

NS NS AK

HARWELL

HARWELL RADIOCARBON DATING CERTIFICATE

Carbon-14/Tritium  
Measurements Laboratory

RADIOCARBON DATING CERTIFICATE

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Sample sent for analysis by:

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J S Dent  
 2 Scarborough Road  
 Driffield  
 East Riding  
 Yorkshir

CODE 199:

Result:

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Wetwang Slack series

1	2	3	4	5	6	7
HARWELL REF.	SENDERS REF.	TYPE	DEL13 (%/10)	AGE bp (YRS)	bp-1950	COMMENT REF.
HAR-1879	WSVINS	Charcoal	-26.0	3160. ± 90.	1210.bc	

Comments:

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ANL 760783

From post-pipe of circle of nine large posts  
 Wetwang Slack, Yorkshire

Post circle is about 9 m in diameter. The monument is more likely to be ritual or funerary than domestic.

This certifies that the sample given above has been analysed for RADIOCARBON at this laboratory. The results, expressed as DEL13, AGE bp and bp-1950, are given in accordance with the method outlined in the accompanying Notes Sheet, NS/1/75, to which due reference should be made.



R.L. Otlet.

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CARBON-14/TRITIUM MEASUREMENTS LABORATORY  
 NUCLEAR PHYSICS DIVISION  
 BUILDING 10.46  
 AERE  
 HARWELL  
 OXON  
 OX11 0RA

(ref. TCB2 29/ 9/77)

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Wetwang Slack series

1	2	3	4	5	6	7
HARWELL REF.	SENDERS REF.	TYPE	DEL C13 (%/10)	AGE bp (YRS)	bp-1950	COMMENT REF.
HAR-1878	WSVIAK	Charcoal	-25.0	3450.± 90.	1500.bc	

Comments:  
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AML 760784

Approx 50 per cent iden by C A K55p1x 1s o1k 1n4 81wt8orn ty75 not  
twiggy

From probable coffin remains

Wetwang Slack VI, Yorkshire

Coffin came from grave thought to be Bronze Age although among a number  
of Iron Age square barrows. Grave fill clearly cut through a cremation,  
also thought to be Bronze Age, and with the inhumation was the shoulder  
blade of an animal - possibly a deer.

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laboratory. The results, expressed as DEL C13, AGE bp and bp-1950, are given in  
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R.L.Otlet.  
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Notes on the method of reporting Radiocarbon results in  
the accompanying certificate

1. Age bp (Column 5): is the Conventional Radiocarbon Age calculated using the following Standards and parameters.
  - 1.1 Half-life: The old (W.F. Libby) value 5570 years is used. This is in accordance with the decision of the Fifth Radiocarbon Dating Conference, Cambridge, 1962 and reaffirmed at similar meetings since. It is also a requirement of the publishers of 'Radiocarbon', that this half-life value is used in dates reported therein. 'Age bp' results can be converted to the most recent value of half-life,  $5730 \pm 40 \text{ yr}^{(1)}$ , by multiplying by 1.029.
  - 1.2 Modern Standard: The oxalic acid standard issued by the National Bureau of Standards (NBS), Washington is used. Following the recommended practice, 'Modern' is taken as 0.95 times the activity of the standard after correction for fractionation during its preparation. Reference standards are routinely checked against freshly prepared samples of the NBS oxalic acid.
  - 1.3 Background Standards: Samples prepared from Marble, Coke or Fuel Oil were used in the initial setting up procedure to determine the best mean value background figure. This is routinely checked against additional samples freshly made and using the full sample preparation process.
  - 1.4 Stable Isotope Correction: This is expressed as DELC13 (Column 4) and represents  $\delta^{13}\text{C}$ , the deviation per mil, of the ratio of the stable isotopes  $^{13}\text{C}/^{12}\text{C}$  of the sample from that of an adopted standard (PDB). The 'Age bp' value quoted (Column 5) is already corrected for the  $\delta^{13}\text{C}$  value given in Column 4. If there is no measurement of  $\delta^{13}\text{C}$ , a value is assumed which causes zero correction to be applied in 'Age bp' calculation, ie -25.0%.
  - 1.5 Bristlecone Pine Correction: No correction is applied to the results given in the certificate table. The laboratory will be pleased to advise on possible appropriate conversions to true Calendar Ages should help be required. Lack of general agreement on which calibration curve to accept induces a reluctance to quote converted dates routinely on this certificate although a corrected value will be given (in the 'Comments' section) if specifically requested.
2. Accuracy of the measurement of 'Age bp' is expressed in the associated error term (+ value) as  $\pm 1\sigma$  (standard deviation) inherent to the measurement process. It is not an error which can in any way allow for contamination of the sample or any judgement based on geologic or archaeological grounds. It includes the laboratory's estimate of their own reproducibility ie 68% of all identical replicate samples are expected to give results within the limits of  $\pm 1\sigma$ ; 95% are expected to give results within  $\pm 2\sigma$ . Inconsistent error terms, eg when similar samples are quoted as having significantly different + values, are generally due to the variations in the yield of  $\text{CO}_2$  from the samples supplied. Samples giving inordinately high error estimates because the sample size was below that normally required are usually accompanied by a comment identified in Column 7.
3. bp-1950 (Column 6): In accordance with the requirements of the publishers of 'Radiocarbon' this is reported as dates 'ad' or 'bc' after subtracting 1950 from the quoted 'Age bp' although, as stated in 1.5, no further correction to bring

the result nearer to the true calendar date has been applied. To emphasise this point, lower case characters are used in the certificate table when specifying 'ad', 'bc' or 'bp' but it should be noted that this convention<sup>(2)</sup> is not yet acceptable for Radiocarbon date lists. 'Infinite' dates, ie >35000 y, are reported as 'bp' only.

#### References

1. Nature, Vol. 195, No. 4845, p. 984, 1962.
2. Antiquity, Vol. 46, p. 265, 1972.

