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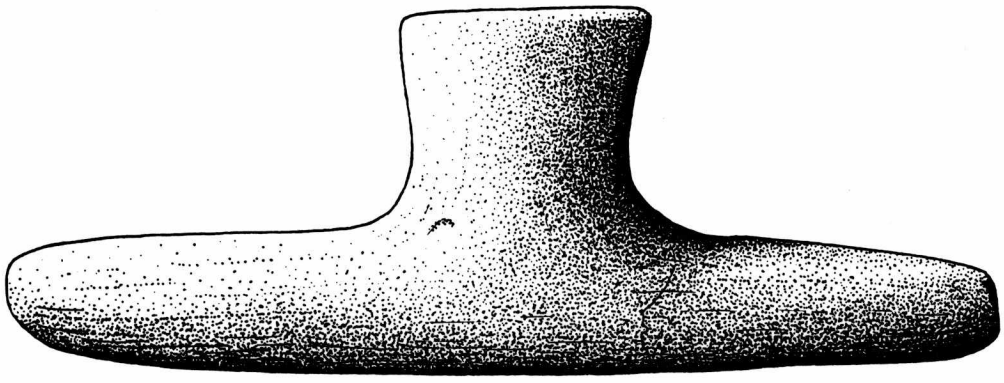

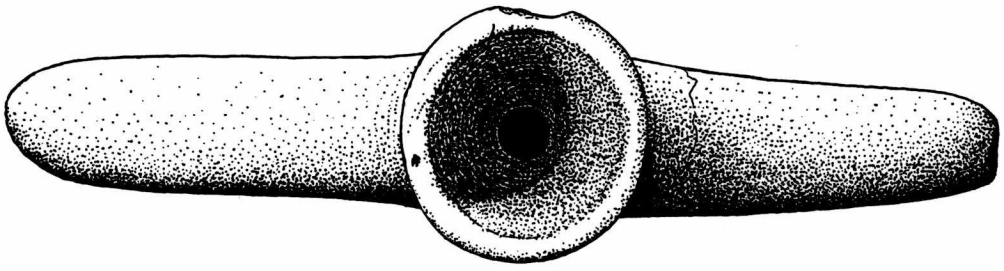

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LA TIERRA

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Manuscripts for the Journal should be sent to: Evelyn Lewis, Editor, *La Tierra*, 9219 Lasater, San Antonio, Texas 78250. Past issues of the Journal and Special Publications available by requesting an order form from STAA (Jim Mitchell), P. O. Box 791032, San Antonio, Texas 78279. Dr. T. R. Hester may be contacted at the Texas Archeological Research Laboratory, PRC 5, 10100 Burnet Rd, Austin, Texas, 78712-1100.

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NOTES ON SOUTH TEXAS ARCHAEOLOGY: 1995-3
The Protohistoric Period in Southern Texas

Thomas R. Hester

The British archaeologists Adkins and Adkins (1982:242) define "protohistory" as the "transition period between the prehistoric and historic periods denoting a phase for which few written records are available, and for which most evidence is derived from archaeology." In the archaeology of the Southern Plains of North America, the Protohistoric concept is often used (for example, Baugh 1986). It includes sites, up to A.D. 1750, at which Southwestern Indian and some European trade goods appear. However, this is at a time when Euroamerican explorers and settlers had not yet entered the region in sufficient numbers to have "impacted the economy of the Southern Plains peoples" (Baugh 1986:183).

In his recent comprehensive study of the Mitchell Ridge site (41GV66) on Galveston Island, Ricklis (1994) pays special attention to the Protohistoric. He dates it (ibid.:23) between A.D. 1500-1700, and notes that the "aboriginal peoples in the Galveston Bay area had limited access, direct or indirect, to European manufactured goods, as evidenced by the presence of blue-green glass beads in two burials of the period." In the early part of the Protohistoric, Cabeza de Vaca recorded some historical details of the cultures of the upper coast, but there were clearly "few written records" (*sensu* Adkins and Adkins), and the record of these peoples comes from studies by Ricklis and other archaeologists of the Protohistoric sites of the area (for example, at 41GV66, the Protohistoric is known from radiocarbon dates from a habitation and through the excavation of several burials). Ricklis (1994:23) notes that "the period draws to a close as the French and Spaniards began to colonize the Gulf coastal plain...and native people came into increasingly frequent, direct contact with the Europeans." In this definition, Ricklis' definition closely parallels the "economic impact" that terminates the Protohistoric on the southern Plains (Baugh 1986).

Intriguing data on the Protohistoric peoples of 41GV66 are provided in Powell's (1994) detailed bioarchaeological analysis of the burials. He reports that the diet of the Late Prehistoric and Protohistoric is that of hunters and gatherers, while in the Historic burials, diet has clearly shifted, reflecting either new foods or new ways of processing them (ibid.:403). Powell further notes that there is biological admixture in the Protohistoric burials, traced to Europeans in the period between 1528-1688 (Cabeza de Vaca and other Narvaez expedition survivors, as well as the LaSalle colony), and to mixed Native American ancestry. This is even more apparent among the Historic burials. In terms of the impact of European diseases, Ricklis (1994:490) sees this as occurring in the Early Historic era: "...the Protohistoric graves look more like [Late] Prehistoric ones as regards demographic indicators, and it is tempting to infer that the effects of epidemic disease did not reach the upper Texas coast with full force until the period of direct and repeated contact with Europeans in the early eighteenth century."

Protohistoric sites in southern Texas were first described by Hester and Hill (1975) from Chaparrosa and Turkey Creeks in Zavala County. Radiocarbon dates (calibrated; at two sigma) fall within the time range from mid-fourteenth century well into the eighteenth century. The Chaparrosa sites have a mixed inventory of arrow point types, utilized flakes and scrapers, and no ceramics. On Turkey Creek, some of the Protohistoric (or "late Late Prehistoric" sites appear to have bone-tempered pottery.

Roughly 40 miles to the west, missions were established at what is now Guerrero, Coahuila in the early eighteenth century (a time span encompassed by some of the Zavala County radiocarbon dates); these missions drew many of their neophytes from this very area of Zavala County. None of the Protohistoric sites have yielded Spanish trade goods (such as beads), suggesting that despite some of the late dates, there had been little or no direct contact with the Spanish. And, Cabeza de Vaca's journals and the records of late seventeenth century Spanish expeditions left few written records related to these groups. This was the case across southern Texas and while we cannot put precise dates (if such were actually possible) on the "end" of the Late Prehistoric or the "beginning" and "end" of the Protohistoric, it appears that interesting

cultural changes were in process. The Toyah horizon appears to have been fading by the 1600s, though still in place south of San Antonio and towards the coast; and, there are few Toyah traits as one moves farther west, as in the Chaparrosa study area.

McGraw (1991:116,118) has critiqued the use of the "protohistoric" term, or the lack of a definition thereof, and points to the kinds of external influences that may have led to the breakdown of south Texas native cultures prior to the arrival of the Spanish. Hindes (1995:25) has voiced more detailed criticisms of the Protohistoric, suggesting that it is not a "valid concept in south Texas." She suggests instead a "Late Prehistoric/Historic Aboriginal Contact construct." Despite this rather unwieldy terminology, Hindes' paper provides a very important review of ethnohistoric data for the lower Medina River region and a valuable discussion of the impact of European-introduced diseases. However, she, too, points to the problems of the relationships of Toyah horizon sites and those of Historic vintage (ibid.:30). Her main conclusion is that the regional "Historic Aboriginal Contact Period" is poorly understood, and that is true both archaeologically and ethnohistorically (though the work of Campbell [1988] surely outshines any archaeological efforts).

The point here is that wrangling over terminology serves little in advancing our knowledge of this critical time frame, though it does help us to better define what we are looking for in terms of cultural context. From one perspective, the "Historic Aboriginal Contact Period" is the *Historic* period – if you've got beads and records, the peoples are clearly impacted by, and in some sort of repeated contact with, the Spanish. At the other end of the spectrum, the Late Prehistoric, especially the Toyah horizon, is equally distinct (Black 1986). Sandwiched in between is the *Protohistoric*. Its temporal parameters may vary considerably, but it remains a useful concept for looking at the cultural processes that were underway. What happened to the Toyah horizon? What sorts of changes were taking place immediately prior to Spanish contact (as Ricklis has explored on Galveston Island)? Can we find evidence of the spread of Spanish diseases to the native groups *prior* to direct Spanish contact? Are some of the archaeological deposits of this age representative of amalgamated groups (as Campbell has demonstrated for the Historic period), pushed northward by the Spanish some decades before the missions were established at Guerrero? I am fascinated by the differences in some of the material culture between the Guerrero and San Antonio missions. At the San Antonio missions, there is bone-tempered pottery, part of a long-lived tradition that began in south Texas 800-1000 A.D. At Guerrero, bone-tempered pottery is wholly absent. This suggests that the San Antonio, Victoria (41VT12) and Goliad missions (the latter two again with bone-tempered pottery) were drawing from populations that were quite different, at least in terms of that important material culture trait, than the missions at Guerrero. Thus, the Protohistoric is a potentially important slice of time between the defined Late Prehistoric cultures in parts of south Texas and the recognizable Historic groups. Call it what you will; once we learn more about this critical time frame, we can talk with more clarity about the continuity, or lack thereof, of nature culture into the mission setting (Hester 1989).

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FOLSOM POINTS FROM ATASCOSA, FRIO, LIVE OAK, AND McMULLEN COUNTIES

C. K. Chandler and Kay Hindes

ABSTRACT

Several Folsom points from four counties in the northern part of south central Texas are documented, illustrated and discussed. They are in the collections of eight different individuals and have been recorded over a period of several years.

INTRODUCTION

Over a period of several years the authors have advanced the documentation of Paleo-Indian projectile points from at least twenty collections in the north central area of south Texas. Most of these collections have been surface finds from sites along San Miguel Creek and its tributaries in southeastern Frio, southwestern Atascosa and northern McMullen Counties. Much of this area was subjected to deep root plowing in an effort to improve it for pasture or cultivation. In the process, long dormant archaeological sites were disturbed and some of their materials brought to the surface. Resulting cultivation and erosion exposed many artifacts and a flurry of collecting became a favorite pastime of many. The sites that have become identifiable have yielded mostly Archaic period materials with a few more recent Late Prehistoric artifacts and a fair number of Paleo-Indian projectile points. Our efforts to document the Paleo-Indian projectile points has resulted in identification of well over 100 specimens covering the full range of Paleo period projectile points. These collections include Clovis, Folsom, Plainview, Scottsbluff, Golondrina, Angostura, Victoria, Early Stemmed and Early Stemmed Lanceolate.

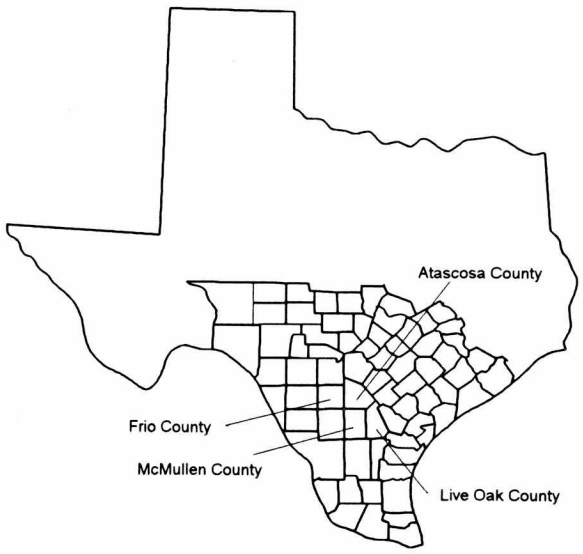
This paper deals only with the Folsom points. Most of them are included in the "Spatiotemporal Distribution and Characteristics of Folsom Projectile Points in Texas" report (Largent et al. 1991) but none of them have been previously described or illustrated. This paper is submitted in an effort to get this information on record for the benefit of the archaeological community.

DESCRIPTION OF ARTIFACTS

Specimen 1

This specimen, Figure 1, A, A′, is a complete Folsom point made of good quality, translucent agatized wood. It is a light tannish gray with a darker tan longitudinal streak running diagonally from one basal corner to near the distal tip and terminating at the opposite blade edge. Both faces are fluted with two overlapping flake scars. The second flute is shorter and wider on each face and this is well illustrated in the line drawing. It is 54.8 mm long with a maximum width of 17.5 mm at 20 mm above the base. Base width is 16.5 mm and basal concavity is 2.8 mm maximum. Remnants of the basal nipple are present and the basal edge is lightly retouched from both faces. Edges are ground 27 and 28 mm. The flute scar on the obverse face is 48 mm long with a maximum width of 11.5 mm. The flute scar on the reverse face is 21.6 mm long and is 8.4 mm wide maximum. Flaking on both faces is fine, neat parallel. Weight is 5.2 grams.

This specimen was found along the bank of Goose Creek in Atascosa County and is in the Buck Maspero collection.



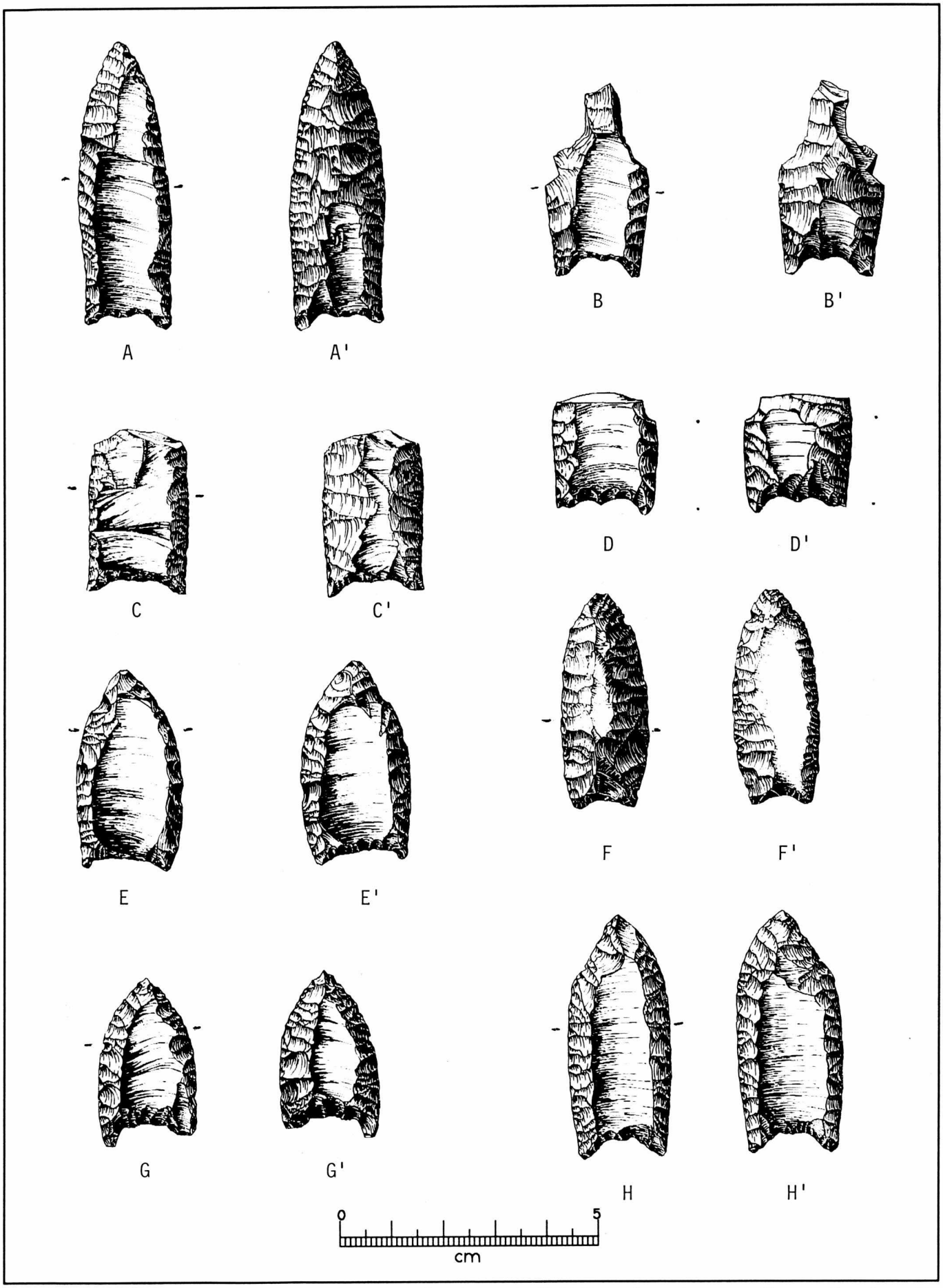


Figure 1. Folsom points from southcentral Texas. Specimens A, C, E, F are from Atascosa County. Specimen B is from McMullen County. Specimen D is from Frio County. Specimens G and H are from Live Oak County. A, B, C, etc., obverse; A′, B′, C′, etc., reverse.

Specimen 2

Figure 1, B, B′ is a basal and blade fragment of a Folsom point made of light tan good quality chert that grades to a pinkish tan on the reverse. Both faces are fluted with a single flute scar on each face. The flute scar on the obverse is 25 mm long with a width of 11 mm. The flute on the reverse is 12 mm long and 7.3 mm wide. Overall length is 37 mm with a maximum width of 19.6 mm at 35 mm above the base. Base width is 19.6 mm and basal concavity is 3 mm. A remnant of the basal nipple is present and the base is lightly retouched from both faces. Edges are ground 17.6 mm and 15 mm. Weight is 2.85 grams.

This specimen was found in the driveway of the Maspero home in McMullen County. This may account for its unusual fracture pattern. It was probably run over by an automobile several times and it is a wonder it survived as well as it has. The Maspero home is built on an archaeological site (41MC364) and this artifact is not considered to have been hauled in from some other location.

Specimen 3

Figure 1, C, C′ is a nearly complete Folsom point with the distal portion missing. It is made of light brownish gray good quality, heat treated chert. Both faces are fluted. The obverse face has two flute scars; the first one is long and narrow and extends beyond the break. The second one is much wider. It also extends beyond the break but veers to the right of the first one. This complete flute scar is 28.5 mm long and 14 mm wide. The single flute on the reverse is 28.5 mm long and 5 to 7 mm wide. Overall length is 31 mm with a maximum width of 18.8 mm at 18.6 mm above the base. The base flares slightly and is 18.3 mm wide. The basal nipple is missing and the base concavity of 2.3 mm is neatly trimmed. Edges are ground 21 and 24 mm. Weight is 3.0 grams.

This artifact was found by Randy Snider near Lytle along the Atascosa River in northwestern Atascosa County.

Specimen 4

Figure 1, D, D′ is a basal fragment of a Folsom point made of light brown good quality chert and is fluted on both faces. The flute on the obverse extends beyond the break and was produced by the removal of a single flake 14 mm wide. The flute on the reverse face is also produced by the removal of a single flake that produced a flute 18 mm long with a maximum width of 10 mm. This specimen is 22 mm long with a maximum width of 20 mm and a maximum thickness of 4 mm. One basal ear is broken and the base width is 18.6 mm. The basal nipple is present and the basal concavity measured to this nipple is 2 mm. Edges are ground 18 mm on each side.

This specimen was found by Warren McDonough along an unnamed drainage between Moore and Devine in northeastern Frio County.

Specimen 5

Figure 1, E, E′ is a complete Folsom point with all surfaces covered with a heavy milky white patina. This patina has a glossy sheen and polish as if it has been lightly stream rolled. Both faces are fluted with a single flute that runs almost to the distal tip on both faces. These flute scars are 32 mm long and 14 mm wide on the obverse and 29 mm long by 14 mm wide on the reverse. Overall length is 39 mm with a maximum width of 20 mm and a maximum thickness of 4.24 mm. The basal nipple is missing and the 2 mm deep basal concavity has been finely retouched. Base width is 17.5 mm. Edges are ground 25 and 28 mm. It weighs 4.05 grams.

This artifact was recovered from a site (41AT110) along the crest of a small ridge that separates Bear Branch Creek from a small tributary in Atascosa County. It is in the John Gerber family collection.

Specimen 6

Figure 1, F, F′ is an unusual but complete Folsom point made of good quality light tan chert. It is unusual in that the flutes are both discharged from the distal end. It appears that the distal end was broken and the specimen extensively reworked by reversing the ends to form a new distal tip on what was the base, and reworking the broken end to provide a narrow base. The reworking has almost entirely removed the flute from one face. The existing flutes are 31 mm long and 10 mm wide on one face and 16 mm long and 5 mm wide on the other. Overall it is 41 mm long, 26 mm wide, and 4.4 mm thick. Basal width is 12 mm and basal concavity is 1.5 mm. It weighs 3.3 grams. Edges are ground 15 and 17 mm.

This artifact was found by Joe Vyvlecka along La Parita Creek in Atascosa County.

Specimen 7

Figure 1, G, G′, is a basically complete Folsom point with one basal ear broken. It is made of a very

glossy, light brown, translucent material of good quality that appears to be agatized wood but may be chalcedony. The flute on one face is 8.8 mm wide and 21.7 mm long but is not of uniform width. The flute on the opposite face is 11.7 mm wide and 25 mm long and is not of uniform width. Both flutes extend to the edge flaking at the distal tip. Edges are ground 18 and 20 mm. The basal nipple is missing and the basal concavity is 4.0 mm. Dimensions are: Length, 32 mm; Width, 19 mm; Thickness, 4.3 mm; Base Width, 17.5 mm. It is 3.5 mm thick in the fluted area and it weighs 3.0 grams.

It was found on the surface by Richard Dobie near Three Rivers in Live Oak County.

Specimen 8

Figure 1, H, H′, is a complete Folsom point made of a light grayish white material with black interior streaks oriented longitudinally and a few shorter white streaks that are hardly visible without magnification. The classification of this material is undetermined but it appears to be agatized wood, but may be chalcedony. It is fluted on both faces with a single flute on each face. The obverse flute is 11 mm wide and 36 mm long. The reverse flute is 29 mm long and 12 mm wide. It is 46.4 mm long, 19.5 mm wide, with a maximum thickness of 4.4 mm and is 3.2 mm thick in the fluted areas. Base width is 16.7 mm and the basal concavity is 3.4 mm at the remaining part of the nipple. Maximum basal concavity is 3.5 mm. It weighs 5.0 grams. Edges are ground 25 and 27 mm.

It was found on the surface near Three Rivers in Live Oak County by Kirk Loftin.

Specimen 9

Figure 2, A, A′, is a complete Folsom point made of mottled light brown good quality chert with lighter specks and larger inclusions throughout. There is a single flute scar on each face. The obverse flute is 34 mm long, 12 mm wide and extends to within 7.5 mm of the distal end. Overall length is 41.5 mm; maximum width is 18 mm at 16 mm above the base. It is 4 mm thick at 22 mm above the base, which is just above the shorter flute scar on the reverse. The reverse flute scar is 20 mm long and 10 mm wide. The basal nipple is missing and the basal concavity is neatly trimmed from both faces. Facing the obverse the left edge is straight for 25 mm. The right edge is strongly convex. Base width is 14.6 mm and basal concavity is 2 mm. It weighs 3.4 grams. Edges are ground 25 mm each. It has a glossy finish and waxy feel indicative of possible heat treatment.

Specimen 10

Figure 2, B, B′, is a nearly complete Folsom point with one basal ear and the distal tip broken. It is made of creamy white good quality chert. It is 43 mm long, 19.5 mm wide at 16 mm above the one base corner and 4 mm thick near the distal end above the longest flute. It weighs 4.8 grams. Base width is 19.4 mm

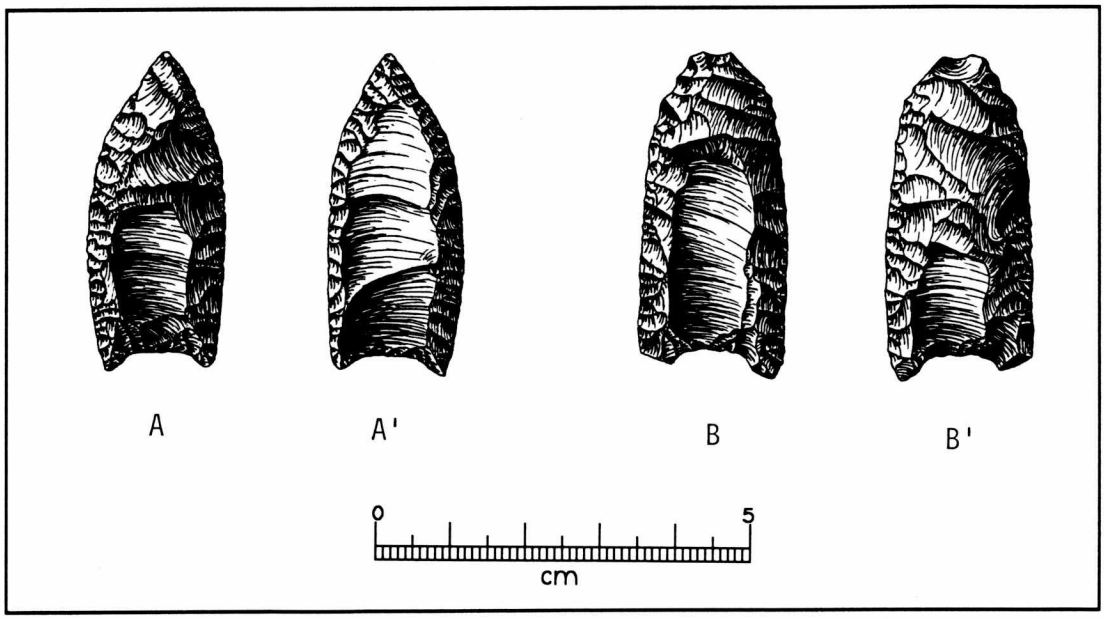


Figure 2. Folsom points from near Charlotte, Atascosa County, Texas. Tickmarks show extent of edge grinding. A, B, obverse; A′, B′, reverse.

with a basal concavity of 3 mm. Basal nipple is missing. There is a single flute scar on each face. The obverse flute is 25 mm long and 10 mm wide. The reverse flute is 13 mm long and 10 mm wide. Blade edges are alternately beveled producing steep edges. The distal end is lightly retouched to the obverse but is insufficient to restore the distal tip. Edges are ground 16 and 26 mm.

Specimens 9 and 10 were surface collected by Carl Dillard near Charlotte in Atascosa County.

DISCUSSION

The recent survey of the distribution and number of Folsom points for all of Texas indicated 329 Folsom points from 57 of the 254 counties in Texas (Largent et al. 1991). 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. Bexar and Uvalde Counties are included in the Central Texas area. At the time of this survey there were nine Folsom points recorded for Bexar County and six from Uvalde County. Seven of those in Bexar County are from 41BX52 (Henderson 1980) and five of those from Uvalde County are from Kincaid Rockshelter. These are the only two sites in south-central and southwest Texas where this many Folsom points have been recovered from individual sites. Most Folsom points are isolated finds.

Since the statewide survey by Largent a number of Folsom points have been reported and published in *La Tierra* (Chandler and Kumpe 1994; Chandler and Smith 1994; Chandler 1990; Kelly 1990). Some of these are from counties where Folsom points are not previously reported.

More recently Largent has updated his database for Folsom points in Texas (Largent 1995). Eight of the 10 Folsom points reported and illustrated here are included in that count but none of the ten have been previously described or illustrated. Specimens 9 and 10, Figure 2, are not in Largent's recent update.

Large Pleistocene animals (notably *Bison antiquus*) are sometimes found with associated Folsom points and remains of these animals are known to occur in South Texas. About 1987 a *Bison antiquus* skull with mostly intact horn cores and a few other bison bones were found at the Welsch Fossil locality near Weesatche in Goliad County. This specimen has been studied and documented by Kenneth M. Brown at the Texas Archeological Research Laboratory. It is without associated artifacts.

The remains of a near complete *Bison antiquus* from Petronila Creek near Driscoll in Nueces County has recently been published (Lewis 1994). This specimen is without associated Folsom projectile points but a big stone "chopper" was recovered nearby in the same soil layer.

CONCLUSIONS

The reporting and illustration of previously unrecorded Folsom points will build on the existing database for their known occurrence and distribution throughout Texas. These points add substantially to their known distribution in South Texas and fill the voids for some areas where none are previously recorded. Folsom points are still unknown for the coastal counties south of Corpus Christi: Kennedy, Kleberg, Willacy and Cameron Counties.

ACKNOWLEDGMENTS

We extend our sincere appreciation to the following collectors and owners of these Folsom points for their loan for study and documentation: Richard Dobie, John Gerber, Kirk Loftin, Buck Maspero, Warren McDonough, Randy Snider, Joe Vyvlecka and Carl Dillard. We also sincerely apologize for the delay in getting them published.

Richard McReynolds did the drawings for each of these specimens and we extend our special thanks to him.

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A REMINDER FROM YOUR EDITOR

This has been a great year for *La Tierra* and the Southern Texas Archaeological Association contributors who made it all possible with their manuscripts. For the first time I have had reports come in faster than they could be processed. In fact, a couple of the issues have gone beyond the 40 page limit that was set many years ago, and we (Shirley Van der Veer and I) shall continue to take license on this matter as archaeological accounts of your work and excavations are submitted.

Our staff artist, Richard McReynolds, is generous to a fault in providing the splendid illustrations for writers who need his artistic skill to reinforce their reports. And he has drawn many eye-catching designs for *La Tierra* covers.

Dr. T. R. Hester is ever faithful with his *Notes on South Texas Archaeology* found in each issue. His wide experience and professional writing ability makes each report more exciting than the last.

To help you compose your reports an "Information for Contributors" page is found in the first and, if possible, one more issue of the Journal during the year. The latest publication of this page is found in this issue on page 48.

Let me emphasize a few of the oversights that will delay the publication of your manuscript. Each report must have an *Abstract* to introduce the text content. This is a summary of the general view of the subject being presented and should be limited to 150 words. Another problem often seen is the omission of the biography (BIO) of the author(s) presenting the report. Readers are interested in the background of the writer in its briefest form.

When drawings or sketches accompany a manuscript, don't forget to identify the artist. And quite often I receive a report where a reference is missing, either in the text or on the References Cited page. Be sure that these references "match up" before sending the manuscript.

Thanks for your continued interest in STAA and *La Tierra*.

Evelyn Lewis

SAN PATRICE POINTS MADE OF MANNING FUSED GLASS

Kenneth M. Brown

ABSTRACT

Six San Patrice points made of fused volcanic glass from the Manning Formation are briefly described and illustrated. Five are of uncertain provenience in Walker County, while one is tentatively suggested to have come from the Burris 1 site in Polk County. These projectile points offer further proof that this rather esoteric source of chipped stone was well known to Paleo-Indians in the region.

INTRODUCTION

In 1975, when I tried to assess the known extent of prehistoric use of fused volcanic glass from the Manning Formation, I knew of only two examples of San Patrice points made from this material, one from the Ellis site in Polk County and another from Rusk County (Brown 1976:Figure 5, A, B). Harry Shafer reportedly knew of two others in private collections. Now, thanks to the kind offices of Dr. Russell Long of Beaumont, we know of six more. I am indebted to him for the opportunity to study these specimens from his collection.

Five of the examples considered in the present paper (Figure 2, B-F) were found long ago in Walker County by J. T. Collier, an oil well gauger from College Station who traveled widely. One of these, Specimen 1514 (Figure 2, D) is known to have come from the Farris farm southwest of Huntsville. The exact location is uncertain, but may lie on the southwest valley margin overlooking the west fork of the San Jacinto River (Figure 1). All we know about the other four is that Collier found them somewhere in Walker County. The sixth point, Specimen 4/T149 (Figure 2, A), was found in August, 1972, on a spoil pile at a gravel pit (now under Lake Livingston) near Onalaska, in Polk County. The point was given to Mack Neal, who later passed it on to Dr. Long. According to Dr. Long (personal communication), Mr. Neal visited the gravel pit and found nothing else. Judging by the description of the site, it may have been the Burris 1 site (41PK88), which had been excavated six years earlier by a Texas Archeological Salvage Project crew (McClurkan 1968:58-108). This tentative identification is based on the approximate location, size, and presence of sand and gravel quarrying operations. The Burris 1 site was located on a small terrace remnant near Kickapoo Creek (Figure 1), and the TASP excavations also recovered a San Patrice point (McClurkan 1968:Figure 46, a) in excavation Level 3.

Unfortunately, we do not have very accurate or confident locations for any of these artifacts, especially the four that are simply listed as found in Walker County. Even so, they are worth noting, for they provide further evidence of use of Manning fused glass in the Paleo-Indian period.

For these six specimens, the appearance of the weathering rind is the chief basis for the identification of the rock as Manning fused glass. Ordinarily, I would prefer to make the identification on the basis of unaltered core glass, and for conclusive identification the ideal test would be to examine a small, translucent chip with a petrographic microscope. These points, however, have very little recent edge damage, and only Specimen 1514 had a large enough exposure of fresh glass for positive identification. Despite these restrictions, I feel fairly confident about identification of the rock type. The microscopic voids (created by gas bubbles in the glass) characteristic of Manning fused glass show through the weathering rind on most of the specimens (Number 1520 is the best example).

DESCRIPTION OF THE SPECIMENS

Specimen 4/T149 (Polk County, possibly Burris 1 site, 41PK88; Figure 2, A)

This specimen has a heavy weathering rind that is light brownish-gray (10YR 5.5/1.5) in color. A recent, microscopic chip on one edge has exposed the underlying glass, light gray (approximately 10YR 6/1) in color. A narrow fissure runs diagonally across the left basal ear in Figure 2, A, but does not show very well in the photograph. It is surprising that the point has not broken along this fissure. The lateral stem edges, inside both notches, and the bases of the stem ears appear to be ground, although the weathering rind makes it hard to assess the extent of grinding. Both blade edges have been extensively resharpened,

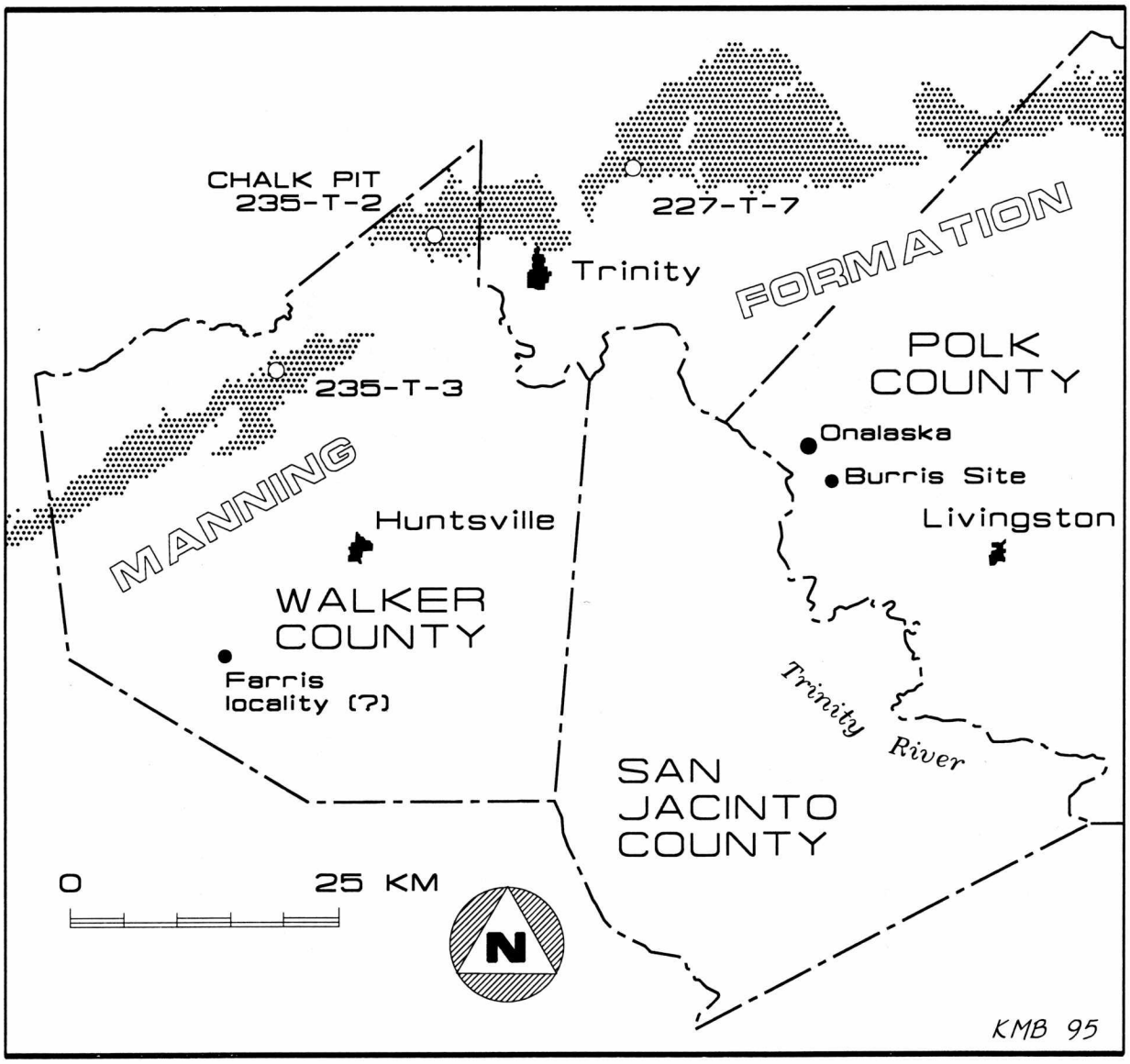

Figure 1. Local Extent of the Manning Formation. Boundaries of Walker, San Jacinto, and Polk Counties are shown, along with the Chalk Pit (the principal known source of fused glass) and two other source localities. Approximate locations of the Farris locality and Burris 1 site (now under Lake Livingston) are also shown.

to such an extent that an alternate bevel has developed. In the photograph, a bevel can be seen on the left edge. On the right edge, a conspicuous inflection point (marked by a small arrow) appears to delimit the last episode of resharpening. There is no obvious microscopic difference in edge sharpness between these two edge segments, however. On one side of the stem, there is a wide but short basal flute terminating in a shallow step fracture; on the other side, a similar flute has a feathered termination.

maximum length: 36.68 mm
maximum thickness: 5.28 mm
maximum width at shoulders: 25.98 mm
neck width: 24.08 mm
maximum width at basal ears: 25.30 mm
depth of basal concavity: 5.34 mm
weight: 3.6 g
left edge angle: about 38°
right edge angle: about 43° (on distal edge segment)

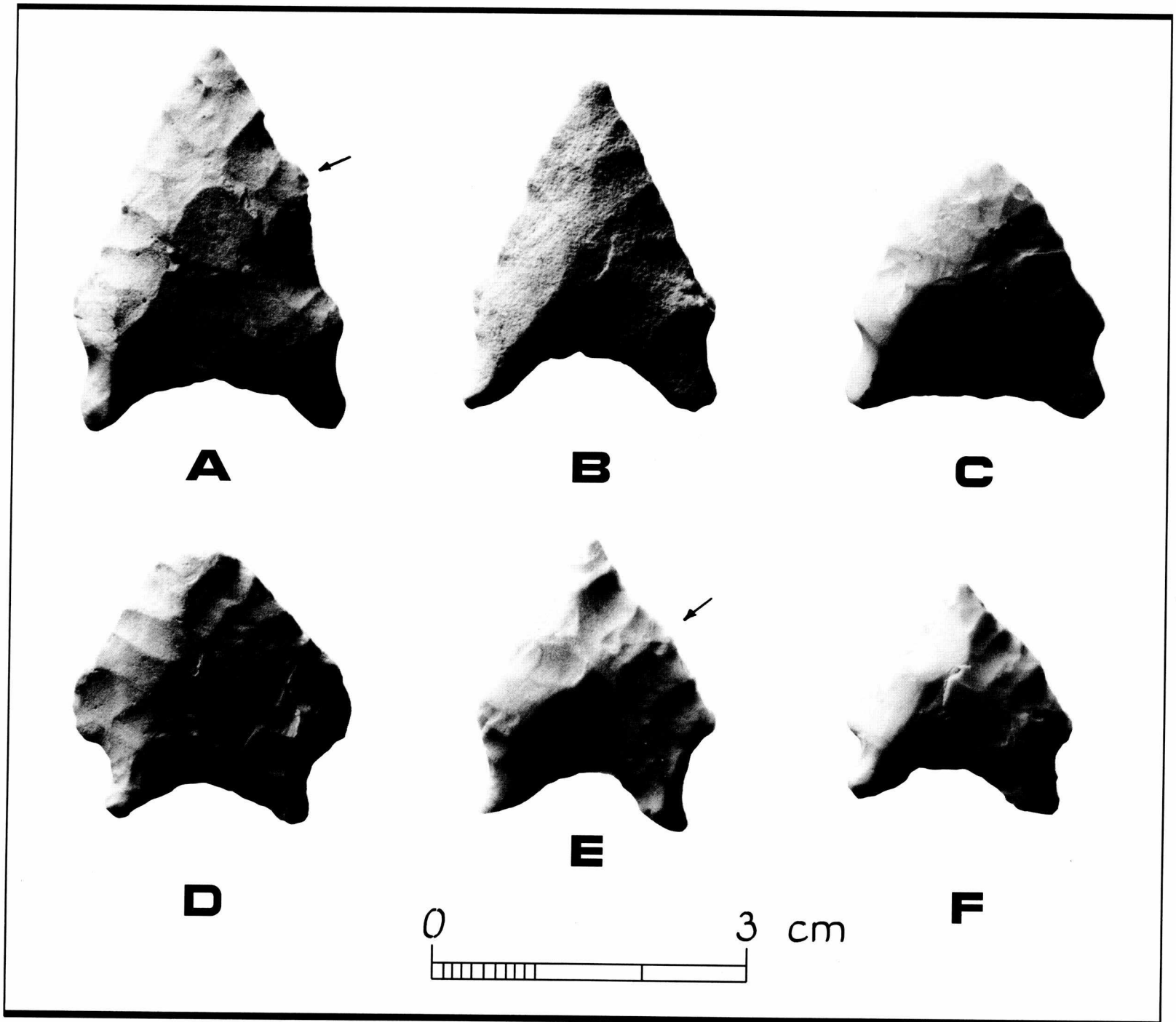

Figure 2. San Patrice Points. A, Specimen 4/T149; note bevel on left side; arrow on right indicates inflection point along edge. B, Specimen 1532/T113. C, Specimen 627/T113. D, Specimen 1514/T113. E, Specimen 1032; arrow on right indicates inflection point along edge. F, Specimen 1020/T113. A is from Polk County, possibly from the Burris 1 site; B-F are from Walker County. Note scale.

Specimen 1532/T113 **(Walker County, Figure 2, B)**

This specimen has a thick, beige weathering rind (10YR 5.8/3), but a microscopic chip on one edge reveals a core color that is similar (10YR 7/1) to the previous specimen. The rind is thicker than on that specimen, however, and individual flake scars are nearly impossible to discern. Fine quartz sand grains are embedded in the surface of the rind. Both side notches and the bases of both ears appear to be ground. The blade is symmetrical and has probably been extensively reworked, but there is no apparent beveling.

One side appears to have a single crescentic flute scar; the other may have as many as three basal thinning scars, but they are obscured by the weathering rind.

maximum length: 31.46 mm
maximum thickness: 5.02 mm
maximum width at shoulders: 23.48 mm
neck width: 22.18 mm
maximum width at basal ears: 24.40 mm
depth of basal concavity: 5.04 mm
weight: 2.6 g
left edge angle: about 41°
right edge angle: about 46°

Specimen 627/T113 **(Walker County, Figure 2, C)**

This specimen has a relatively thin, light brownish-gray (10YR 5.5/2) weathering rind. A small chip along one edge exposes light gray glass (10YR 5.7/1) underneath. The blade is short and broad, and has probably been extensively reworked. There is no beveling, but blade edge angles are relatively steep. One basal ear (in Figure 2, C the right ear, on face not shown) has a reddish tip (2.5YR 4.5/6), presumably part of a bedding variation in the original glass.

The basal ears and side notches are heavily ground. Blade edge projections are moderately ground, with intervening areas lightly rounded or battered. The basal concavity shows only light edge rounding. Both faces have multiple basal thinning scars. This specimen has iron stains from contact with iron tools or implements.

maximum length: 24.32 mm
maximum thickness: 5.18 mm
maximum width at shoulders: 24.10 mm
neck width: 22.10 mm
maximum width at basal ears: 24.98 mm
depth of basal concavity: 1.16 mm
weight: 3.1 g
left edge angle: about 48°
right edge angle: about 51°

Specimen 1514/T113 **(Farris farm, Walker County, Figure 2, D)**

This small, broad-bladed specimen has a thin weathering rind perhaps better described as a heavy patina (3YR 4.5/4). Exposure of the underlying glass at the tip and along one edge shows the core color is reddish-brown (2.5YR 4/5.5). The blade appears to have been extensively reworked into a broad triangle with a bluntly rounded tip that does not look as though it would promote efficient penetration of a target. It is not beveled, but is thinned more steeply on one face than on the other. The basal ears are ground, and the basal concavity and side notches show little or no evidence of grinding; all of the major edge projections on the blade show fairly heavy grinding. The tip is battered, evidently from failed attempts at thinning (not impact damage). One face has a very shallow crescentic basal thinning scar; the other has two major thinning scars overlaid by various smaller ones.

maximum length: 26.54 mm
maximum thickness: 5.48 mm
maximum width at shoulders: 26.72 mm
neck width: 18.72 mm
maximum width at basal ears: 19.60 mm
depth of basal concavity: 3.30 mm
weight: 3.3 g
left edge angle: about 42°
right edge angle: about 40°

Specimen 1032/T113 **(Walker County, Figure 2, E)**

This specimen has a light brownish-gray (10YR 5.5/1.5) weathering rind. Light gray glass (10YR 5.8/1) is exposed by very small microchipping along an edge. The blade is short but rather sharply pointed. The right edge in the photograph has a conspicuous inflection point. Neither face is very noticeably beveled. Both basal ears and side notches are heavily ground. The basal concavity is not ground except for one short segment adjacent to an ear. Both shoulders are moderately ground, and moderate grinding appears on some of the major edge projections on the

blade element. Each face has a broad, shallow flute flanked by a few smaller, secondary basal thinning scars.

maximum length: 27.46 mm
maximum thickness: 4.76 mm
maximum width at shoulders: 23.06 mm
neck width: 18.68 mm
maximum width at basal ears: 20.26 mm
depth of basal concavity: 5.00 mm
weight: 2.2 g
left edge angle: about 40°
right edge angle: about 35°

Specimen 1520/T113 **(Walker County, Figure 2, F)**

This specimen has a relatively thin, light gray weathering rind (10YR 6.5/1.3) with abundant small gas bubbles exposed on the surface. The core glass appears to be light gray, but there are no recent flake removals large enough to reveal the core material adequately.

The blade is very short and steeply retouched (though sharply pointed at the distal end) and evidently has been thoroughly reworked, perhaps in more than one episode. Some very small, diffuse, carmine-colored stains appear on the surface and embedded in the glass; these are evidently localized concentrations of iron oxide. The left edge in the photo has a thin line consisting of traces of this same iron oxide in crevices along the edge for a distance of several millimeters. One face has a rather pronounced bevel produced by reworking; the other has a slight bevel, but the bevels are symmetrical, not alternating. The shoulders, side notches, and basal ears are heavily ground; the basal concavity shows light to moderate edge rounding, not necessarily due to grinding. Blade edges are considerably battered in places due to attempts at thinning. Both faces appear to have multiple basal thinning scars.

maximum length: 21.64 mm
maximum thickness: 5.54 mm
maximum width at shoulders: 21.78 mm
neck width: 18.64 mm
maximum width at basal ears: 20.48 mm
depth of basal concavity: 3.66 mm
weight: 2.0 g
left edge angle: about 56°
right edge angle: about 56°

COMMENTS

All of the points discussed here have concave bases with stems thinned on each face either by a single broad, short flute, flutes overlaid by flanking thinning scars, or a series of adjacent thinning scars. These short flutes usually end in feathered terminations, unlike Clovis points, on which attempts to produce a longer flute often resulted in shallow step-fractured terminations. The basal ears and usually the side notches are ground, but the basal concavity is usually unmodified. Barbs are absent, but side notches are well-defined. All of these points seem to show extensive reworking of the blade element, probably in multiple episodes of resharpening, although only one example has well-defined alternate beveling. These are typical attributes of San Patrice points as defined by Duffield (1963:91), and all six of these points conform to his *st. johns* variety (compare with Duffield 1963: Fig. 4, A-H).

No breakage or impact fractures are visible, despite the relative brittleness of Manning fused glass compared to chert or orthoquartzite. One specimen (1514) has a blunt, rounded tip, suggesting maintenance of the blade edges was more important than maintaining distal sharpness, at least toward the end of the point's use life. Each point has a homogeneous weathering rind, indicating all of the visible reworking took place before the point was discarded and chemical alteration of the glass began. It seems clear that San Patrice points usually experienced frequent edge maintenance in much the same way as proposed for Dalton points by Goodyear (1974:Figs. 11, 12) and Galm and Hofman (1984:Figs. 5, 6), although usually without the alternate beveling or extreme narrowing of the blade often seen on Dalton points. Johnson (1989: Fig. 11, a, b) shows some examples of the *hope* variety that indicate what the blade element might have looked like before resharpening.

As Story (1990:202) points out, radiocarbon dates on San Patrice points are still lacking. Both she and Johnson (1989:26) are impressed by similarities with Brazos Fishtail points at Horn Rockshelter, and suggest that radiocarbon assays there may be applicable. Story suggests a timespan of 8300-7300 BC (uncalibrated, 10,250-9250 BP) for San Patrice points; Turner and Hester (1993: 181) suggest 8000-6000 BC (about 9950-7950 BP). This is somewhat more recent than Goodyear's (1982) assessment of 10,500-9900 BP for the Dalton complex.

San Patrice points made of any kind of rock whatsoever seem to be relatively uncommon in Walker County and nearby areas. Bill Moore only located

one in his partial survey of the county (Moore 1983). Yet we now know of seven specimens made of Manning fused glass – the six reported here, plus another from the C. W. Ellis site. It is clear that this rather cryptic rock source was well known both in early and late phases of Paleo-Indian occupation, as well as the Late Prehistoric, when it was used for arrow points and other small tools. What is perhaps more surprising is that there is still little evidence for its use during the Archaic. A significant amount of contract archaeology has been done in the region in recent years, yet there is almost no mention of Manning fused glass anywhere in this literature. Is this because the material sources were not used during much of the Holocene, or does it mean that contract archaeologists have failed to recognize and report Manning fused glass when they found it on their screens? Some of these recent projects have produced debitage sample sizes in the hundreds or thousands without, ostensibly at least, a single flake of volcanic glass. In other cases, such as the non-contract related work performed by Bill Moore at the Derrick Adams site, it is clear from the report that Manning fused glass was almost entirely absent from the collections (Moore 1990:15). Given our present state of knowledge, lack of usage during the Archaic might be more apparent than real. Bill Moore believes a stemmed dart point may be present in the collection from the Chalk Creek #1 site (41WA71) at the Texas Archeological Research Laboratory (Bill Moore, personal communication), but since the collection is inaccessible for the time being, we have been unable to verify it. Several years ago, Dr. Long found a small Kent (or possibly Neches River) point made of Manning fused glass at Trinity, in Trinity County.

There are some interesting parallels between the use of Manning fused glass and Pisgah Ridge chert (McGregor 1993). Both rock types originate from narrow, northeast-southwest trending surface outcrops (the former from the Manning Formation, the latter from the Tehuacana Limestone) but are known only from restricted localities within the outcrop. In both examples, artifacts from these sources were distributed widely but in low frequencies on both sides of the outcrop. The two San Patrice points known to be made of Pisgah Ridge chert (see McGregor 1993:Fig. 3, B) were found about 135 km from the rock source. A San Patrice point made of Manning fused glass, collected at some unknown site in Rusk County (Brown 1976: Fig. 5, B) must have been collected at least 75 km from the source, and possibly much farther.

ACKNOWLEDGMENTS

Once again, many thanks to Dr. Russell Long for lending me material from his collection for study and for responding to my requests for more information.

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A STONE CELT FROM NUEVO LEÓN, MEXICO

C. K. Chandler and Don Kumpe

ABSTRACT

An unusual stone celt from Nuevo León, Mexico is described and illustrated.

DESCRIPTION OF THE ARTIFACT

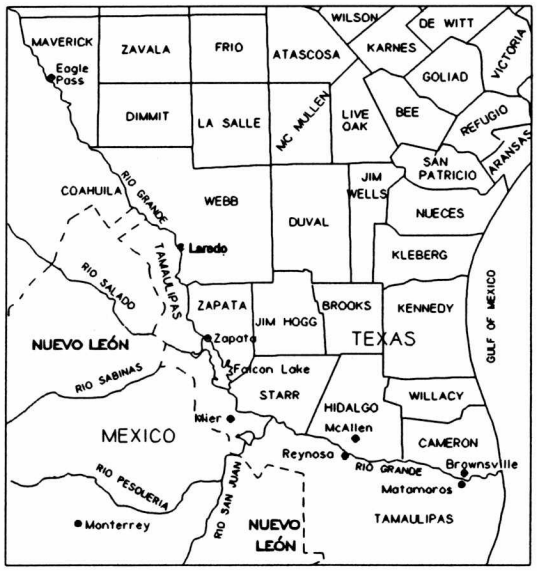
This stone celt is a surface find by Gloria Bates, January 16, 1994, in northeast Nuevo León, Mexico, 33 miles south of Reynosa, Tamaulipas. It is rectangular in cross section and has not been ground or pecked to shape it. It is a naturally formed pebble of fine grained, highly indurated silicified sandstone that is nearly chert (James Fallon, geologist). Much of the surface exhibits varying degrees of polish that appears to be from handling by human hands. The color is light yellow and tan. Both ends are bifacially beveled by heavy grinding to produce a bit on each end, much in the fashion of a modern day double-bit steel axe of the type still being used by today's woodmen. One end is mostly intact but has a shallow break across the mid area of the bit. The other end is beveled at an opposite angle and much of this end is broken, apparently from use as a chopper or hammer. Maximum dimensions are: Length, 141 mm; Width, 51 mm; Thickness, 40 mm. Weight is 448 grams. It is illustrated by three drawings in Figure 1.

DISCUSSION

Celts are usually described as having a blade or working edge on only one end (Davis 1991; Turner and Hester 1993). They are not at all common in Texas and the few known appear to be confined to East Texas. Most celts are pecked or ground (or both) to shape them to a round or oval cross section, and rectangular ones are not illustrated in Texas literature. Square polled celts with a single bit end are reported in the Tehuacan area of southeastern Mexico and in the Valley of Mexico (MacNeish et al 1967).

MacNeish (1947:7), examining the Anderson collection at the Texas Archeological Research Laboratory, remarks that a jadeite celt-like object one inch long appears to be from a Brownsville complex site. In this 1947 article MacNeish refers to the coastal culture on both the Mexican and Texas sides of the Rio Grande as the Brownsville complex. Later (1958) MacNeish, on the basis of some differences in the artifact assemblages, divided the coastal culture on the Lower Rio Grande into two complexes, the Brownsville and the Barril. Here, MacNeish shows the small jadeite object being from a site in Tamaulipas of the Barril complex.

This small jadeite celt-like object may be a ceremonial object or an ornament.



Area along the Rio Grande discussed in text.

CONCLUSIONS

Celts manufactured with a bit on each end do not appear in Texas literature and may be unknown in Texas and northeastern Mexico. Celts of this type are not previously mentioned or reported by known collectors in the Lower Rio Grande area of Texas, Nuevo León or Tamaulipas, Mexico.

ACKNOWLEDGMENTS

We express our sincere appreciation to Gloria Bates for the loan of this specimen for documentation and to Richard McReynolds for preparation of the illustrations.

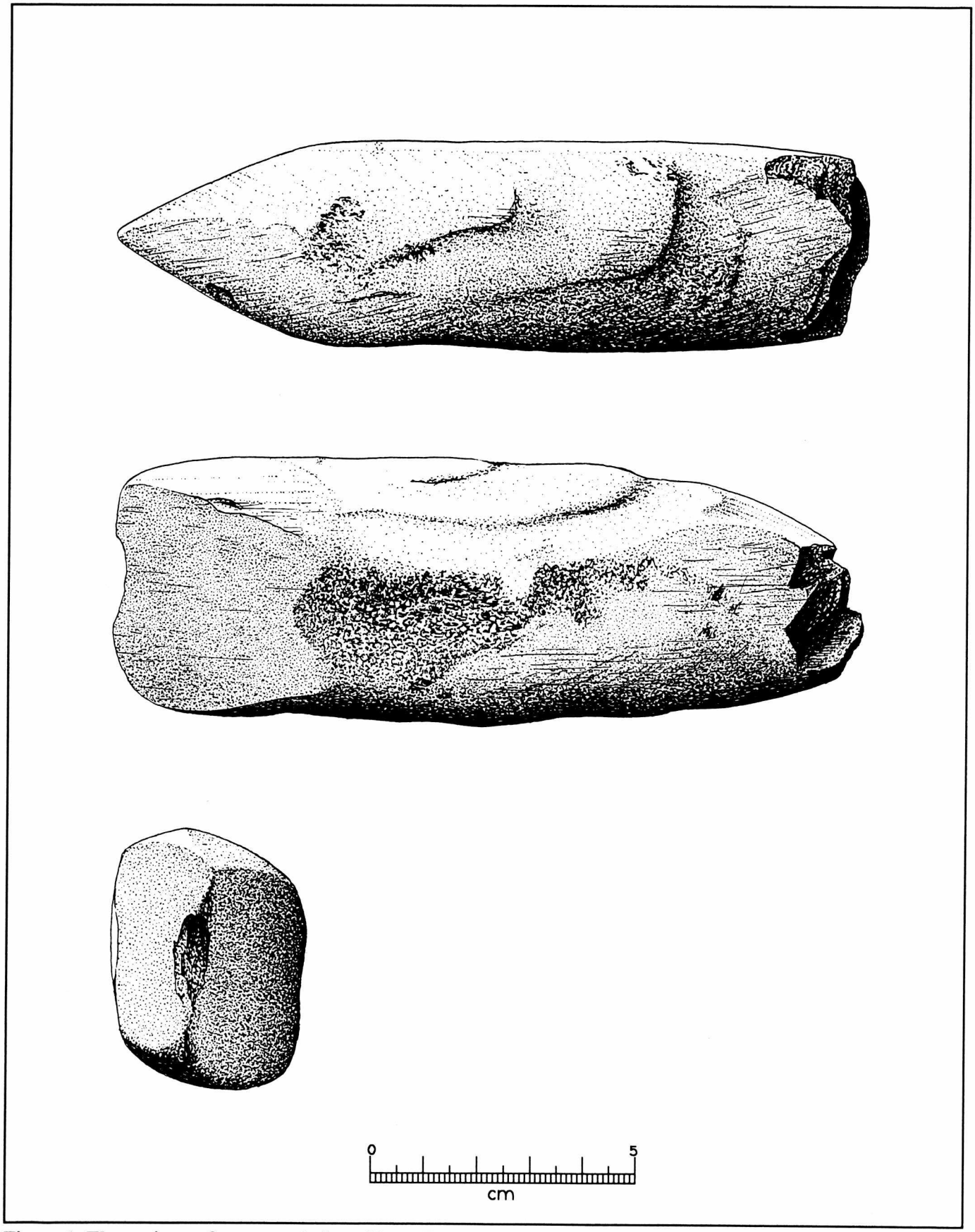


Figure 1. Three views of a stone celt from Nuevo León, Mexico.

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AN IN SITU CLOVIS POINT FIND FROM KERR COUNTY

Bryant Saner, Jr.

ABSTRACT

This report is to document and discuss an in situ Clovis point found in Kerr County.

BACKGROUND

Kerr County (Figure 1) is located approximately 100 kilometers northwest of San Antonio, Texas. The Guadalupe River, both north and south forks, have their origin in the extreme western part of the county. The Johnson Creek watershed drains the northwest part of Kerr County and empties into the Guadalupe River in the middle of the county close to the town of Ingram (Figure 2). This Clovis point was found in a site located on the east side of the Johnson Creek watershed, approximately seven kilometers southeast of Mountain Home, Texas. It was recovered in the early 1960s by Bryant Saner, Sr. (the author's father).

INTRODUCTION

The Clovis point (Suhm and Jelks 1962; Turner and Hester 1985) was found approximately one meter below the surface of the ground. The surface of the site had been disturbed by plowing to a depth of 25-30 cm. Below the disturbed area was a layer 45-60 cm thick consisting of black soil and many large burned rocks. The next layer was approximately 30 cm thick consisting of light yellowish-brown soil with scattered ash and infrequent burned rocks. The specimen was found in this layer along with Pedernales and Nolan projectile points (ibid. 1962; 1985). The next layer consisted of gray soil that appeared to be mixed with ash. Very little excavation was done in this layer and no artifacts were recovered here. No other identifiable Paleo-Indian projectile points were found at this site (interview with Bryant Saner, Sr. 1994).

THE ARTIFACT

This specimen (Figures 3 and 4) is made of an opaque chert. It is light gray at the base to brownish-gray toward the tip. There is an 11 mm x 5 mm area on the left edge of Side A, 30 mm up from the tip, of what appears to be limestone. In the middle portion of both sides, an area is noted that is brown in color with a rough surface. It is approximately 30 mm x 24 mm on Side A and 20 mm x 12 mm on Side B. On the right edge of Side A, 4 mm up from the tip, is a white waxy inclusion measuring 14 mm in length and 2 mm in width. It does not extend through to Side B except for a 1 mm x 1.5 mm area on the left edge 4 mm up from the tip. A very small portion of the tip is broken.

The basal area is heavily ground. The lateral edges are also heavily ground to 21 mm from the base toward the tip. There is light grinding of the lateral edges from 21 mm to 70 mm toward the tip. No grinding of the lateral edges is noted from 70 mm to the tip. Lateral flaking is seen on both edges of Side A. Lateral flaking is seen on the left edge of Side B. On the right edge of Side B, lateral flaking is not as readily distinguishable. There is some lateral oblique flaking near the tip end of Side A. Small flakes are noted on the lateral edges of both sides.

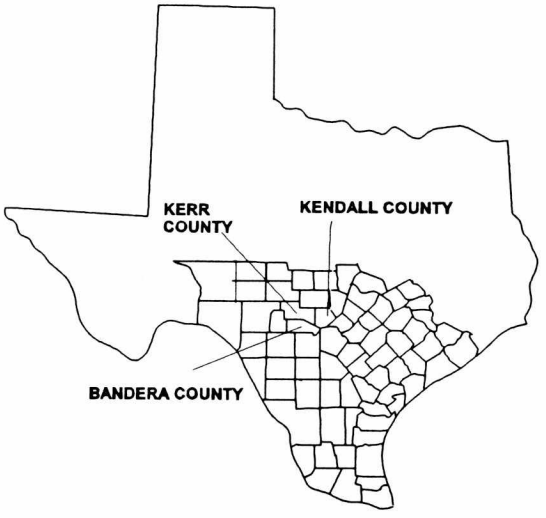

Figure 1. South Texas counties showing those referred to in text.

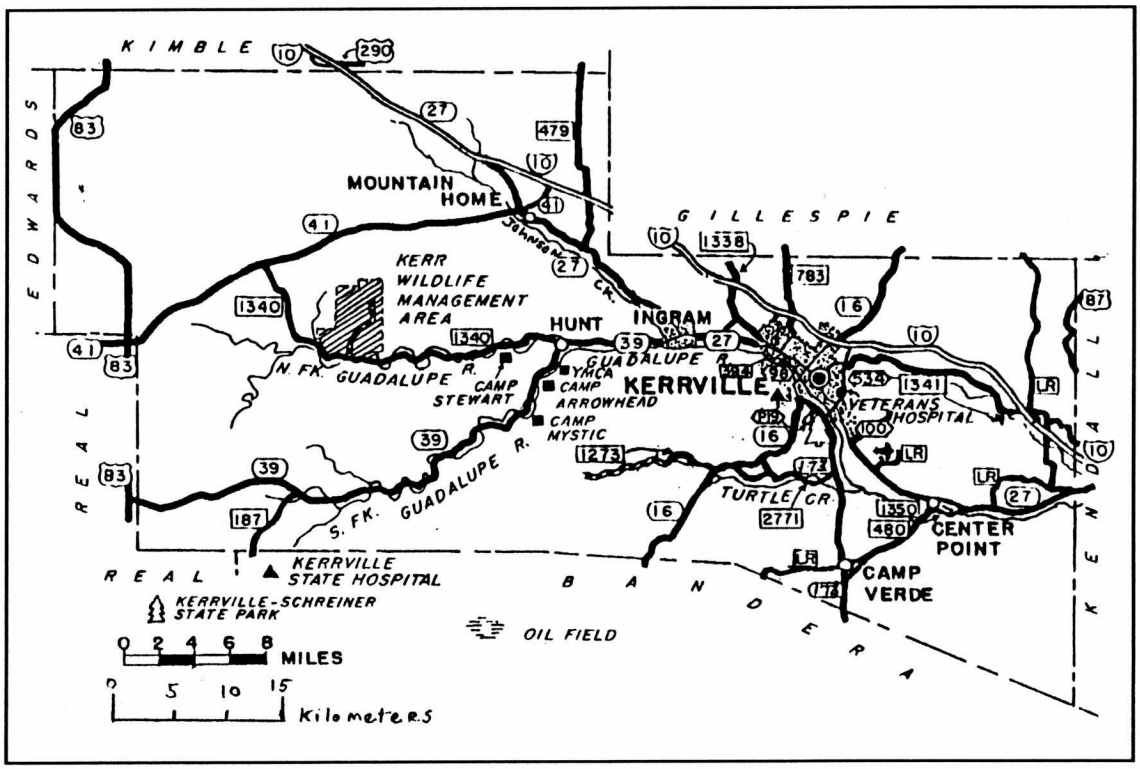

Figure 2. Map of Kerr County.

Dimensions are: Length, 119 mm; Maximum Width, 35 mm; Basal Width, 30 mm; Basal Concavity, 3.5 mm; Maximum Thickness, 11 mm; Thickness of the flute, 7 mm. The flute length of Side A is 57 mm from the base. The maximum flute width of Side A is 15 mm at 34 mm from the base; minimum flute width of Side A is 10 mm at 54 mm from the base. The flute length of Side B is 55 mm from the base. The maximum flute width of Side B is 14 mm at 17 mm from the base; minimum flute width of Side B is 5 mm at 49 mm from the base. The weight is 51 gms.

DISCUSSION

Clovis points are found scattered throughout Texas, but not all counties have reported finds. It should be noted that Clovis points may have been recovered but not reported. Bandera County (see Figure 1), which lies to the south of Kerr County, has reported one Clovis point find (Meltzer 1987:31-34). Kendall County (see Figure 1) has two reported finds. The first was a point recovered from the surface of a plowed field (Chandler 1983). The second was a reworked point that was also a surface find (Chandler 1990). A Clovis point find in the southwest part of Kerr County has also been documented (Priour 1985).

SUMMARY

The artifacts recovered from this site strongly suggest that it was occupied during the Archaic period and into the Neo-Archaic period (Turner and Hester 1985:50. An early Paleo-Indian projectile point found associated with Early and Middle Archaic artifacts suggests that Archaic Indians in central Texas may have brought the point to this site (Hester, Heizer and Graham 1975:34). The fact that no other artifacts made of the same type of chert were recovered at this site may indicate that this Clovis point was not manufactured in the local area. The idea that these people reused it as a tool could be supported by the fact that there is a firm and comfortable fit when this specimen is held in either hand with the tip in the palm and the thumb in the flute, the index finger in the remaining flute and the second and third fingers toward the tip end. Held in this fashion, the back half of the lateral edge, which has been ground, could be the result of cutting and scraping. The small flakes on

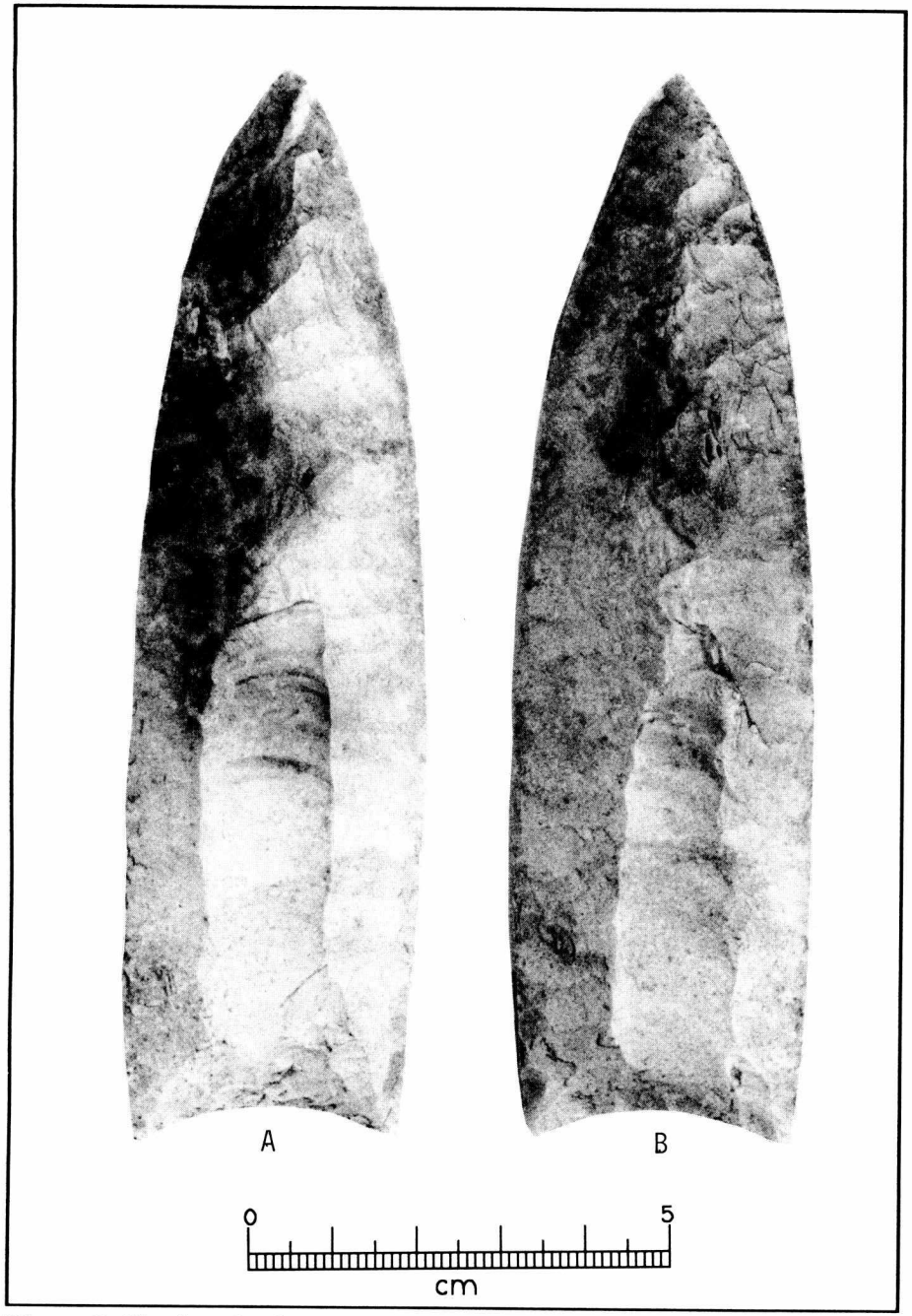

Figure 3. Clovis point from Kerr County, Texas. A, Side A; B, Side B. Photo by James Partain. Artifact is enlarged by 14 percent.

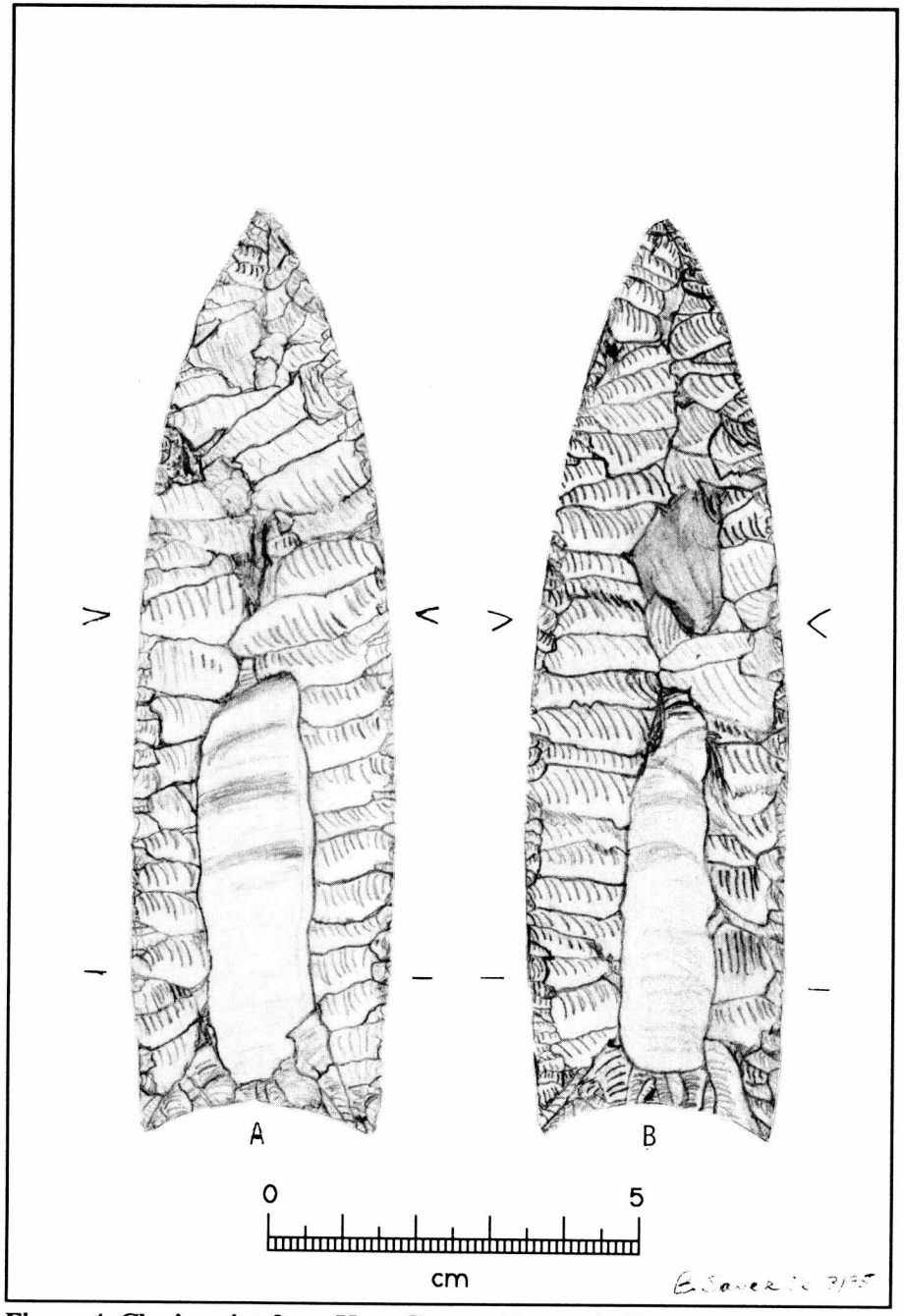

Figure 4. Clovis point from Kerr County, Texas. A, Side A; B, Side B. Drawings by the author.

the lateral edges may be the result of use as a tool or made during the final shaping of the point.

During the Paleo-Indian period it has been suggested the Clovis point had multiple functions besides the obvious projectile use. Some may have also been used as cutting tools, while others may not have been used as projectile points at all (Meltzer 1987:27). If hafted as a projectile point, and used as such, the stress is on the basal area. If hafted as described above, or hafted as a knife, the lateral edges receive the most stress while the blade is being worked back and forth in the process of cutting. The grinding would decrease demands on the haft as well as the binding material (ibid.:47).

Several questions have been raised which may never be answered, but the search for information will continue because of our unsatisfied curiosity and genuine need to know about these ancient people.

ACKNOWLEDGMENTS

I would like to express my appreciation to my father, Bryant Saner, Sr., for providing the Clovis point and valuable information about its recovery. A big thanks goes to Murray Beadles for his assistance with writing and critique of this paper. Also many thanks to C. K. Chandler for his assistance and encouragement. A special thanks to James Partain for photographing this artifact. Last but not least, I would like to thank my wife, Karyn, for the numerous proofreadings and corrections she made on this paper.

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A CERAMIC "T"- SHAPED PIPE FROM KERR COUNTY, SOUTH CENTRAL TEXAS

C. K. Chandler

ABSTRACT

A fired clay "T"-shaped pipe from near Hunt, Texas in Kerr County is reported and illustrated. It is a most unusual specimen and is the first of its kind to be reported in this part of Texas.

THE ARTIFACT

This pipe is illustrated in Figure 1, with photographs and in Figure 2, with drawings by Richard McReynolds. It is highly burnished, well smoothed and polished, but is without a surface slip. Surface color in the central area that includes the flared bowl and the cigar-shaped base and stem is tan to light brown, Munsell readings 7.5YR 6/4, grading to dark brown 7.5YR 3/2 to black 7.5YR 2/0 at both ends. There is a small chip (11 by 7 mm) on one side of the outer rim of the bowl that has been microscopically examined to determine if there was evidence of bone temper. No bone and no white inclusions of any kind was found. The interior clay is reddish tan and contains fine to silt size sand grains that are probably natural inclusions and not added as a tempering agent.

The clay in this pipe is not of the typical South Texas Leon Plain type.

Dimensions of this specimen are: Length, 130 mm; the bowl is 47.5 mm high with an outside diameter of 34.5 mm; the bowl rim is 5 to 6 mm thick and flares outward slightly; the bowl interior is 25 mm wide at the top and contracts to 5 mm at the bottom; the cigar-shaped base and stem is 20 mm in diameter each side of the bowl and tapers to 14 mm in diameter near the stem end and to 16 mm in diameter at the blocked end; the stem hole is 4.5 mm in diameter and extends 10 mm beyond the bottom hole in the bowl. Weight is 91 grams. There is a thin brown to black surface deposit on the interior of the bowl that appears to be residue from having been fired.

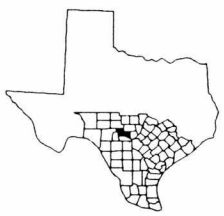
This pipe was recovered from a midden site on a private ranch near Hunt, Texas in Kerr County by John Flcci and his wife, Ruby S. Flcci, several years ago. Both are now deceased and the pipe is in the John Scott collection in San Antonio. He was kind enough to loan it to the author for documentation and study.

This type of pipe is rare in Texas. Only one of its kind is in the pipe collection at the Texas Archeological Research Laboratory (TARL). It is from Wood County in East Texas and was recorded by Jackson (1933). Dimensions of this specimen are: Length, 96 mm; the bowl is 24 mm in diameter and 3.7 mm thick; bowl interior diameter is 18 mm; the cigar-shaped base and stem is 12 mm in diameter at the short blocked end and 11.6 mm in diameter at the long stem end. Weight is 21.2 grams. It is slightly smaller than the Kerr County specimen. It is light brown in color (Munsell reading 7.5YR 5/4) to dark grayish brown (Munsell reading 10YR 4/1). The surface is smoothed but not polished. This specimen is illustrated with a photograph in Figure 3 (courtesy of TARL).

DISCUSSION

Many of the pipes in the TARL collection are of the elbow type and there are several varieties of these in both clay and stone. The tubular types are most common in Central and South Texas and into northeastern Mexico. Some of these have incised or engraved decorations (Chandler 1990, 1992, 1993, 1994; Chandler and Kumpe 1994). Some pipes have flat bottoms (called platforms) that permit them to stand upright when laid down. One specimen of this type was reported from Duval County in South Texas (Hester 1985). Jackson (1933:70) proposes that the round bottom pipes like the ones reported here are a variety of the platform type.

Tubular pipes first appeared in the Mississippi Valley at Poverty Point in northeast Louisiana about 1300 B.C. A large number of fired clay objects that include many clay pipes are known from Poverty Point. Stone tubular pipes are also present. There are 65 tubular clay pipes from there with only



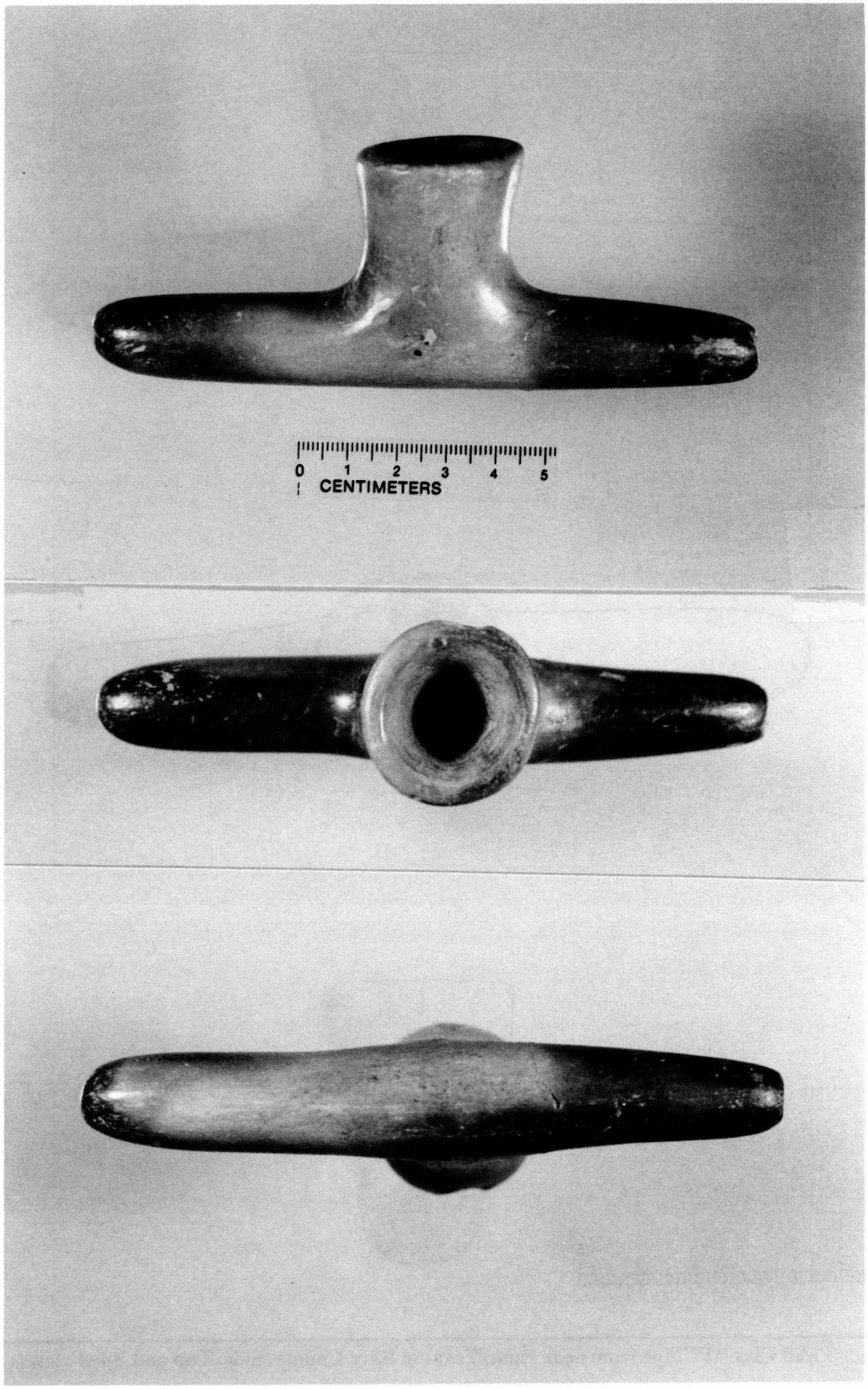


Figure 1. Fired Clay "T" Pipe from near Hunt, Texas in Kerr County. Side, Top and Bottom views.

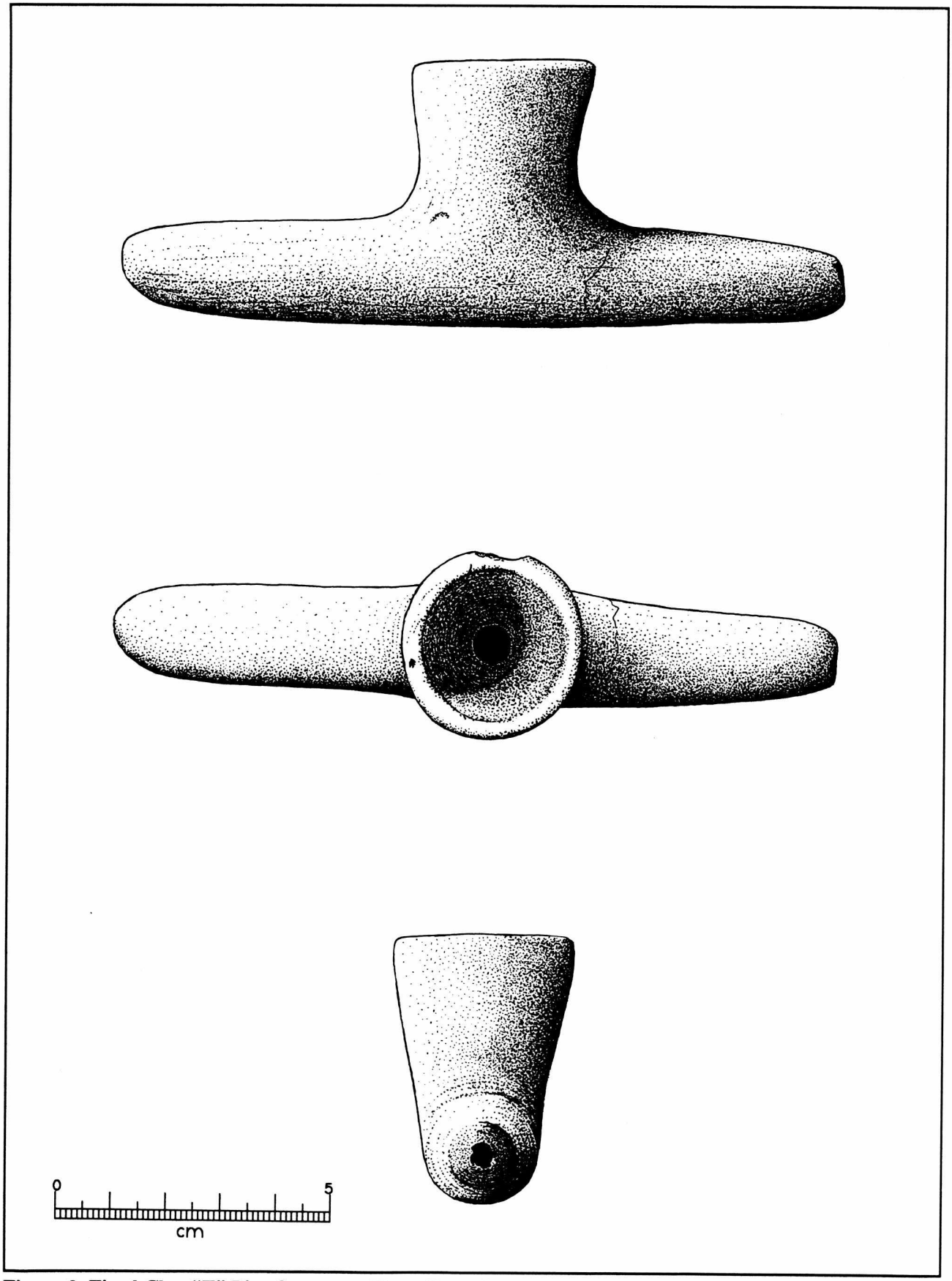


Figure 2. Fired Clay "T" Pipe from near Hunt, Texas in Kerr County. Side, Top and Bowl views.

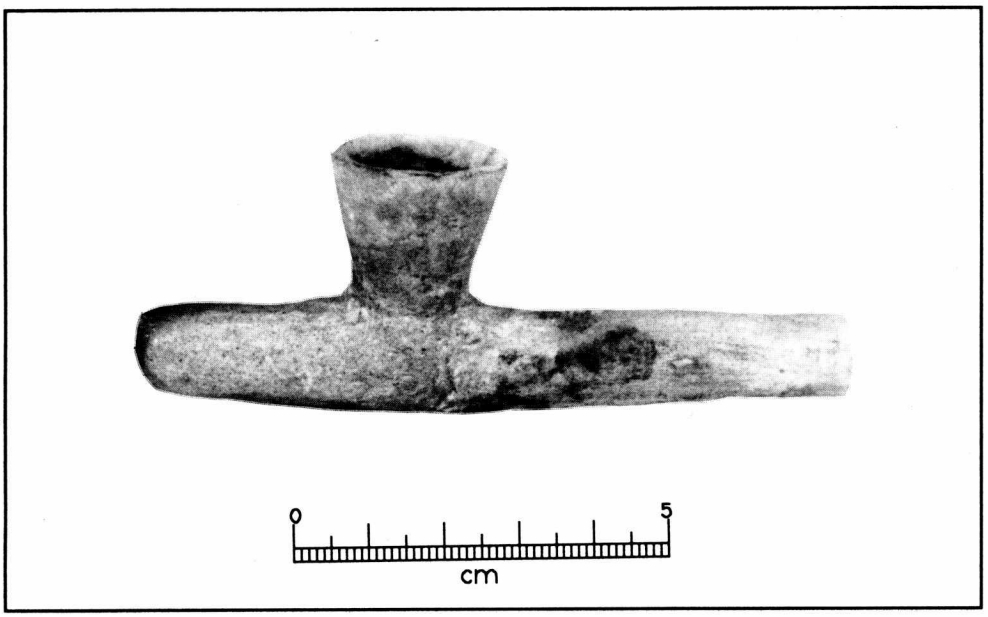


Figure 3. Photo of clay pipe from Wood County. In collection at the Texas Archeological Research Laboratory.

two of these being intact. None are reported as "T" or platform pipes (Ford 1969: Chart 11).

A tremendous amount of cultural material was excavated at Spiro Mounds in eastern Oklahoma. Both stone and clay pipes are represented (Hamilton 1952).

The Bentsen-Clark Site on the Red River in northeast Texas has yielded a total of eight ceramic pipes of the Graves Chapel variety of the Red River type (Banks and Winters 1975:25, Fig. 12). These are much like the Wood County and Kerr County specimens reported here but some have longer stems. Almost every item found in the burials at Bentsen-Clark could be duplicated at the Spiro site. The Bentsen-Clark site is a Caddoan site dating about A.D. 1300. Trade items appear to be mostly from other Caddoan groups to the south and east (ibid.).

Platform pipes first came into use about 100 B.C. in the early Hopewell cultures in Ohio and Illinois. They also showed up on the Mobile Bay-Florida Northwest Coast about the same time and in the Marksville culture in Louisiana (Ford 1969).

CONCLUSIONS

The Kerr County "T" pipe reported here seems out of place in Kerr County; however, there was extensive trade among prehistoric peoples in North America and a great movement of displaced peoples within historic times. While this pipe style is rare in Texas it is well documented in northeast Texas and eastern Oklahoma and it may well be a trade item from somewhere within the Caddoan area of East Texas, Oklahoma, Arkansas or Louisiana.

There is growing evidence for the movement of Caddoan ceramics well into south central Texas, though little information of this has found its way into the literature.

A Poyner Engraved sherd has been documented from a rock art site on the Guadalupe River (41KE66) in Kendall County (Neureuther 1984). Several large sherds of a Canton Incised vessel were collected by Lynn Highley from the Wolf Site (41BC73) along the Pedernales River in Blanco County in 1990. This pot is partially reconstructed and photos of it are on file at the Texas Archeological Research Laboratory.

Several sherds (about 20 percent) of a Patton Engraved pot and a near complete reconstructed pot of Booth Brushed ware were recovered in association with Toyah materials at the Texas Archeological Society Field School at Rowe Valley in 1982-1984 (Prewitt 1984:5; Elton Prewitt personal communication 1985).

A large gray incised sherd identified by archaeologists at the University of Texas at Austin as Caddoan was recovered from the Granberg site in San Antonio (Schuetz 1966).

One sherd excavated from the Alamo was examined by Dee Ann Story who said it appeared to be Caddoan but was not classified as to type (Anne Fox personal communication 1995).

The most recent and previously unreported evidence of Caddoan ceramics in south central Texas is a partially reconstructed pot from north of Comfort in

Kendall County. It consists of three sections, each about hand size. Two are rim sections with four to five parallel rows of punctates below the slightly flared rim. The third section is of the slightly expanding central area of the pot wall. The bottom of the pot appears to be more rounding than flat. It has been identified by Dee Ann Story as a Caddoan replica, probably locally made or traded into the area by an intermediary.

The sherds of this pot were recovered in association with both Toyah and Austin phase projectile points and several arrow point biface preforms. Edwards points constitute 65 percent of the projectile points from the site, 30 percent are Scallorn, only one is Perdiz. There are only two dart points and these are Frio.

These eight ceramics (one pipe, four pots, three sherds) establish firm evidence of the occurrence of Caddoan ceramics as far south as San Antonio in south central Texas. It is probable all are trade items by intermediaries.

ACKNOWLEDGMENTS

Many people were very helpful in the completion of this article and I extend my sincere appreciation to: John Scott, the present owner of the pipe for its loan for study and documentation; to Richard McReynolds for the drawing of the pipe in Figure 2; to W. R. Van der Veer for the excellent photographs of the Kerr County pipe; to Shirley Van der Veer and Jimmy Mitchell for the loan of very helpful references; to Darrell Creel and Tom Hester for access to the Wood County pipe for documentation, and to Dee Ann Story for her help and advice.

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CHERT COBBLE REDUCTION AT 41FY56, FAYETTE COUNTY, TEXAS

Leland W. Patterson

ABSTRACT

A discussion is given on lithic artifacts from site 41FY56 in Fayette County, Texas, including chert cobble primary reduction strategies at this site.

INTRODUCTION

This paper discusses lithic manufacturing activities at site 41FY56 in Fayette County, Texas, which is in the southeastern part of Central Texas. Site 41FY56 is located in a normally dry stream bed, where there is about one-quarter mile of a heavy deposit of chert cobbles (Patterson 1974). This location was used by Indians as a source of lithic raw material. Primary reduction of chert cobbles was done here, mainly to produce large flakes that were transported to campsites for use in lithic tool manufacture. Production of flake blanks at a lithic source permits materials to be tested, and reduces weight and volume of lithic materials being transported to remote locations.

While collecting chert cobbles at this location for flintknapping experiments (Patterson 1981), 24 chert cores were found that are discussed here in relation to primary reduction strategies for large chert cobbles. At site 41FY56, primary reduction of chert cobbles produced mainly bifacial cores.

RAW MATERIAL AND HAMMERSTONE SELECTION

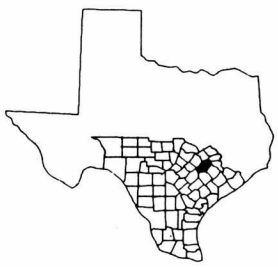
Chert materials at 41FY56 are tough, requiring use of heavy hammerstones for primary reduction of large chert cobbles. Quartzite cobbles that are suitable for hammerstone use occur at this site as well as chert cobbles. Some quartzite cobbles found here weigh up to two pounds. The knapping properties of chert flakes produced from materials from this site are greatly improved by heat treating (Patterson 1981). Much of the chert debitage found at sites in Southeast Texas has evidence of the use of heat treatment in the form of waxy surface luster, reddish coloration, and small potlid surface fractures. There is no evidence of heat treatment of chert at site 41FY56. Flake blanks produced at this site were apparently heat treated at remote locations.

Some of the chert cobbles at this site are of coarse materials that are not suitable for knapping to make stone tools. Many chert cobbles at this location have only one or two significant size flake scars. These flake scars indicate that materials were tested for knapping quality as part of the material selection process.

Chert cobbles usually have ovoid shapes with variable cross section shapes ranging from round to tabular. Most chert cobbles selected for primary reduction have tabular cross sections with distinct edges. The edges offer areas that can be used as natural striking platforms with acute angles to the cobble faces, which permits controlled flaking for removal of the initial flakes from a cobble. Cobbles with round cross sections are generally not suitable for starting primary reduction because there are no suitable striking platform areas with acute angles. Controlled flaking is generally not possible with striking platform angles (angle of platform area to adjacent core face) that are greater than 90 degrees (Patterson 1986; Whittaker 1994:93). Round cobbles can sometimes be broken with a heavy hammerstone to obtain pieces with suitable striking platform areas.

CHERT COBBLE REDUCTION STRATEGIES

There are several strategies that can be used for initial reduction of a chert cobble, somewhat dependent on the shape of the cobble. As reduction proceeds, flake scars on the core provide areas that can be used as striking platforms, and the reduction strategy may then become somewhat variable. Reduction strategies discussed below represent methods to start primary reduction, but need not be consistent to the point of final core expenditure.



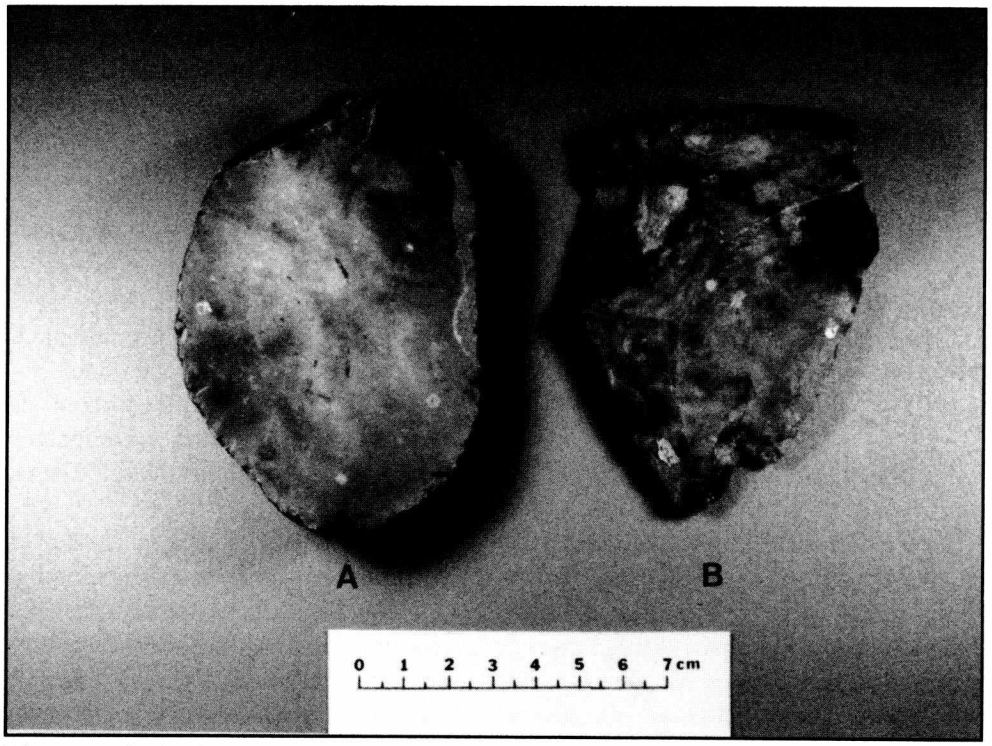


Figure 1. Split Cobbles, Reduction Strategy 1. A, slightly flaked cobble; B, extensively flaked cobble.

One reduction strategy (Strategy 1) is to remove a flake at the end of a cobble by use of a hammerstone. The flake scar can then serve as a striking platform. This striking platform can be used in two manners. One option is to remove flakes longitudinally on the cobble from the platform at the cobble end. The other option is to use the prepared platform on the end of the cobble to obtain a longitudinal split of the cobble. The former option has not been observed on cores from site 41FY56, and the latter option of splitting a cobble seems to occur only occasionally (Figure 1). All of the cores illustrated here are from site 41FY56.

Cores found at site 41FY56 are mainly bifacial. There are two principal methods of starting primary reduction to produce bifacial cores. One method (Strategy 2) is a bifacial reduction sequence that was used to produce handaxes in the Lower Paleolithic period of the Old World. With this reduction strategy a flake is removed from a cobble edge. The cobble is then turned over and the previous flake scar is used as a striking platform for removal of the next flake. This process of sequential flaking on opposite faces of a cobble is repeated around the entire edge of the cobble (Figures 2, 3A, 5B). Bifacial cores made from chert cobbles can sometimes resemble handaxes. Specimens of this type found at quarry sites do not usually have any evidence of use wear, however.

The other bifacial reduction method (Strategy 3) is to serially remove flakes along one or both lateral edges of a cobble on one face. The flaked areas of the cobble can then be used as striking platform areas for serial removal of flakes on the other cobble face (Figure 4). Both bifacial reduction methods described here have been found on cores from site 41FY56.

After initial creation of a bifacial core, long flakes can be removed after re-establishment of a high angle on core edges by removal of short flakes. High striking platform angles, say 60-80 degrees, permit removal of longer flakes. Use of high striking platform angles (but still acute) is commonly done for bifacial reduction by beveling of bifacial core edges. None of the core specimens from site 41FY56 have evidence of re-establishment of striking platforms after initial flake removals. As discussed below, cores at this site were not extensively worked.

Another cobble reduction method (Strategy 4) is to use natural striking platform areas on the cobble edges to remove large flakes from one face of the cobble. A series of flakes can sometimes be removed from one cobble face completely around the cobble edges (Figure 5A).

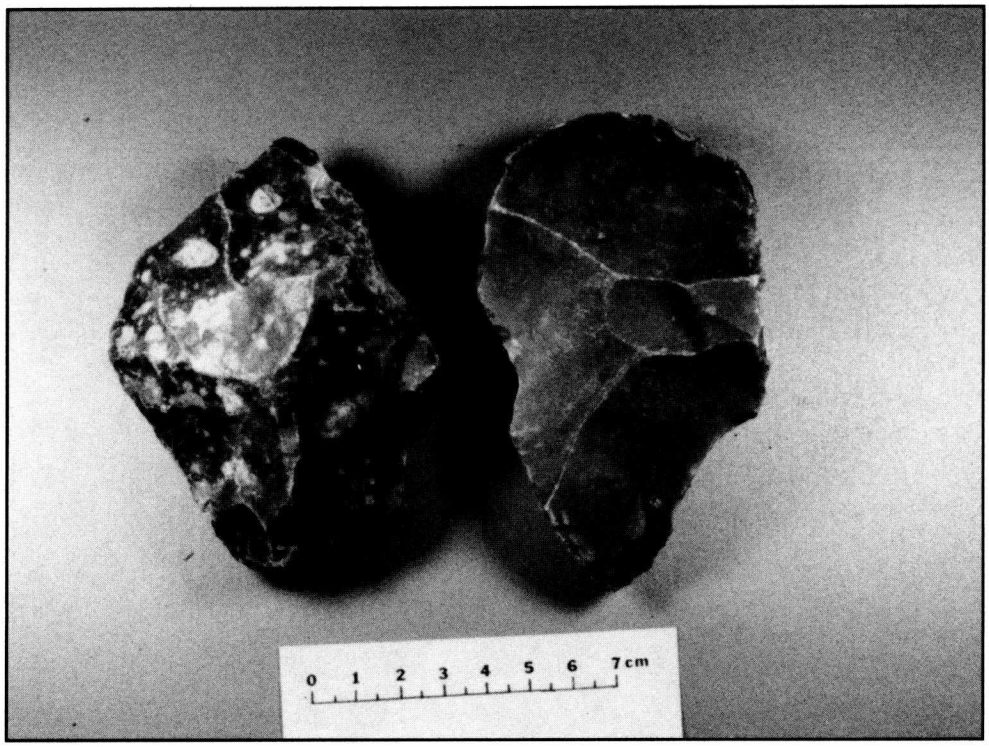


Figure 2. Bifacial Cores, Reduction Strategy 2, alternate flake removals on opposite faces.

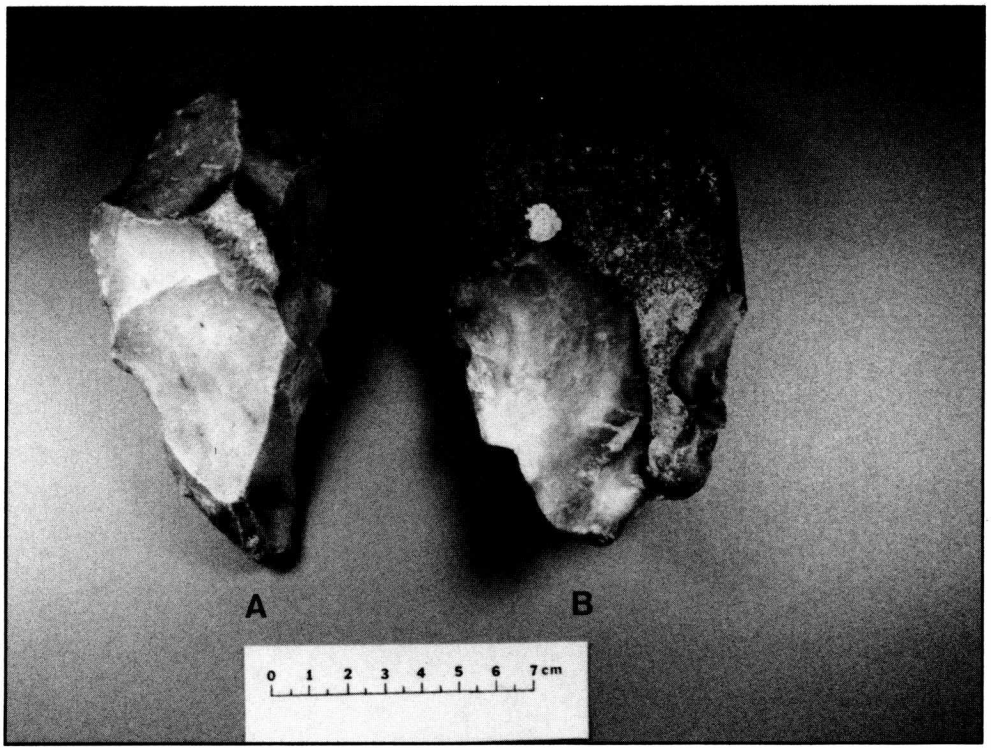


Figure 3. Bifacial Cores, Reduction Strategy 2, alternate flake removals on opposite faces. A, completely flaked; B, one end only.

Figure 4. Bifacial Cores, Reduction Strategy 3, prepared platforms on one face.

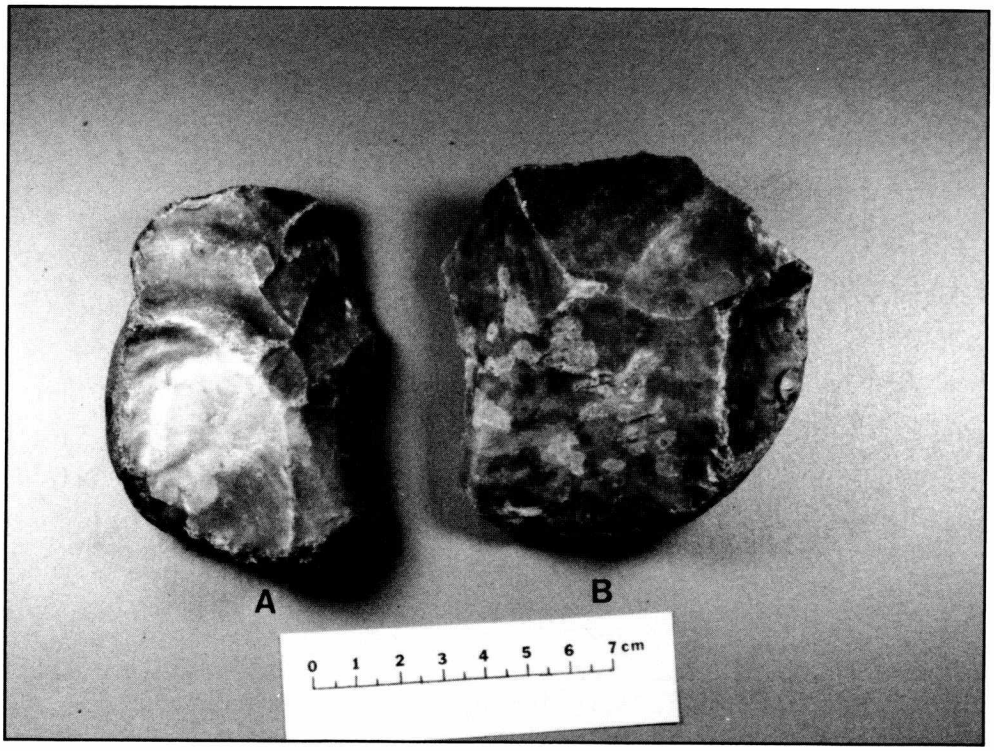


Figure 5. Cores. A, unifacial, Reduction Strategy 4; B, bifacial, Reduction strategy 2.

Table 1. Site 41FY56 Cores

No.	Type	Reduction Strategy	Dimensions, mm L	W	T	Remaining Cortex, percent Face 1	Face 2
1	bifacial	2	125	68	46	0	5
2	bifacial, one end	2	130	75	56	75	50
3	bifacial	2	130	85	44	30	15
4	bifacial, one end	2	100	90	51	60	40
5	bifacial	2	85	55	25	40	20
6	bifacial	2	78	51	28	30	10
7	bifacial	3	100	70	39	60	0
8	bifacial	2	123	73	35	50	0
9	bifacial	3	81	56	23	80	0
10	bifacial	2	98	49	26	30	0
11	bifacial	3	102	63	23	30	0
12	bifacial	3	111	59	28	50	0
13	unifacial	4	89	63	31	90	0
14	bifacial	2	183	96	65	20	15
15	bifacial, one end	2	174	100	60	75	75
16	bifacial	2	152	70	30	60	40
17	bifacial, one end	2	165	102	65	60	35
18	bifacial	2	154	78	48	50	30
19	bifacial	2	151	76	52	70	10
20	split cobble	1	103	66	27	90	0
21	split cobble	1	93	73	26	0	0
22	bifacial	2	94	90	37	80	0
23	bifacial	2	108	68	30	30	0
24	bifacial	2	128	72	37	85	50

CORES FROM 41FY56

A total of 24 cores were found at site 41FY56, as summarized in Table 1. None of the cores were worked very extensively to anywhere near the point of core exhaustion. This indicates a goal of producing mainly large size flakes, probably to be used for dart point manufacture.

Two specimens were made by longitudinal splitting (Strategy 1) of a cobble (Figure 1). One of these specimens (Figure 1A) is from a cobble that was split before much flaking of the cobble, with 90% remaining cortex on the dorsal face. The other specimen (Figure 1B) is from a cobble that was extensively flaked before splitting, with multiple flake scars on the dorsal face and remaining cortex only on the striking platform area.

There are 17 core specimens made by alternate flaking on opposite faces (Strategy 2). Four core specimens were made by Strategy 3, which involves initial flaking to produce striking platform areas on one face of a cobble, and then using these platforms to serially remove flakes from the other cobble face (Figure 4). Only one core specimen was made by Strategy 4, using natural striking platform areas on cobble edges to serially remove large flakes from one cobble face (Figure 5A). Four core specimens have bifacial flaking on only one end of the cobble, with the other end still covered with cortex. One of these specimens is shown in Figure 3B.

The reduction strategies for chert cobbles that are discussed here for cores from site 41FY56 are for the reduction of large chert cobbles to produce large flakes. Other reduction strategies for chert cobbles may be observed in lithic collections from this general area. At campsites, it is common to find small amorphous shaped chert cores that have been used to produce small flakes, say under 30 mm square, from small chert cobbles. At some sites in southeast Texas, small chert cobbles and chert pieces were used to

produce small prismatic blades with resulting polyhedral blade cores (Patterson 1973; 1980; n.d.). Small tabular chert cobbles can also be used for direct bifacial reduction to produce dart points (Webber 1991). In summary, the reduction strategies used for chert cobbles will vary in relation to available sizes and shapes of chert cobbles, and in relation to the types of lithic tools produced.

FLAKES FROM 41FY56

Flake recovery from surface collecting was not high in the loose sand of the stream bottom at site 41FY56. Enough flakes (20) were found, however, to indicate reduction of chert cobbles at this site in addition to the presence of cores. The flake collection has 15% primary flakes (covered with cortex), 40% secondary flakes (partially covered with cortex), and 45% interior flakes (no remaining cortex). This distribution of flake types is similar to that obtained by experimental primary reduction of chert cobbles. In the experimental primary reduction of chert cobbles, there were 13.3% primary flakes, 40.3% secondary flakes, and 46.4% interior flakes (Patterson1981: 32).

Flakes found at this site are mainly large and thick, as would be expected from primary reduction of large chert cobbles. Flake length range is 24-77 mm, with an average of 48 mm. Flake width range is 13-61 mm, with an average of 30 mm. Flake thickness range is 3-14 mm, with an average of 9 mm.

SUMMARY

A discussion has been given here on several primary reduction strategies for chert cobbles, as shown by core specimens collected from site 41FY56. Primary reduction of chert cobbles was done at this site to produce large flakes that were then transported to other locations for manufacture of stone tools. The dominant reduction strategy for chert cobbles used at this location involved alternate flake removals from opposite faces of a cobble (Strategy 2), with 71% of cores collected associated with this reduction method. This reduction strategy has a long history of use in the Old World for the production of bifacial handaxes (Whittaker 1994: 121).

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A DECORATED STONE PIPE FROM VAL VERDE COUNTY, TEXAS

C. K. Chandler and James B. Boyd

ABSTRACT

An extensively decorated stone pipe is documented and illustrated. It was found recently in Val Verde County, where prehistoric stone pipes with engraved decoration have been previously reported.

THE ARTIFACT

This specimen is a tubular stone pipe, discovered in a large rockshelter located on a private ranch in the southwestern portion of Val Verde County. The ranch lies along the Rio Grande, and is south of the well-known Fate Bell Shelter. Also recorded in the shelter were numerous manos and metates, as well as projectile point types including Arenosa, Baker, Bandy, Lange, Langtry, Marcos, Montell, Pandora, Shumla, Travis, and Val Verde. The shelter appeared to have been extensively excavated in the past.

The pipe is made from a coarse-grained conglomerate of several minerals of different color. The specimen is light tan in color and appears to have been pecked and abraded into an oval shape with its largest diameter in the central area. One side is broken off due to two cracks that were obviously present during its useful life as a pipe used for smoking. These cracks are coated with a black stain that appears to be a juice residue from the burning of some sort of tobacco. This black material extrudes onto the outer surface along the broken edges. The interior of the pipe's bowl is light brown in color, apparently stained from the smoking material previously contained within it. This internal staining is considerably less than the black staining on the broken surfaces.

The bowl is straight-walled with heavy circumferential striations, and is 26 mm in diameter to a depth of 81 mm, where it narrows sharply to the oval stem hole, which measures 12 mm in diameter at the outer surface. This hole is positioned at an angle, and intersects the bowl on one side.

Overall dimensions of the pipe are 106 mm in length, 58 mm in diameter at the center, and 17 x 22 mm in diameter at the stem end. It weighs only 135 grams, but was obviously heavier when in use.

Figure 1 illustrates six views of the pipe, displaying the extensive engravings.

There are two continuous rows of horizontal engravings on the outer walls of the pipe in the area of greatest width. There are 29 lines on the intact side where the full length of the pipe is measured. These short horizontal lines are six to eight mm long and are spaced three to four mm apart. These are paralleled on the near left side with a row of zigzag incisings.

The row of incised horizontal lines is repeated on the opposite side, but the lines are spaced four to five mm apart and the total number cannot be determined due to the broken pipe wall in this area. There are several lightly incised straight to occasionally curved lines in other areas that may be incidental.

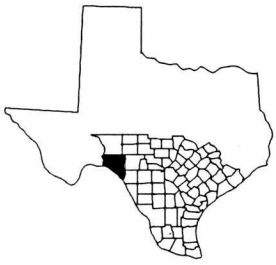
DISCUSSION

Stone pipes are not frequent occurrences in the Lower Pecos area, but two decorated specimens have been documented in the Amistad Reservoir area (Chandler 1990, 1992). One of these is made of travertine. Fragmentary specimens are also known.

Tubular stone pipes are widely distributed in Texas (Jackson 1940), but those with decoration are rare. Most are made of sandstone, but other materials such as limestone, steatite, pumice, and travertine were also used. Bone tubes are sometimes found inserted in the stem end (Turner and Hester 1993).

Probably the largest number of stone pipes from any one site in south and southwest Texas are the twelve specimens from the Loma Sandia cemetery site in Live Oak County.

Eight stone pipes from along or near the Rio Grande are reported (Chandler and Kumpe 1994). Three of these are from Duval County and three are from Falcon Reservoir shoreline sites on the Tamaulipas, Mexico side. One is from northeast Nuevo León, 33 miles south of the Rio Grande, and one is from the Falcon Reservoir shoreline in Zapata County. The Lower Rio Grande Delta region, in particular Cameron County, has yielded a number



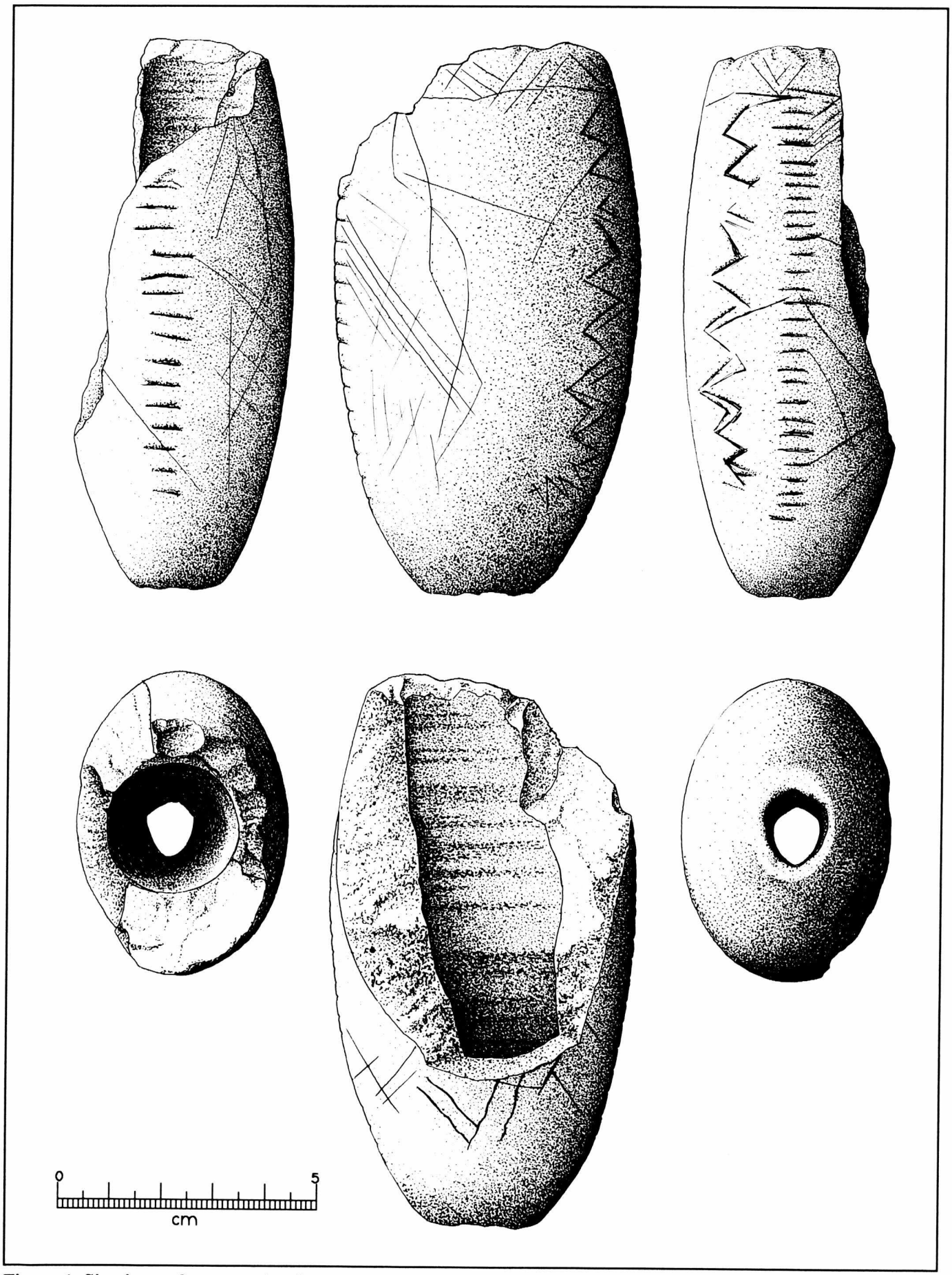


Figure 1. Six views of a stone pipe from Val Verde County.

of pumice and stone pipes (A. E. Anderson collection, Texas Archeological Research Laboratory--see Figure 2 for area map).

Thus the middle and lower areas of the Rio Grande drainage system appear to exhibit an increasing number of stone pipes.

ACKNOWLEDGMENTS

The illustrations of this pipe were prepared by Richard McReynolds and we extend our sincere appreciation to him. Also thanks to Mr. Clay Sinclair for making the specimen available for study.

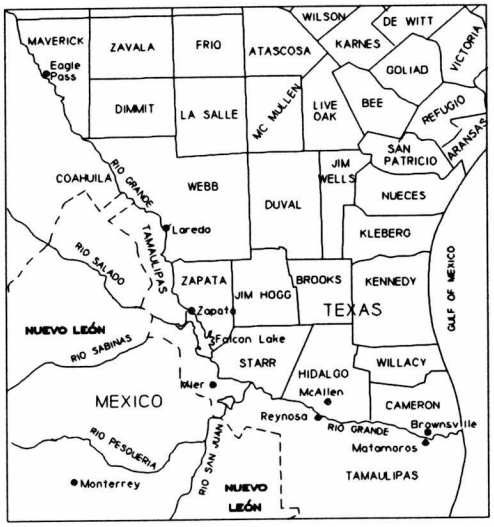


Figure 2. Map showing area in text.

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COASTAL BEND ARCHEOLOGICAL SOCIETY

Another local archaeological society our readers may find interesting to participate in is the Coastal Bend Archeological Society, a very active group.

Their monthly meeting the first Wednesday of each month. The meetings will be in the Hilltop Community Center, Corpus Christi, at 7:00 o'clock p.m.

Contact Larry Beaman, 303 Rolling Acres Dr., Corpus Christi, Texas 78410 to confirm time and place and for further information.

THE COCHRAN FARM SITE (41GZ2): A Summary of the 1992 Archaeological Testing Project

W. David Driver

ABSTRACT

During the summer of 1992, an archaeological field school for Southwest Texas State University was conducted at the Cochran Farm site, 41GZ2, Gonzales County, Texas. The excavations documented extensive disturbance due to agricultural and land modification efforts within a large portion of the site. However, the investigations were able to identify three zones of prehistoric cultural materials. Occupation of at least one of these zones was determined to have occurred from at least the Middle Archaic to Late Prehistoric periods. An activity area apparently utilized for the procurement of lithic materials was located in the northwest area of the site. The paper calls attention to the limited amount of research conducted in this portion of Texas, and emphasizes the need for both regional and site-specific archaeological investigations.

INTRODUCTION

The Cochran Farm site (41GZ2) is located on the Gonzales-Caldwell County line in southeast-central Texas, approximately 4 3/4 miles southeast of the town of Luling (Figure 1). While much of Texas has been the focus of numerous investigations in recent years, this area of the state has received little archaeological attention. Yet the varied nature of the landscape suggests it to have been a prime environment for both prehistoric and historic activities. The area is crisscrossed by a myriad of waterways, both large and small. Site 41GZ2 is located at the confluence of two of the most significant of these drainages, Plum Creek and the San Marcos River. The year-round reliability of the spring-fed San Marcos would have provided a stable area for hunting and gathering lifeways (Garber et al. 1983; Garber 1987; Takac 1990). Indeed, the stability of the spring has led to suggestions of its use as a sedentary homebase extending as far back as the Paleo-Indian period (Shiner 1983).

The investigations at the Cochran Farm site were conducted as an archaeological field school held by Southwest Texas State University (SWTSU). Initiated as a testing operation, the excavations were intended to define the areal extent of the site, establish the chronology of its occupation, and determine the degree of intact deposits. The following report will briefly summarize the history of work conducted at the site as well as describe the results of the 1992 test excavations.

PREVIOUS INVESTIGATIONS

The site was first recorded by E. B. Sayles in 1933 as part of an extensive survey of Texas (Sayles 1935). Sayles noted the presence of various chert tools (including unspecified projectile points), shell fragments, pottery sherds, red pigment, and a burned rock midden (Texas Archeological Research Laboratory [TARL] archives). He described the site as covering 40 acres, and extending from the surface to two feet in depth. A photograph with caption describing the area as a heavily timbered valley indicates that the site had not yet been disturbed by agriculture, a process which has since greatly affected the site.

The site was next visited in 1975 by The University of Texas at San Antonio Center for Archaeological Research (UTSA-CAR) as part of the investigations for the Ecology Audits for a Gonzales Dam (TARL archives). Kelly and Fletcher described the site as being only 300 meters in diameter, which is an area much smaller than that recorded by Sayles. It was also noted at this time that terracing and cultivation had taken place "sometime in the past" (UTSA Field Form 1975). An intensive surface collection was conducted and a small area (0.5 x 0.5 meters) was trowelled to a depth of 10 cm. Surface finds consisted of debitage and stone tools, including Middle Archaic and Late Prehistoric projectile points. Recommendations for further testing were made at that time, but none were conducted.

In 1990, Mercado-Allinger and Cloud re-examined the site for the Office of the State Archeologist/Texas Historical Commission [THC] (State of Texas Archeological Site Data Form 1990, TARL). At that time, the site was listed as encompassing 13

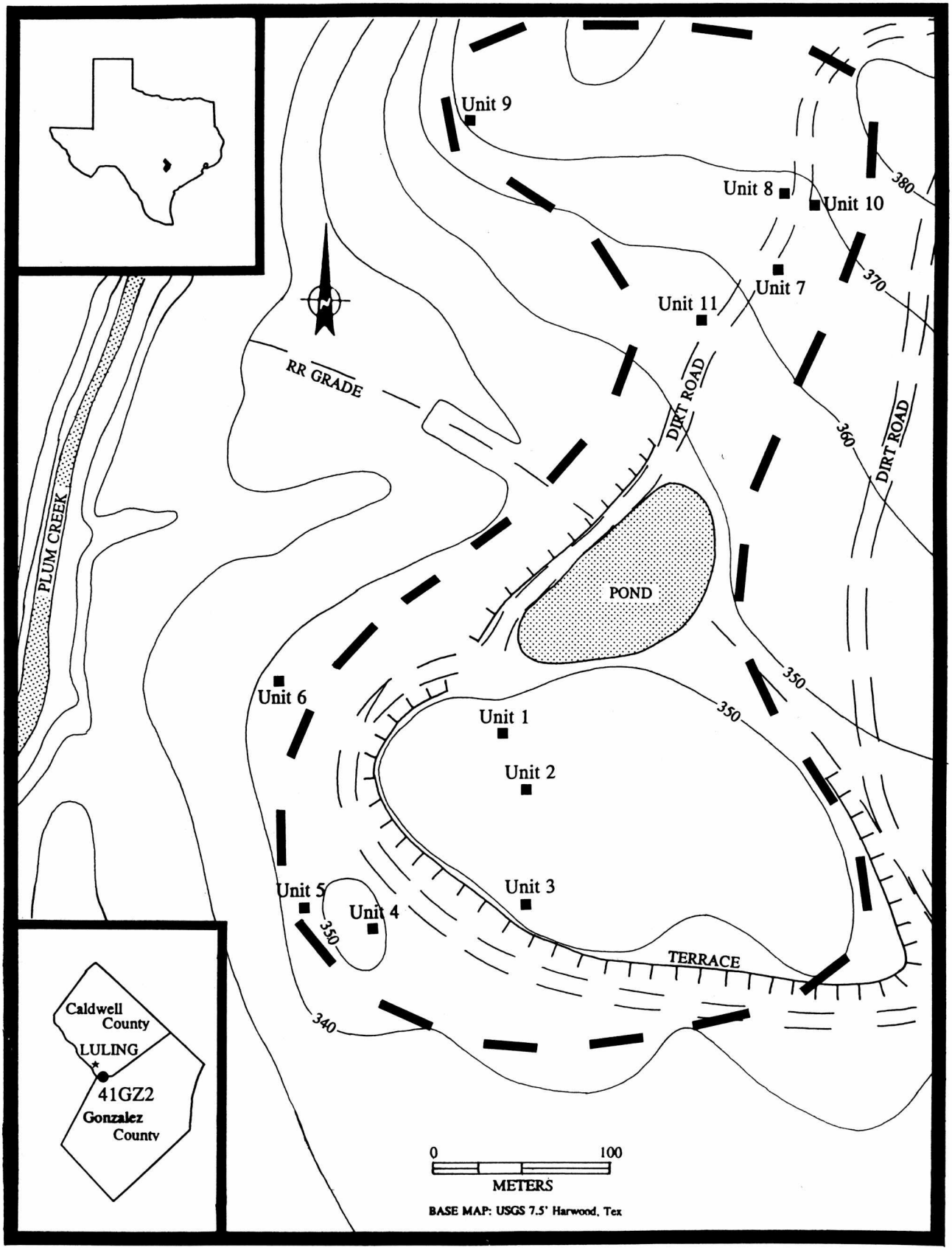

Figure 1. Map of Site Location, 41GZ2. All maps drawn by the author.

acres consisting of a large knoll, a small prominence, and a terrace. Based on the extensive surface collection maintained by the current land owner, Mr. Bill Witliff, the investigators recorded site occupation dating from the Late Paleo-Indian/Early Archaic to the Late Prehistoric. Testing was recommended to determine site integrity and significance.

In 1991, at the request of Mr. Witliff, a field reconnaissance was made by Dr. James Garber of Southwest Texas State University. As a result of this reconnaissance, it was determined to utilize the University's field school program in order to conduct the testing necessary to define the extent and significance of the deposits within the site.

SITE DESCRIPTION AND EXCAVATION

The site is located along the east bank of Plum Creek, just north of the creek's confluence with the San Marços River. Currently in open pasture, the area supports low grasses and a few clusters of mesquite and juniper trees. Predominate soils consist of Crockett gravelly sandy loams. Based on the observation of surface artifacts, the site covers 16 hectares (40 acres), paralleling the creek for 450 meters, and extending to a maximum width of 300 meters at the site's southern end. Only the flat lower terrace was recorded by both the UTSA and THC reassessments, resulting in a much smaller total site area than had originally been reported in 1933 by Sayles.

During the 1992 SWTSU project the lower southern portion of the site was designated as Area A, while the sloped section to the north was designated as Area B. The portion of the site within Area A has been heavily utilized for cultivation, and as a result has been extensively disturbed by plowing. An old railroad line runs through this part of the site; some sections of the raised grading are still evident. More recent land alterations within Area A include the creation of an agricultural terrace and an adjacent stock tank. Area B has also been cleared for use as open pasture, but has not been utilized for agriculture. This area rises to the north at a seven percent grade, and is bounded on the west by a steep slope along the creek and on the east by a shallow draw.

The testing excavations discussed in this paper were conducted as part of the 1992 archaeological field school held by Southwest Texas State University, San Marcos, Texas. During the period of June 8 to July 9, 1992, a group of 17 undergraduate students participated in the course which focused on the instruction and practical application of basic archaeological field and laboratory methods. The goals of the project were to define the areal extent of the site, establish the chronology of its occupation, and determine the degree of intact cultural deposits.

During the five and a half weeks of the course a total of 11 2x2- meter units were opened, resulting in the excavation of 31 square meters. Due to the lack of readily discernable cultural strata, the excavations were conducted in arbitrary 10 cm levels. All matrix was screened though 1/4" mesh. Recovered artifacts were processed during the laboratory analysis portion of the course. At his request, all collected materials were subsequently returned to Mr. Witliff for curation. All records compiled during the excavations are to be stored at Southwest Texas State University.

Area A

Test excavations were first concentrated in Area A, on and around the low knoll at the southern end of the site. Six excavation units were placed within Area A. Units 1-3 were distributed across the western portion of the low knoll. Unit 4 was placed atop an adjacent, smaller rise. Units 5 and 6 were located further west, along the edge of the terrace (see Figure 1).

Excavation revealed a total of six major stratigraphic layers (Figures 2, 3). Stratum 1 was a 10-30 cm thick layer of medium brown sandy loam which had been severely disturbed by agricultural processes. The highest densities of cultural materials were found within this zone. In Unit 2, this stratum could be differentiated into two sections, the lowermost of which was still heavily disturbed, as demonstrated by the mottling within it, and the presence of modern debris to a depth of 30 cm. Stratum 2 was a dark brown clay sandy loam which averaged 50 cm in thickness. This zone contained a light to medium density of artifacts although the majority of the cultural materials were from very high in the layer and were most likely also affected by plowing. These uppermost two strata were designated as Cultural Zone I. Stratum 3 consisted of a light brown clay loam with a moderate presence of calcium carbonate, suggesting a period of geologic stability for this surface. The layer was 160 cm thick and contained almost no cultural material. That which was recovered from this stratum was limited to the upper 10-15 cm, most likely the result of percolation downward from

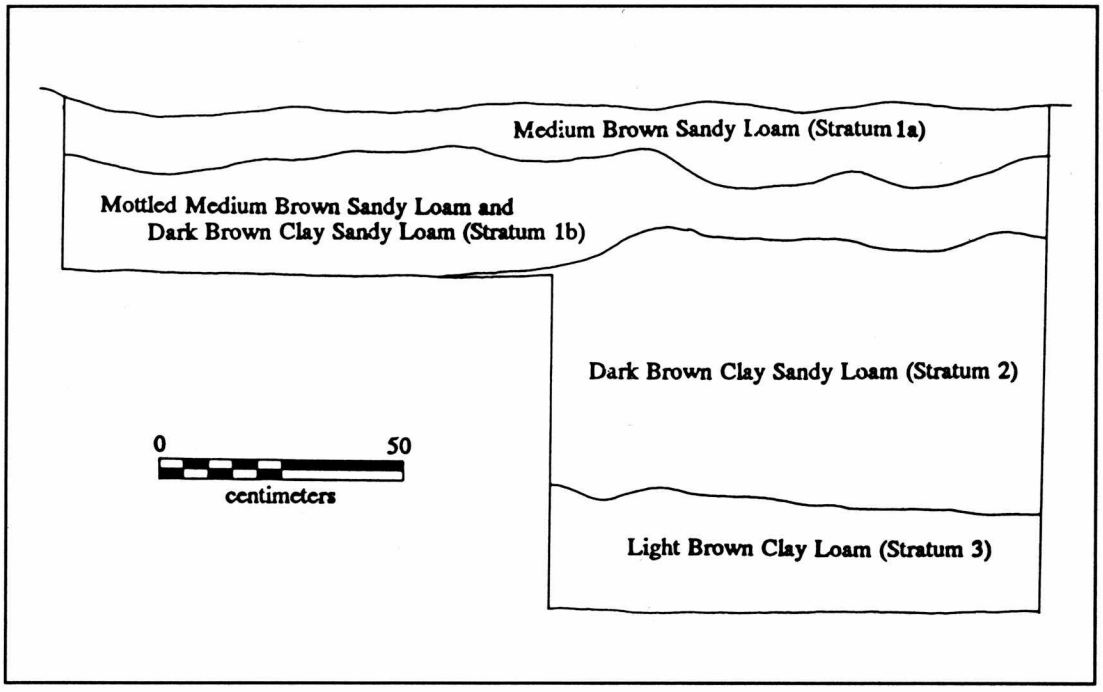

Figure 2. East Profile of Unit 2, 41GZ2.

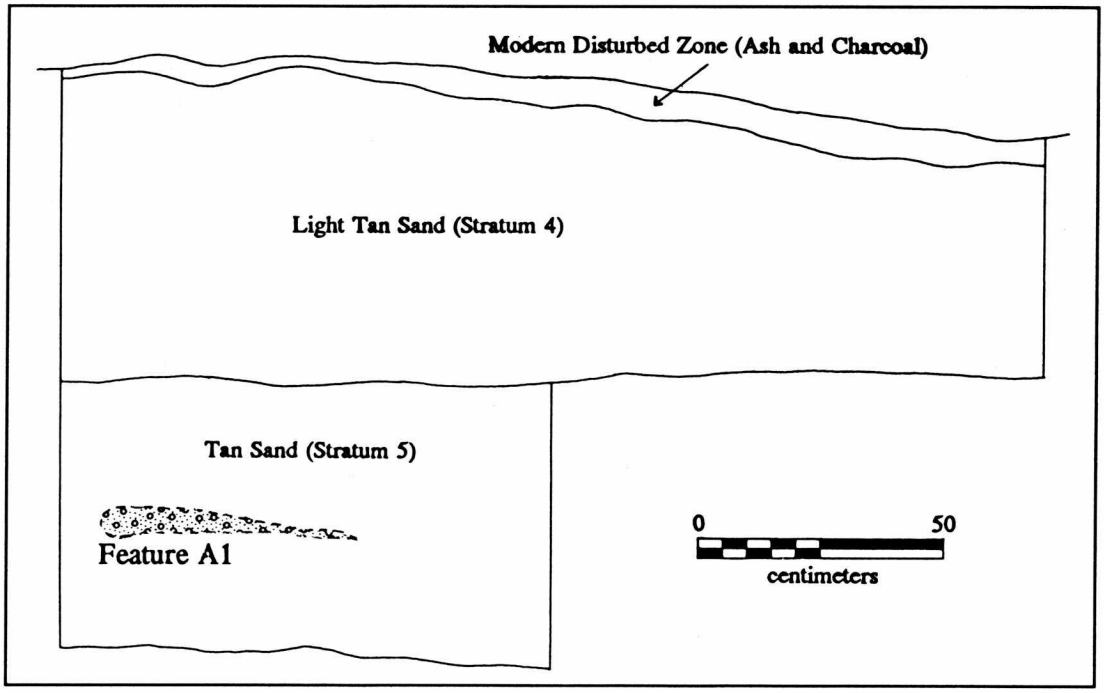

Figure 3. East Profile of Unit 5, 41GZ2.

Cultural Zone I. Stratum 4 was a 125 cm thick zone of light tan sand which contained no cultural materials. The final layer exposed in Area A was Stratum 5, a tan sand which was only located in the deepest unit (Unit 5). A thin layer of cultural material located within Stratum 5 was designated as Cultural Zone II.

The soils in the upper levels of the excavation units documented a high degree of site disturbance, presumably the result of repeated cultivation. In Units 1-4, cultural materials were concentrated in the uppermost 30-40 cm, completely within the highly disturbed plow zone. The density of artifacts dropped drastically in sediments below 40 cm in depth, becoming relatively sterile by 50-60 cm. Due to the lack of cultural materials below this depth, excavation in Units 1-4 was terminated at a depth of one meter.

Within Cultural Zone I, the majority of debitage consisted of interior and thinning flakes. Many of these showed signs of both heat treatment and damage (potlid fractures). Recovered tools included utilized flakes, cores, a spokeshave, a light chopper, a drill, and a large parallel-sided biface shown in Figure 6a. A total of 10 body sherds of Leon Plain ceramics were recovered, the majority from Unit 2, near the summit of the knoll. This is apparently the same area where ceramics were located by Sayles. Faunal remains were limited to non-discrete scatters of mussel shell fragments. However, the presence of the shell throughout all strata suggests it to be a natural, rather than cultural, phenomenon.

Units 5 and 6 were placed west of the other units, along the edge of the terrace. No cultural materials were recovered from Unit 6; it was thus considered to be off the site, and excavation was terminated at 50 cm depth. Unit 5 was also unsuccessful in encountering cultural material within its upper levels. However, excavation was continued in this unit in order to determine the natural stratification sequence present at the site. A thin layer of cultural remains was eventually encountered, beginning at 75 cm below the surface and extending for 20 cm. Designated as Cultural Zone II, the layer contained a light density of chert flakes and a discrete concentration of bone (Feature A1). The bone was poorly preserved but appeared to be that of a large mammal, possibly bison. No evidence of butchering was identified on the bone.

Area B

In an attempt to locate intact cultural deposits, the focus of excavations shifted to the northern portion of the site. Although Area B had also been cleared for pasture, it had apparently not been subjected to cultivation. An additional five units were excavated there, four (Units 7, 8, 10, and 11) being placed along the field road, while the fifth (Unit 9) was located at the western edge of the river terrace (see Figure 1).

The interpretation of the subsurface stratigraphy in Area B proved to be less straightforward than that of Area A (Figures 4, 5). Due to their location on the upland slope, the four excavation units placed along the road differed by a total of three meters in elevation. The limited exposures provided by the units were insufficient for fully understanding the geomorphic associations and formation processes of this area. However, it was clear that in several of the units, the uppermost two strata remained rather consistent. Stratum 1, a yellow brown sandy loam, varied in thickness from 20-60 cm. Stratum 2 was composed of a similar yellow brown sandy loam containing a light density of gravel. While the ratio of these upper two strata differed in each excavation unit, their combined thickness remained a consistent 70-90 cm. Although some degree of erosion and slopewash is assumed to be present, the extent of such processes within these two strata is currently unclear. Strata underlying these two zones varied highly from unit to unit and may represent much earlier sediments laid down by the San Marcos River.

Each of the Area B units immediately encountered a high density of cultural material, primarily lithic debitage. Average densities of debitage in Units 7, 8 and 10 were five times that recovered from Units 1-4, in Area A. Designated as Cultural Zone III, the artifacts extended from the surface to an average depth of 70-80 cm, coinciding closely with the base of Stratum 2, with the highest densities occurring in the uppermost 40 cm. While cultural materials did continue beneath Stratum 2, they did so only at highly reduced densities and may be the result of downward movement.

Recovered tools included a large number of retouched flakes, five bifaces, a blank, two choppers, a spokeshave, a graver, a Clear Fork tool, a scraper, a mano, and 12 projectile points (Figure 6, b-h). A single Leon Plain sherd was found in Unit 9. No discrete features or occupation floors were encountered in any of the Area B units. However, evidence for a task-specific activity area was suggested by the materials recovered from Unit 9, located near the western edge of the site. The presence of 62 chert

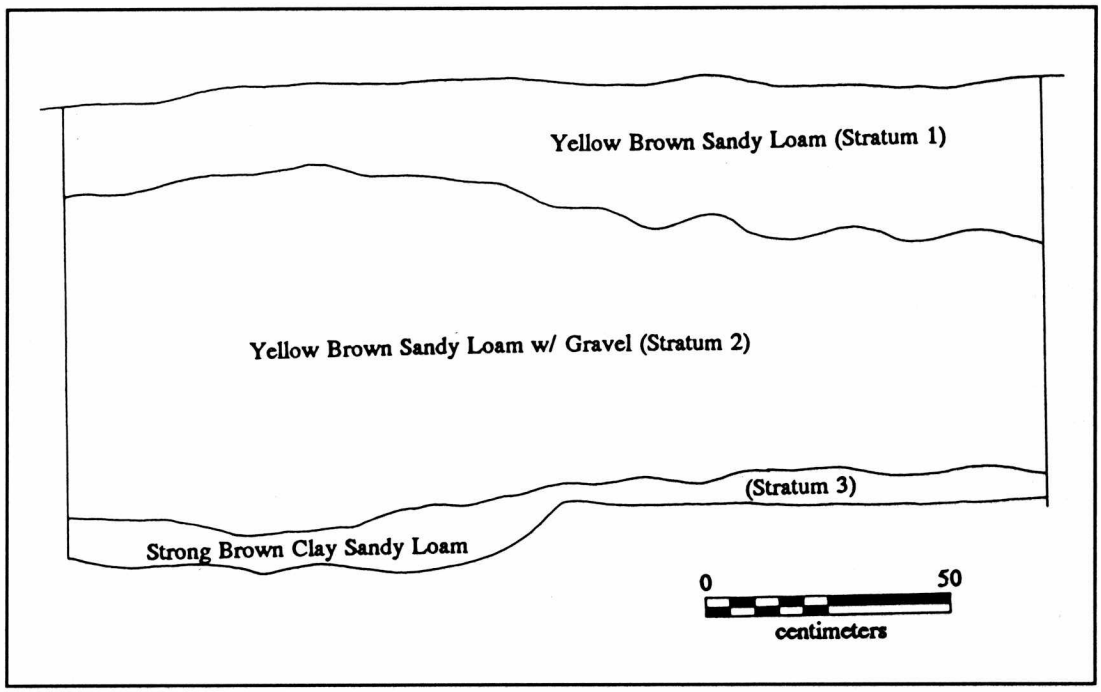

Figure 4. North Profile of Unit 10, 41GZ2.

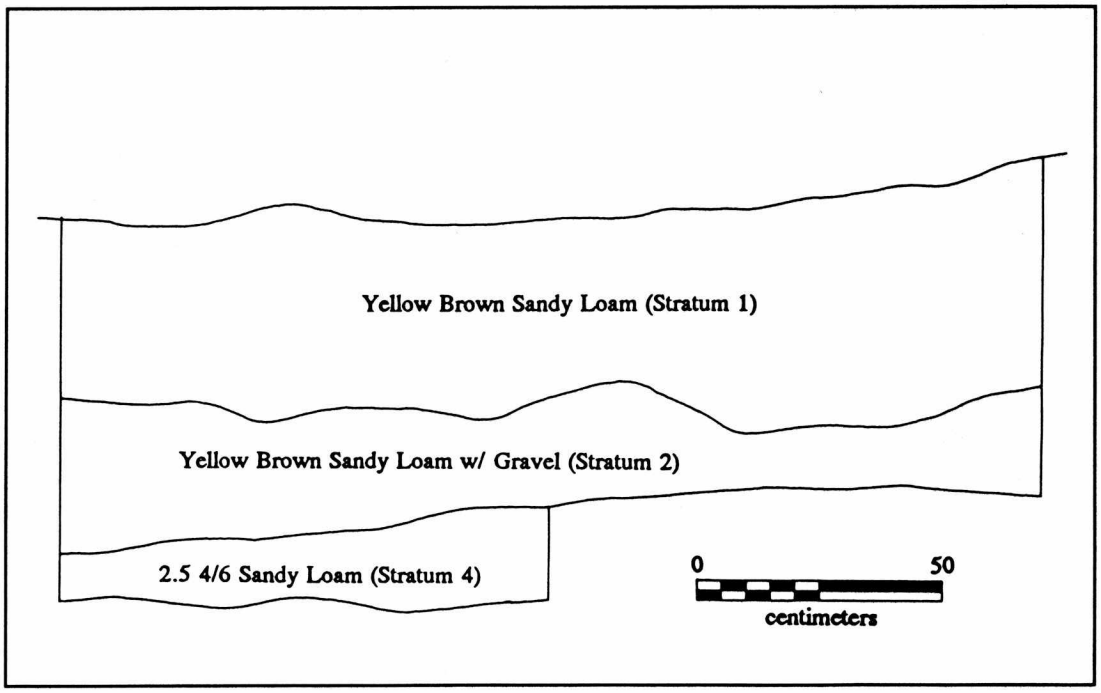

Figure 5. West Profile of Unit 11, 41GZ2.

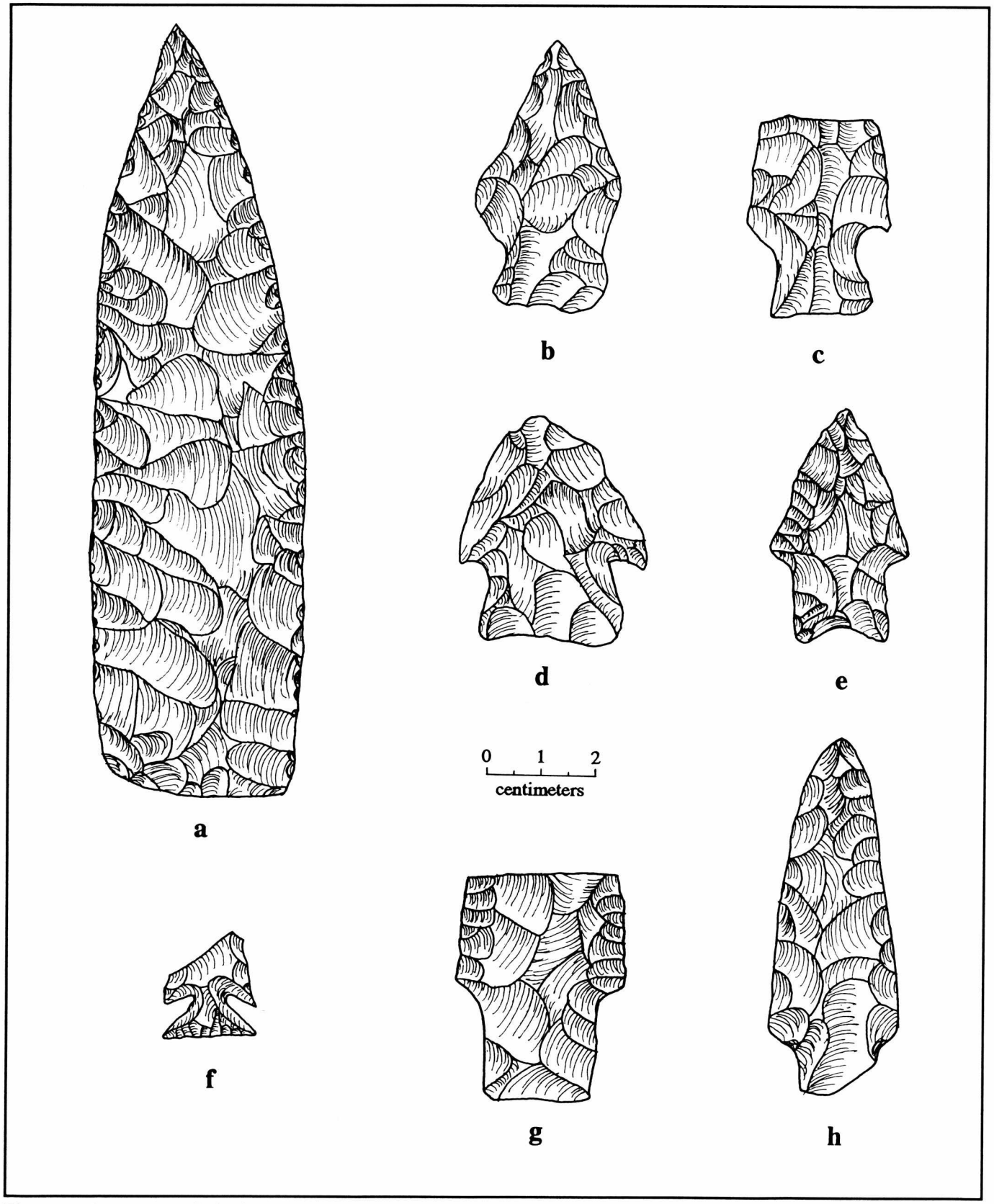

Figure 6. Examples of Lithic Tools Recovered from 41GZ2. a, parallel-sided biface; b-h, projectile points: b, Travis; c, Godley; d, Marshall; e, Pedernales; f, Scallorn; g, Morrill; h, Darl. Drawn by the author..

cores and tested cobbles, and a 2 to 1 ratio of cortical to interior debitage, indicates that this area may have been utilized for lithic procurement.

No carbon was encountered during excavation. As a result, site chronology for Area B was based on the presence of time-sensitive cultural materials. Occupation during the Late Prehistoric period was evidenced by the presence of the sherd of Leon Plain pottery and a single Scallorn point. Points identified with the Late Archaic appeared between 10-20 cm below the ground surface. Several Middle Archaic points were recovered from 10-40 cm in depth.

SUMMARY AND CONCLUSIONS

In summary, 41GZ2 represents a prehistoric occupation site located on the eastern bank of Plum Creek, just north of the creek's confluence with the San Marcos River. Such a location would have provided a wealth of game and edible plants as well as a reliable source of water. Archaeological investigations conducted in 1992 by SWTSU determined the site to cover a total area of 16 hectares. This area conforms to the larger 40-acre assessment made in 1933, rather than the later, and smaller estimates, which only identified the flat, southern portion (Area A). The additional acreage consists of an "L"-shaped area that extends up the slope to the north (Area B).

A total of three cultural zones were identified during the excavations. Zone I was present throughout Area A. It extended from the surface down approximately 30-40 cm, and contained a light density of tools and debitage. Based on surface collections made by the land owner, and the appearance of ceramics in several excavation units, this portion of the site appears to have been at least lightly occupied during the Late Paleo-Indian/Early Archaic, Middle Archaic, Late Archaic, and Late Prehistoric periods. Unfortunately, this area has been subjected to plowing for several decades. As a result, Zone I appears to have been extensively disturbed, with no remaining intact cultural associations.

Cultural Zone II was represented by a thin layer of debitage and mammal bone located deep within the sand layers bordering Plum Creek. It is unclear how this deposit relates to the rest of the site. The ephemeral nature of the zone suggests that it may represent a single butchering event, rather than be associated with the site's long-term occupation. The age of the materials remains unknown.

Cultural Zone III was located in Area B. While it may represent the same occupation as does Zone I, the differential nature of the two deposits makes this difficult to determine at this time. Zone III extends from the surface to 80 cm in depth and contains a high density of tools and debitage. While no features were encountered, a lithic procurement area was located in the northwest portion of the site. Occupation in Area B occurred from at least the Middle Archaic to the Late Prehistoric.

In conclusion, 41GZ2 is a large prehistoric site which was occupied to varying degrees from at least the Middle Archaic through the Late Prehistoric periods, with possible use as far back as the Late Paleo-Indian period. Further investigations would be invaluable for determining relationships between the various cultural zones as well as for further refining the chronological history of site activity. However, any additional research will be hampered by several factors. Cultural associations within a large portion of the site, Area A, have been destroyed by agricultural processes. Deposits deep enough to have escaped the plow may be extremely ephemeral. Although Area B appears to have escaped such destruction, the homogeneous nature of the soils and the compactness of the matrix would make the identification of any discrete occupations extremely difficult. Geomorphological studies of the area should be an important component of any future excavations (here and elsewhere).

The investigations at the Cochran Farm site well illustrate the need for additional research in this area of Texas. Regional settlement studies as well as additional site-specific investigations will be vital for understanding the prehistoric activities evidenced at sites such as 41GZ2. Based on the study presented in this report, much of the emphasis of future investigations should focus on those alluvial terraces which have been less affected by modern disturbances.

ACKNOWLEDGMENTS

The author would like to extend his great appreciation to Bill Witliff, without whose keen interest in the past, this field school would not have transpired. Thanks also to Jim Garber for his interest and assistance, and to David Brown and Jennifer McWilliams for their invaluable comments on the draft. And of course, thanks to all the students who participated in both the 1992 and 1993 field schools.

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ERRATA

Unfortunately a correction in the report "Test Excavations at the Errol Jonsson #1 Site, 41ZV37, South Texas" in *La Tierra* Vol. 22, No. 1 was not made. The correction should be made under the section "GROUNDSTONE ARTIFACTS" on page 29 of that issue.

The paragraph should have read: "Two groundstone fragments, of probable shaft straightener(s), were recovered from the site (Turner and Hester 1993). The larger specimen is described in this paper. It is a fragment of an oblong grayish-to-white limestone cobble...etc."

Our apologies to the authors.

AUTHORS

JAMES B. BOYD is a police officer in Del Rio with an interest in the prehistoric and historic Indians of Texas, predominately South Texas. He is collaborating with C. K. Chandler in this issue of *La Tierra*, and it is hoped that we hear more from him in future issues.

KEN BROWN, a PhD student of anthropology at the University of Texas at Austin, is writing his dissertation on the early deposits at Berger Bluff, a deeply stratified site near Victoria. Ken has been a contributor to *La Tierra* many times, always with an interesting subject. Mailing address: Texas Archeological Research Lab, 10,100 Burnet Road, Austin, Texas 78712-1100.

C. K. CHANDLER, 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.

W. DAVID DRIVER holds a M.A. in Anthropology from The University of Texas at Austin, and a B.A. in Anthropology from Southwest Texas State University. He was the recipient of the STAA Summer Field School Scholarship in 1985. Mr. Driver has participated in archaeological investigations in Texas, Louisiana, Georgia, New Mexico, Saudi Arabia, and Belize. He was the instructor of the 1991-1993 SWTSU archaeological field schools. He continues to work with several archaeological research projects in Belize, including the Belize Valley Archaeological Project (J. Garber, SWTSU) and the Blue Creek Project (T. Guderjan, Maya Research Program, St. Mary's University).

KAY HINDES has BA degree in Anthropology from the University of Texas at San Antonio. She has conducted project-specific cultural resource studies from 1984 to the present. Kay most recently co-authored the report "The Rediscovery of Santa Cruz de San Sabá, A Mission for the Apache in Spanish Texas" published jointly by the Texas Historical Foundation and Texas Tech University. She also authored parts of *La Tierra* Vol. 22, No. 2, April, 1995 on the 1994 STAA field school. Kay is a past Chairman of the Southern Texas Archaeological Association, and is a member of the Texas Archeological Society, and the Council of Texas Archeologists.

DON KUMPE is a lifelong native of the Lower Rio Grande Valley. He and his wife, Mary, own and operate a jewelry store on South Padre Island. The store's specialty is jewelry that is designed and finished "while-u-wait." Don is a member of STAA. As a teenager he began collecting artifacts while on camping trips in Starr County. This led to his 30 years of continuous interest in the archaeology of the Lower Rio Grande River. His collaboration with C. K. Chandler on several articles in *La Tierra* has led to some very interesting documentation of artifacts.

LELAND W. PATTERSON is a retired chemical engineer and an active avocational archaeologist. His current research interests include the prehistory of southeast Texas, lithic technology, and the early peopling of the New World. Patterson has authored or coauthored over 300 publications in archaeology, with publications in local, state, regional, and national journals. Some of his publications have been in *American Antiquity, Journal of Field Archaeology, Lithic Technology*, the *Bulletin of the Texas Archeological Society*, and *Current Research in the Pleistocene*. He is author or senior author of several major archaeological site reports, and is currently in the process of publishing a book on the prehistory of Southeast Texas.

BRYANT SANER, JR. grew up in the Kerr County area and presently lives in Kerrville. He developed an interest in archaeology at an early age, first hunting "Indian relics" when he was six or seven years old. In 1968 he was a charter member of the Hill Country Archeological Society, serving as publicity secretary. Bryant is presently a member of STAA and TAS. We are glad he is staying with *La Tierra* as a contributor.

La Tierra is published quarterly in the months of January, April, July and October by the Southern Texas Archaeological Association at 123 East Crestline Dr., San Antonio, Texas 78201-6613. Application to mail at Second Class Postage Rate is pending at San Antonio, Texas. POSTMASTER send address changes to: La Tierra, P.O. Box 791032, San Antonio, TX, 78279-1032.

INFORMATION FOR CONTRIBUTORS

La Tierra publishes original papers and selected reprints of articles involving the historic and prehistoric archaeology of southern Texas and adjacent regions. Original manuscripts are preferred. Articles involving archaeological techniques, methods, and theories are also considered.

The main objective of this quarterly journal is to provide a way for STAA members and others interested in the archaeology of southern Texas to share the information they have with others. We encourage your full participation through submission of your information for publication; we are particularly interested in receiving manuscripts from those in the less well-known counties of our region, to document even surface finds and old collections. Only through such total member participation can we, as a group, build up a comprehensive picture of the archaeology of our area!

Articles may be submitted in any form, although double-spaced typed copy is naturally preferred. However, we will review and work with material in any form to encourage those not comfortable with typewritten or other formal methods; WE ARE MORE CONCERNED THAT YOU SUBMIT YOUR IDEAS AND DOCUMENT YOUR MATERIALS THAN WE ARE WITH THE FORM OF MATERIALS WITH WHICH WE HAVE TO WORK. If you can supply a 5 1/4" or 3 1/2" disk, IBM or compatible, in ASCII form (if not in Word Perfect), it will be very helpful.

We are now incorporating a small Texas map with the county represented down in the lower right-hand corner of Page 1. This is not "Figure 1" and it may be all that you want in your paper. However, if you are being more precise as to your area of Texas, please submit a map showing the general region with rivers, streams, etc. This would be Figure 1. We are trying not to be too precise with locations of sites--unfortunately there are those who take advantage of this information to locate and ravage archaeological sites. Those sites already in the published material are sometimes shown again, however. Also, you MUST have the landowner's permission before entering his property. This small consideration can avoid misunderstanding and ill feeling toward archaeological research.

Other figures can be line drawings or photographs; line drawings are preferred if they are good quality —every photograph used costs an extra $50-$60 for a metal plate and set-up charges. If you need assistance with illustrations, please let us know— there are several STAA members who have volunteered to help with illustrations. For examples of good artifact and map illustrations, see those by Richard McReynolds and Ken Brown in previous issues.

When drawings or sketches of artifacts are included in your manuscript, please give the name of the artist responsible for the illustration(s). All figures should contain an appropriate caption and, where necessary, identification of each specimen (a, b, etc. or 1, 2, etc.) to aid referencing individual specimens in the text. The suggested procedure is to photocopy your original drawing and write in captions and identification letters on the photocopy. This saves the original for our use in final preparation of camera-ready copy.

PLEASE include a proper scale on all maps, diagrams, artifacts, etc. When any figure must be reduced, the scale must be in the original figure so that reduction will not change any proportions. Most of our artifact figures are drawn "actual size" but this is not proper publishing terminology. A scale is necessary, and may be reset in the picture through "cut and paste" —just so it is there. Remember that photocopied material very often slightly enlarges, and care must be taken that there is no change in the scale if done separately. For area (regional) maps, a small "rake scale" will help in our final copy--just so it is the proper dimension. Any site excavation map MUST have a good scale with it, again, IN the map so that reduction will not change the proportions.

Citations of references should be embodied in the text, giving the author, date, and page (e.g., Hester 1980:33). All references cited should be included in a References list using normal archaeological form (see articles in this issue for examples). The Reference list should not include publications not referred to in the text. Personal communications are cited in the text (e.g., Anne Fox, personal communication 1977) but need not be included in the Reference list.

Be sure to include a short (4-6 lines) biography for EACH author of the paper. The principal author and one co-author will receive two additional copies of *La Tierra*. Additional coauthors will receive one extra copy each. We will need each author's address for mailing purposes.

NUMBER YOUR PAGES AND MAKE A PHOTOCOPY OF THE SUBMITTED MATERIAL FOR YOUR RECORDS BEFORE MAILING TO THE EDITOR.

Manuscripts and/or hard copy of disk, if used, or other information may be submitted to: Evelyn Lewis, Editor, *La Tierra*, 9219 Lasater, San Antonio, Texas 78250. With your cooperation, much time may be saved in correspondence to clear up matters before *La Tierra* can go to press.

Thanks to all of you for the fine reports coming in. Keep them coming!

THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

The Southern Texas Archaeological Association brings together persons interested in the prehistory of south-central and southern Texas. The organization has several major objectives: To further communication among avocational and professional archaeologists working in the region; To develop a coordinated program of site survey and site documentation; To preserve the archaeological record of the region through a concerted effort to reach all persons interested in the prehistory of the region; To initiate problem-oriented research activities which will help us to better understand the prehistoric inhabitants of this area; To conduct emergency surveys or salvage archaeology where it is necessary because of imminent site destruction; To publish a quarterly journal, newsletters, and special publications to meet the needs of the membership; To assist those desiring to learn proper archaeological field and laboratory techniques; and To develop a library for members' use of all the published material dealing with southern Texas.

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