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UNIVERSITY OF MIAMI RADIOCARBON DATES XXIII

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The following radiocarbon dates are a partial list of samples measured for a variety of projects and materials since May 1982. Chemical and counting procedures remain the same as indicated in R, v 20, p 274-282.

Calculations are based on the 5568-year Libby ^{14}C half-life. Precision is reported as one-standard deviation based only on statistical counting uncertainties in the measurement of the background, NBS modern standard, and sample activities. $\delta^{13}C$ values are measured relative to PDB and reported ages are corrected for isotopic fractionation by normalizing to $-25‰$.

I. GEOLOGIC SAMPLES

United States

Indiana

Muncie Glacial series

Peat and lake sediments coll from bogs on Union City Moraine and Knightstown Moraine, Muncie area. Samples dated to determine Lake Erie Lobe (Wisconsin Glacial Sheet) retreat rate. Coll and subm 1982 by H Roepke, Ball State Univ, Muncie, Indiana.

UM-2555. Bog 1, 2m — **12,150 ± 110**, $\delta^{13}C = -24.5‰$

Peat coll from shallow bog on Union City Moraine at depth 2m (40° 13′ N, 85° 08′ W).

UM-2556. Bog 1, 2.8-3m — **12,650 ± 130**

Peat/sediment from shallow bog on Union City Moraine coll from 2.8 to 3m (40° 13′ N, 85° 08′ W).

UM-2557. Bog 1, 2.8-3m — **14,580 ± 120**, $\delta^{13}C = -24.6‰$

Lake sediment from shallow bog on Union City Moraine coll at depth 2.8 to 3m as was core sample UM-2556 (40° 13′ N, 85° 08′ W).

UM-2558. Bog 2, 1m — **10,560 ± 90**

Peat coll at 1m depth from shallow bog on Knightstown Moraine (39° 47′ N, 84° 52′ W).

UM-2559. Bog 2, 2m — **14,660 ± 200**, $\delta^{13}C = -24.4‰$

Peat coll from shallow bog at 2m depth on Knightstown Moraine (39° 47′ N, 84° 52′ W).

UM-2560. Bog 3, 8m — **10,260 ± 270**, $\delta^{13}C = -24.3‰$

Lake sediment from deep bog on Union City Moraine coll at depth 8m (40° 13′ N, 85° 08′ W).

General Comment (DGH): without further study, results are presently inconclusive.

Michigan

Lake Superior series

Fine-grained lake sediments coll W of Keweenaw Peninsula in Lake Superior. Core samples dated to support hyperbolic X-radiographs which suggested presence of contourites. Rapid sedimentation rate was expected within contourite feature as compared to slower rate of deposition outside contourite feature area. Contourite feature was at water depth 241m while sediments not assoc with contourite feature were coll at depth 269m. At present, results are inconclusive. Samples coll Aug 1981 and subm Feb 1982 by J Halfman and T Johnson, Univ Minnesota, Duluth.

UM-2597. LRTN81-13Bx, 0-10cm **2860 ± 70**

Gray lake sediments from surface of contourite feature (47° 30.7′ N, 88° 9.9′ W).

UM-2598. LRTN81-13Bx, 10-20cm **2040 ± 100**

Gray lake sediments from contourite feature (47° 30.7′ N, 88° 9.9′ W).

UM-2599. LRTN81-13Bx, 26-36cm **3580 ± 100**

Gray lake sediments within contourite feature (47° 30.7′ N, 88° 9.9′ W).

UM-2600. LRTN81-21Bx, 0-10cm **2060 ± 70**

Gray lake sediments not assoc with contourite feature (47° 34.1′ N, 88° 12.3′ W).

UM-2601. LRTN81-21Bx, 34-45cm **2100 ± 60**

Gray lake sediments coll from core outside of contourite feature (47° 34.1′ N, 88° 12.3′ W).

Mississippi

Lower Mississippi Valley series

Core samples of glacial loess deposits were taken from roadcuts along US 61 Bypass 3km N of Interstate 20, Vicksburg (32° 22′ N, 90° 49′ W) and from sites adjacent to Mississippi R, Natchez (31° 32′ N, 91° 25′ W). Terrestrial snail shells coll and dated to determine stratigraphic correlations between loess beds in area and as basis for subsequent thermoluminescence dating of feldspar and quartz grains in loess. Samples coll 1981 by K Pye, Dept Earth Sci, Cambridge Univ and subm 1981 by K Pye, R Johnson, and R Hatfield, Univ Miami, Florida.

UM-2570. VS2-RJ-1 **10,000 ± 100**

Shells (*Triodopsis*) coll at 2.7m depth from yellow-brown loess in Vicksburg.

UM-2571. RH/VS2-4 **15,730 ± 170**

Unid. shell coll at 4m depth from yellow-brown loess in Vicksburg.

UM-2572. RH/VS2-1 **16,620 ± 130**

Shells (*Triodopsis, Mesodon*) coll at 5.7m from bottom of yellow-brown loess bed. TL dates on polymineral mixtures of quartz and feldspar 15.9 ± 1.1ky agree well with ^{14}C ages.

UM-2573. RH/VS2-3 **17,130 ± 200**

Unid. snail shells coll at 9.7m from slightly weathered clayey loess bed.

UM-2574. VS2-RJ-2 **17,560 ± 200**

Unid. shells coll at 15m from top of dark brown clayey loess bed.

UM-2575. RH/VS2-5 **20,800 ± 210**

Shells (*Triodopsis*) coll at 15.5m from middle of dark brown clayey loess bed. Subsequent TL dates on polymineral grains are ca 22.9 ± 1.2ky.

UM-2576. RH/VS1-8 **23,400 ± 340**

Unid. shells from Vicksburg-type sec coll at 15.5m from dark brown clayey loess. Type sec is 2km N of main sampling area VS2 in Vicksburg. Sample dated to provide bed correlation with VS2 and UM-2575.

UM-2577. RH/NDQ-9 **16,180 ± 160**

Shells (*Triodopsis*) coll 8.5m below top sec in unweathered carbonate bearing loess in Natchez.

UM-2578. RH/NH61-10 **18,620 ± 250**

Unid. shells coll from dark brown clayey loess unit 0.75m thick at depth 5.5m. Sample coll from W side Hwy 61, 8.3km N of Mississippi R Bridge in Natchez.

UM-2579. RH/NH61-11 **19,300 ± 360**

Shells (*Triodopsis*) coll from lowermost 50cm of gray-brown loess at depth 5m. Sample from same loc as UM-2578.

UM-2580. RH/NRI-12 **21,400 ± 390**

Unid. shells coll from basal 30cm of brown clayey loess at depth 10.5m. Sample coll from Natchez Bluffs in Natchez.

UM-2581. RH/RNI-13 **21,700 ± 250**

Shells from uppermost 30cm of reddish clayey loess immediately underlying UM-2580. Bed represents paleosol; thus, ^{14}C date is probably invalid or shells were worked down from bed above (UM-2580).

General Comment (RAJ): overall, ^{14}C dates provide general correlation between Natchez and Vicksburg, considering inherent problems assoc with pulmonate gastropod shells. TL data thus far correlate well with ^{14}C dates and may substantiate problem with UM-2581.

New Hampshire

Bottomless Pit Bog series

Peat, lake bottom sediment, and glacial flour samples from Bottomless Pit Bog near Lebanon (43° 45′ N, 72° 14′ W). Samples were dated to determine chronology of soil evolution in Bottomless Pit Bog watershed since last glaciation. Coll 1982 by D Ryan and S Minnis, Univ Miami, Coral Gables.

UM-2561. BP1m **1160 ± 80**
$\delta^{13}C = -27.6‰$

Sedge peat at 1m depth; overlain by living heath mate with no open water. Pretreated with HCl; not NaOH.

UM-2562. BP2m **2850 ± 100**
$\delta^{13}C = -27.0‰$

Peat from depth 2m. Pretreated with HCl; not NaOH.

UM-2563. BP3m **3950 ± 90**
$\delta^{13}C = -27.2‰$

Basal peat from depth 3m. Dates approx initiation of sedge peat deposition in bog. Pretreated with HCl; not NaOH.

UM-2564. BP4m **4520 ± 70**
$\delta^{13}C = -27.5‰$

Uppermost lake bottom sediment sample. Fine particulate muck. Dates approx termination of lake bottom sedimentation in bog. Pretreated with HCl; not NaOH.

UM-2565. BP5m **6900 ± 100**

Lake bottom sediment at depth 5m. Pretreated with HCl; not NaOH.

UM-2566. BP6m **8300 ± 120**

Basal lake sediment at depth 6m. Dates approx initiation of lake bottom sedimentation. Pretreated with HCl; not NaOH.

UM-2567. BP7m **10,280 ± 180**

Glacial flour/lake bottom sediment interface at depth 7m. Dates approx entrance of first organics in region since full recession of Wisconsin Glacial. Pretreated with HCl; not NaOH.

UM-2568. BP8m **16,480 ± 190**
$\delta^{13}C = -3.0‰$

Glacial flour sample at depth 8m. Date shown is for inorganic C (*ie*, $CO_3^=$) fraction. Anomalously alkaline layer, pH ca 8.5; % $CaCO_3$, 3-4. Dated for approx initial sedimentation in lake following glaciation and prior to vegetational growth. No pretreatment.

UM-2569. BP8m **18,000 ± 1050**
$\delta^{13}C = -19.3‰$

Glacial flour sample from depth 8m. Dates organic C fraction. Very little organic carbon found at this depth. Dated for approx period of

algal life in lake, as possible explanation for precipitation of inorganic $CaCO_3$ due to depletion of CO_2 in water. Pretreated with HCl; not NaOH.

II. ARCHAEOLOGIC SAMPLES

United States

Florida

Hontoon Island series

Peat, wood, charcoal, and marine shells coll from archaeol excavation at Hontoon Island State Park (28° 52′ 30″ N, 81° 22′ 30″ W). Samples dated to re-examine previous analyses of nearby site which exhibits discrepancy between stylistic pottery analysis of St Johns Pottery and ^{14}C dates on assoc material. Sample coll and subm 1982 by B Purdy, Univ Florida, Gainesville and C Barker, Univ Miami.

UM-2602. CBHIZ1 #7 **200 ± 50**
$\delta^{13}C = -26.2‰$

Peat coll 60cm below ground surface; HCl pretreatment only.

UM-2603. CBHIZ2 #6 **1060 ± 50**
$\delta^{13}C = -26.5‰$

Wood coll 70cm below surface from peat layer; HCl and NaOH pretreatment.

UM-2604. CBHIZ2 #8 **260 ± 50**
$\delta^{13}C = -24.6‰$

Charcoal coll 74cm below surface in peat layer; HCl pretreatment only.

UM-2605. CBHIZ2 #9 **400 ± 70**
$\delta^{13}C = -24.6‰$

Charcoal, same as UM-2604; HCl and NaOH pretreatment.

UM-2606. CBHIZ3 #3 **800 ± 50**

Charcoal coll 122cm below surface; HCl and NaOH pretreatment.

UM-2607. CBHIZ3 #4 **870 ± 50**

Charcoal, same as UM-2606; HCl pretreatment only as check for humic acids.

UM-2608. CBHIZ3 #1 **1020 ± 50**
$\delta^{13}C = -26.3‰$

Wood coll 122cm below surface from same context as UM-2606. Sample submerged below water level in peat-shell matrix; HCl and NaOH pretreatment.

UM-2609. CBHIZ3 #10 **1120 ± 50**
$\delta^{13}C = -1.0‰$

Shell (*Mercenaria*) coll 122cm below surface from same context as previous samples from 122cm.

UM-2610. CBHIZ3 #2 **1140 ± 70**
$\delta^{13}C = +1.3‰$

Shell (*Busycon*) 125 to 130cm below surface from peat matrix.

UM-2611. CBHIZ4 #5 **1020 ± 50**

Wood coll 140cm below surface from peat matrix; HCl and NaOH pretreatment.

REFERENCES

Calvert, M, Rudolph, Kim, and Stipp, J J, 1978, University of Miami radiocarbon dates XII: Radiocarbon, v 20, p 274-282.