

A RADIOCARBON DATE FROM 34LG60

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In March 1994, the Archeological Survey visited three sites situated along a tributary stream to the Cimarron River in southwestern Logan County. The three sites, based on surface collections, appeared to represent Plains Woodland, Plains Village, and/or Protohistoric occupations. A local resident gave us a number of bison bones from one of these sites (34GL60) which were particularly noteworthy. These bones, the femur and tibia from two adult males were extremely large -- close to the size of that observed for *Bison antiquus*. The presence of these large elements in a relatively late prehistoric context caused some consternation. Did these remains represent large modern bison or possibly a mixed depositional setting?

LG60 is located roughly 100 meters from the stream in an area where recent floods had cut a wide gully through loosely consolidated sands. The bison bones were found on the south side of the gully. There was no clearly defined pit outline or evidence of a feature where the bones were collected. Additionally, a cordmarked sherd and two flakes were found on the approximate area of the bison remains. A profile of the gully revealed numerous laminations of floodborne sand deposits and at almost 2 meters below surface, a very faint paleosol. This paleosol appeared to be better represented on the north side of the gully where a distinct buried soil horizon occurs approximately 3 meters below surface.

To resolve the age of the bison a sample of the bone

was selected for radiocarbon dating. Based on a C13 adjusted age, a date of 720 ± 70 B.P. was obtained (Beta-72514). There is a .87 probability that the true corrected of calibrated date for this sample falls between 1220 and A.D. 1310 at one standard deviation. A midpoint of A.D. 1265 can be approximated for this range. Thus, the bison bones found at 34GL60 represent those of modern bison -- very large modern bison! This date also places these animals during Plains Village times rather than during the earlier Plains Woodland period.

The limited paleoenvironmental data we have for this time attest to the earlier portion of the 13th century being slightly cooler and wetter although drier condition become prevalent in the 1300s-1400s. Wetter conditions favor the presence of woodlands or at least a savanna/open woodlands mix. This habitat would be less conducive to bison. In fact, other general studies of the early Plains Village period hint of less bison procurement to later portions of the Plains Village period, perhaps as a consequence of this phenomenon. However, it is also possible that small herds of bison in a localized setting might prosper in a tall grass savanna or woodland mix.

Undoubtedly, there are other such settings to be found in central and western Oklahoma where dating of bone, soil deposits, or both may aid in interpreting the context of the archaeological record and the adaptation of bison to diverse environmental settings.

A DATED EOLIAN SOIL SEQUENCE ON THE DEMPSEY DIVIDE

Pete Thurmond and Don Wyckoff

As part of our ongoing study of paleosols in central Roger Mills County, we recently reported the dating of soils within the Trammell Dune on the Washita River, and late Holocene valley fill on Plum Creek, a right bank Washita tributary (Thurmond and Wyckoff 1994, 1995). In May of 1995, we cored several dunes and interdune basins on the property of William C.

Olson at the crest of the Dempsey Divide, on the interfluvium between the Washita and the North Fork of the Red River. The crest of the divide, above the headwaters of the various tributary streams, is a largely eolian landscape of stabilized dunes and short internal drainages into enclosed interdunal basins. Mr. Olson's property extends from the center to the

west end of an area of such terrain west of US 283, between Dempsey and Grimes roads, measuring some 3 miles north-south by 7 miles east-west, which we are studying in some detail.

The first of the dunes cored, Olson Dune #1, is 8 miles southwest of Cheyenne, at the extreme headwaters of Sergeant Major Creek (for those of you who have been to the ranch, the dune is 2.5 miles south of my mail box). The dune is rather linear, running 350 meters north-south, and reaching a maximum width of 80 meters near its center. It appears to have accumulated from west to east, blowing off a wide, flat basin to the immediate west and pouring over an older eolian bench. The adjacent surface on the east side of the dune is about 3 meters lower than that on the west side, and so the dune appears much taller when viewed from the east. Maximum height of the dune is about 7 meters. We cored the dune in May of 1995 from its crest to a depth of 5.1 meters, which was as far down as we could reach with the coring rig of the Oklahoma Archeological Survey. Two buried zones of organic matter accumulation (melanized horizons in soils jargon) were encountered within the dune, and have been AMS dated by the lab in Lower Hutt, New Zealand. A description of the dune stratigraphy and the radiocarbon dating results follow.

Olson Dune #1, Core #1, Dune Crest

William C. Olson Farms - NW/NE/SE/4 Section 21-12N-24W, Roger Mills County, Oklahoma. USGS 7.5' Berlin & Cheyenne quadrangles. Cored 5/1/95 by W. C. Olson, J. P. Thurmond & Do. G. Wyckoff

Profile Description:

Ap: 0-87 cm; brown (7.5YR5/4) fine sand; unmelanized; abrupt boundary.

IIA_k1b: 87-144 cm; dark brown (7.5YR4/2) fine sand; melanized, numerous tiny charcoal flecks, heavy rodenturbation; gradual boundary; Sample #1 collected 87-144 cm for radiocarbon dating, NZA-5738, assayed 9371 + 97 BP, C13/C12 ratio -42.0.

IIBb: 144-223 cm; brown/dark brown (7.5YR4/4) fine sand; weakly melanized (probably illuvial accumulation of organics); gradual boundary.

IIC: 223-260 cm; brown (7.5YR5/4) fine sand; clear boundary.

IIIA₁b: 260-331 cm; brown/dark brown (7.5YR4/4) fine sand; weakly melanized; gradual boundary; Sample #2 collected 260-295 cm for radiocarbon dating, NZA-5739, assayed 25970 + 270 BP, C13/C12 ratio -43.6.

IIIC: 331-415 cm; brown (7.5YR5/4) fine sand; abrupt boundary.

IVBb: 415-510 cm (extended below base of core); strong brown (7.5YR4/6) loamy fine sand; possible truncated argillic B horizon, with unconformity as upper boundary.

The radiocarbon dates we are getting from these dunes continue to fly in the face of our original expectations (op. cit. 1994) that most of the eolian activity in western Oklahoma in general, and on and around the Dempsey Divide in particular, would be of mid-Holocene age and relate to the Altithermal. At Trammell Dune, dune formation began during the glacial maximum (the subdune soil dated 23 Kya, and the dune surface stabilized and melanized at 19 Kya and 14 Kya). The lower half of Trammell Dune is of Late Pleistocene age. Accretion continued during the Altithermal, with stabilization and soil formation at 4.7 Kya, but the upper 40% of the dune is of Late Holocene age. Only 10% of Trammell Dune appears to have accumulated during the Altithermal. At Olson Dune #1, it appears that virtually all of the dune was formed during Late Pleistocene and Early Holocene times. It is also interesting that neither of the Olson Dune #1 dates overlaps with those from Trammell Dune.

It is clear that eolian activity in Western Oklahoma began much earlier, and that the oscillation between mesic and xeric conditions was considerably more complex than has been assumed. The well-structured, discrete dunes in our study area, which we had assumed were of Altithermal age but which now appear to have mostly accumulated five to twenty thousand years earlier, appear to have been formed by predominantly westerly winds. Intriguingly, they overly an obviously much older landscape of long (up to 2 miles) eolian ridges and basins which run (and presumably accumulated) from south-southwest to north-northeast. The sands in these eolian ridges are very well-cemented by carbonates, and we now presume that they are of Middle Pleistocene age.

We have recently recorded and sampled a 50 meter long profile in a gleyed, stratified, 9 meter deep deposit at the big bend of Brokenleg Creek, some 300 meters downstream of the Late Archaic/Woodland site excavated by the OAS in 1988, the Beaver Dam site. There are five clear cut and fill events visible in the profile, and eleven melanized, datable horizons are present. Results of the first few radiocarbon dates indicate that the last erosional event occurred just before 11.5 Kya. Snail preservation is quite good through most of the deposit, and samples have been sent to James L. Theler at the University of Wisconsin.

sin-Lacrosse for identification. We will report this exposure in detail when the rest of the radiocarbon dates and the results of the snail analysis are available. We plan to additional coring of dunes and basins on the Dempsey Divide in late December with the assistance of Brian J. Carter of Oklahoma State University, using the OSU Giddings rig, which will core to greater depth and extract the cores in better condition than the rig we have been using to date.

Acknowledgments

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tance of Joseph W.A. McKee and the staff of the Institute of Geological and Nuclear Sciences in Lower Hutt, New Zealand for their careful and exacting handling of the low carbon content samples we so frequently send.

References Cited

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1994 Some Surprising Dune Dates on the Washita. *Newsletter of the Oklahoma Anthropological Society* 42(6): 4-5.
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BOOK REVIEW

Indian Territory and the United States, 1866 - 1906: Courts, Government and the Movement for Oklahoma Statehood, by Jeffrey Burton, Norman: University of Oklahoma Press 1995.

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Focusing on the Five Civilized Tribes, Burton supplies a new theory for the dissolution of tribal governments in Indian Territory. He claims that it was not the coalition of railroads, speculators, homeseekers, nor an industrialized economy that brought their downfall but, rather the U.S. Government's move toward political expansionism for its own sake. Following removal into Indian Territory, the Five Civilized Tribes had their own courts and lighthorsemen to enforce their laws. Gradual erosion of this political system occurred with the immigration of more and more whites into the area and eventual political control by the federal government.

Post Civil War Indian Treaties began the demise of Indian political and judicial autonomy. For their partial participation with the Confederacy, all five tribes were forced to cede large amounts of reservation land for the settlement of ex-slaves and western Indians such as the Sac and Fox, Cheyenne and Arapaho, Iowa, Kickapoo and Potawatomi. Conversely white settlers began entering into Indian Territory in unprecedented numbers, some as traders, railroad laborers, and entrepreneurs. The Federal Government set

up courts in the various Indian districts to try cases that involved these non-Indian people. The plot was laid for eventual dissolution of tribal courts and eventual U.S. political control. The U.S. legislature entered ... into a coalition of objectives under which judicial reform in a gradual program that would inside a decade leave the edifice of tribal government in ruins" (p. 25).

Burton proceeds through the rest of this volume to document the demise of Indian sovereignty in what was to become the state of Oklahoma. From 1866 to 1883, a small, but growing group of congressmen sought to end Indian autonomy. They argued that the Oklahoma Territory was necessary for the basic right of eminent domain. By 1890, these legislators convinced their congressional counterparts and legislative reform was unleashed.

Burton details the district courts concerned with Indian Territory calling them, "rotten at their roots" (p. 47). The Federal Court at Van Buren and Ft. Smith were noted, not only for their fraud, but for their destruction of public records protecting railroad workers and their employers. Crime in Indian Territory increased annually. Burton quotes Galpin in 1876 concerning court officials as saying: "Indeed, some of the present officers of justice ... are well-known as formerly horse thieves" (p. 63). Burton gives abundant examples of increase in violent crime that plagued Indian Territory and justification for U.S. legal intervention.