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Bison, Nuts, and the Dempsey Divide

Archeologists from the Oklahoma Archeological Survey, The University of Oklahoma, Norman, conducted pedestrian survey on 3.7 square miles of area between the North Fork of the Red River and Sandstone Creek in Beckham County, Oklahoma. In addition, limited testing of portions of the Certain site, 34BK46, were undertaken in preparation of National Register of Historic Places nomination of the bison kill site. Conducted under Project No. 40-99-14270.020 issued by the Oklahoma Historical Society State Preservation Office and the National Park Service, this project targeted areas with the potential to contain Late Archaic bison kill sites or associated features toward developing an historic context for the nomination of the Certain site. Five sites consisting of two lithic scatters and three open camps, and three isolated artifact finds were recorded during this project. At least one of the open camps was dated to the Late Archaic period, indicating the use of this area by bison hunters for pursuits other than bison hunting.

The project area is located in northeastern Beckham County a few kilometers northwest of the town of Elk City in west central Oklahoma (Figure 1). This area is within the Rolling Redbed Plains region that forms the eastern border of the Llano Estacado. The physiology of the project area primarily consists of a rolling plain dissected by many shallow to deeply incised gullies and canyons. These canyons have undergone numerous filling and flushing episodes. They are currently in a flushing cycle and erosion is a major problem in the area. Such erosion has resulted in the exposure of the Certain bison kill and other prehistoric sites.

Archeological research in this portion of the Southern Plains has been somewhat spotty at best. For example, Roger Mills County, immediately to the north of the study area has over 900 recorded sites, whereas Beckham County has just over 200. When it is

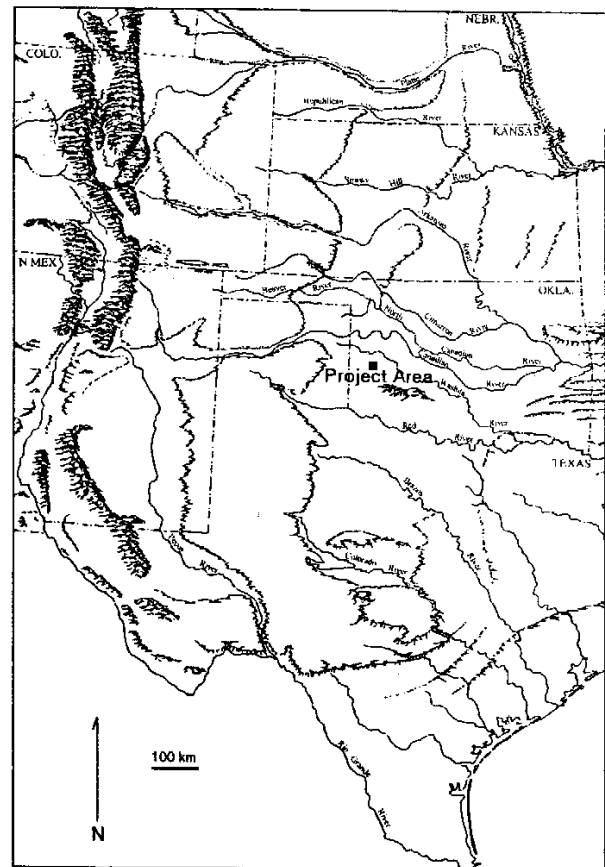


Figure 1. Project Area.

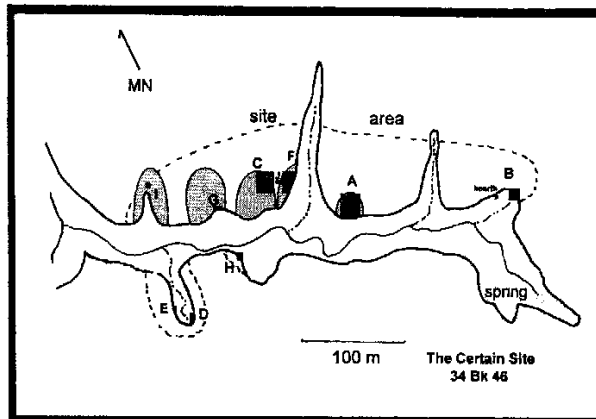


Figure 2. Map of the Certain site, 34BK46.

further realized that much of the work has consisted of surface surveys rather than excavations and that the majority of these sites consist of lithic scatters of unknown cultural affiliation, it is no surprise that our knowledge of the region's prehistory is limited.

A literature search on Late Archaic age bison kill sites on the southern Plains prompted the formulation of five expectations for where such sites would be located and their attributes. These five expectations are:

- Expectation 1:* Late Archaic bison kill sites are located just below landscape highs supporting grasslands.
- Expectation 2:* Late Archaic bison hunters employed cliff jumps and arroyo traps to aid in the hunting of large herds of bison on the southern Plains.
- Expectation 3:* Late Archaic bison hunters routinely killed dozens to hundreds of animals in a single event, producing large accumulations of bison bones.
- Expectation 4:* Late Archaic bison kill sites will contain little residue associated with normal habitation activity and will have a limited artifact assemblage dominated by broken projectile points, resharpening flakes, and hammerstone/choppers.
- Expectation 5:* Late Archaic projectile points at bison kills are dominated by corner-notched varieties made from predominantly local lithic sources.

Results of Fieldwork

The pedestrian survey of 987 ha (2368 acres or 3.7 square miles) between the North Fork of the Red River and Sandstone Creek drainage of the Washita River in Beckham County, Oklahoma identified three isolated artifacts and five prehistoric sites. The isolated finds are attributed to tools lost by prehistoric peoples in pursuit of upland lithic and plant resources. Two of the prehistoric sites (34BK209 and 34BK213) are lithic scatters tied to limited exploitation of upland lithic and plant resources. The remaining three sites (34BK210, 34BK211, and 34BK212) are the result of extended foraging and processing activities by

prehistoric groups. All three are at least marginally associated with black walnut harvest and processing as is indicated by the recovery of broken and charred nut shells in exposed hearth remnants at 34BK210 and 34BK211, and the recovery at 34BK212 of a mano with shallow depressions associated with the breaking of hardwood nuts. Nut harvesting activities reflect a fall to early winter seasonal use of this area, duplicating the fall season of the Certain site bison kills.

Limited testing of areas of the Certain site, 34BK46, included the excavation of a 2x2 m unit in the upper end of Arroyo I, the profiling of the canyon cutbank of Arroyo G, and the collection of bison bone from Arroyos I, F, and G (Figure 2) for use in radiocarbon dating. Dates of 1760 ± 70 bp, 1800 ± 60 bp, and 1780 ± 40 bp were obtained for Areas I, F, and G respectively. These dates corroborate the Late Archaic age assignment of the use of the various kill localities.

The use of the bison kill site and the collection and processing of nuts during the fall season indicate two major subsistence activities conducted by Late Archaic groups in this area. Other potential activities attested to by the debris at the various sites include the acquisition of stone for tool production and limited reduction of these cobbles.

Conspicuous by its absence is a large habitation site for the processing of the massive amounts of meat, bone, and hides from the bison at the kill site and the potential processing of large amounts of nuts collected from the trees further down the canyons. Bison bone boiling for fat extraction and hard nut boiling for nut and fat extraction during the Late Archaic would rely on stone boiling techniques. The residue from this technique would include large quantities of burned cobbles, broken bison bones, and maybe broken nutshells.

The low site density in the project area came as a surprise to the field archaeologists. The presence of active springs in almost all drainages led to predictions of high prehistoric land use by hunter-gatherers. In addition, proximity of this area to the Certain bison kills also brought high expectations for the presence of numerous camp sites. The apparent low prehistoric utilization of the area perhaps signals the nature of resource exploitation in this area. The pedestrian survey of areas in the vicinity of the Certain bison kill site failed to locate any additional kill sites, although the criteria from the expectations were followed in survey area selection. This situation suggests two significant possibilities. First, and most likely, is that Certain was in the only canyon suitable for killing large numbers of bison either by driving them over its cliff or by into its arroyos in this area of the divide between the North Fork of the Red River and Sandstone Creek. Alternatively, it is possible that additional kill sites are present in the deep sediments along some of the canyons neighboring the Certain site canyon and that erosion over the next 100 years will eventually expose them.

Additional kill sites are likely to be found in the canyons that border the broad upland interfluv of the Dempsey Divide. Based

on this survey, it is expected that they will be few in number and will be separated from each other by considerable distance, probably miles. While it is important to continue to search for additional Late Archaic bison kills along the Dempsey Divide, it is now equally imperative that a base camp or extended camp area be found for the users of the Certain site. The lack of a large camp in the immediate vicinity or downstream for over 4.4 km from the Certain site suggests that the camp is located in an upland setting or, alternatively, across the divide along the North Fork of the Red River. Large multi-component camps with Late Archaic style projectile points have been reported along the North Fork of the Red River. Other Late Archaic camps with extensive cooking debris have been found on the upland margins of the Dempsey Divide in Roger Mills County. Both areas are sufficiently far from the Certain site to suggest that either a closer locality remains to be found or that the Late Archaic hunters were accustomed to transporting the bison products (meat, hides, brains, some bones) to a more permanent and distant residence prior to processing. The transportation of large quantities of black walnuts would be easy compared with that of the bison products. One key to site selection might be the presence of a source of cobbles for use in stone boiling to retrieve bison bone grease and walnut meat/fat. If this level of hauling was undertaken, then the hunting of bison and probably the collection of nuts was indeed a logistical pursuit conducted by task-specific groups. This would be consistent with a collecting strategy of hunter-gatherer activity. The use of highly curated tools including projectile points and butchering knives is consistent with the low occurrence of these tools within the Certain site deposits. Upon the completion of killing the animals, all projectile points would be retrieved. Similarly, no formal cutting implements such as knives would be left upon the completion of the butchering task.

It is hypothesized that the pre-kill camp would contain evidence of gearing up for the kill. Projectile point and knife manufacturing debris would be conspicuous. Post-kill habitation sites would contain large amounts of tools employed in meat and hide processing (i.e., knives and scrapers). If bone grease manufacture occurred, then stone boiling residue would be common, as well as the discarded bone fragments. Similarly, nut grease production would likewise result in the accumulation of burned rock fragments from stone boiling. Burned, broken nutshell might appear as discarded residue in hearths. Substantiation of these predictions must await further archeological investigation to locate and excavate large camps.

Lee Bement and Kent Buehler

OKLAHOMA ANTHROPOLOGICAL SOCIETY SCHEDULES FALL FIELD ACTIVITY

The OAS will hold their annual fall activity, an archeological survey, at Lake Murray State Park from Friday, November 3, through Monday, November 7. A campground has been reserved for those taking part in the survey. Although you must be a member of the OAS to participate, you can join when you

register for the activity. Additional information about the survey and joining the Society can be found on their web site, which has a new address: www.netnowtechnologies/oas, or contact the OAS Dig Chair, David Morgan, at the Oklahoma Archeological Survey [telephone (405) 325-7211].

A Certification Program seminar, *General Survey Techniques*, will be given at 8:30 a.m. on Saturday, November 4. This seminar is recommended for all those without prior field experience. An additional seminar, *Rock Art*, will be given Saturday evening at 7:00 p.m. You must be an OAS member to attend the seminars. For more information, check the OAS web site or contact Lois Albert at the Oklahoma Archeological Survey.

OKLAHOMA ANTHROPOLOGICAL SOCIETY DIG IN SOUTHEASTERN OKLAHOMA

From June 10 - 18, the Oklahoma Anthropological Society held its Spring Dig east of Idabel, Oklahoma. The OAS assisted USDA Forest Service archeologists Meeks Etchieson and Larry Haikley (Ouachita National Forest) in the excavation of a Caddoan period site near Haworth. It was located near a small stream, in an area which will be part of a land exchange. A group camp and laboratory for processing the recovered artifacts and soil samples were set up at the Tiak Work Center southwest of Haworth. Dave Morgan, chair of the OAS Dig Committee, coordinated the OAS effort.

In one excavation unit, the volunteers found chunks of charcoal laid down in rows, possibly from a burned house, although no postholes were found by the end of the dig. Cultural materials recovered during the dig included both plain and decorated sherds, projectile points (Gary dart points and several arrowpoints), knapping debris, burned bone, and fire cracked rock. These artifacts were processed in the field laboratory under the supervision of Mary McHard and Lois Albert. Some flotation of soil samples was also done in the field.



OAS volunteers at Spring Dig 2000. Standing are OAS President Dale McHard (left), Forest Service archeologist Meeks Etchieson, and Larry Neal. Photo courtesy of Dave Morgan.