

## UNIVERSITY OF WISCONSIN RADIOCARBON DATES IV

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Radiocarbon dates obtained at the University of Wisconsin since November, 1966, are summarized in this report. The procedures followed and equipment used have been described previously (Wisconsin II).

The dates reported have been calculated on the assumption of a half-life of 5568 for  $C^{14}$ , 1950 as the reference year. The standard deviation quoted is the  $1\sigma$  limit based on the counting statistics of background, sample, and standard counts.

Through the courtesy of the Biochemistry Department it was possible to determine the  $C^{13}/C^{12}$  ratios of representative samples of  $CO_2$  gas before conversion to methane. No significant fractionation was found in the samples for which dates are reported here. The mass spectrograph used was the Consolidated Electrodynamics Corporation instrument, Nier type, model 21-201.

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### SAMPLE DESCRIPTIONS

#### I. ARCHAEOLOGIC SAMPLES

##### *A. Wisconsin*

Primary attention of this period has been directed toward dating Woodland cultures in Wisconsin, in particular, Hopewell components of Middle Woodland period, and in establishing the time range for the distinctive Effigy Mound culture. Within the state, earlier dates for the latter had essentially been limited to A.D. 770 Kolterman mound date (M-398, Michigan III), A.D. 490 Beloit College mound date (M-871, Michigan VI), and A.D. 1200 Wakanda Park date (M-814, Michigan V). While it is to be expected that the Effigy Mound culture had a considerable duration, scattered single dates provide little basis for evaluating their reliability. Wisconsin III contains the beginning of our series.

##### **Bigelow site series, Wisconsin 47PT29**

Excavations of 1966 at Bigelow site, an Effigy Mound site in Portage County, Wisconsin (44° 28' N Lat, 89° 33' W Long) supervised by W. M. Hurley; subm. by W. M. Hurley.

- 1280 ± 55**
- WIS-197. Bigelow site (47PT29)** **A.D. 670**  
Charcoal from Feature 26, a charred log located beneath surface of conical mound buried by eolian sands ca. 1850 or earlier. Log was apparently part of terminal mound building activity.
- 1140 ± 50**
- WIS-200. Bigelow site (47PT29)** **A.D. 810**  
Charcoal from subsurface cooking pit located beneath right wing tip of bird effigy mound (Mound 2). Orifice of pit in Feature 13 was 1.5 ft below surface at bottom of mound fill horizon, extended to depth 3 ft below surface. Sample associated with large vessel, shell fragments.
- 1150 ± 55**
- WIS-202. Bigelow site (47PT29)** **A.D. 800**  
Charcoal from subsurface cremation in a conical mound buried by eolian deposition. Mound was 17 ft in diameter, 2 ft high; cremation (Burial 8) extended from 2.2 to 2.7 ft below surface.
- 960 ± 60**
- WIS-226. Bigelow site (47PT29)** **A.D. 990**  
Charcoal from linear mound R, Sq. N445E90-2, 0.2 to 1.5 ft below surface. Quartzite end scraper, cord-marked body sherds, burned bone fragments, and shell fragments were also found in mound.
- < 250**
- WIS-227. Bigelow site (47PT29)**  
Charcoal from Sq. S3W35 of Feature 7, W of Bear Mound 13. Feature 7 is from habitation area and extended from 0.8 to 1.3 ft below surface. No cultural material was found in Feature 7.
- 1020 ± 70**
- WIS-242. Bigelow site (47PT29)** **A.D. 930**  
Charcoal from conical mound, Mound B, buried by eolian deposition. Sample is from Feature 1-1965 which extended from 1.7 to 3.2 ft below surface and from soil horizon 3.1 to 3.75 ft below surface. In association with sample were cord-marked, cord-wrapped stick, and cord-impressed rim sherds.
- Sanders site I, Wisconsin 47WP26**  
Charcoal samples were obtained from excavations in 1966 at Sanders site I, an Effigy Mound site in Waupaca County, Wisconsin (44° 16' N Lat, 88° 51' W Long) which were carried out under the direction of W. M. Hurley, Univ. of Wisconsin; subm. by D. A. Baerreis.
- 1020 ± 55**
- WIS-203. Sanders site I (47WP26)** **A.D. 930**  
Sample from Feature 40 which extended from 2.2 to 4.0 ft below surface at floor of semi-subterranean house (House 2). Feature contained Madison Cord Impressed and fingernail impressed ceramics.
- 1050 ± 70**
- WIS-204. Sanders site I (47WP26)** **A.D. 900**  
Sample from Mound 17, an effigy mound, in Sq. S535W207, Feature 8, which extended from 2.3 to 2.9 ft below surface. Two grit-tempered cord-marked body sherds were recovered from pit's fill.

**WIS-205. Sanders site I (47WP26) < 250**

Sample from Mound 17, Feature 6, Sq. S535W212-2, which extended from 0.2 to 0.7 ft below surface. Feature contained a Durst Stemmed projectile point fragment and a portion of a Madison Cord Impressed vessel.

**1060 ± 60****WIS-206. Sanders site I (47WP26) A.D. 890**

Sample from Feature 29 in Sq. S835W405-410 and Sq. S830W405. Feature extended 1.0 to 2.3 ft below surface and contained ceramics, charred bone, and shell.

**940 ± 60****WIS-207. Sanders site I (47WP26) A.D. 1010**

Sample from Feature 1, Sq. S5E140, in a cultivated field. Feature extended from 2.6 to 3.2 ft below surface. Sample was associated with a Madison Plain rim sherd.

**350 ± 60****WIS-215. Sanders site I (47WP26) A.D. 1600**

Sample from Sq. S995W400, Level 2, 0.3 to 0.6 ft below the surface. Sample is from buried prairie surface soil, albir, should indicate length of time of soil formation. Level contained charred bone, copper fragments, cord-wrapped stick impressed, punctated, cord-impressed, and cord-marked sherds.

**1330 ± 60****WIS-217. Sanders site I (47WP26) A.D. 620**

Sample from Feature 30, Sq. S820-30 and W420-30, sealed in by prairie surface horizon. Feature extended from 1.0 to 2.6 ft below surface. Within feature were bone and shell refuse and cord-marked, punctated, and smooth surface rim sherds.

**1660 ± 65****WIS-218. Sanders site I (47WP26) A.D. 290**

Charcoal from house fill and house floor of House 3, a semi-subterranean house basin, 1.8 to 3.65 ft below surface.

**990 ± 55****WIS-219. Sanders site I (47WP26) A.D. 960**

Charcoal from Feature 33, a pit which extended from 1.2 to 3.7 ft below surface. Feature contained a cord-impressed body sherd, copper fragment, and 13 shell-tempered sherds.

**1230 ± 55****WIS-221. Sanders site I (47WP26) A.D. 750**

Sample from Mound 23, a conical mound in Sq. S680W157.5 at depth 1.5 to 2.1 ft below surface. Sample was associated with partial remains of a cremation (Burial 3).

**Sanders site III, Wisconsin 47WP70**

Charcoal from Sanders site III, Waupaca County, Wisconsin (44° 16' N Lat, 88° 51' W Long) was coll. in 1966 under supervision of W. M. Hurley; subm. by W. M. Hurley.

**1020 ± 60**

**WIS-230. Sanders site III (47WP70)                      A.D. 930**

Sample from Feature 2, Sq. S110W50, a charcoal concentrated area 1.4 to 1.5 ft below surface and 0.7 ft below plow zone. Sherds and lithic artifacts were recovered from this level.

**890 ± 65**

**WIS-232. Sanders site III (47WP70)                      A.D. 1060**

Charcoal from Feature 1, Sq. S110W50, at depth 2.0 to 2.6 ft below surface above floor of House 1. Feature contained bone, cord-impressed body sherds, and cord-marked body sherds.

**1230 ± 60**

**WIS-233. Sanders site III (47WP70)                      A.D. 720**

Charcoal from floor of House 1, 2.7 to 3.3 ft below surface. House is post structure, oval in outline, with human skull, Burial 1, on its floor.

**1050 ± 60**

**WIS-235. Sanders site III (47WP70)                      A.D. 900**

Charcoal from Sq. S105W45, Level 4, from depth 2.0 to 2.8 ft below surface, directly above floor of House 1.

**990 ± 75**

**WIS-238. Sanders site III (47WP70)                      A.D. 960**

Sample from Feature 5, below plow zone in Sq. S110W45-2, 0.7 to 2.0 ft below surface. Feature contained cord-marked rim sherd, grit-tempered body sherds, and flakes.

**Trempealeau County, Wisconsin (47TR31 and 47TR35)**

Charcoal samples from 2 Hopewell components in Trempealeau County, Wisconsin (43° 59' N Lat, 91° 25' W Long) were excavated in 1966 under supervision of J. Freeman; subm. by J. Freeman.

**2080 ± 70**

**WIS-231. Schwert mound group (47TR31)                      130 B.C.**

Sample from various squares and levels within Middle Woodland village deposit buried by construction of Mound 4. These levels yielded diagnostic Middle Woodland pottery.

**2560 ± 70**

**WIS-234. Schwert mound group (47TR31)                      610 B.C.**

Charcoal from Feature 1, a refuse pit or post mold 4.75 ft below grid stake FO. Feature is 0.4 ft below buried Middle Woodland village which is under fill of Mound 4. Feature contained 2 grit-tempered body sherds.

**1450 ± 60**

**WIS-241. Schwert mound group (47TR31)                      A.D. 500**

Sample from Feature 2, a refuse pit 3.0 ft below surface at grid stake JW6. Surface of feature at bottom of buried Middle Woodland village deposit below mound fill. Feature contained 2 grit-tempered body sherds and 1 quartzite scraper. Should date Middle Woodland village buried by construction of Hopewell burial mound, Mound 26.

**WIS-236. Second Lake village** **1590 ± 60**  
**No. 1 (47TR35)** **A.D. 360**

Sample from Feature 3, a refuse pit 1.4 ft from surface in Level 3 of Sq. N4W2. Feature yielded Havana tradition pottery.

**WIS-237. Second Lake village** **1610 ± 65**  
**No. 1 (47TR35)** **A.D. 340**

Level 3 of Pit 2, Sqs. OE7, N5W2, and N5E3.

**WIS-240. Second Lake village** **270 ± 55**  
**No. 1 (47TR35)** **A.D. 1680**

Charcoal from Feature 4, refuse pit 1.3 ft from surface in Level 3, Sq. N6W3. Feature contained Havana tradition pottery, bone, and shell refuse.

#### **Millville site, Wisconsin (47GT53)**

Excavations at Millville site, Grant County, Wisconsin (43° 02' N Lat, 90° 57' W Long) were carried out under the direction of Joan Freeman, State Hist. Society of Wisconsin, in 1962. Charcoal samples subm. by J. Freeman. Site is late Middle Hopewell component.

**WIS-208. Millville site (47GT53)** **1760 ± 65**  
**A.D. 190**

Sample from Feature 170, a fire-pit lined with fire-cracked rocks. Charcoal was under rocks at bottom of pit.

**WIS-209. Millville site (47GT53)** **1770 ± 65**  
**A.D. 180**

Sample from sandy loam fill of Feature 86, a storage-refuse pit.

**WIS-210. Millville site (47GT53)** **1820 ± 55**  
**A.D. 130**

Sample from Feature 144, a fire-pit.

**WIS-211. Millville site (47GT53)** **1760 ± 55**  
**A.D. 190**

Charcoal from upper 0.2 ft of refuse pit, Feature 18, 0.7 ft deep. Pit contained faunal remains.

**WIS-212. Millville site (47GT53)** **1770 ± 65**  
**A.D. 180**

Charcoal found under fire-cracked rock at bottom of Feature 47, a fire-pit.

**WIS-213. Millville site (47GT53)** **1610 ± 55**  
**A.D. 340**

Sample from sandy loam fill of Feature 56, a fire-pit which contained many fire-cracked rocks. Pit contained base of expanding stem point, typical projectile point found at site. Pit was located within House 2, originated at surface of house basin fill.

**WIS-214. Millville site (47GT53)** **1580 ± 55**  
**A.D. 370**

Charcoal from sandy loam fill of Feature 115, a refuse pit which contained smooth and cord-roughened body sherds.

**1640 ± 80**

**WIS-239. Millville site (47GT53) A.D. 310**

Charcoal from Feature 154, a fire-pit which contained fire-cracked limestone and sandstone, a cord-wrapped stick-decorated rim, and a body sherd decorated with an embossed node, and Feature 44, a refuse pit.

*B. Illinois*

**Mitchell site, Illinois**

Wood, *Taxodium distichum* (Bald cypress) (id. by B. F. Kukachka, U.S. Forest Products Lab, Madison, Wisconsin), is slice of post found in Feature 50 of Mitchell Site (20B2-3) Madison Co., Illinois (38° 45' 30" N Lat, 90° 05' 21" W Long). Dendrochronological analysis showed 191 rings in log. Coll. 1961 by Peter Taylor; subm. by D. A. Baerreis. M-1305 (Michigan VIII), 950 A.D., dated middle of log.

**900 ± 55**

**WIS-220. Mitchell site (20B2-3) A.D. 1050**

Outer 3 rings of log.

**1110 ± 60**

**WIS-229. Mitchell site (20B2-3) A.D. 840**

Inner 3 rings of log.

*C. Oklahoma*

We have continued our efforts to date a series of sites close to the transition between Gibson and Fulton aspects in an effort to establish whether or not this shift was climatically controlled. Samples were provided by Dr. Robert E. Bell of the Univ. of Oklahoma.

**Copeland site series, Oklahoma**

Dates were designed to determine age of Woodland (Hopewellian) and Neosho focus occupation in this stratified bluff shelter in Delaware County, Oklahoma (36° 29' N Lat, 94° 50' W Long) (Baerreis and Freeman, 1959 and 1961). WIS-199 (A.D. 1160) seems reasonable for the initiation of the Neosho focus horizon but the stratigraphically lower samples (WIS-198 and WIS-201) unfortunately give a more recent date. Coll. 1939 and subm. by D. A. Baerreis.

**590 ± 50**

**WIS-198. Copeland site (D1-47) A.D. 1360**

Charcoal, Specimen #572, (*Celtis*), id. by J. T. Curtis, Univ. of Wisconsin, from Sq. 1:4, Level 13, 48 to 52 in. below surface, at top of Woodland zone.

**790 ± 60**

**WIS-199. Copeland site (D1-47) A.D. 1160**

Charcoal, Specimen #135, (*Juniperus* sp.), id. by J. T. Curtis, from Sq. 1:6, Level 5, 16 to 20 in. depth. Sample from Neosho focus zone.

**580 ± 50**

**WIS-201. Copeland site (D1-47) A.D. 1370**

Charcoal, Specimen #571, (*Celtis*), from Sq. 2:3, Level 13, 48 to 52 in. depth. Specimen from top of zone assigned to Woodland horizon.

**Reed site series, Oklahoma**

Charcoal samples from excavation units at Reed site, Delaware County, Oklahoma (36° 39' N Lat, 94° 47' W Long) coll. 1940 and subm. by D. A. Baerreis.

**WIS-243. Reed site (D1-10)** **750 ± 55**  
**A.D. 1200**

Specimen #232 from Cache Pit 1, village Unit 10.

**WIS-246. Reed site (D1-11)** **820 ± 60**  
**A.D. 1130**

Specimen #458 from Sq. SE 1:4, Level 4, 12 to 16 in. below surface; village Unit 11.

**WIS-247. Reed site (D1-11)** **890 ± 55**  
**A.D. 1060**

Specimen #395 from Sq. 4:5, Level 5, 16 to 20 in. deep.

**WIS-249. Reed site (D1-11)** **870 ± 60**  
**A.D. 1080**

Specimen #666 from Sq. 1:5, Level 8, 28 to 32 in. below surface.

**WIS-250. Reed site (D1-11)** **840 ± 60**  
**A.D. 1110**

Specimen #915 from Sq. 4:7, Level 11, 40 to 44 in. deep.

**WIS-251. Reed site (D1-11)** **800 ± 60**  
**A.D. 1150**

Specimen #869 from Sq. 4:7, Level 7, 24 to 28 in. deep.

**WIS-252. Reed site (D1-11)** **770 ± 60**  
**A.D. 1180**

Specimen #826 from Sq. SE 1:16, Level 2, 4 to 8 in. below surface.

**WIS-253. Reed site (D1-11)** **670 ± 55**  
**A.D. 1280**

Specimen #870 from Sq. 3:7, Level 9, 32 to 36 in. below surface.

## II. GEOLOGIC SAMPLES

*A. Iowa*

**WIS-228. Blackhawk Lake, Iowa** **780 ± 60**  
**A.D. 1170**

Section, 50 to 55 cm depth, from 57 cm core of lake sediment, largely minerogenic, obtained from Blackhawk Lake, Sac County, Iowa (42° 20' N Lat, 95° 40' W Long). Chemical composition and pollen profile of core are being analyzed to study possible environmental changes during deposition of sediment. Coll. 1966 by G. F. Lee; subm. by T. Webb, Univ. of Wisconsin.

*B. Manitoba***Lynn Lake, Manitoba**

Sedge peat from 1.5-m peat monolith at Lynn Lake, Manitoba (56° 50' N Lat, 101° 03' W Long). Sample immediately underlies stratigraphic

change from sedge peat below to humified moss peat above. Six other dates have been reported for deeper portions of this peat bank (Wisconsin II and III) and a pollen diagram has been constructed (Nichols, 1967). Coll. 1964 and subm. by H. Nichols.

**1550 ± 50**

**WIS-225. Lynn Lake, Manitoba** **A.D. 400**  
Sedge peat 14 to 16 cm below surface.

*C. Northwest Territories*

**Pelly Lake, N. Keewatin, N.W.T.**

Samples from site ca. 5 mi N of Pelly Lake, N. Keewatin, N.W.T., Canada (66° 05' N Lat, 101° 04' W Long). Coll. 1966 and subm. by H. Nichols.

**3360 ± 70**

**WIS-216. Pelly Lake, N. Keewatin** **1410 B.C.**

Detritus mud, basal 3 cm from 36-cm organic bed overlying plain of lacustrine sand. Provides minimum age for deglaciation and drainage of extensive lacustrine plain on N side of Pelly Lake.

**900 ± 75**

**WIS-245. Pelly Lake, N. Keewatin** **A.D. 1050**

Sedge peat 8 to 10 cm below modern surface. This sample was chosen to date cessation of peat growth at site, possibly as result of environmental or climatic change. Sample was taken as close to modern surface as possible, avoiding modern bryophytes which now grow on dead peat surface, but some years of accumulation are represented by overlying 8 cm of peat. Pollen diagram prepared by H. Nichols.

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