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EDITORIAL POLICY

This journal deals with articles from Texas Prairie-Savannah Region. However, articles from adjoining counties sometimes are included because of the potential cultural influence from people inhabiting archeological sites in those counties. The time frame for articles ranges from the Prehistoric to the Historic.

Articles in the journal come from vocations and avocational archeologists as well as graduate students. Articles are left as much as possible in their original form. This is more of a compilation of papers than a journal formatted to the editor's taste.

The importance is getting out archeological information. **IF YOU FEEL UNCOMFORTABLE ABOUT YOUR WRITING, DON'T.** We have editors! What you say is more important.

With your help, this will be a journal chock full of good information.

Welcome and Thanks,

Jesse and Antoinette Todd

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INTRODUCTION

Jesse Todd and Lance K. Trask

The Texas Prairie-Savannah Region comprises of 26 counties which are shown in Figure 1. The abbreviations for the counties is provided in Table 1. The general vegetative zones are illustrated in Figure 2.

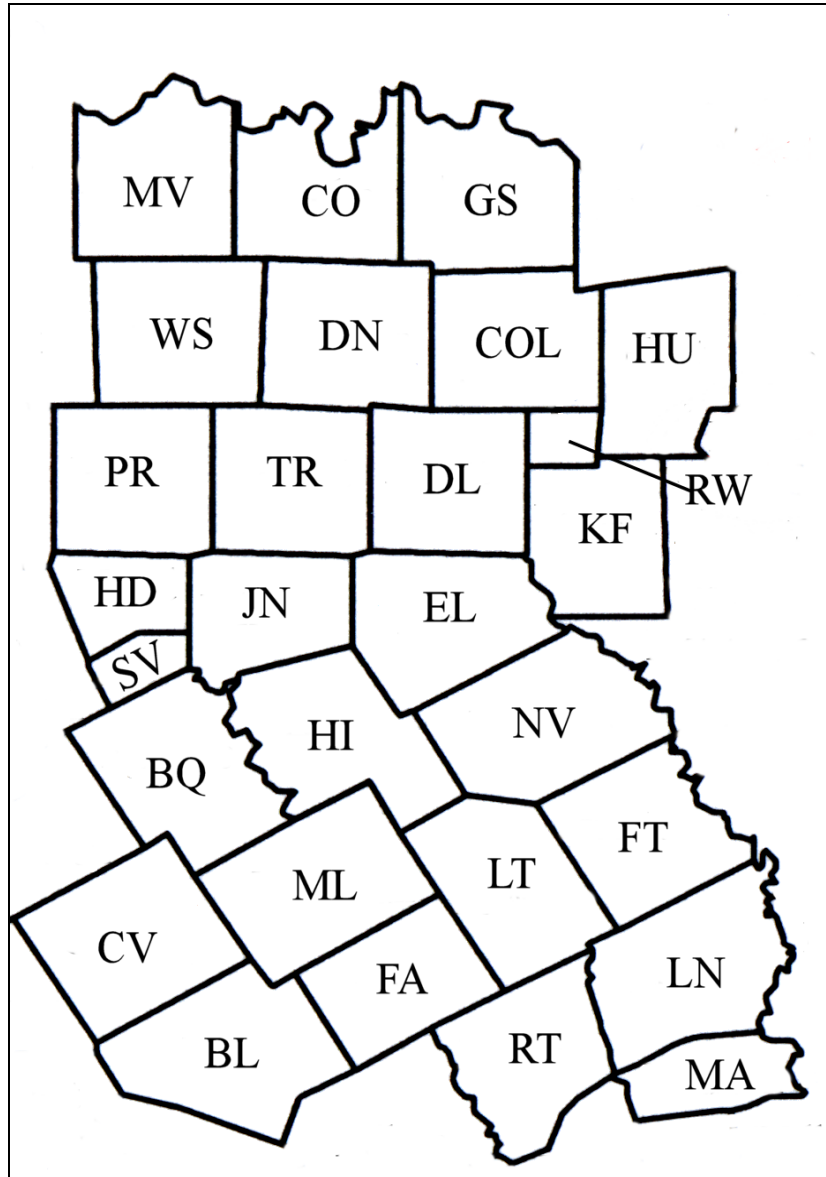


Figure 1. Counties within the Texas Prairie-Savannah. Abbreviations are explained in Table 1.

.TABLE 1. COUNTY MAP ABBREVIATIONS AND COUNTY NAMES

Abbreviation	County
BL	Bell
COL	Collin
CO	Cooke
CV	Coryell
DL	Dallas
DN	Denton
EL	Ellis
FA	Falls
FT	Freestone
GS	Grayson
HI	Hill
HD	Hood
JN	Johnson
KF	Kaufman
LN	Leon
LT	Limestone
MA	Madison
ML	McLennan
MU	Montague
NV	Navarro
PR	Parker
RT	Robertson
RW	Rockwall
SV	Somervell
TR	Tarrant
WS	Wise

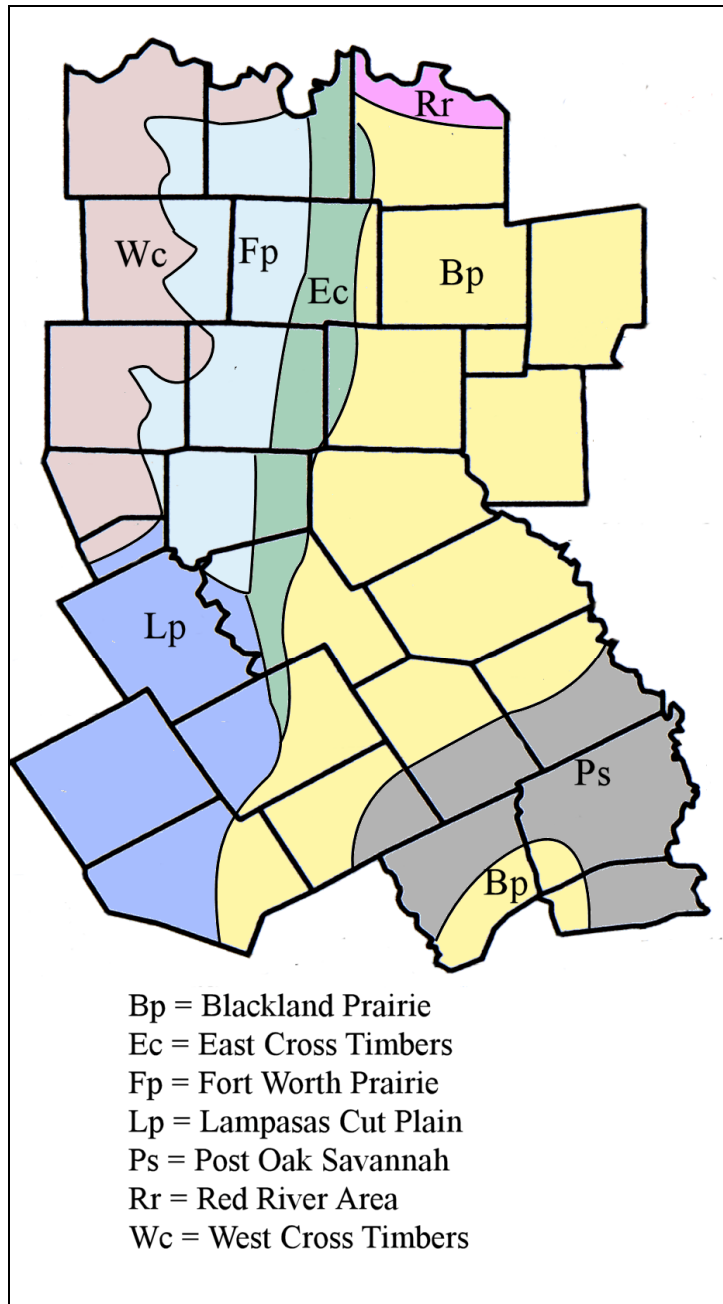


Figure 2. General vegetational ecoregions for the Texas Prairie-Savannah. Modified from Diggs, Lipscomb and O’Kennon (1999).

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A POSSIBLE ASSOCIATION OF WORKED FLAKES WITH PROBOSCIDEAN BONES NEAR LAKE LAVON, COLLIN COUNTY, TEXAS

Wilson W. Crook, III

INTRODUCTION

Human association with extinct proboscidean remains are known from a number of sites in Texas including Miami (41RB1) (Holliday et al., 1981), DUEWALL-NEWBERRY (41BZ76) (Carlson and Steele 1992), Lubbock Lake (41LU1) (Elias and Johnson 1988), Sand Creek (Johnson, et al. 1994), Gault (41 BL323) (Collins 1998), Hockley County (41HQ1) (Parker 1983) and Lewisville (41DN72) (Crook and Harris 1957). Added to this list is another possible association near Lake Lavon in south central Collin County.

During the recent severe drought of 2005-06, local resident Ms. Sonya Howard discovered a number of large fossilized bones had been exposed by the drop in the level of Lake Lavon. She also noticed that the bones seemed to have been deposited by wave action and were not eroding out in situ. Tracing the bone trail back updip, she eventually located the source of the material which was a shallow bank above the current level of the lake. As time would permit, she carefully excavated a large number of bones of an apparent proboscidean.

In the summer of 2008, the level of the lake dropped again due to a prolonged stint of 110⁰+ days. Ms. Howard exposed some additional bones including part of a tusk, a fragment of mandible and a single molar. She also encountered an area which seemed to produce bones which appeared to have been burned. Having read about his interest in archeology in the local newspaper, Ms. Howard contacted Judge John McCraw of McKinney, Texas. Judge McCraw visited the site, confirmed the bones were indeed mammoth, and with many of them darkened as having possibly been in a fire. The darker bones also appeared to be coming from a much darker soil horizon which was thought to possibly be an ash layer. At this point, Judge McCraw called me and asked if I would come and visit the site and try to confirm the geology. This I did in August of 2008 and this short note represents a record of that visit and subsequent excavation and analysis.

SITE DESCRIPTION AND GEOLOGY

The Sonya Howard mammoth site lies in south central Collin County along the edge of Lake Lavon. The site is south of the town of Branch on a small peninsula adjacent to a small re-entrant of the Lake which follows the path of the now submerged Ticky Creek. Elevation at the site is approximately 493' msl.

Prior to visiting the site, I was shown the bones previously excavated by Ms. Howard, including the mandible fragment and molar. As Judge McCraw had already surmised, they were indeed mammoth, likely that of Columbian mammoth (*Mammuthus columbi*). Most of the bones were badly weathered in that the interior of the bone (cancellous bone) was present but much of the outer cortex (cortical bone) has been lost to erosion. Up to this point, nothing but mammoth bone had been found by Ms. Howard,

but she also readily admitted that she had not been looking for any associated man-made artifacts.

The site itself covers a relatively small area, occupying no more than roughly 10 x 10 meters. Fragments of bone were seen eroding out of a bank about 15-30 cm above the lake level. Many of the larger bones appeared to be "anchored" in the root system of small shoreline shrubs. Having determined the site to be restricted to apparently a single animal, it was decided to dig several test pits to determine the stratigraphy of the site.

The surface of the site is composed of yellow-tan sandy clay which varies from 5-15 cm in thickness. This unit varies a great deal across the area in terms of sand content with some areas being almost pure sand and others being much more clay-rich. Below the sandy clay is a dark, blue-gray clay. This unit was confirmed by Judge McCraw as being the suspected "ash layer". Careful examination showed it not to be ash but a dark, gummy organic-rich clay. The dark clay layer was clearly the host of the mammoth bones as tiny shards of bone were found throughout. The thickness of the clay was approximately 40-45 cm. Below the blue-gray clay is a yellow clay that was sterile of all bone material. This unit occurs throughout Collin County and appears to be the weathered remnant of the Upper Cretaceous bedrock.

Collin County lies within the Blackland Prairie physiographic province, a narrow north-south zone bounded by the Eastern Cross Timbers to the west and the Post Oak Belt to the east. Soils of the Blackland Prairie are for the most part, organic-rich, calcareous clays of the Houston Black-Heiden, Ferris-Heiden and Trinity-Frio soil groups (Coffee, Hill and Ressel 1980). These soils are characterized by a low permeability, which effectively inhibits the growth of trees except along major waterways. The result is an alternating terrain of open prairie uplands interlaced by a serpentine network of riparian woodlands. The topography is gently rolling with wooded draws and mottes. Microtopographies, namely gilgai, create localized differences in disturbance and hydric regimes that contribute to the plant and animal diversity (Eidson and Smeins 1999).

Typically, only two geologic strata are present at most sites within the county. Uppermost is a black, organic-rich topsoil of the Frio Series of the Trinity-Frio Association. It is classified as a vertisol due to the presence of abundant swelling clay, notably montmorillonite (Hausenbuiller 1972). Thickness of the topsoil layer varies with degree of cultivation and erosion but generally ranges from roughly 40-100 cm. Lying unconformably below the black topsoil is a yellow-tan sandy clay. This unit does not correlate to any of the known mainstream Upper Trinity terrace deposits but appears to be a major depositional unit along its tributaries, particularly the East Fork system in Collin County (W. W. Crook, Jr., personal communication, 1984). The yellow-tan sandy clay is a surface alteration of the Cretaceous bedrock, either the Austin Chalk or the Taylor Marl (Ozan Formation). Thickness of the yellow-tan sandy clay is as much as 3 meters. The unit is largely sterile and archeological materials are restricted to the upper few centimeters and then to non-ceramic Late Archaic artifacts. Only intrusive features (burials, trash pits) of Late Prehistoric age are present within the yellow-tan sandy clay. The unit predates the black topsoil by an undetermined age.

With regard to the consistency of the above general stratigraphy of the county, the area around the Sonya Howard mammoth is somewhat of an exception. In the author's experience of excavating sites all over Collin County for nearly 40 years, nowhere have I

encountered a layer similar to the dark blue-gray clay which contained the mammoth bones. It is unclear if this clay represents a localized spring or bog which may have served to trap the animal. No other fossil remains, vertebrate or invertebrate, were found which could have served to better define the paleoenvironment.

In addition to determining the stratigraphy of the site, a 1 x 1.5 meter grid was set up over an area where the most abundant darkened bones had been found. This area was carefully excavated by hand trowel. In the course of this excavation, four small worked flakes were recovered. Mammoth bone from the immediate area around the flakes was collected and bagged for potential accelerated mass spectrometry (AMS) dating.

ARTIFACT DESCRIPTION AND ANALYSIS

Four worked, unifacial flakes were recovered from the test grid and are shown in Figure 1. For the purpose of this discussion they are referred to as numbers 1 through 4 from left to right in the figure.

The first flake is a purple-brown chert (5YR3/2) that appears to have several small circular fire spalls, most noticeably on the reverse side. Dimensions are 12.0 mm in length, 16.8 mm in width and 5.1 mm maximum thickness. There is minor retouch present on the leading edge.

Flake #2 is white gray chert (10YR8/1) with small reddish tinges which could be the result of heat treatment. Dimensions are 20.0 mm x 19.7 mm x 7.9 mm. The flake is shaped in the manner of a small thumbnail end scraper and has extensive fine retouch on the leading bit edge.

Flake #3 is a yellow tan to brownish yellow chert (2YR8/4 to 10YR6/6) with extensive lateral retouch on both sides. Dimensions are 40.5 mm in length, 27.2 mm maximum width and 6.9 mm maximum thickness. Two apparent notches are present near the base which may have facilitated hafting. The base of the tool appears to have been snapped immediately below the notches either during manufacture or use.

Flake #4 is a pink to purple-white chert (10YR8/3) with major retouch along one side. Dimensions are 54.9 mm in length by 30.0 mm maximum width and 11.9 mm maximum thickness.

Microscopic examination of the artifacts at 20-200x shows minor wear on most of the retouched faces. In addition, polish is present on the bulbar face of the retouched edge, especially on flakes 2 and 4. Given the unique suit of colors present, flakes 2 and 4 appear to be composed of Alibates "flint" (actually agatized dolomite). A comparison of the flakes to reference material in the collections of the Texas Archeological Research Laboratory (TARL) strongly suggests this is the case. In fact, the TARL reference collection had a single piece of Alibates material that contained every color phase present in the flakes from the Sonya Howard mammoth site. If the material is indeed from the quarries, then this would mark the first known occurrence of Alibates material in Collin County.

A number of fragments of mammoth bone found in near association with the worked flakes were sent to Beta Analytic for possible AMS age dating (sample number 247853). All of the specimens were found to be too heavily mineralized and no collagen was present.

CONCLUSIONS

It is uncertain if the four worked flakes found at the site are in absolute direct association with the mammoth bones. Due to the lack of outer cortex material, no cutmarks have been observed to date on any of the bone material. However, the dark blue-gray clay that encased both the bones and the worked flakes is extremely impermeable. Moreover, none of the vertical cracking that is so characteristic of the local vertisols was observed at the site. Thus it would be difficult to have material from an overlying layer work its way down in conjunction with the mammoth bones. Extensive search of the surface for hundreds of meters in all directions from the site failed to yield the presence of any other cultural material. Ms. Howard also confirmed that neither she nor her neighbors have ever found any archeological materials in the region of the site.



Figure 1. Worked flakes found in association with mammoth remains at the Sonya Howard Mammoth site, Collin County Texas. (For reference in text, flakes are numbered 1 through 4 from left to right.)

The composition of the material on at least three of the four flakes (Alibates flint) is also unique for the area. The writer is currently concluding a 35 year study on the archeology of many of the county's major sites and has personally observed over 40,000 lithic artifacts. While exotic lithic material such as obsidian, turquoise, malachite, diorite, novaculite, etc. are present, there has never been a reported occurrence of Alibates flint from the area. The distance between the Alibates quarries and Collin County (500 km) also supports the possibility of Paleoindian hunters, especially Clovis people, who are well known to have traveled extensive distances to access unique and/or high quality work material (Bradley et al. 2010). In fact, one of the salient characteristics of Clovis stone assemblages is the wide variation seen in the stone material used and the long distances that separate the archeological site and the geologic provenance of the source

material (Kilby 2008). It is well established that Clovis people were present in close proximity to the Sonya Howard mammoth location at the nearby Brushy Creek site (41HU74) in Hunt County (Crook et al. 2009) and the Lewisville site (41DN72) (Crook and Harris 1957) and Aubrey site (41DN79) (Ferring 2001) sites in Denton County. Therefore it is not unreasonable to assume the worked flakes are in association with the mammoth remains and therefore represent evidence for at least partial butchering of the animal, if not its kill.

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THE GILKEY HILL SITE (41KF42/41DL406): A LARGE LATE PREHISTORIC OCCUPATION IN DALLAS COUNTY, TEXAS

Wilson W. Crook, III

INTRODUCTION

Numerous sites of the Late Prehistoric period occur along the East Fork of the Trinity and its tributaries in a rough north-south line from Collin County in the north to northern Kaufman County, some 70 km to the south. One of the southern most of these occupations is Gilkey Hill (41KF42/41DL406). The Gilkey Hill site was initially described in a short paper by Harris in 1942. The site has been the subject of a number of subsequent excavations, which typically have focused on one or more singular feature such as a hearth or a burial. No comprehensive description of the known artifact assemblage, however, has ever been published.

The writer visited the site twice in the summer of 1973 with the late R. K. Harris and made an extensive site survey, surface collection, as well as dug two test pits to determine the site's stratigraphy. In 2007, I visited the Museum Support Center of the Smithsonian Institution which houses the complete R. K. Harris collection. All 209 artifacts from Gilkey Hill were typed and studied. In 2008, Mr. Mark D. Hughston and I purchased the Vance-Wilson-Housewright collection which contained extensive material from all the sites along the East Fork. A total of 744 artifacts were present from Gilkey Hill. This paper thus serves as a compilation of the work of previous investigators, observation of the extensive surface collections made available to the author, and my own study of the site.

DESCRIPTION

There is some confusion as to the precise location of the site. R. K. Harris located the site on the east side of the Trinity River in Kaufman County and gave it an original River Basin Survey number of 41-27A6-25. This is also the number by which his collections at the Smithsonian Institution are listed. Later when the trinomial numbering system was adopted, the site's location was registered with the Texas Archeological Research Laboratory as 41KF42. More recently, S. A. Skinner (2001) conducted some research in the area and believed the site had been mislocated and was actually slightly to the west of Harris' location and thus in Dallas County. He plotted its location with TARL and the site was assigned a second number, 41DL406.

The answer is both men were correct as the Gilkey Hill site actually straddles the Dallas-Kaufman County line. The site consists of an upper section which is located on a hill slope above the Trinity River floodplain. Occupational material is present to a depth of 30 cm on this upper section. At the base of the hill is the largest concentration of material. Test pits show the depth of the midden at this point is 75-90 cm. This section of the site, representing approximately 80% of the occupation, is located in Kaufman County (41KF42). At the base of the hill there is a small mound on the floodplain that also contains cultural material. Test pits show the occupation thickness is less extensive

on the lower mound, extending only to a depth of 30 cm. This part of the site lies just across the county line and is in Dallas County (41DL406).

Gilkey Hill is about 4 km (2.5 miles) southwest of the town of Forney near the old settlement of Gilkey Hill (original landowner Mr. T. W. Gilkey). The site covers approximately 6 Ha (15 acres) on the floodplain and hillside 400 meters east of the East Fork of the Trinity. Elevation of the site varies from 116-120 meters (380-395 feet) above sea level. Site location and name are on file at the Texas Archeological Research Laboratory.

The Gilkey Hill site lies within the Blackland Prairie physiographic province, a narrow north-south zone bounded by the Eastern Cross Timbers to the west and the Post Oak Belt to the east. Soils of the Blackland Prairie are for the most part, organic-rich, calcareous clays of the Houston Black-Heiden, Ferris-Heriden and Trinity-Frio soil groups (Coffee, Hill and Ressel 1980). These soils are characterized by a low permeability, which effectively inhibits the growth of trees except along major waterways. The result is an alternating terrain of open prairie uplands interlaced by a serpentine network of riparian woodlands. The topography is gently rolling with wooded draws and mottes. Microtopographies, namely gilgai, create localized differences in disturbance and hydric regimes that contribute to the plant and animal diversity (Eidson and Smeins 1999).

Vegetation of the Blackland Prairie consists of a number of grasses, the most common of which is little bluestem, although switch grass, Texas wintergrass, Indiangrass, silver bluestem and others have been reported (Gould 1969). The riparian belts lining the streams and rivers typically contain cedar elm, bur oak, red oak, pecan, bois d'arc, honey locust and sugarberry. Underbrush is predominantly peppervine, trumpet creeper, greenbriar, hawthorne, honeysuckle, grapevine, Virginia wildrye, Indian currant, poison ivy and various berry-bearing vines.

GEOLOGY

The Gilkey Hill site lies 400 meters east of the East Fork of the Trinity River in extreme eastern Dallas and western Kaufman Counties. A well-defined terrace system is not developed at the site, but the main occupational area is on gentle topographic rises above the creek so as to have avoided inundation during periodic flooding.

Only two geologic strata are present at the site. Uppermost is a black, organic-rich topsoil of the Frio Series of the Trinity-Frio Association. It is classified as a vertisol due to the presence of abundant swelling clay, notably montmorillonite (Hausenbuiller 1972). In undisturbed sections of the site, this topsoil is approximately 30-90 cm thick. Thickness of the topsoil layer is greater at the base of the hill and thins both toward the top of the rise as well as out on the floodplain on the western mound. Pottery is found from the surface to the base of the alluvium, post-dating the underlying strata.

Lying unconformably below the black topsoil is a yellow-tan sandy clay. This unit does not correlate to any of the known mainstream Upper Trinity terrace deposits but appears to be a major depositional unit along its tributaries, particularly the East Fork system. The yellow-tan sandy clay is a surface alteration of the Cretaceous bedrock, either the Austin Chalk or the Taylor Marl (Ozan Formation). Thickness of the yellow-tan sandy clay at the site was not determined but is known to be as much as 3 meters

along the East Fork (Crook, 2007). No occupational material was found in this unit in any of the test pits and the formation is believed to be culturally sterile at the site (R. K. Harris, personal communication, 1973). The unit predates the black topsoil by an undetermined age.

FEATURES

The Gilkey Hill site is notable for not having a rim-and-pit structure which is characteristic of many of the large Late Prehistoric sites along the East Fork (Stephenson 1952; Lynott 1975; Crook 2007; Crook and Hughston 2008, 2009). A number of smaller features, including both burials and well-defined hearths, were recorded by R. K. Harris (1942). The author was shown the remains of one of these hearths but no further burials, hearths or house structures were found.

Burials

A total of 3 burials containing 3 individuals have been reported from the Gilkey Hill site (Harris 1942), although extensive cultivation of the area was said to have disturbed several more (R. K. Harris, personal communication, 1973). A common misconception, originated by Stephenson (1952) based on his results at the Hogge Bridge (41COL1) site, is that Late Prehistoric burials along the East Fork of the Trinity contain no grave furniture. The author has compiled records of 65 burials from East Fork sites containing a total of 87 individuals. Forty percent of these burials have recorded offerings. However, of the three noted for Gilkey Hill, none contain any artifact offerings. A brief description of the excavated burials is included below:

Burial 1

Harris (1942) excavated the grave of an adult of presumed female sex which had been exposed by plowing. The individual was extremely tightly flexed (knees resting against chest) on its left side facing east. The body was in a depression of approximately 90 x 45 cm. Charcoal and pieces of mussel shell filled the burial pit.

Burial 2

In 1942, Forrest Kirkland excavated a second burial from the site. This grave contained an adolescent of undetermined sex. The body was flexed on its left side and facing east. Charcoal and pieces of mussel shell filled the burial pit.

Burial 3

The third burial may have been either a burial or part of a ritual feast. Only the skull of an adult was found in a pit filled with ash, mussel shell and burned rocks. The skull was placed face down in the pit and the entire mandible was missing. The right temporal part of the skull had been crushed, apparently from a blow. In addition, the base of the skull including the foramen magnum was missing, potentially facilitating access to the brain (R. K. Harris, personal communication, 1973).

Hearths

Five 120 x 180 cm shallow hearths were noted by the early visitors to the site. The pits are typically 20-30 cm deep and contain extensive fire-burned broken rock, charcoal, mussel shells and whole and split bone (Harris 1942). Broken lithic materials as well as ceramics were also found in the pits.

The writer observed one of these features during his visits to the site in 1973. The pits were not lined with rocks but had been purposefully constructed and extensively used. Mussel shell was abundant as was bone. The most common identifiable bone was that of whitetail deer. None of the wattle and daub pit lining, as found by Lynott (1975a, 1975b) at the Sister Grove Creek site was observed.

ASSEMBLAGE

As mentioned above, the author has observed the collections of R. K. Harris, Rex Housewright, Lester Wilson, and Bobby Vance which constitute nearly 1,200 artifacts from the site. Thus the following summary is the first comprehensive compilation of the site's tool assemblage.

Chipped Stone

A total of 1,165 artifacts have been recorded from the site, of which 633 are chipped stone tools (Table 1). Projectile points are the predominant type of chipped stone artifact, comprising nearly 80% of the chipped stone assemblage and over 40% of all artifacts. As has been reported from other large East Fork Late Prehistoric sites (Crook and Hughston 2008), dart points and arrow point occur together, often in almost exactly equal numbers. At Gilkey Hill, however, dart points are slightly more abundant, representing 60% of the projectile points.

A large number of dart point types have been identified from the site, although the predominant type is the Gary with some 151 specimens. In fact, of the dart point assemblage, the Gary represents two thirds of all the typed points. Other dart point types present include Yarbrough (22), Ellis (26), Kent (27), Godley (18), and Edgewood (2). Representative examples are shown in Figure 1. In addition, a number of broken dart points (69) which could not be definitively typed have been recovered. Most of these represent broken tips or mid-sections of points; many broken bases are characteristic of a distinctive point type and where possible, have been typed. Local fine-grained quartzite is the predominant construction material in over 80% of the dart points. Many of these points show distinct yellow or reddish coloration, indicative of heat treating to facilitate lithic working.

A total of 189 arrow points have been recorded from the site. The Alba type is by far the most common form with some 77 specimens, followed by Catahoula (39), Scallorn (19), Perdiz (13), Fresno (9), and lesser types (Table 1). Twenty six fragments of arrow points have been recorded which could not be definitively typed. As was observed in the dart point assemblage, local quartzite is the lithic material of choice with nearly 80% of all recorded specimens being constructed of local material. Other lithic material

utilized by the inhabitants includes chert of many types and colors. Representative examples of arrow points from the site are shown in Figure 2.

Table 1. Artifact Assemblage by composition from the Gilkey Hill site (41DL406), Dallas County, Texas.

Tool Type	Chert	Quartzite	Petrified Wood	Total
Dart Points				315
➤ Gary	9	140	2	
➤ Yarbrough	4	16	2	
➤ Ellis	10	15	1	
➤ Kent	6	21	-	
➤ Other / Unidentified	23	65	1	
Total	52	257	6	
Arrow Points				189
➤ Alba	18	59	-	
➤ Catahoula	2	37	-	
➤ Scallorn	8	11	-	
➤ Perdiz	6	7	-	
➤ Steiner	-	3	-	
➤ Fresno	3	6	-	
➤ Washita	2	1	-	
➤ Other / Unidentified	3	23	-	
Total	42	147	-	
Biface / Knife	7	43	-	50
Scrapers / Gouge	10	49	1	60
Drill	3	14	-	17
Hammerstone	-	2	-	2
Polished Stone	-	1	7	8
Mano	-	-	1	1
Total Lithics	114 (18%)	513 (80%)	15 (2%)	642
Bone Tools				20
Worked Shell				9
Pottery				494
Total Artifacts				1,165

Bifacial cutting and/or scraping tools comprise much of the remainder of the lithic tool assemblage (Table 1). A total of 50 bifaces / knives were observed in the collections made available to the author, the overwhelming majority of which (86%) were made of local quartzite. The predominant form is a thick, ovoid-to-leaf-shaped implement but a few rectangular knives were also observed. Sixty bifacial and unifacial scraping tools were recorded representing a number of distinct types including thumbnail end-scrapers, “turtleback” side scrapers, unifacial flake side-scrapers, large concavo-convex side scrapers, Bristol Bifaces and sub-triangular East Fork Bifaces (Crook and Hughston 2007). Other chipped stone artifacts from the site include well-made drills and

hammerstones. Figure 3 shows examples of the non-projectile point lithic assemblage from the site.



Figure 1. Representative dart points from the Gilkey Hill site. Top row: Gary points of various types. Bottom row (left to right): Yarborough, Godley (2), Kent, Edgewood.



Figure 2. Representative arrow points from the Gilkey Hill site. Left to right: Alba (2), Scallorn (2), Catahoula, Fresno, Perdiz (2).

Eight artifacts of ground or polished stone have been recorded from the site. These include 5 gorgets, two boatstones and a grooved abrader. A single mano or grinding stone is known from the site. The lack of manos as well as any large metate milling stones suggests agriculture was not a significant component of the lives of the occupants of the Gilkey Hill site.

Of the 642 stone artifacts, 80% are constructed of local, fine-grained quartzite; 18% of chert, both local and imported, and 2% from other materials (primarily petrified wood). This percentage is characteristic of most East Fork sites (Crook and Hughston 2008).



Figure 3. Non-projectile point lithic artifacts from the Gilkey Hill site. Left to right: Drills (2), Ovoid side scrapers (3).

Worked Bone and Shell

Twenty pieces of worked bone have been recorded from the site. These include 17 flaking tools/awls mostly of deer ulnae, and 3 bone needles. In addition to the bone implements, 9 pieces of worked shell have been recorded. All of these consist of pelecypod shells which have been deliberately worked into some form of scraping or digging tool.

Ceramics

A total of 494 pottery sherds have been recorded from the site. The ceramic assemblage is equally divided between shell-tempered and with clay/grit-tempered sherds. Plain ware of all types of temper is by far the most common form of ceramic present (86%). Shell-tempered sherds are exclusively of the Nocona Plain type and represent trade with the Henrietta Phase to the west. Clay/grit-tempered plain sherds are represented by Sanders Plain, Williams Plain, and other similar Caddoan types from East Texas. Other pottery types identified from the site include Sanders Engraved and Monkstown Fingernail

Impressed. A single heavily burned ceramic pipe stem was also recovered and is shown with representative examples of the site's ceramic assemblage in Figure 4.



Figure 4. Representative pottery types from the Gilkey Hill site. Left to right: Nocona Plain (2), Sanders Plain, Monkstown Fingernail Impressed, shaped plain sherd, ceramic pipe stem.

CULTURAL OBSERVATIONS

The observed artifact assemblage coupled with the site's location are consistent with sites of the Late Prehistoric period along the East Fork of the Trinity River as originally characterized by Stephenson (1952) and subsequently redefined by Lynott (1974a, 1975b), and Crook and Hughston (2008, 2009). Sites belonging to this culture are confined to a relatively narrow north-south band from northern Collin County through Rockwall County and into parts of northwestern Kaufman and northeastern Dallas counties. To date, some 50 sites have been found which share similar cultural materials. Of these, 17 are considered major village sites with the others being smaller, seasonal campsites. In this regard, the Gilkey Hill site is one of the larger occupations in the region.

During the course of the ongoing study of the Late Prehistoric along the East Fork, the author has noted several subtle differences between the sites at the southern end range (Upper Rockwall, Lower Rockwall, Glen Hill) and those to the north (Upper Farmersville, Branch, Sister Grove Creek). In general, the northern sites tend to share greater affinities with the Henrietta Phase to the west while the southern sites show greater trade and interaction with the Caddoan sites to the east and south. This is especially true in terms of pottery types as well as more serrated forms of arrow points and the presence of the Bristol Biface. In this regard, Gilkey Hill has some of these "southern traits", but to a significantly lesser degree than has been observed at Upper and Lower Rockwall.

ACKNOWLEDGEMENTS

The author is indebted to the late R. K. Harris who accompanied him to the site in the summer of 1973 and downloaded all his knowledge of past investigations, especially of the three burials and the hearth features. I would also like to thank Dr. James Krakker of the Smithsonian Institution (Museum Support Center) for allowing me to access the R. K. Harris collection. Lastly, I would like to specifically thank the Heard Natural Science Museum (McKinney, Texas) and the Collin County Historical Society who sponsored portions of this research.

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ARCHEOLOGICAL INVESTIGATIONS AT THE GILKEY HILL SITE (41DL406), DALLAS COUNTY, TEXAS

Jesse Todd, S. Alan Skinner, Lance K. Trask and Art Tawater

During 2005 and 2006, AR Consultants, Inc. conducted archeological testing within a proposed 60 foot wide sewer pipeline corridor that was located on the south side of the western knoll of the Gilkey Hill site (41DL406). Later in 2008, AR Consultants, Inc. monitored excavation of approximately 225 meters of the proposed pipeline route adjacent to and west of the site. Artifacts recovered during the testing included lithic debris, mussel shells, fire-cracked rock, an arrow point base, 4 dart points and a decorated rim sherd. Two features, hand-dug pits, were discovered during trenching. A charcoal sample from testing yielded a date of AD 1490 to 1660 while a charcoal sample from Feature 1 yielded a radiocarbon date of AD 1170 to 1280.

INTRODUCTION

During 2005 and 2006, personnel from AR Consultants, Inc. (ARC) investigated a 60-foot wide corridors for a proposed sewer pipeline route for the North Texas Municipal Water District (NTMWD) across the floodplain of the East Fork of the Trinity River. The testing and monitoring was a result of an archeological survey conducted by archeologists from ARC (Skinner 2001) of a proposed water pipeline route located within the present sixty foot wide study corridor. During that survey, the southwestern edge of the previously recorded Gilkey Hill archaeological site (Harris 1942) was tested. Eight backhoe trenches and 16 test units were excavated (Figure 1). The backhoe trenches were excavated to approximately to 180 cm below the ground surface (bs) and the test units averaged 60 cm bs. In 2008, approximately 225 meters of the pipeline trench walls were monitored for buried cultural features.

NATURAL ENVIRONMENT

The finger ridge on which the site is located is mapped as a Quaternary fluvatile terrace deposit and the adjacent East Fork floodplain is mapped as being filled Quaternary alluvium (Bureau of Economic Geology 1988). Soil within the East Fork floodplain is mapped as frequently flooded Frio and the site location is mapped as being Lewisville silty clay with 1 to 3 percent slopes (Coffee Hill and Ressel 1980:Sheet 49). The B horizon for the Lewisville silty clay is described as being present 15 inches below the ground surface (Coffee et al 1980:63).

PREVIOUS ARCHEOLOGICAL INVESTIGATIONS

ARC. (Skinner 2001) conducted an archaeological survey of a proposed pipeline route across the floodplain of the East Fork. During the survey, a site initially designated the School Desk site and numbered 41DL406 was recorded. Subsequent archival research indicated that the site was actually the Gilkey Hill site which had been recorded by Harris (Harris 1942) as being in Kaufman County.

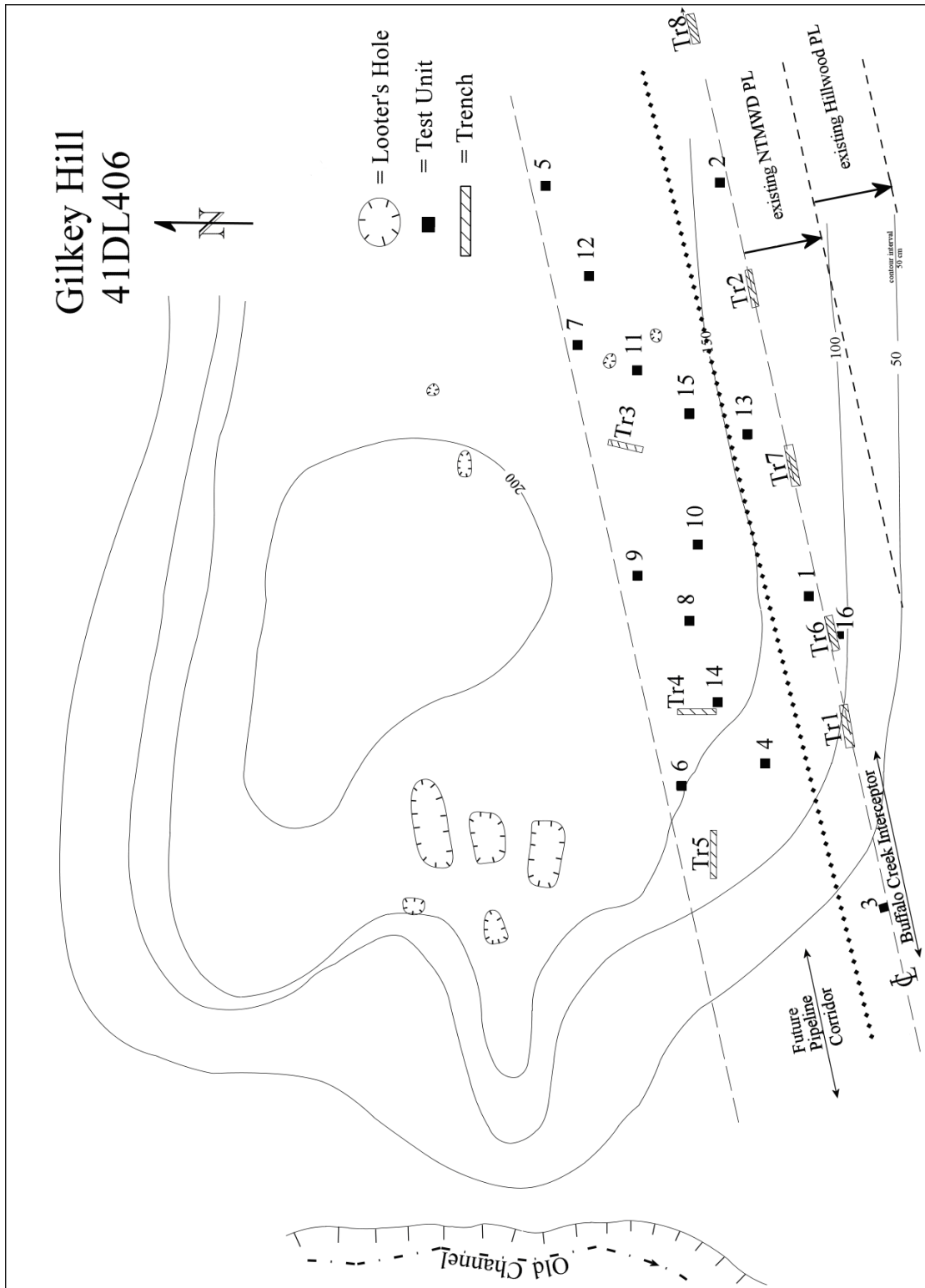


Figure 1. Plan map of the Gilkey Hill site showing test unit and backhoe trench locations.

Harris (1942) referred to the site as the Gilkey Hill pottery site. He found several cooking pits and middens containing flint chips, burned projectile points, bone, and shell. Lithic tools recovered included arrow and dart points, drills, knives, and scrapers. Polished stone artifacts included a boatstone fragment, gorgets, a net sinker, and a grooved axe. Several deer flaking tools along with bone needles and a mussel shell hoe were also found. In addition, several East Texas pottery sherds were collected. Importantly, three burials or parts of burials were recovered. An adult male skeleton and the skeleton of an individual that was possibly between 12 and 18 years old were recovered. A skull was also found.

The site covered of approximately 15 acres in two locations. The larger portion of the site consists of about 14 acres, was near the river and located on a small rise which extends to the floodplain. The smaller portion of the site is about one acre and is located on top of the high hill which overlooks the river and the larger portion of the site. The portion of the site on the high hill is probably Archaic and the rest of site appears to be Late Prehistoric in age. Harris also mentions the presence of cooking pits and burials. A private collector has collected 292 artifacts from the site including such items as pottery, dart points, arrow points, bone tools, metate, bifaces, a gorget, etc. from along the ridge. Dart points consist of Gary, Ellis and Yarborough and arrow points include Alba, Catahoula, Perdiz, Scallorn, Fresno and Washita. Also, 119 pottery sherds were recovered from the site. Also, according to the collector, the Smithsonian has 24 lots of artifacts from Harris’s collection from the Gilkey Hill site. (See Crook’s article within this journal!).

During testing, no artifact concentrations, midden deposits, or cultural features were discovered. Artifacts ranged from the ground surface to about 82 cm bs in the test units and backhoe trenches. Two features were uncovered during the trenching and are discussed below.

Artifacts

The artifacts recovered during the testing are presented in Table 1 and a discussion of the artifacts follows.

Table 1. Artifacts recovered from test units at the Gilkey Hill site.

TU NO.	FCR	B/M	PRI	SEC	INT	OTHER	TOTAL
TU 1, 0-10				1			1
10-20	9	1/1	1		6		18
20-30	16	2/1	1	7	13		40
30-40	14	1/1	2	2	6		26
40-50	4	-/1		1	4		10
50-60	4		1	3	1		9
60-70				1			1
TU 4, 0-10	3	-/1			6	clear glass	11
10-20	11	6/2			7		26
20-30	7	4/5			4		20
30-40	18		1	3	4		26
TU 5, 0-10	1	1/1					3
10-20					1		1

TU 6, 0-10	4				1	hammerstone	6
10-20	2	-/3		2	3		10
20-30		-/4		2	1		7
TU 7, 0-10	2	-/2		7	10		21
10-20	23	14/4	3	5	16		65
20-30	6	3/2	3		11		25
30-40	5	-/5		3	13		26
40-50	4	2/-			2		8
50-60	6	4/2	1	1	5		19
60-70	9	1/-		3	8		21
70-80	5	1/-	1	4	7	dart point (Figure 2d)	19
80-90	6			2	5		13
TU 8, 0-10			3		3	dart point (Figure 2a)	7
10-20	4	-/1		1	8		14
20-30	4	-/3		2	7		16
30-40	1		1	3	4		9
TU 9, 0-10	2		1	2			5
TU 10, 0-10	4	-/2		1	4	arrow point base	12
10-20	6	1/-	5	7	26	dart point (Figure 2b)	46
20-30	7	3/-	2	4	6		22
30-40	11	-/1	5	5	18		40
40-50	2						2
50-60		-/1		1	4		6
60-70	8			1	5		14
70-80				2			2
TU 11, 0-10	1	1/1	5	1	12		21
10-20	7	2/2	2	6	14		33
20-30	11	3/7	1	5	11		38
30-40	6	1/5	3	3	6		24
40-50	13	8/1	2	9	11		44
50-60	10	5/-	1	7	8		31
60-70	4	5/3	2	5	8		27
70-80	12	2/-		1	12		27
TU 12, 0-10			1	4	1		6
10-20				1	3		4
20-30			3	2	1		6
30-40				1	3		4
TU 13, 0-10	1		1	2			4
10-20	3	1/1	7	7	16		35
20-30	3	12/1	1	8	18		43
30-40	9	12/4		4	8		37
40-50			1	4	4		9
50-60			1	3	6	dart point (Figure 2c)	11
60-70					2		2
TU 14, 0-10	8	3/1	1	5	3		21
10-20	4	4/2	8	10	14		42
20-30	3	3/-	1	7	10		24
30-40		1/-		2	6		9
40-50			4	5	4		13
50-60				1			1
TU 15, 0-10	4	2/1	6	12	16		41
10-20	4	-/4	6	16	24		54
20-30	6	-/1	3	9	6		25

30-40		2/1	2	10	8		23
40-50	3	1/1	1	7	10		23
50-60	2	-/1	1	7	6		17
60-70	1	1/-		2			4
TU 16, 0-10	17	19/5	4	3	5	sherd (Figure 3), biface tip	55
10-20	3		8	4	15		30
20-30	29	23*/29	3	5	39		128
30-40	11	6/9	4	5	15		50
40-50	12	3/7	2	4	12		40
50-60	1	2/-	3	3	4		13
60-70	5	1/-	1	4	4	biface tip	16
TOTAL	401	167/130	120	270	564	10	1,562

Key: FCR – Fire-cracked rock, B/M – bone/mussel, PRI - primary flake/chip,
SEC - secondary flake/chip, INT - interior flake/chip, BF – biface

* Most bone fragments are from one bone which shattered upon removal.

Despite extensive testing, only six stone tools were found. Five hundred eighty-eight artifacts (37.6 percent) were recovered from the upper 20 cm of the test units which corresponds to the plow zone. Diagnostic artifacts consisted of a clear glass shard, a hammerstone, 2 dart points, an arrow point base, a decorated sherd, and a biface tip. The second 20 cm level (20 to 40 cm) contained almost as many artifacts, 584, which make up 37.4 percent of the assemblage. A total of 1,172 artifacts (75 percent) were recovered in the upper 40 cm of the test units which according to the radiocarbon date from Test Unit 16 are less than 500 years old. Levels 5 and 6 contained 256 artifacts (16.4 percent) and 134 artifacts (8.6 percent) were found in levels 7 through 9.

The dispersed nature of the 1,172 artifacts in the upper 40 cm suggests that a midden is not present and that artifacts found in levels 5 through 9 probably moved downward due to vertisolic cracking and bioturbation, especially from the amount of worm holes noted. Heavier artifacts such as the broken dart point would move downward, but finer artifacts could easily have moved downward in the worm burrows.

Five diagnostic chipped stone tools were recovered (Figure 2). Dart points include a Gary (Figure 2b), Yarborough (Figure 2d), Yarborough broken in manufacture (Figure 2c), and a Keithville variety San Patrice (Figure 2a) or a Keithville point (Turner and Hester 1999:134-135; Young 2006). In addition, the base of an untyped triangular arrow point was recovered. The dimensions and weights of the few lithic tools are presented in Table 2. The only other tool recovered was a cobble hammerstone.

Keithville points are Late Paleoindian in age and date to around 6,000 B.C. (Turner and Hester 1999:134). However, the Keithville point (Figure 2a) was found in the upper 20 cm of TU 8. The point is not in the lower levels of the test unit; therefore, it must be out of context. Although one would like to state a Paleo-Indian component was discovered in the test units, no other clearly Paleo-Indian artifacts were found and the presence of a broken Yarborough dart point (Figure 2c) from the 70 to 80 cm level of TU 7 suggests that the earliest site occupation would be during the Late Archaic (Turner and Hester 1999:197). Furthermore, the presence of the Gary point indicates either Late Archaic or Late Prehistoric occupation (Turner and Hester 1999:123). The broken base of an arrow point indicates that a Late Prehistoric component was present.

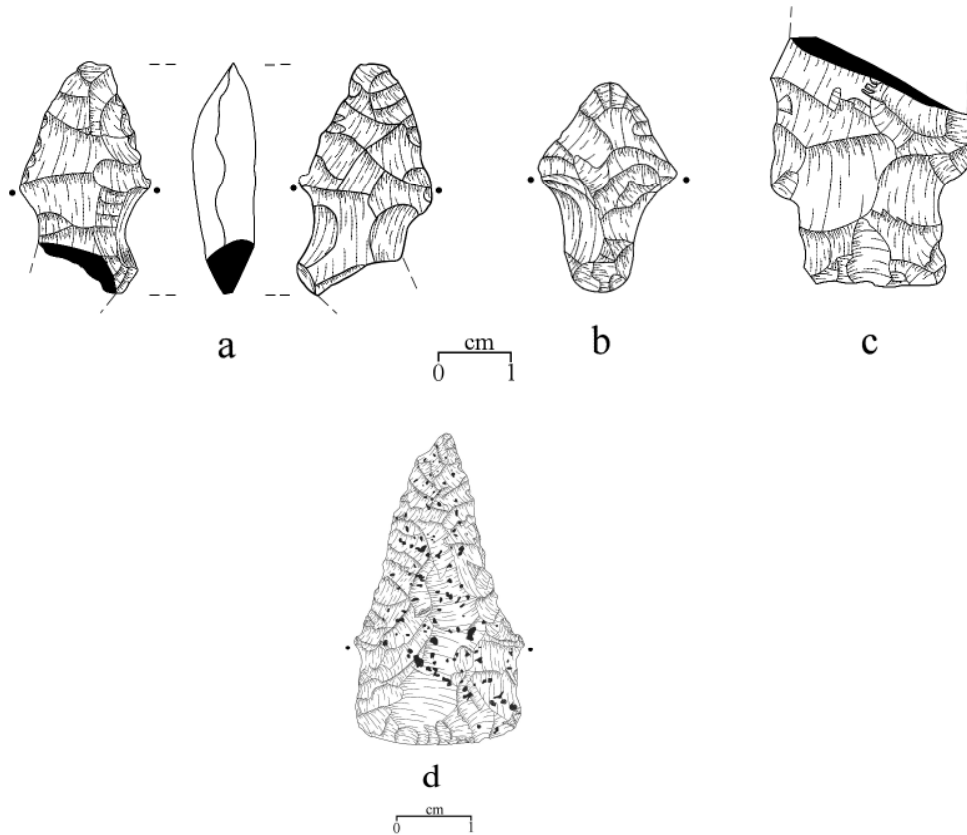


Figure 2. Dart points from the Gilkey Hill site. A. Keithville; b. Gary; c. Yarborough; and d. Yarborough, illustrated by Lance K. Trask.

Table 2. Dimensions and weights of lithic tools recovered from the test units.

Tool/Point Type	Length (mm)	Width (mm)	Thickness (mm)	Weight (gm)
Yarborough (2d)	41.2	22.3	7.7	6.1+
Yarborough (2c)	33.3+	26.7	8.7	7.6+
Gary (2b)	28.5	18.3	7.0	2.9
Keithville (2a)	31.6	17.6	6.8	3.5
Unidentified arrow	10.8+	11.8	0.16	0.8
Hammerstone	75.6	58.0	40.3	237.1

Other evidence for a Late Prehistoric component is the decorated rim sherd recovered from the upper 10 cm of TU 16. The grog-tempered sherd is punctated (Figure 3) and the interior surface was scraped during manufacture. The rim is lipped and the dimensions are 22x18.4x5 mm. Unfortunately, the sherd is not typeable, but is similar to prehistoric Caddo pottery.

The number of artifacts recovered from the testing at the Gilkey Hill site as well as the number and types described by Harris are unusual along this portion of the East Fork. Richner (1976), in his investigation along the East Fork, did not find sites as large

as the Gilkey Hill site, nor did he find sites with large middens. Site 41KF43, recorded by Forrester in 1941, is located on a knoll, but its dimensions are only 150x200 feet (Texas Archeological Sites Atlas 2006). A similar site would be the Lower Rockwall site (Lorrain and Hoffrichter 1968) which is located on a small knoll in the East Fork floodplain and is now under Lake Ray Hubbard. Numerous shells, lithic debris, dart points, gouges, lithic debris, grinding stones, pottery, fire-cracked rock, bones (including bison) and bone artifacts were present. The site also contained a “Wylie Focus” pit and burials, one of which was a skull burial. The amount of lithic debris may be attributable to the use of Uvalde gravels. A source for the Uvalde gravel may be approximately 2.25 miles west of the Gilkey Hill site (Trask 2005).

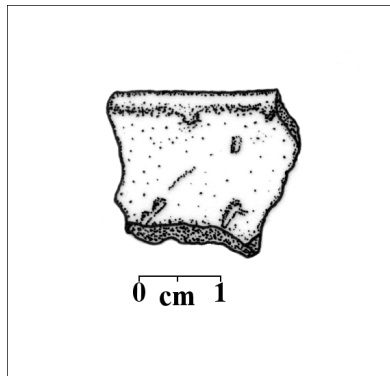


Figure 3. Punctated sherd recovered from Test Unit 16.

Features 1 and 2

During monitoring of the pipeline trench, Feature 1 (Figure 4) was exposed in the north trench wall. The feature was a hand-dug pit that was rectangular in profile and measured 133 cm deep by 93 cm wide. The feature had been dug into the yellowish brown, calcium carbonate rich subsoil and was easily distinguished. From the few artifacts that were noted in the soil matrix from the feature, it appears that it was empty or had been emptied when the site was abandoned. Once the feature was measured, it was bisected with a trowel to determine its northern extent and to gather more samples. The feature extended 33 cm to the north and it appeared that excavation for the pipeline cut it almost in half. A sample of material from Feature 1 yielded a radiocarbon date of 790±40 BP (Beta 241788). The 2 Sigma calibration indicated a date of AD 1170 to 1280. Scraping by hand around the edges of the feature failed to find any evidence of other features, artifact concentrations, or surfaces.

After trenching only four meters west of Feature 1, Feature 2 was encountered (Figure 5), also in the north wall. The hand dug pit was bell-shaped and 100 cm deep by 83 cm wide. Its contents mirror those of Feature 1. Feature 2 did not have samples sent for dating due to the proximity and similar depth as Feature 1. Feature 2 was bisected to determine its width to the north. The bisecting revealed that the feature extended 17 cm to the north. Further scraping by hand around the edges of the feature failed to find any evidence of other features, artifact concentrations, or surfaces.

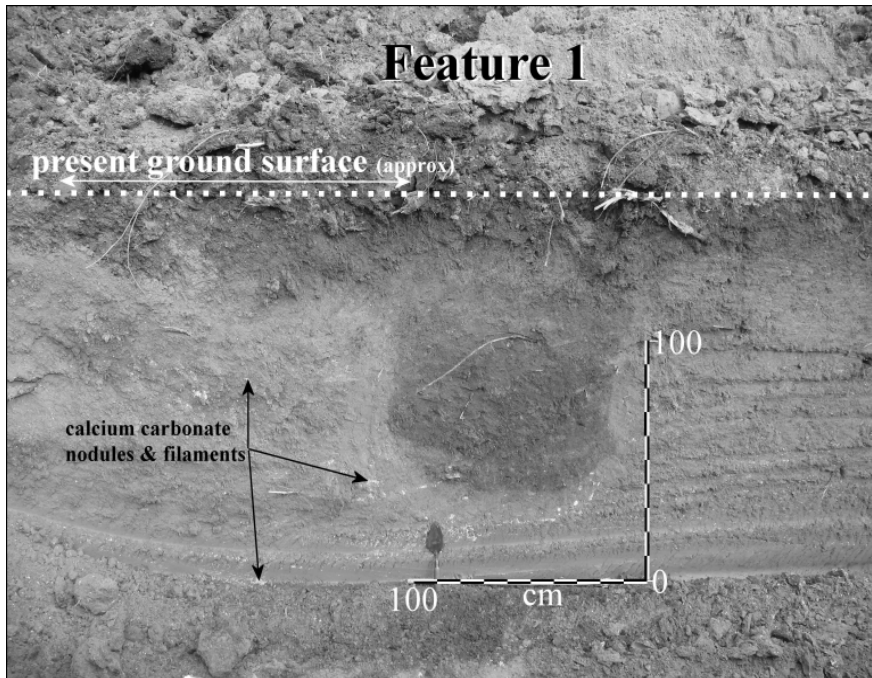


Figure 4. Feature 1 discovered during trenching along the Gilkey Hill site. View is to the north.

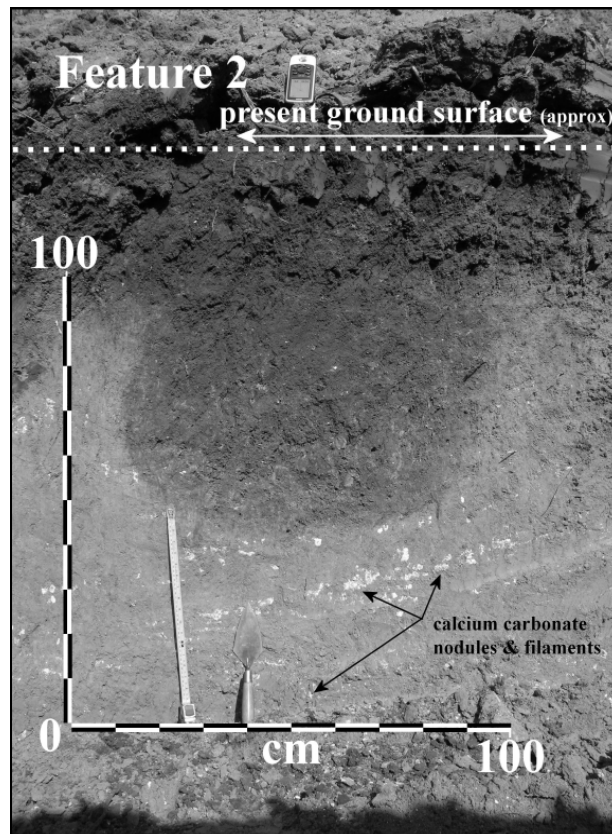


Figure 5. Feature 2 from the Gilkey Hill site. View is to the north.

Faunal Species and Environments

A total of 251 gastropod shells were recovered during the archeological investigations and the shells represented five species: *Rabdotus dealbatus*, *Linisa texasiana*, *Helicina orbiculata*, *Mesodon thyroidus* and *Planorbella (Helisoma) trivolvis*. The abundance of *R. dealbatus* indicates grassland and *H. orbiculata* indicates permanent vegetation. Only two shells of *P. trivolvis* were recovered, which indicates that some flooding occurred. It may have been grassier in the floodplain during levels 4 through 7 times based upon the abundance of *R. dealbatus* shells recovered from TU 16. Todd (2001) originally stated that the terrestrial environment was mainly grassland that occasionally flooded. Mollusca recovered from the present investigation support the environmental conclusions derived from the earlier investigation.

One hundred twenty-six valves were recovered representing six pelecypod (bivalve) species which consisted of *Lampsilis hydiana*, *Plectomerus dombeyanus*, *Quadrula morton*, *Amblema plicata*, *Quadrula apiculata* and *Potamilus purpuratus*. The pelecypod species recovered are generalists. The presence of *P. dombeyanus*, however, indicates shallow, muddy water or a channel that was shallow close to the banks. *Lampsilis hydiana* prefers medium-sized rivers and *P. purpuratus* prefers deep pools. The presence of a single valve of *P. purpuratus* may indicate that the shell was brought in from another portion of the river. The small size of shells recovered from ST 16 indicates that they were probably deposited by flood waters as either float or carried along on the bottom. If the small mussels were used for food, it would indicate that the aboriginal inhabitants were not selective, but were procuring mussels as they encountered them.

A variety of burned and unburned bones from small to large animals were recovered. Identifiable bones are those of deer, turtle and fish. The presence of these animals indicates that woodland and aquatic environments were utilized. Moist grassland species also may have been utilized if some of the turtle bones belonged to the box turtle, *Terrapene carolina triunguis*. Bison may have been present based upon the possible bison bones from Test Unit 1, level 10 to 20 cm.

CONCLUSIONS

The Gilkey Hill site included two artifact rich middens located on a ridge that extends into the East Fork floodplain. As described by Harris (1942:48), one midden covered 14 acres and the second covered one acre. In addition, a knoll west of the main site was recognized as being small. The present study area is on the south side of the western knoll. The top of the knoll has been heavily looted and several small, shallow, and apparently unproductive looter holes were found in the study area.

Testing and trenching in the pipeline corridor found evidence of only two buried features. Artifacts are densest between 10-20 cm and 30-40 cm. Approximately 135 artifacts were recovered from the 10-20 cm level in Test Units 7, 10, 15 and 16. Few or no artifacts were found to the east in Test Units 2, 5, and 12 but more than 30 were recovered from Test Units 11, 13, and 14. A distinct concentration of buried artifacts is apparent in the 20-30 cm level where more than 30 artifacts were encountered in Test Units 11, 13, 14, and 16. This concentration forms a crescent pattern that extends east-west and upslope within the pipeline corridor. A similar pattern is apparent in the 30-40

cm level where more than 20 artifacts were present in Test Units 1, 4, 10, 11, 13 and 15. However, this pattern also shows that artifact density is dropping off below 40 cm and virtually no artifacts were found below 40 cm in Test Units 2, 3, 4, 5, 6, 8, 9, and 12. Interestingly, the only tools recovered from all the excavation were four dart points, the broken base of an arrow point, and a hammerstone. A single ceramic sherd also was recovered.

Trenching and testing demonstrated again and again that a distinguishable midden deposit is not present and that artifacts are widely scattered throughout the clayey topsoil. Some artifacts were encountered in the subsoil and this in apparently the result of cracking and bioturbation. Furthermore, no pits, hearths, floors, or burials were encountered in any of the trenches or test units.

The western knoll of the Gilkey Hill site is estimated to cover an area of approximately 1.5 acres. The main site area is on the knoll crest and the western end of the knoll has been extensively looted. A soil profile from the largest looter hole recovered no lithics, but did find three pieces of bone and two shells at 26 cm along with various scattered shells at 64, 93 and 96 cm below the ground surface. Based on the small sample of temporally diagnostic artifacts from testing, it is concluded that the knoll was occupied from the Late Archaic and into the Late Prehistoric period. The site must have been a seasonal campsite which was repeatedly and regularly occupied despite the fact that it no doubt was regularly inundated or isolated during major floods.

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THE UPPER FARMERSVILLE SOUTH SITE (41COL44): A SMALL LATE PREHISTORIC OCCUPATION IN COLLIN COUNTY, TEXAS

Wilson W. Crook, III

INTRODUCTION

Numerous sites of the Late Prehistoric period occur along the East Fork of the Trinity and its tributaries in a rough north-south line from Collin County in the north to northern Kaufman County, some 70 km to the south. One of the largest of these occupations is at the Upper Farmersville site (41COL34) (Harris 1948; Crook and Hughston 2009). Research has shown that the Upper Farmersville site likely served as a major occupational hub at the northern end of the East Fork sites with a number of smaller satellite sites seemingly related (Crook and Hughston 2008). One such nearby smaller site is the Upper Farmersville South site, originally noted by Harris and Suhm (1963) but never described. The site and its location was also mentioned by Dawson and Sullivan (1973) but again not investigated. The author began his study of the site in 1971 and continued periodic work until the mid-1970s as part of a larger study of the Upper Farmersville site and the Late Prehistoric occupation along the East Fork and its tributaries. This paper thus serves to record the excavations that took place over this time period and the site's relationship to the larger Upper Farmersville site.

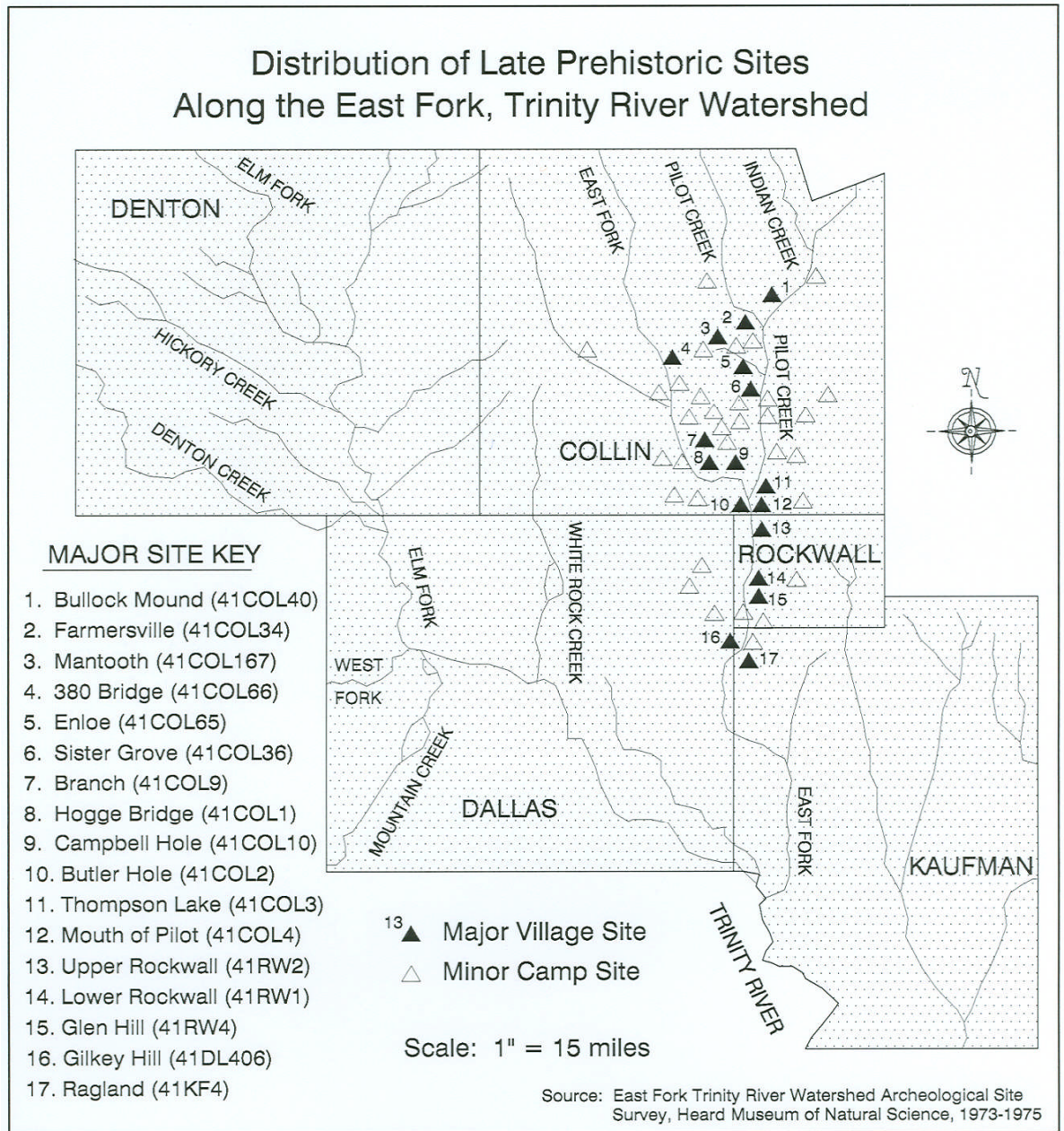
DESCRIPTION

The Upper Farmersville South (41COL44) site is located in northeastern Collin County, about 8 km (5 miles) northwest of the town of Farmersville. The site itself lies 350 meters south of Farm Road 2756 and about 300 meters south of the Upper Farmersville site (Figure 1). The site covers approximately 0.12 Ha (0.3 acres) on the floodplain 20 meters west of Pilot Grove Creek. The primary datum of the site is at an elevation of approximately 150 meters (490-495 feet) above sea level. Site location and name are on file at the Texas Archeological Research Laboratory.

The Upper Farmersville South site lies within the Blackland Prairie physiographic province, a narrow north-south zone bounded by the Eastern Cross Timbers to the west and the Post Oak Belt to the east. Soils of the Blackland Prairie are for the most part, organic-rich, calcareous clays of the Houston Black-Heiden, Ferris-Heriden and Trinity-Frio soil groups (Coffee, Hill and Ressel 1980). These soils are characterized by a low permeability, which effectively inhibits the growth of trees except along major waterways. The result is an alternating terrain of open prairie uplands interlaced by a serpentine network of riparian woodlands. The topography is gently rolling with wooded draws and mottes. Microtopographies, namely gilgai, create localized differences in disturbance and hydric regimes that contribute to the plant and animal diversity (Eidson and Smeins 1999).

Vegetation of the Blackland Prairie consists of a number of grasses, the most common of which is little bluestem, although switch grass, Texas wintergrass, Indiangrass, silver bluestem and others have been reported (Gould 1969). The riparian

belts lining the streams and rivers typically contain cedar elm, bur oak, red oak, pecan, bois d'arc, honey locust and sugarberry. Underbrush is predominantly peppervine, trumpet creeper, greenbriar, hawthorne, honeysuckle, grapevine, Virginia wildrye, Indian currant, poison ivy and various berry-bearing vines.



WYLLIE3

Figure 1. Distribution of Late Prehistoric sites along the East Fork, Trinity River watershed.

The seeds of the dominant grasses present in the Blackland Prairie are typically small and were probably not a significant food source. Despite this, a substantial amount of food resources would have been available to the inhabitants of the Upper Farmersville site, especially along the river bottoms and in the riparian woodlands. Acorns, pecans, hackberries, mustang grapes and various wild berries are common even today. In addition, the bottomlands support a varied fauna including whitetail deer, Eastern cottontail, jackrabbit, striped skunk, opossum, raccoon, coyote, bobcat, beaver, turkey and a large number of species of snakes, rats, mice and shrews. The streams also produce various species of fish, turtles, frogs, mussels and snails.

No features, such as hearths, house structures, or the rim-and-pit structures which characterize the larger Late Prehistoric sites along the East Fork, were in evidence.

GEOLOGY

The Upper Farmersville South site lies immediately adjacent to Pilot Grove Creek in northeast Collin County. Pilot Grove Creek is a major tributary of the East Fork of the Trinity River, the two joining at what is now the upper end of Lake Lavon reservoir 12 km (7 miles) south of the site. A terrace system is not developed at the site, but the main occupational area is on a gentle topographic rise above the creek so as to have avoided inundation during periodic flooding.

Only two geologic strata are present at the site. Uppermost is a black, organic-rich topsoil of the Frio Series of the Trinity-Frio Association. It is classified as a vertisol due to the presence of abundant swelling clay, notably montmorillonite (Hausenbuiller 1972). Test pit excavations show the thickness of the topsoil layer at the site to be approximately 56 cm, with most of the cultural material located within the upper 30 cm. Pottery is found from the surface to the base of the alluvium, post-dating the underlying strata.

Lying unconformably below the black topsoil is yellowish-tan sandy clay. This unit does not correlate to any of the known mainstream Upper Trinity terrace deposits but appears to be a major depositional unit along its tributaries, particularly the East Fork system (W. W. Crook, Jr., personal communication, 1984). The yellow-tan sandy clay is a surface alteration of the Cretaceous bedrock, either the Austin Chalk or the Taylor Marl (Ozan Formation). Thickness of the yellow-tan sandy clay is as much as 3 meters. No occupational material was found within this unit at the site. The unit predates the black topsoil by an undetermined age.

ARTIFACT ASSEMBLAGE

The Upper Farmersville South site was a small occupation, probably not more than a few families at any given time. As a result, cultural material is not as abundant as in the larger parent site to the north. A total of 76 artifacts were found which are detailed both by tool type and material composition in Table 1. Most of these were found at or near the surface but several test pits revealed the cultural occupation persisted throughout the 56 cm topsoil level.

Projectile points are the predominant type of chipped stone artifact found at the site, comprising 70% of the chipped stone assemblage and over 58% of all artifacts. As has been reported from Upper Farmersville, Branch and other large East Fork Late

Prehistoric sites (Crook and Hughston 2009; Crook, 2007a), dart points and arrow point typically occur in near equal numbers. Within the dart point assemblage from Upper Farmersville South the predominant type is the Gary with some 11 specimens. Other dart point types present include Ellis (2), Kent (5), Godley (2), and unidentified (7). Representative examples are shown in Figure 2.

Table 1. Artifact assemblage by composition from the Upper Farmersville South site (41COL44), Collin County, Texas.

Tool Type	Chert	Quartzite	Petrified Wood	Total
Dart Points				27
➤ Gary	2	9	-	
➤ Ellis	2	-		
➤ Kent	1	4	-	
➤ Godley	1	-	1	
➤ Unidentified	1	6	-	
Arrow Points				17
➤ Alba	2	4	-	
➤ Catahoula	-	1	-	
➤ Scallorn	-	2	-	
➤ Unidentified	2	6	-	
Biface / Knife	-	5	1	6
Scrapers / Gouge	3	7	-	10
Boatstone	-	1	-	1
Core	-	2	-	2
Total Lithics	14 (22%)	47 (75%)	2 (3%)	63
Bone Tools				3
Pottery				10
Total Artifacts				76

Local fine-grained quartzite is the predominant construction material in over 70% of the dart points. Many of these points show distinct yellow or reddish coloration, indicative of heat treating to facilitate conchoidal fracture. Other materials utilized include chert (27%) and petrified wood (3%).

A total of 17 arrow points have been recorded from the site. The Alba type is by far the most common form with some 6 specimens, followed by Scallorn (2), Catahoula (1), and unidentifiable types (8) (Figure 3). As was observed in the dart point assemblage, local quartzite is the lithic material of choice with 76% of all recorded specimens being constructed of local material. Other lithic material utilized by the inhabitants includes chert, both of local and imported origin.

Bifacial cutting and/or scraping tools comprise much of the remainder of the lithic tool assemblage (Table 1). A total of 6 bifaces/knives were observed in the collections made available to the authors, virtually all of which were made of local quartzite. The predominant form is a thick, ovoid-to-leaf-shaped implement. Ten bifacial and unifacial scraping tools were recorded representing a number of distinct types including



Figure 2. Representative dart points from the Upper Farmersville South site, Collin County Texas. Top Row (left to right): Gary points of various types. Bottom row (left to right): Ellis (2), Kent (2), Godley.



Figure 3. Representative arrow points from the Upper Farmersville South site, Collin County, Texas. Left to right: Alba (2), Catahoula, Scallorn, Unidentified (2).

“turtleback” side scrapers, unifacial flake side-scrapers, and large concavo-convex side scrapers. Other stone artifacts from the site include two used and discarded quartzite cores and a quartzite boatstone. Figure 4 shows examples of the non-projectile point lithic assemblage from the site.

Three pieces of worked bone have been recorded from the site. These include 3 broken flaking tools of deer ulnae. No shell of any kind was found at the site.

A total of 10 pottery sherds have been recorded from the site (Table 1). The ceramic assemblage is predominantly shell-tempered (60%) with clay/grit-tempered sherds comprising most of the remainder. Plain ware is the only form of ceramic present. Shell-tempered sherds are exclusively of the Nocona Plain type and represent trade with the Henrietta Phase to the west. Clay/grit-tempered plain sherds are represented by Sanders Plain and Williams Plain from East Texas. Representative sherds are shown in Figure 5.



Figure 4. Non-projectile point lithic artifacts from the Upper Farmersville South site. Left to right: Oval leaf-shaped biface (3), “Turtleback” side scraper (2), Side scraper.

CULTURAL AFFILIATION

The observed artifact assemblage coupled with the site's location are consistent with typical sites of the Late Prehistoric period along the East Fork of the Trinity River as originally described by Stephenson (1952) and subsequently redefined by Lynott (1975a,

1975b), Crook and Hughston (1986, 2008, 2009) and others. No distinct rim-and-pit structure was evident, but as shown at the 380 Bridge (Crook, 1987), Mantooth (Crook, 2007b) and other archeological sites, medium-sized East Fork Late Prehistoric sites seldom contain a rim-and-pit structure. The small size of the site (~1,200 m²) also indicates that it was occupied only sparsely. However, the thickness of the artifact midden (56 cm) suggests that the occupation occurred over some length of time.



Figure 5. Representative pottery types from the Upper Farmersville South site. Left to right: Nocona Plain (2), Sanders Plain, Williams Plain (2).

The relationship to the Upper Farmersville site is less clear. Culturally, both the lithic and ceramic materials recovered from Upper Farmersville South are indistinguishable from the larger site to the north. No cultural material or any evidence of occupation, however, exists between the two sites, implying that they are separate for some unknown reason.

ACKNOWLEDGEMENTS

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THREE MID-SIZE LATE PREHISTORIC SITES FROM ROCKWALL COUNTY, TEXAS

Wilson W. Crook, III and Mark D. Hughston

INTRODUCTION

Three of the early pioneers of the Dallas Archeological Society were Rex Housewright, Lester Wilson and Bobby Vance. Over the years, Wilson inherited Housewright's collection and Vance subsequently inherited the Housewright-Wilson collection. Vance passed away with no one in the immediate family having an interest in archeology. In 2008, in order to preserve the intact nature of the collection as well as all of the men's field notes, maps and papers, the authors purchased the collection from Vance's widow.

The research of Housewright, Wilson and Vance, especially the material on sites of the Late Prehistoric of the East Fork of the Trinity, is now being incorporated into our own. The collection also contains data on some sites which have never been published but are of significance for the archeological record of the Trinity River watershed. One such group is three sites which occur in close proximity to each other in southwestern Rockwall County near the eastern edge of old Barnes Bridge. The sites, known as Shortney (41RW6), Barnes Bridge (41RW7) and Randle (41RW10), have now been inundated by Lake Ray Hubbard and are no longer available for inspection. This short note is based on the Housewright-Wilson-Vance field notes plus our own observations and study of their collected artifact assemblages. The paper thus serves to record these sites and hopefully put them in context to the rest of the Late Prehistoric of the East Fork.

DESCRIPTION

All three sites occur in southwestern Rockwall County, on the east side of the East Fork of the Trinity. The sites are all within about 600 meters of each other and given similar artifact assemblages, at least for the Shortney and Barnes Bridge sites, are potentially related in terms of occupation.

The northernmost of the sites is the Shortney site (41RW6). There is some confusion on the name as some of the notes list it as "Shortney" while others as "Shortnacy". In the site archives at the Texas Archeological Research Laboratory, the original site description contains a map constructed by Rex Housewright, Lester Wilson and R. K. Harris. The map lists the site as Shortney, and that is the naming convention we have used here.

The Shortney site is approximately 2 miles west of Heath and some 600 meters north of Barnes Bridge in southwest Rockwall County. Occupational material was found on a small hillside, east of the East Fork and above a year-round flowing spring. Total site coverage is recorded to have been about 1.9 HA (4.75 acres). The occupational midden is described as being relatively thin (average 50-60 cm). No structural features such as a rim-and-pit structure, hearths or burials are recorded.

Two hundred meters to the south is the Randle site (41RW10). The site occurs on a low ridge which extends out onto the floodplain of the East Fork. Lithic and ceramic material was found over an area of roughly 1 HA (2.4 acres). Test squares showed the midden to be very thin, typically no more than 25 cm over the site. No rim-and-pit structure, hearths or burials were recorded.

Four hundred meters south of the Randle site and about 100 meters east of Barnes Bridge is the Barnes Bridge site (41RW7). The site lies on a hillside above the eastern end of Barnes Bridge. Lithic and ceramic material was found over a large area, 1.25 HA (3.1 acres) according to Wilson and Vance's notes. Depth of the midden is relatively thin, varying from 30-60 cm for most of the site. Like the other two sites, no East Fork rim-and-pit structure or any other feature was found.

NATURAL ENVIRONMENT

Like all the sites of the Late Prehistoric along the East Fork of the Trinity, the Shortney, Randle and Barnes Bridge sites lie within the Blackland Prairie physiographic province, a narrow north-south zone bounded by the Eastern Cross Timbers to the west and the Post Oak Belt to the east. Soils of the Blackland Prairie are for the most part, organic-rich, calcareous clays of the Houston Black-Heiden, Ferris-Heiden and Trinity-Frio soil groups (Coffee, Hill and Ressel, 1980). These soils are characterized by a low permeability, which effectively inhibits the growth of trees except along major waterways. The result is an alternating terrain of open prairie uplands interlaced by a serpentine network of riparian woodlands. The topography is gently rolling with wooded draws and mottes. Microtopographies, namely gilgai, create localized differences in disturbance and hydric regimes that contribute to the plant and animal diversity (Eidson and Smeins, 1999).

Vegetation of the Blackland Prairie consists of a number of grasses, the most common of which is little bluestem, although switch grass, Texas wintergrass, Indiangrass, silver bluestem and others have been reported (Gould, 1969). The riparian belts lining the streams and rivers typically contain cedar elm, bur oak, red oak, pecan, bois d'arc, honey locust and sugarberry. Underbrush is predominantly peppervine, trumpet creeper, greenbriar, hawthorne, honeysuckle, grapevine, Virginia wildrye, Indian currant, poison ivy and various berry-bearing vines.

GEOLOGY

While test pits were dug at all three sites to determine thickness of the occupational zone, only the Randle site was excavated in controlled unit squares. This was done by Wilson and Vance during the summer of 1969 as Lake Ray Hubbard was being filled. The men's field notes lament not being able to go back and recheck some of their earlier findings due to the rapidly rising waters which ultimately completely inundated the site before excavation could be completed.

As has been found over most of the East Fork's Late Prehistoric sites, only two geologic strata are present at the site (Crook and Hughston, 2008). Uppermost is a black, organic-rich topsoil of the Frio Series of the Trinity-Frio Association. It is classified as a vertisol due to the presence of abundant swelling clay, notably montmorillonite

(Hausenbuiller, 1972). In undisturbed sections of the Randle site, this topsoil is approximately 30-60 cm thick. Thickness of the topsoil layer is greater at the center of the site and thins both toward the floodplain on the East Fork. Pottery is found from the surface to the base of the alluvium, post-dating the underlying strata.

Lying unconformably below the black topsoil is yellow-tan sandy clay. This unit does not correlate to any of the known mainstream Upper Trinity terrace deposits but appears to be a major depositional unit along its tributaries, particularly the East Fork system (Crook and Hughston, 2009). The yellow-tan sandy clay is a surface alteration of the Cretaceous bedrock, either the Austin Chalk or the Taylor Marl (Ozan Formation). Thickness of the yellow-tan sandy clay at the site was not determined but is known to be as much as 3 meters along the East Fork (Crook, 2007). No occupational material was found in this unit in any of the excavation squares or test pits. The unit predates the black topsoil by an undetermined age.

ARTIFACT ASSEMBLAGE

As mentioned above, the authors have studied the collections of Rex Housewright, Lester Wilson, and Bobby Vance which constitute nearly 700 artifacts from the three sites. The artifact assemblages are tabulated in Tables 1 through 3.

Shortney Site

A total of 146 artifacts have been recorded from the Shortney site, of which 92 are chipped stone tools (Table 1). Projectile points are the predominant type of chipped stone artifact, comprising nearly two-thirds of the chipped stone assemblage and 40% of all artifacts. As has been reported from other large East Fork Late Prehistoric sites (Crook and Hughston, 2008), dart points and arrow point occur together, often in almost exactly equal numbers. However, at the Shortney site, dart points are much more abundant, representing 75% of the projectile points.

Several dart point types have been identified from the site, although the predominant type is the Gary with some 16 specimens. Other dart point types present include Kent (5), Godley (9), and Edgewood (1). In addition, a number of broken dart points (15) which could not be definitively typed have been recovered. Most of these represent broken tips or mid-sections of points; many broken bases are characteristic of a distinctive point type and where possible, have been typed. Representative examples of dart points from all three sites are shown in Figure 1. Local fine-grained quartzite is the predominant construction material in 75% of the dart points. Many of these points show distinct yellow or reddish coloration, indicative of heat treating to facilitate conchoidal fracture.

A total of 13 arrow points were recovered from the site. Identified types include Alba (3) Catahoula (2), Scallorn (1), and Perdiz (2) (Table 1). Five fragments of arrow points have been recorded which could not be definitively typed. As was observed in the dart point assemblage, local quartzite is the lithic material of choice with over 90% of all recorded specimens being constructed of local material. Representative examples of arrow points from the three sites are shown in Figure 2.

Bifacial cutting and/or scraping tools comprise much of the remainder of the lithic tool assemblage (Table 1). A total of 5 bifaces / knives were observed in the collection, most of which are ovoid-to-leaf-shaped implements. Twenty-six bifacial and unifacial scraping tools were recorded representing a number of distinct types including thumbnail end-scrapers, “turtleback” side scrapers, unifacial flake side-scrapers, large concavo-convex side scrapers, Bristol Bifaces and sub-triangular East Fork Bifaces (Crook and Hughston, 2007). Other lithic artifacts from the site include a well-used “nutting” stone and a piece of red ochre. A single bone flaking tool and two pieces of worked shell were recovered from the site.

Table 1. Artifact Assemblage by composition from the Shortney site (41RW6).

Tool Type	Chert	Quartzite	Petrified Wood	Total
Dart Points				46
➤ Gary	2	13	1	
➤ Edgewood	1	-		
➤ Kent	3	2	-	
➤ Godley	2	7	-	
➤ Unidentified	3	12	-	
Arrow Points				13
➤ Alba	-	3	-	
➤ Catahoula	-	2	-	
➤ Scallorn	-	1	-	
➤ Perdiz	-	2	-	
➤ Unidentified	1	4	-	
Biface / Knife	2	3	-	5
Scrapers / Gouge	4	21	1	26
Nutting Stone	-	1	-	1
Ochre	-	-	1	1
Total Lithics	18 (20%)	71 (77%)	3 (3%)	92
Bone Tools				1
Worked Shell				2
Pottery				51
Total Artifacts				146

A total of 51 pottery sherds have been recorded from the site. The ceramic assemblage is equally divided between shell-tempered and with clay/grit-tempered sherds. Plain ware of all types of temper is by far the most common form of ceramic present. Shell-tempered sherds are exclusively of the Nocona Plain type and represent trade with the Henrietta Phase to the west. Clay/grit-tempered plain sherds are represented by Sanders Plain and Williams Plain.

Randle Site

A total of 486 artifacts were recovered from the Randle site, the larger number undoubtedly due to the more thorough excavation as opposed to surface collecting. Wilson and Vance’s notes indicate that the Randle site, unlike either the Shortney or the

Barnes Bridge sites, had not been extensively collected and was near pristine. As such, Wilson and Vance decided to excavate by unit square in hopes of uncovering house structures or other features.

Lithics comprise 200 of the site's tool assemblage (Table 2). Projectile points are the predominant type of chipped stone artifact, comprising 70% of the chipped stone assemblage. Dart points and arrow point occur together, but unlike almost all Late Prehistoric sites along the East Fork, arrow points comprise the majority of the assemblage (70%).



Figure 1. Representative dart points from the Shortney, Randle and Barnes Bridge sites, Rockwall County, Texas. Top row: Gary points of various types (Shortney-2, Randle-2, Barnes-Bridges-1). Bottom row (left to right): Ellis (Barnes Bridge), Godley (Randle), Barnes Bridge, Kent (Shortney).

Dart point types identified from the site include Gary (17), Ellis (2), Kent (2), Godley (3) and large number of broken points (15) which could not be definitively typed. A total of 97 arrow points were recovered from the site. Identified types include Alba (15) Catahoula (8), Steiner (10), Scallorn (8), Perdiz (18), Washita (5), Fresno (20), and

13 points which could not be typed (Table 2). Of note are the large number of Perdiz, Washita and Fresno points which have been noted to be significantly later in occupation along the East Fork than Alba, Catahoula, Steiner and Scallorn points (Crook and Hughston, 2008). In fact, the Randle assemblage is one of the largest concentrations of triangular points (Washita, Fresno) known from the East Fork.

Bifacial cutting and/or scraping tools comprise most of the remainder of the lithic tool assemblage (Table 2). Twelve bifaces / knives were observed in the collection, almost all of which are ovoid-to-leaf-shaped implements. Forty-six bifacial and unifacial scraping tools were recorded representing a number of distinct types. A large number of small thumbnail end-scrapers, also known to be a common tool in Late Prehistoric (Caddo) sites in East Texas (Prikryl, 1990), correlates to the high number of Perdiz and triangular arrow points. Other lithic artifacts from the site include 4 drills and two well-used grooved abraders.



Figure 2. Representative arrow points from the Shortney, Randle and Barnes Bridge sites, Rockwall County, Texas. Top row (left to right); Alba (2-Barnes Bridge, Shortney), Catahoula (2-Barnes Bridge, Shortney), Scallorn (Randle). Bottom row (left to right): Perdiz (3-Randle, Shortney), Fresno (Randle-2).

A large number of bone tools (47) were recovered from the site including flaking tools, bone awls and several bone pins (Figure 3). One of the pins has a hole drilled in the proximal end, forming an “eye” in the needle. This is the only known example of such a drilled needle along the East Fork. In addition to the bone tools, Wilson and Vance noted the presence of large amounts of both bone and mussel shell in the site. Animals identified include whitetail deer (*Odocoileus virginianus*), bison (*Bison bison*), and otoliths from freshwater drum fish (*Aplodinotus grunniens*).

A large number of pottery sherds have been recorded from the site (239). The ceramic assemblage contains both shell-tempered and clay/grit-tempered sherds. Plain ware of all types of temper is by far the most common form of ceramic present. Shell-tempered sherds are exclusively of the Nocona Plain. Clay/grit-tempered plain sherds are represented by Sanders Plain and Williams Plain. Several incised sherds were found which have been identified as being from Crockett Curvilinear, Pennington Punctate-Incised, and Canton Incised – all common types from Caddo sites in East Texas.

Table 2. Artifact assemblage by composition from the Randle site (41RW10).

Tool Type	Chert	Quartzite	Petrified Wood	Total
Dart Points				39
➤ Gary	1	16	-	
➤ Ellis	-	2	-	
➤ Kent	-	2	-	
➤ Godley	-	3	-	
➤ Unidentified	6	9	-	
Arrow Points				97
➤ Alba	5	10	-	
➤ Catahoula	3	5	-	
➤ Steiner	2	8	-	
➤ Scallorn	-	8	-	
➤ Perdiz	5	13	-	
➤ Washita	5	-	-	
➤ Fresno	5	15	-	
➤ Unidentified	-	10	3	
Biface / Knife	1	11	-	12
Scrapers / Gouge	6	40	-	46
Drill	-	4	-	4
Grooved Abrader	-	-	2	2
Total Lithics	39 (20%)	156 (78%)	5 (2%)	200
Bone Tools				47
Worked Shell				-
Pottery				239
Total Artifacts				486



Figure 3. Bone tools from the Randle site. Left to right: Flaking tool (2), Awl (4), Needle.

Barnes Bridge Site

A total of only 60 artifacts were recovered from the Barnes Bridge site (Table 3). Unlike the Randle site, lithics comprise 75% of the site's tool assemblage. Of these, projectile points are the predominant type of chipped stone artifact, comprising 80% of the chipped stone assemblage. Dart points and arrow point occur together, but unlike the Randle site, the Barnes Bridge assemblage has more dart points (22) than arrow points (13).

Dart point types identified from the site include Gary (10), Ellis (2), Kent (1), Godley (3) and 6 points which could not be definitively typed. A total of 13 arrow points were recovered from the site. Identified types include Alba (6) Catahoula (3), Scallorn (1), and 3 points which could not be typed (Table 3). Of the three sites discussed herein, the Barnes Bridge assemblage more closely mirrors that from the Shortney site.

Bifacial cutting and/or scraping tools comprise most of the remainder of the lithic tool assemblage. Three bifaces / knives were observed in the collection, along with 6 bifacial and unifacial scraping tools. Other lithic artifacts from the site include a single sandstone grinding stone ("mano").

No bone tools or pieces of worked shell were recovered. A total of 15 pottery sherds were recovered from the site. These included a single sherd of shell-tempered plain ware (Nocona Plain) and 14 sherds of clay/grit-tempered plain sherds (Williams Plain).

Table 3. Artifact assemblage by composition from the Barnes Bridge site (41RW7).

Tool Type	Chert	Quartzite	Petrified Wood	Total
Dart Points				22
➤ Gary	2	8	-	
➤ Ellis	-	2	-	
➤ Kent	-	1	-	
➤ Godley	2	1	-	
➤ Unidentified	-	4	2	
Arrow Points				13
➤ Alba	3	2	1	
➤ Catahoula	2	1	-	
➤ Scallorn	-	1	-	
➤ Unidentified	2	1	-	
Biface / Knife	-	3	-	3
Scrapers / Gouge	1	5	-	6
Mano	-	-	1	1
Total Lithics	12 (27%)	29 (64%)	4 (9%)	45
Bone Tools				-
Worked Shell				-
Pottery				15
Total Artifacts				60

CULTURAL OBSERVATIONS

The observed artifact assemblage coupled with the site’s location are consistent with sites of the Late Prehistoric period along the East Fork of the Trinity River as originally characterized by Stephenson (1952) and subsequently redefined by Lynott (1974a, 1975b), and Crook and Hughston (2008, 2009). Sites belonging to this culture are confined to a relatively narrow north-south band from northern Collin County through Rockwall County and into parts of northwestern Kaufman and northeastern Dallas counties. To date, some 50 sites have been identified which share similar cultural materials. Of these, some appear to be major village sites with the others being smaller, seasonal campsites. In this regard, the three southwestern Rockwall County sites are mid-size campsites along the line of the Enloe (Crook, 1989) and 380 Bridge (Crook, 1987) sites.

The artifact assemblage recovered from the Randle site is different from that at either Shortney and/or Barnes Bridge. This is most evident in the predominance of arrow points over dart points, the large number of Perdiz and triangular arrow points, and the abundance of small, thumbnail end scrapers. In a controlled excavation of an undisturbed portion of the Upper Farmersville site, Crook and Hughston (2009) found that there were

apparently two Late Prehistoric occupations; an earlier one characterized by more dart points and arrow point assemblages of Alba–Catahoula–Scallorn, and a later one characterized by few to no dart points and arrow point assemblages of Perdiz–Washita–Fresno. This later stage was found in just the uppermost few centimeters of occupation at Upper Farmersville. The occupational horizon at the Randle site is very thin (no more than 25 cm) and appears to have an occupation which straddles the boundary between the two East Fork Late Prehistoric stages.

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METAL POINTS FROM SITE 41PR92, PARKER COUNTY, TEXAS.

Marvin Glasgow

Site 41PR92 is a lithic scatter that is approximately 230 meters long and is located on the north side of Bear Creek about 10 miles southwest of Benbrook, Texas in Parker County. The site is located about 100 meters from the edge of the creek which is approximately 6 meters high. Cedar, red oak and live oak trees are abundant. The land owner found a brass arrowhead (bottom left) shallowly buried that measures 68 mm long, 19 mm wide and 3 mm thick. During 1996, during my visit to the site, I discovered a hand-made metal arrow point (bottom right) lying on the ground surface. Its dimensions are 44 mm long, 16 mm at its widest point and mm thick.



THE LAST CONCRETE AIRPLANE AT TALIAFERRO FIELD, TEXAS

S. Alan Skinner and Lance K. Trask

ABSTRACT

The discovery in a North Texas pasture of an airplane-shaped “watering trough” made of concrete led to the realization that this previously unrecognized structure was an airplane silhouette practice target used in the training of US Air Service pilots and gunners at Taliaferro Air Field during World War I. The target has a wingspan of almost forty feet and is almost thirty feet from nose to tail. The 1918 issues of the base newspaper, the *Taliaferro Target*, mention that twenty of these “Reinburg” targets had been constructed. Damascus twist steel rebar reinforced the concrete and along with machine gun bullets manufactured at the Frankfort Pennsylvania Arsenal in 1915 confirm the construction date. The target has been fenced off by the property owner and a Texas Historical Commission marker is to be installed. This is apparently the only confirmed World War I Reinburg target known to be preserved and recorded in the United States.

INTRODUCTION

Taliaferro Air Field No.1, or Hicks Field as it is now known, is located in Saginaw, Texas (Figure 1). Prior to the United States entry into World War I, The Royal Canadian Air Force was training Canadian aviators at the field before they were shipped overseas to fight in the war (Russell 2004). In fact, many airfields in Texas and throughout the south were used as training bases because the weather allowed for year-round training and open space was readily available. After the US entered the war on April 6, 1917, the French trainers at Taliaferro Field shifted their effort and began to train American pilot cadets to fly biplanes and then to use machine guns that were mounted in the planes.

At the beginning of America’s involvement in the war, the US Army Air Service, which was then part of the US Army Signal Corps, consisted of 131 officers, 1,087 enlisted men, 250 antiquated airplanes, 2 airfields, and had no established training program. In order to ramp up, the Air Service established 12 week long pilot cadet ground schools at eight universities around the country (Earth Tech and White Star Consulting 1997:7). After completing the ground school classes, cadets were transferred to aviation training schools in the US or to Royal Flying Corps schools in England and France where they were trained in flying and aerial gunnery. At the same time, general aviation airports throughout the United States were being converted to pilot training bases and this necessitated the construction of barracks, class rooms, hangars, and targets. The first aviation training bases had been in France where military aviation training was a survival skill. The need for this training is emphasized by the official cadet’s motto which was “Those who do not die can fly (Wooley and Crawford 2003:41)” at the Flying School at Tours, France. By midway through the war, planes were being used for bombing as well as for scouting troop movements, but pilot attrition during training and combat was high.

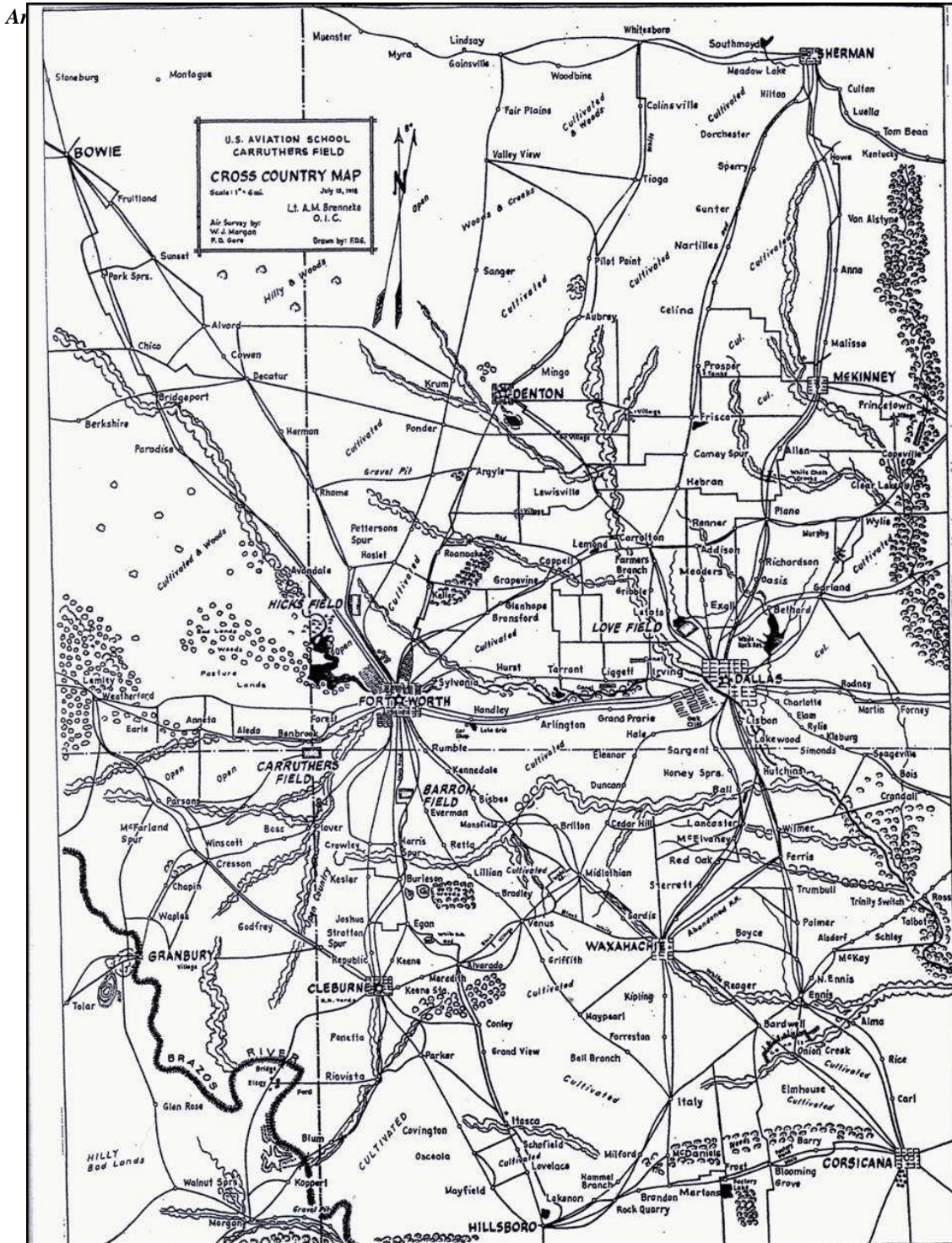


Figure 1. A 1918 cross-country map of north central Texas used by pilots being trained for World War I combat. Hicks Field is north of Fort Worth while Barron Field and Carruthers Field are shown to the south and southwest of Fort Worth. All were used by the US Army Air Service for pilot training.

Information about WWI battles as well as pilot training is available in scattered sources (Maurer 1979; Leary 2003:11-12). However, very little information has been preserved about the training of pilots and gunners in the US during WWI. In part this is due to the relatively short time period that the US participated in the war before the armistice was achieved on November 11, 1918. Secondly, little information was preserved and most temporary bases were decommissioned immediately after the war due to a significant cut in Air Service funding as well as subsequent declining economic conditions preceding World War II. According to USAF Archivist Jim Kitchens (2005) at Maxwell Air Force Base in Alabama, there is very little information available about pilot training and virtually no information available about the structure of Taliaferro Field No. 1 except for the names of some officers who served there. At a point in time when GPS units and total mapping stations can pinpoint locations to feet or meters, it is interesting to realize that early twentieth century pilots being trained in the Fort Worth area were using maps such as that in Figure 1 to guide them across the landscape. While thirty minute US Geological Survey maps were available they did not provide the information about ground conditions that Figure 1 does and large-scale aerial photographs were not available.

At the beginning of the war, European pilots or observers/gunners used pistols, rifles, or machine guns to bring down enemy planes (Spaight 1947:199-200). This first happened on October 14, 1914, when a French observer-gunner used a Hotchkiss machine gun to bring down a German Aviatik C-1 reconnaissance plane. The major problem was that the gunner had to fire around the propeller. After experimenting with a safety strap that allowed the gunner to stand and fire over the top of the biplane, a French pilot named Roland Garros came up with v-shaped metal wedges that were placed on the rear of the propellers and thus deflected the bullets (Wooley and Crawford 2003:35). This allowed for the use of a mounted forward firing machine gun. After becoming the most successful fighter pilot, Garros had engine trouble and he and the plane were captured by the Germans. The plane was turned over to Anthony Fokker, a Dutch plane designer who was building planes for the Germans. By the end of 1915, Fokker had developed an interrupter mechanism that allowed synchronized machine gun operation. This gave the Germans a distinct advantage over the Allies until they too acquired the technology.

Taliaferro Flying Field No. 1 was constructed in 1917 and named in honor of 1st Lt. Walter R. Taliaferro, Inf., U.S.A. who had been killed in an aviation accident. The airfield covered approximately 688 acres. Prior to 1918, the three fields shown on Figure 1 were known as Taliaferro Nos. 1-3 (Center for Military History ND:930). On May 1st, 1918, the military renamed the fields Hicks, Barron, and Carrouters, although Taliaferro Field remained the commonly used name for Hicks Field into the 1920s (US Department of Agriculture 1920). The 78th Fighter Squadron moved from Waco Field, Texas to Taliaferro Field No. 1 on February 28, 1918. This squadron and were trained in Jenny biplanes (Curtis JN4) until the squadron was decommissioned on November 13, 1918.

SITE DISCUSSION

The Concrete Airplane, or site 41TR197 as it is recorded at the Texas Archeological Research Laboratory, was found during a recent pedestrian archaeological survey of the floodplains in a proposed 1400 acre housing development. The purpose of the survey was to locate, describe, and record any cultural resources that were present along the drainages where the Fort Worth District office of the US Army Corps of Engineers has authority over Waters of the US. No evidence of prehistoric occupation was found in the narrow valleys along the unnamed intermittent tributaries in this upland prairie (Trask and Skinner 2002) and no historic residences or trash accumulations were found, although several modern windmills pump water for cows into circular watering troughs made of corrugated steel. The survey crew was sweeping the valley walking 30 m transects spaced across the relatively level grass-covered terrain, when an airplane-shaped "watering trough" was encountered in the knee-high grass (Figure 2). Although not appreciated at the time of discovery, the housing development property is within the original flight training area of Taliaferro Field.

The concrete structure measures 39' 3" from inside wing tip to wingtip and 29' 5" from nose to tail. The tail section is 9' 8" long, the fuselage is 3' 21" wide, and the wings are 6' 2" wide. The target is the shape and approximate size of a German Junker CLI which is similar to the Fokker biplane that was flown by the Red Baron (Figure 3), however, since the CLI was first flown in 1918 it was probably not the inspiration for the target. It probably is a general airplane shape that does not fit a specific aircraft type. The feature was constructed by digging a foot deep pit in the general shape of an airplane. Six inch wide wooden boards were used to form the outside and the inside of the walls. One half inch square steel rebar, known as Damascus Twist rebar (Figure 4), was used to reinforce the concrete. Plain square sectioned rebar is frequently found in buildings built before 1920. Such rebar is similar to the cold twisted square rebar originally patented in by E. L. Ransome (Friedman 1995:108). Vertical pieces of the rebar were placed at two foot intervals in the wall space and two rows of horizontal rebar encircled the walls and were probably wired to the vertical pieces although no evidence of tying was found. Short pieces of rebar were used to reinforce the floor. The top of the feature is 2 to 3 inches above the present ground surface and the floor averages 12 inches below the top of the concrete walls. The top of the walls are flat and level, and the walls average 6 inches thick. There are intact sections of the feature in the nose and tail area and on the leading edge of the wings but the top and inside of the trailing edges of the wings and the adjacent fuselage have been heavily damaged and eroded and the square twisted rebar is exposed. This damage is attributed to bullet hits which apparently were directed by the gunners toward the place in the plane where the pilot would have sat.

During limited excavation, shells, slugs, and a cartridge were recovered from fill inside the structure. The cartridge casing is from a 30 caliber cartridge made in 1915 at the Frankfort Pittsburgh Arsenal. The slugs include tracers, armor piercing, and ball ammunition that were of types used between 1903 and the Vietnam War (Green 2003).

During WWI, the land surrounding the present and much smaller Hicks Field was part of the aerial gunnery range and targets were constructed for training the cadet pilots. According to the August 8, 1918 issue of the *Taliaferro Target*, a newspaper printed at the base,

Ingenuity and skill have been exhibited by the engineering department of the School of Aerial Gunnery in fitting the range with various novel and effective targets. Twenty of the Reinburg concrete silhouette targets representing head-on planes have just been completed. These are arranged in two groups of ten each. They are filled with water by a pipeline from a nearby windmill and automatic cut-off boxes placed about 10 feet from the targets maintain the water at a uniform level (*Taliaferro Target*, August 8, 1918:1).



Figure 2. Ground-level photograph of the site area after the adjacent grass had been mowed down. View is to the southeast.

Although no evidence of an external cutoff box or a nearby windmill was found, the airplane feature most certainly is an example of the Reinburg target mentioned in the newspaper. The bullet-strike pitting noted on the trailing edge of the wings, along with the presence of ammunition, further confirms the conclusion that the structure was used for target practice. Further investigation revealed that a second target, on a nearby ridge, had apparently been destroyed during the course of constructing a new housing development (Klein 2003). Repeated flights over the surrounding area failed to find any evidence of the other eighteen targets that are reported to have been built. In addition to the concrete targets, the *Taliaferro Target* (August 1, 1998:1) reports that to-scale models of the German Albatross and other planes were being built to aid in shadow shooting target practice at the field. No evidence of these targets has been discovered at Taliaferro Field or the other World War I training fields in the Fort Worth area.

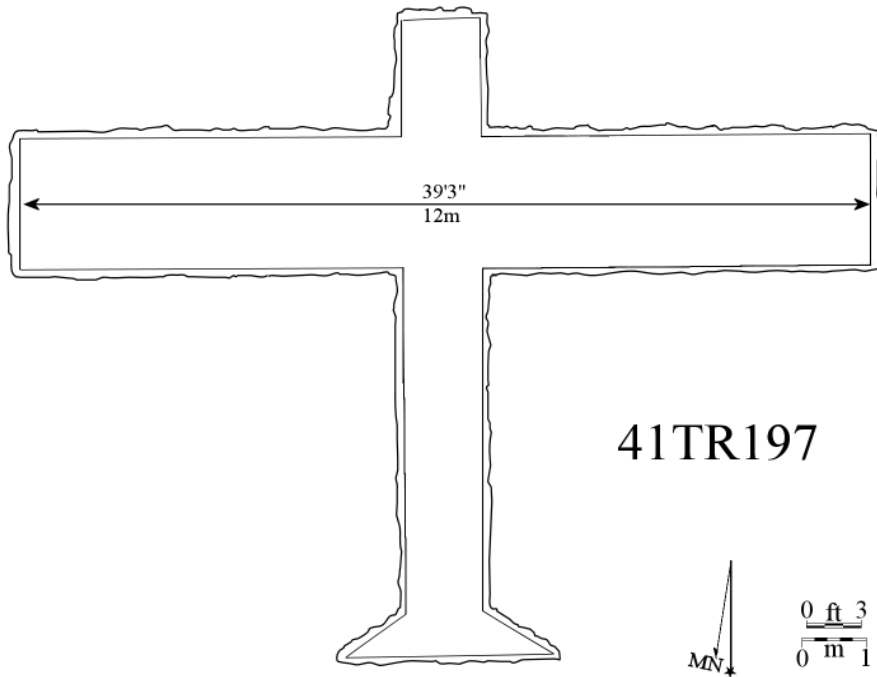


Figure 3. Plan map of the airplane-shaped concrete target.

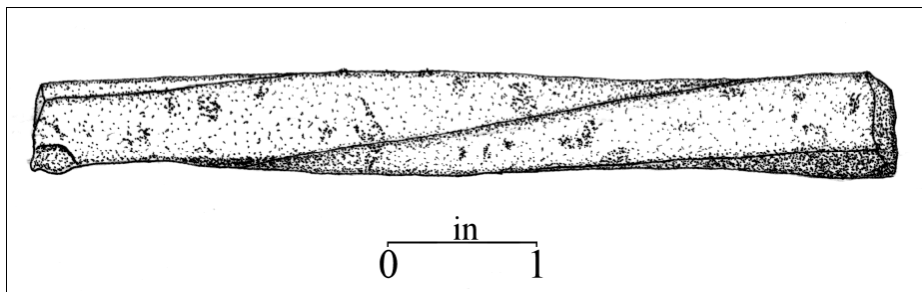


Figure 4. A section of Damascus twist rebar drawn full-size by the junior author.

The only other reference to what would appear to be to a similar concrete target was provided by Scott Murdock of Geo-Marine in a report titled “Archives Search Report Findings for the former Carlstrom Field, Arcadia, Florida” prepared for the Rock Island District of the US Army Corps of Engineers (1995) there is a brief mention of the site of a “concrete strafing trough” abutting the eastern boundary of Carlstrom Field. The landowner at the time indicated that the trough had been associated with World War I pilot training activities. Furthermore, the report states that small arms projectiles were recovered when digging was done in the trough. No record of similar concrete airplanes or strafing troughs was found when Mike Polk (2005) of Sagebrush Consultants contacted historic archaeologists throughout the United States.

CONCLUSIONS

In conclusion, the discovery of the only remaining Reinburg target that was once part of flight cadet training at Taliaferro Field in North Texas is significant and highlights a part of the short-lived period of pilot training that occurred during the brief time that the United States was involved in World War I in Europe. If these features were present at other airfields in Texas they have likely been destroyed by development or are obscured by natural processes. The archaeological survey conducted to record the cultural resources on the property chanced upon a hidden treasure of America's past and this represents the first example of aviation archaeology (Capelotti 1998) in the area. Hopefully this will not be the only feature of this type recorded from World War I, but until another is found and documented, this is the last concrete airplane at Taliaferro Field. A positive result of this investigation is that the structure has been fenced off by the landowner (Figure 5) who has agreed to protect the site, and will install a Texas Historical Commission historic marker once the housing development that is slowly surrounding it has been completed.



Figure 5. Aerial view of the Reinburg target near Hicks Field showing the pipe fence that has been built around the structure.

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AR Consultants wishes to thank everyone involved in the project and contributing to this article for their assistance. While the authors accept responsibility for the content of the article, we were assisted by several people who demonstrated their interest in the history and archaeology of the site and the subject.

We are also indebted to Ronald van Oeveren of Holland for his research about Taliaferro Field at the Fort Worth Public Library, the library at The University of Texas at Arlington, and for his help in the field. We would also like to thank Harry Max Hill, Assistant Manager of the Fort Worth Public Library, for helping archaeologists “dig” up information about early Tarrant County history. We are grateful to Barbie and Kevin Brunson of Rio Concho Aviation at Hicks Field for their generosity, great hamburgers, and allowing us to copy papers from their archives, particularly the map used as Figure 1 above.

Missi Green of Geo-Marine, Inc. in Plano, Texas provided information about the ammunition found during excavation. Scott Murdock, a historian with Geo-Marine provided a document mentioning the concrete strafing trough at Carlstrom Field in Florida. Pat Klein of Professional Pilot Services in Bedford, Texas flew us over the target to take photographs and reported the lost target. Mike Polk of Sagebrush Consultants, LLC in Ogden, Utah conducted a national search for additional information about World War I concrete airplanes from Society for Historical Archaeology members. Clell Bond of PBS&J in Austin, Texas also helped to guide our research. Elizabeth Calvit of CH2MHill in New Orleans, Louisiana provided information about historic concrete and rebar.

Last, but not least, we want to thank the various Society for Historical Archaeology reviewers for their suggestions and corrections on an earlier version of this paper.

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A UNIQUE CACHE OF EDWARDS CHERT FROM ROCKWALL COUNTY, TEXAS

Wilson W. Crook, III and Mark D. Hughston

INTRODUCTION

Three of the early pioneers of the Dallas Archeological Society were Rex Housewright, Lester Wilson and Bobby Vance. Housewright, one of the society's original founders, served as mentor to Wilson, the two worked together on a number of excavations including the Butler Hole site (41COL2). Wilson, in turn, served as mentor to Vance. When Rex Housewright passed away, he bequeathed his archeological collection to his friend and partner, Lester Wilson. Subsequently when Wilson died in 1988, he left the Housewright-Wilson collection to Bobby Vance. Vance passed away with no one in the immediate family having an interest in archeology. In 2008, in order to preserve the intact nature of the collection as well as all of the field notes, maps and papers, the authors purchased the collection from Vance's widow.

Their research is now being incorporated into our own, primarily on the Late Prehistoric of the East Fork of the Trinity. The collection, however, also contains some other material which has never been published but is of significance for the archeological record of the Trinity River watershed. One such group of artifacts is a cache of Edwards chert, found in 1940 by Wilson on the north end of old Barnes Bridge in Rockwall County. This short note serves to record this piece of the collection that is unique in the author's experience for the East Fork. It should be noted that the site description and information surrounding the find are from the notes in the Vance-Wilson-Housewright collection and that the authors' contribution is only in the study and description of the artifacts found previously.

SITE DESCRIPTION AND GEOLOGY

The cache was found on the north east end of Barnes Bridge, about two miles south of Rockwall in Rockwall County. The Barnes Bridge was so-named for Sterling Rex Barnes, one of the original settlers of Rockwall County. According to early county records, Barnes' land was located between the East Fork and Military Road. In 1848, he applied to the State of Texas and received a permit to build a toll bridge across the Trinity. The Barnes family operated the bridge until 1880 when it was taken over by Rockwall County. The bridge continued to be called "Barnes Bridge" although it was rebuilt and repaired many times, including being completely washed away in a flood in April of 1942. Again it was rebuilt and continued in use until it was covered by the creation of Lake Ray Hubbard in 1969. At that time, the city of Heath renamed Barnes Bridge Road to Terry Lane. On the west side of Lake Ray Hubbard, Barnes Bridge Road continues in service in Dallas County (Dallas County Pioneer Association, 2010).

Several Late Prehistoric age sites occur in the vicinity of Barnes Bridge, namely the Shortney (41RW6) and Barnes Bridge (41RW7) sites. It was in visiting these sites that Wilson and Vance noticed large pieces of chert exposed on the surface near the northeast end of Barnes Bridge. Subsequent excavation revealed some 15 pieces of blue

gray to cream colored chert in a small cache with no other associated artifacts. It was both Wilson and Vance's opinion that the cache was independent of either Late Prehistoric occupations and was in all probability an Archaic age cache of chert from central Texas.

ARTIFACT DESCRIPTION AND ANALYSIS

The Barnes Bridge chert cache contains 15 pieces, 11 of which appear to be "quarry blanks" from which flakes have already been struck. These are shown in Figure 1. The term "quarry blanks" is to describe the pieces as they have been shaped with numerous flakes removed; however, they have not been shaped to the point of becoming a preform (Bement 1991). A large amount of cortex has been left on all of the specimens (average 35%). None of the edges show any retouch and it is clear that these are blanks constructed for transport and the later manufacture of other artifacts. The quarry blanks in the Barnes Bridge cache are generally lenticular in shape with an average dimension of 81 mm in length, 58 mm in maximum width, and 23 mm in thickness (Table 1). Many of the blanks are relatively close to this shape that it must have been constructed intentionally.



Figure 1. Edwards Chert quarry blanks from Barnes Bridge, Rockwall County, Texas.

Two of the pieces have been reworked and probably could have served as functional scrapers (Figure 2). However, microscopic examination (20-200x) of the worked edges does not show any wear or polish. Both are slightly smaller than the size of the unworked chert described above and have undergone both bifacial thinning and retouch on at least one edge. Average dimensions of 61 mm x 51 mm x 16 mm (Table 2).

Table 1. Data on Edwards Chert quarry blanks from Barnes Bridge cache, Rockwall County, Texas.

Number	Max. Length (mm)	Max. Width (mm)	Thickness (mm)	% Cortex
1	110.2	47.3	22.2	30%
2	92.2	68.4	28.1	10%
3	90.3	60.0	20.5	60%
4	90.0	47.3	27.5	40%
5	89.8	60.0	25.5	20%
6	77.8	69.1	24.0	50%
7	71.2	67.5	28.3	40%
8	77.3	53.5	16.5	40%
9	76.5	59.0	19.0	20%
10	68.3	54.0	24.2	30%
11	70.0	58.9	24.0	30%
12	60.5	49.4	18.2	40%
Avg.	81.2	57.9	23.2	35%

Lastly, one piece has been shaped into a characteristic tear-drop shaped “cache biface” as is known from variously over the state (Miller 1991; Fields et al. 1991) (Figure 2). The piece has lateral dimensions similar to the unworked chert in the cache (93 mm x 70 mm) but has been considerably thinned by the removal of bifacial flakes (13 mm thickness) (Table 3).

All of the chert specimens from the cache appear to be from the same location as the color from piece to piece is very similar. The chert has a varied mottled color, ranging from blue gray (5PB5/2) to light gray (5PB7/2) to light gray cream (N8/0). Almost all of the artifacts have this varied color pattern. In response to both short wave and especially long wave ultra-violet radiation, they all fluoresce a brilliant lemon yellow which is indicative of Edwards chert.

CONCLUSIONS

As mentioned above, caches of chert blanks are known throughout Texas, albeit little is known about the practice other than it appears to have been indicative of trade. Caches of shaped raw material are known from Paleoindian to Late Prehistoric times so unless a distinctive artifact can be found, it is virtually impossible to assign an age to a cache as described herein (the tear-drop shaped perform is common throughout time and thus is not age distinctive). While chert is present as terrace cobbles in the Upper Trinity River watershed, it is relatively rare as compared to quartzite and is generally of a poor quality. None has the color as present in the Barnes Bridge cache. Moreover, this chert was preferentially used by the Early Archaic inhabitants and by the Middle to Late Archaic, chert had become a rare component in Trinity

watershed sites (Crook, 2008). Thus a large group of high quality chert blanks would have been highly prized by the local inhabitants of the East Fork.



Figure 2. Worked bifacial scrapers (left) and tear-drop shaped blank (right) from Barnes Bridge cache, Rockwall County, Texas.

The authors have seen specimens both in Archaic sites as well as those of the Late Prehistoric along the East Fork where both dart points, arrow points, and large bifaces have been constructed out of very similar blue-gray to light gray Edwards chert. While transport and probable trade of the material from central Texas to the Upper Trinity watershed was inherently obvious, there was no evidence until now of large scale quarrying and trade of blanks. Thus the Barnes Bridge cache adds to our knowledge by establishing that there was ongoing trade between the regions, at least on a limited scale.

Table 2. Data on bifacial scrapers from Barnes Bridge cache, Rockwall County, Texas.

Number	Max. Length (mm)	Max. Width (mm)	Thickness (mm)	% Cortex
1	72.5	60.4	14.8	10%
2	49.2	41.5	17.0	10%
Ave.	60.8	50.9	15.9	10%

Table 3. Data on biface blank from Barnes Bridge cache, Rockwall County, Texas.

Number	Max. Length (mm)	Max. Width (mm)	Thickness (mm)	% Cortex
1	93.2	70.3	12.8	None

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A CORNER-TANG ARTIFACT FRAGMENT FROM SITE 41PR107, PARKER COUNTY, TEXAS

Jesse Todd and Marvin Glasgow

INTRODUCTION

The Bell site (41PR107) is located on a sandy hill south of Burgess Creek prior to its conjunction with the South Fork of the Trinity River (Todd et al. 2009). In the central portion of the site, the Late Prehistoric occupation is stratigraphically separated from the Late Archaic component. Various arrow points, bifaces, drills, a metate fragment, a quartzite effigy stone, hearth stones, pottery and a portion of a human skull were discovered in the Late Prehistoric portion of the site while dart points and hearth stones were found in the Late Archaic component. The pottery is similar to that of Caddo pottery in East Texas.

A corner-tang artifact (Figure 1) was recovered from the Late Prehistoric component of the site. The artifact's width is approximately 3.3 mm and the longest side is about 4.5 mm. The tang is approximately 1.2 mm wide. The material is chert. This is the second occurrence of a recorded corner-tang artifact from the county. Kraft (1993) recorded one earlier.



Figure 1. Corner-tang artifact from site 41PR107 in Parker County, Texas.

DISCUSSION

Kraft (1994:1) defines a corner-tang artifact as having an offset position for the tang. Corner-tang artifacts are distributed throughout the Plains and in Texas, especially along the Balcones Escarpment and Central Texas (Figure 2). He states that the function of corner-tang artifact is unknown, but it makes a poor knife and may have been used for skinning or butchering but not for cutting hard materials such as wood or bone. Although hafted corner-tang artifacts have been found, more than likely the corner tang was used to secure a thong so that the knife could be suspended from the wrist so that it was easily available (Kraft 1994:75). According to Byers (2011), a study of the wear patterns on the notched end of the artifact tended to support this conclusion.

Very finely made corner-tang artifacts have been found in burials and are regarded as status items. Corner-tang artifacts may be unifacial (Saner and Tomka 1998) and also may be miniature in nature (Chandler 1988). Kraft discusses Mitchell and other's (1984) findings burials in Karnes County that contained corner-tang artifacts which were part of the person's tool kit while the artifacts appear to be status items in burials such as the Ernest Witte site in Austin County.

Corner-tang artifacts are usually associated with Late Archaic-aged artifacts but a specimen was recovered from the Late Prehistoric component (A.D. 700 to 1600) of the Little Rise Star site (41JK163) in Jackson County, Texas (Kraft 1994). Hester (1995:441) illustrates a corner-tang artifact which dates to the Late Archaic (circa 400 B.C. to A.D. 700) from southern Texas. A corner-tang artifact (Figure 3) was found during archeological survey of Lake Ray Roberts at the Calvert site (41DN102) in Denton County (Skinner and Baird 1985:4-78). Unfortunately no provenience was provided, but the Calvert site dates from the Middle Archaic to Late Prehistoric times (Ferring and Yates 1997:278).

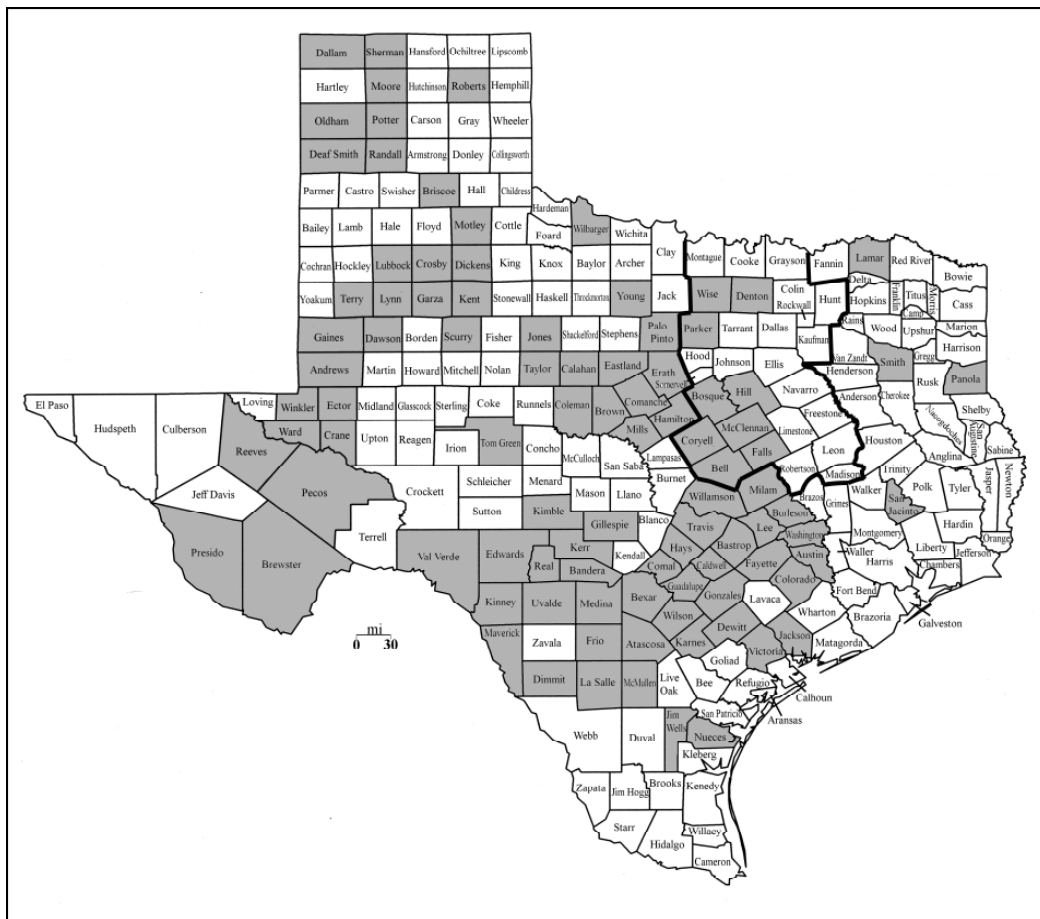


Figure 2. Counties where corner-tang artifacts have been found are shaded. The Prairie-Savannah portion of Texas is outlined in black. Data compiled from Patterson (1936, 1937), Skinner and Baird (1985) and Kraft (1993, 1994).

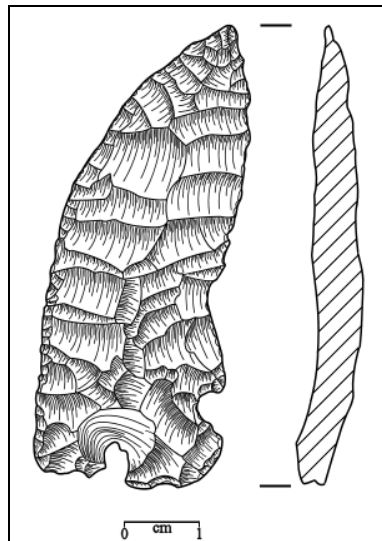


Figure 3. Corner-tang artifact from the Calvert site. From Skinner and Baird (1985:4-78). Redrawn by Lance K. Trask.

CONCLUSIONS

The presence of corner-tang artifacts from Parker County as well as the western half of the Texas Prairie-Savannah indicates possibly down-the-line trade or direct contact with cultures either from the Southern Plains or Central Texas or both.

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