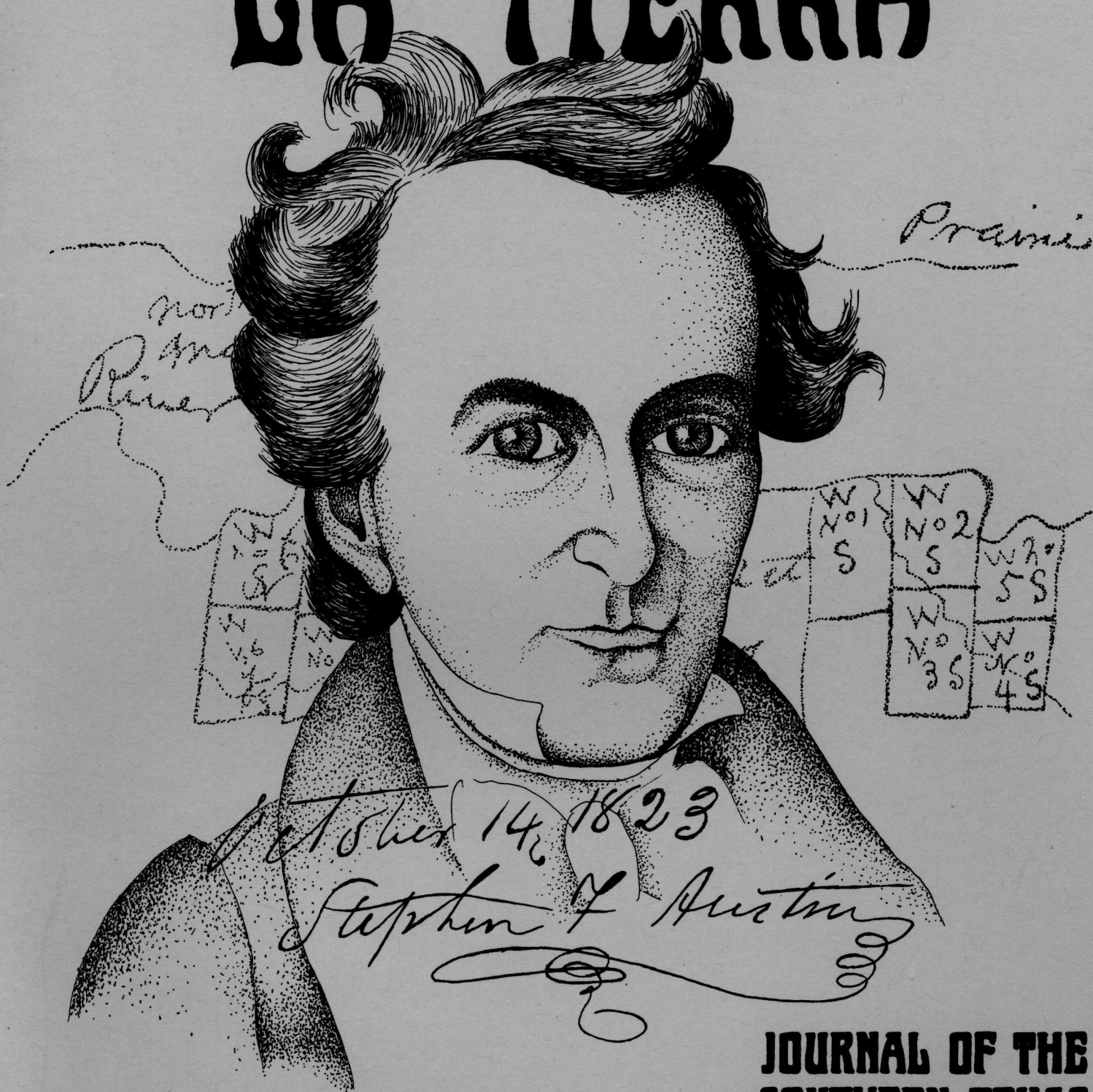


LA TIERRA



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April, 1990

**JOURNAL OF THE
SOUTHERN TEXAS
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ASSOCIATION**

LA TIERRA

QUARTERLY JOURNAL OF THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

Volume 17, Number 2

Evelyn Lewis

April, 1990

Editor

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EDITORIAL

Field Schools. Are they worth it? Do they really work? According to the 500 plus registrants at the 1990 Texas Archeological Society Field School in Utopia, the answers are evident -- you bet they do! These eager diggers literally risked life and limb to study evidence and find answers to previous cultures who left no written words concerning their existence and life-styles. And consider the hazards of fire ants, ticks, chiggers, fleas, stinging insects, and snakes, and wonder what drives an individual to sacrifice the "good life" at home to one of camping outdoors at the mercy of the uncontrollable elements.

The avocational archaeologist, in one week or a full summer assignment (depending on the site) can learn about prehistoric cultures through the applications of math, physics, chemistry, biology, botany, geology, paleontology, etc. to help track down answers to diets, plant and animal life, rainfall and general growing conditions, and the appeal of a particular habitation site to support a growing population. We know that a water source was necessary, and can speculate on the presence of animal life by examining the shreds of fashions and footwear found in the drier locales.

The Field School participant learns the professional approach to an archaeological project. Finding a chert point can speed up the heart rate, but what does it tell you? It's only the beginning of the story of these ancient peoples. Now you look for association -- animal bones, fish bones perhaps, potsherds, fire hearths, and on and on. More than one style or size of a point at a given site can raise the possibility of trading between other hunters and gatherers.

And what about the artistic bent of a long gone culture? Again, painted pebbles, cave art, incised bone, or sea shells deliberately drilled gives reason to consider vanity and/or recreation and expression, and, and a form of communication by humans not unlike ourselves.

So, in answer to the first question concerning the value of Field Schools. Yes, they are definitely worthwhile and they do work. Ask any of the group who worked La Jita (41UV21), Blue Hole (41UV159), or the Smith site (41UV132). Where else does one find dedicated and highly qualified instructors with the patience and interest to encourage students of all ages to preserve the past through archaeology? All of you TAS Field School participants made valuable inroads in the Sabinal Canyon culture history during the June 1990 studies. May this experience keep you involved as an avocational archaeologist during your spare time.

Evelyn Lewis

NOTES ON SOUTH TEXAS ARCHAEOLOGY: 1990-2

A Large Biface from Atascosa County, With Comments on the Function of Such Artifacts in Prehistoric South Texas

Thomas R. Hester and Byron D. Barber

In the fall of 1989, the junior author collected a large thin biface (Figure 1) from a surface locality, site 41AT111, in southern Atascosa County (see insert below), within the San Miguel Creek drainage. The specimen was an isolated find, with no other artifacts or cultural debris in the immediate area. The specimen was documented and photographed at the Texas Archeological Research Laboratory (TARL), The University of Texas at Austin. Triangular in outline, it has been thinned by broad percussion flakes, with subsequent retouch, aimed at finishing and straightening the lateral edges. It is 176 mm long, 88 mm in maximum width, and varies in thickness from 4 mm near the distal tip to 10.5 mm at the center of the biface. Lateral edge angles range from 30-35 degrees; the basal edge angle is 30 degrees.

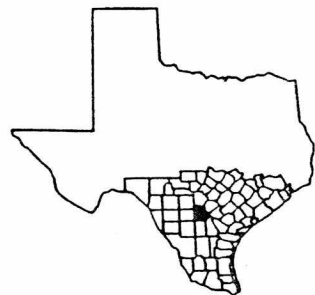
The specimen is heavily patinated, though some portions of the chert could be seen and appeared to be Edwards Plateau chert. This identification was confirmed, however, by Dr. Michael Collins of TARL. He has been conducting a long-term research project on Edwards Plateau and intrusive cherts based on the color they fluoresce under ultraviolet ("black") light. Edwards Plateau chert is typically orange-yellow and this color was seen on the biface from 41AT111.

What would be the function of such a large biface, carefully thinned and shaped, and some distance from its origin in the Edwards Plateau? Turner and Hester (1985:Figure 10) illustrate a very similar biface which they term a "trade blank." Such large bifaces are often found in central and south Texas, and down to the central Texas coast -- suggesting that they were being moved around by trade or exchange systems. They are also often found in caches, deposits of large bifaces presumably buried and hidden away by their prehistoric makers. Jackson and Woolsey (n.d.) report a cache of 26 large chert bifaces found in Mason County in 1934 or 1935. These are of the approximate size of the specimen in Figure 1, although some were even larger. J. E. Pearce obtained part of a cache of large bifaces found in south Austin at Fairview Park in the 1920s (collection housed at the Texas Archeological Research Laboratory; 41TV9); many are of the size and thinness of the Atascosa biface, but they have concave basal edges. Other biface caches are being studied by Robert J. Mallouf and Curtis Tunnell of the Texas Historical Commission.

Although the examples are not numerous, we know that these large thin bifaces occur on the Rio Grande Plain and indeed down to the central Texas coast (two examples are in the George C. Martin Collection at the Witte Museum, San Antonio). Jackson and Woolsey (n.d.) report a cache of 10 large bifaces found near Victoria in 1932. At the Loma Sandia site (41LK28), large thin bifaces were found as grave good caches with some of the burials from that late Middle Archaic site (Taylor and Highley, n.d.). Loma Sandia is about 50 km southeast of 41AT111. The bifaces from the burials at the site are smaller, but have very similar morphology and workmanship.

Additionally, Labadie (1988:Figure 19) describes a large thin biface found with a burial at the Shrew site (41WN73) in Wilson County. This specimen is longer than the Atascosa biface, somewhat more narrow, and very carefully retouched along its lateral edges. There is extensive glossy polish along the edges, suggestive of contact with plant materials (Labadie 1988:51).

Another burial has recently been noted from Falcon Lake, along the Rio Grande. Similar to the Loma Sandia burials, it, too, has large thin bifaces as grave accompaniments.



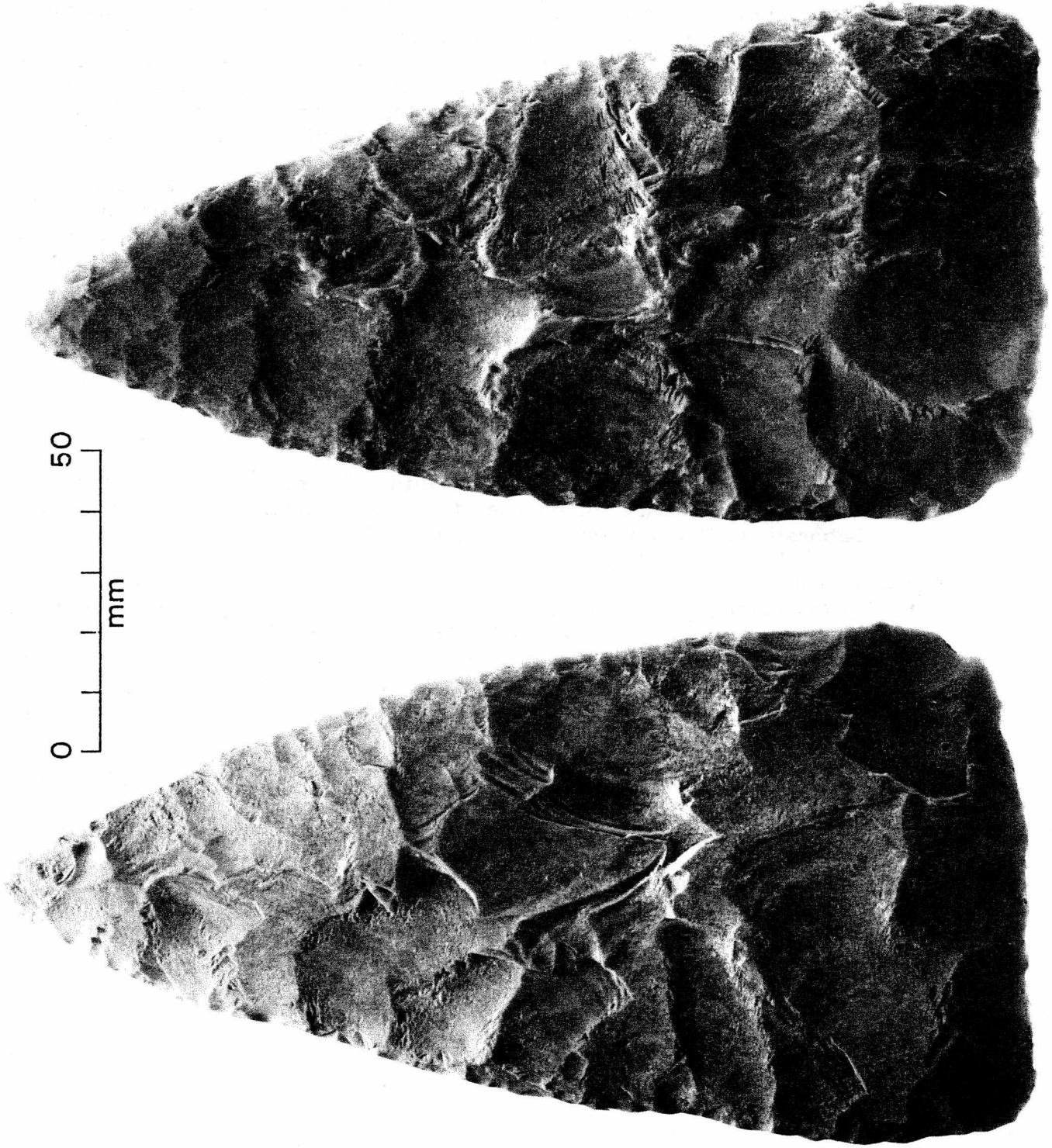


Figure 1. Both Sides of a Large Thin Biface from Site 41AT111, Atascosa County, Texas.

While the evidence is far from complete, there is an indication that the large thin bifaces, often made of Edwards Plateau chert, were being traded onto the coastal plain as objects of some considerable value, important enough to be buried with certain individuals. If our sample was large enough, we might even be able to say that the presence of large thin bifaces with specific burials is indicative of the status of that individual.

However, some of the "trade blanks" may have been utilized on the coastal plain as blanks -- items to be further reduced into projectile points. Suggestions of this can be seen in some of the Loma Sandia grave caches, where large thin bifaces may have been blanks or preforms for Tortugas and Lange points. And, the cache of large thick bifaces reported from Dimmit County by Hester and Brown (1988) indicate that bifaces at the "quarry blank" stage had also been traded into the region.

Thus, the presence of large thin bifaces in southern Texas raises a number of issues about the role such artifacts played in the region's ancient Indian societies. Other such specimens, either isolated finds such as the Atascosa specimen, or those found with burials or in other contexts, need to be fully published in the pages of *La Tierra*.

REFERENCES CITED

- Hester, Thomas R. and Dorothy M. Brown
1988 A Cache of Bifaces from Southern Texas. *La Tierra* 12(4):3-5.
- Jackson, A. T. and A. M. Woolsey
n.d. Data on Caches of Flint Blades. With Sketches by W. J. Warren. Unpublished manuscript on file at the Texas Archeological Research Laboratory, The University of Texas at Austin.
- Labadie, Joseph H.
1988 Archaeological Excavations at the Shrew Site, 41WN73, Wilson County, Southern Texas. *Contract Reports in Archaeology* 2. Texas State Department of Highways and Public Transportation, Highway Design Division, Austin.
- Taylor, A. J. and C. L. Highley
n.d. Archaeological Investigations at the Loma Sandia Site (41LK28): A Prehistoric Cemetery and Campsite in Live Oak County, Texas. *Contract Reports in Archaeology*, on file, Texas State Department of Highways and Public Transportation, Highway Design Division, Austin.
- Turner, Ellen Sue and Thomas R. Hester
1985 A Field Guide to Stone Artifacts of Texas Indians. Texas Monthly Press, Austin.

STEPHEN F. AUSTIN AND ROMA, TEXAS - 1823

James E. Warren

Sometimes archival research can be interesting and just a little exciting. Many times it is very boring, time-consuming, and just plain hard-on-the-eyes. Those of us who happen to be entranced with the Spanish Colonial, Mexican Republic, and Early Texan periods can lose ourselves for hours on end in tomes of archaic Spanish and flowery English documents. Once in a while the long hours spent will pay off in an interesting, and perhaps important, piece of information which has been previously overlooked, or possibly incorrectly interpreted by earlier researchers.

Recently, while involved in an archaeological survey in the Rio Grande Valley, I found it necessary to obtain the earliest extant copy of a city map of the city of Roma in Starr County. Finding nothing very early in the local area I contacted Bill Richter, Assistant Archivist at the Barker Texas History Center, the University of Texas at Austin, who searched the map index and came up with Sanborn Insurance maps for 1894 and 1925. He also found a card which listed a plat of Roma, Texas included in a letter written by Stephen F. Austin in 1823! We were both surprised to find Austin involved along the Rio Grande during the period when he was deeply involved with efforts to secure legal rights to his empresario grant on the Colorado River in east central Texas.

Analysis of the Letter

The original letter (Figure 1) is fairly legible, although the ink is slightly faded and the paper yellowed with age. Also, the right-hand edges of the sheets are tattered, thus the last words on some lines are either missing or partially missing. Austin's handwriting is large, open and easy to read.

The missing parts of words do not alter the intent of the letter except for one important word. The last word in line 3 (Transcript, Figure 1a) contains only two complete letters and possibly a portion of a third letter, the remainder being lost in antiquity. In his opening sentence Austin is informing Capt. Dickson that he should "commence surveying the labor tracts on the _____ Side of the River adjoining Roma." The key word in this sentence is the obliterated word which tells us which side of the river (Rio Grande) is to be surveyed.

It is the author's opinion that whoever originally entered this document into the archives' index system must have done one or more of the following:

1. Noted the name "Roma" and "town tract" and assumed that the survey was of the Roma town tract.
2. Disregarded the obliterated word at the end of line 3 as being unimportant since the remainder of the sentence reads "side of the River adjoining Roma." Using this logic it appears that the "labor tracts" are "on the side" or "beside" the river adjoining Roma.
3. Misinterpreted the obliterated word to read "on the near side of the River _____." At first glance the author accepted this interpretation because the letter was indexed as pertaining to a survey of the Roma town tract. If the letter had not contained an example of the numbering system which Austin was recommending, this interpretation would probably never have been questioned because of the inference of a survey of Roma and speculation that Austin was writing from his headquarters on the Colorado River, thus locating Roma and the survey on the "near" side of the Rio Grande.

After close examination of the sketch accompanying the letter, and orienting the river properly, it becomes apparent



(Page 1)
Figure 1, a.

- 1) Capt. Dickson
2) You will please commence
3) Surveying the labor tracts on the west
4) side of the River adjoining Roma. The
5) Town Tract will be Surveyed by Mr. Ingram
6) in a square of two leagues on each line
7) and run as nearly as practicable
8) at right angles to the general course
9) of the river. The labors will then
10) be laid off immediately adjacent
11) with their lines parallel to those of the
12) Town Tract. Each labor will be run
13) in a Square of 1000 Bars [varas] and _____
14) the bottom will permit two labors _____
15) Prairie they must be laid off. The labors
16) must be numbered as follows. The first
17) labor north of the town and west of the River
18) must be marked W. No. 1. N. and
19) the first labor South of the Town and
20) west of the River must be numbered
21) W. No 1. S. and so in regular order
22) numbering from the river to the Prairie [and]
23) back again - (Example _____)

Note:

- Line 3. Only first two letters appear in last word.
Line 8. First five letters appear in last word.
Line 9. First three letters appear in last word.
Line 10. First three letters appear in last word.
Line 13. The word "Bars" is suspected to mean "varas"
and the last word in the sentence is missing.
Line 14. Possibly more than one word is missing from
the end of the line.
Line 15. First three letters appear in last word.
Line 16. First three letters appear in last word.
Line 17. First three letters appear in last word.
Line 22. Last word is missing, but interpreted to be
"and".
Line 23. Lines and parenthesis mark are Austin's.

(Page 2) [Sketch map is included here on original.]
Figure 1. b

- 1) The lines must be well marked and the
2) corners established and marked in the same
3) manner that the section corners are
4) of the public land in the United
5) States ____ regular plats must be returned
6) with the field notes.
- 7) October 14, 1823
8) Stephen F. Austin
- 9) Mr. Saml Dickson
- 10) Note the overflow if any, the kind of timber
11) and quality of land on the lines.

Note:

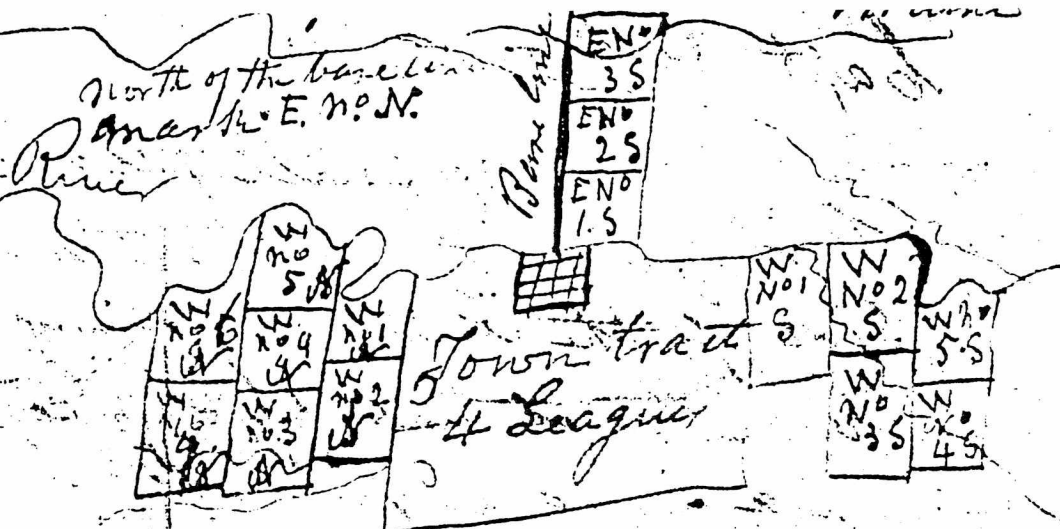
- Line 5. The marked line is Austin's.**

Figure 1. a, Transcript of the Austin letter, page 1. b, Transcript of Austin letter, page 2.

Capt Dickson

You will please commence
surveying the labor tracts on the west
side of the River adjoining Town. The
labor tracts will be surveyed by Mr Ingram
in a square of two laborers on each line
and run as nearly as practicable
at right angles to the general course
of the river. The laborers will then
be laid off immediately and
with their lines parallel to those of the
labor tracts. Each labor will be run
in a square of 1000 Paces and the
bottom will permit two laborers
to be laid off. The labor
must be numbered as follows. The first
line north of the Town and west of the River
must be marked West 1. N. and
the first labor South of the Town and
west of the River must be numbered
W No 1. S. and so in regular order
numbering from the river to the Prairie
back again - Example

Figure 1, a. Page one of Stephen F. Austin's letter to Capt. Samuel Dickson.
See transcript.



SA 18
1823

The lines must be well marked and the corners established and marked in the same manner that the Section corners are of the public land in the United States - regular plots must be returned with the field notes.

October 14th 1823.

Stephen F. Austin

Mr. Samuel Dickson

Note the appearance of any the kind of timber and quality of land on the lines.

Figure 1, b. Page 2, of letter from Stephen F. Austin to Capt. Samuel Dickson. See transcript.

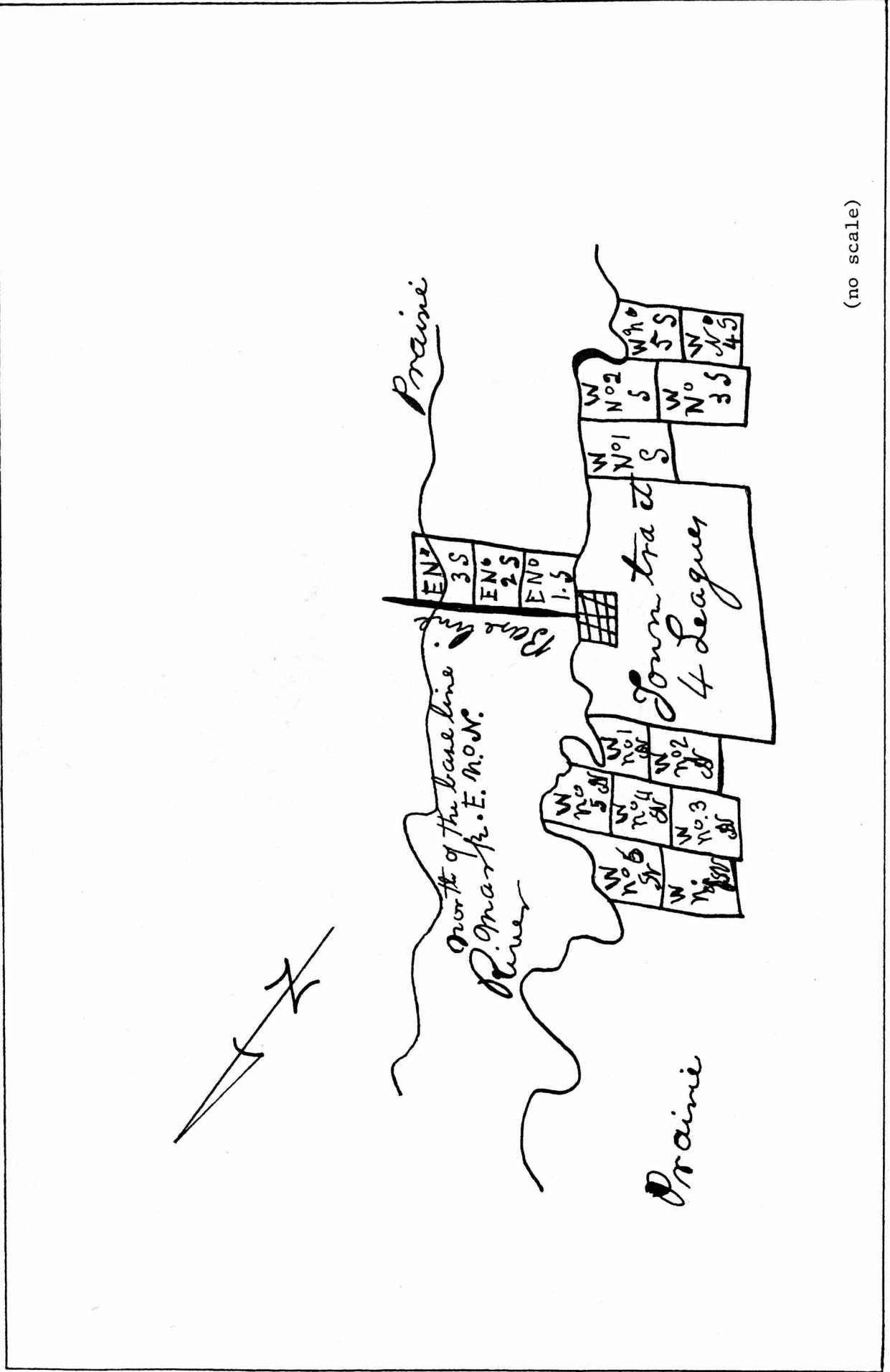


Figure 2. Facsimile Drawing of the Austin Sketch Map. Note: North arrow not included in the original sketch.

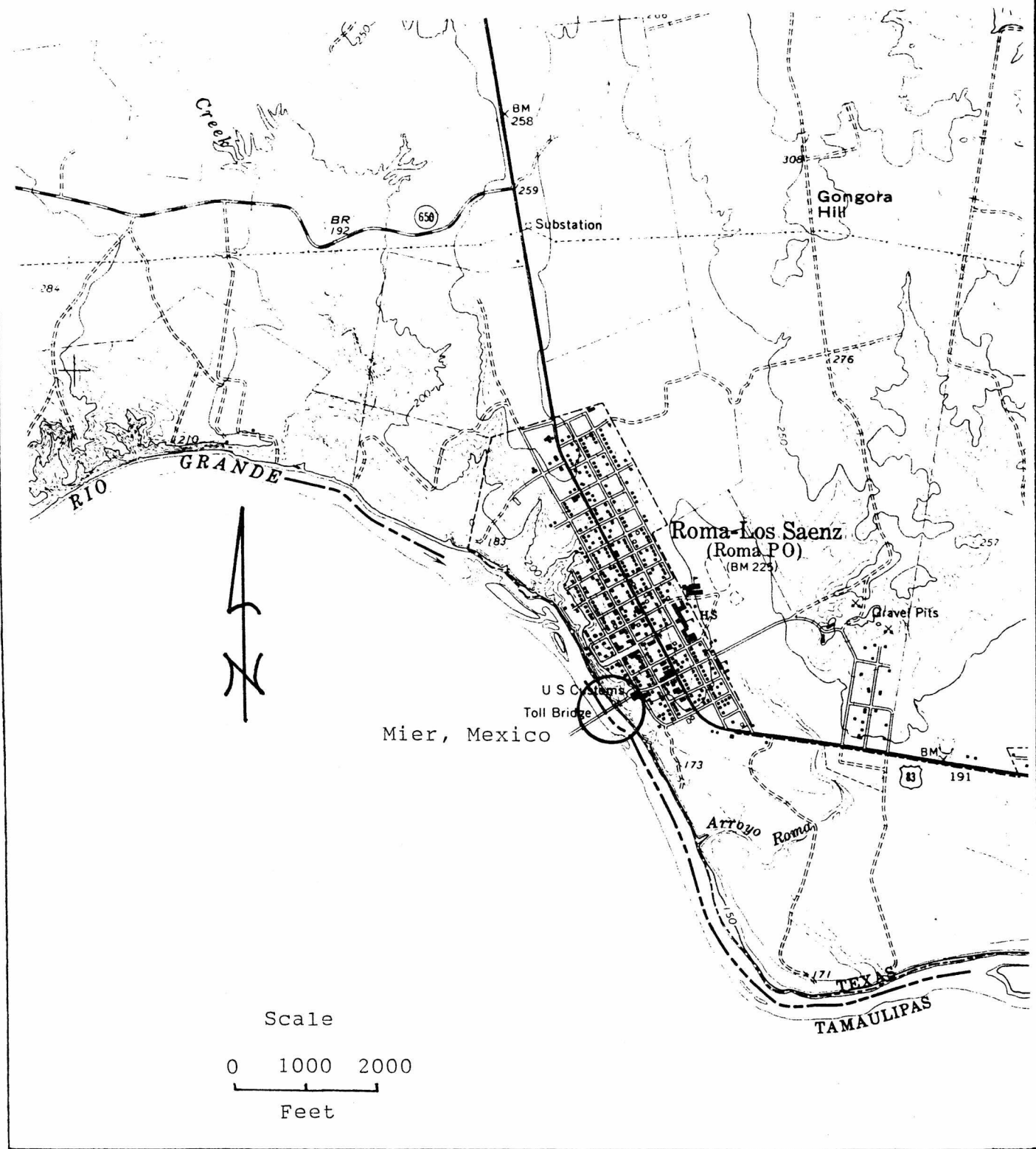


Figure 3. Modern Map of Roma/Mier Vicinity. From U.S.G.S. Quad Sheet Roma-Los Saenz, West, Texas.

that the town tract depicted by Austin is on the west side of the river and the obliterated word must be interpreted as "west" instead of "near". If this is the case then Austin is referring to a survey of the "labor tracts" of the town of Mier, Tamaulipas which is "on the west side of the River adjoining Roma."

Why Austin failed to mention Mier must remain a mystery which may be solved only upon further examination of the archival record. It must be considered also that Austin may have simply made a mistake in his cardinal directions when drawing the sketch and may have, in fact, been referring to a survey of Roma and not Mier. There is no north arrow on the original sketch.

The remainder of the letter is fairly straightforward and easily read with only a few words obliterated or missing, which doesn't seem to alter the intent of the letter.

The Example Sketch

A close examination of the sketch (Figure 2) makes it readily apparent that the town tract depicted is on the west side of the river. Austin's numbering system for the "labor tracts" divides them into quadrants with the central point being the cross-hatched square representing a town. He notes in the letter that the first tract "north of the town and west of the river must be marked W.No.1.N." and that "South of the Town and west of the River _____ W.No.1.S." Referring to a modern map of the area (Figure 3), it will be noted that the Rio Grande at this point is oriented NW to SE. On the face of his sketch Austin notes that those tracts "North of the base line mark E.No.N." By turning the sketch to properly orient the river according to the modern map a "north arrow" can be superimposed on the sketch (Figure 2) and the cardinal notations made by Austin fall in their correct quadrants leaving the town tract depicted on the west side of the Rio Grande in the Mexican State of Tamaulipas. If we then refer to the letter where Austin refers to the survey as being "on the west side of the river adjoining Roma" we are left with the obvious conclusion that the survey was planned for the "labor tracts" of the town of Mier, since this town is the only one immediately across the river from Roma, Texas.

One other possibility that must not be overlooked, which is mentioned above, is that Austin may have inadvertently mislabeled the "labor tracts" on his sketch. It should be noted that Austin failed to include a "north arrow" on his sketch. Those of us involved in drafting maps, no matter how informal, should never be found guilty of a similar practice. If he had included this feature (correctly) there may never have been any problem with interpretation of the letter or sketch, since it would have been readily apparent that the depicted town tract is on the west side of the river.

One other discrepancy must also be noted which pertains to the possibility of Austin's mislabeling his sketch. In referring to the "labor tracts" in the northwest quadrant, those labeled "W.No.1.N., etc." it is apparent that Austin originally mislabeled them "W.No.1.S.". Evidently Austin, or perhaps Capt. Dickson, subsequently noticed the error and the "S" has been overprinted with an "N". The other tracts appear to all be correctly labeled.

A FOLSOM POINT FROM BEXAR COUNTY, TEXAS

C. K. Chandler

ABSTRACT

A fragmentary Folsom point from southeastern Bexar County is documented and illustrated.

THE ARTIFACT

This specimen (Figure 1) is the proximal fragment of a typical Folsom point made of good quality brownish-gray chert. It is fluted full length on both faces. Both lateral edges and base are ground. One basal ear is broken and the base nipple has been removed. All surfaces are abraded and polished, including the broken edge across the blade. Flake arrises are rounded and reduced to a nearly smooth surface. The polish on the broken surface indicates a great deal of surface wear and polish occurred after the break. Surely this was not from use, but probably from sand blasting or stream rolling.

Dimensions are: Length, 26.8 mm; Width, 20.7 mm; Thickness, 4.8 mm; Base Width, 18 mm; Base Concavity, 2.4 mm; Weight, 2.5 grams.

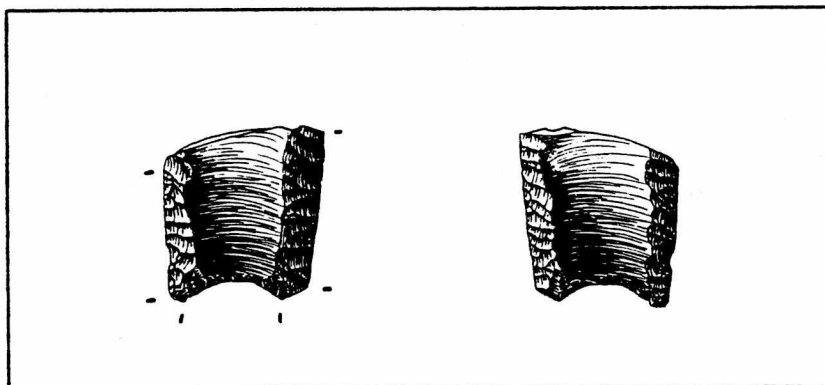


Figure 1. Folsom point from Bexar County.
Illustrated by Richard McReynolds.

This artifact was found on the surface of a brushy, eroded slope in southeastern Bexar County. It was found by Calvin E. Mansell in the early 1950s near the junction of Calaveras Creek and Chupadera Creek near the Wilson County line. A large variety of Archaic style stemmed and triangular stemless forms were collected from this area. Pedernales points predominate among the stemmed forms and most of the triangular stemless forms are Tortugas and Matamoras.

There are eight Folsom points previously reported from Bexar County. Seven of these are from a site (41BX52) in northwest Bexar County that was excavated by the Texas Highway Department (Henderson 1980). One other site in Bexar County has produced a single Folsom point (Hester et al., 1978). Another Folsom point has been found near La Vernia in Wilson County (see T. Kelly, this volume) in the same general area as the specimen being reported here.



Largent and Waters' (1989) recent survey of the distribution and number of Folsom points for all of Texas located 309 Folsom points from 55 counties. Over 100 of these are from one site near Van Horn in the Texas Trans-Pecos. About one-fourth of the remaining number are from Central Texas. Generally, Folsom points are random finds, but when found in controlled excavations they often occur in number, as noted with the seven from 41BX52.

With the reporting of this one new specimen there are now nine Folsom points known from Bexar County. With a number of Folsom points known from counties adjoining Bexar that are not yet published, there is a growing body of data for a larger presence of Folsom people along the transitional zone below the Balcones Escarpment than has been generally believed.

ACKNOWLEDGEMENTS

I thank Calvin E. Mansell for the loan of this specimen for documentation.

REFERENCES CITED

Henderson, Jerry

1980 A Preliminary Report on Texas Highway Department Excavations at 41BX52--The Paleo Component. *Texas Archeology* 24(2):14-15.

Hester, T. R., E. M. Miller and C. North

1978 Notes on Paleo-Indian Projectile Points from Kerr and Bexar Counties, Texas. *La Tierra* 5(1):27-29.

Largent, Floyd B., Jr. and Michael R. Waters

1989 The Spatial and Temporal Distribution and Characteristics of Folsom Projectile Points in the State of Texas. Texas A. & M. University (unpublished manuscript).

§ § § § § § § § § § § § § § §

ACKNOWLEDGEMENT

The photo in Bill McClure's "Snake Necklace" from the Morhiss Site in *La Tierra*, Volume 17, Number 1 was erroneously credited. W. A. Duffen is responsible for this excellent photograph used for the cover design, as well as reproduced in Figure 1, page 10.

THE LA VERNIA FOLSOM POINT, WILSON COUNTY, TEXAS

Thomas C. Kelly

ABSTRACT

Upon contact with the author by a landowner on Cibolo Creek in Wilson County, Texas, investigation produced a projectile fragment identified as a Folsom point. This is believed to be the first Folsom point recorded in Wilson County.

INTRODUCTION

Earl Davis, a retired Hewlett-Packard executive turned "gentleman farmer," contacted me a few years ago to come see the "arrowheads" he was finding on his farm four miles east of La Vernia on Cibolo Creek in Wilson County (see insert map below). His accurate description of a Folsom point of course got my attention and is the basis of this paper. As far as I can determine, this is the first Folsom point recorded for Wilson County.

THE SITE

The site (filed at the Texas Archeological Research Laboratory as 41WN78) is a sandy field on the second bench above Cibolo Creek. A remnant gully just south and east of the site suggests the presence of an early spring (see Figure 1). The site overlooks the flat lower bench and current floodplain which extends approximately 400 meters north to the steep south bank of the Cibolo. A massive lithic resource area exists where the benches join below and slightly west of the Davis home. It is mostly chert of varying quality and could have been carried down stream from the Hill Country of the Edwards Plateau.

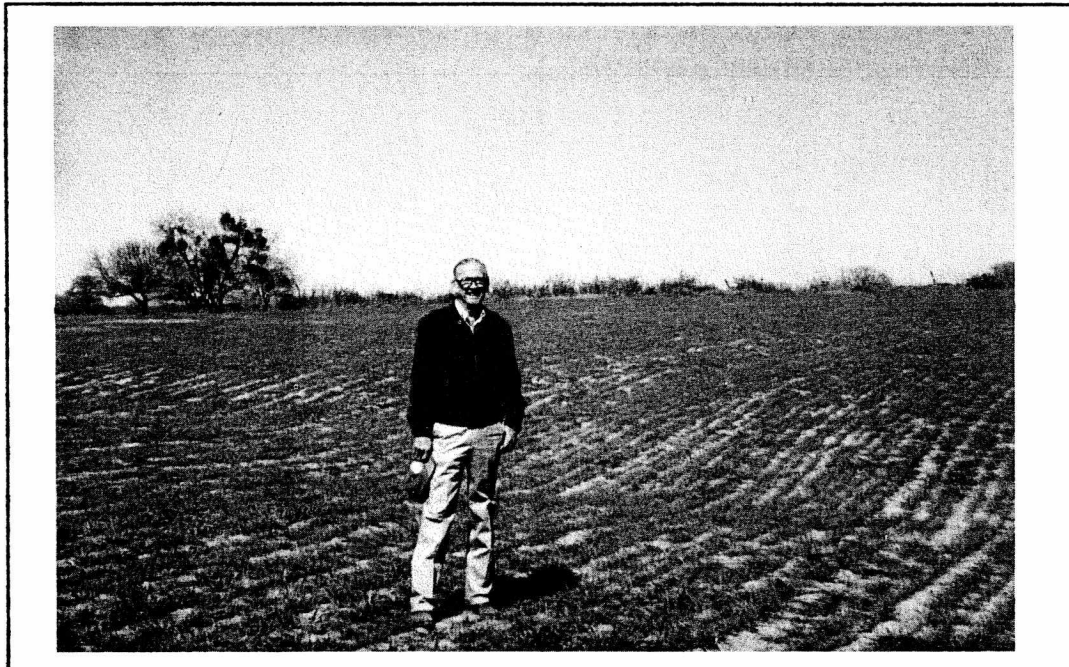


Figure 1. Site 41WN78, location of Folsom point described in text.

Flint, water, an overlook, wood, and the Cibolo "highway," coupled with riverine resources and presumably plentiful game, makes this a natural campsite for early hunters. Mr. Davis has found a number of Late Archaic and Late Prehistoric points scattered over the farm, but mostly on the lower bench. Probably the earlier time periods are buried in the deep alluvium of the frequent flooding of Cibolo Creek.



Projectile points from the Late Paleo-Indian through the Late Prehistoric time periods are commonly found upstream in the Upper Cibolo Creek (Kelly and Hester 1976) and Camp Bullis (Gerstle, Kelly and Assad 1978) areas. Numerous sites have been recorded along the remainder of Cibolo Creek to the Wilson County border. Wilson County, with a total of only 78 sites (as of April 1990), seems grossly under reported.

POINT DESCRIPTION

All points in Mr. Davis' collection appear to be Edwards chert, but none have the exceptionally fine quality and semi-translucence of the Folsom point (Figure 2a). It is a reddish-brown (cordovan) color and perfectly homogeneous except for two small narrow bars of white. These are thin fossil inclusions, but there is no difference in the flake scars through them and elsewhere on the point. Comparison with top quality English true flints in the author's possession suggests there are probably no better knapping materials available anywhere. The quality of chert is undoubtedly a factor in the supreme quality of workmanship made evident on this point. The basal portion is missing.

Measurements to the closest millimeter are: length 45 mm, width (at base) 22 mm, greatest thickness 3 mm, flute length (shortest) 36 mm, thickness between flutes 3 mm, obverse flute width 13 mm at base tapering to 11 mm at distal end, reverse flute 15 mm at proximal end, tapering to 12 mm at distal end. Note that from Sollberger's more precise measurements that follow, there is actually only .2 mm difference between the greatest and smallest thickness between the flutes. This suggests that the often debated purpose for fluting is primarily to achieve the thinnest projectile point possible for deep penetration, rather than a means to simply streamline the hafting to achieve the same purpose. As a super-efficient weapons system, it is just barely possible that .2 millimeters less thickness would permit slightly greater penetration. Certainly, to achieve killing effectiveness, the Folsom point would have to be driven several times its length into the very large, extinct bison species that the Folsom makers hunted. For an interesting treatise on the effect of streamlined hafting on the deep penetration of elephants with Clovis points, refer to Frison (1989).

Mr. Davis graciously gave permission to ship the point to J. B. Sollberger for his expert technical opinion. Mr. Sollberger has replicated more than 1,000 Folsom points and is, by any standards, the premier modern-day Folsom point knapper. (*Bulletin of the Texas Archeological Society*, Vol. 59, 1989 was dedicated to him.)

J. B. Sollberger's Analysis

The original La Vernia Folsom was about 65 mm long, 21.57 mm wide and 3.20 mm thick (Sollberger shop drawing, Figure 2d) before its basal hafting length was lost to a bending break. Folsom points of 60 mm length or more are quite rare. They are categorized as Folsom, Variety 6 (Sollberger 1985). The La Vernia point, after having both faces successfully fluted almost the full preform length, was subject to extensive post-fluting pressure retouch flaking. This technique narrowed the preform, and straightened and narrowed the four longitudinal ridges formed by removing the two channel flute flakes. This is evident from the force lines on Figure 2, a, which are nearly straight across the channel scar face. The force lines no longer point back towards the fluting platform because those edges were removed by the narrow shaping, intrusive retouch flaking.

Final retouch flaking on the point was by oblique force rather than force directed from vertical to the lineal edges. Also, the obliqueness was reversed on each lineal edge for final retouch for the opposite faces. Only rarely does a Folsom point have oblique final retouch.

The La Vernia point has approximately 5.5 retouch flake scars per centimeter of lineal edge. That narrow spacing illustrates the great skill of Folsom

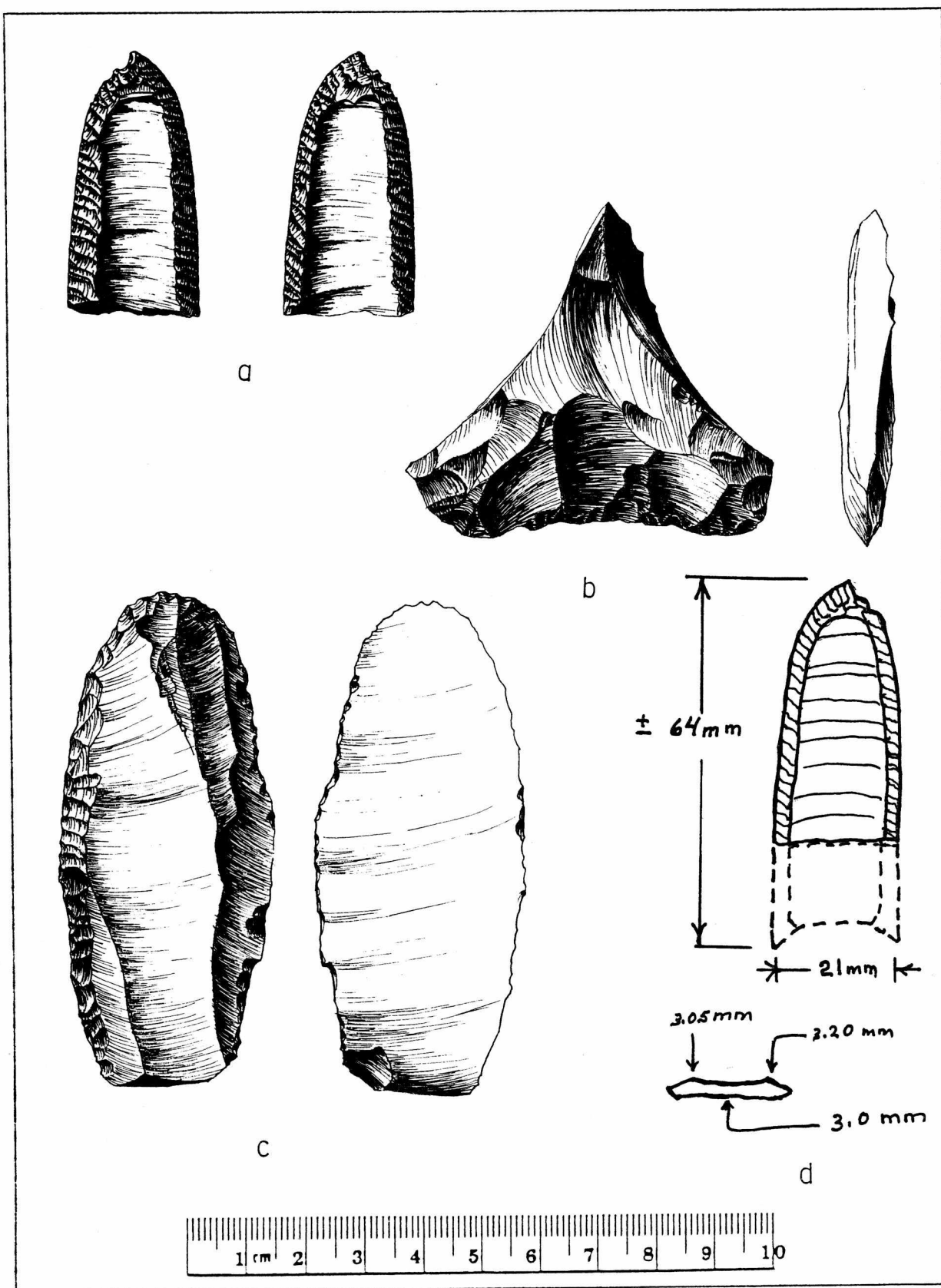


Figure 2. a, Obverse and reverse faces, La Vernia Folsom point from 41WN78, Wilson County, Texas; b, Obverse and edge view of burin made on a biface fragment; c, Obverse and reverse faces of edge/end scraper on an aborted fluted preform; d, J. B. Sollberger's shop drawing of his conception of the original La Vernia Folsom point. Drawings by Richard McReynolds.

flintknappers in that none of the flakes appear to invade the flute scar face as invasive scars. The fact that the original channel scar ridges have been straightened and reformed is not evident. However, what can not be seen can be felt. A test that applies to all fluted point types is to place your fingernail in the channel scar and drag it outward to cross the channel scar ridges. Where no added resistance is encountered, that ridge has been reshaped. Resistance is met where no modification has been made to the ridge by the retouch flaking. [Author's note: My fingernail test could detect no roughness or resistance anywhere on the ridges.]

The La Vernia Folsom is surely a Texas-made point. The stone is of the highest quality and is commonly known as Central Texas Chocolate Brown, possibly from the Thousand Springs area. It is well above the Folsom point average in length, channel scar lengths, and overall craftsmanship. Its maximum thickness is thinner than the average shorter Folsom points.

The fact that the channel scars are consistently and evenly thinned from the bend break to the very end of the channel scars, indicates that the common concept of thick blunt-ended preforms for Folsom points is often wrong. Also, contrary to the type description (Suhm, Krieger and Jelks 1954:427), the La Vernia and Lindenmeier points are widest at, or near, the proximal end.

Quoting Mr. Sollberger, after his examination of the La Vernia Folsom point, "Thanks much for the pleasure of handling and admiring it. It's a gem."

A recently published photograph of a Folsom point from Hinds Cave (Bement and Turpin 1989:6, Figure 2), suggests invasive thinning of ridge scars like the La Vernia specimen, but either the photograph, or its reproduction in *La Tierra*, is so poor that careful typological comparisons can not be made. This is a subject that Kelly (1984, 1985) and Prewitt (personal communications) continually emphasize as a typological must. The good news is that its scale is true, as it checks perfectly with an accurate steel millimeter scale.

SELECTED ARTIFACTS FROM 41WN78

Two of the stylized tools from approximately 100 total artifacts from the Folsom site are illustrated in Figure 2, b and c, and one of these (2, b) I consider to be a classical burin carefully knapped on a biface fragment. The intersection of the two strikes at the top of the artifact produces a sharp double concave edge four millimeters long. Strongly girdling a bone or wooden stick with this tool, permits an easily snapped straight ended tool, as used in making a foreshaft or bone awl. Figure 2, c is possibly a unifacial preform where the initial flute was too misaligned to finish the point. With very little work it was converted into a side/end scraper, as evidenced by lightly worn flake ridges on left side and end. There is no way to determine if they were associated with the fluted point. An excavation at 41WN78 would certainly be advantageous.

HISTORICAL IMPORTANCE OF FOLSOM POINTS

The Folsom projectile point is not our earliest dated Paleo-Indian point type. The earliest Clovis points predate them by nearly a thousand years (see paragraph at end of text, *Some Radiocarbon dates for Clovis and Folsom Points*). However, historically, it was the Folsom point discoveries that finally convinced a highly skeptical corpus of archaeologists, anthropologists, geologists and paleontologists, that man had been in the New World longer than about four thousand years.

Ales Hrdlicka (1907, 1912, 1937) was the leading skeptic in all attempts to push back man's New World entry and as Curator of Physical Anthropology, United States National Museum, was a power to be reckoned with. His skepticism was based largely on the comparison of American flint artifacts with early European artifacts, on the absence in the New World of markedly primitive skeletons, or of the proven close association of man in America with extinct pleistocene animals.

Discoveries near Folsom, New Mexico, of finely made fluted points in unmistakable association with an extinct species of bison (*Bison taylori*) beginning in 1925 (Figgins 1927, Roberts 1935) marks the beginning of a whole new era in American archaeology, our Paleo-Indian period.

These discoveries were soon followed by the Lindenmeier Folsom site in northern Colorado (Roberts 1935, Wilmsen 1974), and the Clovis Site near Portales, New Mexico (Howard 1935, J. Hester 1972) where "large" fluted points (Clovis) were found associated with mammoth, as well as small fluted points (Folsom) with *Bison taylori*.

Twelve years after the sensational Folsom finds, Hrdlicka was still unshaken by the recent facts. An international symposium was held in Philadelphia in 1937 on the subject of Early Man, with the presented papers edited by MacCurdy.

Hrdlicka (1937:93-104) under the title of "What Have the Bones to Say?" dismantled all skeletal claims for antiquity. He concluded that "There is to this moment no evidence that would justify the assumption of any great, i.e., geological, antiquity."

Frank H. H. Roberts, Jr. from the Smithsonian Institution and the only member of this distinguished gathering bearing the title "Archaeologist," presented "The Folsom Problem in American Archaeology" (Roberts 1937). He summarized the past twelve years' discoveries at Folsom, New Mexico; Lindenmeier, Colorado; Clovis, New Mexico; Dent, Colorado; and Burnet Cave in the Guadalupe Mountains of New Mexico. All had fluted points associated closely with extinct species of bison, camel, or mammoth. He pointed out the enthusiastic multidisciplinary acceptance by archaeologists, geologists, and paleontologists that "Man was present in the Southwest at an earlier period than formerly supposed." He concluded, correctly, that these discoveries constituted one of the most important contributions yet made to American archaeology.

Roberts (1940:52), in summarizing the discoveries of the past decade, had this to say about the past treatment of Early Man researchers: "The question of Early-Man in America became virtually taboo, and no anthropologist, or for that matter geologist or paleontologist, desirous of a successful career, would tempt the fate of ostracism by intimating that he had discovered indications of respectable antiquity for the Indians." There seem to have been no serious efforts after this to discredit "reasonable" antiquity for Early Man in America.

Hrdlicka, the watchdog, did provide a valuable service by forcing the opposition to prove its case beyond dispute. Better archaeological methods, including multidisciplinary efforts, resulted despite a high cost in bitterness. A similar situation exists today as numerous putative claims for pre-Clovis finds have yet to be accepted by peer review.

Paleo-Indian point typology can also be said to have begun in 1937 with this "rebirth" of American archaeology. Typological problems began with the large short-fluted points, and parallel flaked "Yuma" points found in the Clovis, New Mexico excavations. Roberts (1937) had noticed the difference between the Folsom type-site points, the short fluted Clovis specimens, and the "Yuma" points (possibly trade items from another complex). However, in his 1940 summary, he made no type distinction between Folsom and Clovis points and left Yuma dangling. These were some of the unsettled typology problems of the mid-1940s. Today, in retrospect, it hardly seems possible that Clovis points could ever have been called, or mistaken for, Folsom, but such is knowledge.

The late Dr. E. H. Sellards (1875-1961) of the University of Texas at Austin and the Texas Memorial Museum, played an active part in the early Paleo-Indian investigations (Sellards 1938, 1940, 1952). His work at Blackwater Draw proved, through stratigraphy, that the two fluted point types were of different time periods with the oldest being Clovis associated with mammoth, and the younger Folsom associated with extinct bison (Sellards 1952).

A SIMPLE ALGORITHM TO SEPARATE FOLSOM/CLOVIS POINTS

Kelly (1983) devised a simple ratio of point length to shortest flute length multiplied by the point's thickness that seems to be 100% effective in differentiating between Clovis and Folsom points, providing they are complete, or nearly complete, specimens. The ratio (r) equals the point length (L) divided by length of shortest flute (FL) multiplied by the thickness between the two flutes (T). If this ratio, r , is 15 or greater, then the point is Clovis. If the ratio is 10 or less, Folsom.

$$r = L/FL \times T:$$

If $r \geq 15$, the point is Clovis

If $r \leq 10$, the point is Folsom.

On actual points this test produced numbers 15, 17, 28, 55 for authentic Clovis points. Folsom points produced ratios of 4.4, 5.6, 7.6, and 9.2.

The La Vernia Folsom, as is, produces a ratio of:

$$r = 45/36 \times 3 = 3.75.$$

Of course, eyeball comparison with the many casts now available of archaeological specimens found in good context (Denver Museum of Natural History, Lithic Casting Lab, Route 1, Box 102, Troy IL 62294) will do the same thing.

FOLSOM POINTS IN SOUTH TEXAS

Folsom points in South Texas are distinguished by their rarity. Mitchell (1974) reported "An Unfluted Folsom-like Projectile Point from Webb County." It is a beautiful point but today it would fall into the Texas Angostura classification of Kelly (1983). Dr. T. R. Hester (1974) reports on Folsom points from Dimmit, Gonzales, Karnes, Nueces, Webb, Zapata, and Zavala Counties. Brom Cooper (1974) reported one from McMullen County, and he and this author each found one in McMullen County (Kelly 1983). All points were fine, thin, basal fragments of exotic materials. House (1974) reported a "Folsomoid" point from Live Oak County, but the above test scored it as:

$$r = L/FL \times T, \text{ or } 51/18 \times 7 = 19.8 \text{ which is } >15, \text{ or Clovis.}$$

A second Live Oak County specimen is reported by Largent and Stewart (1989) at the site of the present Choke Canyon Dam. ($r = 28/13 \times 2 = 4.3$, a Folsom ratio.)

Eight Folsom points have been found in excavated context in Bexar County, but none were in good enough context to prove anything beyond the fact of Folsom man's presence. This author's crew found one at St. Mary's Hall (Hester 1978) but in an area removed from the main Plainview occupation, and with no means of seriation or dating. Seven more were found in excavated context apparently associated with two unusual Clovis points, as reported by Henderson (1980). These were found in a Texas State Highway Department site, 41BX52, which is now under Loop 1604 at Leon Creek. The site was shallow with Archaic materials over it, and the accelerator radiocarbon dates fell in the Archaic time frame (7000 ± 250 B.P. and 2870 ± 330 B.P.; Haynes, et al. 1980). No final report has been made.

Chandler (1990) reports a ninth Bexar County Folsom point from the south-east region not too far from La Vernia.

Five Folsom points from gold hunters' backdirt were found at Kincaid Rockshelter, Uvalde County (Sellards 1952). These are the largest Folsom points pictured in Suhm, Krieger and Jelks (1954:427). The rockshelter has been reexamined and is reported by Hester (1989).

One of the great disappointments in South Texas archaeology is the lack of a good Folsom site, that is, one where Folsom points are found in good context. There are no associated bison kills, human remains, stratigraphy, or campsites with datable radiocarbon, etc.

There would seem to be about 30 Folsom points known for all of South Texas as compared to J. Hester (1972) reporting some 79 Folsom points from Blackwater Draw in New Mexico.

In terms of recent archaeology, (defined as post radiocarbon dating, or about post 1955), the only "good" Folsom site in all Texas must be the Adair-Steadman site in northwest Texas (Tunnell 1975). This paper concentrated exclusively on the making of Folsom points with very little on the artifacts, typology, site features, etc. One hopes for an eventual publication.

MAKING FOLSOM POINTS

There is almost as much controversy as to the making of Folsom points as there originally was over their antiquity. Some of the methods are explained in Crabtree (1966), Tunnel (1975), Flenniken (1978), Sollberger and Patterson (1980), Frison and Bradley (1981), and Sollberger (1985, 1989). There obviously are several ways to make replicas. Crabtree (*ibid.*), the dean of replicators, removed the channel flakes by pressure flaking, direct percussion, and with a punch by indirect percussion. Tunnel (1975) illustrates a holding device made of antler and a moccasined foot for a vise, and applying indirect percussion with a punch, but provides no replica photographs. Sollberger (1985) illustrates a simple tool that provides a 40:1 pressure ratio, and has a success rate of 90% with it in replicating over 1,000 Folsom points and approximately 1,000 other fluted points, such as Cumberland and Clovis. His photographs and replicas are available to compare with archaeological specimens, and in a recent two-day visit with Mr. Sollberger I observed a number of his Folsom, Variety 6, points that were nearly exact replicas of the La Vernia Folsom. In his article (Sollberger 1989) he issued a friendly challenge to all flintknappers to replicate specific fine archaeological specimens in their size, thinness, channel scar symmetry, and ultra fine, narrow, invasive type final retouch. The La Vernia point is just such a specimen. He also acknowledges that we do not know, and may never know, just exactly how the finer aboriginal Folsom points were made.

COMPARISON OF SOME CLOVIS AND FOLSOM RADIOCARBON DATES

The following dates are all expressed in uncorrected radiocarbon years or Before Present, B.P. (Over the next several hundred years, that B.P. is going to thoroughly confuse everybody unless, every time it is used, both the calendar date of the ^{14}C "run" and the translated B.C. or A.D. date are given. It didn't matter so much when the two sigma probability factors were large, plus or minus 500 or 700 years or so. With the advent of tandem accelerator mass spectrometer dating, (Haynes, et al. 1984; Donahue, Jull, and Zabel 1985), and ever decreasing size of the error probability, using the closest 50-year interval to measure calendar dates, will eventually confuse us all.

Turner and Hester (1985:99) lists a spread of 9050 B.C. - 8150 B.C. for Folsom points. The first Texas date was provided by Dibble and Lorrain (1968) with a Folsom date of 8200 B.C. from Bonfire Shelter. Since accelerator dating is changing all of the earlier results, consider the following dates as just a guide.

BLACKWATER DRAW LOCALITY 1. (J. Hester 1972)

Clovis	Uncorrected B.P.Dates	Folsom
11,040		9,900
11,170		10,170
11,630		10,300
		10,490
		10,490
		10,600
RANGE:	11,040-11,630	9,900-10,600

FRISON 1978

10,548 COLBY	10,080 HANSON
11,200 COLBY	10,375 BREWSTER
11,200 DENT	10,700 HANSON
	10,850 LINDENMEIER
RANGE:	10,548-11,200
SPAN:	1,082
OVERLAP:	302
	950

NOTE: These figures are only as good as the radiocarbon dates and will undoubtedly change with accelerator dating. Additional note: C. K. Chandler provided me, albeit too late to use, a copy of an unpublished, unfinished paper on file at Texas A&M (Largent and Waters 1989). With peer review and publication, it will provide a far more comprehensive reference on Folsom points in Texas.

ACKNOWLEDGMENTS

As usual, the Richard McReynolds line drawings greatly enhance this paper. My most pleasant visit with J. B. Sollberger taught me a lot I did not know about the technique and varieties of Folsom points. C. K. Chandler shared some scarce references and different viewpoints with me. I am particularly indebted to Earl Davis for his patience and the loan of the La Vernia point. And, I wish to express my gratitude to Mrs. Winifred Orchard for her continued interest and generous support of archaeological projects.

REFERENCES CITED

- Bement, Leland C. and Solveig A. Turpin
 1989 A Folsom Point from Hinds Cave, 41VV 456, Val Verde County, Texas.
 La Tierra 15(1):5-7.
- Chandler, C. K.
 1990 A Folsom Point from Bexar County. La Tierra 15(2):(This issue).
- Cooper, Brom
 1974 A Fluted Point from McMullen County, Texas. La Tierra 1(3):18.

- Crabtree, D. E.
1966 A Stoneworker's Approach to Analyzing and Replicating the Lindenmeier Folsom. *Tebiwa* 9(1):3-39.
- Dibble, David S. and Dessamae Lorrain
1968 Bonfire Shelter: A Stratified Bison Kill Site, Val Verde County, Texas. *The University of Texas at Austin, Texas Memorial Museum Miscellaneous Papers* 1.
- Donahue, D. J., A. J. T. Jull, and T. H. Zabel
1985 Results of Radioisotope Measurements at the NSF-University of Arizona Tandem Accelerator Mass Spectrometer Facility. *Nuclear Instruments and Methods*.
- Figgins, Jesse Dade
1927 The Antiquity of Man in America. *Natural History* XXVII(3):229-239).
- Flenniken, J. J.
1978 A Reevaluation of the Lindenmeier Folsom: A Replication Experiment in Lithic Technology. *American Antiquity* 43(3):473-480.
- Frison, George C.
1978 *Prehistoric Hunters of the High Plains*. Academic Press, New York.
1989 Experimental Use of Clovis Weaponry and Tools on African Elephants. *American Antiquity* 54(4):766-784.
- Frison, G. C. and B. Bradley
1981 Fluting Folsom Projectile Points: Archaeological Evidence. *Lithic Technology* 10(1):13-16.
- Gerstle, Andrea, Thomas C. Kelly, and Christie Assad
1978 The Fort Sam Houston Project: An Archaeological and Historical Assessment. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report* 40.
- Haynes, C. Vance, D. J. Donahue, A. J. T. Jull and T. H. Zabel
1984 Application of Accelerator Dating to Fluted Point Paleo-Indian Sites. *Archaeology of Eastern North America* 12(Fall):192-209.
- Henderson, Jerry
1980 A Preliminary Report of Texas Highway Department Excavations at 41BX52: the Paleo Component. *Texas Archeology* 24:14-15.
- Hester, James J., with sections by Ernest Lundelius, Jr. and Roald Fryxell
1972 Blackwater Locality No. 1: A Stratified Early Man Site in Eastern New Mexico. *Publication of the Fort Burgwin Research Center* No. 8.
- Hester, Thomas R.
1974 On Fluted Points and South Texas Archeology. *Texas Archeology* 18(2):11-14.
1978 Early Human Occupations in South Central and Southwestern Texas: Preliminary Papers on the Baker Cave and St. Mary's Hall Sites. *Center for Archaeological Research, The University of Texas at San Antonio*.
1989 Notes on South Texas Archaeology: 1989-1. Kincaid Rockshelter, the La Jita Site, and the Archaeology of the Sabinal River Revisited. *La Tierra* 16(1):3-4.

House, K.

- 1974 A Paleo-Indian Fluted Point from Live Oak County, Texas. *Texas Archeology* 18(1):17-19.

Howard, E. B.

- 1935 Evidence of early man in North America, based on geological and archaeological work in New Mexico. *University of Pennsylvania Museum Journal* 24(2, 3):55-171.

Hrdlicka, Ales

- 1907 Skeletal Remains Suggesting or Attributed to Early Man in North America. *Bureau of American Ethnology Bulletin* 33:21-28. Washington, D. C.
- 1912 Early Man in South America (In collaboration with W. H. Holmes, Bailey Willis, Fred Eugene Wright, Clarence N. Fenner). *Bureau of American Ethnology Bulletin* 52. Washington, D. C.
- 1937 Early Man in America: What Have the Bones to Say? In: *Early Man*:93-104. J. B. Lippincott Co., Philadelphia.

Kelly, Thomas C.

- 1983 The Brom Cooper Paleo-Indian Collection from McMullen County, Texas. *La Tierra* 10(3):17-40.
- 1984 Paleo-Indian Typology. Paper presented to the Texas Academy of Science. San Antonio, Texas, April, 1984.
- 1985 Texas Paleo-Indian Typology. Paper presented to the Texas Archeological Society. San Antonio, Texas, November, 1985.

Kelly, Thomas C. and Thomas R. Hester

- 1976 Archaeological Investigations at Sites in the Upper Cibolo Creek Watershed, Central Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Archaeological Survey Report* 17.

Largent, Floyd B., Jr., and Elinore Stewart

- 1989 A Folsom Point from Live Oak County. *La Tierra* 16(1):36.

Largent, Floyd B., Jr., and Michael R. Waters

- 1989 The Spatial and Temporal Distribution and Characteristics of Folsom Projectile Points in the State of Texas. Paper on file at the Department of Anthropology, Texas A&M University.

Mitchell, Jimmy L.

- 1974 An Unfluted Folsom-like Projectile Point from Webb County, Southern Texas. *La Tierra* 1(2):9-11.

Roberts, Frank H. H., Jr.

- 1935 A Folsom Complex: Preliminary Report on Investigations at the Lindenmeier Site in Northern Colorado. *Smithsonian Miscellaneous Collections* 94.
- 1937 The Folsom Problem in American Archaeology. In: *Early Man*:153-162. J. B. Lippincott and Co., Philadelphia.
- 1940 Developments in the problem of the North American Paleo-Indian. *Smithsonian Miscellaneous Collections* 100:51-116.

Sellards, E. H.

- 1938 Artifacts Associated with Fossil Elephant. *Bulletin of the Geological Society of America* 49:999-1010.
- 1940 Pleistocene Artifacts and Associated Fossils from Bee County, Texas. *Bulletin of the Geological Society of America* 51:1627-1657.
- 1952 *Early Man in America: A Study of Prehistory*. University of Texas Press. Austin.

Sollberger, J. B.

- 1985 A Technique for Folsom Fluting. *Lithic Technology* 14(1):41-50.
- 1989 On Replicating Fluted Projectile Points. *Bulletin of the Texas Archeological Society* 59:1-17. (Vol. for 1988)

Sollberger, J. B. and L. W. Patterson

- 1980 Attributes of Experimental Folsom Points and Channel Flakes. *Bulletin of the Texas Archeological Society* 51:289-299.

Suhm, Dee Ann, Alex D. Krieger, and Edward B. Jelks

- 1954 An Introductory Handbook of Texas Archeology. *Bulletin of the Texas Archeological Society* 25.

Tunnell, Curtis

- 1975 Fluted Projectile Point Production as Revealed by Lithic Specimens from the Adair-Steadman Site in Northwest Texas. *Texas Historical Commission Special Report* 18.

Turner, Ellen Sue, and Thomas R. Hester

- 1985 *A Field Guide to Stone Artifacts of Texas Indians*. Texas Monthly Press. Austin.

Wilmsen, Edwin N.

- 1974 *Lindenmeier: A Pleistocene Hunting Society*. Harper and Rowe. New York.

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TWO ABORIGINAL SITES IN JEFF DAVIS COUNTY, TEXAS

Joe D. Hudgins and L. W. Patterson

ABSTRACT

This article describes Archaic and Late Prehistoric lithic artifacts found by Joe D. Hudgins on the surface at two aboriginal sites in a mountainous region of Jeff Davis County, Texas.

INTRODUCTION

Sites 41JD133 and 41JD134 are located in Jeff Davis County, Texas in a mountain range approximately eight miles north of Valentine, Texas. The area is identified on the U.S.G.S. quadrangle map as the Y-6 hills. The mountain range is volcanic in nature, very rocky, and has several peaks over 5,000 feet in elevation. Turner and Hester's projectile point type descriptions (1985) were used to identify points found on the two sites.

THE SITES

Site 41JD133 is located in the northeast region of the Y-6 hills. It rests on a rocky knoll on the south bank of a deep draw at the base of a mountain. The area of the site is approximately 100 feet in length and 50 feet in width.

Dart Points

Dart point types found on the surface of site 41JD133 appear to represent the Middle and Late Archaic periods. Dart point specimens shown in Figure 1 include: one Langtry, three Gary-like, three Bulverde-like, two Ensor and three Palmillas. Dart point specimens shown in Figure 2 include three Marcos and one Ellis-like. Although the Gary point is considered to be an East Texas type, the three Gary-like specimens found here generally conform to the morphology of the Gary point, rather than to the somewhat similar Langtry point. Similar dart points, with the exception of the three Gary-like specimens, have been reported to have been found on sites in the Guadalupe Mountains National Park, located approximately seventy miles northwest of site 41JD133 (Boisvert 1983).

General Lithics

One large dart point blade fragment and three unifacial tools were found on site 41JD133, as shown in Figure 2. These include a perforator, a scraper and a denticulate. Evidence of the use of heat treating is shown on some of the unifacial tools and projectile points, in the form of a reddish coloration and waxy luster. Materials used include several types of chert.

Site 41JD134 is located in the eastern region of the Y-6 hills. On the east slope of a mountain, directly below a rim of volcanic rock, lies a deep ravine. Along the base of the rim is a small rockshelter approximately 15 feet in length. It extends into a small cave that is also approximately fifteen feet in length, five feet in width and four feet in height. The floor of the cave, void of vegetation, is covered with loose, powdery, light brown soil. Tracks from animals, such as coyote, bobcat and porcupine, can occasionally be seen in the cave. Directly in front of the rockshelter and cave is a midden area about 50 feet in length and 20 feet in width.



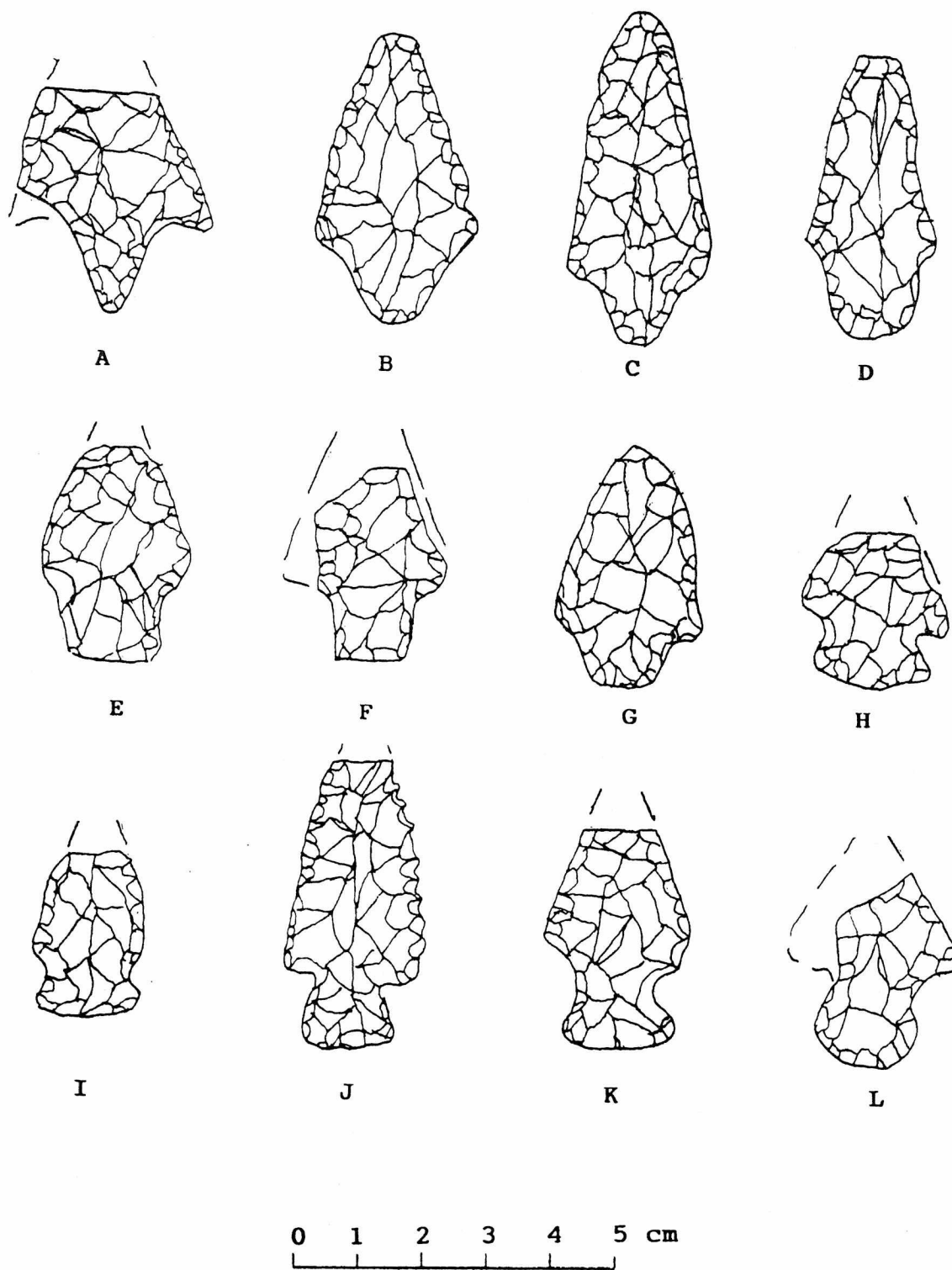


Figure 1. Site 41JD133 Dart Points. A, Langtry; B-D, Gary-like; E-G, Bulverde-like; H, I, Ensor; J-L, Palmillas.

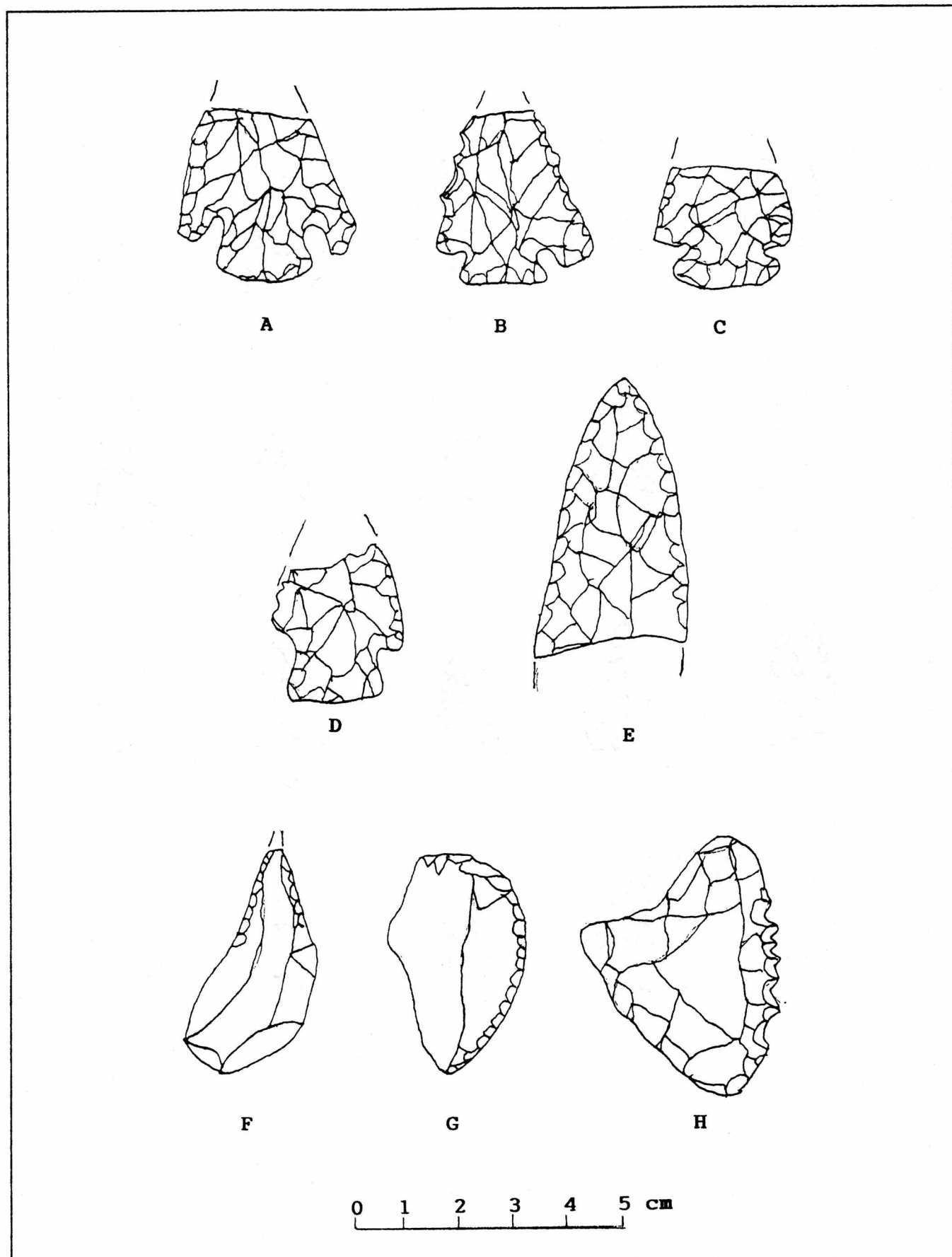


Figure 2. Site 41JD133 Lithic Artifacts. A-C, Marcos; D, Ellis-like; E, dart point blade; F, perforator; G, scraper; H, denticulate.

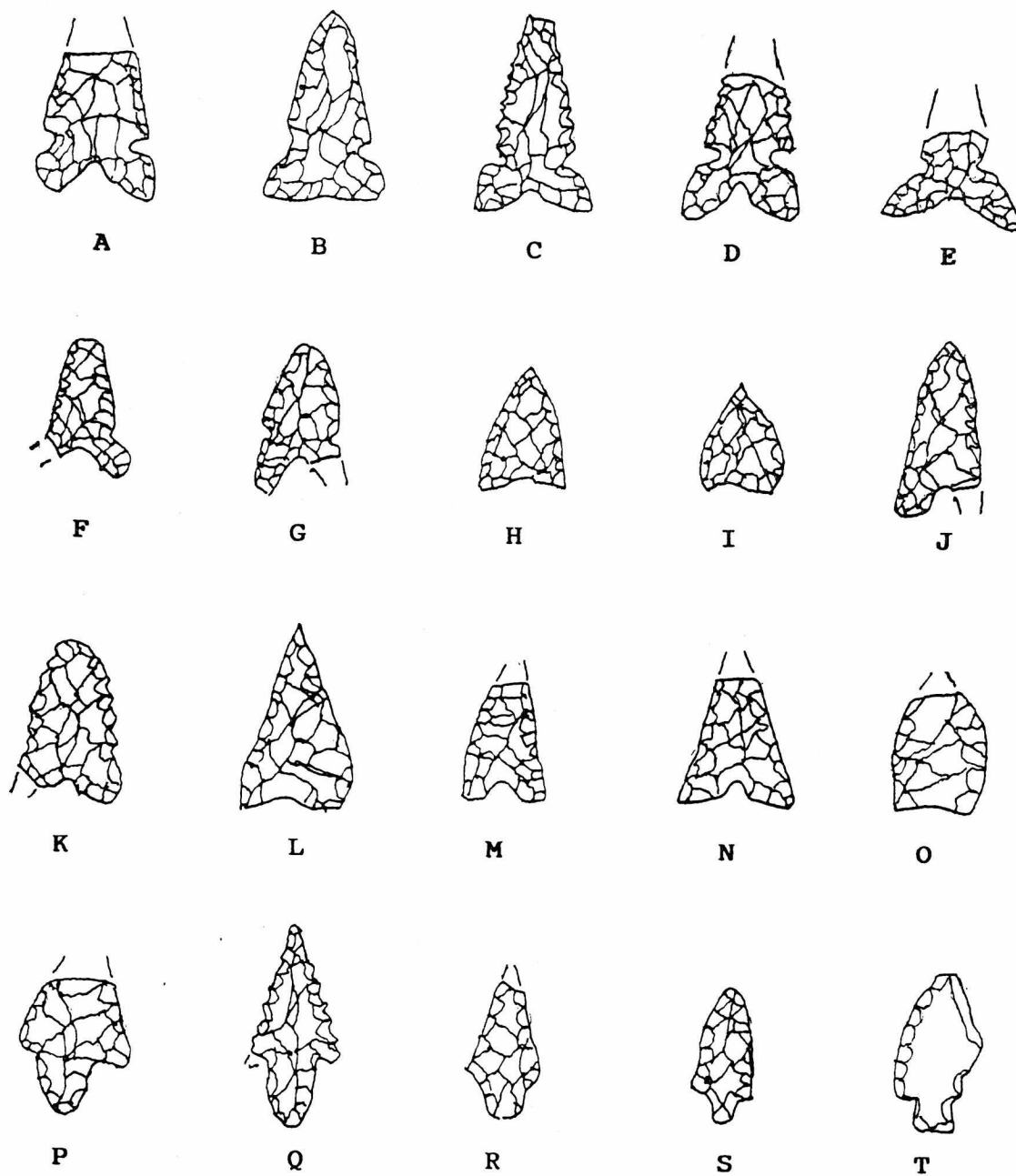


Figure 3. Site 41JD134 Arrow Points. A-G, Toyah; H, I, Starr; J-N, Garza; O, lanceolate; P, Q, Perdiz; R, Perdiz-like; S, T, unclassified.

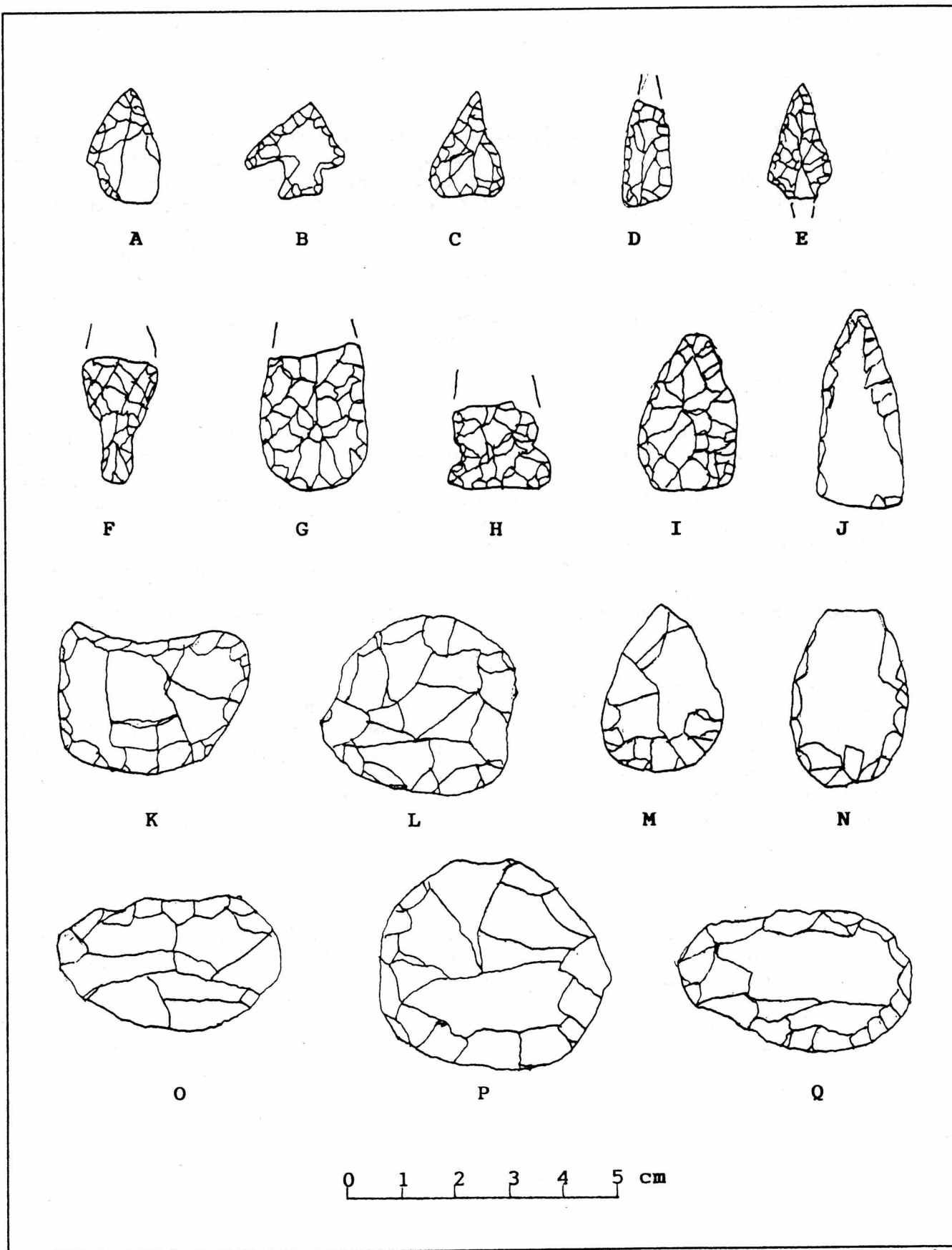


Figure 4. Site 41JD134 Lithic Artifacts. A-F, unclassified arrow points; G, dart point preform; H, unclassified dart point; I, J, arrow point preforms; K-Q, scrapers.

The soil in this area is considerably darker than the surrounding area and seems to contain a great deal of soot.

Projectile Points

Projectile points at site 41JD134 are mainly arrow points, with two dart point specimens also recovered. Occupations at this site occurred mainly in the Late Prehistoric period. Arrow point specimens shown in Figure 3 include: seven Toyah, two Starr, five Garza, one lanceolate, two Perdiz, one Perdiz-like, and two unclassified. Six unclassified arrow point specimens are shown in Figure 4. One unclassified dart point (Figure 4,H) and one dart point preform fragment (Figure 4,G) were found. The broken end of the dart point (Figure 4,H) may have been reworked for use as a scraper since it is beveled to a sharp edge. Two arrow point preforms (Figure 4, I,J) were also recovered. All above mentioned artifacts were found on the surface inside the cave.

General Lithics

Lithic manufacturing debitage in the form of flakes and chips, together with 17 unifacial scrapers of various forms, were found in the midden area directly in front of the shelter and cave. Some of these specimens are illustrated in Figure 4. Materials used for scrapers include several varieties of chert and quartzite. One small biface was found that may represent an arrow point preform thinning failure. A smooth, round quartzite pebble, 38 mm in diameter, was found, with surface damage that indicates use as a hammerstone. Some lithic specimens found here may have been non-utilitarian objects. These specimens include an unworked quartz crystal and a calcite crystal.

SUMMARY

Dart points found on the surface of 41JD133 suggest that this site was occupied in the Middle and Late Archaic periods. Arrow points from 41JD134 suggest a Late Prehistoric occupation. Site 41JD134 appears to be undisturbed except for occasional animal activity in the small cave. The dart point preform and the base of a small dart point found at 41JD134 may indicate the presence of an older occupation and further investigation is recommended.

REFERENCES CITED

Boisvert, Richard

- 1983 A Technological Analysis of Lithic Assemblages from Guadalupe Mountains National Park, Texas. *Bulletin of the Texas Archeological Society* 54:32-33.

Turner, Ellen Sue and Thomas R. Hester

- 1985 A Field Guide to Stone Artifacts of Texas Indians. Texas Monthly Press, Austin.

A CLOVIS POINT FROM KENDALL COUNTY, TEXAS

C. K. Chandler

ABSTRACT

This brief note reports, describes, and illustrates a Clovis point from Kendall County, Texas. This artifact was found on the surface of a small campsite by Calvin E. Mansell in the early 1950s along the Guadalupe River near Waring, Texas in Kendall County. The only other artifact recovered from this site is a broken Montell Point. There were a few small interior flakes scattered across the surface but no burned rock.

THE ARTIFACT

This point (Figure 1) is made of a medium brownish-gray Edwards chert with some light tan inclusions visible on one face. It has a glossy finish and waxy feel indicative of having been heat treated. There is just the beginning of patina on both faces. Present dimensions are: Length, 49 mm; Maximum Blade Width, 25.4 mm at 28 mm above the base, and it is 6.5 mm thick. A small portion of one basal ear is missing and there is a tiny chip off the other ear. Basal width is 24 mm and the basal concavity is two mm. Projecting the basal corners to original configuration indicates the original depth of the basal concavity was at least three mm. Lateral edges are fairly straight and expand slightly toward midsection. These edges are lightly retouched and are heavily ground up to 23 mm. The base is more finely trimmed and more lightly ground.

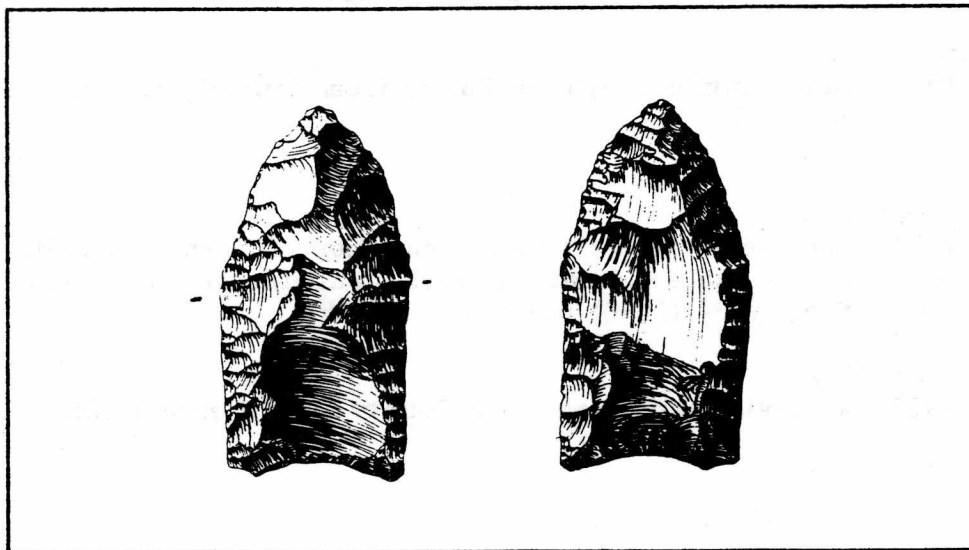


Figure 1. Clovis point from Kendall County. Illustrated by Richard McReynolds.

The distal portion is extensively reworked producing a shallow alternate bevel. Overall flaking is irregular and the reworking flakes are relatively broad and thin. Each face is fluted with a single flute. The obverse flute is 28.6 mm in length with a maximum width of 16.8 mm. The reverse flute is 16 mm long and 15 mm wide.



All surfaces are highly polished but there is no noticeable rounding of flake arrises. This polish appears to be produced by light sand blasting.

DISCUSSION

The finding of a Clovis point is always exciting and archaeologically important. Meltzer's (1987) "Texas Clovis Fluted Point Survey" recorded data on 205 Clovis points from 95 Texas counties. Fifty-one of the 95 counties (54 percent) report only one Clovis point and 87 percent (82/95) of all counties with points have three or less. There were no Clovis points reported for 159 counties. With this kind of distribution and density the reporting of every known Clovis point assumes considerable importance.

Kendall County, with its seven bordering counties, constitutes an area of approximately 10,000 square miles in the southern part of Central Texas. Meltzer's survey found a total of six Clovis points in this area. Three of these counties, Comal, Gillespie, and Kerr, had none reported. The one Clovis point from Kendall County had been recorded by Chandler in 1983. Since the survey, there has been one Clovis reported by Priour (1985) for Kerr County. With the one being reported here for Kendall County there are now eight for this area. No doubt there are additional specimens in private collections that have not been documented.

ACKNOWLEDGEMENTS

I wish to express my appreciation to Calvin E. Mansell for the loan of material from his collection for documentation, and to Richard McReynolds for his drawing of this artifact.

REFERENCES CITED

Chandler, C. K.

1983 Paleo-Indian Projectile Points from Kendall County, Texas. *La Tierra* 10(4).

Meltzer, David J.

1987 The Clovis Paleo-Indian Occupation of Texas: Results of the Texas Clovis Fluted Point Survey. *Bulletin of the Texas Archeological Society* 57 (1986) published in 1987.

Priour, Donald J.

1985 A Clovis Point from Kerr County. *La Tierra* 12(2).

FAUNAL REMAINS FROM THE BAMMEL SITE 41KR10, IN KERR COUNTY, TEXAS

Murray L. Beadles

ABSTRACT

Diagnostic projectile points from the Central Texas Early, Middle, and Late Archaic periods were associated with faunal remains at the Bammel site in Kerr County, Texas. The bones and teeth recovered were predominately bison (*Bison bison*), and deer (*Odocoileus virginianus*). Other animals, represented by single individuals only, included coyote (*Canis latrans*), raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), rabbit (*Sylvilagus* sp.) and a plastron bony plate from a turtle. Bison use reached a peak early in the Middle Archaic and was supplanted by the use of deer.

INTRODUCTION

The Bammel site (41KR10) in Kerr County, Texas was investigated by members of the Hill Country Archeological Society from December 1968 through 1972. Increasing vandalism forced site closure before the project was completed and the limits of the occupation were located. Excavation techniques and the lithic sample recovered have been reported in the Society Newsletter, *The Artifacts* (1970, 1971). These lithic materials were associated with faunal remains not previously reported and need to be added to the archaeological record.

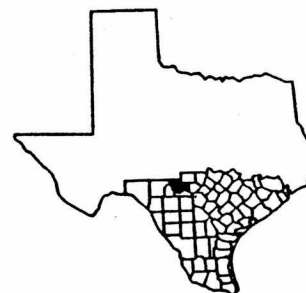
METHOD OF PROCEDURE

The joint ends of long bones, teeth, and other identifiable skeletal parts were separated from the fragments and tentatively sorted at Kerrville, using the papers by Olsen (1960, 1964), then taken to the Texas Archeological Research Laboratory (TARL) in Austin for comparison with reference collections.

The number of identified bones and teeth per 15-cm level, from the surface down, was compared with the number and type of projectile points found in the same level to help determine the possible time of peak utilization of bison and deer at the site.

SUMMARY

The bison sample contained bones from a minimum of ten animals (Table 1). Bone size and the presence of deciduous, unerupted, and worn adult molars shows that all ages of animals were utilized. All of the long bones were broken, probably to extract the marrow. Bones and teeth were found in almost all non-midden excavation units at various depths, but the greatest numbers of each were in Level 6 (Figure 1). No clusters were noted, suggesting the use of trash pits for disposal of the bones. The large percentage of leg bones and the lack of pelvic bones indicate that butchering occurred outside the sampled areas. At least eight deer are represented in the sample (Table 2). Deer bones and teeth were recovered from the same units with bison remains. However, the greatest numbers occurred in the two levels above the peak number of bison remains (Figure 2). Key index markers in Levels 4, 5, and 6 (Table 3) from Prewitt's (1981) proposed Central Texas chronology imply that bison utilization at the site peaked early in the Middle Archaic stage. Index markers associated with the deer sample indicate that use peaked during the transition from the Middle to Late Archaic stage.



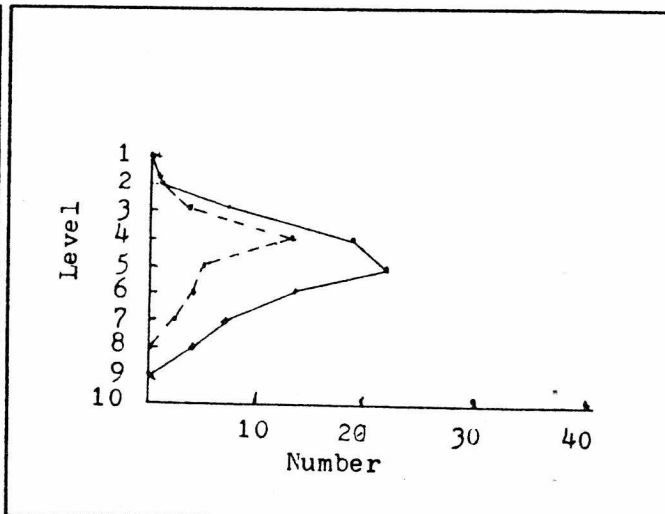
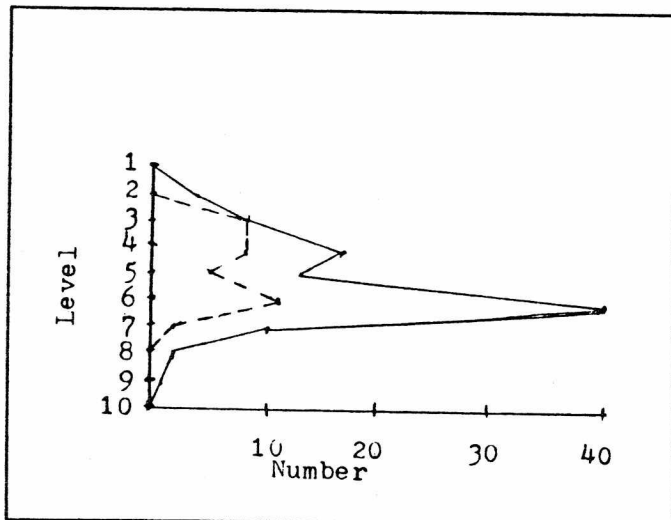


Figure 1. Site 41KR10. Bison bones — and teeth ---- per level.

Figure 2. Site 41KR10. Deer bones — and teeth ---- per level.

TABLE 1. Bison Bones and Teeth, Site 41KR10

Bone	Number	Fragment
Humerus	2R, 6L	8 Distal
Radius	3R, 1L	3 Distal, 1 Prox.
Carpal	7	5 Entire
Metacarpal	3L	Entire
Femur	1R, 3?	1 Distal, 3 Prox. (2 Ball)
Tibia	5R, 2L	6 Distal, 1 Prox.
Patella	2R, 1L	Entire
Fibular tarsal	6R, 1L	4 Entire, 3 Medial
Astragulus	5R, 9L	Entire
Central tarsal	4R, 3L	Entire
Metatarsal	10R, 7L	2 Entire, 12 Distal, 3 Prox.
Phalanges	11R, 7L	Entire
Scapula	1R	Proximal
Mandible	2R, 1L	1 Medial, 2 Prox.
Vertebra	9	Axis, Atlas, 7 ?
Teeth - <u>Molars</u>	<u>Premolars</u>	<u>Incisors</u>
3 - 3rd LR	1 - 3rd LR (D)	1 - 1st L
1 - 3rd LL	1 - 3rd LL	1 - 1st R
1 - 3rd UR	1 - 3rd ? (D)	1 - 2nd L
3 - 2nd UR	3 - 2nd LL	1 - 2nd R
2 - 2nd LL	1 - 2nd UL	4 - (root only)
2 - 2nd UL	1 - 2nd UR	
1 - 2nd LR	1 - 1st LR	
4 - 1st UL	1 - 1st UR	
3 - 1st LL	1 - 1st ? (U)	
2 - 1st LR		
1 - 1st UR		

U = Upper, L = Lower, R = Right side, L = Left side,
(D) = Deciduous, (U) = Unerupted

TABLE 2. Deer Bones and Teeth, Site 41KR10.

Bone	Number	Fragment
Antler	6	2 shafts, 1 prox., 1 medial 4 tines
Astragalus	7R, 8L	15 entire
Femur	1R, 1L	2 distal
Fibular tarsal	3R, 2L	5 entire
Humerus	7R, 6L	13 distal, 2 prox.
Mandible	6R, 3L	7 medial, 2 prox.
Metacarpal	3R, 2L	4 distal, 1 prox.
Metatarsal	4R, 2L	3 distal, 3 prox.
Pelvis	1R, 1L	2 medial
Phalanges	11R, 9L	17 entire, 3 prox.
Radius	2R	2 prox.
Scapula	4R, 2L	6 prox.
Tibia	2R, 6L	8 prox. (6 awls)
Vertebrae	12	various
Teeth		
Molars	4 - 3rd, 5 - 2nd, 5 - 1st, 11 - ?	
Premolars	3 - 3rd, 8 - 2nd, 5 - 1st, 3 - ?	
Incisors	2	

R = Right side, L = Left side

TABLE 3. Number of Diagnostic Projectile Points Found in Levels 4, 5, and 6, Site 41KR10.

Type	Level		
	4	5	6
Montell	28	12	6
Castroville	17	16	6
Marshall	29	19	6
Pedernales	22	18	9
Nolan	2	3	3
La Jita	1	2	3

The sample also contained a tibia, ulna, and two radii from a coyote (*Canis latrans*), the skull and teeth of an opossum (*Bidelphis virginianus*), some raccoon (*Procyon lotor*) teeth, teeth and a pelvis from a rabbit (*Sylvilagus* sp.) and a plastron bony plate fragment from a turtle. These specimens are the remains of a single animal each and may have been intrusive rather than representative of food items gathered by the inhabitants. In addition, some nut hull fragments, possibly walnut (*Juglans* sp.), hackberry (*Celtis laevegata*) seeds, fish vertebrae, and nine species of snail were recovered from a one meter square unit removed in 5-cm levels and water-screened by Richard Gingrich (Hill Country Archeological Society 1970).

The use of 1/2-inch screens at the site probably resulted in the loss of specimens from small animals and may account for the relatively few species recorded.

REFERENCES

Hill Country Archeological Society

1970 *The Artifacts*, Vol. 2, No. 1.

1971 *The Artifacts*, Vol. 2, No. 2.

Olsen, Stanley J.

1960 *Post Cranial Skeletal Characters of Bison and Bos. Papers of the Peabody Museum of Archaeology and Ethnology*, Vol. XXXV, No. 4. Harvard University.

1964 *Mammal Remains from Archaeological Sites, Part 1. Southeastern and Southwestern United States. Papers of the Peabody Museum of Archaeology and Ethnology*, Vol. LVI, No. 1. Harvard University.

Prewitt, Elton R.

1981 *Cultural Chronology in Central Texas. Bulletin of the Texas Archeological Society* 52:65-89.

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THE SIGNIFICANCE OF BEVELED EDGES ON PROJECTILE POINTS

L. W. Patterson and J. B. Sollberger

The presence of beveled edges is sometimes noted in the typological descriptions of projectile points, especially for dart points. For example, beveling is noted to sometimes occur on the blade edges of Darl (Suhm and Jelks 1962:179) and Yarbrough (*ibid.*:261) dart point types, and to generally occur on the stem edges of the Nolan dart point type (*ibid.*:225). The presence of beveling on projectile point edges may or may not have significance as a diagnostic attribute for a specific point type, however. A projectile point is described as having a beveled edge when the edge angle on one face is higher than the adjacent edge angle on the other face in respect to symmetry of the cross section.

In the case of the Nolan point, beveling of the lateral edges of the stem seems to represent a purposeful choice by the knapper in forming the style of the point, since most specimens have this attribute. The morphology of the stem of a Nolan point conforms to a standardized pattern that represents a technological tradition. On the Nolan point, beveling of stem lateral edges is the quickest and simplest way to reduce the base of a leaf-shaped bifacial preform to form a stem of the desired width for hafting. However, the presence of edge beveling on many projectile point specimens is due to manufacturing strategy for individual flake blanks, rather than due to following a technological tradition.

It is common for one lateral edge of a lithic flake to be thicker than the other lateral edge. When this type of flake is used as a blank to produce a bifacial projectile point, a special thinning strategy must be used to produce a biface with a symmetrical cross section. In this case reduction of the thinner edge is done in a manner to produce a higher edge angle. Reduction of the thicker edge is done correspondingly in a manner to produce a lower edge angle, with more overall thinning of that side of the biface. In this situation the knapper can make one of two choices. One choice is to do enough thinning to obtain complete cross-sectional symmetry. The other choice is to stop short of complete cross-sectional symmetry where less reduction allows a wider finished biface to be produced. When the latter strategy is executed the thickest lateral edge will often be beveled, although sometimes this edge will simply have a higher edge angle than the opposite lateral edge without beveling on one face.

One indication on a projectile point specimen that edge beveling was part of the reduction strategy for a flake blank, is when an edge bevel occurs on the face of the biface that was originally the dorsal face of the original flake blank. To produce a biface with a fairly symmetrical cross section more thinning is usually required on the dorsal face of the flake blank than on the flatter ventral face. In this situation edge beveling is generally caused by pressure flaking that produced relatively short flake removal scars and a resulting higher edge angle on the dorsal face of the original flake blank.

Edge beveling on projectile points can also occur as a result of reworking. Impact damage can produce a steep fracture that is easily repaired by beveling to reshape the broken projectile point blade and/or tip.

Edge beveling is a basic technique used to prepare striking platforms for all types of lithic manufacturing. This method is used to adjust platform edge angle and width for flaking control. During bifacial thinning the bevel will usually be removed by each series of flake removals.

Patterson has observed a number of Kent, Yarbrough and Darl point specimens with beveled blade edges from sites in southeast Texas. From his experience as an experimental flintknapper he judges that many of these specimens have beveled blade edges because of reduction strategies for individual flake blanks rather than being the result of following a technological tradition. This comment especially applies to specimens where only one of the two blade edges

is beveled. Even when both blade edges are beveled on specimens of these point types it is not certain whether or not this is due to the reduction strategy of the individual knapper, or follows a broader technological tradition. This conclusion applies because many Kent, Yarbrough and Darl specimens do not have beveled blade edges. Beveled edges on some specimens of these point types may reflect the desire of the individual knapper to produce a maximum size point from a limited size flake blank.

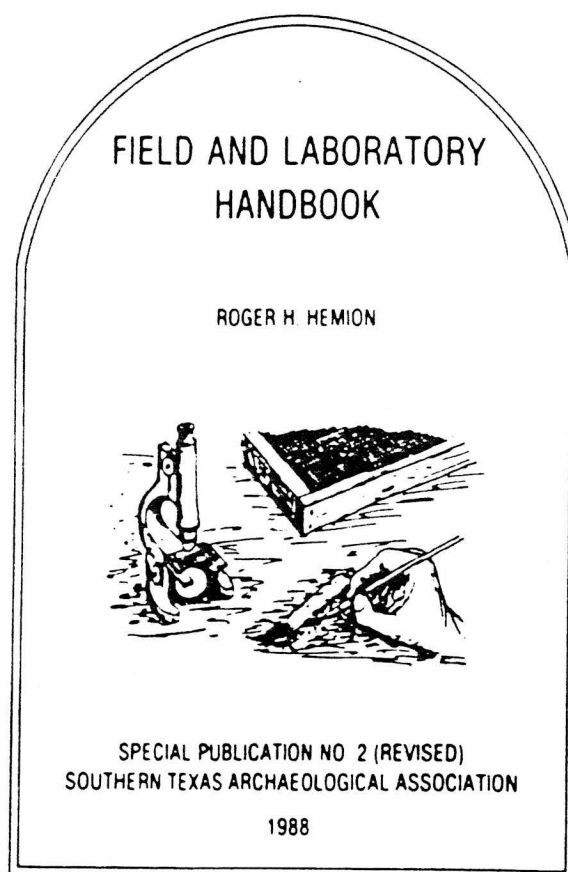
In summary there should be caution in the use of beveled edges as a diagnostic attribute for projectile point typology. Edge beveling can be done to follow a technological tradition for the style of a specific point type. In many cases, however, edge beveling is the result of the bifacial reduction strategy used for the specific geometry of an individual flake blank, or is the result of a reduction strategy to repair a broken projectile point.

REFERENCE CITED

Suhm, D. A., and E. B. Jelks

1962 Handbook of Texas Archeology: Type Descriptions. Texas Archeological Society Special Publication 1 and Texas Memorial Museum Bulletin 4. Austin.

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C. K. CHANDLER, current Secretary and also Documentation Chairman of STAA, is a retired railroad management official and engineering consultant with an insatiable interest in Texas archaeology. He is Past President of the Texas Archeological Society and a member of the Coastal Bend Archeological Society. C. K. was the 1985 Robert F. Heizer Award winner for his extensive work in south Texas archaeology (see Vol. 13, No. 1). Also, in 1985, he recorded more archaeological sites with the Texas Archeological Research Laboratory than any other individual. C. K. is a valued contributor of manuscripts to *La Tierra* and the *Bulletin of the Texas Archeological Society*, covering such varied subjects as metal points, rock art, and hearthfield sites in Terrell County. He has been honored by being named a TAS Fellow, and was also appointed as a steward for the Office of the State Archeologist. The Chandlers reside in northern San Antonio.

J. D HUDGINS is in the ranching business with his four brothers in Wharton and Matagorda Counties. They are breeders of beef type Brahman cattle. He is a graduate of Texas A & M University with a degree in Animal Husbandry. Joe had been a collector of Indian artifacts and after a visit from Dr. Tom Hester and Dr. Lawrence Aten many years ago was encouraged to take a serious interest in archaeology. He is a member of the Texas Archeological Society, Houston Archeological Society, and STAA.

THOMAS C. KELLY, a retired Air Force Colonel, is an enthusiastic researcher in whatever project he undertakes. He was recently awarded his Master's Degree after several years as a graduate student and research associate at the University of Texas at San Antonio's Center for Archaeological Research (UTSA-CAR). Tom has completed field work in Texas, New Mexico, England and Belize, and has authored several papers in *La Tierra*, the *Bulletin of the Texas Archeological Society*, and the UTSA-CAR research series. His thesis research is based on Paleo-Indian lithic typology and technology, and he has been recognized for his work with the 1986 Robert F. Heizer Award. Tom is still involved with Belize archaeology and feels that he is pioneering in the preceramic peoples of that area.

LELAND W. PATTERSON is a retired chemical engineer whose last professional position was Manager of Environmental Affairs, Engineering for Tenneco, Inc. His work included cultural resource studies for environmental impact studies and the general overview of any archaeological work required. He has published over 235 articles and reports in local, state, regional and national journals, such as *American Antiquity*, *Plains Anthropologist*, *Journal of Field Archaeology* and *Bulletin of the Texas Archeological Society*. He is a member of several archaeological societies and has served as a

member of the American Institute of Archaeology Committee for American Archaeology. Because of his untiring efforts to conduct surveys, record over 150 prehistoric sites in Texas, Louisiana and Ohio, and publish his findings, Patterson has received the Golden Pen award from the Texas Archeological Society.

J. B. SOLLBERGER is a well-known and highly respected flintknapper who replicates Paleo-Indian lithics, particularly fluted points. He shares his expertise through demonstrations and lectures and has authored or coauthored more than 50 publications. Solly, as he prefers to be addressed by his many friends, has enjoyed archaeological activities in Texas since 1934. He has published several site reports and investigated the Late Paleo-Indian/Early Archaic transition in South Central Texas. His work has been published in *American Antiquity*, *Plains Anthropologist*, *Lithic Technology*, *La Tierra* (STAA Journal), *The Record* (Dallas Archeological Society publication) and the *Bulletin of the Texas Archeological Society*.

JAMES E. WARREN is an independent professional archaeologist. Currently he is working for the Webb County Historical Association, surveying the San Augustine church site, the oldest church in Laredo. The church is the third building on that site and Jim is looking for evidence of the first two churches.

In 1974 Jim accepted the position of Archaeologist for the Soil Conservation Section of the State Department of Agriculture. He attended the University of Texas at Austin with a concentration in archaeology.

Jim is a member of the Texas Archeological Society, the STAA, the Society of Professional Archaeologists, and the Coastal Bend Archeological Society, which recently made him a Fellow. He is in great demand as a speaker for Kiwanis and Rotary Clubs as well as other organizations concerned with the preservation of historic and prehistoric cultural records.

The Warren family resides in George West, Texas.

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