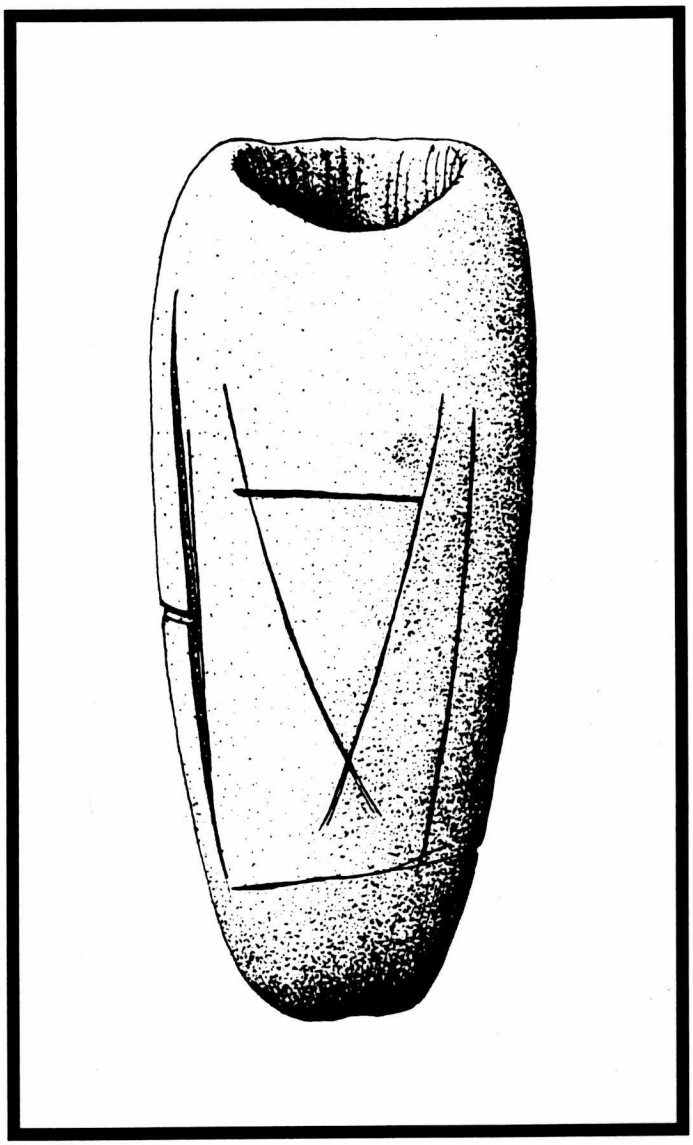
LA TIERRA



JOURNAL OF THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

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January, 1993

LA TIERRA

QUARTERLY JOURNAL OF THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

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Evelyn Lewis
Editor

About the Cover: The article on page 9 documents this pipe found in Kerr County. Drawn by Richard McReynolds, *La Tierra* staff artist. Richard also drew the illustrations on pages 10, 33, 34 and 35.

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

For membership information contact the Membership Chairman, Kay Allison, 301 East Rosewood, San Antonio, Texas 78212 (210-733-1744).

STAA mailing address: P.O. Box No. 791032, San Antonio, Texas 78279.

For use of the STAA Lending Library, contact Anne Fox or Kay Allison at the Archaeology Laboratory, The University of Texas at San Antonio, San Antonio, Texas 78249.

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The ROBERT F. HEIZER Award
For Outstanding Contributions to Southern Texas Archaeology

FOR 1992

ANNE A. FOX

The 1992 Robert F. Heizer Award is presented to Anne A. Fox of San Antonio, for her outstanding contributions to the development of our understanding of the exceptional historic and prehistoric archaeological resources of southern Texas. Anne has continually demonstrated high standards of professionalism as an archaeologist throughout a distinguished career and has been an active participant during her 19 year membership in the Southern Texas Archaeological Association (STAA). Her determination and drive to achieve the best results possible place her in a position far beyond her contemporaries and she has achieved the status of a leading authority on historic archaeology in San Antonio and the southern Texas missions. Anne has freely given of her time and talents to STAA by assisting in the development of the annual STAA field schools, establishing and training members in field archaeological procedures and directing the historical archaeological activities for field schools. Her ongoing work in the analysis of cultural remains from the Dan Baker site has led to a better understanding of aboriginal peoples who once inhabited this unique prehistoric archaeological site.

Even with her crowded schedule as laboratory director at the Center for Archaeological Research at the University of Texas at San Antonio (UTSA), Anne always takes the time to assist and guide students, visiting groups, and interested individuals through the laboratory to enhance their understanding of archaeology and the need to conserve our endangered cultural resources. Anne serves as an executive officer of the Texas Archeological Society, is past president of that organization, and is a TAS Fellow. She has served with the Texas Historical Commission, and the Old San Antonio Missions Research Conference Advisory Panel, and is active with the Southwest Missions Conference. Her work at the Alamo, at the new dome site, the Governor's Palace, Milam Park, in other areas of the downtown historic district, and elsewhere in South Texas represents an incredibly important body of work which no other researcher has equalled. The selection committee and the members of the STAA are honored to recognize her outstanding work and her exceptional dedication to the archaeology of southern Texas.

The DEE ANN STORY ARCHAEOLOGICAL CONSERVATION Award

FOR 1992

Presentation to Patricia Shield Ayres and Robert M. Ayres, Jr., by Dr. T. R. Hester

PATRICIA SHIELD AYRES
ROBERT M. AYRES, JR.

The 1992 Dee Ann Story Archaeological Conservation Award is presented to the Ayres family of Austin, Texas. The family owns the Shield Ranches in Real and Travis Counties and have been actively involved in conservation efforts of prehistoric and historic sites over the past several years. In 1989, they undertook the restoration and preservation of the late 19th century main ranch house at the Shield Ranch in Real County. A member of the Southern Texas Archaeological Association who did the restoration was extremely impressed by the family's insistence on maintaining the original nature of the adobe and cut limestone structure.

At the Shield Ranch in western Travis County, the family has very actively facilitated archaeological and historical research by the University of Texas at Austin. An ongoing archaeological survey has been conducted since 1989, resulting in the recording of 47 prehistoric and 10 historic sites—sites ranging in age from the Clovis era to 19th century log cabins. Additionally, each Spring semester, the ranch has been the scene of survey and site testing by a UT-Austin field techniques class. In 1992, the UT-Austin summer archaeological field school was held on the ranch; 34 students excavated the Eckols site, a prehistoric Archaic campsite dating back more than 5,000 years. In addition, historical research on the ranch has provided new insights on its original post-Civil War settlers and the development of the area into the 20th century.

The family has recently carried out the authentic restoration of the Haas log cabin, built in the 1870s. Part of this project involved the recording of a detailed oral history from Fred Haas, who was born in the cabin in 1901, providing remarkable recollections of life in the ranch area in the early part of this century.

Their vigorous conservation efforts at the Shield Ranches exemplify the very best kind of landowner Stewardship of our significant cultural resources in Texas. The Southern Texas Archaeological Association recognizes, with this award, these outstanding preservation efforts by the Ayres family: Robert M. Ayres, Jr. and Patricia Shield Ayres; Robert A. Ayres and Margy Ayres; and Vera Ayres Bowen and Stuart Bowen, Jr.

The ARCHAEOLOGICAL PUBLIC SERVICE AWARD

for 1992

Ray Smith (left), presents award to Mr. Barry Dickens of H. B. Zachry
Jimmy Mitchell presents award to Mr. John Boggess (right), of the City Water Board

CITY WATER BOARD OF SAN ANTONIO
H. B. ZACHRY COMPANY

The Southern Texas Archaeological Association (STAA) has recently established this award to recognize outstanding contributions to southern Texas Archaeology by a company, public agency, private foundation, or other organization. For 1992, the City Water Board of San Antonio is recognized, jointly with the H. B. Zachry Company, for exceptional support of the archaeological field research at the Applewhite Reservoir, a project which was accomplished by researchers from Texas A&M University and Southern Methodist University. These organizations provided outstanding support for this very significant archaeological project which contributes to our ongoing search for knowledge of both the historic and prehistoric cultural developments in the Medina River Valley, an interest STAA is pursuing in cooperation with the Institute of Texan Cultures. The City Water Board and H. B. Zachry were very considerate in making arrangements to accommodate the very important archaeological work at Applewhite, and both maintained a flexibility of scheduling which permitted needed exploration of deeply buried cultural remains as they were encountered. The City Water Board co-hosted with STAA an open house at Applewhite during Texas Archeological Awareness Week to alert the public to the importance of the historic and prehistoric sites in the area. H. B. Zachry provided the use of a water truck for water screening to facilitate the recovery of archaeological materials. Both organizations also allowed volunteers to assist in this important research effort; members of the STAA, the Texas Archeological Society, and the Coastal Bend Archeological Society visited the site and participated in the excavations. This willingness to let volunteers assist the professional staff working at the site greatly extended the amount of work which could be accomplished within the time available for excavations and significantly improved the quality of information retrieved. For these and other supporting activities, the STAA is pleased to recognize the City Water Board and H. B. Zachry Company for their outstanding Public Service to Archaeology and their significant contribution to the archaeology of the Medina River Valley in particular, and, more generally, to the development of southern Texas Archaeology.

EDITORIAL

Where were you 20 years ago, or, to be more specific, December 2, 1973? Some of us were walking rivers and road cuts, picking up oddities that we knew were man-made, but not by today's modern man. Some of us were taking a course in anthropology, whetting our curiosity for archaeology. And then there was the determined group of professionals and followers who knew that the time had come for serious action—the charter members of the Southern Texas Archaeological Association. Dr. Tom Hester, T. C. Hill, Jr., and Jimmy Mitchell organized the first meeting at the Lackland Air Force Base Officers Club. Invitations were sent out to 150 people known to have a special interest in archaeology. Forty-five or fifty people attended this meeting and were inspired by Dr. Hester's slides and general overview of the cultural evidence left by ancient man in southern Texas.

Dr. Hester became the first chairman of the association, with Anne Fox as Secretary and the late M. F. Chadderdon, Treasurer. T. C. Hill, Jr. was the first editor of *La Tierra*. Of the original group of charter members 28 are still active. One month after the initial meeting 75 people had joined STAA and one year later showed a growth to 241 members. 1992 ended with 578 members; each month a few more names are added.

We can be very proud of the dedication shown through meeting attendance and the fine speakers who keep us informed of current excavation activity. But, especially gratifying are the excellent manuscripts providing exciting reports for *La Tierra*. Our journal continues to meet the highest standards, as demanded by our readers.

Let's look forward to another 20 years with the same enthusiasm and sincere interest as has been shown in the past.

Evelyn Lewis
Editor

NOTES ON SOUTH TEXAS ARCHAEOLOGY: 1993-1

An Austin Phase Burial from Frio County, Southern Texas: Archaeology and Physical Anthropology

Thomas R. Hester, Diane Wilson and Pamela Headrick

In 1992, the Riley Family Collection was donated to the Texas Archeological Research Laboratory (TARL) at The University of Texas at Austin. Practically all of the materials in this extensive collection are from southern Texas and adjacent northeastern Mexico. Of particular note was a prehistoric Native American burial and an associated artifact discovered in 1934 along the banks of San Miguel Creek in Frio County.

Indeed, we are fortunate to have a first-hand written account of the discovery and excavation of the burial; this is provided below (authored by Bessie B. Riley):

> "It was Friday, April 13, 1934, when Mrs. Minnie Been Riley, Mrs. Lela Been Johnson and Mrs. Bessie Been Riley went to hunt arrows below Big Foot, Texas. Lela and Minnie hunted on hills, but Bessie said she would find something extra sometimes in the creek banks, and this being a lucky day, she saw bones sticking out of a bank about two feet below the surface, and thought surely they were human. After digging around with a short stick, she became more convinced, excited and anxious and called the other girls, but they were too far away to hear, so she marked the trail many times and went to the hills.
>
> "Minnie answered first and went back with Bessie and said 'sure those were human bones' and the two dug more. Then Lela came and said some person had fallen in the little ravine and died as the bones were on the left side, head back, and knees drawn up, all being badly decayed.
>
> "In the chest we found this arrow" [a large Scallorn arrow point accompanying this statement].

This account of the burial excavation by these ladies provides some useful insights. The burial was about two feet below the surface, it was flexed and positioned on its left side. An artifact, an arrow point, was in clear association.

The arrow point appears to be of the Scallorn type (Turner and Hester 1993:230), dated between A.D. 700-1200. However, it has a slightly recurved basal edge reminiscent of the Edwards type (ibid.:212). It is made of a light brown, fine-grained semi-translucent chert. The specimen is finely flaked and has a distal tip that is rather long in comparison to most Scallorn points. The distal edges are slightly serrated. Length is 63 mm, width at the shoulder and at the widest point of the stem is 18 mm, neck width is 6 mm, and maximum thickness is 3.5 mm. Weight is 2.7 g. (see Figure 1, following page).

The skeletal remains (TARL 3518) include a complete calvarium and mandible, right and left femoral fragments, right clavicular fragments, two rib fragments, and a thoracic vertebral fragment. Several deer-sized mammal bones were in the same box when it was brought to the TARL laboratory; we are uncertain if these were found when the burial was excavated (they could have been derived from midden matrix surrounding the burial).

A detailed osteological analysis was done by Wilson and her detailed manuscript is on file at TARL (it will hopefully be published in a subsequent issue of this journal).

Determination of the sex of this individual was made on the basis of cranial features. Even though the cranium is generally

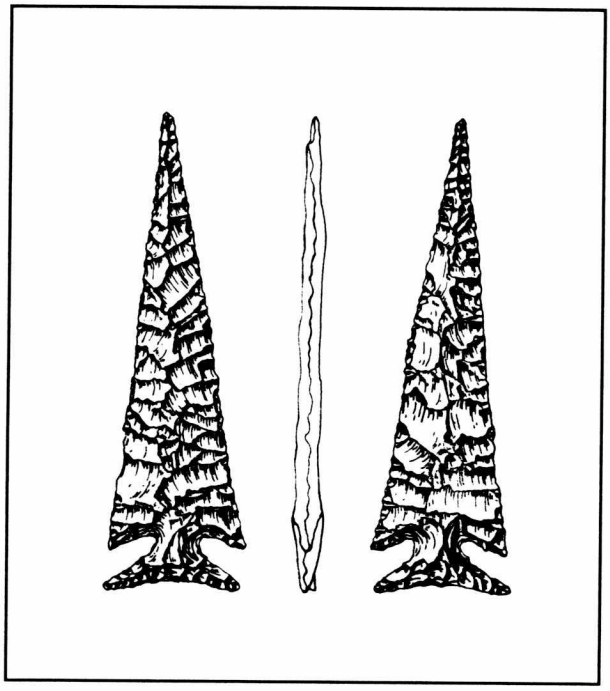

Figure 1. Arrow Point from the Frio County Burial. Both sides and a longitudinal cross section are shown. Illustrated actual size. Drawing by Pamela Headrick.

small, all other features indicate that it is a male (based on studies by Steele and Bramblett 1988). These features include rugged, robust appearance of the skull, distinct muscular ridges at points of attachment, very large mastoid processes, and a square chin.

Since the remains are so fragmentary, the cranial features give the most information on age assessment by using McKern and Stewart's (1957) method of examining suture fusion, and comparing this with tooth wear. Wilson suggests an age of 30-40 years for this individual.

To estimate living stature, Wilson used Steele and McKern's (1969) regression formula for incomplete specimens. A distal-medial left femur was measured, and then a formula proposed by Trotter (1970) was used to calculate a maximum height of 170.9 cm (roughly 5 feet, 7 inches).

The fragmentary nature of the remains yielded limited pathological data. The individual may have had some neck injury, based on a slightly misshapen left occipital condyle. However, the first cervical vertebra is absent and no further observations can be made. The only other pathology was a large dental cavity on the left mandibular second molar.

Tooth wear was judged to be moderate to extreme, but many teeth are either missing or have been broken post-excavation. The wear appears to be typical of hunter-gatherer peoples, with anterior teeth abraded more quickly and more severely than posterior teeth.

Wilson also observed the cranium for non-metric attributes. For example, the individual is dolichocephalic (long-headed) with a somewhat keeled appearance in the sagittal region. The zygomatic arches are very robust, consonant with the identification of the individual as male, and the forehead is quite steep. All of these, and other non-metric traits that were recorded, are found within the normal range of Central Texas indigenous populations.

As noted earlier, we have placed this burial in the Austin Phase, based on the identification of the arrow point as Scallorn. The Frisch Auf! site near La Grange (Hester and Collins 1969) yielded five Austin Phase burials. Two long (49-50 mm) side-notched and serrated Scallorn points were likely associated with one or both of two burials that were adult males (Skulls 1 and 2), 30-40 years of age. The points were on the left rib cage of "Skeleton 1," thought to be the same individual represented by Skull 1. Damage caused by a ditching machine on the Frisch Auf! golf course, where this discovery was made, created problems in linking some of the skulls with post-cranial remains. It is of further interest that Wesolowsky and Ellzey (1969:274) noted that one well preserved cranium (Skull 2) was dolichocranic and had a keeled sagittal region.

Another Austin Phase site with burials and associated Scallorn points is Loeve-Fox in Williamson County (Prewitt 1982). Six of 27 burials had Scallorn points with them; five of these were male and were 30-45 years in age. The Scallorn points were situated in or alongside the chest area with four individuals; with a fifth, the point was in the oral cavity.

A sixth Austin Phase burial, Individual #2, has a Scallorn point imbedded in bone. Wilson's detailed studies have also indicated a sharing of osteological traits with both the Frio County burial reported here and those at Frisch Auf!.

East of Austin, in Travis County, an Austin Phase cemetery has been reported by Greer and Benfer (1975). This is the Pat Parker site, at which 17-20 burials were recorded. Two Scallorn points were found with Burial 5, though the context of the association is unclear (they were found by the landowner prior to controlled excavation). Both Greer and Benfer (1975) and Prewitt (1982) present detailed reviews of Austin Phase burials, some with associated Scallorn points, in Central Texas.

Different patterns of Scallorn associations with burials are noted at Blue Bayou in Victoria County (Huebner and Comuzzie 1992). In this prehistoric cemetery, remains of 53 individuals were recorded, ranging from Late Archaic to Late Prehistoric times. Four Scallorn points were associated with burials; one was near an individual's right foot, another was in the pelvis region of another burial, a third was found between the ribs of a badly preserved burial, and the fourth was in contact with the thoracic vertebra of Burial 16 (there was no penetration of the bone). One of the points was also quite large, 54 mm in length. Huebner and Comuzzie (1992:124) consider the Scallorn point with Burial 16 to be the cause of death; the other associations are less clear and may represent funerary offerings.

The Scallorn points from the Frio County site reported here, the specimens from Frisch Auf! and Loeve Fox, and the Blue Bayou associations, rarely indicate that the point was the cause of death. This is demonstrated once at both Loeve Fox and Blue Bayou. The delicately made Frio County specimen (Figure 1) must have been a burial inclusion, as were the two Scallorn points at Frisch Auf!. Other associations are not as clear, and so we must still reserve judgement as to whether violent death (at least attributed to the penetration of arrow shafts tipped with Scallorn points) was a major factor in the morbidity rates of the Austin Phase.

We are fortunate that members of the Riley family, nearly 60 years ago, recorded the burial and associated arrow point near Big Foot in Frio County. These materials can be used, now and in the future, in the study of Austin Phase mortuary patterns. Since so little is known of the Austin Phase in southern Texas, the Frio County discovery will have particular importance in future research.

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AN ENGRAVED STONE PIPE FROM KERR COUNTY, TEXAS

C. K. Chandler

ABSTRACT

This paper reports and illustrates a large, deeply engraved stone pipe from Kerr County, Texas. The design of the engraving is different from that of any previously reported stone pipe in Texas.

ARTIFACT DESCRIPTION

This large, tubular stone pipe was recovered from a large, deep, burned rock midden near Kerrville in Kerr County, Texas. It is made of limestone that has been pecked and abraded to shape. Evidence of grinding or scraping is manifested by a few parallel longitudinal striations that are visible only by magnification. It is cone-shaped with a maximum length of 115 mm. The diameter near the bowl rim varies from 50 to 55 mm tapering to 20 mm in diameter at the stem end. The bowl has been gouged and subsequently reamed to a uniformly round interior. It is 29 mm in diameter at the rim and tapers to 10 mm diameter at 100 mm deep. Prominent vertical gouge marks are evident in the full depth of the bowl and around the entire interior. Less prominent circumferential striations are also quite evident. The technology of pecking and scraping in shaping the exterior has been noted previously in the shaping of many stone pipes (Chandler 1992). The gouging of the bowl interior, with and without reaming, has also been reported in Chandler (1990). The stem hole has been drilled or reamed and has no evidence of gouging. This opening has a maximum diameter of 13.7 mm, and is uniformly round with a minimum diameter of 10.4 mm at a depth of 15 mm. It weighs 291.5 grams. There is no visible evidence that this pipe has been smoked; however, the vertical and circumferential grooves on the interior have some soil stains with minor remnants of dirt that may obscure evidence of the pipe having been fired.

This tubular stone pipe has engraved designs over much of its exterior. It is illustrated by Richard McReynolds in Figure 1. The engraving is not of a single continuous design but of separate motifs. The most prominent motif is of two broad, deep vertical grooves 93 mm long from the stem end toward the bowl rim. One is 5 mm wide (maximum) and 2 mm deep. The other is 5 mm wide (maximum) and 3 mm deep. These grooves are not quite parallel, being 6 mm apart at the stem end and 16 mm apart at the opposite end. A third vertical groove parallels these two at 19 mm to one side. This groove is not as deep or as wide as the previous two. At 55 mm from the stem end a single straight, deep horizontal groove runs across the center vertical groove to the two outside grooves, and a similar short groove ties the top of the two deep grooves together. This design does not appear to have any particular meaning. Additional straight lines form a large "X" on the opposite side of the pipe body and there is an inverted triangular figure much like a teepee. Near the stem end is a single circumferential shallow groove.

DISCUSSION

Tubular stone pipes have a wide distribution in Texas (Jackson 1940:99-137) but are rarely found. Most have been recovered with burials, and an occasional bone mouthpiece is found intact.

Most are made of sandstone but other materials such as limestone, steatite, pumice and travertine were also used. Very few are known to have been decorated. Jackson (1933) reports one of steatite from Llano County, and Chandler (1990 and 1992) has reported two from the Lower Pecos in Val Verde County, one made of travertine and one of banded sandstone. One fragmentary

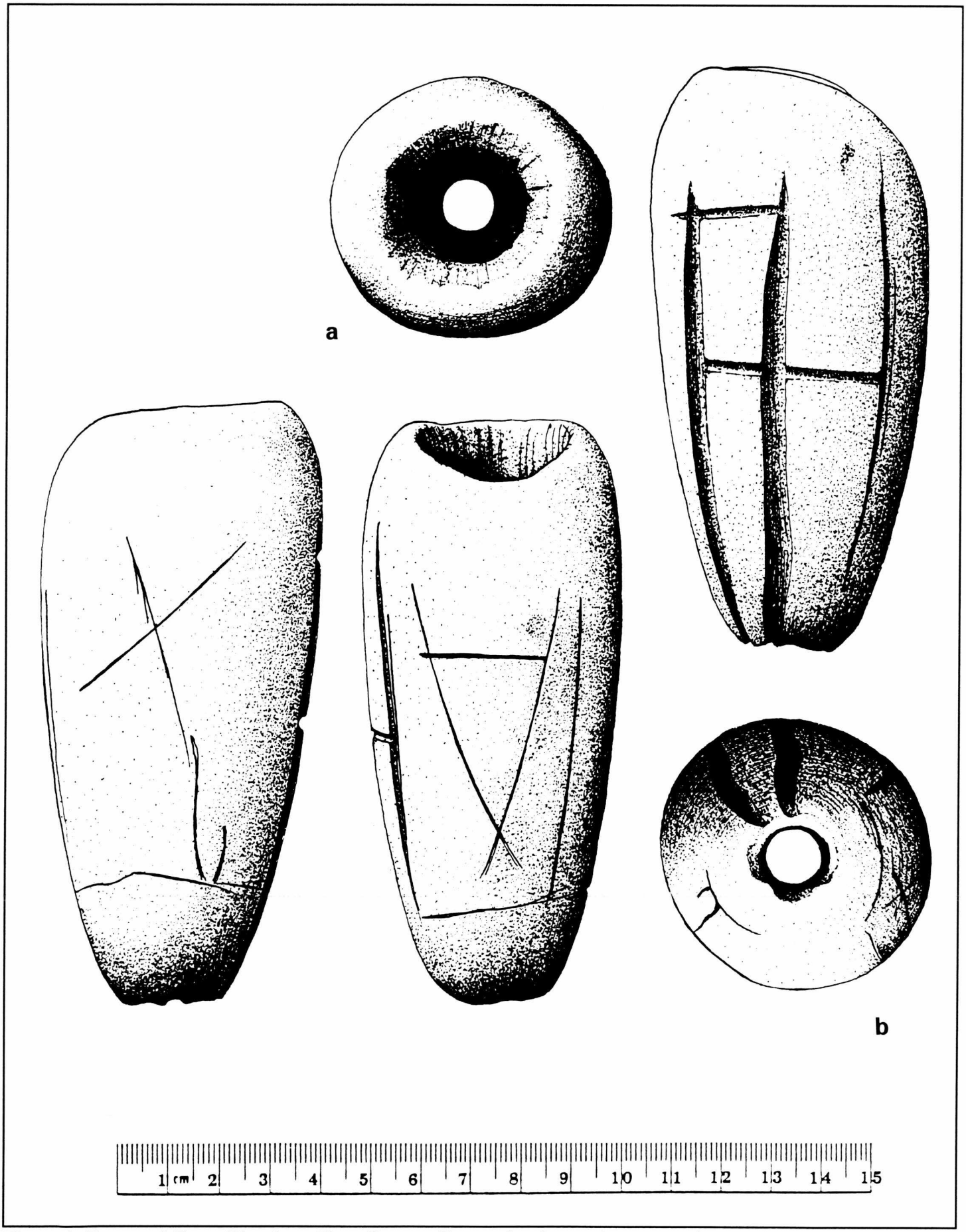

Figure 1. Engraved Stone Pipe from Kerr County, Texas, showing various engraving on sides, and looking into bowl (a) from top, (b) from bottom.

specimen of sandstone from Nueces County has a shallow groove around the exterior near the original center. This may have been for the attachment of a thong and not intended as decoration.

Stone pipes occur most often in South Texas and along the coast and the lower Rio Grande river. Some have been found on the surface but the highest percentage have been found with burials. Aboriginal clay pipes are not reported in South Texas. Jackson (1933) reports both stone and clay pipes in East Texas with the earthenware pipes far outnumbering the stone. Approximately seventy percent of the earthenware pipes are decorated in some form but this obviously is not true for the stone pipes. Effigy pipes are extremely rare but do occur in both clay and stone. Banks and Winters (1975) report a human effigy pipe from Red River County made of limestone. A somewhat similar human effigy stone pipe from the George C. Davis site is illustrated by Turner and Hester (1985). Effigy pipes in Texas appear to occur mainly in the eastern part of the state.

Stone pipes were in use throughout much of the Archaic time period and continued well into the Late Prehistoric (Turner and Hester 1985).

ACKNOWLEDGEMENTS

I wish to thank Joe Guillory for bringing this pipe to my attention, and Steve Schwarz and Tony Harden for making it available for documentation. My special thanks to Richard McReynolds for the excellent illustrations.

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A Reminder

Some of the manuscripts submitted for *La Tierra* arrive without an Abstract—that section which precedes the body of the report. An abstract is a summary containing the substance or general view of the subject being presented, and should be limited to 150 words.

Another oversight seen quite often is omission of the biography (bio) of the author(s) responsible for the work. All readers want to know the background of the writer in its briefest form.

I look forward to your contributions and archaeological reports. The INFORMATION FOR CONTRIBUTORS page found in this copy will help you to organize your manuscript. Refer to it as you put your thoughts together for the final copy.

Thanks for your interest and let this year be the best yet for *La Tierra*.

Your Editor

THE MEDINA VALLEY PROJECT AND THE 1992 STAA-ITC FIELD SCHOOL

Thomas H. Guderjan, Barbara Meissner, Bob Baker, C. K. Chandler, Skip Kennedy, Don McReynolds, H. Ray Smith, Frances Ward, Jan Watts, and José Zapata

January 27, 1993

ABSTRACT

This report briefly summarizes the accomplishments of the second archaeological field school sponsored by the Southern Texas Archaeological Association (STAA) and the University of Texas Institute of Texan Cultures (ITC). Several associated sites were excavated and additional survey work was undertaken. Research design closely follows that offered in the previous report on the 1991 field school, and plans for the 1993 school are discussed.

INTRODUCTION

The 1992 Southern Texas Archaeological Association-Institute of Texan Cultures Field School again focused on Quinta Medina and other sites in the Medina River valley and Castroville, Texas area. The work followed the general research design which was discussed by Guderjan et al. (1992). This year, excavations were continued at the Quinta Medina site (41ME53). At the same time, operations were conducted at the Tschirhart site (41ME70), the River Bluff site (41ME77), and the Diversion site (41ME8). This report continues the series of interim reports which the project will generate during the course of the multi-year study. As such, we will offer few conclusions. However, we will be able to summarize the status of the project.

RESEARCH DESIGN

The research design for the Medina project is derived from the work of ecologists and other archaeologists who have seen that the ecotones, those areas where two major ecological zones merge, have some very special characteristics. It also closely correlates with the Applewhite research design and excavation (Thoms 1992) and the work of those archaeologists who have taken an eco-functional approach to hunter-gatherer settlement (Jochim 1976; Helgren 1980). While the authors are aware that it will not be possible to attain all of the goals of the research design during the field school project, the research design creates a context and direction for our work.

In our study area, we see the merging of the Balconian or hill country biological province with the Tamaulipan or south Texas Plain province (Blair 1950). This is also known as the Balcones Escarpment Zone (Riskind and Diamond 1986). Ecotones exhibit higher diversity of plants and animals than either of the merging zones and also have a higher biomass density. Archaeologists have been able to show that human populations follow similar patterns in their adaptations to the settings. There are more people and the populations are diverse (Gumerman, Weed and Hanson 1976).

In addition to the features common to both the hill country and south Texas zones seen in the Balcones Escarpment Zone, the Medina River valley provides ample water and associated biological and stone resources for human adaptation (Riskind and Diamond 1986; Guderjan et al. 1992). The valleys along the zone, including the Medina valley, were refuges for Pleistocene plant communities which add to their biological richness. Further, they provided access between the hill country and south Texas zones for buffalo and consequently human populations (Gunn Ms.).

Our goal is to determine how human popula-

tions adapted to this rich environment. In order to do so, we must understand the biological and other resources which were available to prehistoric populations and how, if at all, climatic shifts impacted these resources. Attempts at pollen analysis in the region have met with poor results (Hester 1980; Dering, personal communication 1991). So, we must rely upon other sources of information to construct a model of climatic shifts. Principally, this will require borrowing the results of pollen-based studies from nearby areas such as the Lower Pecos and comparing them with what information, mainly geo-archaeological, which we can gather locally.

Many investigators see a gradual shift from the wetter and cooler conditions of the Wisconsin glacial period (22,000-14,000 B.P.) with a gradual loss of mesic species and replacement with more xeric grasses and other types of plants, depending upon the location (i.e., Bryant and Holloway 1985). Others disagree, arguing instead that a model of climatic fluctuations is more appropriate (i.e., Gunn 1986). For a good summary of this debate, see Black's discussion (1989).

Some events, however, can be documented in the study area. At some time prior to the Middle Archaic period, the Quinta Medina site was subjected to severe erosion (Guderjan et al. 1992). A "guess date" on this event is approximately 5000 B.P., placing into the Altithermal, a hot and dry period, of the plains to the north which was originally documented by Ernst Antevs (1948) and recently confirmed by Meltzer's work at Mustang Springs (1991). In the near future, we hope to better date this event at Quinta Medina and either strengthen or discard this postulated correlation. Regardless of what the Quinta Medina-Altithermal correlation really is, the event did occur in that general time range and supports, at least in a general manner, Gunn's fluctuating model.

At the same time, the Applewhite-Medina terrace system was being built by alluvial deposits from the Medina River. This process seems to have ceased by about 4000-5000 B.P. in the northern reaches of the river at the Diversion site (Guderjan et al. 1992) and continues until perhaps as late as 2000 B.P. at the Richard Beene site at the proposed Applewhite Reservoir dam (Thoms 1992). The growth of the Applewhite-Medina terrace appears to be gradual and consistent. While this would appear to support the Bryant and Holloway's gradual drying model, it is not adequate to reject the Gunn model.

At Cueva Corbin, where the Medina project began, we found clear evidence of a major, or a series of major, prehistoric flooding episodes (Guderjan 1991). Evidence of these episodes was buried below a Perdiz point in a sealed context which dates to approximately 1200-1500 A.D. (Turner and Hester 1985). Floodwaters reached the mouth of Cueva Corbin and deposited alluvial sediments as the water retreated and drying occurred.

With this background, our goals can now be defined. First, we want to attain better understanding of the climatic processes of the past and how they would have impacted the resources which human populations would have sought. Then, we can better understand how these resources are distributed over the landscape; currently, historically and prehistorically. With that information, we want to better understand how and why prehistoric populations distributed themselves over the same landscape. We seek to understand how and why changes in these settlement patterns occurred.

One of the best developed ways of studying settlement patterns of hunters and gatherers in this kind of setting is through analysis of the distribution of debitage from the manufacture of stone tools. While this has been successfully done many times (Guderjan 1982; Raab, Cande and Stahle 1979, among many others), the only successful application of a sophisticated stone reduction strategy analysis in south Texas was by Ricklis and Cox in the Coastal Bend area (in press), though Skinner used related concepts in his dissertation work from Kerr County (1974). Such analyses are based upon the rather simple concept that sites where limited activities occurred will exhibit a limited range of artifact variability as compared to these where a wide range of activities occurred. A wide range variability, then, is usually taken as representing a long-term or semi-permanent camp. On the other hand, sites which exhibit little variability were likely used for only limited time (quarry site, hunting camp, knapping station, etc.).

The long-range goals of the project, then, require us to analyze artifacts from each of these sites (and the various components of some of

them) to establish not only their chronological position, but site function as well. We do not, as of now, have a large enough sample of sites to make valid comparisons. Consequently, we will continue to excavate new sites in order to increase our sample size. With these data, we hope to be able to vastly improve our understanding of prehistoric settlement patterns, how and why they changed. A similar approach to ours was taken by Jochim in his landmark study of the European Neolithic (1976).

OPERATIONS AT THE QUINTA MEDINA SITE

Quinta Medina Area A

In 1991, most of the original 2- by 10-meter block had been dug to the bottom of Level 2, that is, 20 cm below the ground surface. Since the ground surface varied on the slope of the hill, there was some variation in actual depth along the length of the block. Though the backhoe trench had shown that Area A was a deeply stratified site, with at least two components (Late Prehistoric and Middle-Late Archaic), it also showed that the ground itself was an almost homogeneous grayish-brown, sandy clay. Defining specific components by changes in the matrix was not possible. We wanted to find a methodology that would give us as much information as possible, given our resources. We decided to plot three-point provenience on as many artifacts as possible. This information would then be fed into a computer. A reconstruction of the artifact placement within the site would then, theoretically, be possible.

Units were hand-dug with trowels, and all dirt was screened through 1/4" mesh. The first level in each unit was dug to 40 cm below an arbitrary datum. In some units Level I was only a centimeter or two thick. In others, it was 20 cm or more deep. When we completed Level I, however, we had the entire block down to a flat surface. After Level I, the units were dug in arbitrary 10-centimeter levels. Whenever possible, three-point provenience was taken on all diagnostic artifacts, large bone, and all chert flakes greater than about three centimeters in largest measurement. Record of this information was kept on separate log sheets, with each item identified by unit and bag number. Flakes were then bagged by unit/level and digging on the arbitrary level continued. All tools or suspected tools, including apparently utilized flakes, and any other unusual artifacts were given Unique Item numbers and logged separately.

The Strange Case of the Feature that Wasn't

In the bottom of Level II (40-50 cm) of N19/W29 (see site map in Guderjan et al. 1992) the excavators found a series of flat rocks which appeared to have been burned and which were apparently cracked in place. It looked very much like a hearth, but memories of a very similar pattern of rocks found in the bottom of a test unit dug to the west of the excavation block in 1991 made us suspicious that this was another case of hard caliche overlying bedrock.

By the time we had reached the bottom of Level III, however,we began to think we had been wrong. The surface of the flat, fire-cracked rocks had a distinctly domed shape. This did not match our expectations, and we began to wonder if we did, indeed, have a feature. Speculation, as it always does in these circumstances, became imaginative.

At the bottom of Level IV, the dome shape had become well defined. The "Feature" extended into the next unit to the west (Figure 1). However, in one or two places visible at the bottom of Level IV the edges of the slope flattened out into rock that was clearly the hard caliche/ limestone which overlies the decaying bedrock of the hillside in this area. Though we were now fairly sure that we did not have a feature, we chose to treat it as if it were one. The "feature" was completely exposed, mapped, photographed, and then cut in half on an east-west axis.

As we had suspected from the beginning, the "feature" turned out to be a naturally occurring phenomenon, though an unusual one. Cutting into the mound revealed that the "fire-cracked rocks" were actually hardened caliche. This surface "shell" covered a series of alternating layers of a centimeter or so of black dirt and flat and soft caliche rock (Figure 2). There were several layers

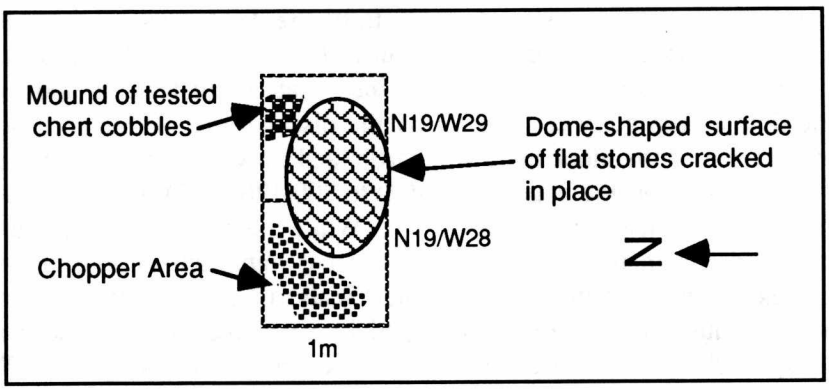

Figure 1. Plan View of the Feature that Wasn't.

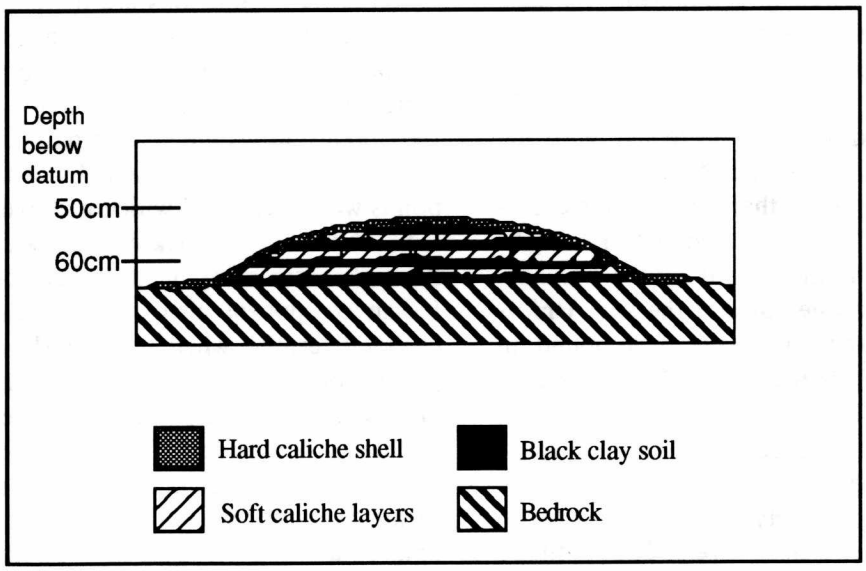

Figure 2. Profile of the Feature that Wasn't (looking South)

like this before reaching the much harder caliche/limestone of the bedrock. The mound may represent the original structure of the subsoil in that area. Water had eroded most of the layers of dirt and soft caliche away, leaving this small mound as a remnant of that original structure.

Perhaps the most interesting thing about this little mound was the evidence that someone once found it a convenient place to sit while working. West and north of the mound was a scattering of nine bifacial choppers, several other bifaces, four cores, and a number of large flakes, some of which had been utilized (see Figure 1). Northeast of the mound was a pile of six large, tested cobbles. Though it is admittedly speculation, it is hard not to see someone sitting on this convenient hump of ground, with a pile of raw material on one side, and the finished product on the other. Questions remain about why all these choppers were made, and why they were abandoned there, but we can make an educated guess about when this happened, as a nearly complete Castroville point was found at the same level in the unit immediately to the south. Castroville points have

been dated from 2,800 to 2,400 years before present (Turner and Hester 1985).

The backhoe trench dug in 1991 had shown us that the modern ground surface of Area A sloped gently away toward the north and east. There had been at one time a deep gully cut into the bedrock. The northern end of the block excavation (and the non-feature) was on the edge of this gully. At the end of the 1992 field school, we had excavated down to bedrock in the northern four units of the block excavation and in half of the next two units to the south, where the slope into the gully becomes quite sharp. This area was of particular interest because there were enough diagnostic tools to define the Late Prehistoric component represented by Edwards points separately from a Late Archaic component. Further, there was no evidence of disturbance, other than minor rodent burrowing.

The rest of the block excavation is still under analysis and will be presented with the complete report on the Quinta Medina Site. However, it should be noted that there is some evidence of an Early Archaic component to Area A. A Martindale base fragment and a classic Guadalupe tool have been unearthed at the site. Unfortunately, these diagnostics have been found in seriously disturbed context. The Martindale base was found in 1991, at the bottom of the gully, near a very large, active burrow, and the Guadalupe tool was found during the 1992 field school in Level III, unfortunately, much too close to Prehistoric and Late Archaic levels. The profile of the west wall of the backhoe trench shows that there is a possibility that there is an undisturbed area deep on the edge of the southern side of the gully. The 1993 field school at Area A will focus attention on this part of the block.

Quinta Medina Area B

Area B is located east of Area A and on the opposite side of the Quinta Medina burned rock midden. A series of 1 by 2-meter and 1 by 1-meter units were dug, somewhat randomly placed but in a N-S and E-W grid, to determine the potential for further excavations in Area B. The Area B surface is gently sloping to south and the watercourse for the Quinta Medina springs. The depth of the deposit varied from 30 cm to more than 100 cm, becoming deeper downslope. A well defined, Late Prehistoric component was marked by the discovery of 10 Scallorn points and three partial and untyped arrow points. Scallorn points date to 700-1200 A.D. (Turner and Hester 1985).

While these dates overlap the Edwards point dates, it is important to note that the "Edwards" and "Scallorn" components at Quinta Medina are spatially separated by 30 or more meters and are clearly distinct from each other. We hope to be able to examine this component in the same detail which we will be analyzing the Area A components.

Earlier occupations are marked by an array of dart points. Table 1 (following page) displays the projectile points recovered from Area B. If more than one example was found, the number recovered follows the type in parenthesis.

While Middle, Late and Transitional Archaic points were recovered which may well be associated with the burned rock midden, a cearly defined Early Archaic component and a possible Paleo-Indian component also exist. At this stage, we cannot determine whether the Early Archaic component consists of several occupations or one large one. Also, while we presume that the burned rock midden is not associated with the Early Archaic component, this may not be true. Consequently, it seems likely that we will need to place excavation units in the midden itself in order to test its temporal context. There is also a clear soil color change in the Early Archaic levels which will help define the component in future excavation. Most importantly, we seem to have the opportunity to examine discrete occupations dating to very early periods at Quinta Medina Area B.

An important feature was found in Area B. This was a compactly associated group of bones which includes a bird long bone, a bison metatarsal, a bison rib and a long bone which was probably from a deer. Kennedy speculates that this may have been the remnants of a shamann's pouch and his assertion is as likely as any (Kennedy 1992).

Table 1. Projectile Points from Quinta Medina Area B.

Period	Type	Dates*
Late Prehistoric	Scallorn (10)	700 - 1200 A.D.
Transitional	Ensor	200 B.C. - 600 A.D.
	Frio	600 B.C. - 200 A.D.
Late Archaic	Marcos	600 B.C. - 200 A.D.
Middle Archaic	Marshall (2)	1000 B.C.
	Palmillas	Middle - Late Archaic
	Tortugas (2)	Middle Archaic
Early Archaic	Early Triangular (2)	3700 - 3600 B.C.
	Guadalupe Biface	3500 B.C. or earlier
	Lerma	Paleo-Indian - Archaic
	Martindale	Early Archaic
	Nolan (2)	4000 - 2500 B.C.
	Pandale	4000 - 2500 B.C.
Paleo-Indian	Plainview (possible)	8150 - 8010 B.C.

* All dates from Turner and Hester (1985)

OPERATIONS AT THE RIVER BLUFF SITE

The River Bluff site is located within the city limits of Castroville, in the River Bluff residential development. The development and the site are located on the west side of the Medina River on top of the Medina-Applewhite Terrace (Figure 3). After the formation of the terrace, the river course shifted to the east, cutting a steep bank from the site down to the river, some six to seven meters below. It appears that this event occurred prior to occupation.

The goal of the River Bluff excavations was to determine the concentration and depth of the cultural materials at the site. The site is a shallow, undisturbed Late Prehistoric site. Three 1- by 1-meter pits several meters apart were excavated. All three pits yielded a relatively heavy concentration of lithic debitage within the first 10-cm level and continued to about 18 cm from the surface into the second level.

The pit nearest the bluff was expanded to a 2- by 2- meter unit when a small hearth made of rounded limestone river cobbles and associated charcoal was found. Several radiocarbon samples were retrieved. This pit also yielded two Edwards projectile points. The third pit also yielded two Edwards points and was excavated to 90 cm as it was still producing scattered lithic debitage. A 50-cm-deep posthole was then dug in the center of the pit to test for other cultural levels, but none were found. The pit was dug into an infilled gully, which accounts for the lower cultural debris.

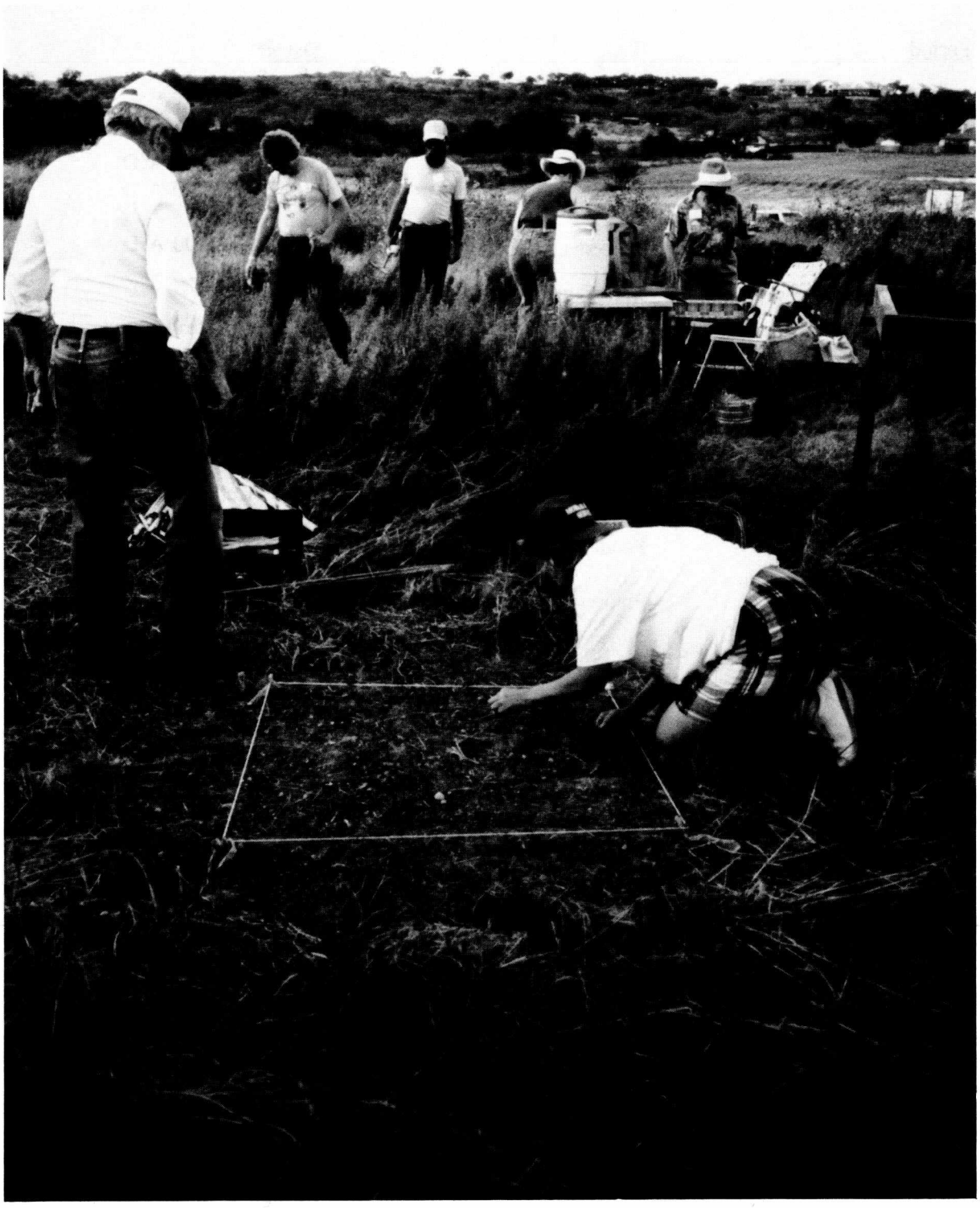

Figure 3. Test pits at the River Bluff Site, 41ME77.

Not only is the single component nature of the River Bluff site exciting, but it is more so because of its Late Prehistoric nature with only Edwards points. The Edwards point type was defined by Sollberger from sites in Kerr County and have a quite limited spatial distribution (Turner and Hester 1985) and an apparently very limited temporal distribution as well (Hester 1971). Sollberger considers the type to be "the first arrow points of the Kerr County region of the Edwards Plateau [which] were direct copies of the dart forms in use at the advent of the bow" and that the name was selected "rather than a town name in order to imply a base, or original arrow form for this vicinity of the Edwards Plateau region" (Sollberger 1978:15). Hester's excavations at the La Jita site tend to support Sollberger's chronological placement (Hester 1971).

While it is much beyond the scope of this report to delve into the cultural correlates of projectile point styles and types, what is clear is that the presence of Edwards points marks a bounded cultural system. In other words, where we find Edwards points, we can be reasonably assured that we see cultural interaction. Thus, we can analyze Edwards points sites and components as a single cultural complex. Aside from the Edwards component at Quinta Medina and the River Bluff site, there are few other published sites with Edwards components. While Edwards points have been found at a number of sites, only in a few cases are they unmixed with other components or even dominate a mixed component.

The La Jita site seems to have included Edwards components in Areas A and C. Although these were complex and mixed deposits, La Jita is still one of the best described sites in which Edwards were found. A small Edwards component was found at the Panther Springs site. However, it was also in a mixed context (Black and McGraw 1984). Two sites at Camp Bullis, 41BX383 and 41X385, have significant Edwards components (Gerstle, Kelly and Assad 1978).

Since there is such a dearth of information, we anticipate that the data recovered from the River Bluff site combined with the Edwards component of Quinta Medina, will help us define the nature of "Edwards" occupation.

OPERATIONS AT THE TSCHIRHART SITE

Test excavations at the Tschirhart site were begun in 1991 (Guderjan et al. 1992) and continued in 1992. Between field sessions, the owner plowed a section of the site adjacent to our original test excavations. This gave us the opportunity in 1992 to execute a controlled surface collection (Figure 4). Such a surface collection enables us to analyze the horizontal characteristics of a site. However, as in any case where an occupational surface is stable throughout the site's history, several or many occupations may have occurred on the same surface.

At the Tschirhart site, temporally diagnostic artifacts include an Angostura point (Surface Collection Block 5: 6500-6000 B.C.; Turner and Hester 1985), a Guadalupe Biface (S.C. Block 16:3500 B.C. or earlier; ibid 1985), a Tortugas point (S.C. Block 6: Middle Archaic, 3000-2000 B.C. or earlier; ibid 1985), and a number of other Archaic tool forms.

The plowed section of the site was divided into 10- by 10-meter grid squares (Figure 5). By mapping the locations of the artifacts recovered, it is possible to show where the loci of activity were. Figure 6 is an isometric map showing all of the artifacts recovered from the surface collection area. This shows a clear activity locus in Blocks 4, 5, 6, 7, 15 and 31 with a secondary locus in Block 2. Since a large number of the artifacts were actually chips smaller than 10 mm in length, collection bias and consistency are questionable.

To correct for this, Figure 7 shows all artifacts except chips. This clarifies the situation somewhat. In Figure 7, the secondary Block 2 locus stands out more prominently and a very weakly defined tertiary locus appears in Blocks 10, 11, 36 and 37. Further, Block 7 drops out of the primary locus and the bimodal pattern within the primary locus disappears. When the formal tools only are mapped, this pattern still remains despite the small sample size (Figure 8).

Consequently, it is possible to separately analyze the Primary and Secondary Loci. Table 2 (following page) shows which blocks are included in each locus.

Figure 4. Controlled surface collection at the Tschirhart site (41ME70).

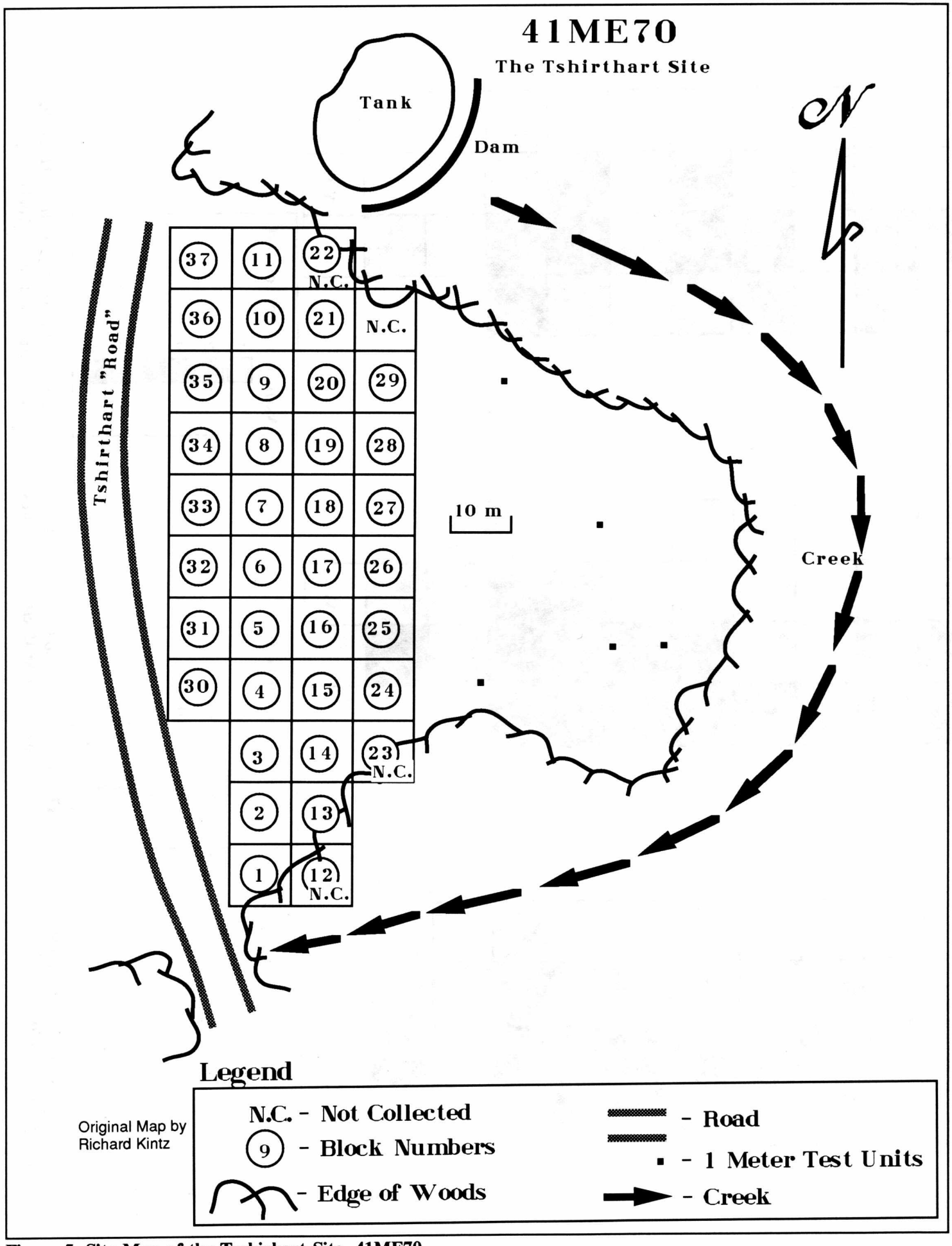

Figure 5. Site Map of the Tschirhart Site, 41ME70.

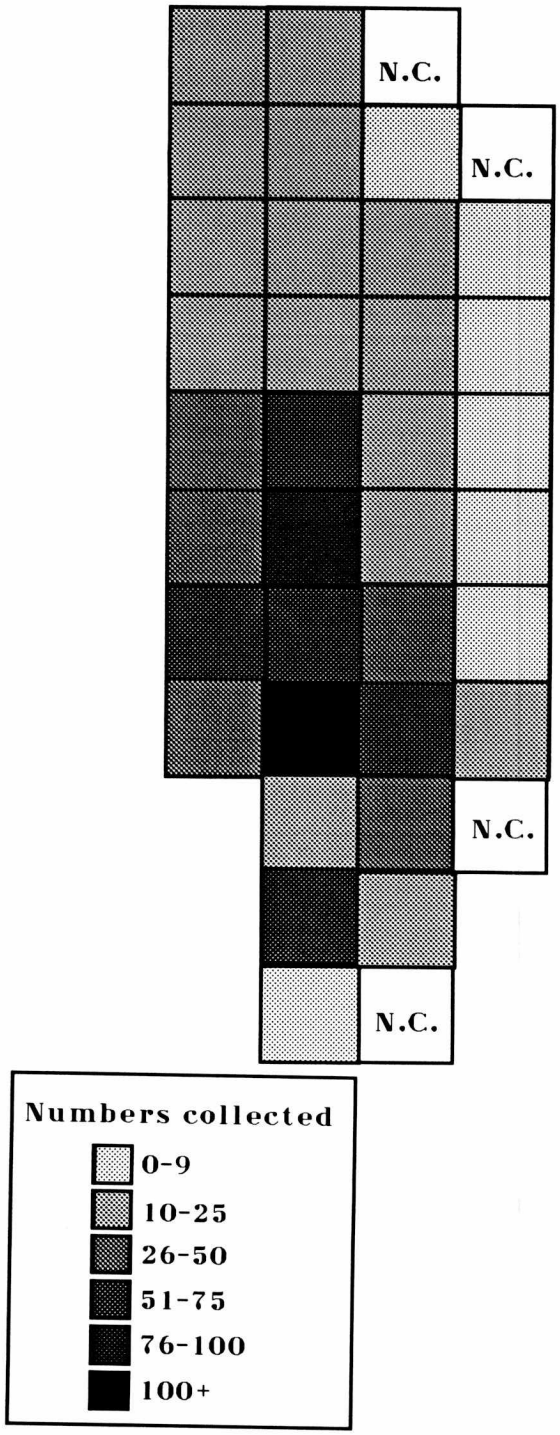

Figure 6. Surface Collection, 41ME70. Distribution of All Artifacts.

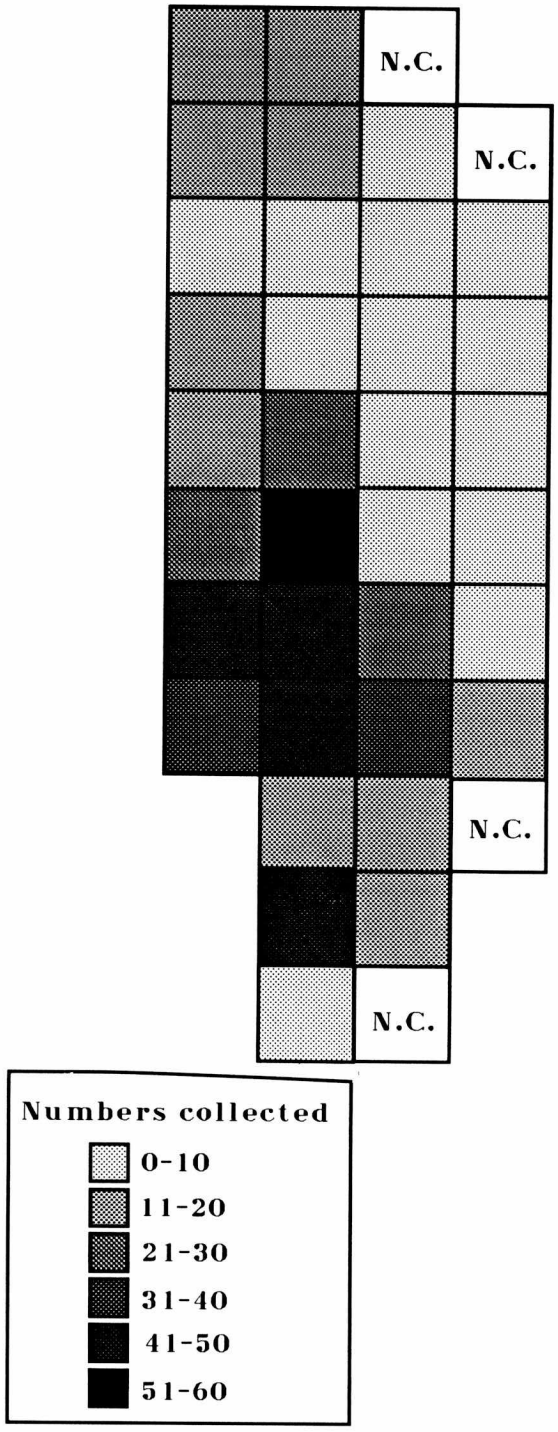

Figure 7. Surface Collection, 41ME70. Distribution, All Artifacts Except chips.

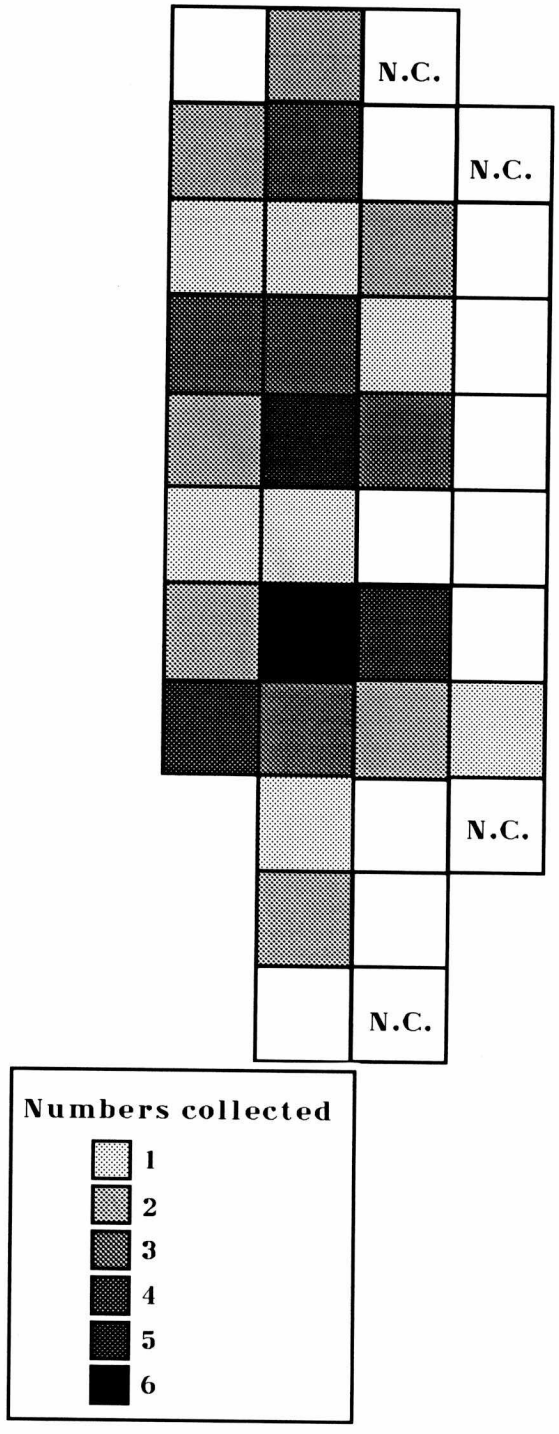

Figure 8. Surface Collection, 41ME70. Distribution of Formal Tools.

Clearly, the temporal spread among the diagnostic tools is too great to assume that all artifacts in the Primary Locus could have originated from the same occupation. Further, the Tortugas is a heavily patinated artifact as are a number of the flakes, etc. in the primary locus. So, we can reasonably assume that at least two occupations of the site occurred on the same ground surface. The first was an Early Archaic occupation associated with the Angostura and possibly the Guadalupe Biface and the other is a Middle Archaic occupation associated with the Tortugas and possibly the Guadalupe Biface. The Secondary Locus in Block 6 may represent a distinct activity area associated with either of these occupations or may be a third occupation. It is not possible to determine whether the artifacts from outside of the loci derive from these or other occupations.

Table 2. Activity Loci and Collection Units at the Tschirhart Site.

	Primary Locus	Secondary Locus
Blocks	4, 5, 6, 15, 31	2
Diagnostic Tools	Angostura, Tortugas, Guadalupe Biface	

It is clear, by the way, that all of the 1992 test pits were located poorly. These were dug prior to the surface collection and none of them very well reflect the true nature of the site. Each had extremely low artifact returns and none were placed within any of the loci.

In summary, the Tschirhart site is a small, multi-component Early and Middle Archaic site. Our more detailed analysis of the artifacts and site function will be presented in our final report.

OPERATIONS AT THE DIVERSION SITE

The Diversion site (41ME8) was described in the interim report of the 1991 field work (Guderjan et al. 1992). So, we will not do so in detail again here. In that report, it was referenced only by site number. The name has been assigned since. The site is in and on the Applewhite-Medina Terrace near the Medina Lake Dam. About 3 - 4 meters below the surface, Britt Bouseman and his team confirm the existence of a deeply buried paleosol with archaeological materials buried with it. Its presence was suspected from a site form filed by George Judson. Judson had excavated the nearby Scorpion Cave (Highley et al. 1978) and recorded as 41ME7 at that time. He recovered a Golondrina point (7080 - 6830 B.C., Turner and Hester 1985) from the Medina River's cut bank in the site and a Barber point in disturbed context nearby. Bouseman recovered a Paleo-Indian preform and a few flakes from the paleosol in 1991 (Guderjan et al. 1992). On top of the terrace deposit is a Middle - Late Archaic midden. In 1992, test excavations were undertaken to determine the terminal date for the aggradation of the terrace based upon the earliest date for the burned rock midden.

Two test units were dug and a Pedernales point (2000-1200 B.C., Turner and Hester 1985) and a Tortugas point (Middle Archaic; ibid) were recovered. However, both were in the upper levels of the excavation, overlying 60 cm of deposits. We have a radiocarbon sample from the bottom of the deposit, however, and will obtain a date from that sample.

Unfortunately, we do not now believe that it will be possible to mechanically remove the overburden from the Paleo-Indian level, and the burned rock midden has been badly looted. Consequently, it is unlikely that more work will be attempted at the Diversion site.

OTHER OPERATIONS

During the field school, several related activities were undertaken which will enhance the

results of our excavations. Survey work in the Medina Valley was continued. No additional sites were recorded. However, several sites were visited or revisited and the team increased its understanding of the diversity of the archaeological record of the area. We began to work closely with the U.S. Soil Conservation Service's Uvalde office. This office has developed a high level of expertise regarding Pleistocene and Quaternary geology. Further, they have an exceptional willingness to share information with the archaeological community. Finally, we continued our efforts to understand the nature of the ecotonal biomass of the area.

1993 PLANNING

In 1993, we will complete many of the operations which are currently in progress. Excavations will focus on the Quinta Medina and River Bluff sites. Plans for Area A of Quinta Medina include and intensive effort to reach bedrock on the entire block, especially on the southern end of the block. In addition, a detailed profile of the entire western wall of the block will be made, in order to correlate this with computer generated artifact maps. In Area B of Quinta Medina, we will expand our testing in order to expose more of the various components. In particular, we will seek information regarding the Late Prehistoric occupation and those which predate the occupations of Area A. At the River Bluff site, we will open a large, horizontal block. This will give us the opportunity to study this unmixed component as an occupational surface. After the 1993 field school, we will begin the task of assembling a final report of the work to date and apply the data which we have collected to those issues defined by our research design.

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COMMENTS ON RICKLIS' STUDY OF THE TOYAH PHASE ON THE SOUTH-CENTRAL TEXAS COAST

Leland W. Patterson

INTRODUCTION

Ricklis (1992) has published a study concerning the introduction of Toyah Phase lithic technology into the South-Central Texas coast, at the southwest end of the geographic area of the Rockport Phase. Comments are given in the present paper on alternate interpretations that could be made in place of some of Ricklis' conclusions. Some of the conclusions in Ricklis' study seem to be fairly well-founded, while other conclusions are open to critical comments.

This paper supports Ricklis' (1992:263) conclusion that technological diffusion into the Rockport area is more likely than actual migration into this area of people carrying new technology. However, the ultimate sources of new technology in the Rockport Phase area, as seen by Ricklis, can be questioned. The geographic area of the Rockport Phase (Ricklis 1992:Figure 1) should not be viewed as a homogeneous area for the chronologies of lithic and ceramic technologies. Even if Ricklis' conclusions are correct for the limited area of Corpus Christi Bay, his conclusions may not apply to the entire Rockport Phase area, which extends about 225 km (135 miles) to the northeast of Corpus Christi Bay, as a straight line distance. Possible technological influences from Southeast Texas should be considered for much of the Rockport Phase area, especially the northeast portion of the Rockport Phase area adjacent to Southeast Texas.

Comments are also given here on seasonal settlement patterns of Indians on the Texas coastal margin, and on some considerations of lithic tool functions.

DEFINITION OF THE ROCKPORT PHASE

The Rockport Phase of the Central Texas coast is a Late Prehistoric manifestation, generally linked to the historic Karankawa Indians (Gatschet 1891). Rockport pottery is the main cultural indicator of the Rockport Phase, both in the Late Prehistoric and Historic Indian time periods. The Rockport Phase geographic area extends along the Central Texas coast from the southwest side of Corpus Christi Bay to the northeast along the coastal margin for a linear distance of about 225 km, ending at about the San Bernard River.

Rockport pottery is occasionally found slightly east of the San Bernard River, such as at site 41BO167 in Brazoria County (Patterson and Hudgins 1988).

Ricklis (1992:266) states that the inland distribution of sites yielding predominantly Rockport pottery extend about 40 km (24 miles) inland from the coastline. This is similar to the general concentration of grog-tempered pottery on the upper Texas coast during this same time period. Indians adapted to marine resources of the Texas coastal margin utilized a fairly narrow band along the coast for inland hunting and gathering, with occasional incursions farther inland (Patterson 1990).

On the northeast end of the Rockport Phase area, there are small amounts of Rockport pottery found in the Late Prehistoric period up to 40 miles (67 km) inland, in Wharton County (Patterson et al. 1987; Patterson and Hudgins 1989). In the same general area in Wharton County, there is a major concentration of Rockport pottery at historic Indian site 41WH8 (Hudgins 1984).

It has been noted above that data for the Rockport Phase in the Ricklis (1992) study discussed here are only for a limited area around Corpus Christi Bay. Any conclusions by Ricklis for ceramic and lithic technologies should be viewed with caution when considering the entire Rockport geographic area.

SEASONALITY CONSIDERATIONS

Ricklis (1992:265) has proposed a seasonal settlement model for Rockport Phase Indians based on data for the Corpus Christi Bay area. Some of the data for this model are derived from use of Aten's (1981) seasonality correlation for *Rangia cuneata* brackish water shellfish. Aten's

correlation is now under question (Patterson, Ebersole and Kindall 1991). Basic problems with Aten's seasonality correlation for *Rangia* are that not all live *Rangia* samples have growth ring patterns that fit the correlation, and that the correlation cannot be used where there is a mixture of *Rangia* shell from several occupation events at a site during the same year.

The use of a two-season warm-cool settlement pattern is now in question. On the upper Texas coast, a more likely seasonal pattern involves the use of shell midden sites on the coastal margin as the main residential area, with multiple trips each year to slightly more inland locations for hunting and gathering (Patterson 1990).

Major shell midden sites on the coastal margin of Southeast Texas usually have the same range of types of faunal remains as inland sites in this region, but coastal margin sites also have marine faunal remains. A two-season settlement pattern appears to be too simplistic. Among other considerations, Story (1990:269) notes that there may not be a single pattern for seasonal rounds, as subsistence strategies will vary depending on the current availability of various natural resources. The number of trips per year to inland area by coastal margin Indians could be quite variable.

EXTERNAL RELATIONSHIPS OF THE ROCKPORT PHASE

The Rockport geographical area is a long narrow zone on the Central Texas coast. There is no reason to believe that outside technological influences from adjacent areas were the same all along the Rockport Phase area. For example, the Archaic (preceramic) period ends at A.D. 100 in Southeast Texas on the northeast end of the Rockport zone, but the Archaic period ends at about A.D. 1050 (Ricklis 1992:268) on the southwest end of the zone at Corpus Christi Bay. In Southeast Texas, there is an Early Ceramic period of A.D. 100-600 and the Late Prehistoric period then starts in this region at A.D. 600 with the start of standardized bifacial arrow point types, such as Perdiz (Aten 1983; Patterson 1979).

Ricklis (1992:270) recognizes that sandy paste pottery (Goose Creek) diffused through the Rockport area from Southeast Texas as a precursor to Rockport type pottery. He then fails to recognize the possiblity of diffusion of other technological traits from Southeast Texas into the Rockport area.

Since the Perdiz arrow point starts earlier (A.D. 600) in Southeast Texas (Patterson 1991) than in South Texas (Black 1986; Ricklis 1992) and Central Texas (Prewitt 1981), the possibility of diffusion of the Perdiz point from Southeast Texas to the west seems straightforward. Archaeologists in South and Central Texas have remained rather provincial on this subject, however. This is typified by Ricklis' (1992:271) statement that "It is notable that to date no geographical origins for either the Perdiz arrow point or Toyah bone-tempered pottery have been identified outside of Central and southern Texas; the absence of possible extraregional sources for these traits is unexplained by the migration hypothesis." Previous suggestions on the diffusion of the Perdiz point from Southeast Texas to South Texas (Patterson 1988a) and Central Texas (Patterson 1988b) have been simply ignored. One reason for diffusion of the Perdiz point from Southeast Texas to the west may have been the increasing availability of bison in Central and Southwest Texas. Even though bison may have increased somewhat in Southeast Texas in the Late Prehistoric period, this region remained a marginal area for bison procurement (Patterson n.d.). Ricklis' statement above is also incorrect about the origin of Toyah bone-tempered pottery. Story (1990:246) notes the early presence of bone-tempered pottery in Northeast Texas, well before the Toyah Phase.

Ricklis (1992:266) states that the Perdiz point was introduced to the Corpus Christi Bay area about A.D. 1250, as part of the Toyah Phase lithic tool kit. This may be correct for the limited area at the far southwest of the Rockport Phase distribution. The Perdiz point may have been introduced earlier from the east into the Toyah Phase and then came to the Corpus Christi Bay area as part of the Toyah tool kit.

It is interesting to note that some Rockport Phase sites in the Corpus Christi Bay area also have Scallorn arrow points (Ricklis (1992:Table 1). This is similar to Southeast Texas (Patterson 1991), where the Scallorn point continued later than in Central Texas.

Data from site 41WH12 (Patterson and Hudgins 1989) in Wharton County indicate that the Perdiz point was known to Indians of both the

Rockport Phase and the southern part of Central Texas at least as early as A.D. 900. Rockport bone-tempered and Goose Creek pottery are all present in the 20-25 cm stratum of this site, with a radiocarbon date of A.D. 900, indicating contact between Indians of Southeast Texas, the Central Texas coast, and the southern part of Central Texas. The Perdiz point was present at this site even earlier, as shown by a specimen in the 25-30 cm stratum.

ADDITIONAL COMMENTS ON LITHIC TECHNOLOGY

Ricklis (1992:262) speculates that the Perdiz point may have had an advantage by maximizing bleeding, due to the long, sharp shoulder barbs. This is a rather tenuous concept, as many Scallorn point specimens also have long, sharp shoulder barbs. If there is a technological advantage for the Perdiz point over the Scallorn notched point, it may be because the Perdiz point is easier to make. As an experimental flintknapper, I find that contracting stems are easier to form than notched stems.

Ricklis (1992:Figure 5) has illustrated small size end scrapers as having the function of preparing large hides (Ricklis 1992:262). It would seem difficult to use such a diminutive size tool for large hides. It would be easier to use the bifacial knife as both a cutting and scraping tool. Perhaps another function for small end scrapers should be investigated.

SUMMARY

A number of critical comments have been given here on Ricklis' (1992) study of the technology of Late Prehistoric bison hunting in the Corpus Christi Bay area of the South-Central Texas coastal margin. The main points are that the Perdiz arrow point is likely to have diffused from Southeast Texas into both Central and South Texas, and that uniform chronologies should not be used for lithic and ceramic technologies throughout the Rockport Phase geographic area.

Seasonal subsistence-settlement patterns for the coastal margin were also discussed. Reasons were given on why growth-ring patterns of *Rangia cuneata* shellfish cannot be used as a reliable indicator of the seasonality of prehistoric settlement patterns.

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SCOTTSBLUFF POINTS FROM ATASCOSA, FRIO AND McMULLEN COUNTIES, SOUTH-CENTRAL TEXAS

C. K. Chandler and Kay Hindes

ABSTRACT

This report describes, illustrates and documents ten Scottsbluff points from Atascosa, Frio and McMullen Counties in south-central Texas. The ten specimens reported here greatly expands the known number of Scottsbluff points in McMullen and Frio Counties and provides the first documentation of Scottsbluff points from Atascosa County.

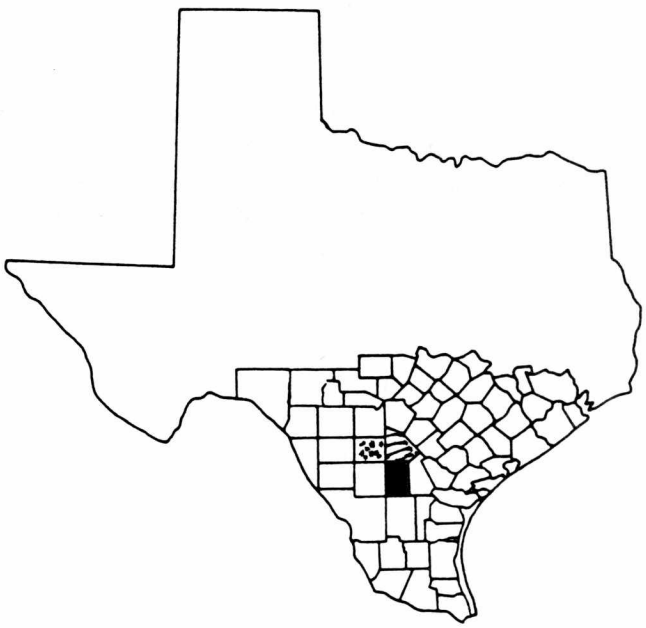
INTRODUCTION

San Miguel Creek originates in southeastern Medina County as San Francisco Creek and Chacon Creek. They join at the Frio County line between Moore and Bigfoot to become San Miguel Creek. San Miguel Creek runs south through most of eastern Frio County and turns southeastward to enter Atascosa County near its southwestern corner at Hindes. It continues the southeasterly course a short distance to enter north McMullen County where it soon empties into Choke Canyon Reservoir on the Frio River. Lagunillas Creek is a short southerly flowing creek mostly in Atascosa County to the east of San Miguel Creek. It joins the San Miguel at the McMullen County line. Chiltipin Creek is a short tributary to Lagunillas Creek in Atascosa County. It is in this four corners area where the four counties of Frio, Atascosa, McMullen and LaSalle join that most of the known Paleo-Indian projectile points have been collected. Green Branch Creek originates in southeastern LaSalle County and empties into the Nueces River in the southwestern corner of McMullen County. This is south of Choke Canyon Reservoir on the Frio River.

At this time only one Scottsbluff is known to have been reported in McMullen County (Kelly 1983), two from Frio County (Hester and Hill 1971) and none from Atascosa County. Since the early report by Hester and Hill on the distribution of Scottsbluff in southern Texas several authors have added to the known occurrence of this point type in southern Texas (Birmingham 1980; Birmingham and Mitchell 1978; Fox et al., 1978; Kelly 1983). However, only two additional counties were added to the known distribution. Two specimens from DeWitt County (Birmingham 1980) and the one specimen from southwestern McMullen County in the Brom Cooper collection (Kelly 1983) helped close the gap for that central area of southern Texas.

ARTIFACT DESCRIPTIONS

Figure 1, A, A'. This specimen is a proximal fragment that includes the complete stem and about one-half of the blade. It is made of good quality khaki tan chert and both faces have broad parallel flaking with finer edge retouch. It is 50 mm long with a maximum width of 31 mm at the shoulders. It is 6.8 mm thick. The stem is 21 mm long and 25.7 mm wide. Stem edges are lightly ground and there is a very shallow basal concavity of one mm. It weighs 10.9 grams. It was recovered along San Miguel Creek in Frio County and is in the Dorothy Lee Hindes collection.



Atascosa (striped), Frio (dotted) and McMullen (black) counties.

Figure 1, B, B'. This specimen is complete; however, it is extensively reworked along all edges. This reworking has removed one shoulder and moved the distal tip off center toward the opposite side. The stem edges are not ground due to reworking. It is made of good quality grayish-brown chert and flaking on both faces is parallel to irregular. This specimen is 66.3 mm long and 31.4 mm wide. Its maximum thickness is 7.8 mm and this occurs about midway of the stem. Base width is 25 mm. The stem edges are slightly convex and expand to a maximum width of 28 mm. Stem length is 25 mm and weight is 16.3 grams. It is a surface find from along Green Branch Creek in McMullen County and is in the Dorothy Lee Hindes collection.

Figure 1, C, C'. This specimen is a large medial blade fragment made of light grayish-tan, good quality chert. Flaking on both faces is broad parallel with finer edge retouch. It is 62 mm long and has a maximum blade width of 19.6 mm. Blade edges are convex and this greatest width occurs 31 mm above the proximal break which occurs where the stem joined the blade. It is 8.7 mm thick and weighs 22.3 grams. It is a surface find from along Chiltipin Creek in Atascosa County and is in the Dorothy Lee Hindes collection.

Figure 1, D. This specimen is a basal fragment made of good quality light grayish-tan chert with tiny lighter tan inclusions. It has a glossy surface and a waxy feel that may indicate heat treatment. It was found along San Miguel Creek in McMullen County by Richard McReynolds. Flaking is broad parallel. Only a very small portion of the blade remains. Present dimensions are: Length, 39 mm; Width, 29 mm; Stem length, 25 mm; Stem width at base, 29 mm; Stem width at shoulder, 26 mm. The greatest thickness is 6.2 mm where the stem joins the blade. Both edges and base are lightly ground. It weighs 9.5 grams.

Figure 1, E. This specimen is a basal fragment made of good quality medium tan chert having a hint of gray. It was found on the surface along San Miguel Creek in Atascosa County by John Lelux. Flaking is mostly broad parallel. The one remaining blade edge has been reworked prior to its more recent breakage. From the size of the stem it appears to have been unusually large. Present dimensions are: Length, 54 mm; Stem length, 29 mm; Stem width 30.6 mm at base and 27.8 mm at the shoulders. The greatest thickness is seven mm where the stem joins the blade. Both stem edges and base are ground. It weighs 14.6 grams.

Figure 1, F. This is a medial blade fragment of good quality grayish-tan chert having a glossy surface and waxy feel indicative of heat treatment. Flaking is mostly parallel. The stem is missing, having been broken off at the shoulders. A short portion of the distal end is also missing. Dimensions are: Length, 48 mm; Width, 27.4 mm at shoulders; Maximum thickness is nine mm. It was found by Joe and Claire Hindes along San Miguel Creek in Atascosa County. It weighs 16.3 grams.

Figure 2, A, A'. This specimen is complete. It is made of light brown mottled chert of good quality. Flaking is mostly parallel with fine edge retouch. It is 64.4 mm long and 28.4 mm wide at the shoulders. It is seven mm thick. The base is 25.6 mm wide and the stem length is 16 mm. Stem edges are ground but the base is not. Weight is 13.1 grams. It is a surface find from along La Jarita Creek in McMullen County and is in the Buck Maspero collection.

Figure 2, B. This specimen is a proximal fragment made of light to medium gray good quality chert that appears to have been heat treated. The blade has been reworked until it is not as wide as the stem. Flaking is irregular to parallel. Dimensions are: Length, 40 mm; Width, 23.4 mm at 17 mm above the base; Base Width is 24.7 mm, stem length is 15 mm. It weighs 10 grams. It is a surface find from along La Jarita Creek in McMullen County and is in the Buck Maspero collection.

Figure 2, C, C'. This specimen is a proximal fragment with considerable reworking of the blade. Its present size is 46 mm long with a maximum width of 28 mm at the shoulders. Stem length is 17 mm and base width is 24 mm. Stem edges and base are ground. Flaking on both faces is parallel to irregular and the base is thinned with short parallel flakes. It is made of good quality light brown chert. It is a surface find from along

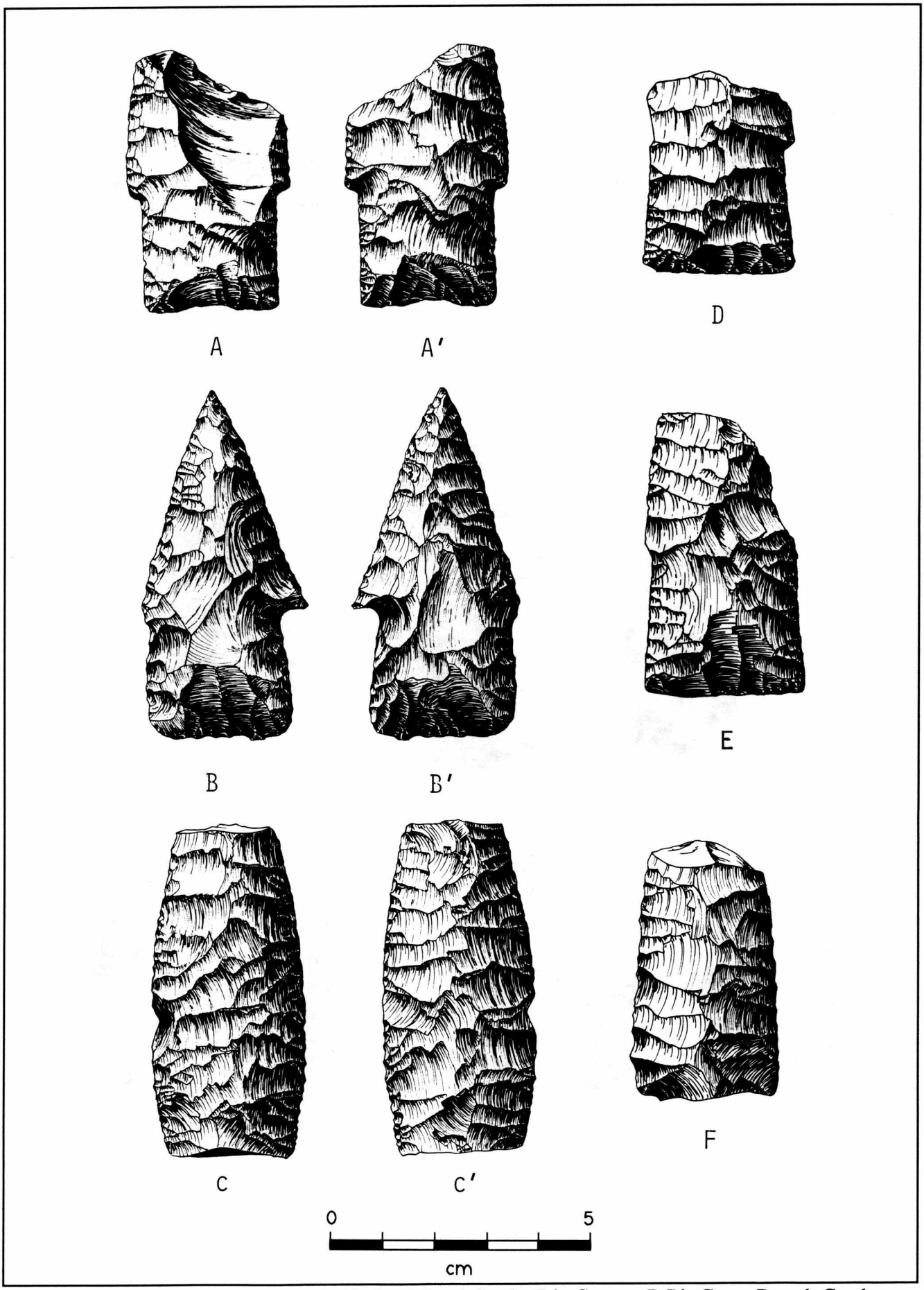


Figure 1. Scottsbluff point locations. A-A', San Miguel Creek, Frio County; B-B', Green Branch Creek, McMullen County; C-C', Chiltipin Creek, Atascosa County; D, McMullen County; E, F, San Miguel Creek, Atascosa County.

San Miguel Creek in Atascosa County and is in the Stanley Perkins, Jr. collection.

Figure 2, D, D'. This specimen is basically complete but has been extensively reworked from a larger size. It is 43 mm long and 25 mm wide at the shoulders. Base width is 23 mm and stem length is 18 mm. There is a shallow basal concavity of less than two millimeters. It is made of light brown good quality chert. It is a surface find from along San Miguel Creek in Atascosa County and is in the Stanley Perkins, Jr. collection.

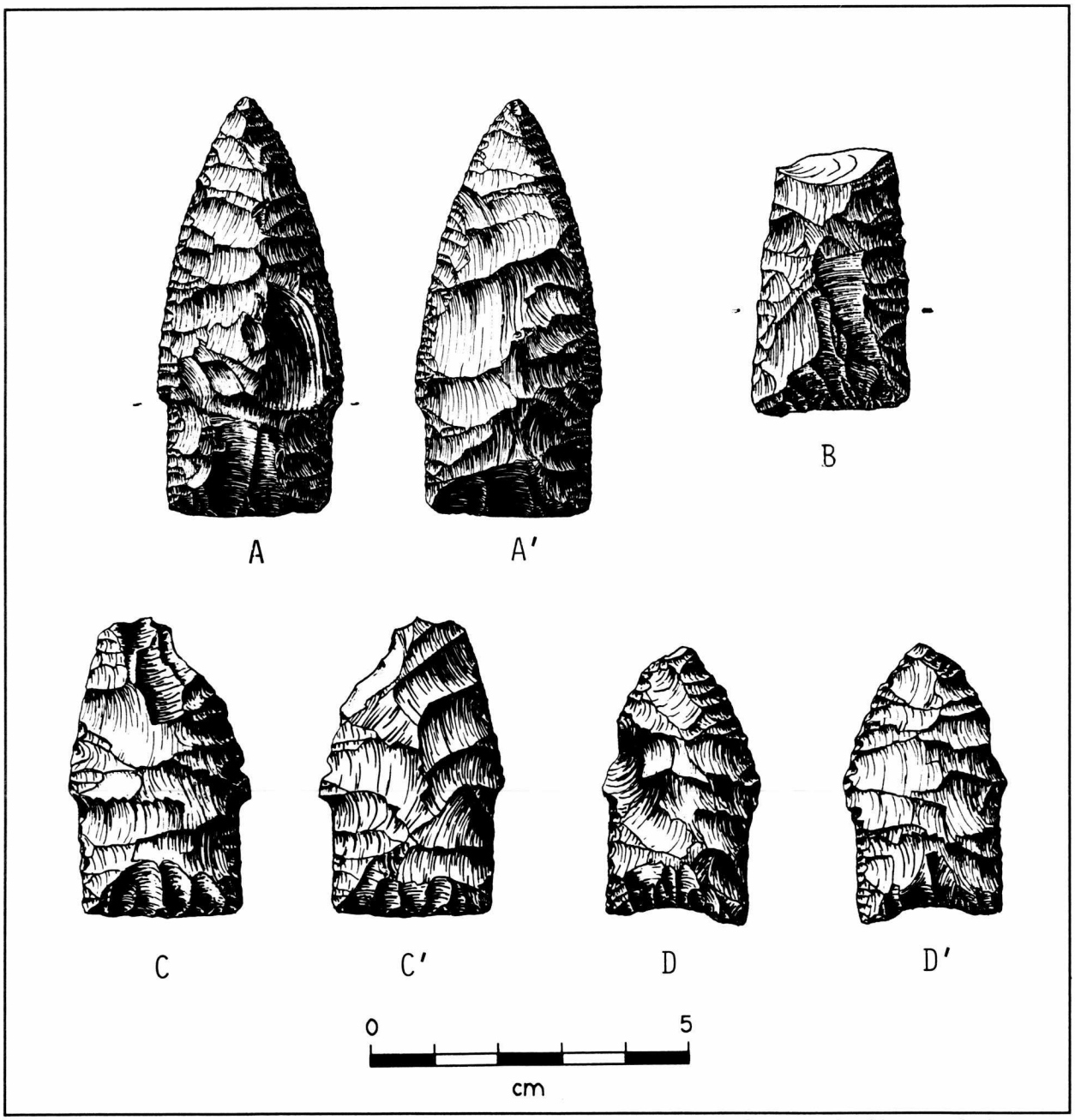


Figure 2. Scottsbluff points. A, A' and B, La Jarita Creek, McMullen County; C, C', D, D', San Miguel Creek, Atascosa County.

The artifact illustrated in Figure 3 is not a projectile point. It is an extensively used tool that has the flaking characteristics and appearance of Scottsbluff workmanship. There is patina over all surfaces and the color below this patina appears to be dark gray. All surfaces are heavily polished, all arrises are heavily rounded and reduced, all edges are crushed, rounded and reduced and have light polish. Flaking is mostly parallel in the fashion of a Scottsbluff. Dimensions are: Length, 86 mm, Width, 31 mm; Thickness, 10.2 mm, Base Width, 29 mm. Weight is 33 grams. It is a surface find by Cary Cochran from near the headwaters of Goose Creek in Atascosa County.

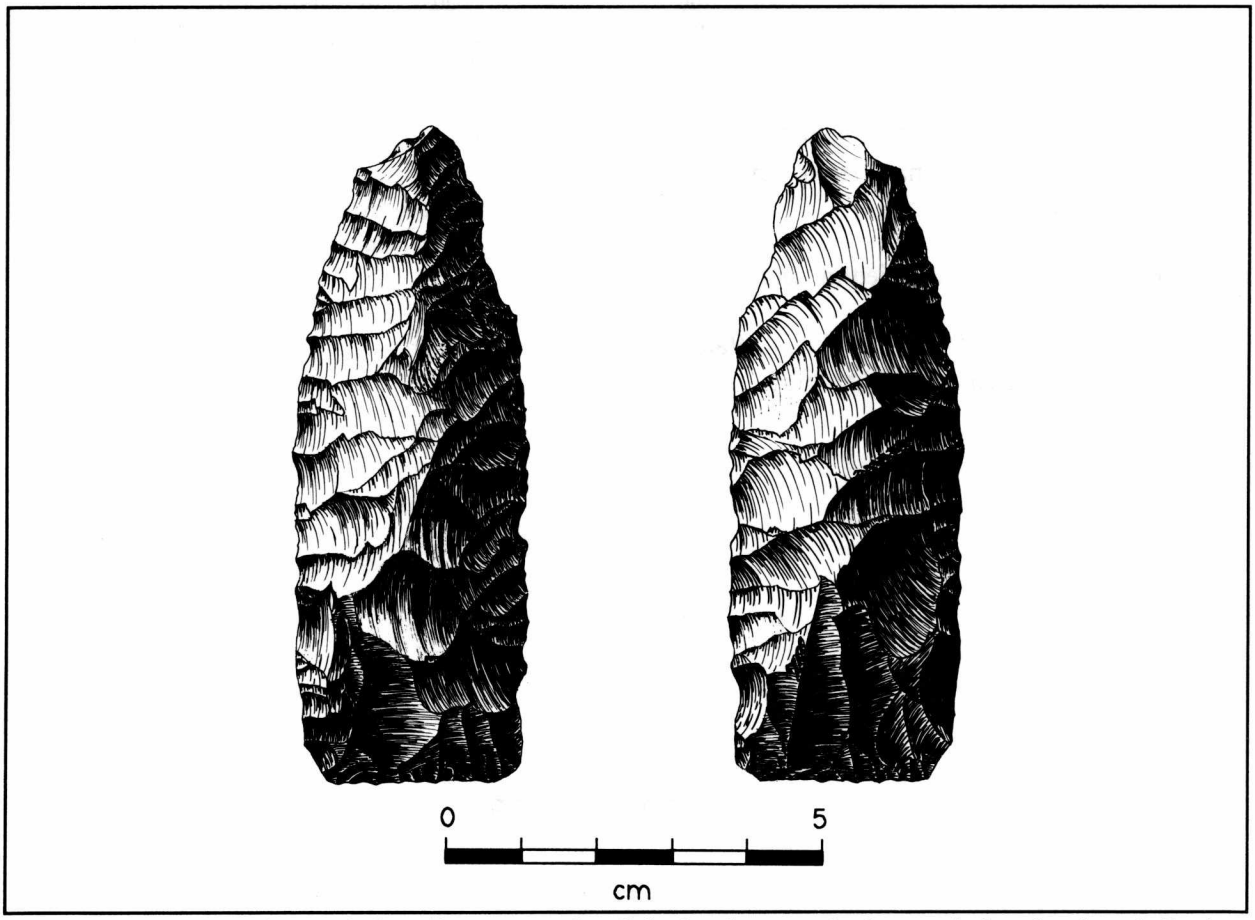


Figure 3. Possible Paleo tool, heavily worn and polished, edges crushed, rounded and reduced. In the collection of Cary Cochran, Atascosa County.

SUMMARY

Scottsbluff points occur over much of Texas but there are still large areas where few or none are reported. The ten specimens reported in this paper represent materials from six different collections from five different drainages in three counties. Five of these specimens are from Atascosa County, four from McMullen County and one from Frio County.

The ten specimens reported in this paper greatly expands the known number of Scottsbluff points in McMullen and Frio Counties and provides the first documentation of Scottsbluff points from Atascosa County.

ACKNOWLEDGEMENTS

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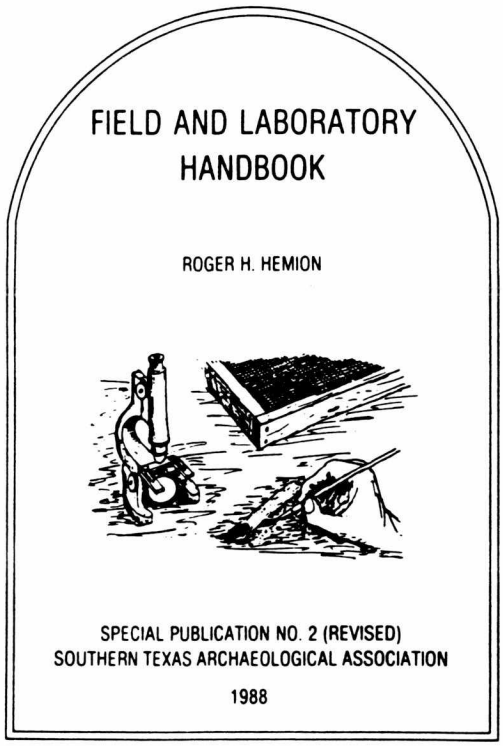

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LELAND W. PATTERSON is a retired chemical engineer whose last professional position was Manager of Environmental Affairs, Engineering for Tenneco, Inc. His work included cultural resource studies for environmental impact studies and the general overview of any archaeological work required. He has published 280 archaeological reports in local, state, regional and national journals, such as *American Antiquity, Plains Anthropologist, Journal of Field Archaeology and Bulletin of the Texas Archeological Society.*. He is a member of several archaeological societies and has served as a member of the American Institute of Archaeology Committee for American Archaeology. Lee now plans to write an integrated synthesis of southeast Texas that covers all time periods and geographic subregions. Because of his untiring efforts to conduct survey, record over 150 prehistoric sites in Texas, Louisiana and Ohio, and publish his findings, Patterson has received the Golden Pen Award from the Texas Archeological Society.

H. RAY SMITH is a former STAA Chairman (1989) and recipient of the Robert F. Heizer Memorial award (1987) for his work in South Texas documenting rock art sites. He has also been a contributor to this journal in the past.

FRANCES WARD and her husband, Paul, are long-time STAA members. They have been very active in many STAA activities over those years. Frances is the owner of the Quinta Medina ranch and was the Laboratory Supervisor for the 1992 STAA-ITC Field School.

JAN WATTS is a six-year STAA member and has been active in field work with STAA all during that time at the Baker site and as a volunteer for the Center for Archaeological Research at The University of Texas at San Antonio. He supervised testing of the River Bluff site at the 1992 STAA-ITC Field School.

DIANE WILSON was born in and grew up in Massachusetts. Favoring warmer climates, she moved to New Orleans to receive a BS in anthropology and environmental science at Tulane University. In 1990, Diane entered the graduate program in anthropology at The University of Texas at Austin, where she is currently finishing her MA degree. Diane also works in human osteology at the Texas Archeological Research Laboratory. Her research interests include bioarchaeology, human osteology, and gender studies in archaeology.

JOSÉ ZAPATA is a graduate student at UTSA and a staff member at UTSA's Center for Archaeological Research. He supervised testing at the Diversion and River Bluff sites during the 1992 STAA-ITC Field School.

SOME RECENT PUBLICATIONS OF THE CENTER FOR ARCHAEOLOGICAL RESEARCH
The University of Texas at San Antonio

Archaeological Survey Reports

204. *Archaeological Monitoring for the Tri-Party Improvements Project, San Antonio, Bexar County, Texas,* by I. Waynne Cox. [Results of monitoring and documenting historic remains in many areas of downtown San Antonio uncovered during street developments.] 1992. 45 pp., historical background, illustrations (large photos) and maps. $4.00 + tax* + $1.50 P/H.**

205. *Archaeological Investigations in Alamo Plaza, 1988 and 1989,* by Anne A. Fox. [Important new information on the Alamo fortification trenches for the 1836 battle, etc.] 1992. 91 pp., many illustrations, results of interpretations of dig, historical background. $10.00 + tax* + $2.00 P/H.**

208. *Archaeological Testing Within the Southeast Corner of the Plaza at Mission Espada, San Antonio, Texas,* by Frances K. Meskill. [Testing that examined the old foundations of certain buildings and adjacent soils stratification.] 1992. 46 pp., historical background, results of excavations, illustrations. $5.50 + tax* + $1.50 P/H.**

210. *Archival Investigation of the Pyron Homestead (41BX278), New City Block 7657, San Antonio, Texas*, by I. Waynne Cox. [Investigation of historic house site.] 1992, photocopy reprint, 12 pp., illustrations. $3.50 + tax* + $1.50 P/H.**

211. *Archaeological Salvage Research at 41BX901, A Prehistoric Quarry in Bexar County, Texas*, by Daniel R. Potter, C. K. Chandler and Elizabeth Newcomb. [Extensive lithic analysis of materials from prehistoric quarry.] 1992. 42 pp., with illustrations, tables. $8.00 + tax* + $2.00 P/H.**

212. *Archaeological Investigations to Locate the Northwest Corner of Mission Concepción, San Antonio, Bexar County, Texas*, by Anne A. Fox. [Investigations were able to project the original mission quadrangle walls at the northwest corner.] 1992. 8 pp., with illustrations. $3.50 + tax* + $1.50 P/H.**

213. *Archaeological Monitoring for the Casa Rio Restaurant Expansion, San Antonio, Bexar County, Texas,* by I. Waynne Cox. [Historical background in an area on the River Walk.] 10 pp. with illustrations. $2.50 + tax* + $1.00 P/H.**

214. *Test Excavations at Mission Concepción Courtyard, San Antonio, Bexar County, Texas*, by Marty Krueger and Frances K. Meskill. [Excavations uncovered and documented buried remains of mission building walls.] 1992, 36 pp. Historical background, results of excavations, description of artifacts, etc. $6.00 + tax* + $1.50 P/H.**

Orders, together with payment should be sent to: Center for Archaeological Research, The University of Texas at San Antonio, 6900 N. Loop 1604 W., San Antonio, Texas 78249-0658. (Phone: 210-691-4378)

NOTE: Latest ASR report is now at the printer: *Archaeological Testing and Monitoring in Connection with a Drainage Project at Mission San Juan Capistrano, San Antonio, Bexar County, Texas* by Anne A. Fox, with contribution by Barbara Meissner. Contact CAR for date available.

* Texas residents please add $0.825 tax.

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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 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, it will be very helpful.

Be sure to write an abstract as the first section of your manuscript.

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. 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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