

UNIVERSITY OF WISCONSIN RADIOCARBON DATES XXI

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Procedures and equipment used in the University of Wisconsin laboratory have been described in previous date lists. Except as otherwise indicated, wood, charcoal, and peat samples are pretreated with dilute NaOH-Na₄P₂O₇ and dilute H₃PO₄ before conversion to the counting gas methane; marls and lake cores are treated with acid only. Very calcareous materials are treated with HCl instead of H₃PO₄. Pretreatment of bone varies with the condition of the bone sample; solid bone with little deterioration is first cleaned manually and ultrasonically. The bone is treated with 8% HCl for 15 minutes, then dilute NaOH-Na₄P₂O₇ for 3 hours at room temperature, washed until neutral, and the collagen extracted according to Longin (1971). Charred bone is treated with dilute HCl, NaOH-Na₄P₂O₇, and then dilute HCl again.

The dates reported have been calculated using 5568 yr as the half-life of ¹⁴C. The standard deviation quoted includes only 1σ of the counting statistics of background, sample, and standard counts. Background methane is prepared from anthracite, standard methane from NBS oxalic acid. The activities of the dated samples for which δ¹³C values are listed have been corrected to correspond to a δ¹³C value of -25‰; the activity of the standard methane has been corrected to -19‰.

Sample descriptions are based on information supplied by those who submitted samples.

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ARCHAEOLOGIC SAMPLES

United States

Illinois

Fentress Lake Slew Site (11JD126) series

Samples from Fentress Lake Slew site in Jo Daviess Co (42° 27' N, 90° 35' W) coll Sept 1982 and subm by D F Overstreet, Great Lakes Archaeol Research Center, Waukesha. Samples date Middle and Late Woodland occupation zones and provide information on Holocene sediment geochronol (Boszhardt & Overstreet, 1981).

WIS-1492.

1670 ± 70

Charcoal from Feature 7, Level 5, Middle Woodland storage pit. Dates unreported aspect of subsistence and settlement behavior for Allamakee/Millville phase populations. *Comment:* current models suggest

this is an environmental context utilized only as short-term shellfish extraction camp. Subsurface features, range of cultural materials, and stratigraphic contexts provide new insights into prehistoric adaptive strategies.

WIS-1493. 970 ± 70

Charcoal from Level 8, Late Woodland component, represents unreported aspect of subsistence and settlement behavior for Effigy Mound culture (Keyes phase). *Comment:* same as for WIS-1492.

Minnesota

WIS-1502. Triangle Island site (21Ka29) 390 ± 70

Wood charcoal from Triangle Island site, Kanabec Co (53° 00' N, 93° 15' 15" W) coll and subm by P H Salkin, Archaeol Consulting & Services, Madison. Dates Feature 7 which is in direct assoc with Kathio phase ceramics.

South Dakota

Sod Table Site (39Pn102) series

Samples from Sod Table site in Pennington Co (43° 44' N, 102° 25' W). Coll 1982 and subm by T W Haberman, South Dakota Archaeol Research Center, Ft Meade. This is a distinctly buried cultural horizon containing charcoal, bone fragments, and fire-cracked rock exposed by erosion. Assoc artifacts are inadequate for confident cultural affiliation and temporal estimate for site.

WIS-1494. 970 ± 70
 $\delta^{13}C = -22.8\text{‰}$

Grass and wood charcoal from well-developed buried soil above cultural horizon.

WIS-1495. 1560 ± 70

Wood charcoal (*Populus sp*) from Sq W20S3 in W portion of site.

WIS-1496. 1750 ± 70

Wood charcoal (*Populus sp*) from Sq W24S2 in W portion of site.

WIS-1497. 1490 ± 70

Wood charcoal (*Populus sp*) from Sqs E38N20, E39N20, E40N20, and E39N21 in E portion of site.

Wisconsin

WIS-1437. Beach site (47Da459) 1930 ± 70

Wood charcoal coll Sept 1979, from Beach site, Dane Co (42° 00' N, 87° 20' W) and subm by P H Salkin. *Comment:* dates Early Woodland-Early Middle Woodland occupation of S-central Wisconsin. It is significant in determining relationships between similar, and assumed older, components in Illinois Valley. Date may also indicate approx time when ceramics were more widely introduced into area (Salkin & Emerson, 1976).

WIS-1476. Chido site (47Wb58) 420 ± 70

Sample coll Sept 1982 from Chido site, Washburn Co (45° 48' N, 91° 53' W) by C L Rohrbaugh and subm by J T Penman, Wisconsin State Hist Soc, Madison. *Comment:* dates Late Woodland occupation of site (Ford, Penman, & Knox, 1982).

Sand Lake Site (47Lc44) series

Samples coll Aug 1982 from Sand Lake site, La Crosse Co (43° 55' N, 91° 13' 30" W) by J P Gallagher *et al* and subm by J P Gallagher, Mississippi Valley Archaeol Center, La Crosse. Dates are of Oneota ridged fields buried under alluvial fan (Gallagher, Boszhardt, & Stevenson, 1983).

WIS-1477. 470 ± 90

Sample from Oneota Feature 1, at top of alluvial sediments just below plow zone.

WIS-1478. <200

Sample from Oneota Feature 5, at top of alluvial sediments just below plow zone.

WIS-1479. 500 ± 70

Sample from Oneota cultural horizon midway in alluvial sediments, 165cm below surface.

WIS-1480. 490 ± 70

Sample from interface of alluvial sediments over ridged wetland silts, 240 to 250cm below surface. Dates beginning of upland erosion and sedimentation over ridges.

GEOLOGIC SAMPLES

*United States**Connecticut***Mohawk Pond series**

Core coll Jan 1982 from Mohawk Pond, Litchfield Co (41° 49' N, 73° 17' W) by D C Gaudreau *et al*, subm by D C Gaudreau and T Webb, III, Brown Univ, Providence. Water depth 6.9m. All measurements from sediment/water interface. Core is being used for Holocene pollen analysis. Date previously reported (R, 1983, v 25, p 158).

WIS-1452. 3270 ± 70

Gyttja from 350 to 355cm depth. Dates increase in chestnut (*Castanea*) pollen.

WIS-1453. 5562 ± 70

Gyttja from 580 to 585cm depth. Dates decline in hemlock (*Tsuga*) pollen.

WIS-1483. 7220 ± 80

Gyttja from 720 to 725cm depth. Dates increase in hickory (*Carya*) pollen.

WIS-1484. 8560 ± 90

Gyttja from 920 to 925cm depth. Dates initial increase in beech (*Fagus*) pollen.

WIS-1485. 9640 ± 100

Gyttja from 1050 to 1055cm depth. Dates interval of high pine (*Pinus*) pollen percentages in early Holocene.

*Massachusetts***WIS-1421. Tom Swamp 4850 ± 70**

Core coll Nov 1979 from Tom Swamp, Harvard Forest, Worcester Co (42° 31' N, 62° 13' W) by C Lenk *et al*, subm by T Webb, III. Sample 203 to 210cm below sediment surface dates rise in spruce pollen in late Holocene. Pollen diagram has been pub (Davis, 1958). Dates on other levels were reported (R, 1982, v 24, p 89; R, 1983, v 25, p 158).

*Minnesota***Lake Ann series**

Core coll March 1981 from Lake Ann, Sherburne Co (45° 26' N, 93° 41' W) and subm by K L Keen, Univ Minnesota, Minneapolis. Water depth 5.6m; all depths are from sediment surface (Cooper, W S, 1935; Keen, K L, The sand dunes on the Anoka Sand Plain, ms in preparation).

WIS-1462. 7420 ± 80

Lacustrine sediment, silty, marly, fine-detritus copropel with trace very-fine sand from 880 to 890cm depth. Sample dates initial dune-forming period of St Francis River Dunes.

WIS-1463. 4390 ± 80

Lacustrine sediment, fine-detritus copropel, with trace very-fine sand and silt from 560 to 570cm depth. Sample marks end of major eolian activity of St Francis River Dunes.

WIS-1467. Dogfish Lake 840 ± 70

Sample coll 1972 from Dogfish Lake, St Louis Co (48° 11' N, 92° 11' W) and subm by H E Wright, Jr, Univ Minnesota. Lake sediment, homogeneous "biopel"¹ from 50 to 60cm below sediment surface. *Comment:* date will establish sedimentation rate in upper part of core (Bradbury *et al*, 1975).

Lily Lake series

Core coll Dec 1977 from Lily Lake, Washington Co (45° 2' 70" N, 92° 49' 30" W) by H E Wright, Jr *et al* and subm by H E Wright, Jr. Series will aid in interpretation of river-dominated pollen site 5km to SE (Lake St Croix) where much of pollen record is obscured by waterborne pollen from N (Eyster-Smith, 1977; 1978; Wright, Winter, & Patten, 1963). Water depth 13m; all depths are from water surface.

¹ biopel—organic component of lake mud regardless of its origin (Bradbury & Waddington, 1973)

WIS-1450. **11,770 ± 110**

Lake sediment from 2154 to 2164cm depth, dates transition from spruce/ash to spruce/birch and beginning of diatom occurrence.

WIS-1470. **9680 ± 100**

Lake sediment from 2080 to 2090cm depth, dates spruce/pine boundary recorded in other Minnesota lakes.

WIS-1471. **7220 ± 80**

Lake sediment from 1900 to 1910cm depth, dates evidence of E-ward expansion of prairie into E Minnesota or artificial rise in oak/herb pollen percentages resulting from decreased pine influx.

WIS-1472. **4050 ± 70**

Lake sediment from 1715 to 1725cm depth, dates evidence of E-ward expansion of prairie/savannah into E Minnesota. Oak pollen increases from 25 to 40%.

WIS-1473. **3570 ± 70**

Lake sediment from 1625 to 1635cm depth, dates diatom boundary and decrease in herb pollen coincidence. Sample may indicate end of "prairie period."

WIS-1474. **2160 ± 70**

Brown gyttja from 1475 to 1485cm depth, dates diatom boundary.

WIS-1475. **350 ± 60**

Gyttja from 1310 to 1320cm depth, dates *Ambrosia* rise.

Moran Lake series

Livingstone core, 5cm diam, from Lake Moran, Hubbard Co (46° 51' N, 95° 04' W). Coll Dec 1981 by J C Almendinger *et al*; subm by H E Wright, Jr. Measurements from sediment surface; water depth 364cm. Dated to determine rate of sediment influx. Date previously reported (R, 1983, v 25, p 159).

WIS-1486. **5280 ± 80**

Organic lake sediment from 425 to 435cm depth.

WIS-1487. **6200 ± 80**

Organic lake sediment from 530 to 540cm depth.

WIS-1488. **6830 ± 80**

Organic lake sediment from 630 to 640cm depth.

WIS-1489. **8450 ± 100**

Organic lake sediment from 730 to 740cm depth.

*New Jersey***Alpine Bog series**

Core coll April 1978 from Alpine Bog, Bergen Co (40° 57' N, 73° 54' W) and subm by R Nickmann, Univ Minnesota. All depths are from surface of bog.

WIS-1464. **5020 ± 80**

Peat from 207 to 213cm depth, dates level with 16% *Alnus* and 44% *Quercus* pollen.

WIS-1465. **5940 ± 80**

Peat from 407 to 413cm depth, dates slight decrease in percentages of *Alnus* pollen from 8 to 4% and end of peak values of *Quercus* pollen.

WIS-1466. **8980 ± 100**

Peat from 607 to 613cm depth, dates first time *Quercus* pollen reached 60%.

WIS-1481. **10,000 ± 100**

Peat from 707 to 713cm depth, dates level just before decline in *Picea*, peak in *Pinus*, and rise in *Quercus* pollen percentages.

WIS-1482. **12,840 ± 110**

Peat from 825 to 832cm depth, dates initial rise of *Picea* pollen from 8 to 20%.

New York

WIS-1417. Deep Pond **13,520 ± 130**

Core from deep pond, Suffolk Co (40° 56' N, 72° 50' W) coll and subm by W A Patterson, III, Univ Massachusetts, Amherst. Limnic sediments from 1854 to 1866cm depth, measured from water surface. Water depth 12m. Dates accumulation of basal organic sediment of this kettle pond in outwash just S of Harbor Hill Moraine.

WIS-1438. West Sand Lake **9260 ± 90**

Livingstone core, 5cm diam from West Sand Lake peat bog, Rensselaer Co (42° 38' N, 73° 36' W) coll by D C Gaudreau *et al*, subm by T Webb, III. Sample 228 to 234cm below surface dates basal peaty gyttja overlying marly sediment. Core is being used for Holocene pollen analysis.

*North Dakota***Pelican Lake series**

Core coll Aug 1980 from Pelican Lake, Bottineau Co (48° 57' N, 100° 16' W) and subm by A M Swain, Univ Wisconsin-Madison. Water depth 7.5m. Measurements from sediment/water interface.

WIS-1490. **450 ± 70**

Gyttja from 50 to 60cm depth, dates marked decline in oak pollen.

WIS-1491. **490 ± 70**

Gyttja from 90 to 100cm depth, date provides age at 1m depth.

Washington

Carp Lake series

Core from Carp Lake, Klickitat Co (45° 55' 05" N, 120° 53' 00" W). Coll and subm by C W Barnosky, Univ Washington, Seattle. Carp Lake, with basal date 32,000 yr BP provides only record of late Quaternary vegetation in SW Columbia Basin (Barnosky, 1982). Water depth 2m. All measurements from sediment surface.

WIS-1460. **8760 ± 90**

Organic silty clay from 240 to 247cm depth, dates initiation of organic silty clay deposition, following apparent unconformity.

WIS-1461. **21,600 ± 360**

Clay gyttja from 510 to 520cm depth, dates end of clay-gyttja deposition. (One 4-day count.)

WIS-1468. **9470 ± 100**

Clayey silt from 252 to 272cm depth, dates end of clayey-silt deposition.

Wisconsin

Lake Waubesa series

Livingstone core, 5cm diam, from Lake Waubesa, Dane Co (43° 00' N, 89° 20' W). Sample coll by A M Swain *et al* and subm by A M Swain. Water depth 688cm; all depths are from sediment surface. Acid treatment only.

WIS-1418. **1110 ± 70**

Fine silt and clay from 82 to 92cm depth.

WIS-1419. **3080 ± 70**

Fine silt to clay from 275 to 285cm depth. Sample shows sharp decrease in percent of grass pollen.

WIS-1420. **6820 ± 80**

Fine silt to clay from 545 to 555cm depth. Sample shows decline in elm pollen.

WIS-1423. **11,220 ± 100**

Greenish gray silty clay from 713 to 723cm depth. Sample shows a sharp decrease in spruce pollen.

WIS-1424. **23,020 ± 370**

Mottled black and gray clay from 975 to 995cm depth. (One 5-day count).

Lima Bog series

Core coll Jan 1980 from Lima Bog, Rock Co (42° 48' N, 88° 51' W) and subm by K Van Zant, Earlham Coll, Richmond, Indiana. Dated to learn more of postglacial vegetation in S-central Wisconsin (Van Zant & Lamb, 1980; 1982). Samples were calcareous. Acid treatment only. Previous dates from site are WIS-1045 (R, 1980, v 22, p 121); WIS-1131, -1134, -1135 (R, 1981, v 23, p 156-157); WIS-1275, -1278 (R, 1983, v 25, p 162).

WIS-1425. **16,600 ± 160**

Gray and brown silty organic lake sediment, 1355 to 1365cm depth, marks peak in *Picea* pollen at 70%.

WIS-1426. **18,090 ± 190**

Gray silty organic lake sediment, 1625 to 1638cm depth. During deposition sample was dominated by non-arboreal pollen. Vegetation was probably taiga with *Picea mariana* growing in lowlands and open herbaceous plants on uplands.

WIS-1429. Dark Lake **9430 ± 100**

Livingstone core, 5cm diam, from Dark Lake, Chippewa Co (45° 16' N, 91° 29' W). Sample coll by J T Overpeck *et al* and subm by J T Overpeck, Brown Univ. Water depth 18.6m. Base sample was 451 to 456cm from sediment surface. Lake has varved sediments; sample was laminated.

Spruce Lake series

Livingstone core, 5cm diam, from Spruce Lake, Taylor Co (45° 08' N, 90° 39' W). Coll by J T Overpeck *et al* and subm by J T Overpeck. Water depth 18m. All measurements are from sediment surface. Lake has varved sediments; all segments were laminated.

WIS-1430. **1980 ± 70**

Organic lake sediment from 140 to 145cm depth.

WIS-1432. **3660 ± 70**

Organic lake sediment from 250 to 255cm depth.

WIS-1434. **5320 ± 70**

Organic lake sediment from 372 to 379cm depth.

WIS-1436. **9500 ± 100**

Organic lake sediment from 530 to 535cm depth.

WIS-1441. **10,920 ± 100**

Organic lake sediment from 653 to 660cm depth.

WIS-1443. **12,550 ± 120**

Organic lake sediment from 727 to 735cm depth.

Lake Mendota series

Livingstone core, 5cm diam, from Lake Mendota, Dane Co (43° 06'

N, 89° 25' W). Coll Feb 1982 and subm by A M Swain. Dates from cores coll along transect of varying water depth in University Bay should date low and high water levels during Holocene. Date previously reported (R, 1983, v 25, p 164). Acid treatment only. All measurements from sediment surface.

WIS-1449. **1310 ± 70**

Gray-brown gyttja from 60 to 70cm depth in 10m core, Core C. Water depth 5.9m.

WIS-1454. **3280 ± 70**

Marl from 185 to 195cm depth, Core C, dates decrease in grass pollen and further increase in oak pollen.

WIS-1455. **5840 ± 90**

Silty marl from 481 to 491cm depth, Core C, dates decrease in elm pollen.

WIS-1459. **8610 ± 90**

Clayey marl from 820 to 840cm depth, Core C, dates transition from high pine to increasingly high oak pollen percentages.

WIS-1451. **12,970 ± 120**

Clayey silt and sand from 965 to 985cm depth, Core C. Basal date in spruce zone directly before diploxylon pine pollen increases.

WIS-1447. **1560 ± 70**

Marly, silty, gyttja with broken shell from 22 to 32cm depth in 5m core, Core D. Water depth 3.7m.

WIS-1456. **8070 ± 90**

Marly silt from 160 to 170cm depth, Core D, dates transition from dominant pine to dominant oak pollen.

WIS-1457. **10,990 ± 100**

Marly clay from 260 to 270cm depth, Core D, dates transition from high spruce to high pine pollen percentages.

WIS-1458. **16,440 ± 190**

Silt and clay from 475 to 495cm depth, Core D. Basal date in spruce zone.

Green Lake series

Livingstone core, 5cm diam, from Green Lake, Oconto Co (45° 10' N, 88° 27' W). Coll and subm by A M Swain. Water depth 7.5m. All measurements from sediment surface.

WIS-1431. **1090 ± 70**

Sediment from 35 to 55cm depth, dates settlement which should be ca 100 yr BP. Human disturbances, limestone road building, and home construction caused redeposition of sediments.

- WIS-1433.** **1040 ± 70**
Sediment from 100 to 110cm depth, dates rise in hemlock, oak, and birch and decrease in spruce, tamarack, and cedar pollen.
- WIS-1435.** **2130 ± 70**
Sediment from 230 to 240cm depth, dates rise in spruce, fir, and cedar and decrease in birch and pine pollen.
- WIS-1469.** **4080 ± 70**
Sediment from 410 to 420cm depth, dates significant rise in hemlock, white pine, and birch and decrease in red/jack pine and alder pollen.
- WIS-1439.** **5610 ± 70**
Sediment from 520 to 530cm depth, dates first occurrence of hemlock, rise of tamarack, red/jack pine, maple, and oak, and decrease in white pine and elm pollen.
- WIS-1440.** **8880 ± 90**
Sediment from 655 to 665cm depth, dates rise in white pine, beech, and alder and decrease in red/jack pine pollen.
- WIS-1442.** **10,410 ± 100**
Sediment from 800 to 810cm depth, dates rise in red/jack pine, white pine, and elm and decrease in spruce, fir, tamarack, cedar, sage, and grass pollen.
- WIS-1422. Cox Creek Site 2** **5560 ± 70**
Wood coll June 1982 from bucket auger hole on terrace of Cox Creek tributary, Vernon Co (43° 33' N, 91° 07' W) by J C Knox *et al* and subm by J C Knox, Univ Wisconsin-Madison. Date is for terrace deposit underlying surface at Late Woodland archaeol site 47Ve505 (Ford, Penman, & Knox, 1982; Knox, McDowell, & Johnson, 1981).
- WIS-1448. Little Plover River site** **6760 ± 100**
Wood (*Fraxinus*) sample coll Oct 1981 on Little Plover R, Portage Co (44° 28' N, 89° 29' W) and subm by F Madison, Geol and Nat Hist Survey, Madison. Sample depth 1m, taken from base of organic deposit underlain by sand.
- Mirror Lake series**
Core coll March 1982 from Mirror Lake, Waupaca Co (44° 21' N, 89° 05' N) and subm by P J Garrison, Wisconsin Dept Nat Resources, Madison. Diatom study has been completed (Farris, 1981). Samples were calcareous and treated with acid only.
- WIS-1445.** **2250 ± 70**
Gyttja from 54 to 58cm depth.
- WIS-1446.** **2360 ± 70**
Gyttja from 68 to 74cm depth.

WIS-1444. **860 ± 70**

Gyttja from 84 to 88cm depth.

WIS-1427. **1660 ± 70**

Gyttja from 116 to 120cm depth. This is not basal date.

Washburn Bog series

Livingstone core, 5cm diam, from Washburn Bog, Sauk Co (43° 32' N, 89° 39' W) coll and subm by M Winkler, Univ Wisconsin-Madison. Dates to be used in Holocene pollen analysis. Measurements from bog surface.

WIS-1504. **2440 ± 70**

Fibrous peat from 226 to 230cm depth, dates beginning of Sphagnum-Ericaceous bog at site.

WIS-1505. **6110 ± 80**

Decomposed peat from 697 to 701cm depth, dates beginning of decrease in mesophytic tree pollen.

WIS-1506. **10,320 ± 100**

Gyttja from 1031 to 1041cm depth, dates beginning of haploxylon pine and decrease of birch pollen.

WIS-1507. **10,430 ± 100**

Gyttja from 1051 to 1061cm depth, dates beginning of spruce decline and increase in diploxylon pine pollen.

WIS-1428. Ruby Lake **9700 ± 100**

Livingstone core, 5cm diam, from Ruby Lake, Chippewa Co (45° 16' N, 91° 28' W). Sample coll by J T Overpeck *et al* and subm by J T Overpeck. Water depth 19.5m. Basal sample was 471 to 476cm from sediment surface. Lake has varved sediments; sample was laminated.

Harrie Lake series

Livingstone core, 5cm diam, from Harrie Lake, Labrador, Newfoundland (52° 56' N, 66° 57' W) coll and subm by H E Wright, Jr and G A King. Dated to calculate sediment accumulation rates and pollen influx. All measurements from water surface. Water depth 5.4m (Short, 1981; Stravers, 1981).

WIS-1498. **4990 ± 80**

Silty gyttja 1092 to 1104cm depth, marks middle of sharp increase in *Picea* pollen percentages. Spruce needle found in sample.

WIS-1499. **4500 ± 80**

Silty gyttja 1020 to 1032cm depth, marks *Picea* zone.

WIS-1500. **4250 ± 80**

Silty gyttja 940 to 952cm depth, marks *Picea* zone, and dates an increase in pollen concentration.

WIS-1501. **3290 ± 80**

Silty gyttja 840 to 852cm depth, marks middle of *Picea* zone.

WIS-1503. **2440 ± 70**

Silty gyttja 740 to 750cm depth, marks *Picea* zone, and dates a decrease in pollen concentrations.

Czechoslovakia

Komoranske jezero-Lake series (PK-1-B)

Samples coll April 1977 from Komoranske jezero-Lake in Podkrusnonorska panev-Basin, near town of Most, N W Bohemia (50° 30' N, 13° 30' E) by V Jankouska' and J Kynel, Bot Inst Csav, Brno. Samples subm by T Webb, III. Total thickness of profile 145cm (Jankovska', in press). Acid treatment only.

WIS-1410. **1490 ± 70**

Gyttja from depth 30cm.

WIS-1411. **2590 ± 70**

Gyttja from depth 90cm.

WIS-1412. **6570 ± 80**

Clay gyttja from depth 116 to 119cm.

WIS-1413. **7770 ± 80**

Clay gyttja from depth 128 to 129cm.

Trabonska' paven-Basin series (JC-16-A)

Samples coll Oct 1976 from Trebonska' panev-Basin, near town of Trebon, S Bohemia (49° 00' N, 14° 45' E) by V Jankovska' and J Kynel. Samples subm by T Webb, III. Total thickness of profile 370cm (Jankovska', 1980). Acid treatment only.

WIS-1408. **7390 ± 80**

Peat from depth 225cm.

WIS-1409. **8180 ± 90**

Peat from depth 285cm.

WIS-1414. **8650 ± 90**

Peat from depth 326cm.

WIS-1415. **9630 ± 100**

Peat from depth 355cm.

WIS-1416. **9600 ± 100**

Peat from depth 363 to 365cm.

REFERENCES

- Barnosky, C W, 1982, Vegetation and climate south of the Cordilleran Ice Sheet in Washington State (abs): INQUA Cong, 11th, Moscow.

- Bender, M M, Baerreis, D A, and Bryson, R A, 1980, University of Wisconsin radiocarbon dates XVII: Radiocarbon, v 22, p 115-129.
- Bender, M M, Baerreis, D A, Bryson, R A, and Steventon, R L, 1981, University of Wisconsin radiocarbon dates XVIII: Radiocarbon, v 23, p 145-161.
- 1982, University of Wisconsin radiocarbon dates XIX: Radiocarbon, v 24, p 83-100.
- Boszhardt, R F and Overstreet, D F, 1981, Preliminary investigations-Arch and Sed Geomorph. Navigation Pool 12, Upper Mississippi River: Great Lakes Archaeol Research Center, Inc, Waukesha, Wisconsin Rept Inv No. 115.
- Bradbury, J P, Tarapchak, S J, Waddington, J C B, and Wright, R F, 1975, The impact of a forest fire on a wilderness lake in northeastern Minnesota: Internatl Verein Limnol Verh, v 19, p 875-883.
- Bradbury, J P and Waddington, J C B, 1973, The impact of European settlement on Shagawa Lake, northeastern Minnesota USA, in Birks, H J B and West, R G, eds, Quaternary plant ecology: Oxford, Blackwells.
- Cooper, W S, 1935, The history of the Upper Mississippi River in late Wisconsin and post glacial time: Minnesota Geol Survey Bull 26, 116 p.
- Davis, M B, 1958, Three pollen diagrams from central Massachusetts: Am Jour Sci, v 256, p 540-570.
- Eyster-Smith, N M (ms), 1977, Holocene pollen stratigraphy of Lake St Croix Minnesota-Wisconsin, and some aspects of the depositional history. MS thesis, Univ Minnesota, 128 p.
- 1978, Holocene pollen stratigraphy and some aspects of depositional history of Lake St Croix, Minnesota-Wisconsin: Am Quaternary Assoc, Abs biennial mtg, 5th, Edmonton, p 165.
- Farris, D P (ms), 1981, The recent historical limnology of Mirror Lake, Waupaca Co, Wisconsin, evidenced by the diatom stratigraphy: MS thesis, Univ Michigan, p 117.
- Ford, W F, Jr, Penman, J T, and Knox, J C, 1982, Transportation archaeology in Wisconsin, Wisconsin Dept of Transportation: Archaeol Rept 8, p 30-67.
- Gallagher, J P, Boszhardt, R F, and Stevenson, K P (ms), 1983, Onecota ridged field agriculture in southwestern Wisconsin: Paper, Soc Am Archaeol mtg, 48th, Pittsburgh, Pennsylvania.
- Jankovska', V, 1980, Paläogeobotanische rekonstruktion der vegetations-entwicklung im Becken Trebonska' pa'nev während des Spätglazials und Holozäns-Vegetace CSSR: Praha, 151 p.
- in press, Palynologische forschung am ehemaligen komoranske' jezero-seestnik vvg: Praha, in press.
- Knox, J C, McDowell, P F, and Johnson, W C, 1981, Holocene fluvial stratigraphy and climatic change in the driftless area, Wisconsin, in Mahoney, W C, ed, Quaternary paleoclimate: Norwich, England, Geoabs Ltd, p 107-127.
- Longin, R, 1971, New method of collagen extraction for radiocarbon dating: Nature, v 230, p 241-242.
- Salkin, P H and Emerson, T E (ms), 1976, An archaeological survey of the proposed E-way corridor in Dane County: Rept to Wisconsin State Hist Soc.
- Short, S K, 1981, Radiocarbon date list 1, Labrador and Northern Quebec, Canada: Inst Arctic Alpine Research, Univ Colorado, Occasional paper 36, 33 p.
- Steventon, R L and Kutzbach, J E, 1983, University of Wisconsin radiocarbon dates XX: Radiocarbon, v 25, p 152-167.
- Stravers, L K S (ms), 1981, Palynology and deglaciation history of the central Labrador—Ungava Peninsula: MS thesis, Univ Colorado, Boulder, 171 p.
- Van Zant, K L and Lamb, W M, 1980, Postglacial vegetational reconstructions in south-central Wisconsin, based on a core from Lima Bog, Rock County, Wisconsin: Geol Soc America (abs), v 12, p 259.
- 1982, A late-glacial pollen diagram from Lima Bog, South Central Wisconsin: Geol Soc America (abs), v 14, p 291.
- Wright, H E, Jr, Winter, T C, and Patten, H L, 1963, Two pollen diagrams from southeastern Minnesota: problems in the regional late-glacial and postglacial vegetational history: Geol Soc America Bull 74, p 1371-1396.