

## HARWELL RADIOCARBON MEASUREMENTS IV

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The dates in this list follow, in approximately chronologic order, those reported in Harwell III (R, 1979, v 21, p 358–383). It is confined to archaeological samples from the United Kingdom only, most of which originate from “rescue” type operations supported by the Historic Buildings and Monuments Commission for England, (formerly a section of the Dept. of the Environment) and submitted through the Ancient Monuments Laboratory, London.

As in previous lists, all samples were measured by liquid scintillation counting following the procedures reported elsewhere (Otlet & Warchal, 1978). The error term quoted is the  $1\sigma$  standard deviation, an estimate of the full replicate sample reproducibility of the laboratory process which takes into account all variations, not just counting statistics alone. The procedures by which these are computed is given in Otlet (1979).

As recommended, all calculations are based on the Libby half-life of 5568 years, using NBS oxalic acid standard ( $\times 0.95$ ) as “modern,” both values treated as constants, with AD 1950 as the reference year. All results are corrected for fractionation according to the quoted  $\delta^{13}C$  (*wrt PDB*) values measured in this laboratory.

This is the first list produced from data stored on the Harwell main frame computer (IBM 3083) using the assembly programs described in Otlet & Walker (1981).

### ACKNOWLEDGMENTS

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### ARCHAEOLOGIC SAMPLES

#### *British Isles*

#### *England*

#### **Killibury series**

Samples from multiple-enclosure Iron Age hillfort at Killibury, Wadebridge, Cornwall (50° 31' 36" N, 4° 48' 39" W, Natl Grid Ref SX 008735). Except for HAR-745, all samples coll Aug 1976 and subm Dec 1976 by H

Miles, Dept Extra-Mural Studies, Univ Exeter. For description of site, see Miles (1977).

**HAR-745. KILLIB** **2210 ± 70**  
 $\delta^{13}C = -24.8\text{‰}$

Soil from early soil level in hillfort interior. Coll and subm Aug 1974 by T P F Trudgian. *Comment* (HM): this conforms well with other determinations from similar levels on site (HAR-1950 to -1953, below).

**HAR-1950. 82368** **2180 ± 70**  
 $\delta^{13}C = -27.7\text{‰}$

Charcoal. *Comment* (HM): sample from large pit expected to be from early Iron Age. Pit was sealed by ca 1m of deposits. Date is entirely acceptable in confirming back-dating of multiple-enclosure hillforts and SW style of British La Tène-decorated pottery into third century BC.

**HAR-1951. 236466** **2180 ± 70**  
 $\delta^{13}C = -25.8\text{‰}$

Charcoal. *Comment* (HM): sample came from stratified soil deposit which should date early use of site, earlier than HAR-1953, but possibly contemporary with HAR-1950.

**HAR-1952. 430513** **2880 ± 70**  
 $\delta^{13}C = -24.3\text{‰}$

Charcoal from pit immediately antedating hillfort rampart now largely ploughed away; pit sealed by 0.2m of deposits below plough soil. A single sherd from interior suggests that core of rampart may have been constructed during later Bronze age.

**HAR-1953. 6221** **2110 ± 70**  
 $\delta^{13}C = -25.2\text{‰}$

Charcoal. *Comment* (HM): sample came from stratified soil level which should be comparatively late in hillfort occupation. Sealed by ca 0.8m of other deposits. Consistent with sequence suggested by other dates from site.

### MARC 3 R4 series

Samples from triple barrow with three cremations and later flint industry at Marc 3, Site R4, Micheldever Wood, Hampshire (51° 7' 30" N, 1° 14' 56" W, Natl Grid Ref SU 52553653). Coll and subm Nov 1974 by P J Fasham, M3 Archaeol Rescue Comm. For description of site, see Fasham (1979) and Fasham and Ross (1978).

**HAR-1041. R4-3** **3100 ± 90**  
 $\delta^{13}C = -25.4\text{‰}$

Charcoal, AML 749324, from oval barrow ditch which sealed flint working deposits. *Comments*: small sample accounts for larger than normal error term; (PJF): sample was taken from layer yielding date for fine, prob-

ably windblown, soil overlying flint industry. Samples also coll for detrital magnetic remanent dating by A J Clark, Ancient Monuments Lab.

**HAR-1042. R4-144** **3670 ± 80**  
 $\delta^{13}C = -23.7\text{‰}$   
Charcoal, AML 749327, from flint layers of Western Mound.

**HAR-1043. R4-167** **6900 ± 170**  
 $\delta^{13}C = -16.9\text{‰}$

Soil with charcoal, AML 749332, assoc with feature that antedates barrow construction. *Comment*: sample was very small and needed topping-up with  $^{14}C$  dead  $CO_2$  before benzene synthesis.  $\delta^{13}C$  value is extremely unlikely for charcoal; contamination with ground carbonate is suspected and result should, therefore, not be accepted.

**HAR-1044. R4-5** **3370 ± 90**  
 $\delta^{13}C = -24.7\text{‰}$

Charcoal with soil, AML 749325, from layer in ditch which sealed possible windblown soil (*cf* HAR-1041, R4-3,  $3100 \pm 90$ ). *Comment* (PJF): stratigraphically below flint industry. Samples also coll for detrital remanent magnetic dating by A J Clark.

#### Baynard Castle series

Wood from timbers which supported Roman stone wall at Baynard Castle, London (Hill, 1975; Hill, Millett, & Blagg, 1980). First 3 samples form part of dendrochronol series from 2 oak piles. All subm Jan 1976 by R Morgan, Dept Archaeol, Univ Sheffield, except HAR-1590.

**HAR-1456. BC1** **1700 ± 70**  
 $\delta^{13}C = -26.4\text{‰}$

AML 750334. Coll by S Hill. *Comment* (RM): rings 30 to 50 of 116-yr floating tree-ring sequence; 50 yr growth allowance to be added.

**HAR-1457. BC2** **1740 ± 60**  
 $\delta^{13}C = -26.1\text{‰}$

AML 750335. *Comment* (RM): rings 55 to 75 of 116-yr floating tree-ring sequence; 50 yr growth allowance to be added.

**HAR-1464. 1724 BC3** **1640 ± 70**  
 $\delta^{13}C = -26.7\text{‰}$

AML 750336, taken from sapwood and outer area of piles. *Comment* (RM): rings 55 to 75 of 116-yr floating tree-ring sequence; 30 yr growth allowance to be added.

*General Comment* (RM): archaeol evidence points to mid-4th century AD date for wall's construction. HAR-1456 and -1464 agree well with this date with necessary growth allowances added. HAR-1457 is, however, earlier than expected.

**HAR-1590. BC4**

**1770 ± 80**  
 $\delta^{13}C = -26.4\text{‰}$

Wood, AML 750855, from plank forming part of wooden revetment on S side of wall. Subm Feb 1976 by R Morgan. *Comment* (RM): sample comprises 20 annual rings from end of 129-yr sequence; no sapwood was present. Result confirms suspected dendrochronol date in late 2nd century.

**Somerset Levels series**

The following 19 dates are of samples coll during excavations in 1976 and 1978 at Somerset Levels sites. For brief introduction to this ongoing project, see Harwell II (R, 1977, v 19, p 415–416). Within major Somerset Levels series are three sub-series (Meare Heath, Tinney's, and Meare Lake Village), dates for which are reported at end of general dates for Somerset Levels. Except where noted, all samples were coll and subm by J Coles, Dept Archaeol, Univ Cambridge.

**HAR-1842. SLP7610**

**1710 ± 80**  
 $\delta^{13}C = -28.2\text{‰}$

Wood from young timbers from lowest deposit of structure buried in pool peat at Difford's Site 1 (1.116) Shapwick (51° 9' 45" N, 2° 47' 15" W, Natl Grid Ref ST 44954073). *Comment* (JC): agrees well with HAR-1854 and with series for highest levels of peat in which structure lay (Coles & Orme, 1978c).

**HAR-1854. SLP769**

**1730 ± 70**  
 $\delta^{13}C = -29.4\text{‰}$

Wood from young timbers of structure buried in pool peat at Difford's Site 1, Shapwick (51° 9' 45" N, 2° 47' 15" W, Natl Grid Ref ST 44954073). Subm July 1976. *Comment* (JC): agrees well with HAR-1842.

**HAR-1843. SLP764**

**3770 ± 80**  
 $\delta^{13}C = -27.7\text{‰}$

Peat adjacent to hoard of flint flakes (Coles & Orme, 1978d) preserved in grasses and container at Skinner's Wood, Shapwick (51° 9' 34" N, 2° 50' 7" W, Natl Grid Ref ST 416404). Subm July 1976.

**HAR-1855. SLP767**

**6520 ± 90**  
 $\delta^{13}C = -29.8\text{‰}$

Peat from lower peat deposit beneath clay 2m thick at Durston's Works, Sharpham (51° 8' 32" N, 2° 46' 26" W, Natl Grid Ref ST 45873846). Subm July 1976. *Comment* (JC): early peat formation in trough of Somerset Levels prior to marine inundation.

**HAR-1856. SLP766**

**5600 ± 70**  
 $\delta^{13}C = -27.3\text{‰}$

Peat from interface between lower marine clay and peat formation at Garvin's Factory, Walton Heath (51° 8' 32" N, 2° 46' 27" W, Natl Grid Ref

ST 45853845). Subm July 1976. *Comment* (JC): dates transition to freshwater conditions in Levels.

**HAR-1857. SLP765**

$$5290 \pm 80$$

$$\delta^{13}C = -27.6 \text{ ‰}$$

Peat from interface between lower marine clay and peat formation at Sweet Railway, Shapwick (51° 9' 54" N, 2° 49' 19" W, Natl Grid Ref ST 42534103). Subm July 1976. *Comment* (JC): dates transition to freshwater conditions in Levels.

**HAR-2243. SLP772**

$$3480 \pm 90$$

$$\delta^{13}C = -29.1 \text{ ‰}$$

Peat found underlying lowest wooden structure at Tinney's Ground, Sharpham (51° 8' 24" N, 2° 45' 28" W, Natl Grid Ref ST 470382). Coll by S Coleman and subm July 1977. *Comment* (JC): lowest structures in complex field with upper trackways dated ca 1050 bc (Coles & Orme, 1978b).

**HAR-2429. SLP774**

$$2920 \pm 60$$

$$\delta^{13}C = -29.6 \text{ ‰}$$

Wood from lowest roundwood of major Bronze age track at Tinney's Ground (TIN B), Sharpham (51° 8' 24" N, 2° 46' 14" W, Natl Grid Ref ST 46103820). Coll by S M Fordham and subm Sept 1977. *Comment* (JC): HAR-947 (1010 ± 70bc) and HAR-684 (1070 ± 70bc) relate to other exposures of same track; *cf* also HAR-2243, above.

**HAR-2224. SLP771**

$$4560 \pm 80$$

$$\delta^{13}C = -28.6 \text{ ‰}$$

Peat from Meare Heath (51° 9' 40" N, 2° 46' 30" W, Natl Grid Ref ST 45824054). Coll Feb 1977 and subm Mar 1977. *Comment* (JC): peat was assoc with flint axe of Neolithic type, closely comparable to Early Neolithic Sweet Track finds 3km away. Date seems slightly young (*cf* Sweet Track ca 3200 bc: Coles & Orme, 1979). Peat was exactly contemporary with axe or slightly older.

**HAR-2428. SLP773**

$$4580 \pm 60$$

$$\delta^{13}C = -27.9 \text{ ‰}$$

Wood from terminal area of Meare Heath Bronze age track at Meare Heath Field 12.3, Meare (51° 9' 59" N, 2° 47' 30" W, Natl Grid Ref ST 44654115). Coll by S C Beckett and subm Sept 1977. *Comment* (JC): date is older than series from track timbers to S including HAR-943(1030 ± 70bc) (Coles & Orme, 1978a). Sample consisted of small piece of wood from terminal area, but was not part of construction.

**HAR-2619. SLP7807**

$$2900 \pm 80$$

$$\delta^{13}C = -27.8 \text{ ‰}$$

Peat, AML 780684, from burned peat horizon overlying Meare Heath track at Meare Heath Drove (51° 9' 35" N, 2° 47' 48" W, Natl Grid Ref ST 443404). Subm Apr 1978. *Comment* (JC): date fits stratigraphy in placing

burned horizon at slightly later date than Meare Heath track (eg, 1030bc) which closely underlies it (Beckett, 1978).

### Meare Heath series

Wood, from dendrochronol series of 3 samples from 118-yr floating tree-ring sequence at Meare Heath Trackway, Somerset Levels (Coles & Orme, 1976; Morgan 1978a). Coll 1974-5 and subm Jan 1976 by R Morgan, Dept Archaeol, Univ Sheffield.

**HAR-1489. SPL761** **3200 ± 80**  
 $\delta^{13}C = -26.8\text{‰}$

AML 760301, from rings 30 to 50. *Comment* (RM): sample taken from two timbers. Growth allowance of > 100 yr to be added.

**HAR-1627. SPL762** **3000 ± 80**  
 $\delta^{13}C = -26.8\text{‰}$

AML 760302, from rings 60 to 80. *Comment* (RM): sample includes secs from four timbers. Growth allowance of > 70 yr to be added.

**HAR-1494. SPL763** **3060 ± 80**  
 $\delta^{13}C = -27.2\text{‰}$

AML 760303, from rings 90 to 110. *Comment* (RM): sample includes secs from > two timbers. Some root intrusion. Growth allowance of > 40 yr to be added.

*General Comment* (RM): in all cases, wood was quite decayed due to peat drying out. With necessary growth allowances added, HAR-1489 and -1494 are consistent with series but -1627 is rather later.

### Tinney's series

Two samples of wood, (waterlogged oak) from tree-ring sequence on planking of track TIN A at Tinney's Ground, Sharpham (51° 8' 27" N, 2° 45' 33" W, Natl Grid Ref ST 469383). Coll Sept 1977 by R A Morgan. For description of site, see Morgan (1978b).

**HAR-2538. SPL7801** **3050 ± 70**  
 $\delta^{13}C = -25.4\text{‰}$

AML 780339, from rings 120 to 140. Subm Feb 1978.

**HAR-2544. SPL7802** **2990 ± 60**  
 $\delta^{13}C = -26.3\text{‰}$

AML 780340, from rings 220 to 240. Subm May 1978.

*General Comment* (RAM): both dates fall neatly into series from track. HAR-2538 has growth allowance of 100 yr. HAR-2544, with slight allowance for sapwood only, provides date close to time of felling of trees used in track.

### Meare Lake Village series

Samples from Meare Lake Village West MVW W10, Somerset (51° 10' 33" N, 2° 47' 38" W, Natl Grid Ref ST 445422). For a description of the site, see Orme *et al* (1981).

**HAR-2616. SLP7803** **5210 ± 80**  
 $\delta^{13}C = -29.5\text{‰}$

Peat, AML 780680, from peat-clay interface beneath fen peat. Coll by S C Beckett and subm Apr 1978. *Comment* (JC): date is comparable with, but slightly younger than, those dates (HAR-1831 and -1856) from equivalent marine clay/upper peat interface further S in Somerset Levels.

**HAR-2620. SLP7804** **2340 ± 80**  
 $\delta^{13}C = -26.4\text{‰}$

Peat, AML 780681, from raised bog peat underlying settlement. Coll by S C Beckett and subm Apr 1978. *Comment* (JC): stratigraphic relationship between establishment of settlement and environmental conditions in Levels seems secure on basis of this date and HAR-2654.

**HAR-2654. SLP7806** **2200 ± 70**  
 $\delta^{13}C = -27.6\text{‰}$

Wood, brushwood, AML 780683, from lowest level of settlement. Coll by C R Sturdy and subm Apr 1978. *Comment* (JC): dates lowest horizon of lake village in general agreement with archaeol dating (Orme *et al*, 1981).

**HAR-2668. SLP7805** **2130 ± 90**  
 $\delta^{13}C = -27.7\text{‰}$

Oak wood from stake in construction. Coll by S C Beckett and subm Apr 1978. *Comment* (JC): dates major constructional phase of settlement.

#### Hereford series

**HAR-1620. HE75B583** **950 ± 70**  
 $\delta^{13}C = -22.2\text{‰}$

Bone, AML 757647, from layer in front of Saxon stone revetment wall to earlier bank at Cantilupe St, Hereford (52° 3' 11" N, 2° 42' 32" W, Natl Grid Ref SO 514397). Coll Nov 1975 and subm Feb 1976 by R Shoesmith. *Comment* (RS): layer was deposited after stone wall was built and probably before it was disused. Layer contained much mortar (from wall) and snails, as well as animal bone (Shoesmith, 1982).

**HAR-1875. HE73IS83** **1020 ± 70**  
 $\delta^{13}C = -19.8\text{‰}$

Bone, one series of  $^{14}C$  dates already pub (R, 1977, v 19, p 406–407), from cemetery at Castle Green, Hereford (52° 3' 4" N, 2° 42' 40" W, NGR SO 513395). Coll 1973 and subm Oct 1976 by R Shoesmith. *Comment* (RS): series of burials from ca AD 700 to 1150 include charcoal and coffin burials (Shoesmith, 1980).

**HAR-1623. CIRENC30** **1570 ± 70**  
 $\delta^{13}C = -23.7\text{‰}$

Bone from Late Roman farmyard or barn (Reece, 1974) at Beeches Rd, Cirencester, Gloucestershire (51° 42' 22" N, 3° 24' 25" W, Natl Grid Ref SO 028018). Subm May 1976 by R Reece.

**Gloucester series**

Samples from 1 Westgate St, Gloucester. Subm Feb 1976 by C M Heighway, Gloucester Excavation Unit.

**HAR-1652. 49751** **1540 ± 70**  
 $\delta^{13}C = -25.3 \text{ ‰}$

Wood, id as oak by C A Keepax, AML 750870, from fairly large timbers from charred sill beams of Late Roman bldg postdating demolition of major bldgs in town center. Coll Nov 1975. *Comment* (CH): bldg was dated from coin evidence to late 4th century or early 5th century AD.

**HAR-1655. 4975V130** **1190 ± 70**  
 $\delta^{13}C = -27.9 \text{ ‰}$

Charcoal, AML 750874, from stake from wattle fence in aceramic levels. Subm Feb 1976 by C Heighway. *Comment* (CH): HAR-1788 was taken from same sample and HAR-1658 and -1787 came from another stake in same fence.

**HAR-1656. 49753** **1260 ± 80**  
 $\delta^{13}C = -28.3 \text{ ‰}$

Wood, AML 750871, part of complete oak post from possible Saxo-Norman undercroft at frontage of site. *Comment* (CH): pottery assoc with sample dates to early 11th century or earlier.

**HAR-1657. 49759** **910 ± 60**  
 $\delta^{13}C = -29.4 \text{ ‰}$

Wood, AML 750872, part of stake from pit (F21) containing wooden artifacts. *Comment* (CH): pit postdates preserved Saxon wooden bldgs dated by HAR-1658, -1655, and -1788; it contained late 11th century pottery and artifacts. Dendrochronol date of same sample is after AD 1110 (R Morgan, Univ Sheffield, pers commun).

**HAR-1658. 497527** **1040 ± 60**  
 $\delta^{13}C = -28.4 \text{ ‰}$

Wood, AML 750873, from Saxon bldg, 1 of 2 stakes of same wattle fence as HAR-1655 and -1788.

**HAR-1787. 497527** **1000 ± 70**  
 $\delta^{13}C = -28.7 \text{ ‰}$

Wood, Hawthorn type, id by C A Keepax, AML 750873, from stake from wooden Saxon bldg, 1 of 2 stakes of wattle fence. *Comments*: replicate check measurement on HAR-1658; (CH): sample came from well-preserved aceramic bldgs and antedates HAR-1657.

**HAR-1788. 497530** **1170 ± 80**  
 $\delta^{13}C = -25.0 \text{ ‰}$

Wood, AML 750874, part of stake from aceramic Saxon levels. *Comments*: replicate check measurement of HAR-1655; (CH): stake came from same wattle fence as HAR-1658 and -1787.



**Bishopstone series**

Charcoal samples from Bishopstone, Sussex (50° 47' 15" N, 0° 4' 53" E, Natl Grid Ref TQ 467008). Coll Sept 1975 by M Bell and subm by P L Dretwett, Inst Archaeol, Univ London. For description of site, see Bell (1977).

**HAR-1662. BI357L4****4460 ± 70** $\delta^{13}C = -25.6 \text{ ‰}$ 

AML 750326, from fill of Neolithic Pit 357. Subm Feb 1976. *Comment* (PLD): pit was cut into chalk and contained early Neolithic artifact assemblage assoc with food refuse.

**HAR-1663. BIKXXXV****1630 ± 70** $\delta^{13}C = -26.2 \text{ ‰}$ 

Oak, id by C A Keepax, AML 750861, from fairly large timbers of rectangular structure XXXV, which was thought to be of Anglo-Saxon date. Subm May 1976.

**Nazeingbury series**

Bone, from Christian cemetery at Nursery Rd, Nazeingbury, Essex (51° 44' 26" N, 0° 0' 27" E, Natl Grid Ref TL 386066). Cemetery is middle Saxon and unlikely to be later than AD 870 (Huggins, 1978). 180 graves were seen oriented E to W and without grave goods. Preponderance of females (80) to males (32) and pathology leads to idea of hospice run by nuns. All samples coll and subm May 1976 by P J Huggins.

**HAR-1666. NZ76GR54****1280 ± 80** $\delta^{13}C = -22.4 \text{ ‰}$ 

AML 760789, from primary grave. *Comment* (PJH): grave was of very old female buried at E end of church, oriented E-W without grave goods, middle Saxon.

**HAR-1681. N275GR26****1120 ± 80** $\delta^{13}C = -22.7 \text{ ‰}$ 

AML 760790, from secondary grave. *Comment* (PJH): sample overlay Roman 1st to 2nd century and Belgic occupation.

**Foulness series**

Oak wood from wooded structure in ancient earth wall, embedded in clay, 1.1m below surface at Old Wall, NW Shelford, Foulness, Essex (51° 34' 51" N, 0° 51' 8" E, Natl Grid Ref TQ 976908). Subm by E Hyde, AWRE Archaeol Soc.

**HAR-1689. FBM011****500 ± 70** $\delta^{13}C = -26.2 \text{ ‰}$ 

AML 760495, subm July 1976.

**HAR-1690. FBM021****360 ± 80** $\delta^{13}C = -27.1 \text{ ‰}$ 

AML 760496, subm May 1976.

*General Comment* (EH): tree-ring age dates felling at AD 1490.

**Little Bay series**

Charcoal from Bldg 2 at Little Bay, St Martins, Isles of Scilly (49° 58' 9" N, 6° 17' 26" W, Natl Grid Ref SV 924166). Subm May 1976 by H Keeley, Ancient Monuments Lab. For description of site, see Butcher (1974).

**HAR-1715. 1792E16** **3190 ± 110**  
 $\delta^{13}C = -25.3 \text{ ‰}$

Ca 25% of sample id by C A Keepax as oak from fairly large timbers and hazel, from Hearth Ic. Coll Sept 1974 by S A Butcher.

**HAR-1726. 43-14E-F** **2780 ± 80**  
 $\delta^{13}C = -25.9 \text{ ‰}$

AML 756490 from upper fill. Coll June 1974 by S A Butcher.

**HAR-1728. BH2046A** **960 ± 70**  
 $\delta^{13}C = -28.1 \text{ ‰}$

Charcoal, AML 760236, wood fragments derived from sec of long beam (originally entire), at Bishophill, Skeldergate, York. Subm Feb 1976 by H K Kenward. *Comment* (HKK): may have been subject to contamination by humates from later layers.

**Winklebury series**

Charcoal samples from Winklebury Camp, Basingstoke, Hampshire. Subm Sept 1976 by G Wainwright and K Smith. For description of site, see Smith (1979).

**HAR-1764. 13690** **2200 ± 60**  
 $\delta^{13}C = -27.3 \text{ ‰}$

AML 766708, from remains of charred post found in post hole, part of porch of round house. Coll F McAvoy. *Comments*: extensive rootlet contamination separated as much as possible; (GW): date slightly later than that suggested by pottery, which belongs to early phase, 6th to possibly 4th centuries BC.

**HAR-1778. 13961** **1980 ± 90**  
 $\delta^{13}C = -25.8 \text{ ‰}$

AML 766706, from layer of burned material in top half of beehive storage pit. Coll by F McAvoy and subm Sept 1976 by K Smith. *Comment* (GW): layers above and below sample produced saucepan pots (3rd to 1st centuries BC).

**HAR-1794. 13961** **2020 ± 80**  
 $\delta^{13}C = -25.6 \text{ ‰}$

AML 766705, from layer of burned material in top half of pit. Coll by D Batchelor. *Comment* (GW): date is consistent with assoc pottery.

**Wootton Wawen series**

Bone from early medieval cemetery sealed by domestic bldgs of small alien priory at Wootton Wawen, Warwickshire. Subm Sept 1976 by H Barrie, Dyfed Archaeol Trust.

**HAR-1820. A62** **790 ± 70**  
 $\delta^{13}C = -20.3\text{‰}$

**HAR-1821. A61** **790 ± 80**  
 $\delta^{13}C = -19.8\text{‰}$

**HAR-1822. A21** **900 ± 70**  
 $\delta^{13}C = -20.9\text{‰}$

*General Comment* (HB): cemetery is only datable by  $^{14}C$  measurement, and resulting dates are vital for dating earliest priory bldgs on site.

#### New Fresh Wharf series

Wood samples, all waterlogged oak, part of dendrochronol series of 4 samples from 282-yr floating tree-ring sequence (Morgan, 1977) from Roman waterfront at New Fresh Wharf, London (51° 30' 31" N, 0 5' 2" W, Natl Grid Ref TQ 32958066). Subm Aug 1976 by R Morgan.

**HAR-1864. NFW3** **1660 ± 60**  
 $\delta^{13}C = -26.2\text{‰}$

Third sample (rings 190–210) from 3 timbers, growth allowance ca 90 yr.

**HAR-1865. NFW2** **1800 ± 60**  
 $\delta^{13}C = -26.3\text{‰}$

Second sample (rings 140–160), from 2 timbers, growth allowance ca 140 yr.

**HAR-1867. NFW3** **1840 ± 60**  
 $\delta^{13}C = -26.8\text{‰}$

Earliest sample (rings 90–110), from 2 timbers, growth allowance ca 190 yr.

**HAR-1868. NFW4** **1760 ± 60**  
 $\delta^{13}C = -26.1\text{‰}$

Latest sample (rings 240–260), from 2 timbers, growth allowance ca 40 yr.

*General Comment* (RM): 282-yr chronology is now dated from 73 BC to AD 209. With allowances quoted, HAR-1865 and -1867 fit well into series but -1864 is slightly later than expected and -1868 rather earlier.

**HAR-1837. F75BK** **1590 ± 80**  
 $\delta^{13}C = -22.6\text{‰}$

Bone, AML 760777, from rubbish deposit at Flaxengate, Lincoln (53° 13' 49" N, 0° 32' 16" W, Natl Grid Ref SK 976714). Coll by R H Jones and subm Sept 1976 by C Colyer, Lincoln Archaeol Trust. *Comment* (CC): date confirms late Roman origin of this material, which was in secondary context of later date.

**Hambledon Hill series**

Samples from Hambledon Hill, Neolithic causewayed enclosure, Dorset (50° 54' 34" N, 2° 12' 38" W, Natl Grid Ref ST 852123). Samples HAR-3058, -3060, and -3062, although part of Hambledon Hill series, come from Stepleton enclosure (Natl Grid Ref ST 856125). All samples coll and subm by R Mercer and pub in Mercer (1980).

**HAR-1882. HH752134**

**4560 ± 90**  
 $\delta^{13}C = -24.9\text{‰}$

Charcoal, ashy gray wash, 50% id by C A Keepax as Hawthorn type, not twiggy, AML 760800, from ditch segment II, Layer 11. Coll Oct 1975 and subm Feb 1976. *Comment* (RM): interpretation of layer is problematic—possibly dumped organic deposit similar to that in Site F, or richer, more organic silt deposit that incorporated cultural material in its formation.

**HAR-1885. HH741245**

**4480 ± 130**  
 $(\delta^{13}C = -25.0\text{‰})$

Charcoal, 50% id by C A Keepax as Hawthorn type and *Prunus* sp from fairly large timbers plus one twig fragment of Blackthorn, AML 760792, from ditch area II. Subm Sept 1976. *Comments*:  $\delta^{13}C$  assumed; (RM): ditch was filled with gray organic soil, charcoal flecks, and some burned bone, 1 pot, and burned flint. Feature I is roughly oval and cuts into middle fill, overlain by secondary silt deposits.

**HAR-1886. HH75846**

**4840 ± 150**  
 $\delta^{13}C = -26.4\text{‰}$

Charcoal, 50% id by C A Keepax as *Sorbus* sp and hazel, not twiggy, AML 760795, from ashy, dark gray, silty soil with small chalk lumps and some charcoal in ditch segment B, Layer 12. Coll Sept 1975 and subm Sept 1976. *Comment* (RM): this band of silting abuts causeway separating segments A and B of causewayed enclosure ditch in Site D.

**HAR-2041. HH75545**

**4110 ± 80**  
 $\delta^{13}C = -23.4\text{‰}$

Antler from Site B, Feature 57, Layer 1 (see below). Subm Sept 1976. *Comment* (RM): Feature 57 is pit with fill of rich black loam, orange brown loam with orange pea chalk and chalk lumps, and chalk wash. Layer 1, in particular, contained rich assemblage of material including antler, 1 pot, bone, and stone rubber fragments.

**HAR-2368. HH7626**

**4520 ± 80**  
 $\delta^{13}C = -25.2\text{‰}$

Charcoal, id by C A Keepax as oak, AML 777002, from bank outwork Ditch 2, Feature 8, Site M, HH 76. Coll Sept 1976 and subm Sept 1977. *Comment* (RM): feature was filled with dark brown, almost black, soil with granular chalk and flint. Texture was grittier towards edges with loamier central filling. At depth of ca 12cm, fill was browner more compact soil. Feature produced charcoal fragments and unabraded sherds.

**HAR-2372. HH7646** **4630 ± 80**  
 $\delta^{13}C = -27.2\text{‰}$

Charcoal, id by C A Keepax as oak and hazel/alder, not twiggy, AML 777005, from HH 76, Site L, outwork Ditch 1, Layer 7. Coll 1976 and subm Sept 1977. *Comment* (RM): layer was composed of large vacuous chalk and flint nodules overlying Layers 8 and 9 of primary silt. Charcoal fragments were contained within other burned material. Bone, flint, and human skeletal material was incorporated in deposit.

**HAR-2375. HH7682** **4670 ± 100**  
 $\delta^{13}C = -25.8\text{‰}$

Charcoal, id by C A Keepax as oak, hazel/alder and possibly Hawthorn type, not twiggy, AML 777012, from HH 76, Site G, ditch segment 3, Layer 9A. Coll Oct 1976 and subm Sept 1977. *Comment* (RM): layer came from deep pit, bowl-shaped in cross-sec, characterized by gray charcoal stained silt. It cut into Layer 10, vacuous rubble fill overlying ditch floor.

**HAR-2379. HH7650** **4350 ± 80**  
 $\delta^{13}C = -26.3\text{‰}$

Charcoal, id by C A Keepax as oak and hazel/alder, some twiggy, AML 777007/8/9, from HH 76, Site L, outwork Ditch 1, Layer 7. Coll Sept 1976 and subm Sept 1977. *Comments*: Samples HH7648, HH7649, and HH7650 combined; (RM): layer was composed of large vacuous chalk lumps and flint nodules overlying Layers 8 and 9 of primary silt. Deposit incorporated bone, flint, and human skeletal material. HH7648 and HH7649 were closely assoc with skeletal material.

**HAR-3058. ST7883** **4700 ± 90**  
 $\delta^{13}C = -24.9\text{‰}$

Charcoal, id by C A Keepax as *Quercus* sp, *Corylus* sp *Rosaceae* subfamily *Pomoideae* (eg, Hawthorn) all from mature timbers, AML 790530, from main enclosure, Ditch 1, Segment A, Quad 2, Layer 5. Coll Sept 1978. *Comment* (RJM): represents accumulation of silt overlying natural chalk. Sample consisted of admixture of charcoal and ash.

**HAR-3060. ST78121** **4570 ± 90**  
 $\delta^{13}C = -25.4\text{‰}$

Charcoal, id by C A Keepax as *Quercus* sp and *Corylus* sp from mature timbers, AML 790534, from main enclosure, Ditch 1, Segment A, Quad 2, Layer 4. Coll Sept 1978. *Comment* (RJM): layer represents initial accumulation of rubble from unstabilized bank, sample from burned area assoc with human skeletal material.

**HAR-3062. ST78118** **4850 ± 70**  
 $\delta^{13}C = -25.6\text{‰}$

Charcoal, id by C A Keepax as *Corylus* sp, *Quercus* sp *Rosaceae* subfamily *Pomoideae* (eg, Hawthorn) all from mature timbers, AML 790531, from

main enclosure, Ditch 1, Segment A, Quad 2, Layer 3a. Coll Oct 1978. *Comment* (RJM): layer is composed of chalk gravel in matrix of chalk wash with little humic material, representing erosion of bank material. Finds included bone and antler picks.

### Bedford St Johns series

Samples from St John's St, Bedford (52° 7' 53" N, 0° 27' 50" W, Natl Grid Ref TL 05144929). Coll and subm Nov 1976 by Jane Hassall. For description of site, see Hassall (1979).

**HAR-1896. BSJ76C1** **1010 ± 70**  
 $\delta^{13}C = -25.9\text{‰}$

Charcoal, id by C A Keepax as mainly oak (large timbers) with a few fragments hazel and Hawthorn type, AML 766971, from one of large pits in backyard area. *Comment* (JH): sample came from largest rubbish pit uncovered. It seems likely that domestic rubbish was thrown into this pit and burned *in situ*.

**HAR-1897. BSJ76C3** **1110 ± 70**  
 $\delta^{13}C = -26.2\text{‰}$

Charcoal, id by C A Keepax as mainly oak (large timbers) with some ash (branch), hazel (twiggy), Hawthorn type (large timbers) and maple (large timbers), AML 766972, from Saxo-Norman or Early Medieval rubbish pit. *Comment* (JH): pit seems archaeol contemporary with that of Sample BSJ76C1 (HAR-1896).

**HAR-1930. BSJ76W1** **480 ± 70**  
 $\delta^{13}C = -26.0\text{‰}$

Wood, oak, AML 766969, from 1 of 4 timbers which outlined square well; timbers underlay well housing and overlay present-day water table.

**HAR-1898. SFII/1** **1170 ± 70**  
 $\delta^{13}C = -26.2\text{‰}$

Charcoal from floor level of small, stone house at Simy Folds, Upper Teesdale, Co Durham (54° 38' 39" N, 2° 10' 25" W, Natl Grid Ref NY 888277). Subm Oct 1976 by K J Fairless. *Comment* (KJF): it is hoped that further excavation at site will produce evidence to confirm this date.

**HAR-1899. BDI** **3420 ± 100**  
 $\delta^{13}C = -25.9\text{‰}$

Charcoal, id by C A Keepax as Hawthorn type, oak and blackthorn, from large timbers, AML 766984, from silts of first phase ditch at Weekley, Northamptonshire (52° 25' 36" N, 0° 41' 38" W, Natl Grid Ref SP 888818). Coll May 1976 and subm July 1976 by D A Jackson. *Comment* (DAJ): this could be boundary ditch mentioned in Anglo-Saxon literature but is thought to be of Roman or Iron age.

**St Mark's, Lincoln series**

Bone samples, from burials at St Mark's, Lincoln (53° 15' 7" N, 0° 32' 24" W, Natl Grid Ref SK 974738). Coll by B Gilmour and subm Sept 1976 by C Colyer, Lincoln Archaeol Trust. For interim report on site, see Jones (1981).

**HAR-1961. SMASSI** **870 ± 70**  
 $\delta^{13}C = -19.9\text{‰}$

AML 766556. *Comment* (CC): burial is post-Roman but antedates earliest Medieval church. Later than another two graves.

**HAR-2010. SMAUJB** **1040 ± 60**  
 $\delta^{13}C = -21.0\text{‰}$

AML 766558, from complete skeleton. *Comment* (CC): primary burial which antedates earliest Medieval church.

**HAR-2011. SMAWK4** **980 ± 70**  
 $\delta^{13}C = -20.4\text{‰}$

AML 766559, from deepest burial N of and antedating earliest Medieval church.

**HAR-2012. SMATP2** **1110 ± 70**  
 $\delta^{13}C = -20.1\text{‰}$

AML 766557, from post-Roman burial antedating earliest Medieval church. *Comment* (CC): burial was sealed by two more graves and cut away above waist by porch foundations.

*General Comment* (CC): dates of these samples confirm 10th century dating for origin of cemetery.

**Curbridge series**

Bone samples, from small cemetery overlying Romano-British settlement at Curbridge (Coral Springs) Oxfordshire (51° 46' 38" N, 1° 30' 41" W, Natl Grid Ref SP 337089). Coll 1975 and subm Apr 1976 by R Chambers, Oxford Archaeol Unit. For description of site, see Chambers (1976; 1978).

**HAR-2005. GRAVEF27** **1840 ± 80**  
 $\delta^{13}C = -21.4\text{‰}$

AML 760234. *Comment* (RC): AD 110 appears a little early for inhumation burial in Roman Britain; archaeol evidence also suggests that this small cemetery is 3rd or 4th century AD at earliest.

**HAR-2006. GRAVEF8** **1640 ± 70**  
 $\delta^{13}C = -21.9\text{‰}$

AML 760233. *Comment* (RC): from archaeol evidence, cemetery appeared to be 3rd century. Fourth century date for this skeleton is quite acceptable.

**HAR-2091. AYTON02** **2940 ± 80**  
 $\delta^{13}C = -26.1\text{‰}$

Charcoal from pit inside enclosure added to long cairn with two collared urns at Great Ayton Moor (Barrows and Enclosures) N Yorkshire (54° 29' 43" N, 1° 4' 58" W, Natl Grid Ref NZ 594115). Coll 1959 by R H Hayes and subm Jan 1977 by S Pierpoint. *Comment* (SP): result is archaeol unsatisfactory, 300–700 yr later than other comparable dates for collared urns. Charcoal had been kept for some time in suspect container before being submitted.

**HAR-2209. WAGR876** **1140 ± 70**  
 $\delta^{13}C = -23.7\text{‰}$

Bone, AML 770870, from grave in Christian cemetery at Waltham Abbey (S E Transept) Essex (51° 41' 12" N, 0° 0' 2" W, Natl Grid Ref TL 382006). Coll Apr 1977 and subm June 1977 by P J Huggins. *Comment* (PJH): cemetery antedates S E Transept of Augustinian Abbey at Waltham founded in AD 1177 (Huggins, 1979).

#### Shaugh Moor series

Charcoal samples from Cairn site, Shaugh Moor, Devon (50° 27' 10" N, 4° 2' 19" W, Natl Grid Ref SX 553635), coll from charcoal-filled pits beneath cairns. All subm July 1977 (except HAR-2214 and -2216) by N D Balaam. For description of site, see Wainwright, Fleming, and Smith (1979).

**HAR-2213. CAIRN71** **3430 ± 80**  
 $\delta^{13}C = -25.9\text{‰}$   
AML 772507, from charcoal deposit beneath small cairn. Coll June 1977.

**HAR-2214. 10/150** **3240 ± 80**  
 $\delta^{13}C = -25.7\text{‰}$   
AML 773294, from charcoal pit. Coll by K Smith and subm June 1977.

**HAR-2216. 10/175** **3520 ± 70**  
 $\delta^{13}C = -25.6\text{‰}$   
AML 773292, from fill of charcoal pit. Coll by K Smith and subm June 1977.

**HAR-2219. 10/153** **3430 ± 80**  
 $\delta^{13}C = -25.3\text{‰}$   
AML 773283, from fill of charcoal pit, sealed by capping stone which was covered by small cairn.

**HAR-2220. 10/145** **3430 ± 90**  
 $\delta^{13}C = -25.5\text{‰}$   
AML 773289, from fill of charcoal pit which contained faience beads.



**HAR-2221. 10/168****3350 ± 70** $(\delta^{13}C = -25.0 ‰)$ AML 773287. *Comment*:  $\delta^{13}C$  assumed.**HAR-2285. 10/193****3400 ± 90** $\delta^{13}C = -25.2 ‰$ 

AML 773299, from charcoal pit.

**HAR-2227. TRG105****1980 ± 70** $\delta^{13}C = -25.0 ‰$ 

Charcoal, AML 776291, from alongside base of presumed oven at Tre-gilders near Killibury, Cornwall (50° 31' 57" N, 4° 47' 48" W, Natl Grid Ref SX 01837410). Coll Sept 1976 and subm Feb 1977 by T P F Trudgian. *Comment* (TPFT): presumably derived from or connected with neighboring remains of oven (Trudgian, 1977).

**HAR-2260. BR1****100 ± 70** $\delta^{13}C = -27.7 ‰$ 

Wood, waterlogged oak, AML 775740, from possible mill structure at Springs Bridge, Bradbourne, Derbyshire (53° 3' 56" N, 1° 41' 44" W, Natl Grid Ref SK 204521). Coll Oct 1975 by J R Collis and subm June 1977 by R A Morgan. *Comment* (RM): outermost 20 sapwood rings used. Although unexpectedly late, result is possible archaeol and has since been confirmed dendrochronol by date, AD 1836, for outermost growth ring. See Morgan, Wildgrove and Collis (1980).

**HAR-2261. BILBY1****480 ± 60** $\delta^{13}C = -26.1 ‰$ 

Wood, id by C A Keepax as oak, from pier of bridge spanning R Ryton, retrieved during maintenance work and not *in situ* at Bilby, Nottinghamshire (53° 20' 30" N, 1° 2' 30" W, Natl Grid Ref SK 638832). Coll by M Dolby and subm Dec 1976 by R Morgan. *Comment* (RM): sample covers outer 20 heartwood rings of bridge pier. Date was unknown previously, so it is useful guide to locating possible matches for 228-yr tree-ring sequence from bridge timbers. Bilby is deserted Medieval village site and stone bridge, possibly 17th century, spans river some 100m W.

**HAR-2262. 124/47****270 ± 70** $\delta^{13}C = -25.2 ‰$ 

Wood, conifer, AML 775743, pine plank of late 17th century date from Queen St, Hull, Humberside (53° 44' 26" N, 0° 19' 54" W, Natl Grid Ref TA 10022844). Coll by A Whitwell and subm June 1977 by R Morgan. *Comment* (RM): sample originally subm for wood id only but  $^{14}C$  determination agrees well with archaeol evidence.

**Droitwich series**

Wood samples, all waterlogged oak, from Friar St, Droitwich, Cheshire (52° 16' 9" N, 2° 9' 1" W, Natl Grid Ref SO 89746349). Coll July 1975 by A Hunt and subm by R Morgan.

**HAR-2263. DF 1**

**1950 ± 70**  
 $\delta^{13}C = -27.1\text{‰}$

From board, measuring  $0.55 \times 0.364 \times 0.047\text{m}$ , deposited with broken stakes in ashy fill of timber and clay-lined pit, which probably functioned as brine storage and settling tank. Subm Dec 1976. *Comment* (RM): function of board is uncertain but it was possibly part of superstructure to pit. Finds include early 2nd century AD pottery and briquetage. Sample was taken from outermost 20 sapwood growth rings of board 262/112, very close to felling year. Annual rings have now been dated absolutely to AD 25–45.

**HAR-2264. DF2**

**800 ± 70**  
 $\delta^{13}C = -27.1\text{‰}$

AML 775739, from stake driven into base of cess-pit with waterlogged fill containing pottery of 12th century. Stake probably supported seat or shelter over pit. Subm June 1977. *Comment* (RM): sample was taken from outermost 15 sapwood rings of young stake 138/73 close to year of felling. Date supports archaeol evidence.

*Wales*

**HAR-1385. NANT MELYN**

**2800 ± 80**  
 $\delta^{13}C = -25.8\text{‰}$

Charcoal from part of layer apparently relating to Mesolithic occupation with microliths at Nant Melyn, Blaenrhondda, Mid Glamorgan ( $51^{\circ} 42' 14''$  N,  $3^{\circ} 34' 18''$  W, Natl Grid Ref SN 914018). Coll Oct 1975 and subm Nov 1975 by H N Savory, Natl Mus Wales. *Comment* (HNS): sample seems to provide *terminus post quem* for formation of blanket peat over thin ancient soil, affected by rainwash, in which microliths were present (Savory, 1976).

*Scotland*

**Iona series**

Samples from Old Guest House, Iona ( $56^{\circ} 20' 5''$  N,  $6^{\circ} 23' 30''$  W, Natl Grid Ref NM 286245). Coll July 1974 and subm May 1975 by R Reece, Inst Archaeol, Univ London.

**HAR-1229. IONASP21**

**1260 ± 130**  
 $\delta^{13}C = -22.7\text{‰}$

Bone from top burning level. *Comment*: result has large uncertainty due to insufficient sample material, which required topping-up with  $^{14}C$  dead  $CO_2$  after collagen extraction and combustion.

**HAR-1241. IONASP25**

**1190 ± 70**  
 $\delta^{13}C = -22.8\text{‰}$

Bone from below burning level.

**HAR-1276. IONASP24**

**1130 ± 80**  
 $\delta^{13}C = -25.8\text{‰}$

Charcoal.

*General Comment* (RR): HAR-1229, -1241, and -1276 over- and underlying deposit of rubbish and burned material all seem to date to ca AD 800, thus making sequence of 16 layers a short one. For first time, this destruction can be linked to Viking raids that eventually destroyed monastery of Iona early in ninth century (Reece, 1973; 1981).

### Berrybrae series

Charcoal from Pit 9 at Berrybrae recumbent stone circle, near Fraserburgh, Aberdeenshire (57° 36' 15" N, 1° 57' 17" W, Natl Grid Ref NK 027571). Both samples coll and subm Aug to Sept 1976 by H A W Burl.

**HAR-1894. S/11 1** **3450 ± 80**  
 $\delta^{13}C = -25.4 \text{ ‰}$

**HAR-1893. S/11 2** **3310 ± 90**  
 $\delta^{13}C = -25.2 \text{ ‰}$

*General Comment* (HAWB): Pit 9 contained soil, some small quartzite stones, and charcoal which was thickest near rim of late beaker placed amongst disturbed cairn stones.

### Balloch series

Charcoal samples from Balloch Hillfort, Argyll (55° 23' 49" N, 5° 40' 8" W, Natl Grid Ref NR 677176). Subm Oct 1976 (except HAR-2043) by E J Peltenburg.

**HAR-1902. 75DP1** **3360 ± 70**  
 $\delta^{13}C = -26.8 \text{ ‰}$

Charcoal (*Corylus* sp) from cremation burial. Coll June 1975. *Comment* (EJP): charcoal assoc with cremation Burial 1.

**HAR-1903. 74B3** **2270 ± 80**  
 $\delta^{13}C = -26.6 \text{ ‰}$

From initial occupation deposits sealed by Rampart 2 collapse. Coll July 1974.

**HAR-1904. 74D2AF1** **2240 ± 120**  
 $\delta^{13}C = -25.0 \text{ ‰}$

Charcoal (mainly *Corylus* sp) immediately underlying external collapse of Rampart 2. Coll July 1974. *Comments*: small sample accounts for larger than normal error term; (EJP): dates collapse of rampart superstructure or debris cast out from fort interior.

**HAR-1905. 76J3** **2240 ± 70**  
 $\delta^{13}C = -26.4 \text{ ‰}$

From base of post-fort occupation level. Coll June 1976. *Comment* (EJP): date suggests occupation period of fort.

**HAR-1907. 75C5F1** **2120 ± 70**  
 $\delta^{13}C = -25.7 \text{ ‰}$

Charcoal (*Corylus*, *Salix* spp) from open area and gully assoc with pit.

**HAR-2043. 74D2****2130 ± 90** $\delta^{13}C = -26.7\text{‰}$ 

From surface onto which Rampart 2 collapsed. Coll July 1974 and subm May 1977. *Comment* (EJP): date suggests external material belongs to later period of fort.

**Port Charlotte series**

Charcoal samples from Neolithic chambered cairn at Port Charlotte, Islay, Argyll (55° 43' 56" N, 6° 23' 9" W, Natl Grid Ref NR 247575).

**HAR-2084. PC76C301****4540 ± 70** $\delta^{13}C = -26.0\text{‰}$ 

Coll and subm Feb 1977 by S J Pierpoint and P Harrington. *Comment* (SP & PH): material belongs to fire lit on old ground surface inside sealed part of main chamber (c3) using large side stone as back. Thus, sample dates construction. Date compares well with limited number of determinations from British chambered cairns. It conforms to and confirms some of more recent models of "Clyde Cairn" development.

**HAR-2405. PC76F402****1860 ± 70** $\delta^{13}C = -25.8\text{‰}$ 

From pit in forecourt antedating erection of large sill stone. Sample antedates Neolithic pottery and construction of chambers and presumably PC76C301 (HAR-2084). Pit was sealed by facade collapse, but not by blocking. Coll Aug 1976 by S J Pierpoint and P Harrington and subm Aug 1977. *Comment* (SP): date is much later than expected. Material was undisturbed although against side of sill.

**HAR-2406. PC76C303****4710 ± 70** $\delta^{13}C = -26.2\text{‰}$ 

Deposited on old ground surface under monolith in chamber. Coll by S J Pierpoint and P Harrington and subm Sept 1977 by S J Pierpoint. *Comments*: 1st sample measured as HAR-2084, above; (SP): context dates erection of chambers at site and antedates Scottish Neolithic pottery and flints.

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