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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 ± 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. (0-171; 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 ± 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 pluvial alluvial plains 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 occuption 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).

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