology North Mill 3, Moor Lane Mill Moor Lane Lancaster LA1 1GF
Site Reference	Rufford Marina, Lancashire
Sample Reference	Rufford Marina <12> (148)
Material	Charcoal : Salix sp and small roundwood
$\delta^{13}\text{C}$ relative to VPDB	-26.7 ‰
Radiocarbon Age BP	335 \pm 30

- N.B.**
1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
 3. Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code.

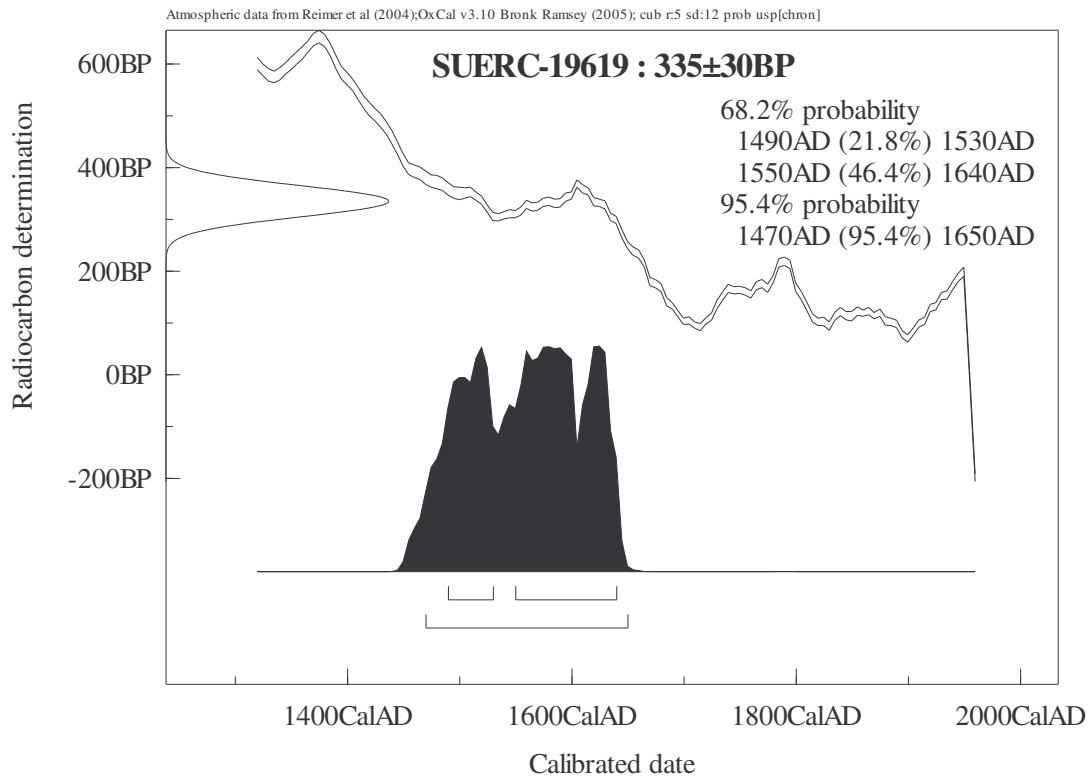
Conventional age and calibration age ranges calculated by :-

Date :-

Checked and signed off by :-

Date :-

Calibration Plot





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RADIOCARBON DATING CERTIFICATE

31 July 2008

Laboratory Code	SUERC-19620 (GU-16939)
Submitter	Denise Druce Oxford Archaeology North Mill 3, Moor Lane Mill Moor Lane Lancaster LA1 1GF
Site Reference	Rufford Marina, Lancashire
Sample Reference	Rufford Marina <13> (133)
Material	Charcoal : Alnus, Maloideae & Ilex
$\delta^{13}\text{C}$ relative to VPDB	-24.5 ‰
Radiocarbon Age BP	2975 \pm 30

- N.B.**
1. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standard and blank and the random machine error.
 2. The calibrated age ranges are determined from the University of Oxford Radiocarbon Accelerator Unit calibration program (OxCal3).
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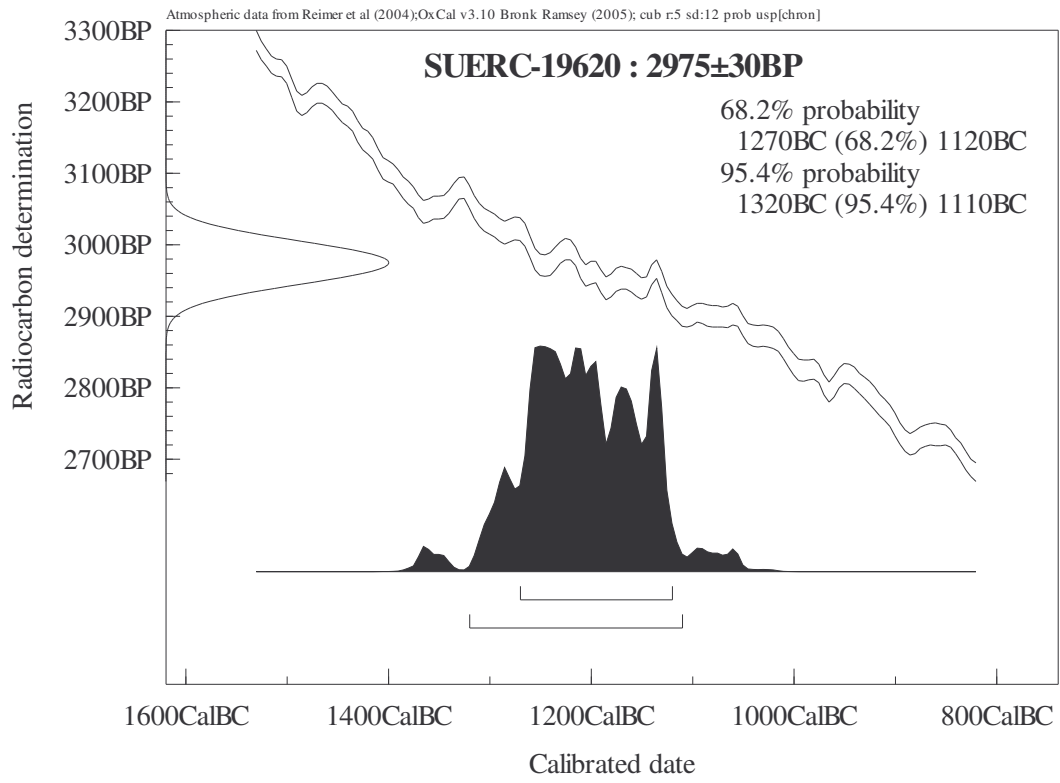
Conventional age and calibration age ranges calculated by :-

Date :-

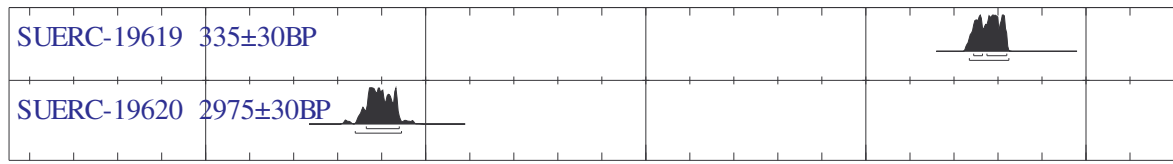
Checked and signed off by :-

Date :-

Calibration Plot



Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]



2000CalBC

1000CalBC

CalBC/CalAD

1000CalAD

2000CalAD

Calibrated date



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