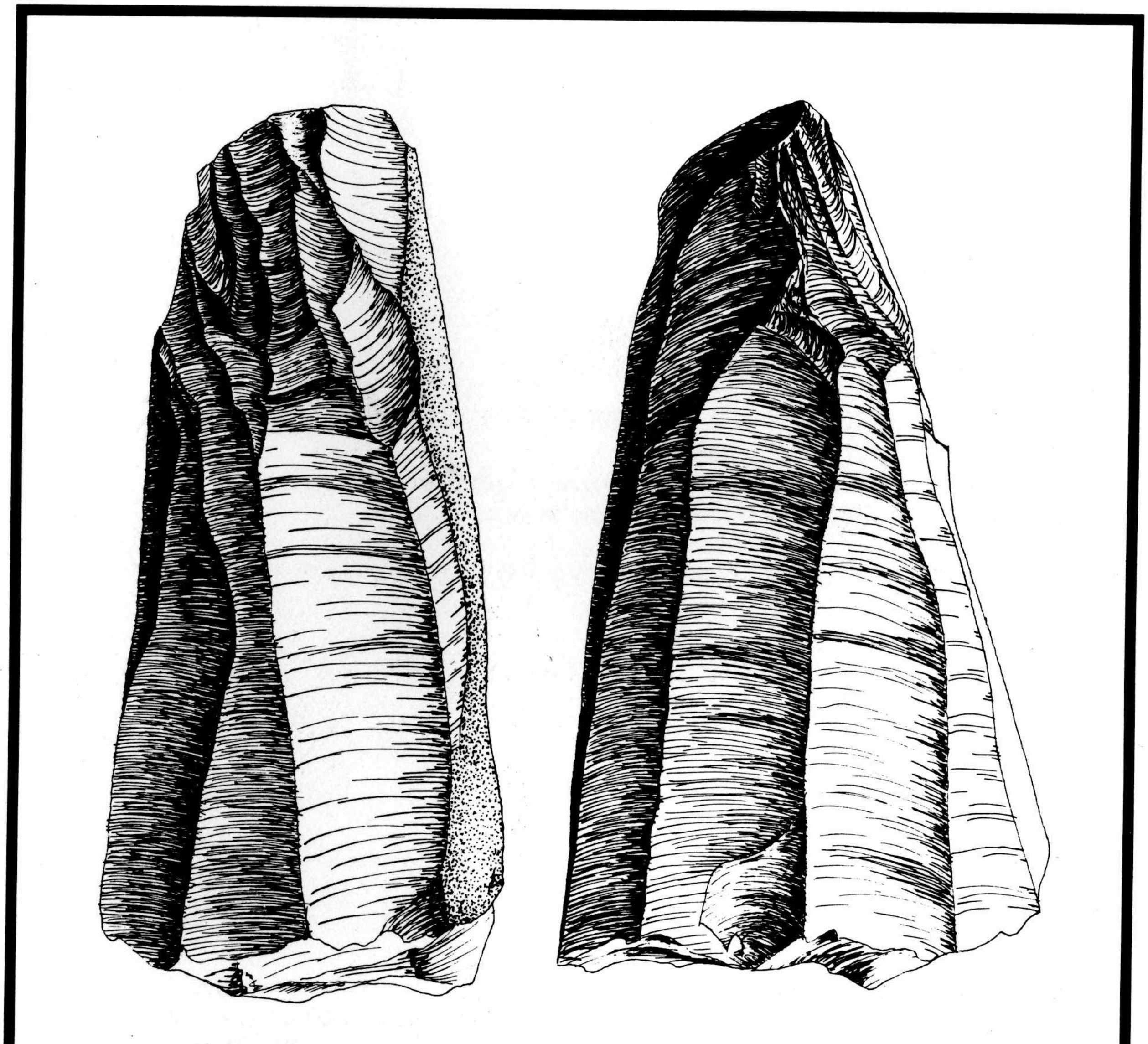
LA TIERRA



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Evelyn Lewis
Editor

About the Cover: Two views of a polyhedral core from Comanche Peak. See report starting on Page 29. Drawings by Richard McReynolds.

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 from: Bette Street, 7119 Poniente Lane, San Antonio, Texas 78209. Dr. T. R. Hester may be contacted at the Texas Archeological Research Laboratory, University of Texas, Austin, Texas 78712.

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EDITORIAL

As the Southern Texas Archaeological Association launches into a new year, we can't help but wonder what further changes can occur. Consider the advances made by the organization and its members in a few short years -- field schools, field school scholarships, workshops, annual awards for outstanding participation in archaeology, and an increasingly popular Teachers Workshop to stimulate interest among the kindergarten through high school students. And, as of this year, a grant has been awarded by the Texas Committee for the Humanities, to further encourage the Teachers Workshop project.

Let us not forget Archaeological Awareness Week taking place in the spring. The media, Witte Museum, and Institute of Texan Cultures have all promoted the event bringing about public awareness that might otherwise go unnoticed. The Maverick Building at Houston and Presa streets provides a window for an archaeological display with the title "Studying the Past to Prepare for the Future." Sandy Marek of Kerrville and Elaine McPherson of San Antonio, both educators in the school system, are hard-working teachers keeping the interest alive in the classrooms. Frances Meskill is responsible for the success of the Teachers Workshop, now in its fourth year, and this year, in April, the Institute of Texan Cultures again sponsored the Children's Festival co-hosted by STAA. Several thousand youngsters were guided through the Institute to learn about the Texas settlers as well as the archaeology and history of their state. The Baker Site offers a hands-on opportunity for students as well as providing a summer field school with Dr. Robert Hard in charge. And a highly successful annual field school was held in Castroville last summer (to be continued) through the efforts of Dr. Tom Guderjan of the Institute of Texan Cultures and the members of STAA.

And let us not forget the increasing popularity of *La Tierra* and the many contributing authors with their excellent reports. Roger Hemion's Field Manual is much in demand and is now in its 3rd printing. With the full cooperation of the members and professional archaeologists involved, STAA, *La Tierra*, and the many projects now employed for promoting and stimulating interest in 'preserving the past' will continue to make the Southern Texas Archaeological Association grow in membership and encourage our youth to carry on the investigations of work yet to be done in the field and lab.

Evelyn Lewis
Editor

NOTES ON SOUTH TEXAS ARCHAEOLOGY: 1992-2

On the Beach: Trace Element Analysis of an Obsidian Artifact from Site 41JF50, Upper Texas Coast

Thomas R. Hester, Frank Asaro, Fred Stross and Robert D. Giauque

In November, 1991, Dee Ann Story, Ellen Sue Turner and Paul Tanner organized the "McFaddin Beach Conference," held in Port Arthur, Texas. The assembled professional and avocational archaeologists had the opportunity to review archaeological and paleontological materials surface collected over a number of years at the McFaddin Beach site (41JF50), on the upper Texas coast (Figure 1). This locality has been well known for numerous Paleo-Indian projectile points, reported by Long (1977). These include Clovis (more than 65 specimens), San Patrice, Scottsbluff, Plainview, Pelican, Golondrina, and a single Folsom point. There is also a large number of stemmed dart points of the Early, Middle and Late Archaic age (Hester et al. 1992). The artifacts are eroding from submerged deposits just offshore and are being intermittently deposited along a 15-mile stretch of beach from near High Island to Sea Rim State Park. Undoubtedly, several sites are represented, having been inundated around 2800 years ago with the final rise in sea level (Pearson 1983).

Among the vast array of materials from McFaddin Beach was a contracting-stem obsidian dart point (Figure 2). It was found by Mrs. Jean Lane of Hemphill, Texas, near High Island. Five Clovis points were also found in this area, along with stemmed and corner notched dart points of Archaic vintage. Mrs. Lane very graciously donated the specimen to the Texas Archeological Research Laboratory (TARL). For the record, the point is 42.5 mm long, 36 mm wide, 9 mm thick, and weighs 14.2 grams. Both surfaces have been beach-rolled and are heavily eroded, with flake scars almost obliterated.

Subsequently, the artifact was submitted to the Lawrence Berkeley Laboratory for non-destructive trace element analysis (specimen TOP-148 of the Texas Obsidian Project), using the Precise X-ray Fluorescence Method (PXRF;Giauque et al., in press). This initial analysis indicated that the specimen could not be assigned to any known source. However, it was felt that the thick cortex that had formed on the specimen from beach-rolling might have masked the true chemical composition. The specimen was returned to Austin, where it was photographed in detail and then, a superb flintknapper, Glenn Goode, carefully detached several small flakes from one edge. One of these provided a surface free of cortex and it was sent to the laboratory for further PXRF analysis.

The trace element pattern that was derived from the second analysis of the McFaddin Beach obsidian point strongly matches the obsidian source at Zacualtipán, Hidalgo, Mexico. Only one other Texas artifact has been linked to this source. That specimen, TOP-143, is a tiny obsidian flake collected by A. E. Anderson in Cameron County (in the Rio Grande delta) and is part of the large Anderson collection curated at TARL (Cat. AEA #S 55.1, #1912). It was also analyzed by PXRF and like the McFaddin Beach specimen, has a chemical characterization that links it to Zacualtipán. The Zacualtipán source (Figure 1) is located about 95 miles north-northeast of Mexico City. It is poorly known, in terms of its occurrence in Mesoamerican sites (cf. Vogt et al. 1989), though obsidian derived from it has been reported in recent archaeological work in south-central Veracruz (Stark et al. 1991). Prof. Barbara Stark of Arizona State University reports (personal communication to Hester, 1992) that the source is "a very extensive lava flow with obsidian accessible at multiple locations with shallow pit mining." She saw some evidence of blade production, but "also perhaps more local bifacial and flake technology." She further notes that the multiple surface exposures of Zacualtipán obsidian would have made it easily available in Archaic and Paleo-Indian times.

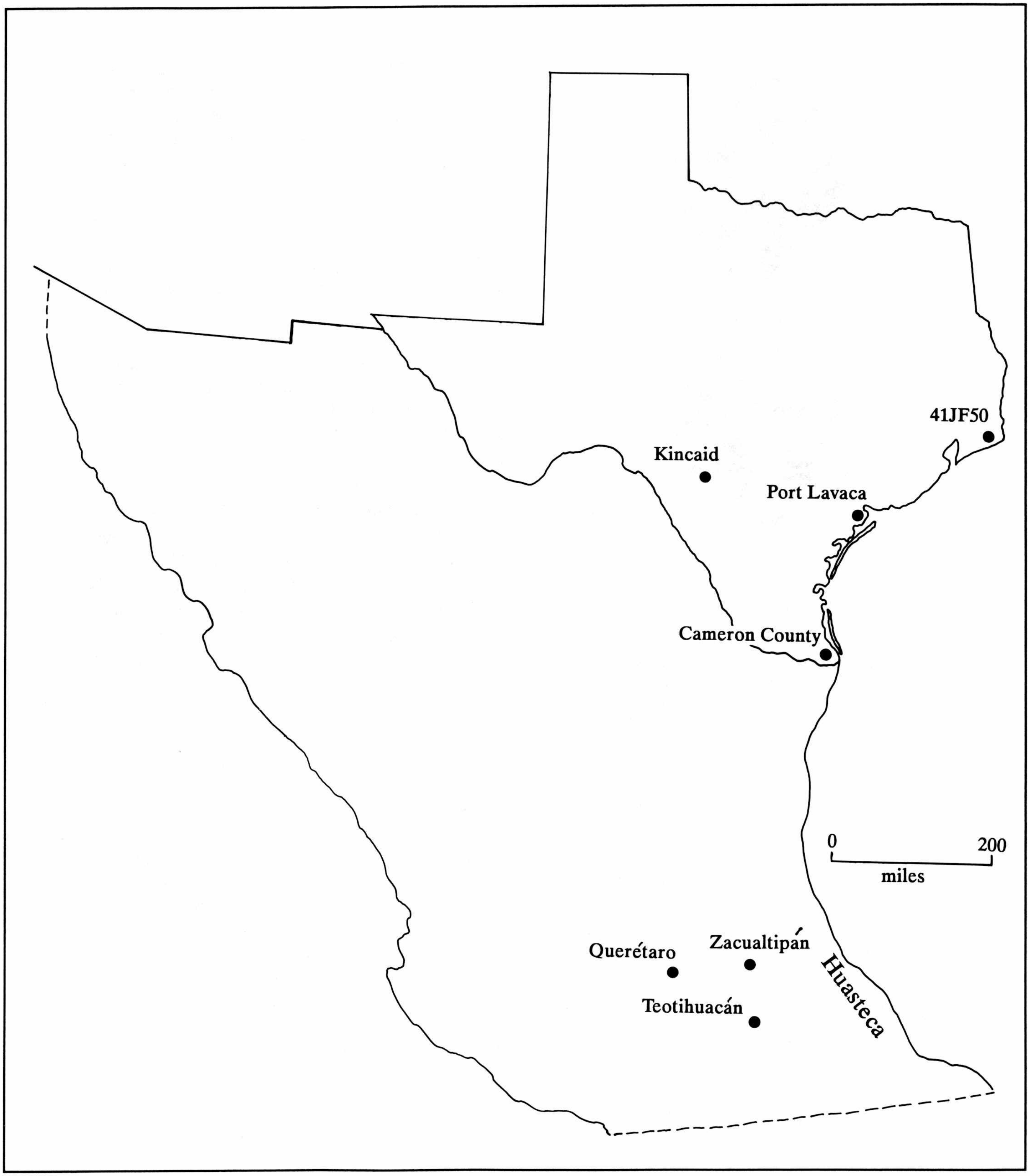

Figure 1. Locations of Sites and Areas Noted in Text.

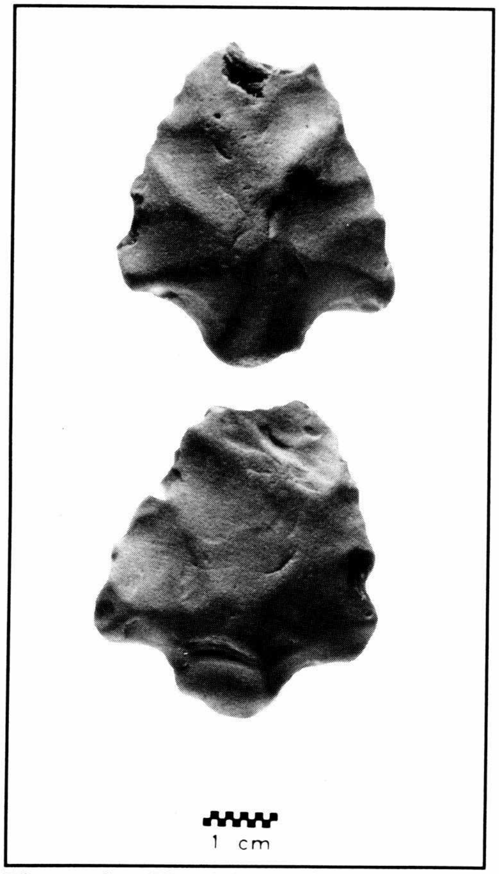

Figure 2. The McFaddin Beach Obsidian Point. Both sides are shown.

The occurrence of Zacualtipán obsidian in the Rio Grande Delta of Texas (TOP 143) is not too surprising in that trade items such as pottery, jadeite, and obsidian from other Mexican sources, have been found there (cf. Hester 1988a). Most, if not all, of these exotic artifacts result from trade during Late Prehistoric times between peoples of the Brownsville Complex and the Huastecan culture area in Veracruz. Prof. Dan Healan of Tulane University notes (personal communication to Hester) that a Huastecan site near the Zacaultipán source is presently being studied by Mexican archaeologist Alejandro Pastrana [Maps of Mexico show Zacaultipán on the east edge of the Sierra Madre mountains, just west of the geographic area known in Mexico as "La Huasteca."].

Although the Cameron County specimen (TOP 143) occurs 350 miles from the source, its presence can likely be explained through Late Prehistoric trade networks. We are at a considerable disadvantage, however, in seeking to understand the mechanisms that brought the McFaddin Beach specimen to southeastern Texas, roughly 700 miles from Zacaultipán, in Archaic (or earlier) times. Only a few other obsidian artifacts have come from eastern Texas and Louisiana, and none are from Mexican sources.

We have to remember that the McFaddin Beach specimen reached southeastern Texas at a time when "the beach" -- the Gulf of Mexico coastline -- was a marshland several miles to the east (Pearson 1983). Interestingly, the specimen resembles the contracting-stem dart points of Classic period Teotihuacán Iceland 1989), dating to about 400-600 A.D. Teotihuacán is known for its vast trade networks which reached into Maya sites in Guatemala and into the Huastecan region of the Mexican Gulf coast (cf. Hirth 1980). However, if Pearson's (1983) dating of sea level rise at McFaddin Beach is correct (ca. 2800 B.P.), the obsidian artifact from 41JF50 is considerably older than the Teotihuacán specimens that it resembles. Indeed, we need look no farther than the Gary type of east Texas for an analogous form. Gary points are common at McFaddin Beach, and the Zacualtipán obsidian could have been shaped into this form once it was obtained by the local Late Archaic peoples. Or, in one final scenario, the Zacualtipán obsidian may have reached the region in Paleo-Indian times, given the large number of Paleo-Indian artifacts along McFaddin Beach, and given the fact that obsidian was coming into Texas during Clovis times. For example, there is the Clovis point from Port Lavaca down the coast (obsidian source unknown) and the Clovis-age biface from Kincaid Rockshelter (derived from a Mexican source near Querétaro, Mexico; Hester 1988b).

Hopefully, future research at the Zacualtipán source will shed light on its utilization in Archaic and Paleo-Indian times. And, perhaps future identification of additional Zacualtipán artifacts in Texas will provide better clues as to its mode(s) of distribution into the region.

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ERRATUM AND ADDENDUM to *LA TIERRA* Vol 19, No. 1

In "Notes on South Texas Archaeology: 1992-1," Line 5, left column: "June of that year" should read "June, 1967."

The excellent artifact photographs were taken by Dr. Daniel Julien of the Texas Archeological Research Laboratory, The University of Texas at Austin.

Thomas R. Hester

CONCH SHELL ORNAMENTS IN PREHISTORIC TEXAS: A Comment to Birmingham and Huebner

Grant D. Hall

In a recent issue of *La Tierra* appeared a useful and interesting article entitled "Incised Bone and Conch Shell Artifacts from the Texas West Indies Site (41VT9) (Birmingham and Huebner 1991:8-20). In this article, the authors take to task my hypothesis concerning the origin of certain conch shell ornaments occurring in Late Archaic contexts on the Texas coastal plain. Specifically, I have proposed that some of these shell artifacts originated in Alabama or Florida (Hall 1981:222, 306). In arguing against this hypothesis, Birmingham and Huebner (1991:17-18) left out some important points and observations that I made in my original argument. I want to again bring these circumstances to the attention of researchers considering the marine shell origin problem and related matters. I will proceed with this task by tracing the evolution of my own thinking along these lines.

My analysis of the marine shell ornaments from the Ernest Witte Site at Allens Creek began with the firm assumption on my part that the big conch shells used in their manufacture originated on the Texas coast. Having grown up near South Padre Island, I knew that conch shells were commonly found along the southern Gulf coast of Texas. After Hurricane Beulah in 1967, literally thousands of big ligntning whelks (*Busycon* sp.) and horse conchs (*Pleuroploca* sp.), both living organisms and the bleached shells of long-dead animals, were left exposed on the beach at Padre Island. Communications with knowledgeable marine biologists, malacologists, and shell collectors revealed that Copano and Corpus Christi bays are places where especially large concentrations of ligntning whelks can be found (Hall 1981:214-222). It turned out that these bays, back before so many dams were built on Texas rivers, contained water that came the closest to the "normal salinity" environment required for good conch habitat. All of this came as no surprise to me because I had reports on the Johnson and Kent-Crane Sites by T. N. Campbell (1947, 1952), where so many artifacts made of conch shell had been recovered. These two sites are located in exactly the area where the experts said conchs were the most common. Further, the Kent-Crane Site contained specimens showing the various stages in the making of conch shell adzes and gouges, as well as the stone abrading tools that may have been used to grind the shells into shape. Because conch shells occurred naturally and in great numbers along the Texas coast, and because there were sites where prehistoric people were obviously making artifacts out of conch shells, I initially assumed the Ernest Witte Late Archaic conch shell ornaments <u>had</u> to have originated on the Texas coast.

At this point I had established two things to my satisfaction. First, the big conch shells needed to make shell ornaments such as we found at the Ernest Witte Site, <u>are</u> common along the Texas coast. Secondly, prehistoric people as far back as perhaps Late Archaic times, were utilizing such shells as raw material for artifacts. From this point on, however, some other trends emerged that weren't as supportive of the idea of the Ernest Witte shell ornaments being made in Texas. This came about indirectly as I studied the regional distributions of corner-tang knives and boatstones, two other kinds of artifacts found in the Late Archaic component at the Ernest Witte Site. Using the invaluable distribution studies done for corner-tang chert "knives" and boatstones by J. T. Patterson (1936, 1937 a,b), I was able to recognize very clearly the regions where many such artifacts appear to have been manufactured. Two things defined the manufacturing areas. The raw materials necessary to produce the artifacts were present and the greatest number of artifacts of each kind were reported from the area immediately around the source of the raw materials. The numbers of reported artifacts of each kind dropped off at a rate proportional to distance from the respective manufacturing areas. Patterson's distribution maps showed that numerous corner-tangs were being made in Central Texas (Georgetown - Temple - Belton area) and boatstones were being made in the Ouachita Mountains of Arkansas (Hall 1981:297).

I wish that Dr. Patterson had done a distribution study for marine shell artifacts in Texas. He didn't, so I attempted to do such a study in the context of analyzing and interpreting the Allens Creek data. My study of marine shell artifact distribution was much more limited geographically than were those of Patterson for corner-tangs and boatstones (Hall 1981:219). Though limited, my survey nevertheless suggested some interesting patterns in the occurrence of marine shell artifacts on the Texas central coastal plain. Predictably, a concentration of shell artifacts showed up adjacent to Corpus Christi and Copano bays along the central Texas Gulf Coast. The shell artifacts concentrating around the raw materials source area were predominately utilitarian in nature, things like adzes, gouges, and scrapers. There were not nearly as many ornaments such as pendants and columella beads known from the same area. Over a much more widespread area of Texas to the north and northwest of Corpus Christi, my distribution study showed scattered reports of predominately ornamental shell artifacts (Hall 1981:297). As with the corner-tangs and boatstones, I reasoned that if shell ornaments were being made in the Corpus Christi vicinity, then there should be many more of them found at sites in that area. Further, my examination of artifacts from the Kent-Crane Site (housed at the Texas Archeological Research Laboratory (TARL) revealed large numbers of discarded artifacts representing the stages of manufacture leading to finished utilitarian artifacts, but only a couple of specimens that might have been intended as pendant blanks.

The results of my marine shell distribution study and the examination of the Kent-Crane collection led me to conclude that the Late Archaic Allens Creek conch shell ornaments weren't made on the Texas coast. Birmingham and Huebner (1991:18) argue for local manufacture mainly because of raw material resource availability. They cite Steele's (1988) study in which conch shells were reported from a variety of locations along the Texas coast. Interestingly, they do not go on to note Steele's (ibid.:238) concurrence with my views about the import of conch shell ornaments to Texas from the Alabama-Florida area (Steele refers to the region as the "southeast Gulf coast"). For Steele, as for me, the absence of sites along the Texas coast where conch shell pendants and beads were clearly being manufactured suggests they originate elsewhere.

Birmingham and Huebner (1991:18) ask: "...what type of debitage would be left from the manufacture of columella beads, and how would we recognize it?....We suggest that the manufacture of columella beads would leave little behind to mark their production." An answer to their question and refutation of their statement that columella bead manufacture leaves little trace would have been found in a more careful reading of my Allens Creek report (Hall 1981:215). The A. E. Anderson Collection, housed at TARL, offers a remarkably complete look at how prehistoric people on the Rio Grande delta were making shell columella beads (Prewitt 1974:59). The A. E. Anderson specimens vividly demonstrate what is left behind when shell columella beadmaking occurs. Specimens in this collection indicate that failure of columella bead blanks and subsequent discard was not an uncommon event on the Rio Grande delta.

Birmingham and Huebner (1991:17) further state: "It would be logical that manufacturing debris would be found in occupation sites, not mortuary sites." Another good example of the archaeological visibility of shell columella beadmaking in prehistoric Texas comes from the Caplen Site near Galveston (Campbell 1957:452). This find was also discussed in the analysis of the Allens Creek marine shell artifacts (Hall 1981:215). A burial at this site was accompanied by an apparent beadmaking kit consisting of two small flat stones, 14 chipped stone drills, two small prismatic flint flakes, two small flint dart points, six tubular shell columella beads, and three undrilled shell columella segments thought to be bead blanks. Another example of shell ornament manufacture in a mortuary context comes from the Archaic cemetery at the Loma Sandia Site (41LK28). At Loma Sandia, one grave contained a big *Busycon* shell from which portions of the outer whorl has been removed. Beside the shell were some unfinished (or badly decomposed?) pendants that appear to have been made from the outer whorl section missing from the conch shell. I should note that Meredith Dreiss, who analyzed the Loma Sandia shell artifacts, does not agree with my suggestion that the pendants came from the shell found associated with them (Dreiss n.d.).

The lesson taught by the A. E. Anderson Collection and the finds made at Caplen and Loma Sandia is that if shell ornaments were being manufactured along the Texas coast, especially at sites such as Kent-Crane where there is a lot of raw material nearby, there should be residues in the form of unfinished, discarded, or rejected bead- and pendant blanks and related equipment that provide evidence of such activity. Further, Caplen and Loma Sandia show that evidence of shell ornament manufacture does indeed show up in mortuary contexts. Among the growing number of cemeteries contemporary with Burial Group 2 at Allens Creek (Albert George, Goebel, Crestmont, Brandes, etc.), not a single grave has yielded any evidence of local marine shell artifact manufacture.

Away from Copano and Corpus Christi bays, in the areas of Texas where predominately ornamental shellwork has been found, I know of only one other site (in addition to Loma Sandia) where residues of possible marine shell ornament manufacture occur. This site was found by Joe Hudgins along Caney Creek in Wharton County (Joe Hudgins, personal communication). Joe has recovered a number of conch shell fragments from the surface of the site. Most have been identified by Dr. Gentry Steele of Texas A&M University as belonging to the species *Pleuroploca gigantea*, commonly known as the horse conch. The specimens show evidence of groove-and-snap shaping and shaping by abrasion, but do not seem to be finished artifacts. Because the artifacts come from the surface, Hudgins does not know how old the shell artifacts may be. He has recovered both Archaic and Late Prehistoric diagnostics. If the shell artifacts are Archaic, they might well be very significant with respect to the shell importation hypothesis, although the fact that they are horse conch fragments rather than lightning whelk fragments comes into consideration here. If they turn out to be Late Prehistoric, it would not be as critical. The Anderson Collection and the data from the Caplen Site both indicate that marine shell ornaments were being made by local people in Late Prehistoric times. Otherwise, we presently know of no other localities in Texas where Archaic people seem to have been making a lot of marine shell ornaments.

We don't know of any obvious shell ornament manufacturing sites in Archaic Texas. There are no artifact concentrations, such as the A. E. Anderson Collection, that point to a place in Texas where Archaic people were producing ornaments. This is the basis upon which I proposed importation of the Ernest Witte shell ornaments from Florida and Alabama. Steele (1988:238) agrees, and for basically the same reasons. If not the Texas coast, then where? We start looking again in exactly the same way as before. Where do the raw materials occur in abundance? Where do artifacts of similar types show up most commonly? Florida, on both its Atlantic and Gulf coasts, is known for its huge prehistoric middens consisting, in many cases, primarily of conch shells. Artifacts of conch, mainly ornaments, were distributed widely over the eastern United States in Archaic, Woodland, and Mississippian times. Archaeologists working in the eastern U. S. generally agree that the source of all these shells was Florida (Winters 1968:215-216; Phillips and Brown 1978:26-27, 207). The unequivocal movement to the Texas central coastal plain of artifacts made of rocks originating in the Ouachita Mountains of Arkansas supports the idea that the interaction system, of which the Late Archaic people at Allens Creek were a part, was oriented in the general direction of Florida or Alabama. Florida marine shells were being moved as far north as the Great Lakes region in Archaic times, so the distances involved should not be a consideration. Sites in Texas yielding marine shell ornaments from Archaic contexts are even closer.

One point I definitely agree with Birmingham and Huebner (1991:18). Sophisticated chemical or elemental analyses of marine shell ornaments from sites such as Texas West Indies and Ernest Witte will be needed to answer more objectively the question of where the shells used in their manufacture originated. Pending the results of such studies we resort to "old-fashioned" methods of archaeological interpretation and inference involving known distributions of materials and types in space and time. My belief that the Allens Creek Archaic marine shell ornaments came to Texas from Florida or Alabama is based on my best reading of the available evidence. I welcome challenges to this idea, but hope that in the future my argument will be addressed more completely when competing hypotheses are put forward.

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COMMENTS ON THE AXTELL DART POINT TYPE

Leland W. Patterson

Prewitt and Chandler (1992) have proposed the Axtell dart point as a new type. I would like to present a dissenting view on use of this proposed point type name. A named projectile point type should be distinctive enough so that most specimens can be easily classified by a majority of experienced analysts. Otherwise, a point type name has little value. Naming of point types with overlapping attributes creates confusion, without contributing to cultural or technological classification.

Prewitt and Chandler (1992:19) have noted that a number of investigators have identified the proposed Axtell point type by other names, such as Trinity, Palmillas and Williams. This should not be surprising. My immediate reaction to the illustrations of typical Axtell points (Prewitt and Chandler 1992: Figure 1) was that several other point types were illustrated.

On the basis of the illustrations of Axtell points (Prewitt and Chandler 1992:Figure 1), I would classify the specimens as:

<u>Figure 1</u>

Trinity	A,C,D,E,J
Williams	F,N
Palmillas	G,H,I,L
Kent	K,O
Misc. stemmed	B,M,P

Admittedly, the above classifications are somewhat superficial, and Trinity is the only type that commonly has smoothed stem edges, as is common for the proposed Axtell type. However, if the specimens of Axtell points illustrated by Prewitt and Chandler were given to several experienced analysts, I would predict that different classification groupings would result by each analyst, because of the overlapping attributes of the various specimens. Since there is not good control on the dating of the proposed Axtell point type, the possibility remains that some of the 99 specimens noted by Prewitt and Chandler may be different point types from different time periods. Another consideration is that Axtell specimens identified as geographical isolates may simply be variants of other point types not related to any Axtell technological tradition, if this tradition exists at all.

As an example, Prewitt and Chandler (1992: 19) have identified two specimens as Axtell that I had previously identified as Trinity (Patterson 1980:Figures 5H,6K). Based on the illustrations of Trinity points by Suhm and Jelks (1962:Plate 127), my two specimens could easily be classified as Trinity. My main point remains, however, not that my classification of these two specimens was entirely correct, but rather that the range of variation in specimens classified as the Axtell point type is wide enough to overlap several other recognized dart point types. Therefore, it seems difficult to justify the use of the Axtell point type classification.

There seems to be a terrible temptation to continually name new point types. When this is done, however, there is a danger of losing the analytical value of point type classification schemes.

Justice (1987) has shown this clearly for a number of point types that are morphological correlates. I'll never forget an example where I once thought that I had discovered a new dart point type in Southeast Texas. Dee Ann Story helpfully pointed out that my proposed point type was too similar to some other recognized point types to justify a new point type name.

In summary, my opinion is that the proposed Axtell point type name should be used with caution until a better data base is established to justify this dart point category. Additional data may be difficult to obtain in significant quantity for the proposed Axtell point type because, even if it is a valid point type, it is a minor type.

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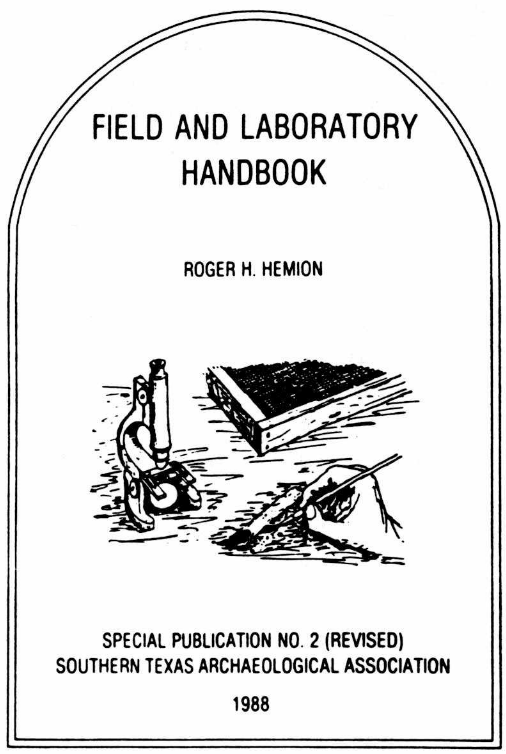

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A QUARRY SITE IN WESTERN DUVAL COUNTY

C. K. Chandler and Leo Lopez

ABSTRACT

The purpose of this paper is to report a prehistoric lithic quarry site in an area where no quarry sites have been recorded before now. The site consists of a surface outcrop of large imbedded boulders of a lithic material not previously identified in this area of southwest Texas.

THE SITE

This site is situated near the crest of a low ridge at the western edge of the Goliad Sands formation in west central Duval County (Renfro n.d.) The Goliad formation is a pliocene depositional system 300-600 feet thick made up of clay, sand, sandstone, marl, caliche, limestone and conglomerate (Sellards et al. 1954). The site is about one-half mile east of the Duval/Webb County line about 15 miles north of the small town of Bruni. The quarry material appears as an exposed surface outcrop of large imbedded boulders on the upper slope of the ridge. The exposed boulders show considerable evidence of quarrying activities with numerous flakes and chunks on the ground surface.

This material has been identified as quartz arenite. It is light gray in color. Within this same quarry is a smaller outcrop of quartz arenite that is brownish-yellow in color. This material appears to be of lesser quality than the light gray material and there is little evidence of it being quarried by prehistoric peoples. The brownish-yellow material has very little exposure at present and may not have been in evidence until fairly recent times. A recent visit to the site reveals the landowner has cleared a *sendero* immediately adjacent to the quarry and revealed a few primary and secondary flakes and nodules of this brownish material, and one thick circular biface scraper (6 to 7 cm in diameter) which appears to have been flaked by direct percussion and obviously is unfinished. While no artifacts of this yellowish brown material were found at 41DV133, it appears to have been minimally quarried and carried to some local sites for further work.

The clearing of the *sendero* has exposed large numbers of flakes and expanded the size of the quarry to 50 meters or more in diameter.

BACKGROUND

Compared to Central Texas and the Lower Pecos, the South Texas archaeological region is one of the least known regions of the state (Hester 1980). However, there have been a number of archeological sites recorded in this general area. Paul Ward, working from personal records of Bromley Cooper, recorded 159 sites in south-central Texas. Seventy-three of these sites were in northwest Duval County and 44 were in northeast Webb County. The area of these sites is just north and northwest of this quarry site. None of the sites recorded by Ward were identified as a quarry site.

What brought our attention to this site was the finding of a complete Folsom point about one mile to the north. Rose Treviño reported this point to the Office of the State Archeologist and that office requested C. K. Chandler to investigate the site of the Folsom find to determine if it was a Folsom site or just an isolated find. The point was found by Al Lopez while deer hunting on family ranch property. Al did not live in the area but his brother, Leo, knew the location of the Folsom find. Leo guided a group of us to investigate the site. En route we crossed this low ridge where the quarry site is located. While investigating the area of the Folsom find, Leo called our attention to a large area of scattered

lithics and deflated hearths (41DV133). A surface collection was made. Several stemless dart points, two unifacial Clear Fork tools, a sandstone tubular pipe and a number of thin bifaces and biface fragments were collected.

Additional materials have been collected from the lithic scatter and deflated hearth area (41DV133) and all materials collected have been documented and classified. They include several Desmuke dart points, two Lerma, several Nueces Scrapers, two Clear Fork tools, several Perdiz arrow points, a sandstone pipe and a pipe fragment. The two Clear Fork tools (generally called gouges), several thin triangular bifaces, a few thick bifaces and a few biface fragments, and four flakes are all of the light gray quartz arenite. Of the 10 Desmuke points two are of the light gray quartz arenite. None of the artifacts collected from 41DV133 were of the brownish-yellow material.

On returning from investigating the surface site and the area of the Folsom find we stopped to investigate the rock outcrop on the ridge. Samples of material from both the gray and the brownish-yellow rock outcrops were collected and portions of this material have been placed at the Texas Archeological Research Laboratory at the University of Texas at Austin, the Office of the State Archeologist in Austin, and at the Center for Archaeological Research at the University of Texas at San Antonio for comparative analysis purposes.

CONCLUSIONS

Clear Fork tools have a long history of use. Large Clear Fork unifaces often appear in the Early Archaic (Turner and Hester 1985). Desmuke points are primarily of the Late Archaic time period. It appears that the quarry site reported here (41DV134) was used throughout most of the Archaic period by prehistoric peoples as a source of good quality material for the manufacture of both projectiles and tools.

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PREHISTORIC SETTLEMENT IN THE MEDINA VALLEY AND THE 1991 STAA-ITC FIELD SCHOOL

Thomas H. Guderjan, Bob Baker, Britt Bouseman, Maureen Brown, Charles K. Chandler, Anne Fox and Barbara Meissner.

ABSTRACT

This report briefly summarizes the accomplishments of the first archaeological field school sponsored by the Southern Texas Archaeological Association (STAA) and the University of Texas Institute of Texan Cultures (ITC). In addition, a discussion of the methodology of the Medina Valley project will provide contextual information regarding the efforts of the field school.

INTRODUCTION

Not the least important of our accomplishments was the general success of the field school in terms of logistics, attendance and the experiences of the participants. This was the first time a regional organization has sponsored such a field school in Texas. The experimental nature of our efforts was made easier by the STAA's experience in hosting the 1990 Texas Archeological Society's field school near Utopia. Nevertheless, the experience was a new one for all of us. The focus of this report is not the logistic aspects of the field school, but the research we had undertaken.

There are ethical concerns about archaeological field schools which also should be noted. First, as archaeological resources are finite, their consumption only as a training device is unjustifiable. We cannot dig sites during field schools and fail to conduct high quality research any more than we can support bulldozing sites for construction without mitigating their loss. On the other hand, we cannot ethically use students and field school participants as free labor. They, too, deserve more than that. In effect, a good field school must incorporate both research and teaching in a balanced manner.

The actual activities in 1991 included excavation of the Quinta Medina site (site number 41ME53), surveys and assessments of other sites, documentation of historic buildings and laboratory work associated with the field work. The research into prehistoric materials was guided by a general and evolving research design. In order to place the current work in perspective, it is useful to review the broad tenets of the research design before discussing the results of this year's work.

BACKGROUND AND PREVIOUS RESEARCH

The study area is the Medina River valley, approximately 20 miles west of San Antonio. It is defined on the south by Highway US 90. On the east, the Medina/Bexar County line roughly marks the boundary. The north end is about the latitude of Bandera. Then, the boundary heads south-southeast to include Medina Lake and southward to include the hills overlooking Castroville (Figure 1).

Very little research had been done in the Medina Valley before our efforts began. For example, fewer than 50 sites had been recorded in Medina County prior to the initiation of our work. By contrast, over 950 have been recorded in Bexar County.

In 1970, a group of avocationalists excavated Scorpion Cave (41ME7) near Medina Lake in the far northwestern portion of the current study area. Aided by Lynn Highley, the excavated materials were later published (Highley et al. 1978). Scorpion Cave yielded evidence of an Early Archaic occupation (two Martindale points) and further occupation through the Late Prehistoric period. Excavation was conducted in arbitrary levels and the natural levels were not recorded.

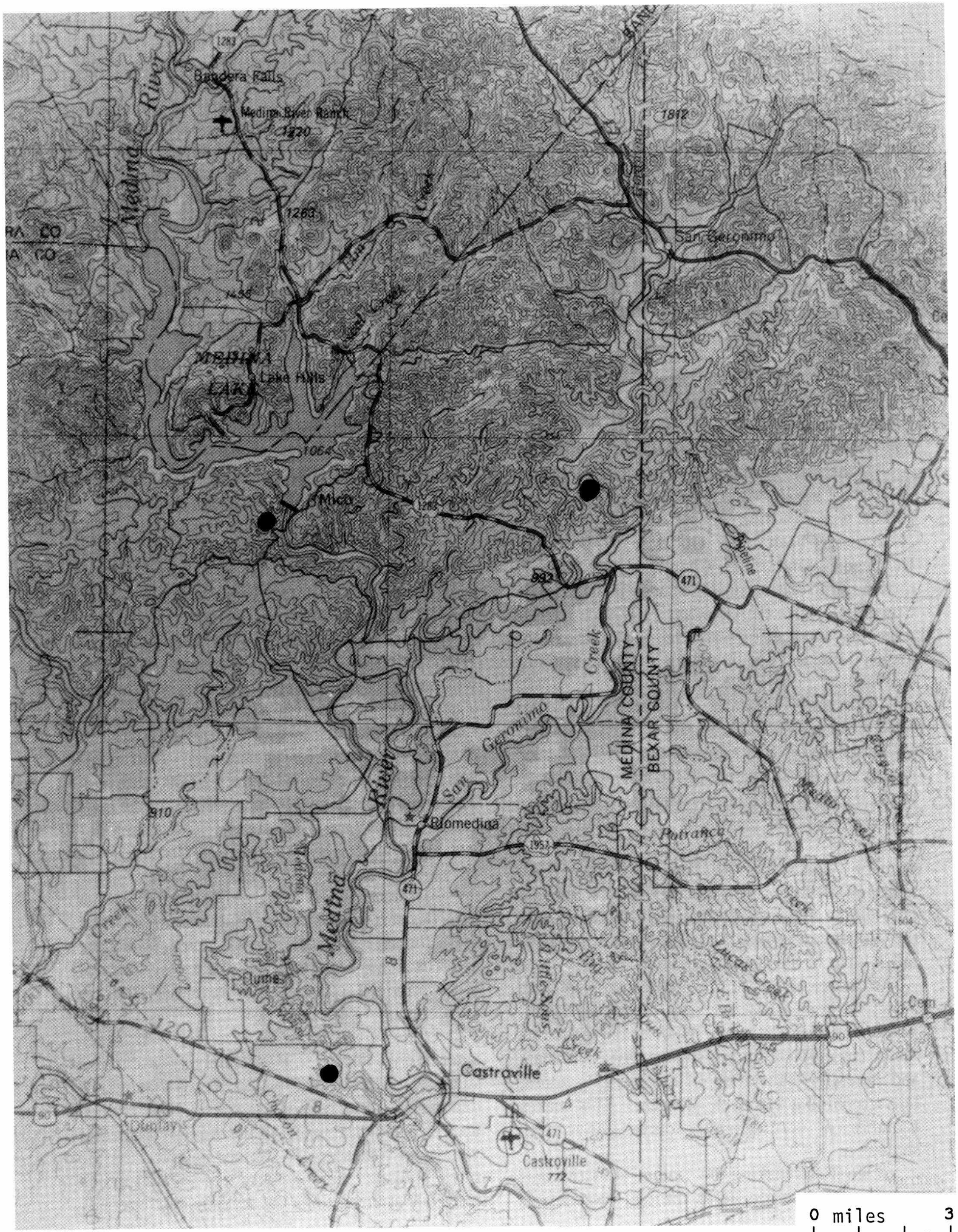


Figure 1. Topographic Map of Medina Valley study area.

Therefore, we cannot comment upon the intensity or duration of individual occupations, etc.

Also, during the past several years, C.K. Chandler (1991) has recorded a number of sites in the upper Medina and San Geronimo drainages and published a report on Gulf coastal shell artifacts of the area. The only other formal research in the study area has been done by UTSA's Center for Archaeological Research which surveyed a residential development in Castroville (Snaveley 1985). Additionally, a UTSA field school excavated 41ME34, south of the study area in 1987. The site had occupations dating from the Early Archaic through the Late Prehistoric periods (Hester 1990).

Then, in 1989, the Institute of Texan Cultures excavated part of Cueva Corbin in the San Geronimo canyon and helped STAA members survey the area around the cave. Cueva Corbin yielded a Late Prehistoric occupation and several earlier, well stratified occupational deposits which have not yet been dated (Guderjan 1991). Mark Kuykendahl and C.K. Chandler were able to provide information on other sites in the area of Cueva Corbin (Kuykendahl 1992). These relatively small efforts also led us to realize the great potential the valley holds for understanding how ancient people lived in Texas.

The study area is focused on the Medina River. In its northern sector, the river and its major tributary, San Geronimo Creek, cut deep gorges into the limestone of the Edwards Plateau in the Texas Hill Country. The Medina is a free flowing stream as far north as Bandera. San Geronimo is a normally dry stream, which probably once flowed freely before recent lowering of the water table. Flowing southward onto the South Texas coastal plain they join, and the floodplain expands to become nearly five miles wide in the Castroville area.

The area along the Edwards Escarpment edge is an ecotone (Riskind and Diamond 1986). Ecotones occur where two major ecological zones merge and typically have higher biological mass and diversity than either of the merging zones, thus combining elements of each. This makes ecotones a very attractive area for human settlement.

One factor making the ecotone attractive was the passing of bison herds through the canyons from the hill country into South Texas. In the 19th century, for example, some of the last remnant bison herds were found in the valleys near Uvalde. The "funnel effect" of the valleys potentially made big-game hunting an easy enterprise for prehistoric inhabitants (Joel Gunn, ms.). Some of these valleys became 19th century refuges for bison, well after they were nearly extinct in the general area.

Other factors attracted settlement to the Medina Valley. First and foremost, abundant water was available. And with water comes fish and riverine plants. For example, a "wild rice," today found only on the San Marcos River, probably once grew along the Medina and provided food for its inhabitants. Pecans, berries, and other plant foods also grow in the sheltered canyons.

Also with the river comes abundant stone for making tools. High quality chert is needed for stone tools and it is very common in the valley. While the first Texas inhabitants, the Paleo-Indians, travelled long distances to acquire chert, the later and more settled Archaic people focused their efforts on local resources.

So, not only does the valley flow through an ecotone, it also can be viewed as a "long oasis" with abundant special resources. Further, through a trick of nature, the Medina also probably had relics of ancient forests before it was so completely cleared for agriculture. During the Pleistocene, which ended about 12,000 years ago, Texas was much cooler and wetter. The East Texas forests were much further west than today and they have been retreating eastward since (Bryant and Shafer 1977). In the valleys along the escarpment which remained cooler and wetter than the surrounding hills, remnants of some of these forests remained. Lost Maples State Park and Lost Pines State Park are examples. Each of these provided other special resources for the ancient people who lived near them.

While human adaptation to oases has been extensively explored in Egypt, only very tentative study of such adaptations in Texas have been undertaken. Joel Shiner and his students studied the Paleo-Indian remains in the Aquarena Springs vicinity of San Marcos. Shiner believed that he saw stylistic homogeneity of Paleo-Indian materials at the springs but stylistic heterogeneity in the hills nearby. Though his conclusions were vehemently debated, he interpreted this pattern as resulting from a near-permanent "in-group" band residing at the springs and various, more nomadic, "out-groups" in the surrounding area (Shiner 1983; see also Johnson and Holliday 1984). This analogy, of course, was drawn from his own previous work in Egypt.

The task of the Medina Valley project and the field school is to find evidence of how prehistoric people used the resources and landscape of the valley. Further, we will explore the dynamic changes which occurred in how the valley was utilized, and attempt to distinguish changes which were cultural responses to changing climatic conditions and which were not.

The Medina Valley work, then, has three primary goals:

1. Establish a sequence of climatic change so that we can understand the environmental factors involved with human settlement.

2. Relate the distribution of prehistoric sites and functional types of prehistoric sites to geographic variables. This will enable us to understand the settlement patterns and strategies of prehistoric people, or how and why they used the land.

3. Examine No. 2 closely for each of the discernable time periods involved and compare that information to the climatic sequence. Therefore, we will be able to see changes in settlement patterns and determine whether they were caused by environmental or cultural changes.

METHODOLOGY FOR THE ANALYSIS OF PREHISTORIC SETTLEMENT PATTERNS

Three principal variables will be initially considered in the analysis: the dates, settings and functions of archaeological sites. Each of these are related, and by collecting information regarding all three we will be able to obtain an understanding of the dynamics of change as well as the relationships between man and land at any given time.

Ascertaining the occupational dates of sites is quite simple. Dates will be determined through standard analysis of the shapes of the excavated artifacts. It is not necessary to undertake large scale excavations in order to do this. In general, limited excavation will reveal the occupational dates with reasonable accuracy and precision.

It is not difficult to characterize an individual site's setting. It is, however, not simple to do so in a way which allows for many sites to be usefully compared. Factors such as vegetation patterns, soil types, slope and distance to water are commonly used. In the Medina Valley there is a direct relationship between most resources and soil types. Therefore, soils will be used initially to characterize site settings and to stratify the environment for later analysis.

The soils of Medina County have been described and mapped by Dittmar, Deike and Richmond (1977). Seven major soil associations exist in the county. While each of these have several divisions and sub-divisions, our purposes allow us to use them at the broadest scale (Figure 2).

1. The Knippa-Mercedes-Castroville association consists of deep, nearly level to gently sloping and clayey, calcareous soils. This association is on broad, smooth uplands, generally between the Edwards Escarpment and the southern portion of the area and covers approximately 30% of the county. It supports transitional hill country-South Texas plain vegetation.

2. The Tarrant-Real-Brackett association consists of very shallow and shallow, gently sloping and undulating to steep, loamy, gravelly loamy and cobbly clayey, calcareous soils. This association is on the more sloping, dissected areas and covers about 19% of the county, generally covering the more stable surfaces above the Edwards Escarpment. It supports the general hill country vegetation.

3. The Olmos-Yologo-Hindes association consists of very shallow to moderately deep, gently sloping to sloping and undulating, gravelly and loamy, noncalcareous to calcareous soils. This association is on gravelly, upland ridges and covers about 15% of the county, generally in the southern and central portion. It supports a general South Texas plain vegetation.

4. The Duval-Miguel-Amphian association consists of deep, nearly level to gently sloping, loamy, noncalcareous soils. This association covers about 14% of the county, generally in the

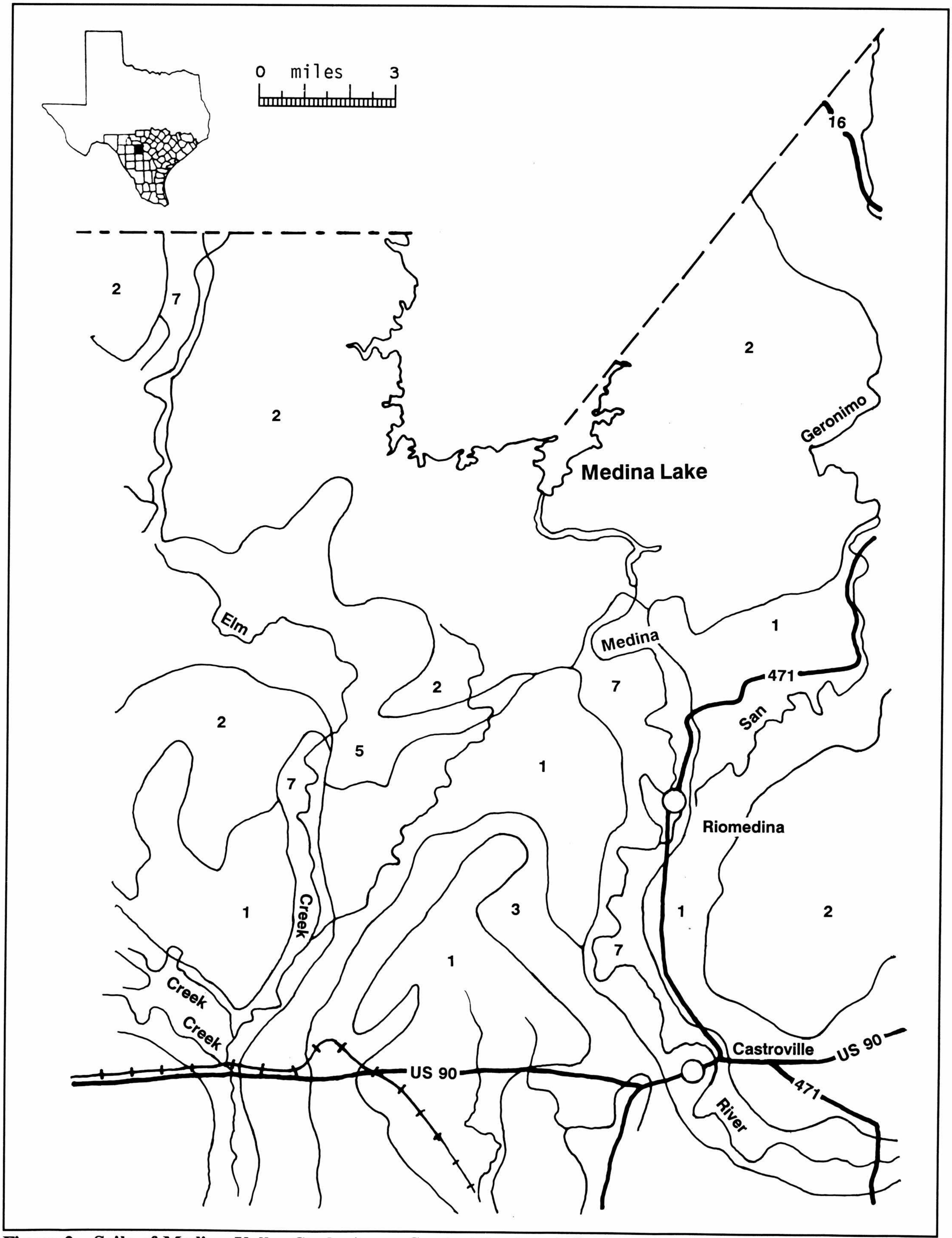


Figure 2. Soils of Medina Valley Study Area. See text for descriptions.

southern portion of the county. It supports a general South Texas plain vegetation.

5. The Speck-Pratley-Meretta association consists of moderately deep and shallow, nearly level to gently sloping and undulating, loamy and clayey, noncalcareous to calcareous soils. This association covers about 10% of the county, generally along the side slopes near the Edwards Escarpment.

6. The Nueces-Patilo-Eufaula association exists in the far southern portion of the county, but not within the study area.

7. The Atco-Divot association consists of deep, nearly level to gently sloping loamy, calcareous soils. This association covers about 6% of the county, along the major drainages such as the Medina River and Hondo Creek. (Dittmar, Deike and Richmond 1977).

Considerably more complex is the determination of site function. Certain features present at sites, such as burned rock middens, clearly speak to the functional nature of the site. Even so, the precise function of burned rock middens themselves remains in debate. Nevertheless, it is possible to functionally distinguish sites with such middens from those without them.

Likewise, a number of techniques have been developed which use the most common kinds of artifacts found at a site to distinguish functional differences. One of the more sophisticated techniques involves graphing the length of flakes against their edge angles (Raab, Cande and Stahle 1979). These "debitage graphs" may be compared from site to site to determine the relative range of variability and, therefore, the range of human behavior, represented at each site. The senior author, however, prefers a categorical analysis which is much faster to perform and reveals more detail about the specific activities represented (Guderjan 1981). By creating categories of stone artifacts types which are based on the reduction process inherent in stone tool manufacture, use and maintenance, more is revealed about site function. By graphing the percentages of an artifact assemblage which are Primary Flakes, Flakes, Core Trimming Elements, Biface Thinning Flakes, Cores, Chips, Retouch Chips, Biface Thinning Chips, Marginally Retouched Pieces, Unifacial Tools, Bifacial Tools and Projectile Points, two ends are accomplished. Graphs of assemblages from various sites may be compared and a data base for sophisticated statistical manipulations such as cluster and factor analyses and multivariate discriminant analysis has been created.

Once this has been accomplished, the sites themselves may be placed in categories which are derived from the data. At this point, it becomes a rather simple task to compare the number of sites of each type found in each setting during each time period. Functional site types may increase or decrease in individual environmental zones. Environmental zones themselves may be abandoned or newly occupied in particular time periods.

EXCAVATIONS

The principal excavation work during the 1991 field school was conducted at the Quinta Medina site (41ME53) under the supervision of Barbara Meissner. Quinta Medina is a Late Prehistoric and Late Archaic site which includes residential materials and an Archaic burned rock midden. A single Clear Fork Biface was also found which may date to the Middle Archaic.

The site is located on the bluffs near the Medina Valley. It does not overlook the valley, but is located adjacent to a drainage which reaches the valley in less than 1 kilometer. Today a small spring still flows just below the site and a stock tank, above that spring, constantly holds water. Above the stock tank and site other springs flowed regularly in recent memory of the owners. Aside from the presence of abundant water itself, the water would have provided associated flora and fauna for human use.

The bluffs in the vicinity of the site are capped by extensive chert gravel deposits which were probably deposited shortly after the main events of the Balcones Uplift during the Miocene, perhaps 15-20,000,000 years ago. During this period, the Medina River or its predecessors would have been rapidly down-cutting limestone from the Edwards Plateau and depositing harder chert gravels on what have become terraces of the current river valley. This chert would also have become an important resource and attraction for prehistoric human settlement.

In addition to immediately available stone, water and associated resources, the site was very near locations where much of the valley could be overlooked. Further access to the valley by way of the drainage adjacent to the site was very easy. Area B was a distinctive burned rock midden (Figure 3). The initial testing was done by excavating backhoe trenches in each area. Trench B exposed a burned rock midden approximately 50 cms. deep. No artifacts were recovered from direct association with this midden, but we believe it to date to the Middle and/or Late Archaic periods.

Our excavations, though, focused on Area A of the site, presumably the "residential" zone (Figure 4). Backhoe Trench A crosscut a buried gully which had been cut into the hill surface prior to deposit of any evidence of occupation (Figure 5). At that time, the hillside was stripped of gravels and the two-meter-deep gully was formed. Confirming evidence for this event was found in Trench C, hand dug and perpendicular to Trench A. At the grid west end of Trench C, we found chert gravels in place on the higher stable surface. As the slope increased towards grid east, these deposits became thinner, then ceased to exist. While we cannot directly date this erosional event, it certainly predates the Late Archaic period (3000-2300 Before Present) and may well

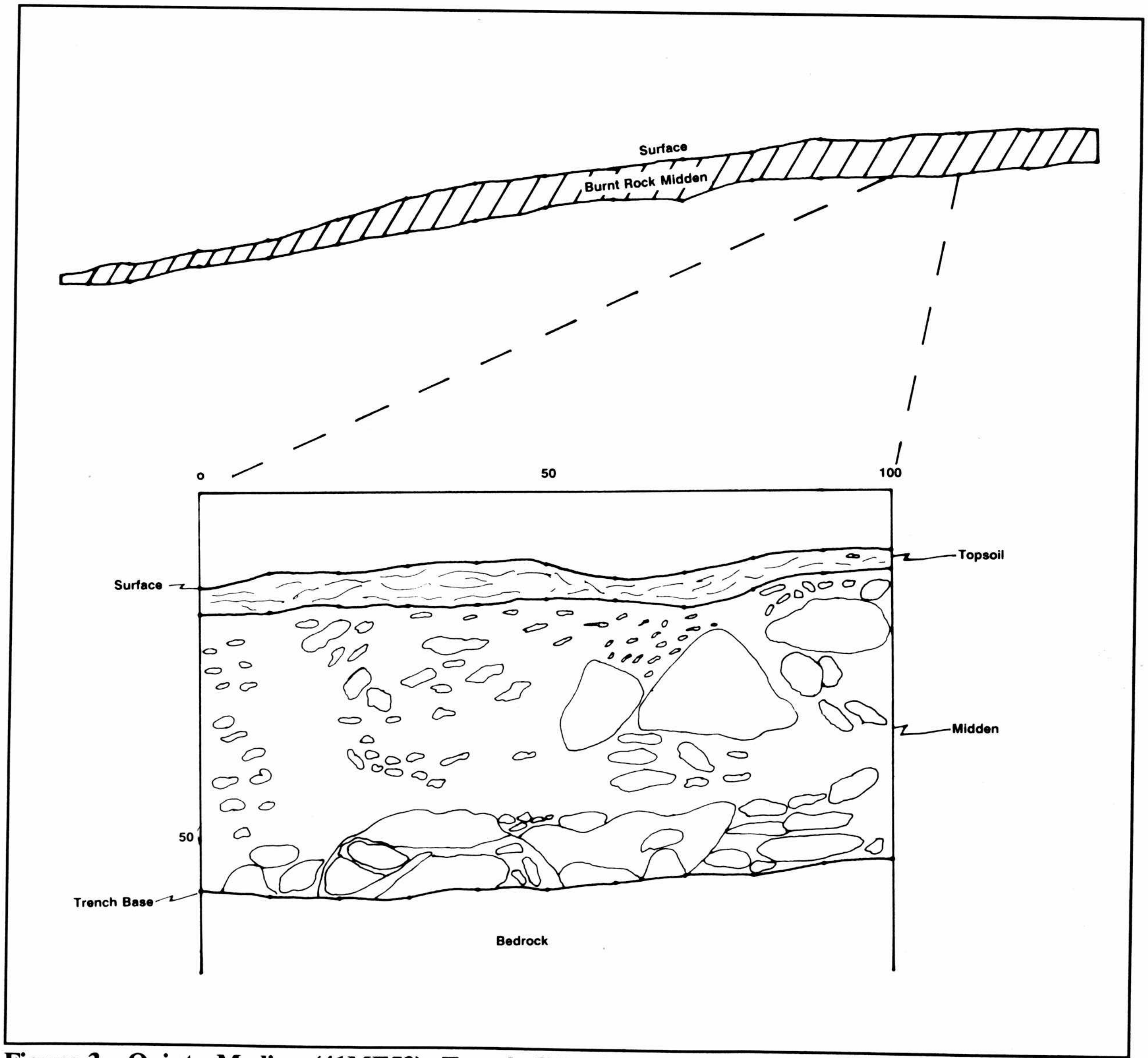


Figure 3. Quinta Medina (41ME53), Trench C Profile (East-West).

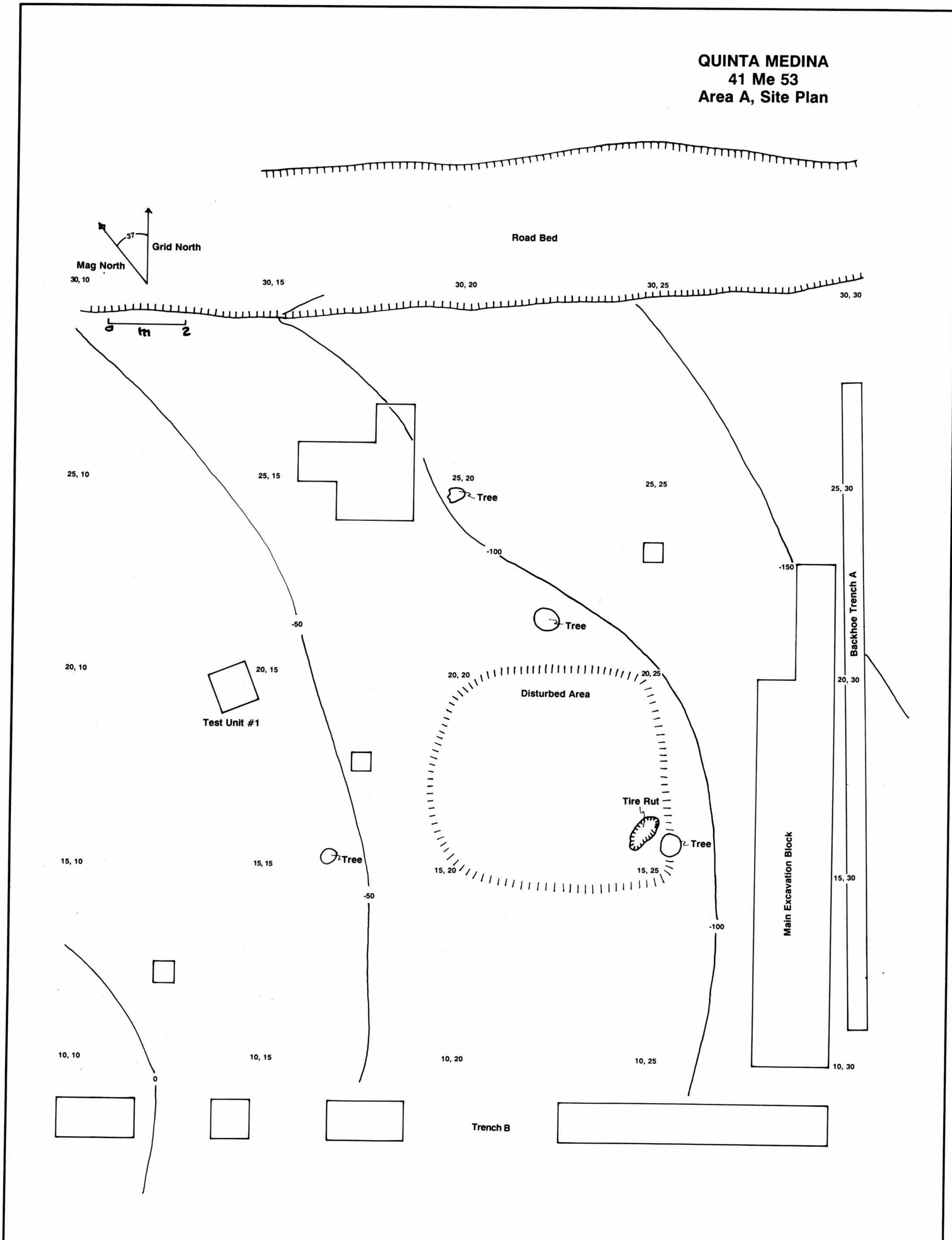


Figure 4. Quinta Medina: Site Plan of Area A. Small scale, upper left, is in meters.

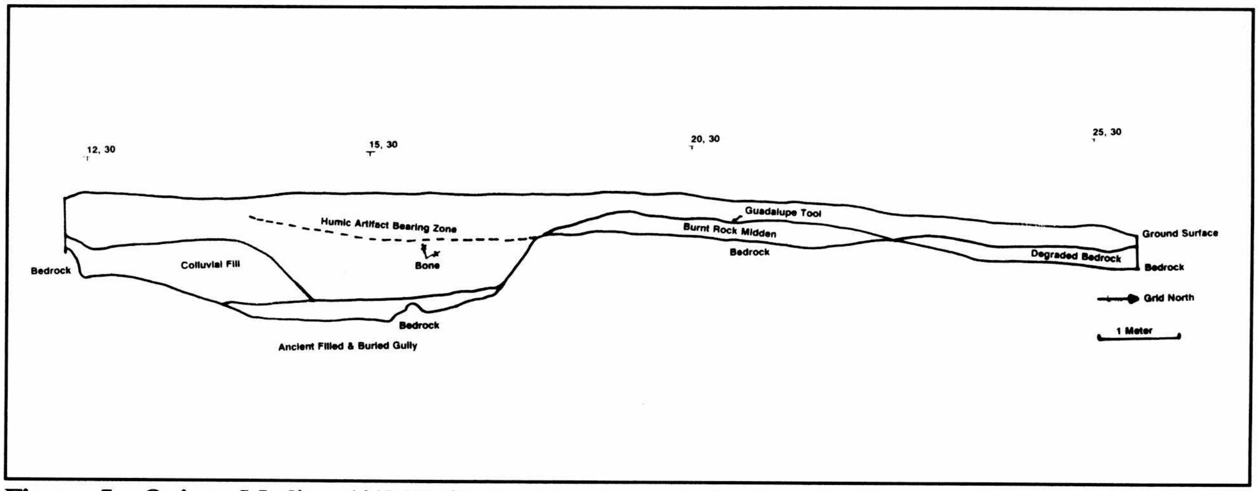


Figure 5. Quinta Medina (41ME53), Backhoe Trench A, West Wall.

predate the Middle Archaic (4500 BP-2000 BP) and may date to the Altithermal (8000 BP-6,000 BP) and disrupted human occupation (Antevs i948, Meltzer 1991).

Feature B consisted of a hearth just above the main accumulation of burned rock, which in turn, was found just above bedrock. A Marcos point found in Feature B dates it to the Late Archaic period.

The bulk of the effort at Quinta Medina was expended by excavating the upper, Late Prehistoric living surfaces adjacent to Trench A. While none of these materials have yet been analyzed, flakes and tools were virtually all found at a horizontal angle of repose, indicating that the integrity of the deposit was quite good and the occupational surface was apparently intact. As this process was a very slow and tedious one, we did not complete the horizontal block excavation. A preliminary analysis will be conducted this year and we will continue excavation next year. Below the Late Prehistoric materials along Trench A and on the side of the exposed gully, were small Late Archaic burned rock midden deposits. Another burned rock midden feature, Feature B, was discovered immediately on top of the bedrock caliche surface while testing other sectors of the site. Feature A was found in the wall of Trench A. This is either a pit or small erosional gully which the trench crosscut. Within the feature were found large primary flakes and processing tools as well as semi-articulated faunal materials. Angles of repose were generally jumbled but largely vertical, indicating that the artifacts were deposited into the feature, rather than on top of a stable surface. Our initial evaluation was that the faunal remains were of bison, wild peccary and deer. A date for Feature A has not been ascertained. It appears to have eroded from or been dug from the upper portion of the Transitional Archaic zone. However, no temporally diagnostic tools were recovered and we have not yet run a radiocarbon date. Next year, we will expand our investigation of Feature A in order to determine its nature and extract further information.

In summary, Quinta Medina site materials were deposited on top of a more ancient erosional surface which includes a deep gully. The event which formed this erosional surface may have occurred during the Altithermal. Then, after an unknown period of time and unknown number of aggradation/degradation cycles, a substantial Late Archaic occupation occurred. Colluvial sediments continued to accumulate because of slope wash at the site and repeated occupations occurred through the Late Prehistoric period.

SURVEYS AND SITE ASSESSMENTS

While the Quinta Medina operations proceeded, C.K. Chandler organized a survey party to investigate the adjacent ranch. Two sites were discovered; 41ME70 and 41ME71. While 41ME71 is a minor site and the party did not see a purpose in further investigation, 41ME70, the Tschirhart Site, was considerably more substantial. Bob Baker led a testing team to the site. The survey and testing groups recovered La Jita, Marcos and Nolan points which indicate occupation during the Early and Late Archaic periods. The site consists of a stable surface terrace with about 60 centimeters of archaeological deposit covering several acres. Interestingly, little or no burned rock was found at the site. Chandler also documented several other sites and collections owned by local land owners. The most intriguing item was an intact Clovis point (Figure 6) from a site (41ME75) on the bank of Hondo Creek. This site has not yet been visited. However, along with other sites and lands to which we now have access, it will be visited in preparation for next year's field work. During the field school, Britt Bouseman led a team to 41ME8 nearScorpion Cave (Figure 7). We were interested in the site because Judson had noted a "Plainview" point from beneath the Middle Archaic midden there on the site form which he filed with TARL in 1979. Guderjan had visited the site several times prior to the field school and was interested in whether such a deposit actually existed. The site is an alluvial bluff six to eight meters tall along the Medina River with a burned rock midden on the surface. Bouseman's team cut a profile section of the bluff and discovered a buried soil at a depth of approximately three meters (Figure 8a). From the soil, they recovered a bifacial tool (Figure 8b) and two chert flakes. After the field school, Guderjan was able to obtain access to the material which Judson had recovered. Judson had found a Golondrina point in the soil (Figure 7a) and a Barber point nearby at the base of the bluff (Figure 7b). Despite considerable erosion of the bluff due to flooding, it is clear that an intact Late Paleo-Indian component exists.

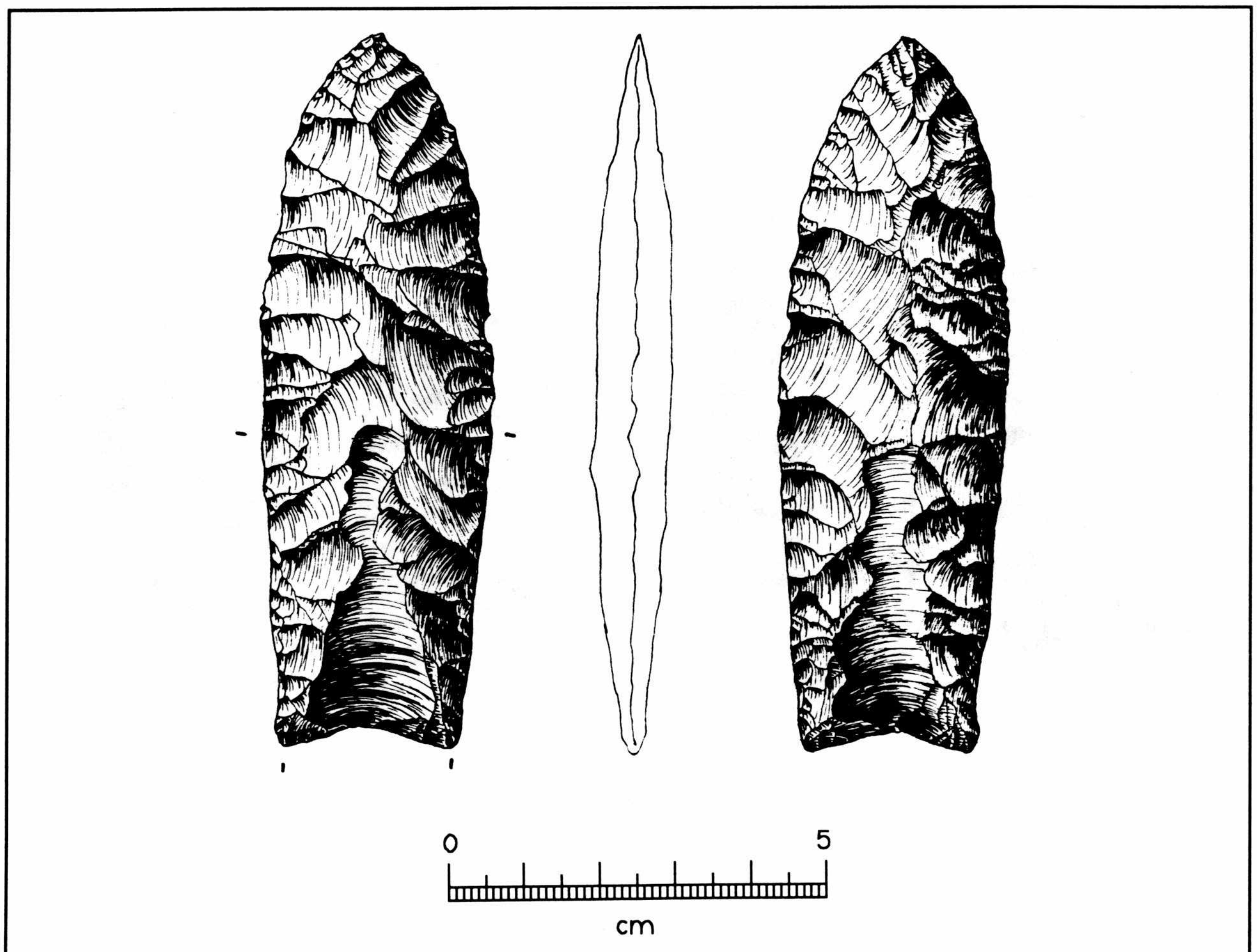


Figure 6. Clovis Point found at 41ME75. Drawn by Richard McReynolds.

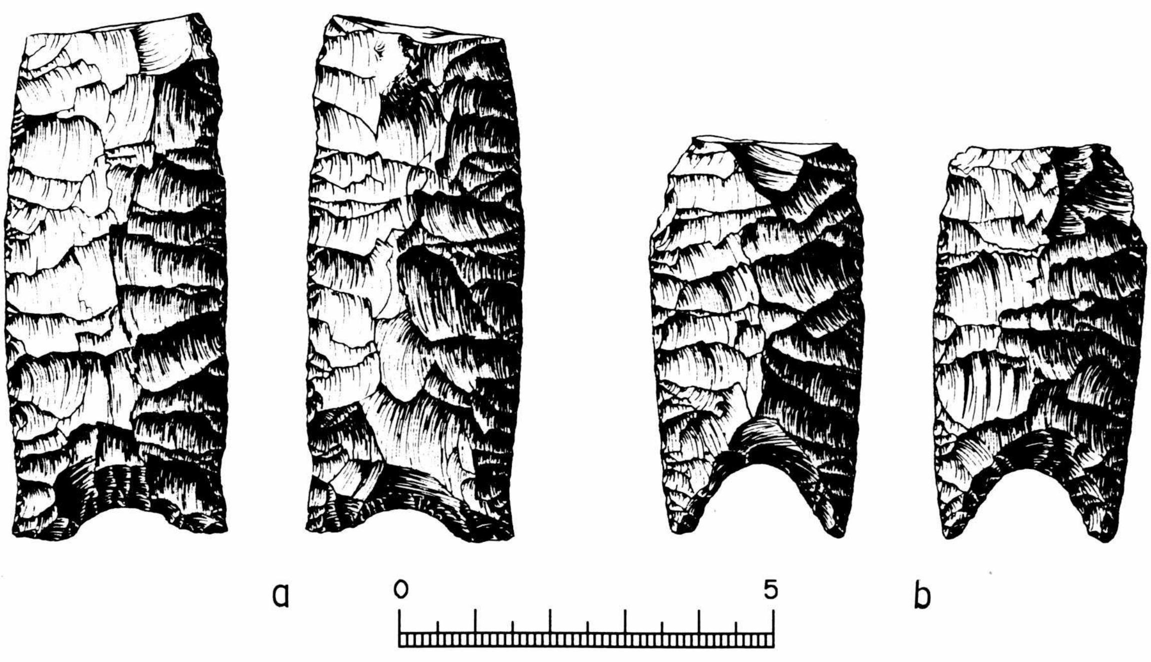
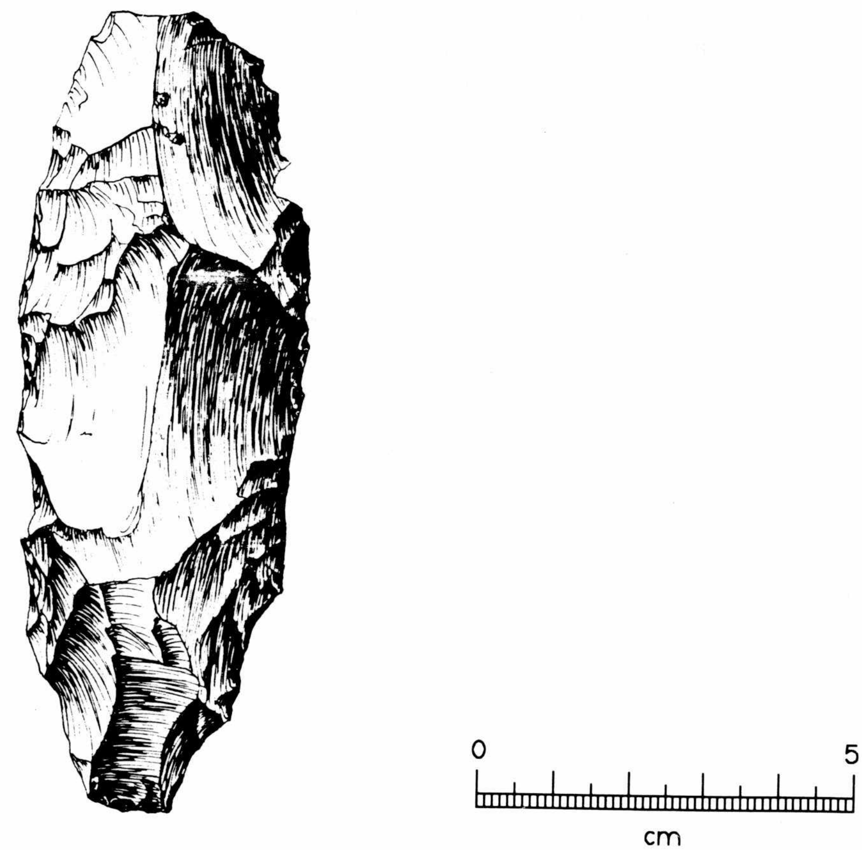


Figure 7. Top, Site 41ME8, near 41ME7 (Scorpion Cave). a, Golondrina dart point; b, Barber dart point. both found nearby. Points drawn by Richard McReynolds.

a



b

Figure 8. At Site 41ME8. a, Paleo-Indian bifacial preform and depositional break; b, Paleo-Indian bifacial preform. Drawn by Richard McReynolds.

The depositional unit in which the Paleo-Indian component at 41ME8 is found continues intermittently downstream along the Medina River and is very clear in the Castroville-LaCoste area. It appears to be the same depositional unit in which the Paleo-Indian components of the Richard Beane site were found at what was to have been the Applewhite Dam site.

PALEOCLIMATIC EVENTS IN THE UPPER MEDINA VALLEY

Developing an environmental context for prehistoric settlement of the Medina valley is a task which requires vastly more data than is currently available to us. While this work is still in its embryonic stages, enough information has now been collected to justify a status report.

So far, our information suggests a period of much higher stream flow and probably precipitation during the period somewhat before the Golondrina occupation of 41ME8 which then continued until or before the Middle Archaic. At that time, surfaces apparently stabilized and, based on the general numbers of sites found, occupation of the area may have intensified.

During a period prior to the Middle Archaic, evidence from the Quinta Medina site indicates a severe dry period which was followed by sufficient rainfall to strip the hillside of soil and create a large erosional gully. By correlating this information with that from 41ME8, it is very likely that the alluvial deposition at 41ME8 ceased prior to the Middle Archaic.

This may well be correlated with the Altithermal period on the southern plains (Antevs 1948). The Altithermal was just such a time when erosion was severe and human populations diminished or adapted new approaches to subsistence at 8000-6,000 BP (Meltzer 1991).

From the Middle Archaic through the Late Prehistoric occupational surfaces appear to have been quite stable and evidence of climatic conditions is lacking. However, a short period of severe flooding or, at least a single large flood, occurred prior to about 700 AD.

The most recent event in our record comes from Cueva Corbin, 41ME13. Cueva Corbin is located in San Geronimo canyon, very near the Edwards Escarpment. This small rockshelter was excavated in 1989 and includes discrete occupational surfaces as recent as the Late Prehistoric period (700-1500 AD) and perhaps as early as the Late Archaic (Guderjan 1991; also reported previously in *Recent Research* Vol. 1 #2). Spalling of roof material onto the floor of the shelter created the bulk of the floor deposit. Spalling episodes were interspersed with occupational events. Beneath the most recent occupational event which occurred during the Late Prehistoric period, overbank flooding of the San Geronimo Creek left distinctively bedded sand deposits. Therefore, this represents a single event or a series of events occurring within a very short period of time, during which water flow in the creek was substantial, at least five meters above the current creek bed.

These data only represent a starting point for studies of climate change at the escarpment's edge. Perhaps more than anything else, they leave the clear impression that such studies will be well rewarded when applied to a geographically coherent and sufficiently large region.

HISTORIC HOUSE DOCUMENTATION

Concurrent with the work on prehistoric archaeology, Anne Fox led a team which documented historic structures in and around Castroville. Castroville provides an opportunity for very useful research into vernacular housing because of its background as an Alsatian settlement founded in the 19th century.

The basic intent of the historic team was to learn how to document historic house sites, using Castroville houses. The team spent some time learning about historic artifacts that would be present on such sites, pacing off and drawing plans and elevations of existing houses and their surrounding lots, observing architectural details with an eye to using them for dating and for reconstructing the history of a house, and researching the ownership history of a property in the county archives. Additionally, several owners invited us to see the interiors of their homes.

FUTURE PLANNING

In summary, we were successful in documenting very early evidence of settlement in the Medina valley by finding the Clovis point and the site with Golondrina points. As importantly,we were able to obtain significant information regarding the Late Archaic and Late Prehistoric occupations at the Quinta Medina site. Further, we obtained access to land and sites which we had not previously been able to visit. This will allow us to begin to expand our data base to other geographical settings within the valley and bring us closer to our goal of comparing site functions with site settings. Next year we will expand all phases of the work on prehistoric material. While we will continue excavations at Quinta Medina, we will also work on four or five other sites. Small scale excavations of many sites is the best approach to the kind of eco-functional study in which we are engaged. Additionally, we will continue survey and assessment work to expand our data base.

ACKNOWLEDGEMENTS

The authors wish to thank Ray Blackburn, chairman of the Southern Texas Archaeological Association, for his commitment to this project and further public education, and Dr. Rex Ball, Executive Director of the Institute of Texan Cultures, for his support. Paul and Frances Ward began the process which led to this project and continue in their overwhelming support as landowners and hosts to 150 persons for nine days, despite spending two days disabled with a virus. We very much appreciate Lea Worchester's efforts as the Assistant Laboratory Supervisor. Maureen Brown acted more than ably as the Laboratory Supervisor. Initial site testing at Quinta Medina was done by Ray Smith. He and Candy Smith handled registration and logistics for the field school. Corporate support from the project came from Discount Cellular in San Antonio and Union Carbide in Victoria, Texas. The artifacts were drawn by Richard McReynolds.

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TWO POLYHEDRAL CORES FROM COMANCHE HILL, SAN ANTONIO, TEXAS

Thomas C. Kelly

ABSTRACT

Two polyhedral cores found on Comanche Hill, in San Antonio, Texas, are documented and suggestions made as to the use of the blades removed from the cores. A suggested time period for these artifacts is the Late Prehistoric period.

INTRODUCTION

Mrs. Van Autry, an STAA member, graciously loaned us two "classical" polyhedral cores at an STAA meeting. They were found by her grandfather, Gus Reech, on the south side of Comanche Hill, a well-known landmark located on Nacogdoches Road in Northeast San Antonio, Bexar County.

Mr. Reech owned and farmed the area that included Comanche Hill until his death at age 77 in 1940. The cores and numerous other chert artifacts were found over years of digging around the hill, often by lantern light, searching for gold storied to have been buried there.

Mrs. Van Autry inherited her grandfather's artifact collection and has accumulated her own over the years. A single Texas Angostura point found on Comanche Hill was probably curated by later Indians, as the rest of the points are Late Prehistoric arrow points (predominately Edwards) and various small Late Archaic dart points (predominately Ensor).

Comanche Hill is a small flat-topped hill distinguished only because it rises above the surrounding area of flat and rolling terrain, making it a natural spot for Indians to camp below a handy lookout. It also provided a source of chert nodules for the production of lithic artifacts. The chert varies from buff through various shades of brown and from excellent to poor quality.

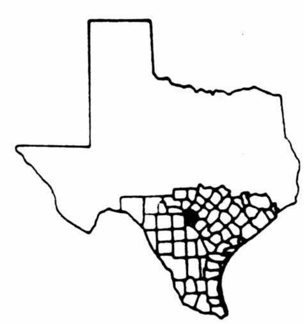
DESCRIPTION OF ARTIFACTS

Richard McReynolds' line drawings show the base, top and two sides of each core (Figure 1, Figure 2). They are both multifaceted cones of excellent quality homogeneous tan chert. The knapping quality is also excellent with very regular blade scars and usually parallel sides. There are no signs of use wear on either core, although they would have made handy tools for pounding or chopping tasks. Descriptions follow:

Core 1 (Figure 1). The base is comparatively flat and probably originally resulted from bashing the end off a cobble. As successive blades were knocked off of its circumference, it became necessary to generate new striking platforms, thus leaving a series of large flake scars across its surface. It is 58 mm in diameter and has 10 sides as the result of the final sequence of nine blade removals. The tenth facet is a cortex strip 24 mm wide.

The core is 118 mm tall, but due to the pyramidal slant of the core one facet is actually 121 mm long. The shortest is 88 mm and the average length of the nine blade facets is 112 mm. The widths of these facets varies from nine mm to 27 mm with an average of 17.4 mm. There are three short facets from the distal (tip) end that were placed there to produce blades with pointed ends as driven off the core. The result is that five of the blades came off with ready-made points requiring minimal modification for use as boring or punch tools, or arrow points. Note the middle facet of the right hand illustration and visualize the missing blade as a possible preform for a unifacial Perdiz arrow point.

Core 2 (Figure 2). The base is 61 mm in diameter and has nine sides, eight from blades driven off the core, and a ninth of original cortex 48 mm wide. Its base is scarred, like the first core, by several flakes that were necessary to provide striking platforms after previous blade removals.



The height of the core is 129 mm but the longest blade facet is only 122 mm and the average is 111 mm.

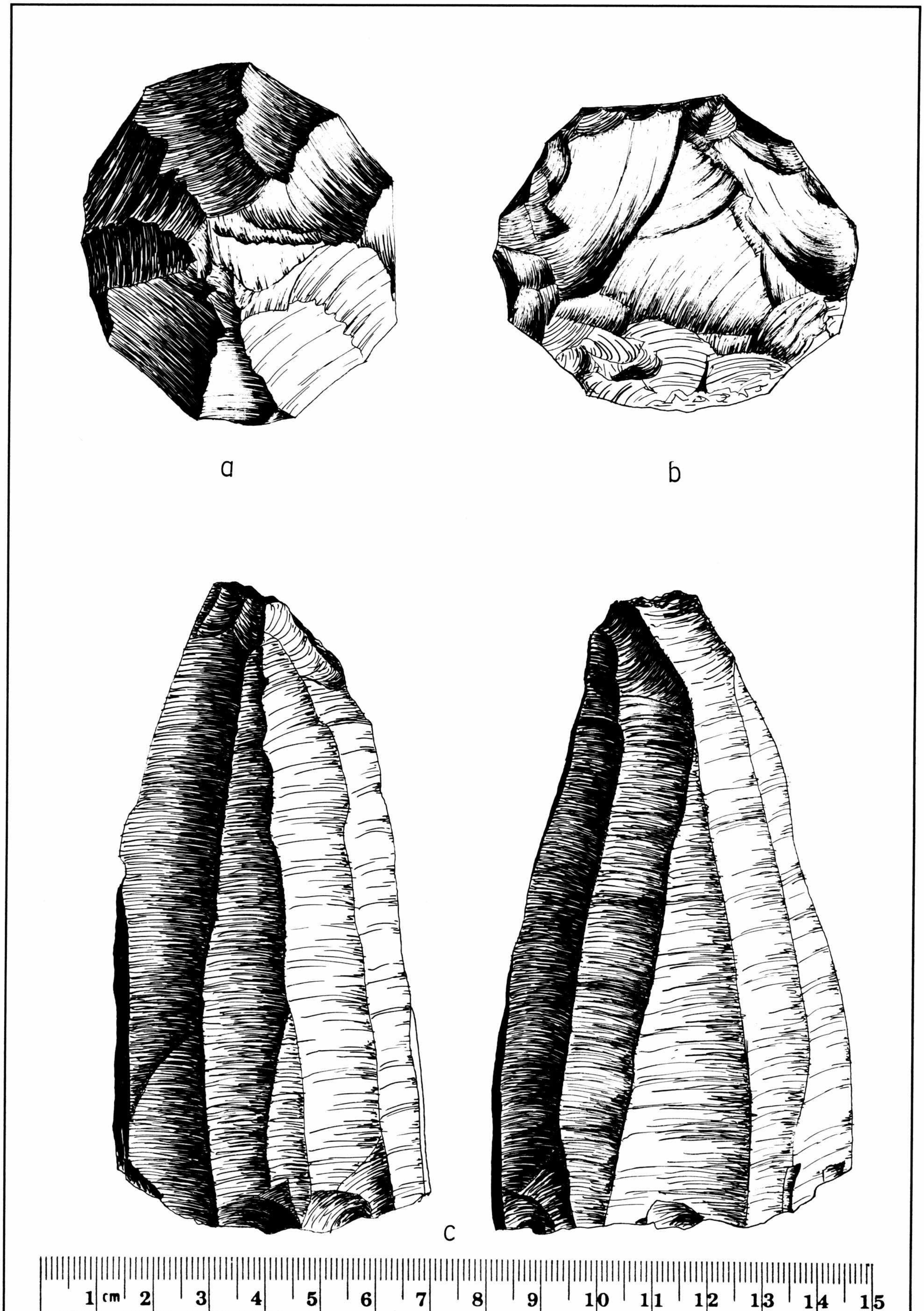


Figure 1. a, Top; b, base; and c, two sides, Van Autry Core #1. Illustrated by Richard McReynolds.

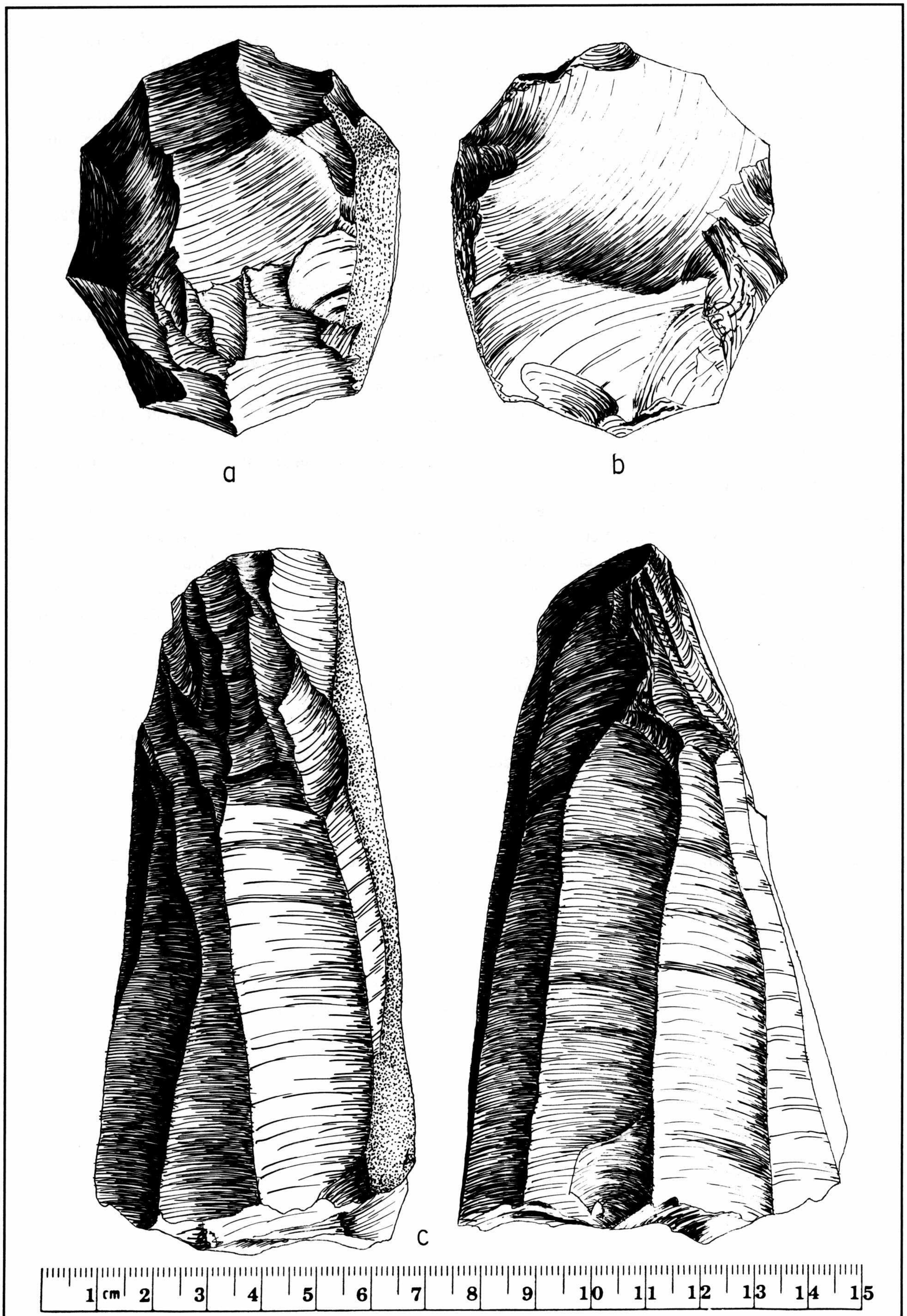


Figure 2. a, Top; b, base; and c, two sides, Van Autry Core #2. Illustrated by Richard McReynolds.

Eight small facets originate at the top of the core, either to produce pointed ends on blades driven off from the base or possibly to limit their length, as the average facet lengths of the two cores are within one millimeter of each other, 112 versus 111 mm. Widths varied from 14 to 26 mm with an average, again, of 17 mm.

DISCUSSION

These cores were not nearly exhausted, and being first class knapping material, it would seem that only blades greater than roughly 17 mm wide and 110 mm long were desired.

There is no way of knowing how large the original cores were or how many blades were removed. The blades were obviously the desired products. These could have been used without alteration in many ways as piercing, cutting, and boring tools. They could also easily have been made into unifacial arrow points, such as Perdiz, and several could be made from each blade by snapping or strangulating it into several pieces. A blade preform was found associated with Perdiz points at Natalia (Hester and Kelly 1976). Small finely-made end-of-blade scrapers were also found in Brooks County, associated with Perdiz points (Kelly et al. 1979).

Hester and Shafer (1975), in their study of blade technology on the Texas coast, list data from the Kirchmeyer Site for 16 blades, mean length 36.9 mm and mean width of 17.7 mm and from the Indian Island Site for 16 blades with mean length of 43.8 mm and mean width of 17.5 mm. The 17 mm average width of the two Autry cores may just be coincidental. The longer Autry blades may just be a function of the greater size and quality of hill country nodules versus coastal chert sources.

Hester and Shafer (1975) place these coastal blade industries in Late Prehistoric and Proto-Historic time frames, with blades used as knives, scrapers, and projectile points.

PALEO-INDIAN BLADES

Paleo-Indian blades are known from the Southern Plains, but a cursory examination reveals differences from the blades removed from the Autry cores.

Green (1963) discusses Clovis blades. Hammatt (1969) found sites with prismatic blades in Western Oklahoma and suggested that they belonged to the Paleo-Indian period. Hammatt's illustrated blades were 86 to 110 mm long, 22 to 47 mm wide, and 10 to 14 mm thick.

J. Hester (1973) found Paleo-Indian blades at Blackwater Draw, but these were also much larger than any that could have come from the Autry cores.

Patterson (1977:34, Figure 2a) illustrates a semiconical blade core from nearby Medina County. The illustration shows only irregular blade facets, quite different from the Autry cores. In Patterson (ibid:31, Table 2), he lists a total of 88 prismatic blades with 72 of them falling between 20 and 35 mm in width, length 39-98 mm, average 62 mm and thickness of four to 23 mm, average 10.2 mm. Thirty-one percent of these were end-scrapers. Patterson thought they were pre-Clovis (25,000 years old) but had little hard evidence to substantiate this.

The narrowness of the last series of blades from the Autry cores would preclude their use as preforms for South Texas bifacial dart points, as they would be even narrower than our average 17-mm blades when bifaced. The only Paleo-Indian points in our area that could have been made on such narrow blades would be Levi, a provisional type suggested by Kelly (1987).

The economy and efficiency of blade/core techniques in producing the maximum length of sharp edges from the minimum amount of flint and obsidian has been previously noted -- see Crabtree (1968) and Sollberger and Patterson (1976).

We have no information to directly date the Autry cores, but the loosely associated arrow point collection and narrow widths of the missing blades, strongly suggests the Late Prehistoric period.

The Van Autrys still own part of Comanche Hill, but in common with too many other historic and prehistoric sites in San Antonio's northeast quadrant, it is in danger of being destroyed as an archaeological site by vandalism and development.

ACKNOWLEDGMENTS

Richard McReynolds made the excellent core drawings in 1987, and I must apologize for leaving them on the "back burner" so long. It would not have been written this soon except for reading of the efforts of Celia Jones Prehm to save Comanche Hill as a badly needed park (Lake 1992). Maybe we can help.

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ADDITIONAL STONE PIPES FROM THE LOWER PECOS RIVER IN VAL VERDE COUNTY, TEXAS

C. K. Chandler

ABSTRACT

An engraved tubular stone pipe similar to that described in a previous report (*La Tierra*, Vol 17, No. 4), and a fragment of a stone pipe broken in manufacture, are reported.

INTRODUCTION

In La Tierra, Vol. 17 No. 4 of October 1990 this author reported on, and illustrated, a tubular stone pipe with deeply engraved designs. This was the first known occurrence of a decorated pipe from the Lower Pecos Area (see Figure 1). As a result of that report another very similar stone pipe has been brought to my attention and it is described and illustrated here, along with a fragment of a stone pipe that was broken in the process of manufacture.

ARTIFACT DESCRIPTIONS

This tubular stone pipe (Figure 2) is made of very fine grain sedimentary sandstone with engraved crosshatched design over all surfaces. This design is applied in panels rather than a continuous uninterrupted application. The color is banded and varies from yellowish tan to banded rusty red. The darker rusty red layers alternate with lighter tan and present a very attractive appearance. The parent stone was probably oval shaped, and it was further shaped by grinding prior to the engraving.

Dimensions are: Maximum length, 7.3 cm; maximum diameter, 4.7 cm, with a minimum diameter through the central area of 4.2 cm. It weighs 100 grams. About two-thirds of the outer surface is very oval in shape but it has a nearly flat side. This accounts for the smaller diameter in the central area.

The bowl opening is 2.5 cm at the rim and it tapers to 1.0 cm at a depth of 5.8 cm. The stem cavity is 1.2 cm at the rim and tapers to .9 cm at a depth of 1.4 cm. Both the bowl and stem have been drilled or reamed after gouging. Some areas of the bowl and stem cavity have a dark black stain, apparently from smoking.

A fragment of another stone pipe (Figure 3) of this same fine grain sandstone was recovered from the same upper level of the small shelter where the engraved specimen was found. This fragment had been shaped by scraping, as evidenced by long, nearly parallel striations over most of the outer surface. Work on this pipe had not progressed to the stage of grinding the outer surface. It apparently broke in the process of manufacturing. The stem cavity had been drilled to a depth of 2.3 cm and this opening did not intersect the bowl at its center. The stem cavity intersected the bowl to one side and shows an

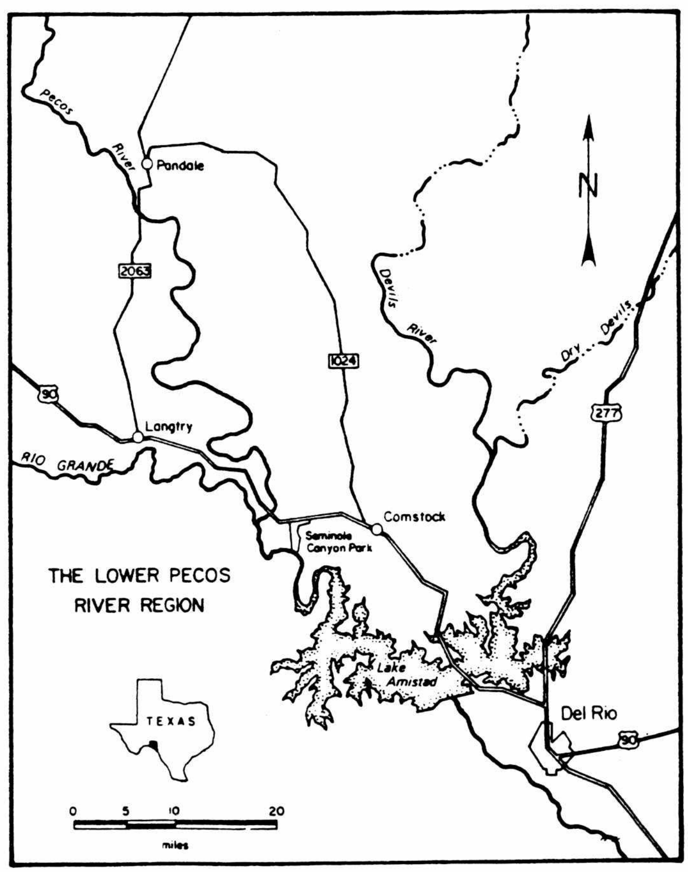

Figure 1. Lower Pecos Area of Texas. Insert shows location of area in the state.

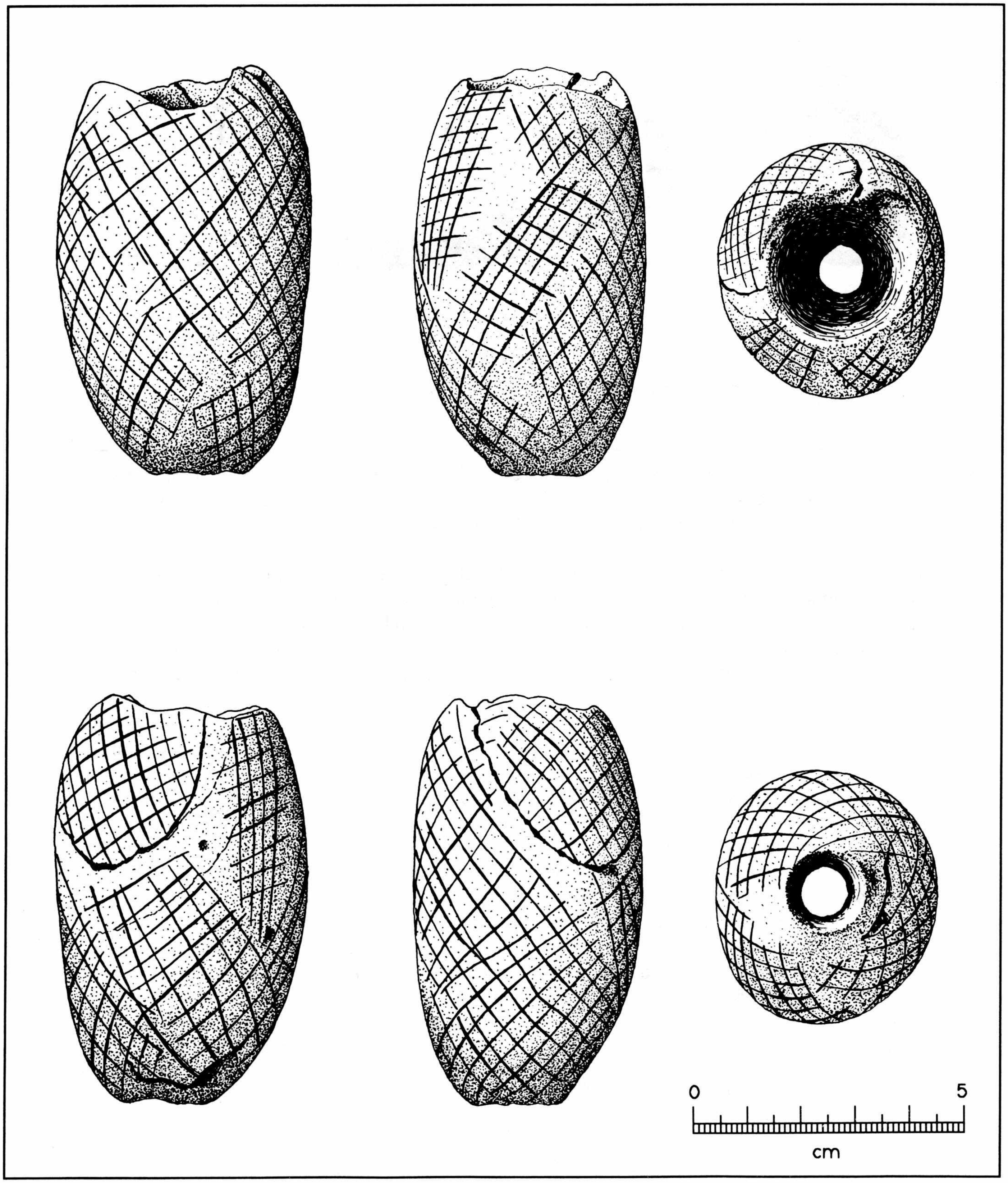

Figure 2. Various views of a fine grain sandstone pipe found in Val Verde County. Thomas Wooten Collection, Hondo, Texas. Drawn by Richard McReynolds.

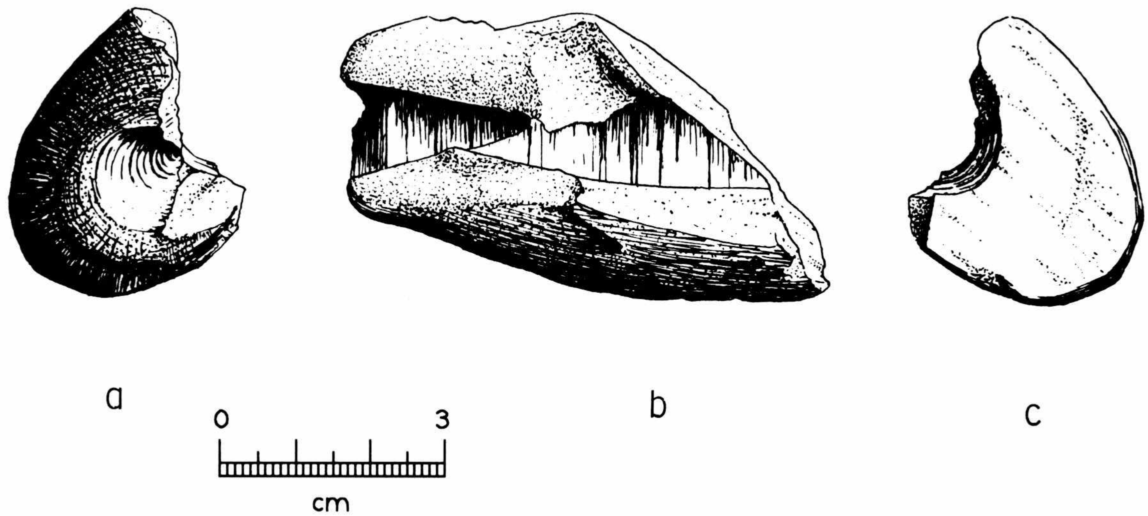

Figure 3. Sandstone Pipe Fragment from Val Verde County. A, view of stem end; B, view of broken area showing heavy circumferential striations in bowl and stem aperture; C, view of bowl end. Wooten collection. Illustration by Richard McReynolds.

overlap of at least 11 mm. This fragment appears to be from a slightly longer pipe but of smaller diameter. Its importance in this report is the information it conveys about the manufacturing process of these kinds of artifacts.

DISCUSSION

Tubular stone pipes are not common in Texas archaeological literature. Most of those reported are from sites in South Texas (Campbell 1947; Martin 1930). Several were recovered at the Loma Sandia site in Live Oak County and most of these were associated with burials. All of these were made of sandstone and are without decoration. A few have been reported from the Lower Pecos Area (Ross 1965; Johnson 1964; Schuetz 1961). None of these are reported as having decoration.

Jackson (1938) reports a large tubular stone pipe made of steatite from Llano County that was plowed up in a campsite in 1891. This specimen is deeply engraved with pole-like ladder elements, a rayed sun disc and projectiles.

The only other decorated stone pipe found in Texas literature is the one Chandler (1990) reported from the Lower Pecos. That specimen, called the Meyer pipe, appeared to have been made of a naturally-shaped travertine cobble without evidence of grinding or abrading to shape it. It was covered with a thin coating of a brown stain after engraving that may have obscured evidence of surface preparation. The bowl of this pipe was gouged without subsequent reaming but the stem opening was drilled or reamed. The specimen reported here, called the Wooten pipe, is so similar in size, shape and decorative style that they may have been made by the same craftsman. The techniques of manufacture are also very similar. The Wooten pipe (Figure 2) was abraded and may have been shaped by scraping prior to being engraved. Both the pipe bowl and the stem aperture were drilled or possibly reamed after some gouging. The pipe fragment (Figure 3) has very prominent evidence of having been scraped to shape without subsequent abrasion of the surface. Both the bowl and stem have been drilled or reamed following some gouging. Crosshatching is a very elementary design and is common on Caddoan pottery vessels and on some coastal pottery (Suhm and Jelks 1962). It is also found on longbone implements in Texas sites (Hall 1989) but it rarely occurs in the Lower Pecos (Chandler 1991).

CONCLUSIONS

The pipe and pipe fragment described and illustrated here were recovered from the upper level of the dry deposit in this small rockshelter. Additional archaeological materials were recovered from levels below the pipes. They include Langtry and Val Verde points, dating from the Middle Archaic period of 2500 to 1000 BC; Palmillas points dating from the Middle to Late Archaic, and Frio and Ensor points dating from the transitional Archaic of 200 BC to AD 600 (Turner and Hester 1985). It appears that the pipes would belong to the transitional Archaic time period.

ACKNOWLEDGEMENTS

I wish to extend my sincere appreciation to Thomas Wooten for the loan of these artifacts for documentation, and to Richard McReynolds for the very excellent drawings.

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BRITT BOUSEMAN received his doctoral degree from Southern Methodist University. His Ph.D. was based on his work in South Africa, but Britt has also conducted extensive research in North America. He is currently with the Texas Archeological Research Laboratory and has consulted regarding the geoarchaeology for the STAA/ITC field school.

MAUREEN BROWN graduated from the University of Texas at San Antonio and is continuing her studies in archaeology at Texas A & M University. She has worked extensively in Texas and Belize. Her most recent work for her Master's thesis was done in Jamaica, researching the historic archaeology of that small country in the West Indies. Maureen was the laboratory director for the STAA\ITC field school.

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.

ANNE FOX is a Research Associate and Laboratory Director for the Center for Archaeological Research, the University of Texas at San Antonio. She has directed more than 50 archaeological testing and excavation projects including historical sites in downtown San Antonio as well as other significant sites throughout Texas. In reference to the STAA\ITC Field School of 1991, Anne led a team which documented historical houses in Castroville, originally an Alsatian settlement in the 19th century.

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

LEO LOPEZ is an avocational archaeologist who became interested in archaeology at a very young age. As a Scoutmaster for Troop 84, sponsored by the Knights of Columbus #9626 (of which he is also a member) he enjoys getting his Scouts involved in as much local archaeology as possible. He has assisted in several archaeological surveys in Webb and Duval Counties, and is responsible for at least three sites having been reported to the state. Leo is a production supervisor by profession and is a family man with a lovely wife and three children. His love for the outdoors keeps him going back to the hills in search of more knowledge every chance he gets.

BARBARA MEISSNER graduated from the University of Texas at San Antonio in Anthropology. She has worked with the Center for Archaeological Research on the Alamodome project as well as with other CAR projects. Barbara was excavation supervisor for the STAA\ITC field school.

LELAND W. PATTERSON has been active for a number of years in several areas of archaeological research. Subjects of current interest include general lithic technology, the Archaeology of south-central and southeastern Texas, patterns of cultural change, and Asiatic influences on North American lithic technologies. Patterson has published over 260 articles and reports in local, state, regional and national journals, such as *American Antiquity*, *Plains Anthropologist*, *Journal of Field Archaeology*, and *Bulletin of the Texas Archeological Society*. Patterson has received the Golden Pen award from the Texas Archeological Society for achievement in archaeological publication. "The Effect of Percussor Tip Diameter" is the 29th article for *La Tierra* that Lee has authored or coauthored.

FRED H. STROSS is a researcher at the Applied Science Division of the Lawrence Berkeley Laboratory, University of California, Berkeley. He received his Ph.D from Berkeley and worked for Shell Development Company for more than 30 years. Since the late 1960s, he has been greatly involved in archaeometry and is the author of a number of papers and book chapters. He has devoted special attention to trace element studies of Mesoamerican obsidian, as well as to quartzite provenience studies in Egypt (the Colossi of Memnon project).

Addendum to

INFORMATION FOR CONTRIBUTORS

Several of our recent papers have come in without some information that is very critical to the proper publication of *La Tierra*.

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 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.

Some clarification needs to be made about "Figure 1" in your paper. 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 <u>must</u> have the landowner's permission before entering his property. This small consideration can avoid misunderstanding and ill feeling toward archaeological research.

A gentle reminder--Please include a short (4-6 lines) biography for EACH author for your report. All authors are sent two "Author Copies" upon publication. We will need each author's address, too.

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!

Editor

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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