

**UNIVERSITY OF SASKATCHEWAN RADIOCARBON DATES VI**

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This series reports some of the measurements made since publication of the previous list. Equipment and methods remain as described in Saskatchewan II (R., 1960, v. 2, p. 73). The laboratory operates now commercially, administered by the Saskatchewan Research Council under the direction of A. A. Rutherford.

**SAMPLE DESCRIPTIONS**

**I. GEOLOGIC SAMPLES**

- S-232. Wiseton, Saskatchewan** **10,600 ± 140**  
**8650 B.C.**  
Mammoth bone from 91.4 cm depth in lacustrine silt near Wiseton, Saskatchewan (51° 19' N Lat, 107° 39' W Long). Coll. 1931 by F. H. Edmunds; subm. 1964 by W. O. Kupsch; Dept. Geol. Sci., Univ. Saskatchewan, Saskatoon. *Comment* (W.O.K.): bone cores from left femur of museum specimen (*Archidiskodon imperator*) (Osborn, 1942, p. 997). Youngest dated mammoth bone in Saskatchewan.
- Truelove Inlet series, Northwest Territories**
- Shell fragments (*Mya truncata*, *Hiatella arctica*) from emerged beach near Truelove Inlet, Devon I., N.W.T. (75° 40' N Lat, 84° 35' W Long). Coll. 1966 by R. H. King; subm. 1967 by W. O. Kupsch.
- S-410.** **8370 ± 115**  
**6420 B.C.**  
Shells from emerged beach, alt. +24.75 m, 50.8 cm below surface (75° 37' 46" N Lat, 84° 30' 20" W Long).
- S-411.** **9040 ± 110**  
**7090 B.C.**  
Shells from soliflucted beach, alt. +12.56 m, 30.5 cm below surface (75° 37' 46" N Lat, 84° 30' 20" W Long).
- S-412.** **12,800 ± 160**  
**10,850 B.C.**  
Shells from emerged beach, alt. +15.24 m, 30.5 cm below surface (75° 39' 53" N Lat, 84° 33' 30" W Long).
- S-413.** **9570 ± 130**  
**7620 B.C.**  
Shells from emerged beach, alt. +22.98 m, 30.5 cm below surface (75° 39' 53" N Lat, 84° 33' 30" W Long).  
*General Comment* (R.H.K.): all dates considerably older than expected from alt. of beaches (King, 1969, p. 115-120). S-412 and S-413 predicted as 6300 and 7100 B.P., respectively. S-411 possibly contaminated by mixing

during solifluction. Beaches previously dated, S-412 at  $8240 \pm 120$  B.P. and S-413 at  $13,120 \pm 200$  B.P. (Müller and Barr, 1966, p. 263-269).

**S-425. Patience Lake, Saskatchewan** **>39,000**

Wood from 43.89 to 47.55 m depth in fine-grained, well-sorted sand, Shaft No. 2, Potash Co. of America, Patience Lake, Saskatchewan ( $52^{\circ} 09' 10''$  N Lat,  $106^{\circ} 22' 30''$  W Long). Alt. of ground 533.7 m. Coll. 1967 by N. L. Ball; subm. 1967 by W. O. Kupsch. *Comment* (W.O.K.): sand with wood fragments is underlain by till, probably correlative with Upper Till of Sutherland group. Date is minimum for uppermost part of that group (Christiansen, 1970, p. 4).

**S-427. Rankin Inlet, Northwest Territories** **3915  $\pm$  70**  
**1965 B.C.**

Bones from seal skeleton at 43.2 to 48.3 cm depth in gravel of emerged beach on Thompson I., Rankin Inlet, N.W.T. ( $64^{\circ} 49'$  N Lat,  $92^{\circ} 00'$  W Long). Alt. +44.20 m. Coll. 1967 by P. A. James; subm. 1967 by W. O. Kupsch. *Comment* (P.A.J.): probably dates emerged beach. Age ca. 4000 yr for beach of alt. +44.2 m agrees with expected date according to rate of uplift of Hudson Bay (see Lee, 1962; Andrews, 1970).

**Truelove Valley series, Northwest Territories**

Peat samples from peat hummock (palsa), basal peat underlain by clear ground ice, S slope of Truelove Valley, Devon I., N.W.T. ( $75^{\circ} 38' 14''$  N Lat,  $84^{\circ} 25' 27''$  W Long). Coll. 1967 by R. H. King; subm. 1967 by W. O. Kupsch.

**S-428.** **6900  $\pm$  115**  
**4950 B.C.**

Peat at 1 m 52.4 cm to 1 m 82.9 cm, alt. +57.3 m.

**S-429.** **4200  $\pm$  85**  
**2250 B.C.**

Peat at 76.2 cm to 96.5 cm.

*General Comment* (R.H.K.): basal peat (S-428) ca. 2000 yr younger than expected from alt., minimum date for postglacial peat formation. Dates indicate 81.3 cm peat formed in 2700 yr. Ages consistent with pollen analyses.

**S-430. Truelove Valley, N Devon Island** **4300  $\pm$  95**  
**2350 B.C.**

Peat from 0.9 m depth obtained by ice-corer from frozen deposit 1.5 km NE of head of Truelove Inlet, Devon I., N.W.T. ( $75^{\circ} 37'$  N Lat,  $84^{\circ} 27'$  W Long). Alt. of ground +27 m. Coll. 1967 by W. Barr and W. Elcock; subm. 1968 by W. O. Kupsch. *Comment* (W.B.): minimal age for postglacial marine emergence, however, lower elev. samples (S-431 and S-432) are older, suggesting that peat formed much earlier (probably 7500 B.P.). Either peat accumulation was delayed until long after emergence or was contaminated by younger roots.

**S-431. Northern Devon Island****5280 ± 100  
3330 B.C.**

Driftwood from base of frozen peat on seaward flank of emerged beach ridge, 300 m SW of Base Camp, Arctic Inst. North America, N Devon I., N.W.T. (75° 42' N Lat, 84° 39' W Long). Alt. +10.8 m. Coll. 1966 by W. Barr and H. G. Lloyd; subm. 1968 by W. O. Kupsch. *Comment* (W.B.): well preserved wood, id. by R. J. Moot, Geol. Survey Canada, as *Picea* or *Larix*, probably latter. Date contributes to more reliable history of postglacial uplift than previous interpretations based on dated marine mollusks (Müller and Barr, 1966), S-431 younger than mollusk found at lower elev. Also bears on postglacial uplift of E. Queen Elizabeth Is. (Blake, 1970, p. 655).

**S-432. Northern Devon Island****6100 ± 125  
4150 B.C.**

Bone, dense, ivory-like from ear region of whale skull (*Balaena mysticetus*) id. from photo by R. Lowes, Cambridge Univ., embedded in limestone-pebble gravel on seaward side of 1st emerged beach ridge across lake, W of Base Camp, Arctic Inst. North America, N Devon I., N.W.T. (75° 39' N Lat, 84° 35' W Long). Alt. +11 m. Coll. 1967 by W. Barr and W. Elcock; subm. 1968 by W. O. Kupsch. *Comment* (W.B.): substantiates S-431 and invalidates postglacial uplift curve based on marine mollusks from lower alts. (Müller and Barr, 1966).

**S-433. Northern Devon Island****2900 ± 85  
950 B.C.**

Bone, dense, solid from ear region of whale skull (*Balaena mysticetus*) id. from photo by R. Lowes, embedded in limestone-pebble gravel, upper surface of skull flush with ground, lower part in permafrost on emerged beach ridge 2 km NW of Base Camp, Arctic Inst. North America, N Devon I., N.W.T. (75° 40' N Lat, 84° 37' W Long). Alt. +3 m. Coll. 1967 by W. Barr and W. Elcock; subm. 1968 by W. O. Kupsch. *Comment* (W.B.) date in part invalidates uplift curve (Müller and Barr, 1966) based on marine mollusks (Y-1294, at +3.4 m dated 6980 ± 120 B.P.). S-433 believed more reliable (dense bone, no rootlets), useful check on basal peat sample (I-3231 dated 2650 ± 90 B.P.) of same area and alt. which is minimum for emergence. S-433 and S-432 not corrected for any radiocarbon deficiency in arctic sea water (Barr, in press).

**S-434. Truelove Valley, N Devon Island****8200 ± 140  
6250 B.C.**

Shells of marine mollusks (*Mya truncata* and *Hiattella arctica*) embedded in silt from top of solifluction slope, W side of low rocky knoll, 2.6 km E of head of Truelove Inlet, N Devon I., N.W.T. (75° 36' N Lat, 84° 22' W Long). Alt. +30 m. Coll. 1966 by W. Barr and H. G. Lloyd; subm. 1968 by W. O. Kupsch. *Comment* (W.B.): shells from surface, not *in situ* but believed not to have moved appreciable distance

as close to top of slope. Highest alt. in Truelove Valley, minimum age for deglaciation and marine invasion. Mollusks died at same water depth as whale skull in area (+42 m) almost identical age  $8270 \pm 150$  B.P. (GSC-991: R., 1970, v. 12, p. 46-86).

#### **Cape Hardy series, Northwest Territories**

Shell and marine algae from near vertical sea cliff, S across bay from E extremity of Cape Hardy, N Devon I., N.W.T. ( $75^{\circ} 47'$  N Lat,  $83^{\circ} 35'$  W Long). Coll. 1967 by W. Barr and W. Elcock; subm. 1968 by W. O. Kupsch.

**S-435. Shells, marine mollusks** **8100  $\pm$  150**  
**6150 B.C.**

Whole valves and fragments of *Macoma calcarea* on sand surface top of cliff. Alt. +11 m.

**S-436. Marine algae** **9300  $\pm$  175**  
**7350 B.C.**

From beds up to 5 cm thick interbedded with fine marine sand exposed at alt. +4.2 m of 11 m cliff.

**S-437. Shells, marine mollusks** **8500  $\pm$  150**  
**6550 B.C.**

Many articulated whole valves (mostly *Mya truncata* and *Macoma calcarea*) in unconsolidated marine sands exposed at alt. +2.9 m on 11 m cliff.

*General Comment* (W.B.): samples coll. to date postglacial emergence (Müller and Barr, 1966). Algae appears anomalous in series, marine mollusks from higher (S-435) and lower (S-437) alt. dated younger. S-436 confirms Jones Sound area free of glacier by 7350 B.C. Mollusks apparently were dead for a considerable time prior to uplift as drift wood (S-431) at comparable alt. (+10.8 m) dated 3330 B.C.

**S-438. Northern Devon Islands, Northwest Territories** **6300  $\pm$  115**  
**4350 B.C.**

Marine algae, well-preserved in permafrost, interbedded with fine sand 70 to 90 cm depth, seaward flank of emerged beach ridge, stream cut 800 m NW Base Camp, Arctic Inst. North America, N Devon I., N.W.T. ( $75^{\circ} 40'$  N Lat,  $84^{\circ} 35'$  W Long). Alt. of ground +6.7 m. Coll. 1967 by W. Barr and P. Barrett; subm. 1968 by W. O. Kupsch. *Comment* (W.B.): coll. to date time of emergence, anomalous date compared to higher alt. samples which have younger dates (S-431, driftwood +10.8 m, 3330 B.C. and S-432, whalebone, +11 m, 4150 B.C.).

**S-458. Broughton Island, Northwest Territories** **>32,000**

Shells, mostly fragmented, includes some undamaged *Hiatella arctica*, in silty clay of marine terrace, N part of E coast, Broughton I., N.W.T. ( $67^{\circ} 33'$  N Lat,  $63^{\circ} 47'$  W Long). Alt. +16 m. Till in major terminal and ground moraines, deposited by readvance of small cirque glacier,

overlies marine terrace. Coll. 1968 by J. T. Andrews and J. H. England; subm. 1968 by W. O. Kupsch. *Comment* (J.T.A.): sea at +72 m during deposition of marine terrace silt and clay. Deposition related to Early Wisconsin Glaciation which did not extend onto E coast, alt. ca. 300 m. Further N on E coast Baffin I., sea cliffs cut into marine deposits with shells dated >54,000 yr. (Løken, 1966, p. 1378-1380).

**S-459. Broughton Island, Northwest Territories** **24,100 ± 850**  
**22,150 B.C.**

Fragmented shells in coarse sand behind premises Hudson Bay Co., W-central Broughton I., N.W.T. (67° 32' N Lat, 64° 02' W Long). Alt. +13 m. Cut exposed shell beds distinct but correlative, moraine shells thick-walled, shells in marine deposit thin-walled and assumed *in situ*. Coll. 1968 by J. T. Andrews and J. H. England; subm. 1968 by W. O. Kupsch. *Comment* (J.T.A.): shells occur in moraine that marks a deglaciation phase, mid-Wisconsin age when sea level dropped from 72 m (early Wisconsin) to 15 m above present level. Thick-walled shells (moraine) date from 32,000 B.P. (England and Andrews, ms. in preparation).

**S-492. Bute Inlet, British Columbia** **1025 ± 80**  
**A.D. 925**

Semi-solid, dark waxy material which floats on Bute Inlet waters, British Columbia (50° 30' N Lat, 125° 10' W Long), during extremely cold winters (solubility effect). Nearby land area is forested Mesozoic and Cenozoic mts. composed of intrusive rocks. Coll. 1968 and subm. 1969 by T. C. Jain, Univ. Victoria, Victoria. *Comment* (A.A.R.): date supports forest residue source, possible origin discussed by Williams (1957, p. 13). Chemical analyses reported by Jain (Jain *et al.*, 1969, p. 785).

II. ARCHAEOLOGIC SAMPLES

**Garratt series, Saskatchewan**

Charcoal from layers of prehistoric occupation site, Garratt site (EcNj-7), Moose Jaw, Saskatchewan (55° 22' 25" N Lat, 105° 33' 23" W Long). Layer 6 contained butchered bone and pottery assoc. with Avonlea-type projectile points. Layer 8 contained Besant points. Coll. and subm. 1966 by G. C. Watson, Saskatchewan Mus. Nat. History, Regina.

**S-406. Layer 6, 0.79 m below surface** **1450 ± 70**  
**A.D. 500**

**S-408. Layer 6, 0.67 m below surface** **1280 ± 60**  
**A.D. 670**

**S-409. Layer 8, 1.07 m below surface** **1990 ± 75**  
**40 B.C.**

*General Comment* (G.C.W.): 1st occurrence of ceramic material with Avonlea culture. Layer 6 related period to Gull Lake site, Layers 26 and 31a (S-254 and S-255; R., 1968, v. 10, p. 375).

**Unalakleet series, Alaska**

Charcoal and wood samples from 3 or 4 Norton Sound Eskimo village sequence near Unalakleet, Alaska (63° 53' 12" N Lat, 160° 47' 42" W Long). Coll. 1963 and subm. 1967 by D. R. Burnor.

**S-417. Charcoal** **500 ± 60**  
**A.D. 1450**

From sterile beach sand under midden deposit of present village, 1.22 m below surface.

**S-418. Wood** **280 ± 60**  
**A.D. 1670**

From house wall log, 1.22 m below surface in permafrost.

**S-419. Charcoal** **2100 ± 100**  
**150 B.C.**

From hearth on floor of semi-subterranean house, 0.91 m below surface.

*General Comment* (D.R.B.): mouth of Unalakleet R. has been contact point for N and S coastal Eskimo groups and Athabascan Indians of interior Alaska. S-419 proves that the earliest inhabitants of the Unalakleet area followed Norton tradition, and S-417, S-418 indicate that elements of this culture persisted into historical times.

**S-441. Bradwell, Saskatchewan** **2800 ± 75**  
**850 B.C.**

Left tibia of human male at 1.22 to 1.52 m depth in gravel near Bradwell, Saskatchewan (51° 48' N Lat, 106° 09' W Long). Alt. +576 m. Coll. 1936 by Pius Fischer; subm. by W. O. Kupsch. *Comment* (W.O.K.): human skeletal remains possible assoc. with eagle-claw necklace and chipped scraper, coll. before radiocarbon dating (Edmunds *et al.*, 1938). Geologic and archaeological significance discussed by Kupsch *et al.* (1970).

**S-453. Crooked Lake, Saskatchewan** **910 ± 70**  
**A.D. 1010**

Wood sample from central roof support post of burial mound structure, Moose Bay Burial Mound site (EdMg-1) near Crooked Lake, Saskatchewan (50° 37' N Lat, 102° 4' W Long). Coll. 1968 and subm. by G. C. Watson. *Comment* (G.C.W.): most N plains burial mound location known, compares to Glen Ewen Burial Mound series (S-258 and S-259: R., 1968, v. 10, p. 377).

**Bloody Falls series, Northwest Territories**

Charcoal from Bloody Falls site (MkPk-3), Coppermine R., Dist. of MacKenzie, N.W.T. (67° 45' N Lat, 115° 22' W Long). Sec. of site has 2 stratified components, upper consisting of large stone Thule culture house, and lower related to Arctic Small Tool tradition. Latter seems relatively late pre-Dorset variant of tradition. Coll. 1968 by P. D. Sweetman for R. McGhee; subm. by R. Wilmeth, Natl. Mus. Canada, Ottawa.

**S-462. Bloody Falls site, Structure I, 840 ± 60**  
**Sq. Q-14 A.D. 1110**

Charcoal (NMC-340) from apparent hearth area in yellow sand, 5 to 20 cm below lowest flagstones marking base of Thule occupation and 20 to 35 cm above bedrock. Few chert flakes found but no Arctic Small Tool tradition or Thule culture artifacts. Should date Arctic Small Tool tradition occupation.

**S-463. Bloody Falls site, Structure I, Sq. O-17 3330 ± 90**  
**1350 B.C.**

Charcoal (NMC-305) from apparent hearth in yellow sand 55 to 60 cm below surface and 30 to 35 cm below base of Thule layer. Burins and other Arctic Small Tool tradition artifacts assoc. with hearth area. *General Comment* (R.M.): S-463 acceptable date for Arctic Small Tool tradition occupation. S-462 not of this period, suspect contamination from overlying Thule housefloor or sample may represent a Thule occupation buried during later construction of Thule house.

**S-464. Ouimet site, Northern Ontario 1700 ± 225**  
**A.D. 250**

Carbonized birch bark (NMC-319) from Ouimet site (Fb1x-2), on W end of island (Oblate mission) opposite Lansdowne House, Attawapiskat Lake, N Ontario (52° 13' 30" N Lat, 87° 53' 30" W Long). Stratified site with Late Woodland (Blackduck) component above Laurel component in turn above possible Archaic component. Bark found assoc. with Laurel tradition sherds in Test Pit 1, a relatively well-defined Laurel component. Should assist in resolving temporal position of Laurel tradition, also 1st Laurel date in Hudson Bay drainage. Coll. 1968 by J. V. Wright; subm. 1969 by R. Wilmeth. *Comment* (J.V.W.): date consistent with estimate of Laurel tradition.

**S-465. Sandwillow site, Northwest Territories 1790 ± 70**  
**A.D. 160**

Unburned caribou bone (270 g) and burned carbon bone (10 g) (NMC-301) from Sandwillow site, in large sand blowout on edge of 85 m terrace, 400 m W of Coppermine and 1500 m NNW of Bloody Falls, MacKenzie Dist., N.W.T. (67° 45' N Lat, 115° 22' W Long). Site appears to represent single occupation, small temporary caribou-hunter camp. Artifacts and refuse exposed on surface of blowout, included 5 lanceolate stemmed points, resemble Scottsbluff type in Plains area. Type appeared as isolated finds in several N Canadian locations, but so far not in dateable context. Should date occupation using lanceolate stemmed points. Coll. 1968 by R. McGhee; subm. 1969 by R. Wilmeth. *Comment* (R.M.): site location on high waterless terrace and style of artifacts suggests much earlier date (age 4000 to 8000 yr). Possibility bone not assoc. with occupation but unlikely. Acceptance would suggest extremely late persistence of large lanceolate point style and a penetration of Indian

cultures to Arctic coast when most of Arctic was occupied by Dorset Eskimo.

### **Lapointe site series, Northwest Territories**

Charcoal and caribou bone from Lapointe site (MkPk-7), on eroding point of 85 m terrace 200 m W of Coppermine R., ca. 2 km downstream from Bloody Falls, Mackenzie Dist., N.W.T. (67° 45' N Lat, 115° 22' W Long). Site appears to represent relatively heavy occupation by band of caribou hunters. Artifacts included 4 large lanceolate points of general "Agate Basin-like" or Keewatin Lanceolate type. Similar points occur on an early horizon throughout NW Canada but not yet securely dated. Coll. 1968 by R. McGhee; subm. 1969 by R. Wilmeth.

**1380 ± 105**

#### **S-466. Lapointe site, 70 to 75 cm depth      A.D. 570**

Willow charcoal and burned caribou bone (NMC-302) from apparent hearth area in Sq. E-11, 70 to 75 cm depth and from wash slope below (eroded from cultural layer).

**2730 ± 90**

#### **S-467. Lapointe site, 20 to 40 cm depth      780 B.C.**

Unburned caribou bone (NMC-303) from cultural layer Sq. E-10, 20 to 40 cm below datum. Cultural layer is thin continuous band of sand stained by organic matter, packed with bone refuse, a few flakes and artifacts. Layer is soliflucted and disturbed by ground squirrels, but forms single stratigraphic unit over site area.

*General Comment* (R.M.): part of S-466 consisted of surface material, possible contamination by burned bone by more recent occupants. S-467 not contaminated as above, definitely assoc. with main occupation. Tentative date on lanceolate point sites in N.W.T.

**1450 ± 80**

#### **S-468. Willowherb site, Northwest Territories      A.D. 500**

Unburned caribou bone and teeth (NMC-306) from Willowherb site (MkPk-9) in large sand blowout on edge of 85 m terrace, 300 m N of LaPointe site (MkPk-7) and directly W of small rapid in Coppermine 2 km below Bloody Falls, Mackenzie Dist., N.W.T. (67° 45' N Lat, 115° 22' W Long). Blowout area over 200 sq. m, 2 occupation areas exposed. Sample from N-most occupation site and represents small temporary caribou hunter camp. Assoc. artifacts included round-based, thin, lanceolate biface, cultural affiliation not clear. Should date occupation using thin, round-based, lanceolate points and may provide useful terminal date for formation of 85 m terrace. Coll. 1968 by R. McGhee; and subm. 1969 by R. Wilmeth. *Comment* (R.M.): same range as S-465 from Sandwillow site and S-466 from Lapointe site. See comment on S-465.

**2535 ± 150**

#### **S-470. Donaldson site, Ontario      585 B.C.**

Charcoal (NMC-320) from Donaldson site (BdHi-1), N side of Sau-

geen R., ca. 3.2 km from mouth, Lots 56-57, Amabel Twp., Bruce Co., Ontario (44° 30' 30" N Lat, 81° 21' W Long). Test pit immediately W of 1960 excavation Unit VIII (Wright and Anderson, 1963, p. 3) from basal yellow clay of Midden A deposit, depth 0.61 m. Charcoal in direct assoc. with Saugeen focus ceramics and a single Laurel tradition rim sherd. Site belongs to Saugeen focus of early Middle Woodland period. Coll. 1968 by J. V. Wright; subm. 1969 by R. Wilmeth. *Comment* (J.V.W.): sample confirms earlier radiocarbon dates of 530 B.C. +60 (S-119: R., 1962, v. 4, p. 77) from Donaldson and 669 B.C. +220 (C-608, Libby, 1955, p. 91) from related Burley site.

#### **Boardwalk site series, British Columbia**

Charcoal from Boardwalk site (Gb.To-31), NW side of Elizabeth Point, Digby I., Prince Rupert Harbour, British Columbia (54° 17' 40" N Lat, 130° 22' 35" W Long). Prehistoric winter village of Gispakloates tribe of Tsimshian. Shell midden containing ca. 310,000 cu. m of cultural material. Coll. 1968 by G. F. MacDonald; subm. 1969 by R. Wilmeth.

**125 ± 70**

**S-471. Boardwalk site, Sq. G6** **A.D. 1825**

Charcoal (NMC-324) from Sq. G6, 1.93 m N, 0.61 m W, depth 20.3 to 30.5 cm below datum, highest undisturbed level of midden.

**3460 ± 80**

**S-472. Boardwalk site, Sq. I6, N wall** **1510 B.C.**

Charcoal (NMC-325) from Sq. I6, N wall, below datum, lowest cultural zone.

**3450 ± 80**

**S-473. Boardwalk site, Sq. I6, hearth feature** **1500 B.C.**

Charcoal (NMC-326) from Sq. I6, NW quad. hearth feature, depth 2.81 m to 2.90 m below datum, upper part of lowest cultural unit, zone of slow refuse accumulation.

*General Comment* (G.F.M.): S-471 possible contamination by cultivation or occupation during latter part of 19th century. Subsequent excavations produced no historic material in assoc. with undisturbed deposits, estimate abandonment of site at ca. A.D. 1700. S-472 acceptable date, accumulation more rapid than expected (S-473).

**210 ± 80**

**S-474. Snare River site, Northwest Territories** **A.D. 1740**

Charcoal (NMC-243) from Snare R. site (LbPf-2), N bank of Snare R. at entrance to E end of Snare Lake, N.W.T. (64° 18' 20" N Lat, 113° 42' 30" W Long). From hearth buried 7.6 cm deep in black humus under surface covering of moss and lichen. Cultural materials and buried bone assoc. Component of Taltcheilei Shale tradition. Coll. 1967 by W. C. Noble, McMaster Univ.; subm. 1969 by R. Wilmeth. *Comment* (W.C.N.): site represents a late prehistoric component of Taltcheilei Shale tradition which is ancestral to historic Yellowknife Indians, speakers of the most

archaic dialect of Chipewyan. Date and cultural materials compare favorably with late prehistoric Observation site (KeNw-4) on E Great Slave Lake, dated A.D. 1765 (I-4375).

**S-475. Trout Bay site, Northwest Territories** **Modern**

Burned bone (NMC-244) from Trout Bay site (Lb-Pg-7), N shore of Snare Lake, 1.61 km E of Snare Lake Dogreb Indian village, N.W.T. (64° 11' 30" N Lat, 114° 05' W Long). From large roasting hearth with numerous pieces of fire-broken rock. Cultural materials assoc. Component of Taltheilei Shale complex. Coll. 1967 by W. C. Noble, Univ. Calgary (now McMaster Univ); subm. 1969 by R. Wilmeth. *Comment* (W.C.N.): date on very small bone sample is inconsistent with estimated age A.D. 900.

**1760 ± 100**

**S-476. Deception Point site, Northwest Territories** **A.D. 190**

Carbonized wood (NMC-245) from Deception Point site (LbPf-5), on esker-ridge point on N shore of Snare Lake, 14 km W of E end of lake, N.W.T. (64° 14' 20" N Lat, 113° 56' 50" W Long). Esker is 9.14 to 12.19 m above present lake level. Sample from within and under fire-broken rock hearth in Unit A. Hearth lay within cultural horizon 7.6 cm thick, buried 35.6 cm under sterile aeolian sands capped by a presently stable ground surface of moss and spruce trees. Cultural horizon also marks former buried soil development. Artifacts include chert, gray silicious shale, and quartzite materials. Coll. 1967 by W. C. Noble; subm. 1969 by R. Wilmeth. *Comment* (W.C.N.): date is reasonable, but does place a late occurrence on small tools, including microblades and burins, in interior regions of central Mackenzie Dist. Site represents a late component of the author's Tundra tradition. Date is consistent with site stratigraphy; a non-cultural buried burned forest horizon lying 10.2 cm below cultural zone has returned a date of 3120 ± 140 B.C. (I-4376).

**Nunguivik site series, Northwest Territories**

Plant material and burned organic matter from Nunguivik site (PgIib-1), W coast of Navy Board Inlet, Borden Peninsula, Baffin I., N.W.T. (73° 01' 30" N Lat, 80° 38' W Long). Site contains ca. 80 ruins of dwellings belonging to early and possibly late Dorset and early and late Thule (Rousseliere, 1968). Plant material predominately *Cassiope Tetragona* (L), and also *Salix*, *Dicranium*, and *Hepaticae*, id. by D. Don and M. J. Shchepanek, Natl. Herbarium Canada. Coll. 1967 by Fr. G. Mary-Rousseliere, Catholic Mission, Pond Inlet; subm. 1969 by R. Wilmeth.

**860 ± 90**

**S-477. Nunguivik site, early Thule** **A.D. 1090**

Plant material (NMC-265) from beneath flagstone on platform of House 42, early Thule house. Plant material platform cover should date early occupation.

**1380 ± 95****S-478. Nunguivik site, late Dorset A.D. 570**

Burnt material (NMC-267) from fireplace, S corner, House 72, Dorset, ca. 25 cm below surface, <1 m above highest tide, could not have been inhabited at sea levels higher than present, should be latest Dorset house at site.

**715 ± 60****S-516. Nunguivik site, early Thule A.D. 1235**

Plant material from upper layer House 42, early Thule, used as platform cover probably contemporaneous with latest occupation.

*General Comment (G.M.R.):* House 42 is slightly older than expected (600 to 800 yr B.P.) but acceptable. S-177 and S-516 consistent, give mean occupation span of 145 yr, probably frequently inhabited, indicated by refuse material both inside and outside. Dates early Thule for E arctic. S-478 consistent with nearby and higher House 71 (Gak-2339) between A.D. 560 and 800. Houses probably inhabited during A.D. 560 to 685 period. Date confirms no sea level change in region for at least 1200 yr.

**3130 ± 110****S-479. Steeprock Lake, Manitoba 1180 B.C.**

Charcoal (NMC-272) from Steeprock Lake site (C3-UN-55), Prov. Govt. Camp Ground, Steeprock Lake, Porcupine Forest Reserve, Manitoba (52° 36' 05" N Lat, 101° 21' 30" W Long). Main site on 2 terraces, upper relatively undisturbed except forest dead-fall, lower modified by early high water level of lake. Cultural material assoc. upper terrace (dark red sand, water-worn component of lower terrace gravels) is combination late Paleo-Indian forms (Northern Plano style, Agate Basin and Plainview) and Archaic forms (side-notched ground base similar to W26, Jennings, 1957, p. 121). Early artifacts overlain by later undisturbed cultural material. Sample from bottom dark red sand zone, Sq. 200N30W, 76.2 cm S, 121.9 cm E, on floor of Level 5 at 25.4 cm below surface. Should date earliest habitation and may date 5th uplift (Johnston, 1946). Coll. 1967 by A. A. Simpson for W. M. Hlady, Manitoba Archaeol. Soc.; subm. 1969 by R. Wilmeth. *Comment (A.A.S.):* 2 non-ceramic tool assemblages id., older designated Steeprock "A" assoc. dark red sand include Agate Basin, Plainview, and Archaic side-notched projectile forms (similar to Simonsen, Logan Creek); more recent Steeprock "B" assoc. overlying gray-red and sand-contained crude flat side-notched, basal-notched McKean variant and thin crude eared, stemmed corner-notched projectile forms. On lower terrace "A" materials correlate with water-disturbed component while "B" related to undisturbed upper stratum. Date appears too recent for Steeprock "A", more applicable to Steeprock "B" material, possible that shallow fire pit penetrated underlying dark red sand zone.

**1560 ± 60****S-490. Dunfermline, Saskatchewan****A.D. 390**

Charred bone from Harder site on a sand flat 9.65 km N of Dunfermline, Saskatchewan (52° 12' 37" N Lat, 107° 03' 06" W Long). Assoc. with occupation remains including Oxbow projectile points in buried soil 0.40 to 0.55 m below surface. Coll. 1969 and subm. by I. G. Dyck, Univ. Manitoba, Winnipeg. *Comment* (I.G.D.): dates occupation of site and provides more recent minimal temporal boundary for Oxbow culture. Site appears to have been large summer base camp (Dyck, 1970, p. 1-29).

**1960 ± 90****S-491. Elbow, Saskatchewan****10 B.C.**

Bone material recovered from Sand Mound 1 of several low mounds, Melhagen site (EgNn-1), 19.31 km E of Elbow, Saskatchewan (51° 04' N Lat, 106° 21' W Long). Coll. 1968 and subm. by T. S. Phenix, Archaeol. Soc., Saskatoon. *Comment* (T.S.P.): dates single component of Besant kill site.

**Potlatch series, British Columbia**

Charcoal from Potlatch site (FeSi-201), S shore of Little Anahim Lake 4.83 km NW of Anahim Lake community on Hwy 20, central interior British Columbia (52° 29' 30" N Lat, 125° 20' 30" W Long). Site includes 1 large rectangular structure, 4 semi-subterranean houses, 2 of which are typical Chilcotin winter lodges, other 2 shallower and lack interior roof supports. Historic Chilcotin component, earlier one characterized by microblades. Coll. 1969 by Neil Vallance, Univ. Victoria and Paul Donahue, Univ. Wisconsin for R. Wilmeth; subm. 1969 by R. Wilmeth.

**1615 ± 80****S-500. Potlatch site, House 1****A.D. 335**

Charcoal (NMC-348) from concentration of charcoal lumps on floor level, 40 cm b.d. in area ca. 30 cm sq. (0 to 0.3 N/O.s to 0.6 W) next to hearth stones, Bes Yaz House. House differs from Chilcotin pattern, lacks historic-period material and yielded a number of microblades, some from floor level. Sample should date occupation and assoc. microblades (Wilmeth, 1969).

**1870 ± 75****S-501. Potlatch site, House 2****A.D. 80**

Charcoal (NMC-349) from bottom of pit (Feature 5), 1.25 N/1.34 W, 44.5 cm b.d., SW quad., T'okut House. House form differs from Historic Chilcotin, with historic material at surface level only. House partly underlies historic trash mound.

*General Comment* (R.W.): dates suggest that House 2 (T'okut) somewhat older than House 1 (Bes Yaz) rather than reverse as originally expected. Microblades assoc. with both. Dates considerably later than those assoc. with microblades elsewhere in interior plateau of British Columbia, but

are within range for microblades on coast (Borden, 1968). Chipped wedges (pièces esquillées) present in these houses, not previously reported in assoc. with microblades in this area.

**710 ± 80**

**S-502. Goose Point site, British Columbia A.D. 1240**

Charcoal (NMC-352) from Goose Point site (FcSi-200), W bank of Dean R., short stretch connecting Little and Big Anahim Lakes; adjacent to mouths of Pelican and Corkscrew Creeks and below Harry Squinas Cabin, central interior British Columbia (52° 29' 40" N Lat, 125° 20' 30" W Long). Sample from fireplace, 22 cm below surface, floor of Suzchet House. Site includes 2 houses circular, semi-subterranean, on bank of Dean R.; Fishing Sta. 1 structure, Bes Tco House, is historic Chilcotin winter lodge; other, Suzchet House is shallow basin locking post holes, resembles Bes Yaz and T'okut Houses, Potlatch site. Coll. 1969 by Neil Vallance for R. Wilmeth; subm. 1969 by R. Wilmeth. *Comment* (R.W.): date is significantly later than S-500 and S-501, similar structures at Potlatch site. Microblades were not found in Suzchet house but wedges assoc. with microblades in Bes Yaz and T'okut houses were present in small numbers.

**610 ± 75**

**S-503. Nodwell site, Ontario A.D. 1340**

Charcoal (NMC-353) from Nodwell site (BcHi-3), N edge of town Port Elgin, Saugeen Twp. Bruce Co., Ontario (44° 26' 20" N Lat, 81° 23' 30" W Long). Trench 1, Unit C, Small Pit 108 in House 1. Middleport substage, site of Ontario Iroquois tradition, only village of its type in Bruce Co. Should date approx. W-ward push of Middleport substage into Bruce Co. Coll. 1969 by J. V. Wright; subm. 1969 by R. Wilmeth. *Comment* (J.V.W.): date acceptable, close agreement with related Beswetherick site, Simcoe Co., A.D. 1360 ± 100 (M-1526) and raises possibility that classic Middleport substage sites are closer to A.D. 1350 than A.D. 1400.

**3250 ± 90**

**S-504. Knechtel (Upper) site, Ontario 1300 B.C.**

Charcoal (NMC-354) from Knechtel (Upper) site (BbHj-2), Lot 54 Con., 9, Sec. A, Kincardine Twp., Bruce Co., Ontario (44° 15' 20" N Lat, 81° 35' 30" W Long), Test Sec. 1, top portion of Feature 1 in Stratum III, depth 94.0 to 109.2 cm Stratified Inverhuron Archaic site. Dates richest intact component of site and adds meaning to substantial faunal material recovered. Coll. 1969 by J. V. Wright; subm. 1969 by R. Wilmeth. *Comment* (J.V.W.): date consistent with estimated age 3000 to 3500 B.P.

**3025 ± 90**

**S-506. Aberdeen Lake, Northwest Territories 1075 B.C.**

Peat (NMC-356) from Aberdeen Lake (LdLl-2) W end of Aberdeen Lake at embouchure of Thelon R., S side, Keewatin Dist., N.W.T.

(64° 37' 20" N Lat, 99° 49' 35" W Long). Sq. J19, 22.9 cm W and 22.9 cm S. Peat core-beginning depth 10.2 cm below surface; max. depth 21.6 cm (some compaction) in SW sec. of House 1. Site contains Paleo-Indian and Pre-Dorset Specimens but predominately relates to Shield Archaic. House 1 interpreted as late Shield Archaic structure. Date should be minimum for House 1 and estimate temporal placement of late Shield Archaic in Keewatin Dist. Coll. 1969 by J. V. Wright; subm. 1969 by R. Wilmeth. *Comment* (J.V.W.): date acceptable, raises possibility of contemporaneity of major Shield Archaic occupation and minor Pre-Dorset occupation at site.

**1780 ± 110****S-507. Dougall site, Ontario****A.D. 170**

Charcoal (NMC-357) from Dougall site (BdGu-2), W side Couchiching Narrows, Simcoe Co., Ontario (41° 37' N Lat, 79° 23' W Long). Sq. D—Middle Woodland concentration in SE corner, charcoal from below sherds, depth 17.8 to 30.5 cm. Continuous occupation from Middle Woodland to Historic period. Mostly superposition of occupations. Should date early Point Peninsula material in Simcoe Co. Coll. 1969 by J. V. Wright; subm. 1969 by R. Wilmeth. *Comment* (J.V.W.): date consistent with estimate: 2000 B.P.

**5240 ± 80****S-509. Allumette Island-1 site, Quebec****3290 B.C.**

Human long bones (NMC-360) from Allumette Island site, S side of Allumette I. E of Hwy 8 bridge, Pontiac Co. Quebec (45° 49' N Lat, 77° 01' W Long). Burial A-6, Late Vergennes focus, Laurentian Archaic site. Should date earlier half of Laurentian tradition, Ottawa valley and add temporal significance to numerous copper, bone, and stone tool varieties from site. Coll. by C. C. Kennedy; subm. 1969 for J. V. Wright by R. Wilmeth. *Comment* (J.V.W.): date appears to be quite adequate for a late Vergennes component. Two earlier dates from Allumette Island site (M-1548, 3060 ± 150 B.P. and M-1549, 1100 ± 100 B.P.) were much too young for Vergennes focus.

**925 ± 80****S-510. Carson site, New Brunswick****A.D. 1025**

Charcoal (NMC-368) from Carson site (BgDr-5), Digdeguash Harbour, Passamaquoddy Bay, New Brunswick (45° 09' 45" N Lat, 66° 57' 00" W Long). From Unit KK at N 24.70 m, W 15.40 m, depth from surface 25 cm, below datum 2.40 m. Sample assoc. with area of burned shell and bone, 25 cm W of Feature 6, an extensive rock hearth lacking sufficient charcoal for assay. Site is shell midden on sloping rhyolite exposure with cover of grass, poplar, and cedar. Two components recognized: Component 1, uppermost, and probably includes most of shell midden accumulation; Component 2 probably assoc. with rotted shell and subsoil. Component 1 includes narrow notched, corner- and side-notched points, and cord-wrapped stick decorated ceramics. Component 2 is preceramic. Sample believed to date Component 1 similar to several other undated

sites in area, probably "type" sta. for period, since it contains largest assemblage of its kind in area. Coll. 1969 by J. B. Keenlyside for D. Sanger; subm. 1969 by R. Wilmeth. *Comment* (D.S.): date satisfactory.

### **Klo-kut site series, Yukon**

Charred and uncharred caribou bone from Klo-kut site (MjV1-1), right bank of Porcupine R., ca. 9.65 km above Old Crow, N Yukon Territory (67° 54' N Lat, 139° 41' W Long). Large finely stratified site occupied by Athabaskans during last millennium. Coll. 1968 by R. E. Morlan, Natl. Mus. Canada and J. Cinq-Mars, Univ. Wisconsin; subm. 1969 by R. Wilmeth.

**775 ± 50**

#### **S-511. Klo-kut site, W700 block**

**A.D. 1175**

Uncharred caribou bone (NMC-377), combined sample from 3 adjacent 1.52 m sqs. in W 700 block, depths 76.2 to 86.4 cm below surface, N15/0, N10/0, and N5/W5. All levels represent buried soil and adjacent sediment unit, Profile Units 20 and 21 in Zone C, Layer VI. Should date later part of early occupation period, lower part of Layer VI.

**895 ± 75**

#### **S-512. Klo-kut site, W600 block**

**A.D. 1055**

Uncharred caribou bone (NMC-378), combined sample from 3 adjacent 1.52 m sqs. in W600 block, depths 81.3 to 88.9 cm below surface, N20/E60, N15/E60, and N10/E60. All levels represent Profile Unit 23, Zone C, Layer VII. Should date earlier part of early occupation period, top of Layer VII.

**810 ± 80**

#### **S-513. Klo-kut site, E100 block**

**A.D. 1140**

Uncharred caribou bone (NMC-379) from N10/E10, Level 14, representing buried soil with lens of bone, Profile Unit 18, Zone C, Layer VI. Should date later part of early period of occupation, lower part of Layer VI.

**830 ± 75**

#### **S-514. Klo-kut site, E700 block**

**A.D. 1120**

Uncharred caribou bone (NMC-380), combined sample from 2 1.52 m sqs. in E700 block (Area 1A), Sqs. 5 and 7, Layer 8. Represents buried soil, Profile Unit 21, Zone C, Layer VII. Should date end of earlier part of early occupation period, top Layer VII. Earliest major occupation in this part of site.

**855 ± 60**

#### **S-515. Klo-kut site, E700 block**

**A.D. 1095**

Charred caribou bone (NMC-381) from E700 block, (Area 1A), Sq. 7, Level 8, Feature 68T. Large hearth on prominent soil, Profile Unit 21, Zone C, Layer VII. Should date earliest major occupation in this part of site, top of Layer VII.

*General Comment* (R.E.M.): 5 samples mutually consistent and generally consistent with previous dates on charcoal samples (R., v. 11, p. 309-311;

R., v. 11, p. 36-37; Wilmeth, 1969, p. 67-127). Klo-kut site periods; Early Prehistoric between 900 to 600 yr. B.P.; Late Prehistoric between 600 to 100 yr B.P.; Historic component dating to the last century. Bone samples appear to provide more consistent results than charcoal samples.

**1700 ± 55****S-517. Karpinsky site, Alberta****A.D. 880**

Charcoal (NMC-332) from Karpinsky site (GkQn-100), N flanks of Birch Hills, Alberta (55° 42' N Lat, 118° 10' W Long). Combined sample from below plow zone in adjacent Sqs. E12, E13, and F12. Portion F12 assoc. with artifacts, range in form from side-notched to lanceolate with straight bases and shallow lateral indentations; all seem to have been made by same flaking technique, most of black chert. Single occupation campsite of restricted area uncovered by breaking plow. Coll. 1968 by A. L. Bryan, Univ. Alberta; subm. 1969 by R. Wilmeth. *Comment* (A.L.B.): should date occupation, 1st site excavated in Peace R. area of Alberta.

**365 ± 55****S-518. Calling Lake, Alberta****A.D. 1585**

Charcoal (NMC-333) from GbPh-102 site, Calling Lake area, Alberta (55° 14' N Lat, 113° 13' W Long). From Sq. E10, 20 to 50 cm W and 150 to 175 cm S of Stake E10, depth 2 to 12 cm below Stake E10, in dark gray silt (Ah horizon of podsol). Camp site possibly occupied over long period with cultural stratigraphy compressed. Coll. 1968 by M. Doll for R. Gruhn, Univ. Alberta; subm. 1969 by R. Wilmeth. *Comment* (R.G.): date consistent with late prehistoric estimate (Gruhn, 1969, p. 8-14).

**210 ± 50****S-519. Harris Site 2, Manitoba****A.D. 1740**

Charcoal (NMC-334) from Harris Site 2 (C3-CO-2), Manitoba (49° 46' N Lat, 99° 43' W Long). From Sq. N165 E5, Level 2, depth 7.6 to 15.2 cm. Sample occurred on Terrace 2 in stratified context, level partly assoc. with bison kill, includes late ceramics and lithic artifacts. Mixture of Manitoba and Sil Kirk phases seems to exist. Coll. 1967 by D. Tottle for W. M. Hlady, Manitoba Archaeol. Soc.; subm. 1969 by R. Wilmeth. *Comment* (W.M.H.): this site and other adjacent sites have not yet produced any contact material. Assiniboine people occupied area with Plains Cree E of Red R. at time of contact. Assiniboine around Lake Winnipeg known to have established trade at Fort Frances, Ontario earlier, A.D. 1684.

**4985 ± 75****S-520. St. Brieux, Saskatchewan****3035 B.C.**

Human femur from a sandy kame on lacustrine plain near St. Brieux, Saskatchewan (52° 34' N Lat, 104° 53' W Long). Alt. +518 m. Articulated human skeletal remains from elongated face-down position 1.83 m below surface. Coll. 1965 by T. R. Smith; subm. 1969 by W. O.

Kupsch. *Comment* (T.R.S.): date indicates contemporaneity with Oxbow culture. Details of site and skeleton to be pub. elsewhere.

**2900 ± 100**

**S-521. Churchill, Manitoba**

**950 B.C.**

Seal bones (*Pusa Lespida*) from Seahorse Gully site across Churchill R. from Churchill, Manitoba (58° 45' N Lat, 94° 15' W Long). Bones found immediately below surface as thin waste deposit within ruins of a rectangular Pre-Dorset dwelling, assoc. with typical Pre-Dorset artifacts. Coll. 1968 by R. J. Nash; subm. 1970 by David Meyer, Univ. Manitoba, Winnipeg. *Comment* (D.M.): should date most S extension of Pre-Dorset culture along W coast of Hudson Bay area.

**1560 ± 60**

**S-542. Grandora, Saskatchewan**

**A.D. 390**

Charred bone from Grandora site on sand dune 1.61 km NW of Grandora, Saskatchewan (52° 07' 46" N Lat, 107° 00' 00" W Long). Coll. in 2 adjoining excavation units from buried soil 61 cm below surface. Assoc. with hearth and occupation remains including Besant projectile points. Coll. 1969 and subm. 1970 by I. G. Dyck, Univ. Manitoba, Winnipeg. *Comment* (I.G.D.): dates occupation of site, consistent with previous Besant age estimates (Reeves, 1970).

**Kamloops series, British Columbia**

Elk antlers coll. 1967 to 1969 from area of Kamloops, British Columbia to establish period of habitation. Elk do not inhabit region today nor is there historic record of occurrence since 1st settlement by man. Coll. and subm. 1969 by R. W. Ritcey, Dept. Recreation and Conservation, Kamloops.

**1740 ± 75**

**S-454. Elk antler**

**A.D. 210**

From lake bottom, McGlashan Lake, British Columbia (50° 30' N Lat, 120° 05' W Long).

**184 ± 75**

**S-493. Elk antler**

**A.D. 1766**

Partially buried near Pennask Lake, British Columbia (50° 00' N Lat, 120° 09' W Long).

**1430 ± 85**

**S-495. Elk antler**

**A.D. 520**

From lake bottom, Dominic Lake, British Columbia (50° N Lat, 120° W Long).

**390 ± 75**

**S-496. Elk antler**

**A.D. 1560**

From meadow surface, 3.22 km S of W end Upper Loon Lake and 40.23 km ENE of Clinton, British Columbia (51° 10' N Lat, 121° 05' W Long).

**367 ± 75****S-497. Elk antler****A.D. 1583**

From meadow surface, 3.22 km S of W end Upper Loon Lake and 40.23 km ENE of Clinton, British Columbia (51° 10' N Lat, 121° 05' W Long).

**Williams Lake series, British Columbia**

Elk antlers coll. from area of Williams Lake, British Columbia to establish period of elk habitation. Coll. 1969 and subm. 1970 by H. B. Mitchell, Dept. Recreation and Conservation, Williams Lake.

**110 ± 55****S-537. Elk antler****A.D. 1840**

Found near Maze Lake, British Columbia (51° 49' N Lat, 122° 47' W Long).

**3625 ± 75****S-538. Elk antler****1675 B.C.**

Found near Dog Creek, British Columbia (51° 35' N Lat, 122° 15' W Long).

**615 ± 70****S-539. Elk antler****A.D. 1335**

From Moose Meadow, British Columbia (51° 49' N Lat, 121° 48' W Long).

**1200 ± 65****S-540. Elk antler****A.D. 750**

Found near Squak Lake, British Columbia (52° 03' N Lat, 121° 34' W Long).

**1105 ± 65****S-541. Elk antler****A.D. 845**

Found near Chezacut, British Columbia (52° 20' N Lat, 124° 01' W Long).

*General Comment* (A.A.R.): combined dates for Kamloops and Williams Lake series support long period of elk habitation for interior British Columbia prior to settlement by man. Habitation not necessarily continuous for region (periods 1675 B.C. to A.D. 210; A.D. 845 to 1335) or local areas.

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