

LA TIERRA



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Shirley Van der Veer
Editor

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| NOTES ON SOUTH TEXAS ARCHAEOLOGY:1998-2—Artifacts and Burials from a Vertical Shaft Cave, Site 41UV356, Uvalde County, Texas (Thomas R. Hester, Amy Sullivan, Laura Froelich and R. S. Crawford, Jr.) | 1 |
| IT'S A LOOTER'S MARKET: THE WIDESPREAD DESTRUCTION OF THE ARCHAEOLOGICAL RECORD AT FALCON RESERVOIR, SOUTHERN TEXAS AND TAMAULIPAS, MEXICO (Timothy K. Perttula and James B. Boyd) | 6 |
| QUAHOG SHELLS AS HAMMERS (C. K. Chandler and Don Kumpe) | 16 |
| A SHORT HISTORY OF THE NATIONAL YOUTH ADMINISTRATION BUILDINGS AT THE FORMER LOWER COLORADO RIVER AUTHORITY EMPLOYEES' CLUB, INKS LAKE, WESTERN BURNET COUNTY (Andrew F. Malof) | 22 |
| AN ANDICE POINT FROM KERR COUNTY, TEXAS (Bryant Saner, Jr.) | 32 |
| THE PEDERNALES POINT IN SOUTHEAST TEXAS (Leland W. Patterson) | 35 |
| A MARINE SHELL ORNAMENT CACHE FROM 41ZP7, ZAPATA COUNTY, TEXAS (James Bryan Boyd) | 41 |
| CLOVIS POINTS FROM ATASCOSA AND BEXAR COUNTIES, SOUTH-CENTRAL TEXAS (C. K. Chandler and Ray Smith) | 48 |
| BOOK REVIEW: <i>The Alamo: An Illustrated History</i> | 51 |
| AUTHORS | 52 |

About the Cover: Photo of a looted burial site along the Rio Grande. See report by Dr. Timothy Perttula, page 6. Drawings by Richard McReynolds are on pages 17, 18 19 and 49.

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NOTES ON SOUTH TEXAS ARCHAEOLOGY 1998-2
Artifacts and Burials from a Vertical Shaft Cave, Site 41UV356,
Uvalde County, Texas

Thomas R. Hester, Amy Sullivan, Laura Froelich and R. S. Crawford, Jr.

The use of vertical shaft caves and sinkholes for the disposal of the dead in prehistoric Central Texas has been increasingly documented in recent years. Vertical shaft cave burials were first reported from Uvalde County by Benfer and Benfer (1962, 1981). They noted at least three other vertical shaft cave burials as of 1962, and investigated the Mason Ranch Burial Cave (41UV4). That site, east of 41UV356, yielded perhaps 50 human skeletons. Artifacts from the site (whether they were associated with the burials is not known) included two Nolan dart points, a possible Travis, a probable Marshall (perhaps unfinished) and a badly fragmented triangular dart point that might be Tortugas (or even Early Triangular; it should be noted that the line drawing illustrations in the 1981 *La Tierra* article bear little resemblance to the photographed artifacts on file at TARL). No grave goods of shell or bone were reported. Other vertical shaft cave and sinkhole burials have been found in nearby counties in the Edwards Plateau, best exemplified by the comprehensive study of the Bering Sinkhole site in Kerr County (Bement 1994).

In September 1989, the senior author was telephoned by Nicolas Del Duca, who reported a vertical shaft cave with several rooms on property north of the Chalk Bluff area (Nueces River drainage) in eastern Uvalde County. Mr. Del Duca said that he was purchasing the cave in order to build a house within it. As he described it, much of the vertical shaft contained "recent fill," and he dug out 17 feet of this material. Under large rocks at the base of the shaft, he found three "rooms," and while removing the top one foot of fill from Room 1, he discovered occupational material and a prehistoric burial. The second room apparently contained a number of human remains, along with grave goods, which he described as two "shell ladles," conch shell beads, and "perforated amulets." A third room was left untouched. However, he had decided to put his Chalk Bluff-area property up for sale and he and his

family were in the process of moving to another state. Hester next contacted R. S. Crawford, Jr. of Uvalde, as Mr. Del Duca had indicated that he had visited the site. Mr. Crawford confirmed the reports on this shaft cave, noting that descent into the shaft was via a 15-foot ladder, at the base of which was one "big room," with the ceiling sooted from prehistoric occupation (Mr. Crawford also noted the presence of numerous black scorpions!). He described a second room, and a third room, without smoke-staining on the ceiling and into which one had to crawl. Mr. Crawford reported "lots of bones," as well as seven shell artifacts and Pedernales and Montell points in Mr. Del Duca's collection from the cave. Mr. Del Duca gave him two shell gorgets (the "ladles" mentioned earlier), illustrated in Fig. 2. Letters to Mr. Del Duca to plot the site on a topographic map and to provide other details were not answered, as he and his family had apparently already moved from the area.



Figure 1. General location of Site 41UV356.

Subsequently, in the mid-1990s, the Uvalde County Sheriff's Department contacted the Texas Archeological Research Laboratory (TARL) about human remains in their possession that had come from "a cave on Nueces River Ranch, Del Duca residence." Graduate student Jacob Bourbon picked up these remains and brought them to TARL. TARL has assigned site number 41UV356 to this site. In this paper, we draw together the data available on the site, in the hope that this information will be of value in further research regarding vertical shaft cave and sinkhole burials in the region.

ARTIFACTS

The only artifacts available from 41UV356 are two conch whorl gorgets in the possession of Mr. Crawford. These were kindly loaned to TARL in February, 1998.

Specimen 1, Figure 2, upper). The larger of the two gorgets, this specimen is made on a whorl section of *Busycon*. It is 149 mm long, 104 mm wide, 6 mm in maximum thickness (and 1 mm in minimum thickness), and weighs 108.2 grams. The maximum concavity of the gorget is 20 mm, and minimum is 5 mm. It had at least two holes (5.5 mm diameter) biconically drilled at the top (narrow end), but is partly broken away. Another perforation (6.0 mm diameter) is near the bottom (wide) edge. The specimen is weathered and eroded, but it is unclear whether this was pre- or postdeposition. There is no other decoration on the specimen.

Specimen 2 (Figure 2, lower). Also made from *Busycon* whorl, this gorget is very thin and somewhat fragile. The outer side of the whorl is much eroded, as if it had been collected from a beach (Tom Gustavson, personal communication, 1998). It has one perforation (3.5 mm diameter) at the top and at least one (5.0 mm diameter) at the bottom. However, one corner of the base is broken away and other holes might have been present. On this specimen, the holes are not biconically drilled, but are perforated from the ventral to the dorsal surface. Like Specimen 1, there is no evidence of decoration. However, there are some longitudinal scoring marks in the concavity at the narrow end, but these may be related to manufacture. There may have been some edge-notching on one part of the specimen, but this

is unclear. It is 116 mm long, 80 mm wide, 4 mm in maximum thickness (1 mm, minimum) and weighs 33.6 grams.

HUMAN SKELETAL REMAINS

The human remains turned over to TARL by the Uvalde County Sheriff's Department were mixed; there were also animal bones (see below) among these materials. Analysis was undertaken by Amy Sullivan, who has placed a very detailed report in the site files at TARL.

Since the skeletal material from 41UV356 came to TARL as a mass of disarticulated elements, the bones were first sorted into element categories and a minimum number of individuals (MNI) was assessed. The MNI was determined by the number and morphological characteristics of right and left humeri. The small amount of skeletal material allowed for a more forensic approach to MNI determination than the standard bioarchaeological approach based solely on repeated elements.

Two females, one male, two indeterminate adults, and one infant (0-2 years) are represented in the MNI from the site. We, of course, have no contextual data on how the individuals were interred. Moreover, we do not know with which individual(s) the conch shell gorgets were associated.

Due to the limited number of skeletal remains and the overall condition of the bones, pathological observations are very limited. One right female proximal femur (39 mm head diameter) displayed evidence of focal osteoporosis in an area measuring 13 x 12 mm on the antero-inferior femoral neck. The process was purely lytic with no reactive bone present in or around the lesion. Although the age of the individual could not be determined, it matches the disease profile of older females who tend to be disproportionately affected by this condition. Had the individual lived, the risk of a life-threatening fracture to the femoral neck would have been high.

Another right femur from an adult male (48 mm head diameter) had a surface depression on the superior aspect of the bone. This was made when the individual was living and no healing was detected. On another individual, a left navicular showed a small area affected by osteochondritis. A fragment of an eroded occipital had a series of small circular depressions similar to the lesions caused by treponemal disease. However, post-mortem damage to the

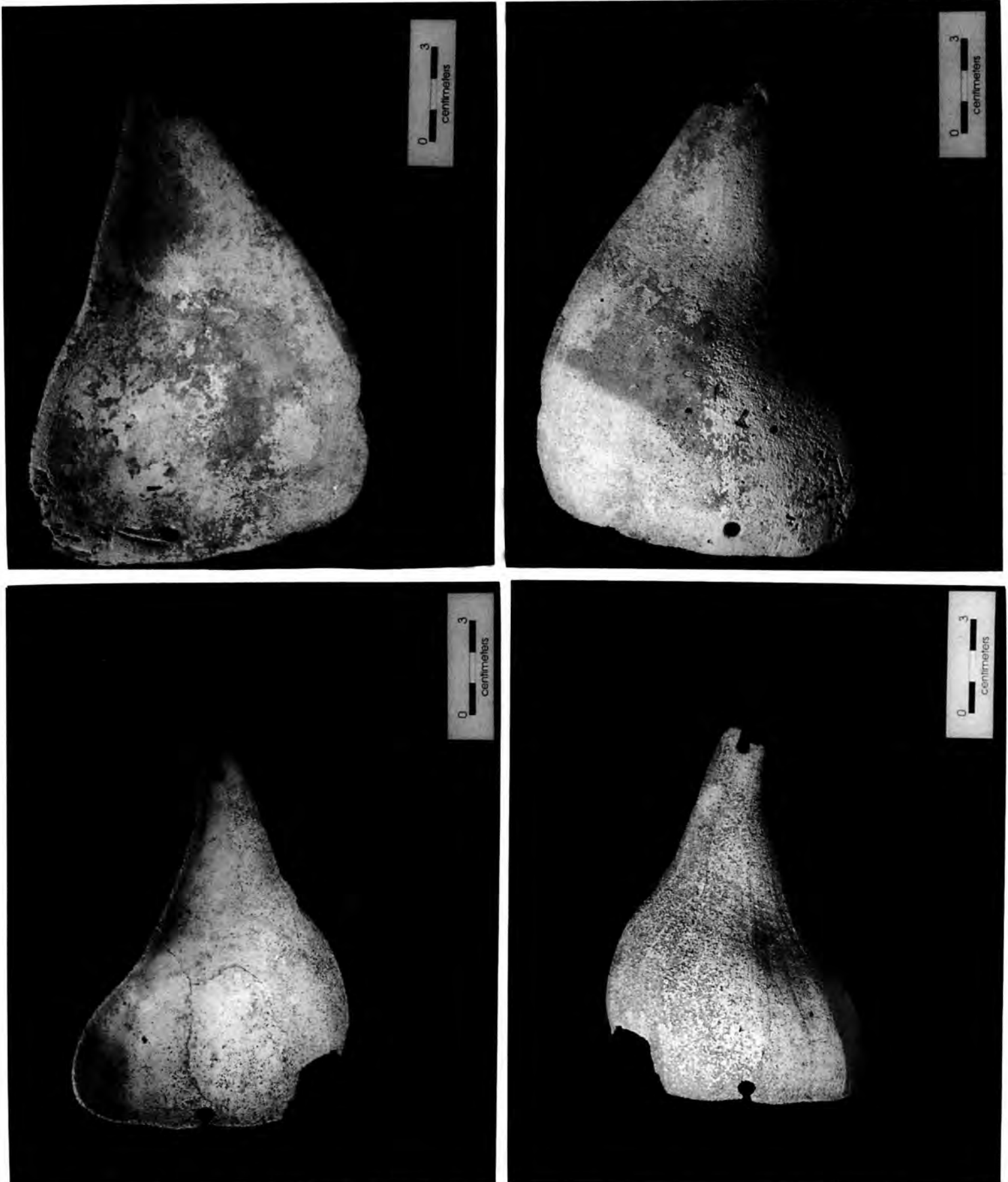


Figure 2. Conch Shell Gorgets from 41UV356. Upper, Specimen 1 (dorsal and ventral); lower, Specimen 2 (dorsal and ventral). Scales are all 3 cm in length. Photographs by Milton Bell, TARL.

bone makes this evaluation uncertain.

Most interesting is that the cortical bone on the infant humerus mimics that of bone density found in animal bone. However, the humerus is clearly human, and several cranial fragments thought to be associated with this infant also show abnormally dense cortical bone structure. This pattern suggests dysfunction in the metabolic and/or endocrine processes associated with bone formation, although an exact cause is unknown.

FAUNAL REMAINS

Included among the human remains were various fauna. These are assumed to have come from the same shaft cave contexts as the human bones, and were simply gathered up with them by Mr. Del Duca. Laura Froelich of Austin analyzed these faunal items. All appear to be represented by a single individual. They are: rattlesnake (*Crotalus*), turtle (*Chrysemys? Pseudemys*), hawk (Accipitridae), opossum (*Didelphis virginianus*), cottontail rabbit (*Sylvilagus*), jackrabbit (*Lepus*), kit fox (*Vulpes microtis*), coyote (*Canis*; juvenile), and javelina (*Tayassu*; juvenile). Most, if not all, of these remains could have been introduced by natural means, though some may be related to ancient occupation, given the reports of cultural remains and smoke-stained ceilings in at least one of the rooms. However, the javelina is a fairly recent introduction to the fauna of the region, appearing in limited numbers in the Late Prehistoric (ca. A.D. 1400), and much more commonly by the 18th century, given its presence in midden deposits at missions (Hester 1995:428). It clearly is not of the age of the Montell and Pedernales points found at the site. Froelich observed that much of the faunal material had been rodent-gnawed after deposition and that none of the bones bore signs of carnivore activity. The Accipitridae elements represent either a large hawk or possibly a vulture; no precise match could be made using the collections of the Vertebrate Paleontology Laboratory at The University of Texas at Austin.

CONCLUSIONS

The absence of large cemeteries on the Edwards Plateau, in contrast to a number of such sites just off the Plateau (cf. Lukowski 1988) may reflect a preference for the use of sinkholes and vertical shaft caves as means of disposing of the dead. Whether this was due to convenience or related to belief systems (e.g., the shaft as part of a "sacred landscape," Bement 1994), we do not know. At Bering Sinkhole, there were elaborate grave offerings and there was no associated occupation site. At 41UV356, we know of several offerings and can document only two gorgets. Reports indicate that some occupation also occurred within rooms at the base of the shaft cave, and we do not know if the dart points are associated with the burials or with that occupation.

Gorgets occur commonly as grave offerings in many parts of Texas, as reviewed by Hall (1995). They are often of heavier shell, of different species, or are decorated with drill-pit designs. It is unfortunate that we do not know the age of the 41UV356 gorgets, as they may contribute to the gradual scheme of elaboration of shell ornaments from the Early Archaic (Bering Sinkhole) to the Middle Archaic (41UV356?) and into Late/Transitional Archaic times (Olmos Dam). The 41UV356 specimens appear to be of *Busycon* common to the Texas coast. The human remains from 41UV356 are presumed to be Archaic, and though the skeletal elements are few, they do provide a few more details on the illnesses that affected these ancient peoples.

ACKNOWLEDGMENTS

The authors are grateful to Dr. Steve Black for transporting the gorgets from Uvalde to Austin, Brian Stringer for his laboratory analysis of the gorgets, Bob Oakley (Uvalde County Sheriff's Department) for his assistance in transferring the human remains to TARL, and Milton Bell for photographing the artifacts illustrated here.

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IT'S A LOOTER'S MARKET: THE WIDESPREAD DESTRUCTION OF THE ARCHAEOLOGICAL RECORD AT FALCON RESERVOIR, SOUTHERN TEXAS AND TAMAULIPAS, MEXICO

Timothy K. Perttula and James B. Boyd

ABSTRACT

In this paper we discuss the looting of archaeological sites, and the illegal trafficking of artifacts, at Falcon Reservoir and other areas on the Texas-Mexico border. The looting and trafficking at Falcon Reservoir began in the early 1980s, but commercialized looting and widespread dealing and selling of artifacts (including prehistoric grave goods) there and along the border has been rampant since the late 1980s. This activity shows no signs of diminishing in the face of ineffective state, federal, and international antiquities laws and treaties.

INTRODUCTION TO THE PROBLEM

Record low water levels in the mid-1990s at Falcon Reservoir along the lower Rio Grande in South Texas and Tamaulipas, Mexico, have exposed hundreds of significant prehistoric and historic archaeological sites on both sides of the U.S.-Mexico border (see Hester 1995, 1996; Perttula et al. 1996, 1997). Untold numbers of sites and burials have since been damaged and/or destroyed by looters and commercial artifact collectors (see especially the comprehensive discussion of the situation in Boyd et al. 1997 and Hester 1996). Unfortunately, these depredations are just the latest in a lengthy history of the looting and vandalism of sites in Mexico and Texas, and the illegal importation of antiquities into the U.S. (and beyond) (see Hester 1997).

The International Boundary and Water Commission (IBWC), the federal agency charged with the management and protection of the archaeological sites at Falcon Reservoir, has been completely unsuccessful in their limited attempts in the last few years to develop any historic preservation management or site protection programs for important sites along the U.S. shoreline. IBWC's long-term failure to take action in the face of extensive and blatant looting of archaeological sites finally led to the development of a cooperative effort in the summer of 1996 to independently assess the problems of archaeological site

looting and erosion at Falcon Reservoir, and to formulate recommended measures of treatment, planning, and mitigation that could be implemented (Perttula et al. 1996:105-108), thus leading to the development of an effective IBWC program of site protection at Falcon Reservoir. The effort was led by the Division of Antiquities Protection (now the Archeology Division) at the Texas Historical Commission (the State Historic Preservation Office in Texas), the National Park Service (particularly the Branch of Mapping & Information Technologies), and the Texas Archeological Research Laboratory of the University of Texas at Austin, with the volunteer assistance of members of the Southern Texas Archeological Association and the Texas Archeological Stewards Network. What we learned then (see Perttula et al. 1996) during the course of the project, and what we have learned since, provides the basis for the information discussed in this paper concerning the looting/vandalism and intensive artifact collecting at prehistoric and historic sites at Falcon Reservoir that has taken place since at least the early 1980s.



Area of Texas discussed in text. Falcon Lake is located south of Zapata County.

HISTORY AND SCOPE OF THE COLLECTING/LOOTING PROBLEM AT FALCON RESERVOIR

Low levels at Falcon Reservoir in the early 1980s—the lowest since the construction of the dam across the Rio Grande in the mid-1950s—appear to have initiated the serious plundering of archaeological sites and artifacts on the Mexican and Texas sides of the reservoir. The first serious collectors were mainly from the lower Rio Grande valley (most notably McAllen), but there were others from Central and South Texas. At that time, these collectors were not apparently commercially motivated. Rather, they were interested in amassing large collections of frameable prehistoric artifacts, especially stone projectile points and other tools (Figure 1), and could be considered “recreational surface collectors” (cf. King 1991).

Commercial looting at Falcon Reservoir began in earnest in the late 1980s, with another episode of low water; Mexican fishermen were also enlisted to find “choice” artifacts at that time, a practice that continues today. Prices being paid by dealers and collectors for artifacts were low by comparison to what they are now, as the steady demand in the antiquities market

for Falcon Reservoir artifacts continually fuels higher prices. As an example, in the early 1990s, it would not have been uncommon for various kinds of complete projectile points to sell for \$20. These same points would sell for \$200 or more in the late 1990s.

There are perhaps 20-30 commercial looters that currently work both sides of the reservoir, including some that carry out looting/collecting on a full-time basis. One of these full-time collectors lives in Zapata, Texas. This particular individual sold a collection of +30,000 projectile points (including 4000 complete arrow points) from Falcon Reservoir about five years ago for an estimated \$70,000, and probably makes \$30,000-\$40,000 a year (tax-free) in the antiquities trade. He distributed a June 1996 leaflet among the U.S.-Mexico border communities in the Falcon Reservoir area that advertises the purchase of projectile points (see Pertulla et al. 1996:91). This advertisement rather bluntly conveys the problems and challenges in grappling with the looting and collecting problems when substantial amounts of money are involved, in that it says: “The best prices for all types of arrowheads and spears” (translation of “Compramos Pedernales y Chuzos Mejor Precio para todo tip de Pedernales y Chuzos”). Currently,

collectors living in the interior of Mexico also mail

looted artifacts to this particular individual.



Figure 1. Projectile Points and Tools from a Relic-hunted Site on the Río Sabinas, Nuevo León, Mexico.

collectors living in the interior of Mexico also mail looted artifacts to this particular individual.

Because so much of the looting and vandalism of archaeological sites at Falcon Reservoir consists of the repeated collecting, hoarding, and/or sale of artifacts removed from the surface of exposed sites, it is difficult to quantify the scope of these activities. Nevertheless, such adverse impacts were readily apparent during our work conducted in 1996, including the crushing of exposed human bones at 41ZP280 by an all-terrain vehicle (Perttula et al. 1996:Table 2).

The damage to archaeological sites from these activities is incremental, to be sure, and piece by piece, but cumulatively the adverse impacts to the material culture evidence represented by the archaeological remains (see Boyd et al. 1997; Chandler 1996, 1997; Chandler and Kumpe 1993, 1994a, 1994b, 1995, 1996a, 1997; Hester 1995; Hester et al. 1996) is resulting in a great diminishment of the archaeological record at Falcon Reservoir. This is readily apparent on many of the prehistoric archaeological sites now exposed along the shoreline, because certain kinds of stone tools favored by the collectors/looters—particularly dart points (see Figure 1), arrow points, other completed bifacial tools, stone pipes, gouges, and ground stone tools, etc. that have monetary value—are virtually absent, with the exception of broken and incomplete tools or fragments. Piles of discarded tools and flakes are noted at many of the prehistoric archaeological sites, along with fresh footprints and tracks from collectors and artifact hunters. Many collectors believe that the Falcon Reservoir area is less productive now than it was 10-15 years ago, primarily because of the extensive and frenzied collecting that has taken place over that time; many areas are “played out,” especially in public access areas and along the lakeshore that have been intensively eroded (by played out, we mean that the percentage of complete projectile points is now considered low, as is the number of projectile points that can be expected to be collected per looting trip).

Projectile points at Falcon Reservoir are being bought and sold at prices that boggle the imagination; those exhibiting excellent workmanship and vivid colors are preferred, along with kinds known to be extremely rare in the region such as Paleoindian Folsom and Clovis points (see Chandler and Kumpe 1994a; Hester 1995:Figure 8, e-f). The latter have been sold in the 1990s for \$1500 to \$2500,

while more common specimens can bring between \$50 and \$1000 (cf. Hester 1997:3). The points are put in frames, displayed in various “artistic” patterns, then brought to artifact and relic trade shows throughout Texas (and other states) for sale.

Archaeological sites at Falcon Reservoir have also been illegally dug by these collectors, including several in Mexico that were known to contain extensive and rich archaeological deposits and burials. One of the sites (Toyah 1; see Boyd et al. 1997:418) was referred to as “Old Reliable” because of the quantities of materials it yielded up to their plunder. To provide some idea of the scope of these workings, some 10-12,000 square feet of this site has been torn apart by collectors in the last several years in their search for artifacts, burials, and grave goods.

Prehistoric grave goods are greatly favored by looters and collectors at Falcon Reservoir; indeed they are favored over all other artifacts. Large numbers of such grave goods that have been documented in the last few years are in private hands (e.g., Boyd 1996; Chandler 1996, 1997; Chandler and Kumpe 1994b, 1995). Several of the known prehistoric cemeteries at Falcon Reservoir (including two in Mexico) have been dug by looters (see discussion in Boyd et al. 1997). Other prehistoric burials and associated grave goods are simply looted when they become exposed along the shoreline. All kinds of burial goods are favored by looters and collectors, including such artifacts as bone beads (Figure 2), tubular stone pipes (Figure 3), marine shell ornaments (Figures 4 and 5), and complete projectile points (Figure 6). Burials and associated burial goods can be expected by the collector/looter to yield upwards of \$5,000-\$10,000 from a single burial; tubular stone pipes on the antiquities market bring \$125-\$1000; even the bone beads are for sale (\$2 a piece, which brings a tidy sum when one considers that 1000-1500 or more beads may accompany a prehistoric Falcon Reservoir burial; see Boyd et al. 1997).

There is also a market among artifact looters and dealers who work Falcon Reservoir for human remains. In particular, complete skulls from prehistoric burials have been known to command more than \$100 from looters. Other types of grave goods, such as human and animal bone tools (Figure 7) and perforated canine teeth (Figure 8), seem to have a market as well among the looters and dealers, lending further credence to the looter's adage: “If it's old, it can be sold” (Hicks 1997:2).

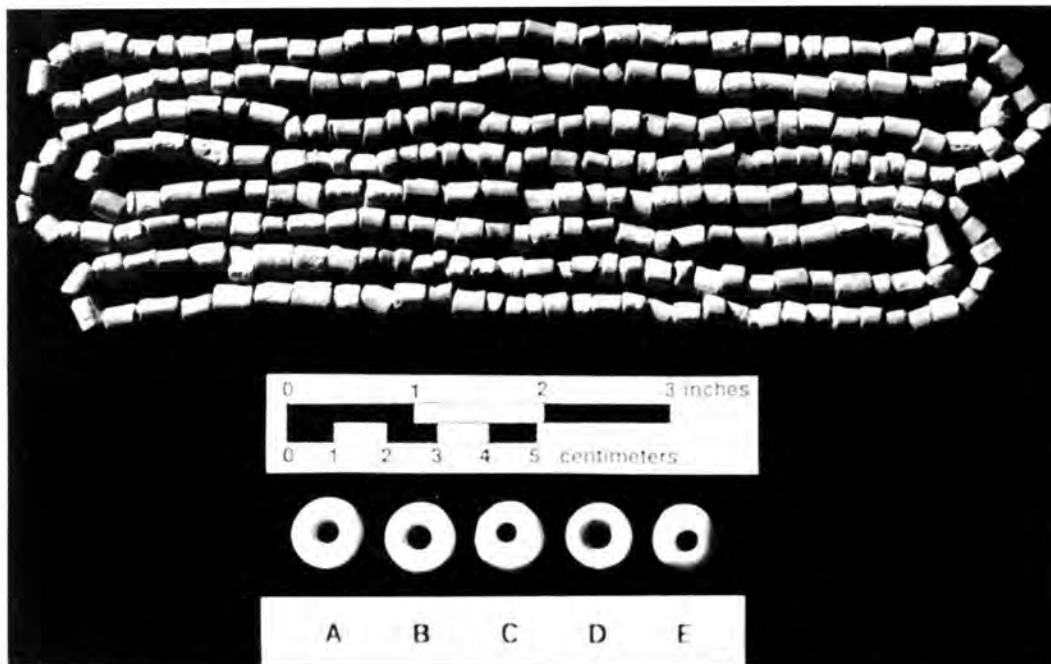


Figure 2. Animal Bone and Shell Beads from a Prehistoric Burial at Falcon Reservoir.

So, who is buying these irreplaceable goods, the last vestiges of the cultural heritage of Native Americans who lived in southern Texas and northeastern Mexico, and driving the looter/collector market? It is a diverse group, comprised of buyers and relic dealers in and around Zapata, Texas; lower Rio

Grande valley collectors; buyers from San Antonio and other large Texas cities; and groups from out-of-state. These folks have moved in since the mid-1990s and the development of the latest spate of commercial looting at Falcon Reservoir. With the growth of the illegal antiquities market on state and national



Figure 3. Tubular Stone Pipe from a Prehistoric Falcon Reservoir Burial.

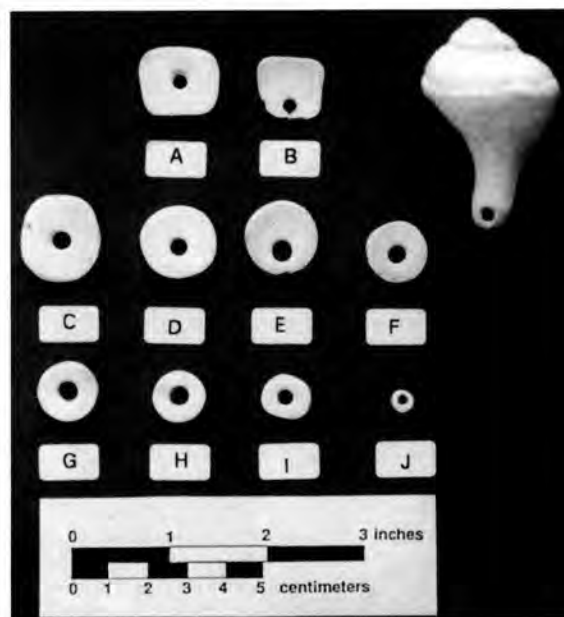


Figure 4. Marine Shell Ornaments from a Falcon Reservoir Collection.

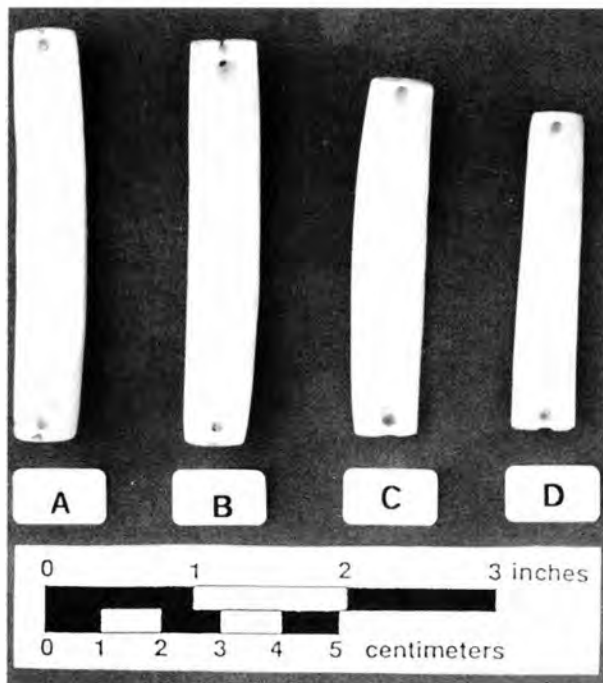


Figure 5. Marine Shell Pendants from a Prehistoric Burial at Falcon Reservoir

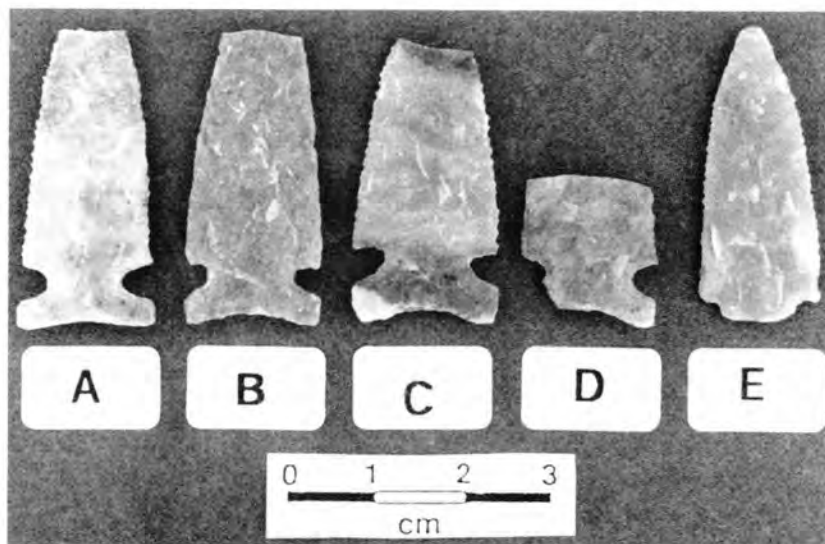


Figure 6. Caracara Arrow Points from a Falcon Reservoir Site.



Figure 7. Animal and Human Bone Tools from the Southern Island Site, Tamaulipas, Mexico.

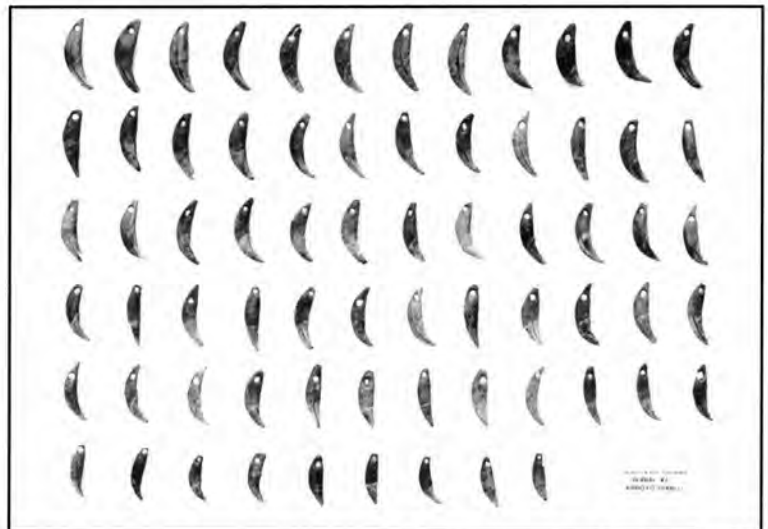


Figure 8. Perforated Canine Teeth from a Burial at the Southern Island Site, Tamaulipas, Mexico.

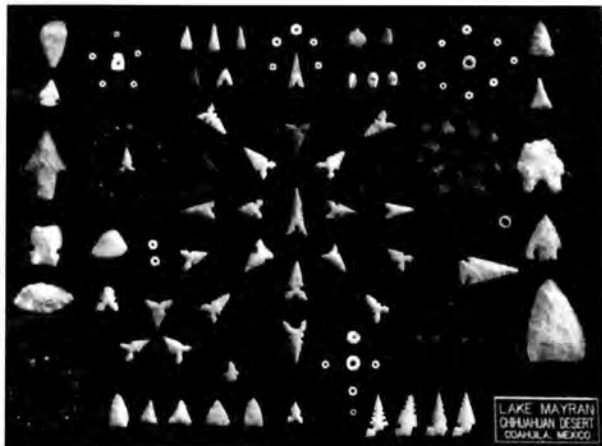


Figure 9. Prehistoric Artifacts in a Relic-Hunter Collection from Laguna Mayran, Coahuila.



Figure 10. Looted Prehistoric Burial, Desierto de Laguna de Mayran, Coahuila.



Figure 11. Late 19th Century Bottles from a Falcon Reservoir *Rancho*.

scales, the buyers have started to tap into larger networks here in Texas and elsewhere. Transactions of looted artifacts netting \$10,000 or more are regular events for the looters and dealers working the Falcon Reservoir market.

As the Falcon Reservoir looting has become increasingly commercialized, buyers and sellers are reaching out to Mexican communities near Falcon (distributing leaflets as they go) to obtain artifacts with monetary values, and they are also seeking out collectible goods farther in the interior of Mexico, such as the Laguna Mayran in Coahuila (Figure 9), several hundred miles from the border. Here, they hunt burial caves, rock shelters with painted rock art, and well-preserved surface sites, and bring their hoards back through the Falcon Dam border crossing (among others). Many prehistoric burials (Figure 10) and grave goods can be looted in a single day and brought back to the U.S. on a weekend trip. There is no fear among them that the U.S. Customs personnel will search their vehicles, confiscate their "haul," or arrest them. More often than not, U.S. Customs personnel were reported to be mainly interested in what was being found in Mexico by these collectors/looters, not in halting the illegal trafficking of antiquities.

Last but not least, historic archaeological sites at Falcon Reservoir, such as the ruins of the many 18th-20th century Hispanic and Tejano stone *ranchos* preserved along its shoreline (George 1975; Perttula et al. 1996; Fleming 1998; see also Alonzo 1998), are not immune to the illegal activities of artifact looters and collectors. This is a more recent trend, beginning in the 1990s, however, as the collectors/looters began to realize that historic artifacts were also worth money to others.

Certainly one of the more disturbing trends in the looting and despoliation of historic archaeological sites at Falcon Reservoir is the looting of 19th and 20th century cemeteries that have become exposed by low water levels (see Perttula et al. 1996:59-62 and Figures 5 and 6). We are aware of at least one instance of vandalism where jewelry and other grave goods were looted from the Calleja cemetery, and the graves and caskets at this cemetery are regularly exposed to the elements during low water levels.

In addition to artifact collecting by surface shoreline hunters, looters with metal detectors have also been noted at some of the 19th century Tejano ranches and the old town of Zapata, looking for any

metal artifacts of value (i.e., spurs, tools, branding irons, metal arrow points [Chandler and Kumpe 1997], etc.). One hundred-fifty-year-old cypress roof beams have recently been removed from the ruins of a stone-walled structure at another ranch, while wooden wagon wheels have been known to bring at least \$200, and a number of whole glass bottles (that may sell from \$10/\$15 to more than \$50) were taken that had been recently exposed at one of the *ranchos* by erosion and receding reservoir water levels. Whole bottles (Figure 11) and ceramic plates and dishes are particularly vulnerable to looting and artifact collecting activities, and there are several instances known of collectors removing hundreds of complete bottles and dishes from these ranch sites. During the most recent drop in water levels in the summer of 1996, the quantity of historic artifacts looted at Falcon Reservoir was so extensive that cardboard boxes filled with historic artifacts were reported to have been placed outside the front doors of the homes of collectors and looters.

FINAL THOUGHTS

The summer of 1998 is shaping up to be another banner year for the collector/looter at Falcon Reservoir. Reservoir levels may be expected to dip considerably, comparable to if not more so than was the case in 1996 (when the water level was more than 50 feet below the 307 foot conservation pool), and it is expected that great expanses of new shoreline will be exposed for the first time in many a year. The IBWC law enforcement presence remains minimal, and we are not aware of a single instance where a collector or looter was arrested and/or prosecuted for violations of either the Archeological Resources Protection Act of 1979, as amended, or the Native American Graves Protection and Repatriation Act of 1990. Needless to say, international treaties and agreements between Mexico and the United States have also not diminished the looting and importation of artifacts between Mexico and Texas (cf. Hester 1997).

Big-money commercial collectors will be out at Falcon Reservoir, of that we have no doubt, and they will be soliciting the help of other collectors (both causal-recreational and committed), working the shoreline by motorboat (accompanied by aerial surveillance on Mexican and Texas sides) and all-terrain vehicles. These folks are committed to their ne-

furious tasks; they are not concerned about law enforcement; they know where to go to find artifacts and burials; and they also know dealers who can sell their artifacts at artifact shows and sales. Unfortunately, we have every reason to believe that looting/collecting activities will be commonplace at Falcon Reservoir, as it will be in the interior of Mexico this year, and then the next. When will it end?

ACKNOWLEDGMENTS

The authors want to thank Dr. Thomas R. Hester for the opportunity to participate in the April 1998

Laredo Workshop for U.S. Customs dealing with the importation of looted artifacts from Mexico into Texas, as this was the impetus for the present paper, and we thank him for his assistance along the way with our own Falcon Reservoir research efforts. The Workshop was funded by a grant from the Center for Western Hemispheric Trade at the University of Texas at Austin. Thanks to Sergio A. Iruegas for his comments on the paper.

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QUAHOG SHELLS AS HAMMERS

C. K. Chandler and Don Kumpe

ABSTRACT

*Marine shells of many kinds have been modified for use as tools and ornaments. However, quahog shells are rarely mentioned in Texas literature. This paper reports and illustrates nine Southern quahog shells (*Mercenaria campechiensis*) that have been modified by use as hammers and the probable activity that produced the alteration is suggested.*

INTRODUCTION

Many types of marine shell were extensively used for tools and ornaments along the Texas and Tamaulipas coast. They were objects of extensive trade and found their way well inland to appear over much of Texas and other areas. Adzes and scrapers and sometimes projectile points were made of conch and clam shells. Large conch or whelk were sometimes used as hammers or bashing tools (Hester 1980; Prewitt 1974). Sunray clam, Southern quahog and *Dosinia* discus shells were often used as scrapers and have been well documented.

Five of the nine quahog shell hammers reported here also have been extensively edge-modified and reduced for use as scrapers. The ventral edges have been chipped toward the inner surface only. While a variety of shell types have been recognized for their use as scrapers, we find no evidence in the literature for use of quahog shells as hammers.

The modification on these specimens from use as hammers is on the outer shell surface centered on the thickest part of the shell near the umbo. One (Figure 3, B) is also modified on the anterior side of the umbo. These modified shells have been microscopically examined for evidence of use wear and all dimensions measured and weighed. They are noticeably smaller and lighter in weight than unmodified specimens collected from beaches near the artifact collection areas.

The quahog shell hammers in Figures 1 and 2 were surface-collected from beach deposits and these sites have been recorded in the authors' records (T-10, T-109, T-129, T-200). The quahog shells in Figure 3 are from the A. E. Anderson collection at

the Texas Archeological Research Laboratory (TARL). They are drawn to actual size by Richard McReynolds and are shown in Figure 1 at a slightly reduced size to provide page margins. Average dimensions for these modified specimens are: length, 85 mm; width, 71.3 mm; thickness, 10.8 mm with an average weight of 124.7 grams. They range in size from 72 to 95 mm in length, 62 to 78 mm in width, 8 to 12.4 mm in thickness with weights ranging from 106 to 144 grams.

A group of four large unmodified Southern quahog shells were beach-gathered from near the artifact collection areas. They were measured and weighed for comparison with the modified shell hammers. Their average dimensions are: length 112 mm, width, 96 mm, thickness, 12 mm with weights averaging 250 grams. Dimensions range from 111 to 114 mm in length, 92 to 101 mm in width, 9 to 15 mm in thickness with weights from 224 to 289 grams. Weights of the unmodified specimens are at least twice as heavy as the modified specimens. It appears that Indian craftsmen did not attempt to



Lower Rio Grand area of Texas discussed in this paper.

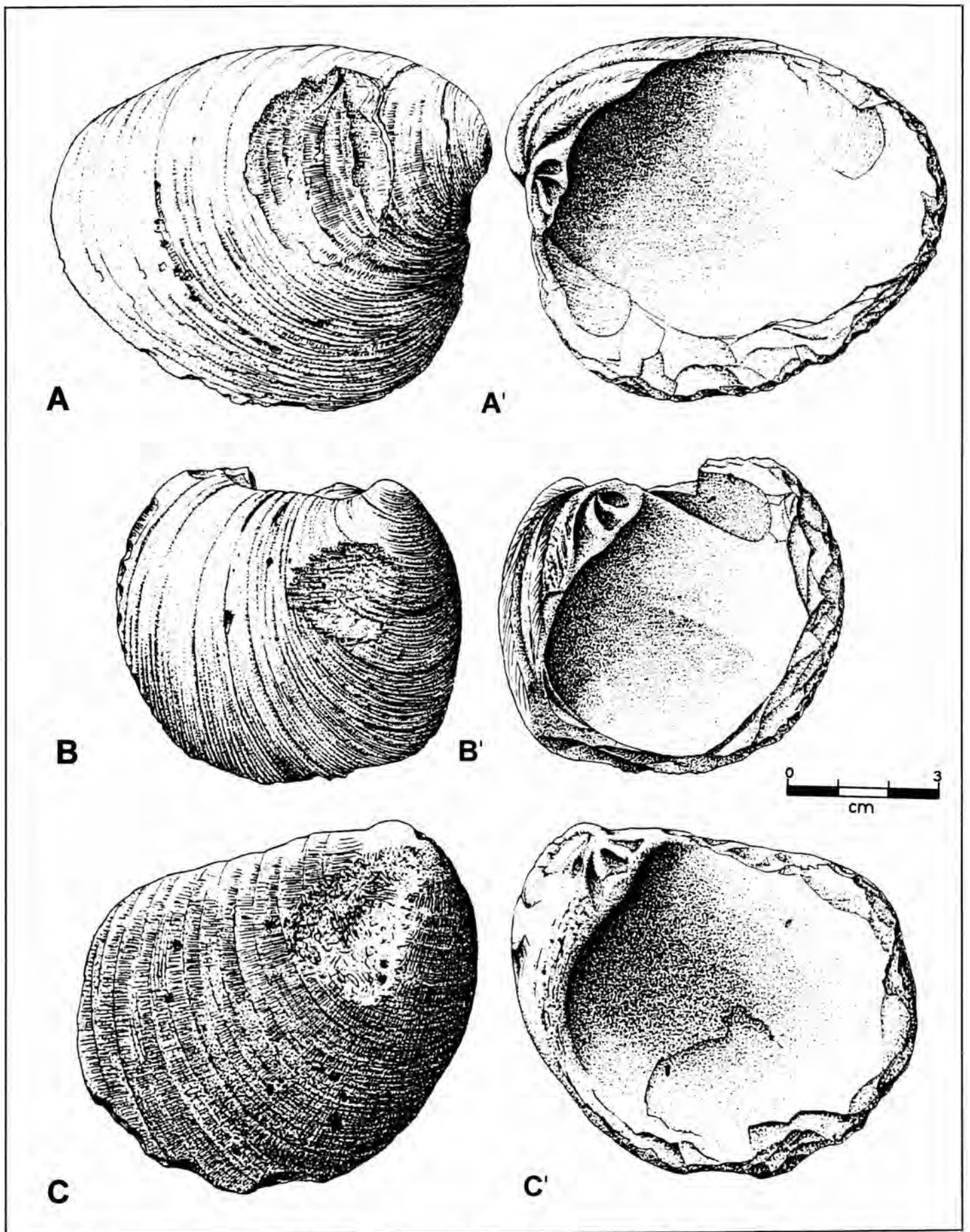


Figure 1. Three Southern Quahog shells edge-modified for use as scrapers and surface-modified by use as hammers.

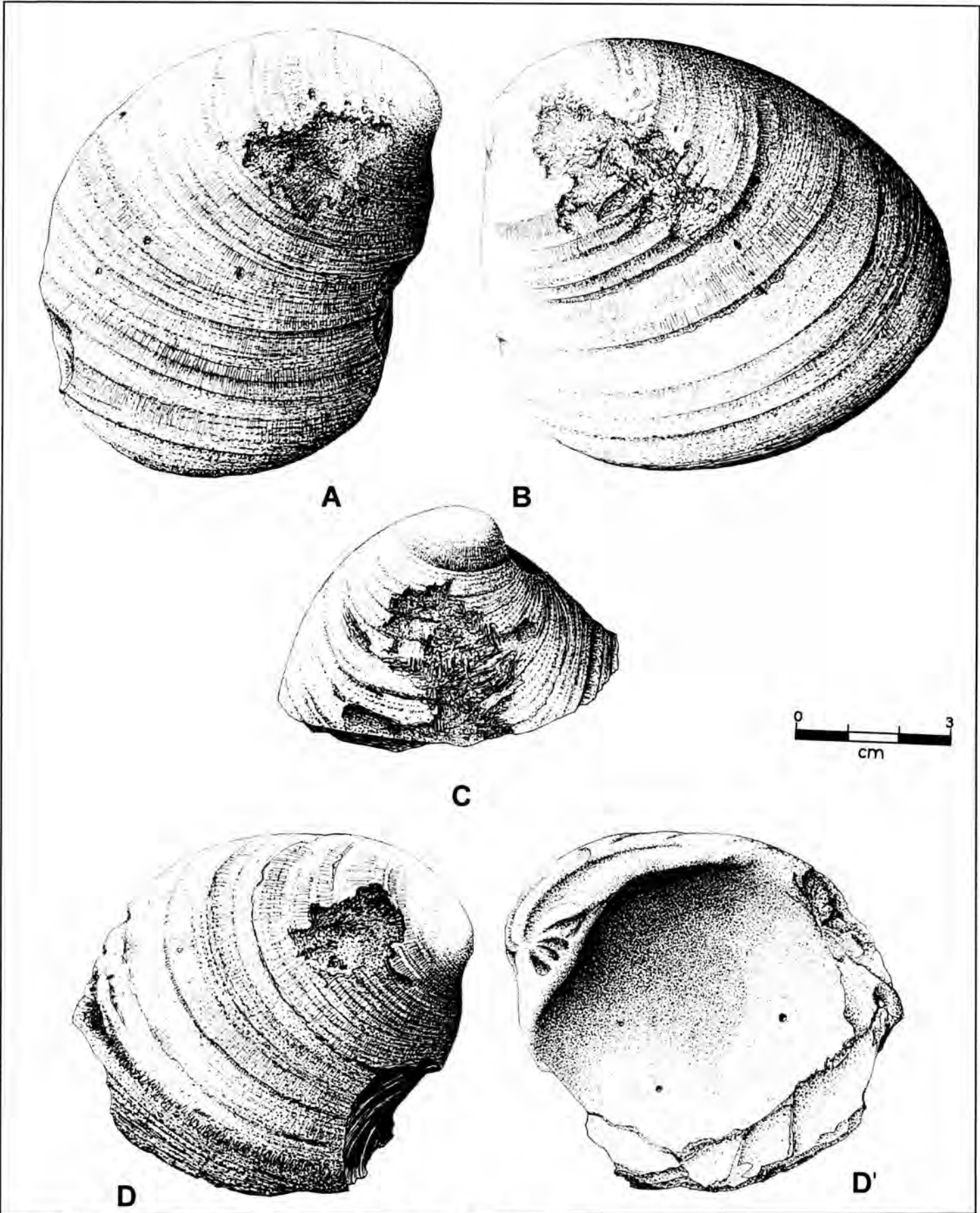


Figure 2. Quahog shells used as hammers. D' also used as scraper.

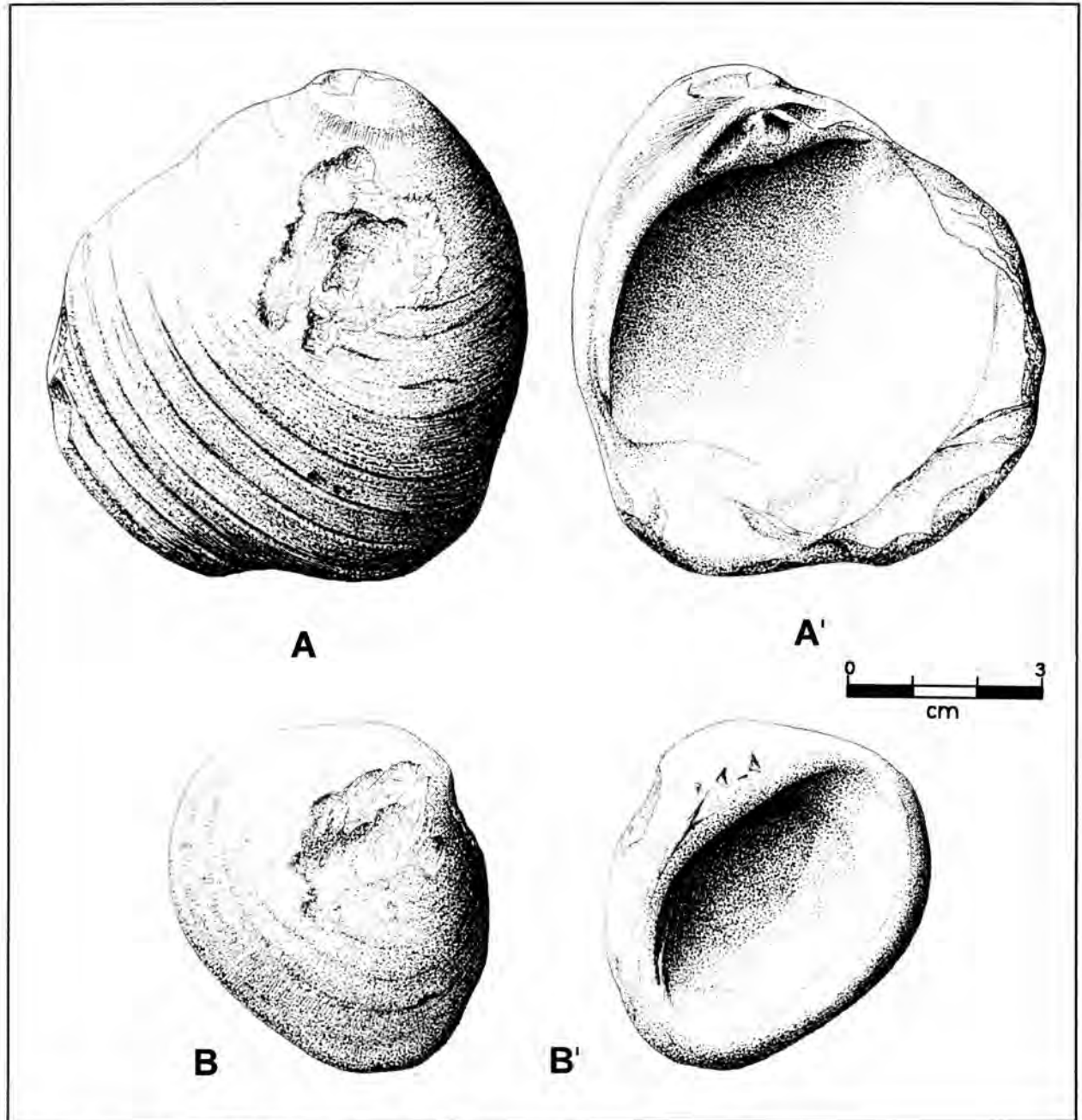


Figure 3. Southern Quahog shell modified by use as hammers.

gather the largest available specimens for use as hammers.

In order to establish the functional use of quahog shells as hammers replicative experiments were undertaken. Two beach-gathered unmodified quahog shells were selected for use as hammers and a large number (45) of *Oliva sayana* shells were selected as specimens for modification. The *Oliva* shell was commonly used in the prehistoric manufacture of beads and tinklers in this area. All or part of the spire is removed to provide an orifice. In making a tinkler the resonance is improved if all of the spire is removed and the outer whorl is separated.

The *Oliva* shells used in this experiment were positioned with the spire vertical and the opposite end resting on a small block of wood. The quahog shell was held in one hand by grasping the lip with the umbo positioned toward the *Oliva* spire. Each spire was struck in a manner to drive it into the interior of the *Oliva* shell. Initially, it took an average of six blows in six seconds to drive the spires into the shell interior making holes three to five mm in diameter. Holes of this size are adequate for making beads but not for tinklers. It took an additional ten seconds to expand the hole to 10 mm in diameter. An additional twenty seconds was used to expand the hole to 13 mm in diameter and separate the outer whorl for an average total time of 36 seconds for each *Oliva* shell. At 13 mm in diameter the hole was adequate for tinklers.

Being new at this exercise it seems probable that the time periods for each of these functions could be reduced by stronger initial blows and less care in maintaining even edges around the perimeter of the *Oliva* shell.

This experiment establishes that these quahog shells do function quite well for this purpose. However, the Southern quahog shell used to remove the *Oliva* shell spires showed no surface batter or crushing after removing the spires on 45 *Oliva* shells. This beach-gathered quahog had surface polish and a smooth feel when collected. After processing 45 *Oliva* shells the contact area of the quahog hammer exhibited a thin white deposit (dust) from the crushing of the *Oliva* shell spires but there was no visible evidence of any crushing or battering of the quahog surface. It did feel lightly abrasive but under microscopic examination (18X) the quahog surface remained without evidence of surface battering. Although quahog shell hammers are suitable for removing the spires of *Oliva* shells, this function did

not produce the crushed and pitted area seen on actual quahog hammers.

It appeared further experimentation was in order. Chandler and Kumpe (1995:Figure 1,B) illustrate a long rectangular pendant in a late stage of production with an extensively ground end that appears to be a reduced conch knob. This specimen appeared to show that Indian craftsmen in the coastal areas had reason to reduce the knobs of conch (*Busycon perversum*) to facilitate the manufacture of some long rectangular pendants. A replicative experiment using a quahog shell as a hammer to reduce the knobs on two medium size conch shells produced a crushed and pitted depression on the quahog shell exactly like that seen on actual quahog hammers. The replica hammer broke while reducing knobs on the second conch shell. It appears that quahog shell hammers may last indefinitely when used for light hammering tasks such as the removal of *Oliva* spires. However, quahog hammers may be short-lived when used for heavier tasks such as the reduction of conch knobs. It is interesting that, to date, quahog shell hammers have only been found in prehistoric sites that are within a few miles of the forebeach and shell pavement areas where replacement quahog shells for broken hammers would have been readily at hand.

The authors, while preparing this article, examined numerous quahog artifacts (scrapers and hammers) as well as beach-gathered quahog valves that were intended for replicative experiments. Notches that were apparently formed by percussion were noted near the umbos on both the posterior and anterior margins of some quahog artifacts. However, similar notches were also found on the margins of several beach-gathered quahog valves. It seemed desirable to determine whether the notches were manufactured by Indian craftsmen or were somehow naturally formed on the beaches of Padre Island. Fifty large *Mercenaria campechiensis* valves were randomly gathered from the beach near the Mansfield Cut and closely examined. Notches, apparently formed by percussion, were noted on 27 of the beach-gathered quahog valves. The notches on the beach-gathered valves varied from slightly to deeply concave and were indistinguishable in appearance and location from the notches seen on some quahog artifacts such as scrapers. The authors have a theory on how pounding surf might percussion-form notches on quahog valves; however, a way to test that theory has not yet been found. Nevertheless, the

evidence strongly suggests that percussion-formed notches on quahog artifacts are a natural phenomenon.

THE ARTIFACTS

Figure 1 illustrates three quahog shell hammers that have the ventral edges chipped for use as scrapers and the dorsal surfaces modified by use as hammers. This illustration is reduced slightly to provide adequate page margins.

Figure 2 illustrates four quahog shell hammers with the dorsal surfaces displaying areas of deep crushing and pitting. Specimens A, B, and C are without edge trimming and are not prepared for use as scrapers. Specimen C is broken in a manner that may have removed any evidence of edge trimming. Specimen D, D' is edge-modified for use as a scraper and the dorsal surface exhibits evidence of use as a hammer.

Figure 3 illustrates two quahog hammers from the A. E. Anderson collection at TARL. Specimen A, A' is edge-modified for use as a scraper and the dorsal surface displays deep crushing and pitting from use as a hammer. Specimen B, B' has the char-

acteristic dorsal surface depression from use as a hammer but shows no evidence of edge modification for use as a scraper. It also has a pitted and crushed depression on the anterior side of the umbo. This specimen may have been broken and fully beach-rolled before it was picked up and used for hammering.

The A. E. Anderson collection at TARL has an abundance of coastal shell artifacts that include large numbers of *Oliva sayana* and Southern quahog shells.

Examination of a large number of the *Oliva* shell tinklers, beads, and pendants in the Anderson collection reveal about half of them have irregular and broken edges indicative of the spire ends being removed by hammering with no subsequent grinding. The other specimens have smoothed but not necessarily even edges. This smoothing may have been done with sandstone after the spires were reduced by hammering. Our replicative experiments in removing *Oliva* shell spires included efforts to smooth the damaged edges of the *Oliva* shells with the use of pumice. This was totally unsuccessful as only the pumice was altered.

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A SHORT HISTORY OF THE NATIONAL YOUTH ADMINISTRATION BUILDINGS AT THE FORMER LOWER COLORADO RIVER AUTHORITY EMPLOYEES' CLUB, INKS LAKE, WESTERN BURNET COUNTY

Andrew F. Malof

ABSTRACT

The Lower Colorado River Authority (LCRA) has proposed to dismantle six buildings located below Roy Inks Dam in Burnet County. Asbestos abatement and a relative lack of structural integrity combine to negate the feasibility of preservation and/or restoration. These buildings were built by the National Youth Administration (NYA) under the auspices of the Public Works Administration in the late 1930s through the mid-1940s. As they are older than the 50-year guideline for archaeological resources, this report will be combined with photo documentation to record information on these structures prior to their proposed demolition. Photographs are on file at the LCRA.

METHOD

The following report is gathered from materials from LCRA records housed at the LCRA headquarters in Austin. Pertinent documents and maps have been copied and compiled in a folder curated at the office of LCRA archaeologist Bruce Nightengale. Documents are referenced by year-month-date, with multiple documents followed by A,B,C, etc. Maps are referenced in the same manner, only preceded by an M (see Table 1). Gaps in the record have necessitated a certain amount of conjecture. This is noted where it occurs. Field survey included photographic and video documentation of the buildings and brief notes on their present condition.

CHRONOLOGY

1937-pre NYA

Implementation

In December of 1937, an application was filed to NYA director J. C. Kellam by the Lower Colorado River Authority, in order "To provide: part time

employment of needy youth to improve State-owned school and public grounds; to construct and improve buildings thereon; extension of domestic science practices; recreation and other socially useful activities; and the conduct of activities in various public services..." (37-12-30 [read 1937 December 30]). The initial project appears to have been twofold: 1, To construct their own living quarters at Inks Dam, and, 2, To construct employees' quarters at Buchanan Dam. This contract was to be from 2-15-38 to 6-15-38, a period of four months (ibid.)

Inks and Buchanan Dams were both dedicated in October of 1937. Prior to this time it was realized that formation of their respective lakes would be potential prime recreational areas, especially for fishing. It was therefore determined to establish fish hatcheries in the area. One was to be located below Inks Dam (37-9-24). It was assumed there would be economic benefits as well. It must be realized that the country was still coming out of the depression, part of the reason the dams were built. Congressman Lyndon Johnson was instrumental in pushing for funds for initialization of the hatcheries; however, the Division of Fish Culture's funds had been cut, and no monies were immediately forthcoming (ibid.).

1938

B u c h a n a n C a m p

There appears to have been some confusion, even with the project engineer, and perhaps within the LCRA, as to the identity of the two



dams. In a document from J. Lochridge, Project Engineer, to C. McDonough of the LCRA regarding the NYA Camp at Inks Dam, someone had penciled around Inks and replaced it with Buchanan (38-1-15). This creates doubt as to the initial work at Inks. Later documents seem to indicate this early work was done at Buchanan, again, to construct employee quarters, notably, out of salvaged materials, presumed to be left from the camp which would have housed the persons constructing the dams some two years earlier (38-1-13). Map 38-1?-? is of Buchanan Dam, and accompanies another undated

document which is a response to a request for plans as to which buildings were to be torn down, which to be moved, and where new buildings were to be built (38-1-26). This appears to confirm the first project being at Buchanan. Where the youth were actually housed is not clear, based on the earlier confusion with Inks.

In April of 1938, however, a new proposal was made to house 100 youth at Buchanan, while they constructed an administration building, again, out of primarily salvaged materials (38-4-1). Apparently this proposal was approved, based on a May 1938 letter regarding plans for the construction of the building (38-5-12). The NYA contract, however, had not as yet been extended.

Table 1. Document references based on internal LCRA system.

| <u>Header</u> | <u>Reference</u> |
|-------------------|------------------|
| 1937 | 1937-09-24 |
| Implementation | 1937-12-30 |
| Buchanan Camp | 1938-01-15 |
| | 1938-01-13 |
| | 1938-01-26 |
| | 1938-04-01 |
| | 1938-05-12 |
| Moving? | 1938-06-06 |
| Renovation | 1938-04-11 |
| | 1938-04-13 |
| | 1938-06-20 |
| | 1938-06-23 |
| | 1938-07-29 |
| Flood | 1938-07-30 |
| | 1938-08-05 |
| | M1938-09-10 |
| | M1939-08-29 |
| Enlargement | 1938-11-22 |
| | 1938-10-07 |
| | 1938-01-22 |
| Insurance Records | 1938-12-05 |
| | M1938-09-10 |
| | 1938-12-15 |
| | M1938-11-16 |
| Completion | 1938(38)-12-14 |
| | 1939-01-27 |
| Post 1939 | 1947-02-07 |
| | M1951-08-30 |
| | M1939-08-29 |
| | 1952-10-X |

Moving to Inks?

Apparently it was assumed contract extension was not to be a problem. In June of 1938 an LCRA Inter-Office Memorandum stated that the NYA was considering a move from Buchanan to Inks. Again, recycled materials were to be used extensively (38-6-6). The above memo also mentions buildings at Buchanan and Inks, indicating camps existed at both locations.

Inks Renovation and the Hatchery

Meanwhile, in April of 1938 the fish hatchery had received approval, contingent on the LCRA deeding to the U.S. government the property and providing the water, as well as constructing the living quarters for hatchery personnel (38-4-11,13). The LCRA requested an amendment to a (missing) March application to the NYA requesting their assistance in hatchery construction. It was estimated 150 men would be required.

In June of 1938 a new application was officially submitted to the NYA, requesting an additional six months of NYA participation in the Inks Camp renovation and construction of the hatchery. Renovation work was to include replacing canvas flies with wood siding on camp structures, while adding windows and permanent roofs, relocating some of the cabins, relocating and remodeling the hospital, building a permanent recreation hall, and improving access to the Buchanan Dam site for easier access to recycled materials. Workshops were to be made by combining and remodeling two offices and two

cabins. A large cabin was to be remodeled for a laundry room, and the dining room was to be enlarged (38-6-20). The hatchery was to employ approximately 75 youth. The LCRA was now an NYA co-sponsor, along with the Bureau of Fisheries (38-6-23). Included in the hatchery requirement was the removal of six cottages in order to make room for the ponds (38-7-29). Their final destination was not suggested. The NYA contract was extended to December of 1938.

The Flood

Between June 20 and July 30 of 1938 an extensive flood event occurred, and caused significant damage at the Inks site. Four 18- x 32-foot cabins were swept away. Smaller cabins were repositioned, and five of these were damaged (38-7-30). By August it was determined that over half of the remaining buildings had been damaged beyond repair. Six new cabins were to be constructed, measuring 24 x 74 feet. The LCRA had found other uses for the materials from Buchanan, and so the NYA was requesting assistance from the LCRA in purchasing new material (38-8-5). These six buildings appear to be the dormitories seen in Map 38-9-10 and the barracks seen in M39-8-29 (Figure 1). Unfortunately, no plans previous to the flood have been located.

Enlargement of Program

In November of 1938 an application was prepared to extend the contract until June 30 of 1939. Five hundred youth were to be employed. This was an additional 330 youths. Some were to improve facilities at Buchanan Dam (38-11-22), and it is assumed others were to work improving Inks and working at the hatchery, which was being enlarged (38-10-7). Material from Buchanan Dam included all salvaged sash not needed at Buchanan, other salvaged material not needed for construction of an operator's house, and a two-story building which was to be dismantled and rebuilt at Inks, to provide housing for married supervisors (38-1-22). No other records of this building have surfaced.

Insurance Records

A memorandum regarding an insurance policy

covers 17 buildings. These are six dormitories, a dining hall, a commissary, a recreation hall, a laundry, a cook's cabin and office, and six supervisors' houses (38-12-5). These are the buildings noted in a cluster on Map 38-9-10 (not illustrated). A workshop on the same and later maps apparently was only proposed at this time. However, ten days after the above memo, another memo referenced 25 buildings, including a commissary (which was not supposed to be built). Additional buildings included a separate cook's bunkhouse, a boiler house (insured for \$25), a water heater house and tool house (insured for \$25 and \$50, respectively), a woodworking shop and machine shop with garages. Missing is the recreation hall (38-12-15). These buildings can be seen on Map 38-11-16(A) [not illustrated]. Final plans, however, were still undecided upon, as evidenced by penciled revisions on the plan. The commissary may very well have been renamed the canteen, as noted on the above map.

1939

Project Completion and Transition

On December 14 the NYA project engineer stated that the camp project was complete, yet hinted at further construction, particularly around Buchanan (38-12-14). In January of 1939 the LCRA General Manager sent a memo to the NYA Project Engineer. It stated that the LCRA was still committed to provide the NYA a camp and allow additional buildings as needed. The NYA was to provide the materials and labor (39-1-27). The document indicates that work was in progress.

Post-1939

It is here that the documentation becomes scarce. Additional reports relate to various projects, a radio class, increasing water to the NYA and hatchery, bills for materials, and other such incidentals. In 1947 the NYA was referred to in the past tense (47-2-7). No further maps are available until 1951, when a map with unnamed source appears (M51--8-30). On it are shown numerous additional buildings, in particular around the administration building and hospital. These two are seen on M39-8-29 (Figure 1), but are not in the insurance records. They are shown as being NYA area buildings. Other NYA

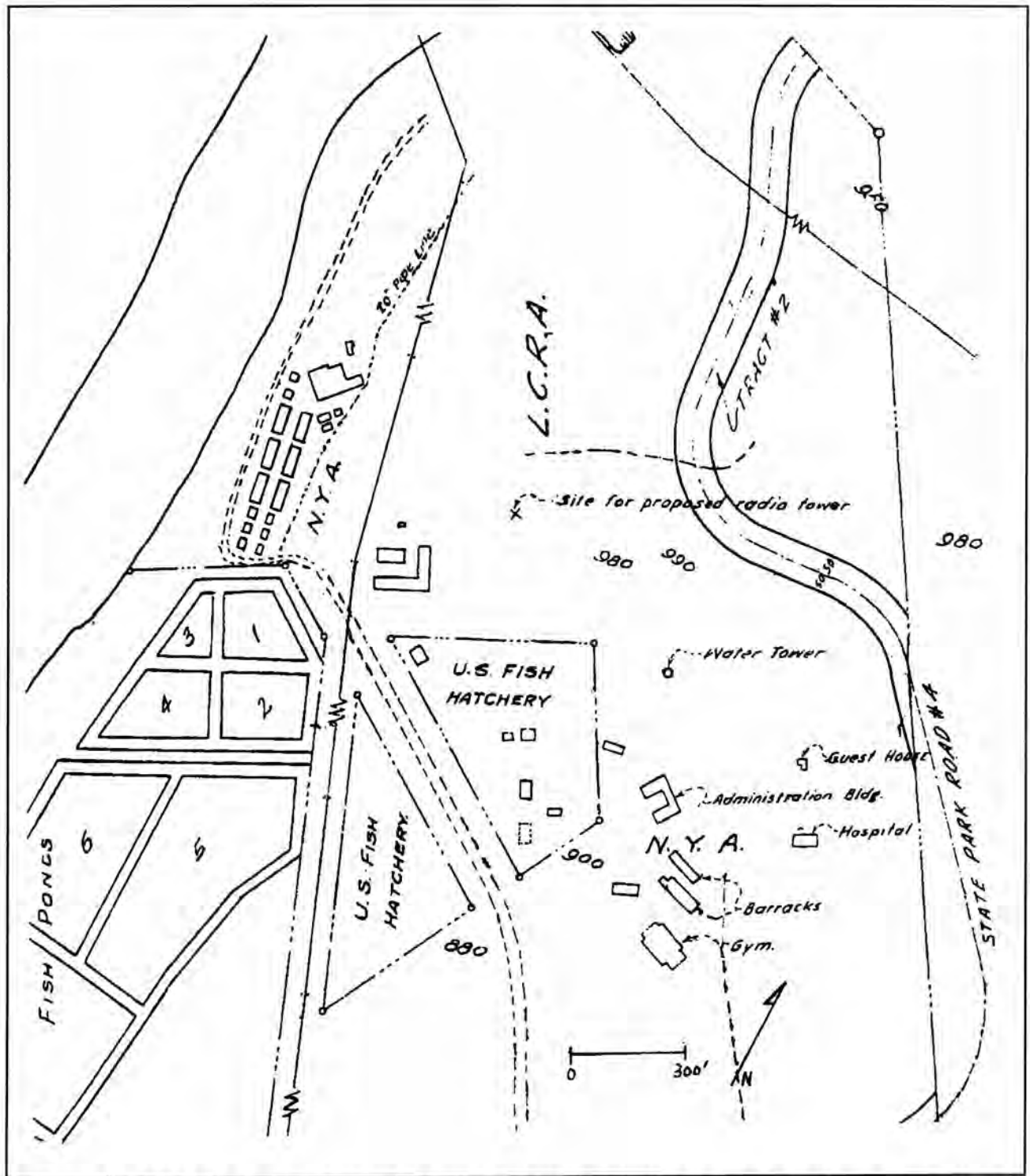


Figure 1. Map 39-8-29. Overview of NYA Camp and U. S. Fish Hatchery. The buildings above the fish ponds are barracks and other buildings, and are adjacent to the Colorado River. The area by the Administration Building and Hospital is the study area. Courtesy LCRA.

buildings are absent on the 1951 map, which, it must be noted was stamped with the date, and may have been drawn previously. The area around the administrative building is the one in question, and no documentation so far has been able to determine the sequence leading to their construction. There are floor plans however, drawn prior to construction of an LCRA Employees' Camp on the property, which incorporated some of the buildings, and included moving, combining, and remodeling them. The plans all state they were designed by the NYA (52-10-X) (Figures 2 and 3).

It is interesting to note that insurance was paid on buildings for hospital supervisors, but not on any hospital, or administration building, barracks, or gym. These buildings are all seen on M39-8-29 (Figure 1), but not on any previous maps. They are all located on an upper knoll some 1200 feet to the east of the riverside camp area. What can be determined by the data so far is that the area in question was being utilized by the NYA as early as 1939.

Table 2. Legend of buildings visible in Figure 6.

| <u>Bldg. No.</u> | <u>Description</u> | <u>Condi- tion</u> |
|----------------------------------|---------------------|------------------------|
| 6 | Cottage | good |
| 7 | Hospital | good |
| 8 | Cottage | gone |
| 9 | Cottage | fair |
| 10 | Cottage | gone |
| 11 | Cottage | gone |
| 12 | Cottage | fair |
| 13 (see Fig. 4) | Cottage | good |
| 13-A (not on map, see Fig. 5) | Cottage? | bad |
| 15 | Administration | gone |
| 16 | Dormitory | gone |
| 17 | Dormitory | gone |
| 18 | Cottage | poor |
| 19 | Cottage | gone |
| 20 | Main Dining Hall | gone |
| 21 | Dormitory | gone |
| 22 | Dormitory | gone |
| 40 | Little Store | gone |

M39-8-29 (Figure 1) shows a hospital, two barracks, a gym, two unidentified buildings, and a guest house. The guest house is located in the area of interest (see Table 2).

Survey

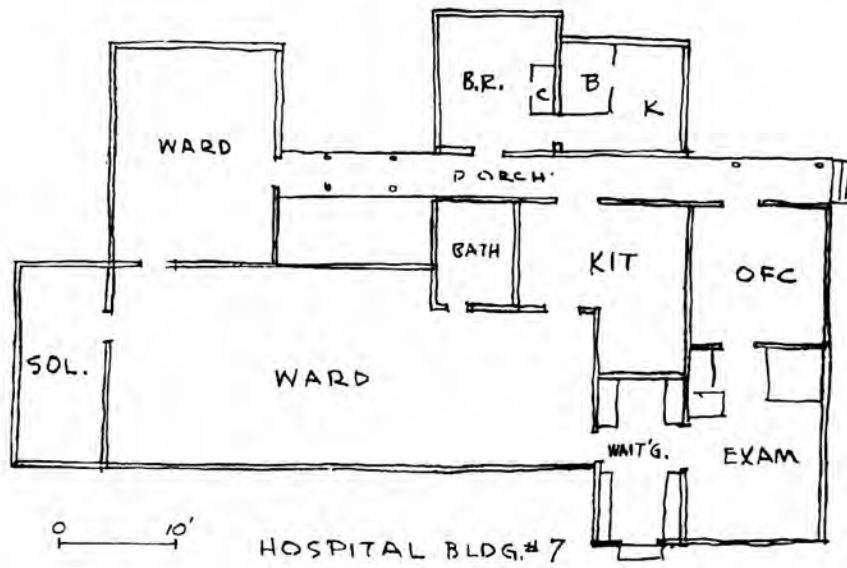
In November of 1997 the remaining buildings were documented photographically. Based on LCRA records, these were the hospital and six cottages. Only one building exhibited typical WPA/NYA construction, as seen at the buildings of the adjacent fish hatchery. This was the cottage designated Building 13 (Figure 4). Two of the buildings, 13-A (Figure 5), and one which could not be determined, but was either 18 or 19, were in very poor condition. The rest were reasonably intact, although suffering somewhat from neglect. Buildings were all of pier and beam foundation, and the majority had sheet vinyl floors over plywood, although the hospital and the adjacent cabin both were partially floored with hardwood. Floor plan alterations were minimal. All buildings except 13-A and 18/19 had central air conditioning units added at some time. These units had all been installed in interior closets, and had subsequently been removed. The most notable improvement was in the replacement of wood frame windows with aluminum. A large stack of wood frame windows was seen behind building 18/ 19. It is assumed they were stockpiled from the other buildings. No indications of building dates were found on any of the buildings.

CONCLUSIONS

It may be assumed the cottages were constructed during the undocumented period of construction between 1939 and 1947. They may also have been relocated from the area of the fish ponds. When comparing the 1939 (Figure 1) and 1951 (Figure 6) maps it is easy to conjecture that buildings missing from the earlier map may account for some of the additional buildings seen on the latter. Research into insurance records may be able to help determine when the cottages were built. Files indicate that the area was remodeled and reconfigured as needed. The paucity of documentation beginning in 1939 coincides with the influx of the additional 330 youth. Surely extensive work was needed to house them. Of



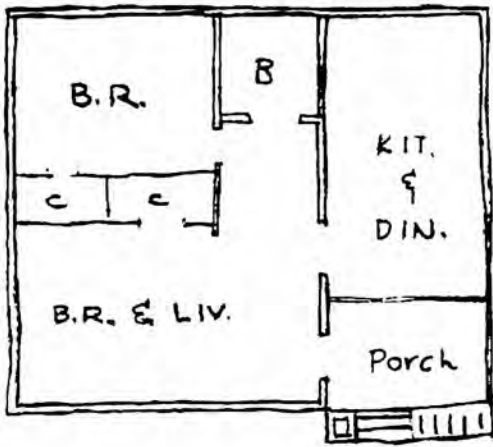
Building 7, Hospital, south (rear) elevation. Floor plan (below), ca. 1952.



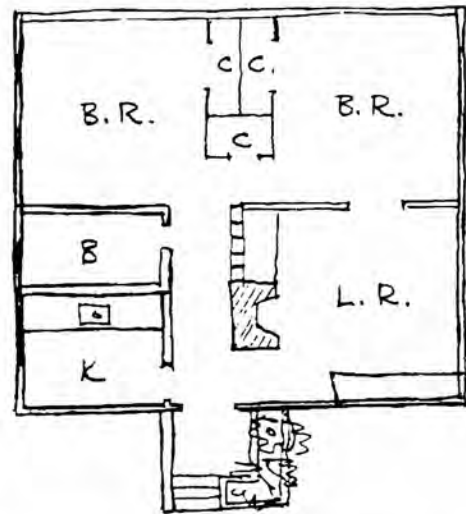
Hospital bench, Building 7, in entrance waiting room.



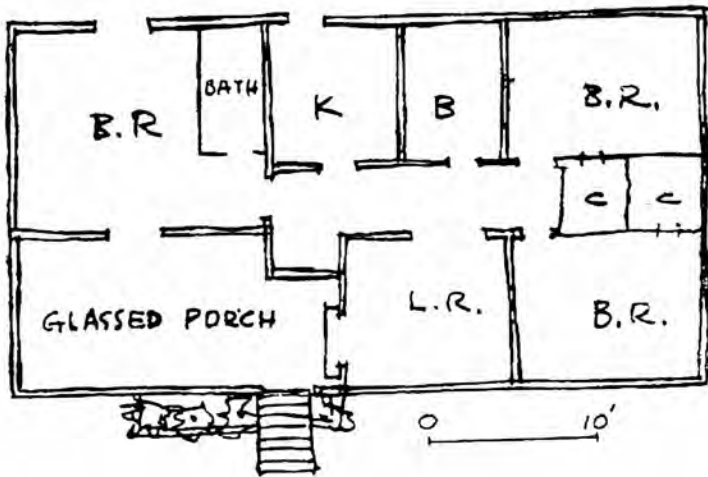
Figure 2. Representative photos and floor plan, ca. 1952. Hospital Building. Courtesy LCRA.



Building 6



Building 9



Building 12

Figure 3. Representative Floor Plans and Photos ca. 1951: Buildings 6, 9 and 12. Scale, 1"=10'-0. Courtesy LCRA.



Figure 4. Building 13, cottage, front and east elevations;



Figure 5. Building 13-A, cottage; west and south elevations.

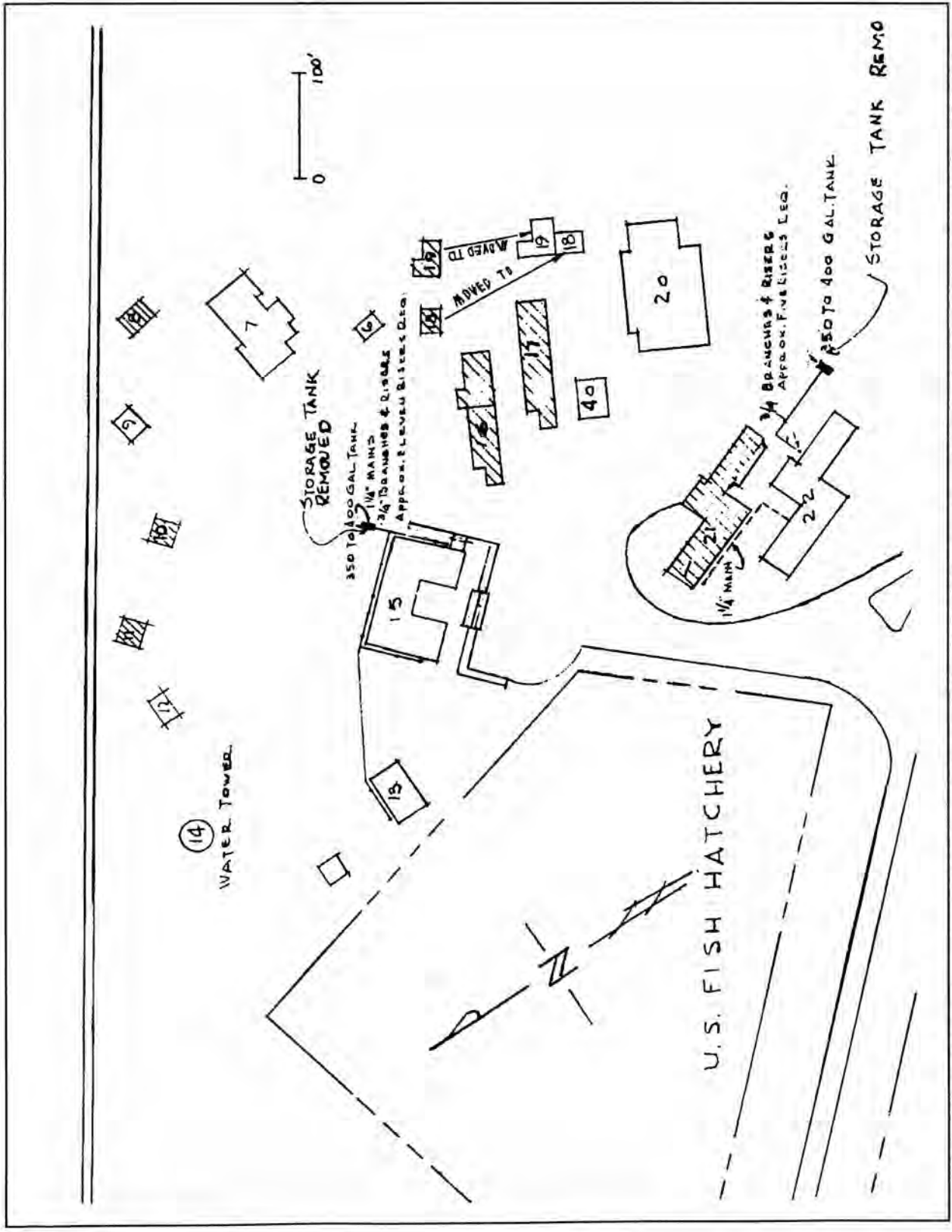


Figure 6. Map 51-8-30. Portion of map showing study area. Hatched buildings keyed as previously removed are 13 (not slated for removal), 13-A (not shown), 12, 9, 7, 6, and 18/19. Remaining building was probably #18. It did not appear to have been joined at any time. Only other remains are the water towers and concrete slabs associated with the Administration Building and possibly Building 20, the Main Dining Hall. Courtesy LCRA.

possible help may be page two of document 37-12-30, stating that the "sponsor will neatly mark all permanent improvements with markers; for example, concrete work would be marked 'NYA-1938', " although no such marks were found during documentation. Perhaps with the confusion of WWII additional records will never surface.

Regardless of the exact origin of these buildings they retain importance as a part of the NYA heritage, and have received documentation prior to their proposed removal.

ACKNOWLEDGMENTS

The author wishes to thank the Lower Colorado River Authority in general, and Staff Archaeologist Bruce Nightengale*in particular, for the opportunity to access records and view the Inks Lake tract. Susan Forsythe, also at the LCRA, provided invaluable assistance in locating records from the voluminous files housed there.

REFERENCE CITED

Internal Files of the LCRA, Austin, Texas.

Note: Bruce Nightengale has since passed away as this paper was being prepared for publication.

AN ANDICE POINT FROM KERR COUNTY, TEXAS

Bryant Saner, Jr.

ABSTRACT

This report is to document and discuss an Andice point from Kerr County, Texas.

INTRODUCTION

Kerr County, Texas is located in the southern Edwards Plateau. Kerrville, the county seat, is approximately 60 miles northwest of San Antonio, just off of Interstate Highway 10 in the Texas Hill Country. The main river drainage for the county is the Guadalupe River. The artifact described in this report was recovered at a site located in east Kerrville on Quinlan Creek, a tributary of the Guadalupe River. The artifact was recovered in the early 1960s, during construction of roads in a subdivision. A large burned rock midden was uncovered at that time. The Andice described in this report was found at that site.

THE ANDICE DART POINT

The Andice dart point is described as having a large broad blade, subtriangular with convex lateral edges. The main characteristic is the long rectangular stem and prominent massive barbs seen on the base (Prewitt 1983). These artifacts are thought to be a product of the Early Archaic Jarrell Phase of Central Texas (Prewitt 1981). They may be closely related to the Bell dart point. The Bell is usually smaller, has a shorter stem and barbs (Turner and Hester 1993). The Andice is similar to the Calf Creek biface from Oklahoma, however most of the notches found on the Calf Creek are not as deep as on the Andice (Splawn and Wyckoff 1995). The Calf Creek is morphologically between the Andice and Bell (Prewitt 1983).

It is not uncommon to see Andice that have been refurbished with one or both barbs missing with some having rechipped points. Commonly seen refurbished points have the barbs missing and have a short stubby tip. The stem remains unchanged and has the characteristic notch chipping on the lateral

edges (Ricklis and Collins 1994).

Several Andice points have been observed by the author in private collections from Kerr and Gillespie Counties. One other Andice/Bell point has been documented in the literature as being recovered in Kerr County at the Wounded Eye Site (Luke 1980). This point is described as a Bell point, but appears that it could also be classified as an Andice. Andice points are mentioned in the literature from Fayette County, Texas (Moore 1989), Hayes County, Texas (Ricklis and Collins 1994), Wilson County, Texas (Labadie 1988) and Bexar County, Texas (Stothert 1989). The distribution of the Andice point is eastern Central Texas, across the Gulf Coastal Plains to the Victoria-Corpus Christ area (Turner and Hester 1993).

The Andice point requires a very skilled flintknapper to produce the distinct characteristic that separates this point from other points. Quantitative analysis to better define these characteristics has been done by Weber and Patterson (1985). Weber (1986 and 1991) goes on to conduct further studies of the Andice and Bell Points. Reproduction studies also done by Weber discusses manufacturing techniques, notching tools, functional values, and techniques and the skill level required to produce Andice/Bell points (Ricklis and Collins 1994).



THE ARTIFACT

The Andice specimen (Figure 1) is not complete. The stem and distal one-fourth of the tip is missing. The stem fracture appears to be old due to the patina on the broken area of the stem. The distal tip is a new break since no patina is seen on the broken edge. It is made of a light brown chert with heavy patina on one side and light patina on the other. The dimensions are: maximum length, unable to measure; maximum width, 48 mm; maximum thickness, 7 mm; stem width at base, 16 mm; stem thickness at base, 6 mm; barb length, 21 mm; barb width, 14 mm; and barb thickness, 3-4 mm.

The blade is thin and slightly convex on both sides. The lateral edges are convex, becoming more convex on the lateral edges of the barbs. The distance between the medial edge and lateral edge of the barbs decreases from near the neck to the base. There is slight lateral grinding on the right lateral edge (Figure 1, a). This is noted under 10X magnification.

DISCUSSION

The Andice point described in this report is unusual because the barbs are intact and the stem is missing. One other point is noted in the literature that demonstrates this type of break. It is a Calf Creek point with one-half of the distal tip missing (Duncan 1995:117).

Fractures like this are the result of anterior/posterior pressure on the stem. The pressure that resulted in the break may have been applied while the artifact was hafted. The haft would be able to apply pressure with leverage forcing the stem to fracture at its closest point to the body of the point (Steve Tomka, personal communication 1997). Another possible cause of the fracture is a notching failure during manufacture.

ACKNOWLEDGMENTS

A debt of gratitude is owed to Richards Folger for the loan of this artifact for study. Thank you to Robert R. Rector for his assistance and suggestions for this report.

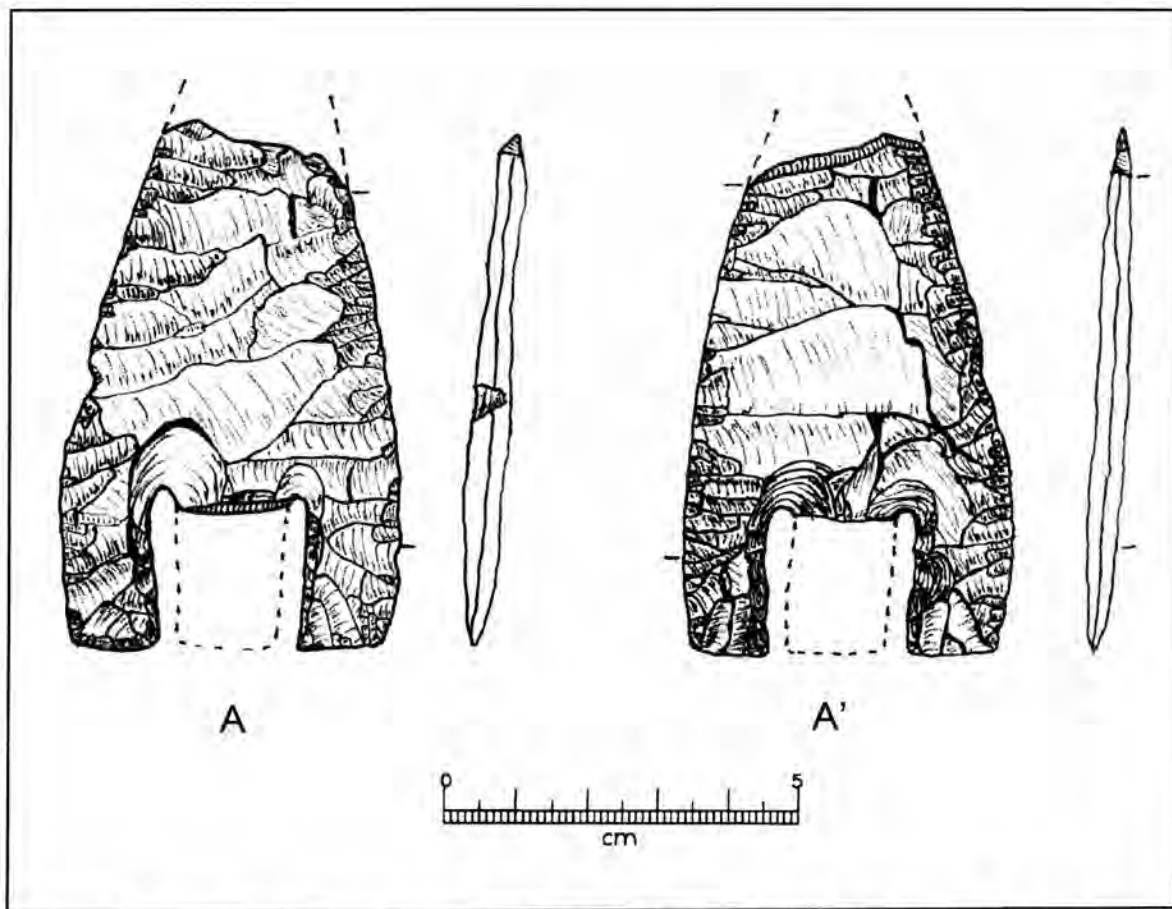


Figure 1. Obverse and reverse views of an Andice dart point from Kerr County, Texas. Lateral grinding is noted between the dashes.

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THE PEDERNALES POINT IN SOUTHEAST TEXAS

Leland W. Patterson

ABSTRACT

Data are presented on the chronology and geographic distribution of the Pedernales point in Southeast Texas. The need for a systematic continuing data collection program for dart point dates is discussed.

INTRODUCTION

The Pedernales point is a well-known projectile point type from Central Texas. The geographic distribution extends from Central Texas into the lower Pecos and South Texas (Turner and Hester 1993:171). It is less recognized that the Pedernales point is also an important artifact type in the western and central parts of Southeast Texas.

This article summarizes data for the chronology and geographic distribution of the Pedernales point in Southeast Texas, with reference to the chronology of this point type in Central Texas. The need for more systematic continuing data collection programs for projectile point dates is also discussed.

The Pedernales point has been described in detail by Suhm and Jelks (1962) and Turner and Hester (1993:171). This point type is highly variable in size, and has a triangular blade and straight stem with concave base. The basal concavity is often thinned by a broad, flute-like flake on one or both sides.

CHRONOLOGY

Turner and Hester (1993:171) place the Pedernales point in a time period of 2000-1200 B.C. in Central Texas. Prewitt (1981:80) places this point type in the Round Rock Phase in Central Texas with a time range of 1450-650 B.C. Johnson and Goode (1994:34) place the Pedernales point on the eastern Edwards Plateau in the early part of the Late Archaic period with a time range of 2300-600 B.C.

It should be noted that the time intervals used here for the Middle and Late Archaic periods of Southeast Texas are not the same as definitions of these periods in Central Texas, because of the earlier start of pottery in Southeast Texas than in Central Texas. I have defined the Middle Archaic period in Southeast Texas as a time range of 3000-1500 B.C., and the Late Archaic as a time range of 1500 B.C.-A.D. 100), followed by an Early Ceramic period of A.D.100-600 (Patterson 1995a:243).

The earliest radiocarbon date for the Pedernales point in Southeast Texas (Patterson 1989a) is 5210 \pm 110 B.P. (I-15510), 3260 B.C., obtained on freshwater mussel shell at site 41FB34 in Fort Bend County. Some archeologists would probably dismiss this date as being too early for the Pedernales point. However, no dates should be dismissed until enough data are obtained to establish a statistically significant time range for this point type. This Pedernales specimen has ground stem edges.

All radiocarbon dates given here are uncalibrated.

At site 41AU36 in Austin County (Hall 1981: Table 2), Burial Group 1 has radiocarbon dates on human bone of 4120 \pm 100 B.P. (TX-2453), 2170 B.C., and 3270 \pm 70 B.P. (TX-2127), 1320 B.C.. This burial group has Pedernales points. As with the early date for the Pedernales point at site 41FB34, the earliest date at 41AU36 cannot be dismissed as being too early without the establishment of a statistically significant time range for this point type.

At site 41FB3 in Fort Bend County (Patterson, Black, McClure, Storey and Patrick 1993), a Pedernales point is associated with the upper burial group which has a radiocarbon date on human bone of 2580 \pm 130 B.P. (I-16513), 630 B.C..

There are two Oxidizable Carbon Ratio (OCR) dates for Pedernales points at site 41WH24 in Wharton County (Patterson, Hudgins, Kindall, McClure and Pollan 1995). The Pedernales point at the deeper excavation level has an OCR date of 3832 B.P. (ACT1991), 1882 B.C. This specimen has ground stem edges. The Pedernales point at a higher excava-

tion level has an OCR date of 2598 B.P. (ACT1992), 648 B.C. Both of these OCR dates are within the time range for the Pedernales point defined by Johnson and Goode (1994) for the Pedernales point on the eastern Edwards Plateau.

At site 41AU1 (Duke 1982a) in Austin County, there is a radiocarbon date of 4530 ± 80 B.P. (Shell 8205), 2580 B.C. at an excavation level of 108 cm. Pedernales points were found here at higher excavation levels of 60-66 cm and 36-42 cm (Duke 1982b:Figure 2). The relative temporal placement of Pedernales specimens is difficult to determine for this site in relation to other point types, as there may have been some stratigraphic mixing.

There is a Pedernales point in the Late Archaic part of the excavation sequence at site 41FB42 in Fort Bend County (Patterson et al. 1993b).

In summary, the Pedernales point in Southeast Texas can be placed in some portions of the Middle Archaic (3000-1500 B.C.) and Late Archaic (1500 B.C.-A.D. 100) time periods, but there are not enough dates yet to determine a statistically reliable time range for this point type. There is also the possibility that the Pedernales point may not have exactly the same time range in Central and Southeast Texas.

GEOGRAPHIC DISTRIBUTION

The geographic distribution of Pedernales points in Southeast Texas is given in Table 1 and Figure 1. The geographic distribution of this point type forms a drop-off model from west to east, as would be expected for a technological tradition derived

from Central Texas. For data given here, there are 91 Pedernales points in the western part of Southeast Texas, 22 Pedernales points in the central part, and 2 Pedernales points in the eastern part. Southeast Texas is an interface between the Southern Plains (Central Texas) and the Southeast Woodlands. The western part of Southeast Texas is the area of maximum mixing of technological traditions from these two geographic areas. The Pedernales point decreases in frequency from west to east in Southeast Texas. In comparison, the Gary- Kent dart point series decreases from east to west in this region (Patterson 1996:Table 8), as would be expected of a technological tradition found in much of the Southeast Woodlands.

DATA COLLECTION PROGRAMS

There is a need for systematic continuing data collection programs for dates on each projectile point type in Texas. No dart point type in Texas has enough data to establish a reliable total time range (Patterson 1989b). Data collection programs are especially important today with many Cultural Resource Management (CRM) reports being published with very limited distribution. If projectile point dates are not continuously collected in centralized data bases, at least some dates will be "lost," inaccessible for most archeologists. Computerized data bases being developed for archeological sites in Texas may not be adequate for retrieval of dates related to specific projectile point types. Therefore, data base design should provide for retrieval of dates for each projectile point type.

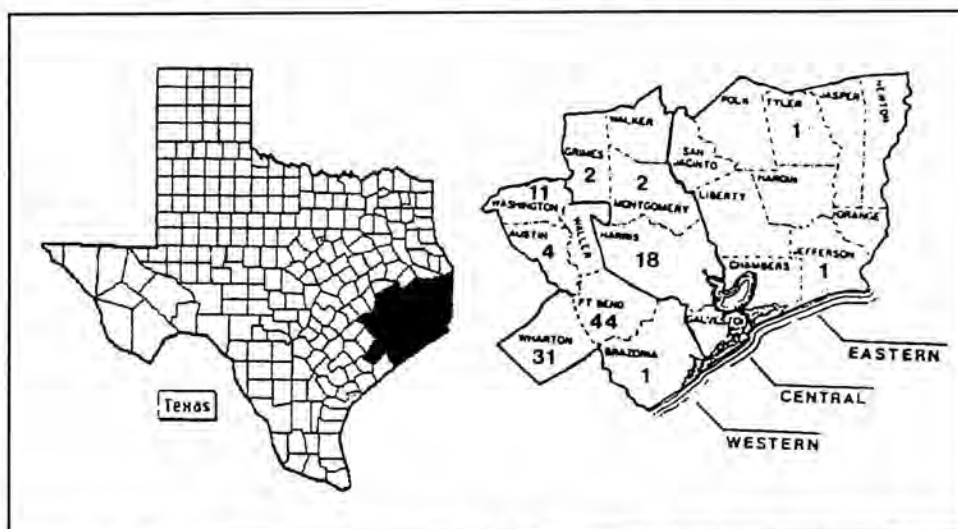


Figure 1. Geographic Distribution of the Pedernales Point in Southeast Texas.

Table 1. Pedernales Points in Southeast Texas

| <u>Site</u> | <u>County</u> | <u>No. of Points</u> | <u>Reference</u> |
|-------------|---------------|--------------------------|-----------------------------|
| 41AU1 | Austin | 2 | Duke 1982b |
| 41AU4 | Austin | 1 | Duke 1985 |
| 41AU7 | Austin | 1 | Patterson 1976a |
| 41BO28 | Brazoria | 1 | Cole and McMichael 1968 |
| 41FB3 | Fort Bend | 1 | Patterson et al. 1993a |
| 41FB32 | Fort Bend | 1 | Patterson and Hudgins 1987a |
| 41FB34 | Fort Bend | 2 | Patterson and Hudgins 1986 |
| 41FB42 | Fort Bend | 1 | Patterson et al. 1993b |
| 41FB72 | Fort Bend | 1 | Ensor 1987 |
| 41FB90 | Fort Bend | 2 | Patterson and Black 1991 |
| 41FB95 | Fort Bend | 5 | Patterson and Hudgins 1987b |
| 41FB158 | Fort Bend | 1 | Patterson and Hudgins 1988 |
| 41FB198 | Fort Bend | 4 | Patterson and Hudgins 1991a |
| 41FB223 | Fort Bend | 2 | Patterson et al. 1994 |
| 41FB249 | Fort Bend | 13 | Patterson 1997:Table 1 |
| FBSM * | Fort Bend | 11 | Patterson et al. 1995 |
| 41GM26 | Grimes | 1 | Bond 1977 |
| 41GM81 | Grimes | 1 | Fletcher 1979 |
| 41HR5 | Harris | 2 | Patterson 1995b |
| 41HR89 | Harris | 2 | McClure 1977 |
| 41HR182 | Harris | 1 | Patterson 1985 |
| 41HR184 | Harris | 3 | Patterson 1994 |
| 41HR206 | Harris | 1 | Patterson 1980a |
| 41HR244 | Harris | 1 | Patterson 1976b |
| 41HR256 | Harris | 1 | McClure 1975 |
| 41HR259 | Harris | 1 | McClure 1976 |
| 41HR279 | Harris | 1 | McClure 1979 |
| 41HR282 | Harris | 1 | McClure 1981 |
| 41HR315 | Harris | 1 | Patterson 1980b |
| 41HR684 | Harris | 1 | Patterson 1991 |
| 41HR730 | Harris | 2 | Patterson et al. 1992 |
| 41JF50 | Jefferson | 1 | Turner and Tanner 1994 |
| 41MQ4 | Montgomery | 2 | Shafer 1968 |
| 41TL31 | Tyler | 1 | Kindall and Patterson 1986 |
| 41WH2 | Wharton | 10 | Patterson and Hudgins 1980 |
| 41WH18 | Wharton | 9 | Patterson and Hudgins 1987c |
| 41WH19 | Wharton | 2 | Patterson et al. 1987 |
| 41WH24 | Wharton | 3 | Patterson et al. 1995 |
| 41WH26 | Wharton | 1 | Patterson and Hudgins 1982a |
| 41WH65 | Wharton | 5 | Patterson and Hudgins 1982b |
| 41WH69 | Wharton | 1 | Patterson and Hudgins 1991b |
| WTX ** | Washington | 5 | Hasskarl 1959 |
| WTY ** | Washington | 6 | Hasskarl 1959 |

* -- collections from Smithers Lake Area

** -- site number not given

SUMMARY

This article has summarized data for the chronology and geographic distribution of the Pedernales point in Southeast Texas. There are not enough data yet to establish a total time range for this point type in Southeast Texas. There are sufficient dates, however, to place the Pedernales point in some

portions of the Middle Archaic (3000-1500 B.C.) and Late Archaic (1500 B.C.-A.D. 100) time periods.

There is a decrease in frequency of the Pedernales point from west to east in Southeast Texas. This is the expected pattern, because the Pedernales point is a technological tradition of Central Texas that entered Southeast Texas from the west.

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A MARINE SHELL ORNAMENT CACHE FROM 41ZP7, ZAPATA COUNTY, TEXAS

James Bryan Boyd

ABSTRACT

A cache of marine shell beads, found in a rich occupation site/prehistoric cemetery in the conservation pool area of Falcon Reservoir, located on the lower Rio Grande, is discussed. The site and its geologic setting is described, and the ornaments are described and illustrated. The occurrence of ornaments in a cache, apparently in a non-burial context, is also examined.

INTRODUCTION

In May 1985 a cache of marine shell ornaments, consisting of a small conch shell pendant and 10 conch shell beads, was discovered in a known archaeological site in west central Zapata County, Texas. The site, located on the shore of Falcon Reservoir, had been recently exposed by dropping water levels at the lake. Several of the ornaments, including the conch pendant and some of the beads, were found on the surface, and subsequent screening of the deposits yielded more beads (Erick Kruger, personal communication 1985). No associated skeletal remains were reported, though numerous burials had previously been salvaged there (Boyd n.d. a; n.d. b; n.d. c; Wesolowsky n.d.). The beads had apparently been deliberately cached, and were found within an area of approximately two square feet (Erick Kruger, personal communication 1985). The ornaments had obviously been eroded from the deposits in the site by erosional processes, namely wave action from the reservoir washing the shoreline. Such marine shell ornaments are often found as mortuary inclusions with burials in the area of Falcon Reservoir (Boyd 1996:42-45; Boyd n.d. b; Boyd et al. 1997:387-425), although similar conch shell pendants have not been reported.

THE SITE

The site where the cache was found is located in

the conservation pool area of Falcon Reservoir, in west-central Zapata County. The site is near a fishing lodge formerly known as Beacon Harbour Lodge and was originally recorded by Jack Hughes in 1950 (see site form for 41ZP7 on file at the Texas Archeological Research Laboratory [TARL], The University of Texas at Austin). Figure 1 illustrates Falcon Reservoir.

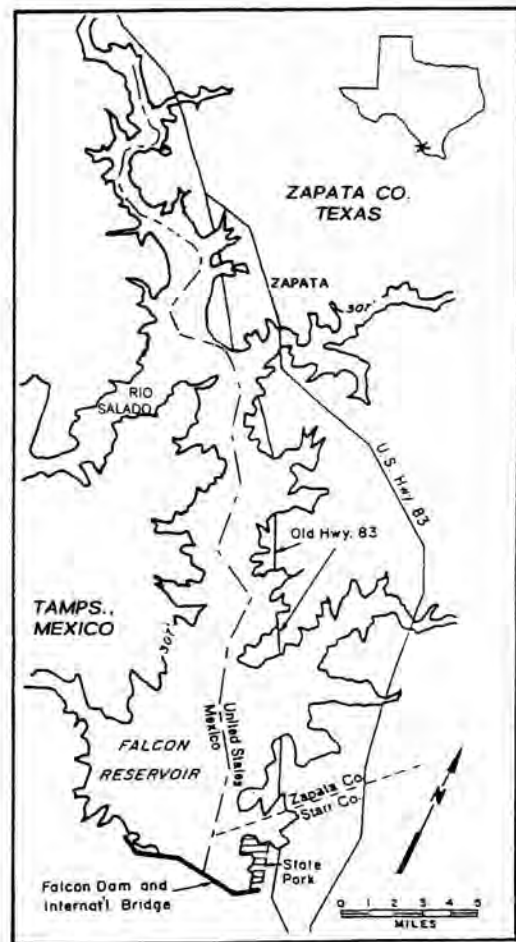


Figure 1. Map of Falcon Reservoir. Site 41ZP7 is located west-southwest of town of Zapata, TX.

The site is located on a small terrace which is often submerged in the reservoir. The conservation pool elevation of Falcon Reservoir is 301.2 feet above mean sea level [amsl] (International Boundary and Water Commission [IBWC] 1975); the site begins to become exposed when the water level is near 280 ft. amsl (Boyd n.d. a). This is in the vega zone as described by Nunley (1989:194 -195). 41ZP7 is located on a remnant of the Zapata terrace as described by Evans (1961:39- 40), and on an interfluvial ridge between two small, unnamed relic [tributary] arroyos (see Figure 2). As the site becomes exposed by receding water levels at the lake, it appears as a peninsula jutting out into the reservoir.

The Beacon Harbour Lodge site (41ZP7) exhibits much evidence that it was heavily occupied during the prehistoric past. This evidence includes a very large amount of burned (sandstone) rock, lithic debitage including flakes and cores, large accumulations of apparently discarded mussel shells, and various artifacts including projectile points. Projec-

tile points recorded include both arrow and dart point categories. Arrow points recorded in the site include Caracara, Perdiz, Starr, Toyah, and others. Dart point types recorded include Abasolo, Catan, Matamoros, Shumla, Tortugas, and others. The occupation of the site, as determined by the types of projectile points recorded there, persisted from the Archaic period through the Late Prehistoric period.

The use of the site as a preferred prehistoric cemetery is indicated by the findings of numerous sets of human remains during the early 1980s. Burials began becoming exposed in the site in the spring of 1983, when the former owner of Beacon Harbour Lodge, Jerry Boyles, discovered a large amount of skeletal remains there (Wesolowsky n.d.). It is currently undetermined how many individuals are represented in the remains (Dr. Thomas R. Hester, personal communication 1994), though several are indicated (Wesolowsky n.d.). No mortuary inclusions were noted with the remains. In April 1984 a burial was salvaged by the author in this site. The burial consisted of the remains of an adult male, 22-34



Figure 2. Aerial view of the area. Photo taken on May 31, 1983. Lake elevation is approximately 275 feet amsl. View is to the southeast. The Arroyo Veleño is visible at the top of photo.

years old at the time of death, and an infant of approximately 24 months at the time of death (Wilson n.d.; Boyd n.d. b). The burial (s) was accompanied by a veritable array of associated mortuary offerings. The artifacts included a large number of bone beads, marine (conch) shell beads, several Caracara arrow points, a small biface, and a number of perforated human teeth (Wilson and Hester 1996:8; Boyd n.d. b). Still another burial was discovered at 41ZP7 in 1996. This burial, excavated by a team from TARL, was that of a female aged 50-60+ years at the time of death (Wilson and Hester 1996:9). No associated artifacts were found with the burial. The shell beads found with the burial excavated by the author in 1984 closely resemble the beads found in the cache being reported.

The site was adversely affected in 1994-95 when large scale earth-moving operations artificially capped a significant portion of the site. These operations consisted mainly of the construction of a boat ramp and parking area; the area where the cache and the burials were discovered was unaffected. The site possesses the criteria for nomination to the National Register of Historic Places, and further alterations of the land there should be prohibited. It is highly likely that other burials exist in the "cemetery zone" which is located in the site's northwestern quadrant.

THE CACHE ARTIFACTS

Conch shell beads

Altogether, 10 shell beads were recovered (see Figure 3). Eight of the beads are circular in shape, and two are square with rounded corners. All of the beads are white in color, and appear to have been smoothed or polished over their entire surface after manufacture. Table 1 provides specifications for each of the beads. The bead with the greatest diameter is Specimen 3C, which is circular in shape and is 23.56 mm in diameter. The larger of the two square beads (Specimen 3A) has a maximum diameter of 21.15 mm. Specimen 3J is the smallest bead, circular in shape, with a maximum diameter of 6.14 mm. Specimen 3C has the greatest thickness (3.80 mm). The bead with the greatest perforation diameter is Specimen 3E (D=5.47 mm). Eight of the ten specimens exhibit centrally drilled perforations, while two (3B, 3E) exhibit perforations which are noticeably offset from center. All of the beads *appear* to be made from conch.

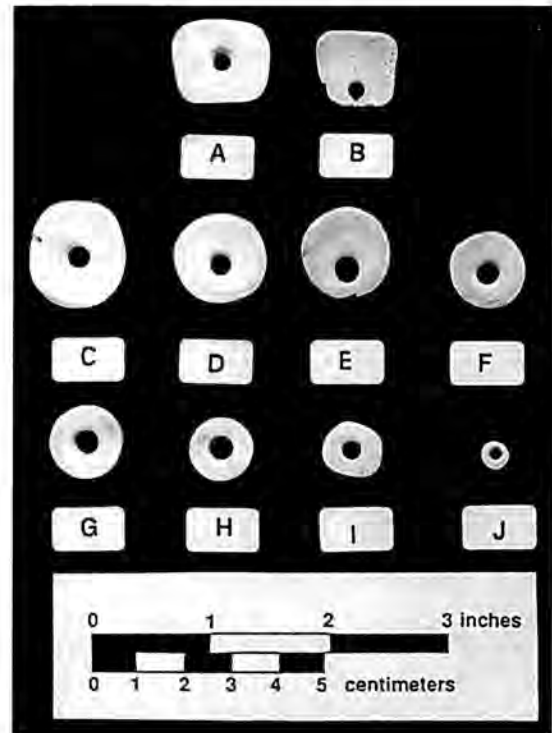


Figure 3. Shell beads from 41ZP7 cache. Specimens as labeled correlate to text and to Table 1. Photo by the author.

Two of the specimens exhibit scratch or abrading marks under low magnification. Specimen 3D exhibits numerous "crisscross" scratches on one face, while Specimen 3A exhibits parallel scratches on one side. This specimen also exhibits the best example of a biconically drilled hole. Specimen 3J exhibits a pronounced biconically drilled central hole. The perforation in Specimen 3H is remarkably perpendicularly drilled.

Square-shaped conch shell beads are uncommon occurrences in the Falcon Reservoir area (Boyd n.d. a). However, five rectangularly shaped conch shell beads were salvaged from a burial (mentioned above) from this site in 1984. The burial was only meters from where the cache was discovered the following year.

Table 1. Specifications of Shell Beads - 41ZP7

| Specimen No. | Max/Min Diameter | Max. Thickness | Hole Diam. | Type* |
|--------------|-------------------|----------------|------------|-------|
| A | 21.15 mm/18.24 mm | 2.60 mm | 3.48 mm | S |
| B | 17.69 mm/16.33 mm | 2.15 mm | 3.28 mm | S |
| C | 23.56 mm/20.93 mm | 3.80 mm | 4.67 mm | C |
| D | 20.48 mm/19.29 mm | 2.94 mm | 4.31 mm | C |
| E | 19.55 mm/19.00 mm | 3.10 mm | 5.47 mm | C |
| F | 16.72 mm/15.91 mm | 2.18 mm | 4.70 mm | C |
| G | 16.02 mm/15.91 mm | 3.35 mm | 4.95 mm | C |
| H | 14.02 mm/13.80 mm | 2.79 mm | 4.93 mm | C |
| I | 13.31 mm/11.52 mm | 2.89 mm | 3.84 mm | C |
| J | 6.14 mm/6.04 mm | 1.55 mm | 2.20 mm | C |

*C = circular; S = square

Note: All measurements made with MITUTOYO CD-6"BS digimatic caliper.

Conch shell pendant

A single artifact classifiable as a conch shell pendant was recovered in the cache, along with the ten conch shell beads described above. The pendant consists of a small complete conch shell which has been extensively modified for use as an ornament. This modification includes a biconically drilled hole near the abapical (anterior) end (see Figures 4 and 5). This perforation is 3.32 mm in diameter, though the outside diameter of the perforation is 5.19 mm on one side of the specimen, and 4.98 mm on the other (as measured at the exterior edge of the biconical perforation). Other modification of the specimen includes a considerably ground spire end, a very ground-in-appearance body whorl, and a cut and smoothed outer lip (see Figure 4). The entire exterior surface of the shell has been extensively altered. The specimen is white in color, though some light colorations are evident on the aperture side (see Figure 4). The pendant has a maximum length of 54.80 mm, and a maximum width of 36.38 mm near the shoulder of the specimen. No other similar specimens have been recorded in sites in the Falcon Reservoir area (Boyd n.d. a), though an adjacent site (41ZP8) did yield a complete, unaltered conch shell (Cynthia Scott, personal communication 1995). Other conch

shell fragments, from which sections have apparently been removed for bead manufacture, have been found in sites in the reservoir (Boyd n.d. a).

CONCLUSIONS AND INTERPRETATIONS

The finding of the shell ornament cache at 41ZP7 is unusual and important for a number of reasons. Several possibilities are raised by its presence. These include:

(1) The artifacts represent burial goods; the skeletal remains were deteriorated or were slightly offset from the location of the ornaments, and were overlooked by the discoverer of the ornaments.

(2) The artifacts represent burial goods attributable to one of the burials previously salvaged in the site, e.g., the ones found by Jerry Boyles. Perhaps the associated artifacts had been overlooked.

(3) The artifacts represent a utilitarian cache; i.e., they were deliberately set aside for later retrieval and usage as ornaments, and were ultimately never collected.



Figure 4. Conch shell pendant, aperture side. Note extensive modification, e.g., the trimmed and ground outer lip and heavily ground shoulder and spire. Author photo.



Figure 5. Conch shell pendant showing the body whorl side. Note heavily ground whorl, spire, shoulder and base. Author photo.

(4) The artifacts were simply lost during prehistoric times; they may have been in some type of bag or container, thus accounting for their restricted areal distribution when found in 1984. It is unlikely that scenario (1) listed above accounts for the presence of the cache. The discoverer was well informed as far as burials in the reservoir area is concerned, and he would have likely been cognizant of the presence of skeletal remains even if they were offset. Also, it is unlikely that the skeletal remains deteriorated to the degree that they were undetectable; numerous other skeletal remains salvaged in the site have been in excellent condition. Thus, scenarios (2), (3), and (4) are more likely. It is the author's opinion that scenarios (2) and (3) are the most likely. Scenario (2) seems a possibility, given that the elapsed time between the finding of the cache (in 1985) and the prior salvage of human skeletal remains by Boyles (in 1983) is only two years. Scenario (3) is also a distinctive possibility, although similar caches of shell ornaments in the Falcon Reservoir have not been reported. Scenario (4) seems slightly less likely, given that shell ornaments

were probably cherished possessions of the former inhabitants of the region, and the loss of a whole "bag" of such ornaments seems unlikely, considering their relative value.

The artifacts are similar to types found in the gulf coastal areas of South Texas and northeastern Tamaulipas, Mexico. This area has been subdivided into two somewhat distinctive archaeological zones, i.e., the Brownsville and the Barril complexes. The occurrence of such shell artifacts in inland contexts such as at the Beacon Harbour Lodge site has been previously discussed (cf. Hester 1970:87-88; Boyd et al. 1997:421), while comparisons of the shell artifact material culture of the Brownsville and Barril Complexes and the Falcon Reservoir area have been made (Boyd et al. 1997:419-421). The presence of marine shell ornaments as isolate occurrences, i.e., in a non-burial context, in Falcon Reservoir sites has been reported (Boyd n.d. d), though all were singular finds.

Determination of the age of the ornaments from the cache is not possible since they were found in a disturbed state, eroded from the deposits in the site.

Also, since they were not clearly identifiable as having been associated with skeletal remains, this too prohibits dating of the artifacts. However, burials salvaged in the Falcon Reservoir area which have yielded similar mortuary offerings, i.e., conch shell beads, have been dated to the Late Prehistoric period. This includes the burial salvaged at 41ZP7 in 1984, which yielded five rectangular and two circular conch shell beads (Boyd n.d. b; n.d. c). That burial was radiocarbon dated to 620 ± 70 years B.P. [Before Present] (Dr. Thomas R. Hester, TARL, personal communication 1995). It is thus presumed that the artifacts from the cache also date from that period (the Late Prehistoric).

The ten conch shell beads from the cache conform to other similar specimens found in singular contexts, as well as mortuary inclusions, in the Falcon Reservoir area. Two of the beads are generally square in shape. Square and rectangularly shaped conch shell beads are infrequently found in the area. The conch shell pendant is stylistically aberrant to marine shell ornaments usually found in the area. No other similar specimens have to date been recorded there, though various other classes of ornamental artifacts fashioned from conch have been documented.

Perhaps continued research in the area will provide additional data which will be helpful in the formulation of a clearer understanding of the prehistoric shell technology of the Falcon Reservoir area. A detailed synthesis of all data so far collected in reference to marine shell ornaments from the area should be prepared in the interim, and an analytical study performed. The resultant database, enhanced by additional information collected in future studies, will provide the basis for a preliminary framework in

the formulation of a general model of the marine shell technology and material culture of this inland region.

ACKNOWLEDGMENTS

Several persons contributed indirectly to this report. Dr. Thomas R. Hester, Director of the Texas Archeological Research Laboratory, The University of Texas at Austin, provided information on several burials salvaged at 41ZP7, as well as providing some of the reference materials utilized. Dr. Hester, along with Dr. Darrell Creel, also of TARL, arranged for the radiocarbon dating of the skeletal material from a burial salvaged in the site by the author in 1984. The dating was effected through the Lawrence Livermore Laboratory. Diane Wilson, a doctoral student in the Department of Anthropology, The University of Texas at Austin, provided expert osteological analysis of skeletal remains from the 41ZP7 site. Carolyn Spock, in the Records Division at TARL, provided useful information from the site files. TRC Mariah Associates, Inc. of Austin provided the Falcon Reservoir map used in Figure 1. Jerry Boyles, former owner of the Beacon Harbour Lodge, adjacent to 41ZP7, is thanked for allowing the author access to the site during the early 1980s, as well as informing him about burials he had encountered there. The present owner of the lodge, Mr. Gaylen Gilbreath, is also thanked for allowing the author unlimited access to the site via his property, and for other accommodations which he has made since 1995. Cynthia Scott, of Zapata, Texas provided helpful information in reference to a conch shell artifact found at a nearby site.

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CLOVIS POINTS FROM ATASCOSA AND BEXAR COUNTIES, SOUTH-CENTRAL TEXAS

C. K. Chandler and Ray Smith

ABSTRACT

Two Clovis points, one each from Atascosa and Bexar Counties, are documented and illustrated.

THE ARTIFACTS

The Clovis point from Atascosa County is a basically complete specimen. It was found by Tres Casal while bird hunting in early October 1996 at the edge of a plowed field of red sandy loam near the Atascosa River southeast of Pleasanton in Atascosa County. It is an isolated find and no other chert or rock of any kind was found anywhere near it.

This specimen, illustrated in Figure 1, A, A' is 69 mm in length, 30 mm maximum width at 34 mm above the basal corners, 8.0 mm thick at 25 mm below the distal tip and weighs 20 grams. Lateral edges are heavily ground, 34 mm each side, and the basal concavity is ground. It is fluted on both faces with broad single flutes. The obverse flute is 28 mm long by 18 mm wide, the reverse flute is 31 mm long by 18 mm wide. The basal concavity is 4.2 mm deep. Flaking along the fluted lower half is short, neat parallel. Across the central area there are two broad parallel lateral flakes from each edge that join near the center. Above these, flaking is irregular.

The specimen is made of excellent quality honey-colored Edwards chert. The reverse face is coated with white patina except along all edges where the true honey color shows. The distal tip has a small break and there are impact fractures just below the distal end on both faces. The left edge on the obverse is reworked from the distal end down to the ground lateral edge.

Figure 1, B, B' illustrates a complete Clovis from a deep sand pit in south Bexar County. It is made of banded light and darker gray good quality Edwards chert. The banded pattern runs vertical on the artifact. There is a narrow impact flake scar 10 mm long on one face at the distal tip. This scar appears recent and may have occurred when the point was in the screening operation at the sand pit. This face is coated with milky white patina that tends to lap over

to the opposite face along the artifact edges.

This Clovis is 68.8 mm in length, 24.6 mm wide at 31 mm above the longest basal corner, 6.6 mm thick at 46 mm above the longest basal corner and weighs 12 gram. Base Width is 24.8 mm and basal concavity is 5.6 mm. Lateral edges are heavily ground 25 and 26 mm. The basal concavity is not ground. It is fluted on both faces. The obverse flute is 17 mm long and 1 mm wide. The reverse flute is 3 mm long and 6 mm wide.

DISCUSSION

The initial survey of Texas Clovis Points documented 205 Clovis points from 95 counties in Texas (Meltzer 1987). At that time only two Clovis were reported from Bexar County and one from Atascosa County. Kendall, Medina and Gonzales were the only counties adjoining Bexar that reported a Clovis.

Eight years later (1995) an updated survey increased the Clovis fluted points count to 406, nearly doubling the original count (Meltzer and Bever 1995). The new count of represented counties increased to 128 of the 254 counties in Texas. The present count of three Clovis for Bexar County (ibid.) Does not include the three Clovis from Olmos



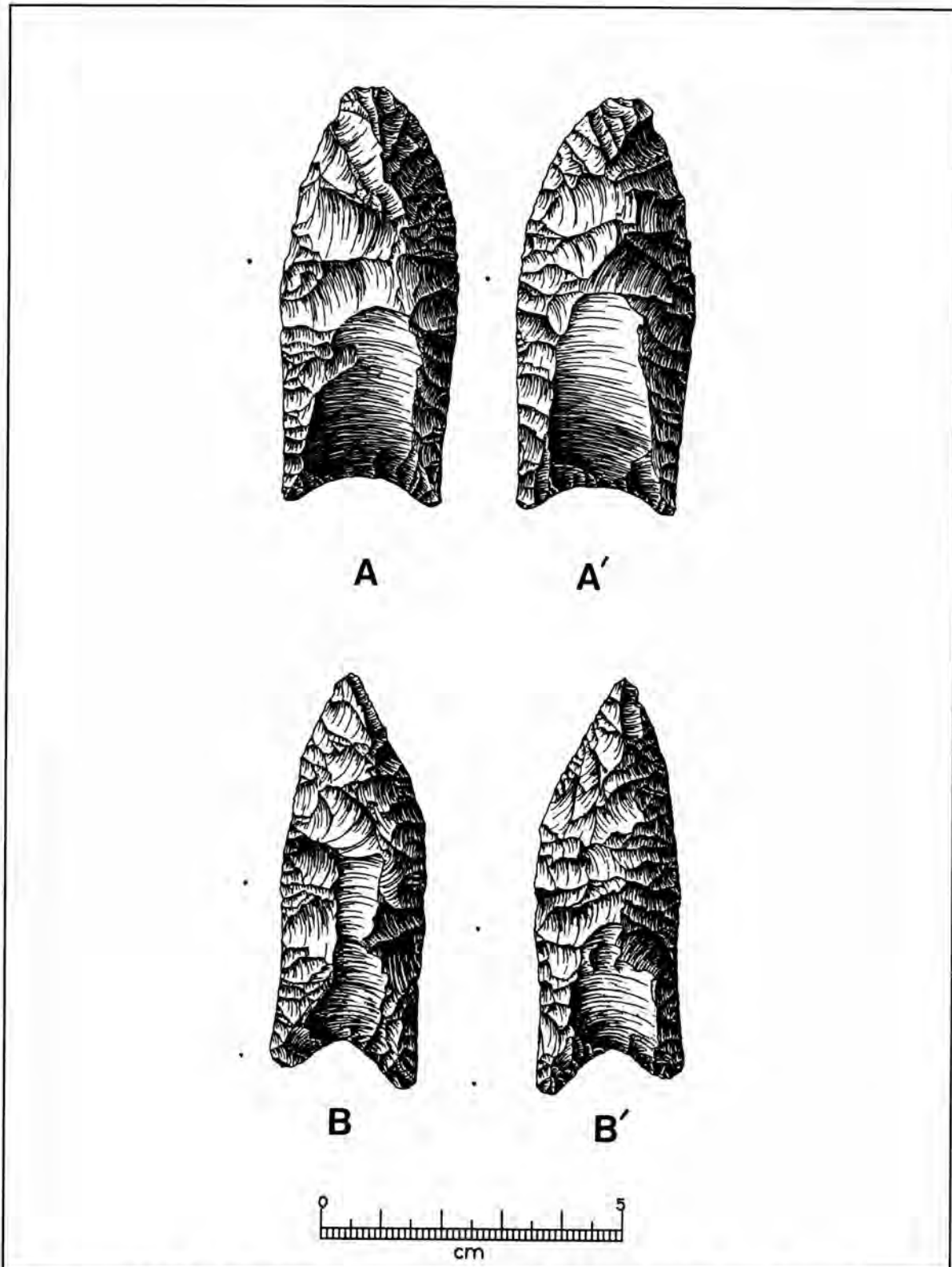


Figure 1. A, A', Clovis point from Atascosa County; B, B', Clovis point from Bexar County.

Basin reported in *La Tierra* (Chandler 1994). There are other Clovis points from Atascosa, Bexar and Wilson Counties presently prepared and awaiting publication in *La Tierra*. These will materially increase the Clovis point counts for these three counties.

ACKNOWLEDGMENTS

Artifact illustrations are by Richard McReynolds and we extend our sincere appreciation to him for his continuing excellent work. The Clovis point from Atascosa County was loaned by Tres Casal and the Clovis from Bexar County was loaned by Joe Guillory. We extend our appreciation to them both.

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Book Review

Nelson, George

1997 *The Alamo: An Illustrated History*. Aldine Press, 112 pages 8 ½ x 11 Trade Paperback
ISBN: 0-9659159-0-5.

Reviewed by Jimmy L. Mitchell, Editor, STAA Special Publications

This interesting and informative book should perhaps have been subtitled something like "an archaeologically-oriented artist's view of Alamo history" since it is clearly a very visually intense overview of different developmental stages of the famous chapel and mission across the entire span of its history. George Nelson makes no pretense at summarizing its history in any detail; others have already accomplished that task several times and in extremely specific terms (who went where at what time; who died here ...). Nor is it a recapitulation of the many archaeological investigations of the site (what was found in which 10-cm level in which square; or what debris was found at the bottom of which "well"). Rather, this is one artist's conceptualization of what the place probably looked like at a number of strategic points in history, backed up with some explanatory text which often contains the evidence of why he created such a view. It also includes a number of historical and some very recent photographs such as the outstanding aerial view, on the back cover, of Alamo plaza with the tiny chapel and its surrounding island of green totally overshadowed by the surrounding tall modern buildings—an enchanted speck of history embedded in a matrix of overwhelming urban growth and development.

It is also clearly a work in progress; this first soft cover edition contains several typos and other mistakes which hopefully will be corrected in the forthcoming hard cover reprinting. George reported in a private conversation recently that his final edited copy got switched with an earlier draft but the error was not caught in time to halt production. In his recent STAA Quarterly Meeting report on this work (April 1998), George also pointed out that he was also changing some details of a painting or two as he learned more or as new evidence became available on what structures, types of vehicles, or other details were most likely present (or absent) at given points in time.

Even with its flaws and the paucity of citations of archaeological literature, this is a powerful work which helps the reader gain a better understanding, a more comprehensive perspective of this important complex in and around which so much of Texas history has been played. It is worthwhile for the historian, as a visual synthesis of development. It is important for the archaeologist, as a guide to what other bits of structures and artifacts might be located. And it is important for the anthropologist in terms of the ebb and flow of many ethnic and social groups through this vicinity (from the first priests and converts, to the Daughters and their incredibly important battle to save and preserve against all comers!). For those of us who have worked there (Ned Harris and I had a square meter next to the acacia behind the souvenir building in the fall 1973 UTSA excavations—before there was a CAR), the book is an exceptional reminder of why so many professional and avocational archaeologists have voluntarily helped to salvage its bits of history (flint flakes, bits of brick, square nails, etc.) I highly recommend this book to anyone who has any interest in the Alamo—it will change your perspective.

Available for \$19.95 plus \$2.50 shipping and handling, plus \$1.55 Texas sales tax from: George Nelson, Aldine Press, HCR 32-109, Uvalde, TX 78801. Hardbound second edition available in June/July 1998 for \$25.00 + s/h + tax.

AUTHORS

- JAMES BRYAN BOYD is a police officer and is a Regional Steward assisting the Office of the State Archeologist along the borderlands area of Texas. His interest in archaeology extends into the states of Tamaulipas, Nuevo León, and Coahuila, Mexico. The region in which he is most interested is the area around Falcon Reservoir, where he is currently recording numerous sites with the Texas Archeological Research Laboratory (TARL) at Austin. Mr. Boyd currently has several ongoing projects with TARL, and has made over 600 expeditions into the field.
- 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 a 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.
- ROBERT S. CRAWFORD, JR. is a well-known attorney in Uvalde, Texas. He has a long-time interest in Indian artifacts in Central and South Texas.
- LAURA FROELICH is a faunal specialist, who with her husband David, does private consulting for faunal identification; much of their recent work has been for TARL projects. Laura is also an employee of the Vertebrate Paleontology Laboratory at the University of Texas at Austin.
- DON KUMPE is a lifelong native of the Lower Rio Grande Valley. He and his wife, Mary, own and operate a jewelry store on South Padre Island. Don is a member of STAA. As a teenager he began collecting artifacts while on camping trips in Starr County. This led to his 30 years of continuous interest in the archaeology of the Lower Rio Grande River. His collaboration with C. K. Chandler on several articles in *La Tierra* has led to some very interesting documentation of artifacts. He is the 1996 recipient of the Outstanding Avocational Archaeologist of the Year.
- ANDREW MALOF graduated from The University of Texas at Austin with a B.A. degree in Anthropology/Archaeology in the Fall of 1996. He has been employed at the Lower Colorado River Authority as an assistant to Staff Archaeologist Bruce Nightengale since June of 1996. This has allowed him to pursue a life-long interest in archaeology, with an emphasis on the Central Texas region where he has lived for the last 36 years.
- LELAND W. PATTERSON is a retired chemical engineer and an active avocational archaeologist. His current research interests include the prehistory of southeast Texas, lithic technology, and the early peopling of the New World. Patterson has authored or coauthored over 379 publications in archaeology (42 in *La Tierra*). Some of his publications have been in *American Antiquity*, *Journal of Field Archaeology*, *Lithic Technology*, the *Bulletin of the Texas Archeological Society*, and *Current Research in the Pleistocene*. He is author or senior author of several major archaeological site reports, and has recently published a detailed synthesis of Southeast Texas archaeology.
- TIMOTHY K. PERTTULA, who lives in Austin, has a PhD in Archaeology from the University of Washington (1989), and has been doing archaeology in Texas since 1974. While his principal research interest is Caddo archaeology and ethnohistory, in the last few years he has also become fascinated with South Texas archaeology, particularly the prehistoric, Hispanic, and Tejano archaeology at Falcon Reservoir on the lower Rio Grande.
- BRYANT SANER, JR. grew up in Kerr County and presently lives in Kerrville. He developed an interest in archaeology at an early age, and is an active avocational archaeologist today. His main areas of interest are the Texas Hill Country and the Lower Pecos Region. In the past several years he has talked to young people of all ages and is active in recording and documenting archaeological sites and artifacts. He is a member of the Texas Archeological Society and S.T.A.A.
- RAY SMITH is a long-time member of STAA and a recipient of the Robert F. Heizer Award (for 1987-see Vol. 15, No. 1). His interest in archaeology and STAA projects ranges from rock art to burned rock middens and beyond. He has ramrodded several STAA field schools and other field trips. He has contributed much to the knowledge our members have received of South Texas archaeology. *La Tierra* would welcome any future contributions he may be able to give.
- AMY SULLIVAN received her BA in Anthropology (with High Honors and Special Honors) at the University of Texas at Austin, where she was also elected to Phi Beta Kappa. This year, she received the M.Sc. Degree (with Distinction) in Osteology, Paleopathology and Funerary Archaeology from the University of Sheffield (England). Her interests are in bioarchaeology and she has been in projects (Falcon Reservoir) and osteological research at TARL for several years.

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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(See Table of Contents)