

DOCUMENT DELIVERY ARTICLE

Journal Title: Plains Anthropologist

Trans. #: 390935

Article Author: Holliday, Vance T.
and Eileen Johnson



Article Title: An Update on the
Plainview Occupation at the Lubbock
Lake Site

Call #: E78.G73 P52

Location: Main Library

Volume: 26

Item #:

Issue:

Month/Year: 1981

Pages: 251-253.

CUSTOMER INFORMATION:

Imprint:

Darcy Shane Miller
dsmiller@email.arizona.edu

STATUS: Graduate
DEPT: Anthropology

University of Arizona Library
Document Delivery
1510 E. University Blvd.
Tucson, AZ 85721
(520) 621-6438
(520) 621-4619 (fax)
AskLL@u.library.arizona.edu

Paged by ac (Initials) 8/23 9:00

Reason Not Filled (check one):

- NOS NFAC (GIVE REASON)
 LACK VOL/ISSUE OVER 100 PAGES
 PAGES MISSING FROM VOLUME

Rec'd: 8/23/2007 05:55:50 PM

University of Arizona Document Delivery

COMMENT

AN UPDATE ON THE PLAINVIEW OCCUPATION AT THE LUBBOCK LAKE SITE

by

Vance T. Holliday and Eileen Johnson

Excavations at the Lubbock Lake site (Southern High Plains) uncovered an extensive *Bison antiquus* kill/butchering locale (feature FA6-11) with associated Plainview points (Johnson and Holliday 1980). Recent developments since publication provide additional information for the locale.

To briefly review the site and locale situation, Lubbock Lake is located in an entrenched meander of Yellowhouse Draw (near Lubbock, Texas). The draw attained maximum relief in the late Pleistocene. Since about 12,000 years ago, it has been filling and now contains as much as 8 meters of alluvial, lacustrine, and eolian sediments. The deposits chronicle the archaeological, paleontological, geological, and pedological record of the late Quaternary in the area.

Lakes and marshes were present in the draw during the period 11,000 to 8,000 years B.P. Laminated diatomite was deposited during periods of relatively high standing water; interbeds of highly organic, peaty material (cienega) were deposited during cycles of low to subsurface water. Sedimentation gradually shifted to deposition of homogeneous, massive, organic, diatomaceous earth. The Plainview feature is located within a cienega at the contact between the laminated diatomite (substratum 2A) and diatomaceous earth (substratum 2B).

Cultural designation of the feature is based on recovered projectile points and geochronological position. Additional radiocarbon dates from material associated with and just above the feature now are available. A determination of 9985 ± 100 years B.P. (SMU-728) dates the feature; 9310 ± 80 years B.P. (SMU-759) dates the deposits above the occupation. Both dates were secured on humate fractions

from highly organic cienega zones. The sample for SMU-728 was from a cienega in which the occupation debris was in and on, making the zone contemporaneous with the feature. The sample for SMU-759 was from a cienega above the feature and 12 cm above SMU-728.

The SMU-728 date is in good agreement with other dates from the 2A/2B contact. A date of 9960 ± 80 years B.P. (SMU-275) was secured on diatomaceous earth humates at the contact from another area of the site. A date of 9883 ± 350 years B.P. (C-558; Libby 1955; Sellards 1952) was determined on burned bison bone recovered during excavations by the Texas Memorial Museum in the early 1950s. The latter date was considered to date a Folsom feature (Sellards 1952) but stratigraphic investigations by the Lubbock Lake Project have determined the date associated with a Plainview occupation.

Although the Plainview period is poorly dated on the Southern Plains, the Lubbock Lake dates support the few available determinations from other sites. Dibble (1970) discussed a series of three dates (averaging $10,080 \pm 130$ years B.P.) from a Plainview bison kill at Bonfire Shelter in southwest Texas. Two dates were reported from the Plainview type site (Sellards et al. 1947), 50 miles north of Lubbock: 9800 ± 500 years B.P. (L-303; shell; Broecker and Kulp 1957); 7160 ± 160 years B.P. (O-171; bone; Brannon et al. 1957). The former date is close to the Lubbock Lake and Bonfire Shelter dates. However, the large standard deviation and problems with dating bone and shell at the time of the runs make interpretation of the dates difficult.

The new radiocarbon date for the Plain-

view level at Lubbock Lake provides further evidence that the Plainview occupation on the Southern Plains centers around 10,000 years B.P. (Johnson and Holliday 1980; Wheat 1972). The date of 9310 \pm 80 years B.P. from just above the feature indicates that deposition during and just after the FA6-11 event was quite slow, on the order of 600 years for 12 cm of sediment (2 cm /100 years). This rate substantiates the hypothesis that the cienegas observed in substrata 2A and 2B represent very slowly aggrading surfaces (spring fed marshes) that existed for some time.

Other new information for the feature concerns the raw material available for lithic tool manufacture. A recent survey of outcrops on the eastern Llano Estacado (Holliday and Welty, in preparation) determined that material previously described as Morrison quartzite (Morrison Formation, Jurassic; Johnson and Holliday 1980:92) is a purple metaquartzite found in gravels of the Ogallala Formation. The Ogallala consists of extensive late Tertiary piedmont alluvial plain deposits that underlie the Llano Estacado and outcrop along most of its margins. The metamorphic rocks found in the Ogallala probably were derived from the Southern Rocky Mountains in New Mexico (Reeves 1972). Presence of this metaquartzite mirrors a dependence on locally available materials seen during the late Paleo-Indian period (Johnson and Holliday 1981).

The additional Lubbock Lake information adds to the growing Plainview data base. Several bison kill/butchering locales are known for this period at the site and further radiocarbon determinations are pending. Known radiocarbon dates are tightly clustered and comparable with other available Plainview dates. Plainview distribution and dates indicate a regional (Southern Plains) manifestation within a restricted time range (around 10,000 years B.P.).

The Plainview occupation at Lubbock Lake was one of repeated economic use. Repeated use of an opportune area for hunting appears to be part of the general Plainview pattern, seen at both communal mass kills (Sellards et al. 1947; Dibble and Lorrain 1968) and residential small kills. Other aspects, such as material use, may represent a more localized segment of the lifeway pattern (Johnson and

Holliday 1980).

ACKNOWLEDGMENTS

We greatly appreciate the sharing of ideas on Plainview distribution, dating, and behavioral patterns by Joe Ben Wheat and David S. Dibble. Interpretation and any errors, however, are those of the authors. This paper is part of the on-going research of the Lubbock Lake Project, funded through the National Science Foundation (grants SOC 75-14857; BNS 7612006; BNS 7612006-AO1; BNS 78-11155), Texas Historical Commission (National Register Program), Center for Field Research (EARTHWATCH), Moody Foundation, and City and County of Lubbock.

REFERENCES CITED

- Brannon, H. R. Jr., A. C. Daughtry, D. Perry, L. H. Simmons, W. W. Whitaker, and Milton Williams
1957 Humble Oil Radiocarbon Dates I. *Science* 125(3239):147-150.
- Broecker, W. S. and J. L. Kulp
1957 Lamont Natural Radiocarbon Measurements IV. *Science* 126(3287):1324-1334.
- Dibble, David S. and Dessamae Lorrain
1968 Bonfire Shelter: A Stratified Bison Kill Site, Val Verde County, Texas. *Texas Memorial Museum Miscellaneous Papers* 1:1-138.
- Dibble, David S.
1970 On the Significance of Additional Radiocarbon Dates from Bonfire Shelter, Texas. *Plains Anthropologist* 15:251-254.
- Holliday, Vance T. and Curtis Welty
in A Survey of Some Lithic Resources on the
prep Southern High Plains In *Cultural Adaptation to Ecological Change on the Llano Estacado: Analysis of Material from the Lubbock Lake Project*, edited by Eileen Johnson. Report to the National Science Foundation, Washington, D.C.
- Johnson, Eileen and Vance T. Holliday
1980 A Plainview Kill/Butchering Locale on the Llano Estacado - The Lubbock Lake Site. *Plains Anthropologist* 25:89-111.
- 1981 Late Paleoindian Activity at the Lubbock Lake Site. *Plains Anthropologist* 26:173-193.
- Libby, Willard R.
1955 *Radiocarbon Dating* (second ed.) University of Chicago Press, Chicago.
- Reeves, C. C. Jr.
1972 Tertiary-Quaternary Stratigraphy and Geomorphology of West Texas and South-eastern New Mexico. In *Guidebook of East-central New Mexico*, edited by U.C. Kelley and F.D. Trauger, pp. 108-117. New Mexico Geological Society, Socorro.
- Sellards, E. H.
1952 *Early Man in America*. University of Texas Press, Austin.
- Sellards, E. H., Glen L. Evans, and Grayson E. Meade
1947 Fossil Bison and Associated Artifacts from Plainview, Texas. *Bulletin of the Geological Society of America* 58:927-954.
- Wheat, Joe Ben
1972 The Olsen-Chubbuck Site, A Paleo-Indian Bison Kill. *Society for American Archaeology Memoir* 26:1-179.

Department of Geological Sciences
University of Colorado
Boulder, Colorado 80309

The Museum
Texas Tech University
Lubbock, Texas 79409

September 1980