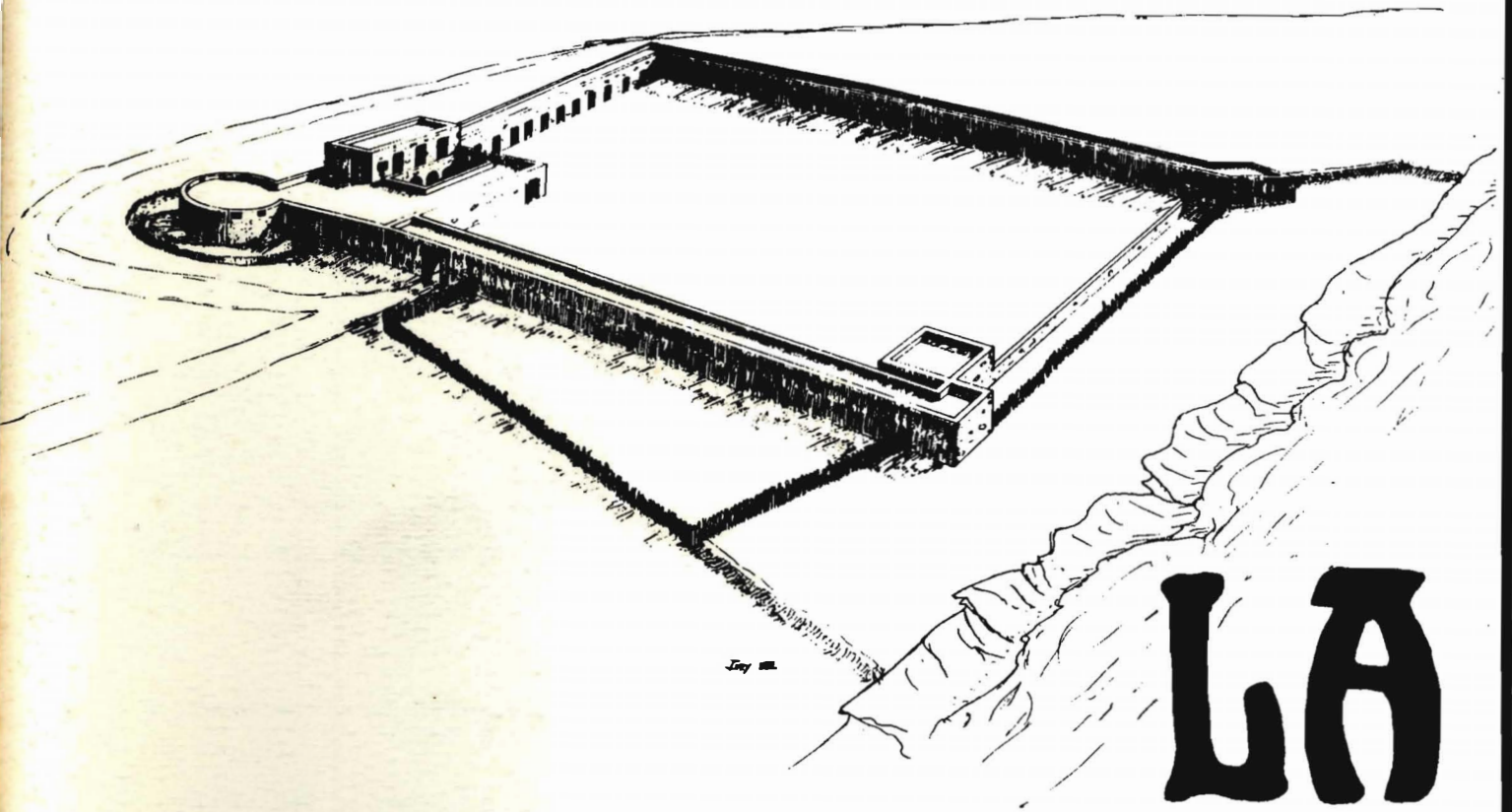


**JOURNAL OF THE  
SOUTHERN TEXAS  
ARCHAEOLOGICAL  
ASSOCIATION**



**LA  
TIERRA**

Volume 8  
Number 4  
1981

LA TIERRA

Quarterly Journal of the Southern Texas Archaeological Association

Volume 8, Number 4  
October, 1981

Jimmy L. Mitchell  
Editor

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Cover Illustration: Presidio San Sabá - drawing by James Ivey, based on archaeological data and historical documents.

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## EDITORIAL

STAA - 1981

It has been another busy year; one with lots of activities and some significant accomplishments. During this year, STAA has reached out for some new kinds of accomplishments including sponsorship (jointly with Trinity University of San Antonio) of a continuing education lecture series on Southern Texas archaeology. This program was quite a success and culminated at our April meeting where several of the students became STAA members.

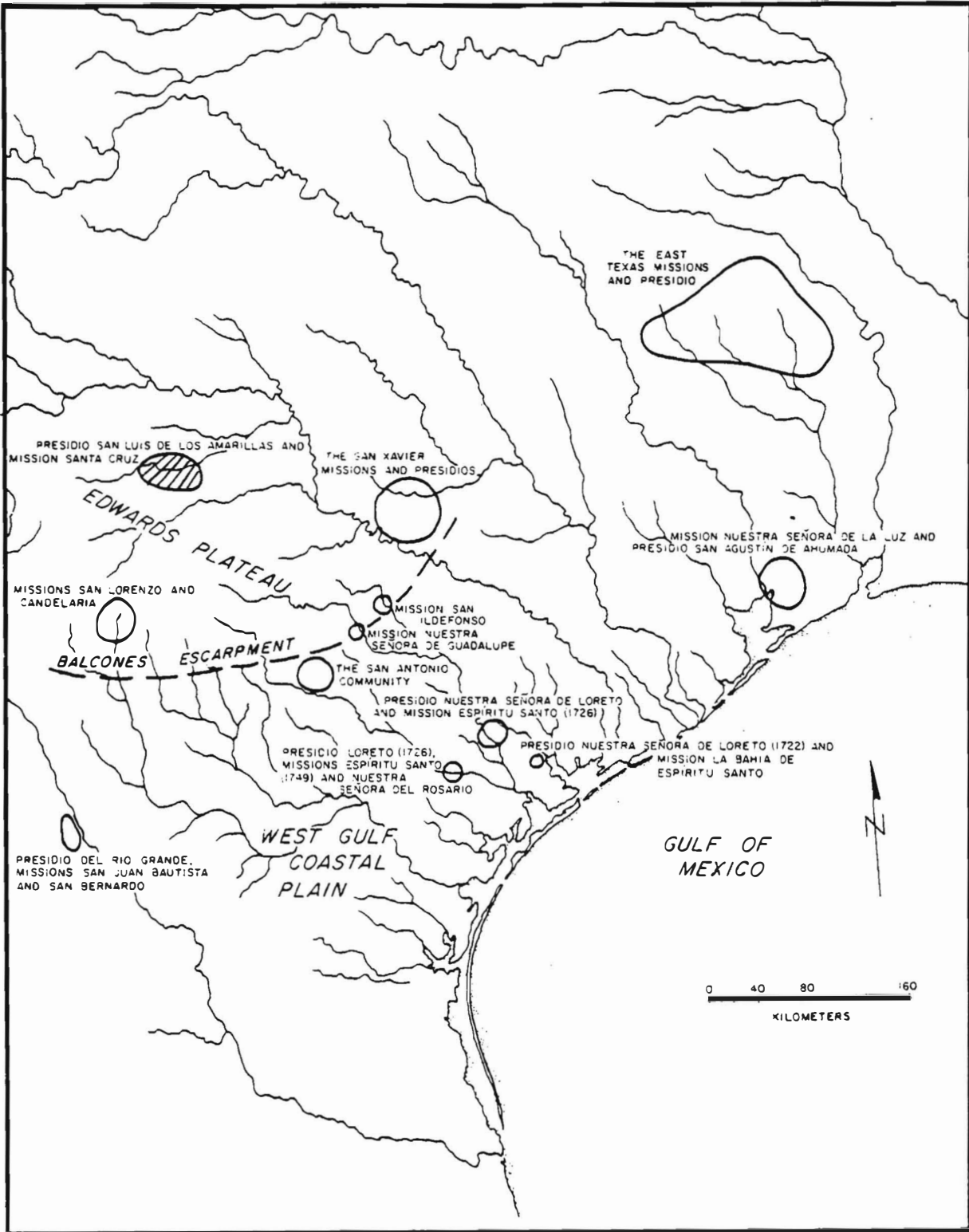
A second new area for this year was the establishment of a scholarship fund for assisting archaeology students with summer field school expenses. As noted in the July issue of this journal, we collected money for such a fund and awarded four such scholarships this year. We funded this year's scholarships with direct contributions and we need to work up some system so that funds will be available for such a scholarship program each year. Anyone with ideas or money they want to contribute should contact the treasurer or any other STAA board member....

We held the July meeting in Victoria this year with Smitty, our STAA Chairman for 1981, as host and program chairman. While the attendance at this meeting was a little below what we are used to seeing at meetings held in San Antonio, we had a very enthusiastic crowd and everyone really enjoyed themselves. Interestingly, at least one of the presentations at the Victoria meeting was of wider popularity than for just our group and there was a video recording crew at the scene of the meeting taping both in the hallway and in the lecture room.

Of course, having the Texas Archeological Society summer field school at Calliham, deep in the heart of Southern Texas also represents a major activity in our area. There were a great number of STAA members involved in that week-long dig, and a number of the leading archaeologists in the state attended to present evening lectures or afternoon seminars. This activity, under the leadership of our own Grant Hall (Mr. Clean!), represents a quantum jump in the general knowledge of Southern Texas archaeology among TAS members.

With all of these activities, we in STAA can be proud of what has been accomplished during 1981, under Smitty Schmiedlin's leadership. There is so much more which needs to be done, and which our group could accomplish if those of you who are willing would step forward and volunteer. We need ██████ help; as excavation crewmembers, lab workers, as committee chairpersons and as committee workers, to help with programs, hospitality activities, documentation workers on collections, surveyors, cooks, bottle-washers, etc. There is plenty of work for everyone, and we can use everyone in some capacity. However, you have to volunteer if STAA is to benefit from your talents and abilities. If no other way, you can help by recruiting new members, or by giving gift memberships in STAA to your friends, relatives, or to your local high school library. If we want STAA to survive and prosper, we need to all work at it. If we all try, we can have an even better year in 1982.

The Editor



Map showing location of Presidio San Sabá in relation to other Spanish Colonial sites in Texas. (Adapted from Map 1, *UTSA-CAR Special Report No. 8*, 1979, by Danial E. Fox; Courtesy of the UTSA Center for Archaeological Research.)



## A REEXAMINATION OF THE SITE OF PRESIDIO SAN SABÁ

James Ivey and the C.A.R. Staff

The Presidio San Sabá, once the strongest military post in Texas, is now a crumbling ruin north of Menard, Texas. Walls built as part of an attempted restoration of part of the Presidio in the 1930s are again collapsing into the surrounding debris.

Presidio San Sabá was established in 1757 and rebuilt in stone in 1761 and 1762. Its garrison deserted in 1768 and it was finally abandoned in 1770 (Weddle 1964:50, 154, 179, 181). [Editor's Note - See also Paul Cook's discussion of the joint history of San Lorenzo and San Sabá in the July, 1981 issue of *La Tierra*.] Anne Fox recently revisited the site and noticed that virtually all of the compound walls were still visible as mounds and ridges in the ground. A group of C.A.R. staff and volunteers (in the form of press-ganged spouses and friends) returned to Presidio San Sabá on March 20, 1981, and in a few hours mapped these traces and the W.P.A. reconstruction. The results are presented in Figure 1.

We decided to attempt a reconstruction of the original plan of the Presidio based on this map. In order to do this, we consulted the best available study of the presidial system on the Spanish Frontier, *The Presidio: Bastion of the Spanish Borderlands*, by Max L. Moorhead. Moorhead includes in this book the entire series of Presidio plans drawn by José Urrutia as part of the inspection of the frontier carried out by the Marqués de Rubí in 1766-68. Using an enlarged reproduction of the Urrutia map and Moorhead's discussion of San Sabá taken from the letters and journal of Captain Nicolás de Lafora, we prepared a first draft of Figure 2. During later research, however, we found that there were two plans of Presidio San Sabá from the Rubí expedition. The one usually published, and used by Moorhead, is the official plan prepared by José Urrutia which is now in the British Museum in London along with most of the rest of the plans made by him during the Rubí expedition (Moorhead 1975:57n). Moorhead says, "to carry out [the inspection of all the frontier presidios] Rubí left Mexico City in March of 1766 with a small entourage. One of his more important assistants was a military engineer, Captain Nicolás de Lafora, who kept a diary of the expedition and, on his return, prepared a detailed map of the northern frontier region. Another was a draftsman, Sub-lieutenant José Urrutia, who was to draw precise plan and elevation views of the existing presidios" (Moorhead 1975:56-57).

The second plan was drawn by Lafora himself on August 12, 1767, and included in a report on Presidio San Sabá written to Rubí on that date. The report and plan are in the Archivo General de Indies, and a copy of the plan is available in the Old Spanish Missions Historical Research Library of Our Lady of the Lake University. The plan, while virtually identical in layout to Urrutia's, differs in innumerable details, most of which are simply stylistic differences. Some details are, however, more important.

The index to the presidial complex was more complete and detailed on Lafora's map, and gave more information about the plan and construction of Presidio San Sabá. For that reason, Lafora's plan was used for this report rather than Urrutia's.

Lafora differed from Urrutia in other critical details. For example, Lafora placed his index at the top of his map, which permitted him to show the western portion of the acequia and its dam across the San Sabá River. Lafora labeled this ditch as *acequia intentada sin fruto* (an attempted acequia, incomplete). Lafora showed a slightly different arrangement of buildings at the southwest corner of the Presidio, a different position for the road to San Antonio, and a different name for the road to El Cañon (Lafora called it *Camino de las Chanes*). In addition, Lafora showed that the clearing around San Sabá Presidio was man-made, and remarked that it needed to be recleared because the mesquites were growing back (see the Index to Figure 2).

Figure 1: Presidio San Sabá as it stands today.

- A. Walls reconstructed in ca. 1932 by the W.P.A.
- B. Main gate as reconstructed.
- C. Northwest bastion as reconstructed.
- D. Road to the Menard Country Club.
- E. Turnout for visitors to the Presidio
- F. Mounds of wall ruins.
- G. Mound covering southeast bastion.

Mapping crew:

Anne Fox

Darla and Wayne Cox

Lois and Jim Flynn

Betty Markey

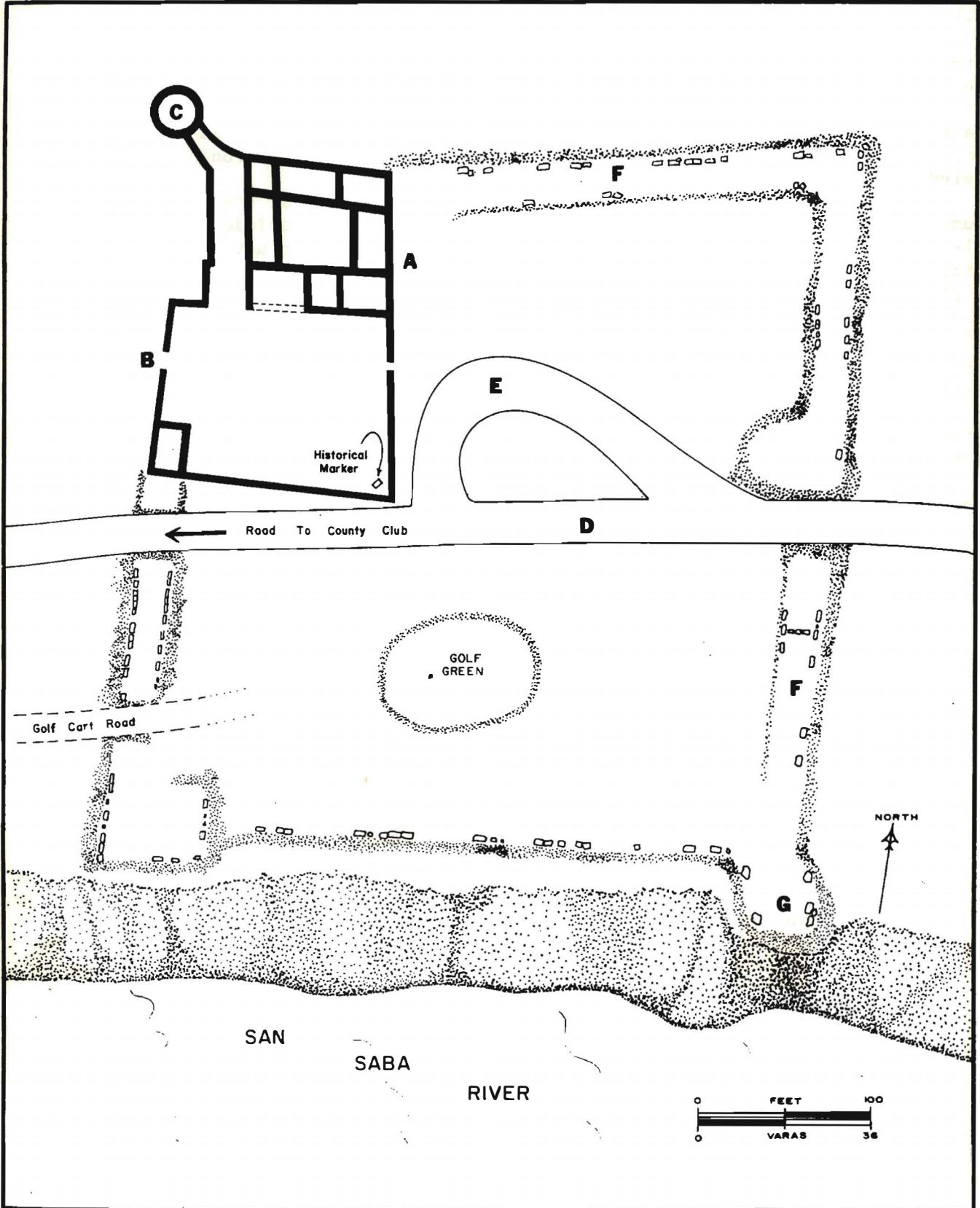
Roberta McGregor

James Ivey

Local information and guidance supplied by:

Mr. and Mrs. Chet Halley

Anne Menzies



The maps were done in a scale in terms of *toesas* and *pies* (Urrutia called these "*pies de Paris*," Parisian feet). Six *pies de Paris* made up one *toesa*, or *toise*, a French unit used frequently in military engineering. A comparison of our measurements in the field with those on the 1767 plan indicates that Lafora's *toesa* was a little more than 6.3 feet long. Modern references (e.g., the *Petit Larousse*, Paris, 1959, p. 1047) give a length for the *toise* of 6.39 feet, which we will accept as the correct value for this unit of measurement. A *toesa* would therefore equal 2.3 varas (one vara is 2.778 feet in length).

Where differences occurred between Lafora and Urrutia, we followed Lafora, because he seemed to be more exacting on his plan, and because Urrutia is prone to errors on his. For example, on Urrutia's plan for Presidio San Antonio de Béxar, he labeled Mission San Antonio de Valero as San José.

In this context, a recent archaeological investigation at Presidio Los Adaes illuminated a serious scale error on Urrutia's plan of that Presidio, wherein the scale for the plan of the Presidio and for the cross-section do not agree. The cross-section gave a total width for the Presidio of 230.4 *pies de Paris*, or 245.4 feet. The plan gave a total width of 16.1 *toesas*, or 96.6 *pies de Paris*, the equivalent of 102.9 feet. Excavations by H. F. Gregory in 1979 located about 1/3 of the perimeter of Presidio Los Adaes (Gregory 1980). This was sufficient to allow us to compare the sizes of the parts found by Gregory with the same parts on the Urrutia map. This comparison demonstrated that Urrutia's cross-section scale was essentially correct, while his plan scale was only approximately 42% the size it should be. These considerations show that Lafora consistently used a *toesa* of about 6.39 feet, and that Urrutia is not to be trusted unquestioningly.

In his letter to Rubí, Lafora evaluated the defenses of San Sabá, and in doing so added more details to our picture of the structure of the Presidio:

"The presidio was a square enclosure with small circular towers at the northwest and southeast angles. The tower on the southeast corner did not protrude sufficiently to defend the adjacent walls with flanking fire from its summit...The northwestern tower did flank the walls somewhat, but hostiles could reach its base under cover of the palisaded corral which was built onto the west wall. Each of the posts forming this enclosure was a foot in diameter.... On the lower floor of the southeast tower, at ground level, there were two cannons, but their embrasures were too narrow and badly placed to give them command of the entire length of the adjacent walls, and they were so deeply cut that they exposed the artillerymen to enemy fire. Worse, the space of this chamber was so small that all within it were in danger of suffocation from smoke whenever the cannons were fired. There were three cannons on the upper floor of this tower, but the parapets were too low and badly constructed to protect their personnel. The other tower, at the northwest angle, was earthfilled and mounted with three cannons...a ditch two meters wide and deep around the base of this tower was no impediment at all to the enemy.... None of the perimeter walls had parapets, and they were so low that they could be easily scaled at any point.... The only water supply within the compound was a wooden tank with a capacity of twelve cubic feet.... The troops had raised two earthen parapets to seal off [the potential shelter of the bank of the San Sabá River] along the southern wall, but ...these earthworks [were] more a sanctuary for the enemy than a barrier, for both parapets were sheltered from cannon fire by the edifice of the presidio itself" (Moorhead 1975:170-171).

It should be noted that Moorhead translated Lafora as saying that both the northwest and southeast towers were circular, while both Lafora's and Urrutia's maps show the southeastern tower as quadrilateral. Lafora described both of these by the same word on the plan drawn for his letter--*torreoncillo*--and probably used the same terminology in the letter itself. *Torreoncillo* does not explicitly mean "little round tower," but only "little tower."



In 1808, almost 40 years after the final abandonment of the Presidio, Francisco Amangual visited the ruins and described them as follows: "I found a small plaza enclosed by a wall on all sides; the wall is constructed of rock and greatly demolished. There are signs that show there used to be bastions on each corner of the square. To the north there are ruins of a two-story house. It is evident that there was a covered road over which they went to the river to get water" (Weddle 1964:197).

In 1847 Ferdinand von Roemer visited the ruins: "[they] consist of remnants of walls, five to six, and in some places fifteen to twenty feet in height. The original plan of this establishment is still readily discernible. The outer walls enclose an area of which the shorter side, facing the river, is three hundred feet long, and the other three hundred sixty feet. In the inside of the outer wall were a number of rooms or casemates, eighteen feet deep with an entrance leading into the courtyard. There were about fifty such rooms in the circle of the courtyard. The main building contained seven rooms and a courtyard whose walls were still intact up to the crossbeams. It stood in the northwest corner of the establishment. The main entrance of the fort was on the west side, but a smaller exit also led to the river. On three corners of the fort were projecting towers for defense, and in the northwest corner stood a larger round tower. The ashlar stones of which the walls were composed were bound together by earth. However, on the walls of the main building one noticed mortar..." (Mueller, 1935:256f, as quoted in Gilmore 1967:16,17).

Roemer made the same set of judgements about the remains of the corners as did Amangual. Apparently little change had come to the ruins in the nearly forty years since Amangual had seen them. In fact, not until the intensive stone-robbing of the 1860s and 1870s did the ruins begin to approach their present state. Extensive grading and leveling after 1930 to convert the area to a golf course finished the job.

A comparison with the 1767 Lafora map showed that the WPA reconstruction matched his plan very well, indicating that the WPA apparently followed the original wall lines as far as their work went. In certain respects, however, the reconstructed buildings disagreed with the original plan of the Presidio. Some wall foundations were apparently not seen in the ruins, and in other cases guesses were made which appear to have been wrong. For example, the size and location of the round tower and the corridor connecting it to the main block of buildings all seemed to be in error. The probable plan, based on those walls which agree with locations and probable wall-lines derived from Lafora's plan and profile are shown in Figure 2. Included in this figure are our guesses as to the probable plan of the remainder of the non-reconstructed compound walls and bastion.

Comparing Figure 1 with Figure 2 indicates that if our deductions are correct, a great deal of the plan and stratigraphy of Presidio San Sabá should still be untouched in the ground. It cannot be determined how much of the deposition in the area of the reconstruction has been disturbed, but perhaps some of the material culture still remains in place. It is reasonable to expect that the foundations of the northwest bastion are still in place, offset from the reconstructed tower. From the appearance of the ground, perhaps 80 feet of the west compound wall rooms are still well protected by rubble, as is most of the north wall and 100 to 150 feet of the north portion of the east wall. The south wall is difficult to evaluate, since the natural slope of the ground is not apparent; we could not guess at the depth of the rubble blanket by eye. Lafora, however, indicates only a low wall and corral along this side. Mounds do imply that the rectangular complex on the southwest corner and the bastion on the southeast still retain at least their foundations.

This is only a very preliminary evaluation of the site of Presidio San Sabá. It is apparent even at this level of investigation that the ruins appear to have great archaeological value, perhaps equal to that already seen at Presidio La Bahía.

We were very impressed with Presidio San Sabá. We hope that this brief look at its remains will impress others, and help to insure that better care will be taken in future dealings with the site.

"Plan of the Presidio of San Sabá. Situated 31°38' north latitude and 273°21' longitude calculated from the Meridian of Pico on Tenerife.

Explanation

- A. Main Gate.
- B. House of the Captain [Headquarters Building] in which is contained the Chapel and the guard-room, which adjoins the main gate.
- C,C. Two other hidden gates [sally ports].
- D. Plaza formed by the barracks of the troops.
- E. Small flanking wall without a parapet.
- P. Small tower which contains on the lower floor a battery with room for three small cannon, in which are only two; and three on the upper floor.
- R. Small earthfilled tower, on which are mounted three cannon; their line of fire ends at its intersection with a covered area which extends from the small flanking wall. [Lafora refers here to the cover provided from gunfire by the sides of the corral marked "y".]
- Q. Fortification ditch of one *toesa* in width and one in depth.
- X,Z. Two flanking parapets which have been made in order to impede the enemy's infiltrating from the bank of the river into the space, or front, which they enclose.
- Y. Corral for cattle, made of stakes or posts of one-half and one foot in diameter.
- V. Corral of the same material as the last, intended for the horses.
- S. Sinuosities of the bank of the ravine, in each one of which may be covered four or six men without their being seen from any part of the Plaza.

The line of dots indicated on the plain shows the space deforested, which it is necessary to clear anew, since the mesquites have regrown. [This line is outside the limits of the area shown in Figure 2.]

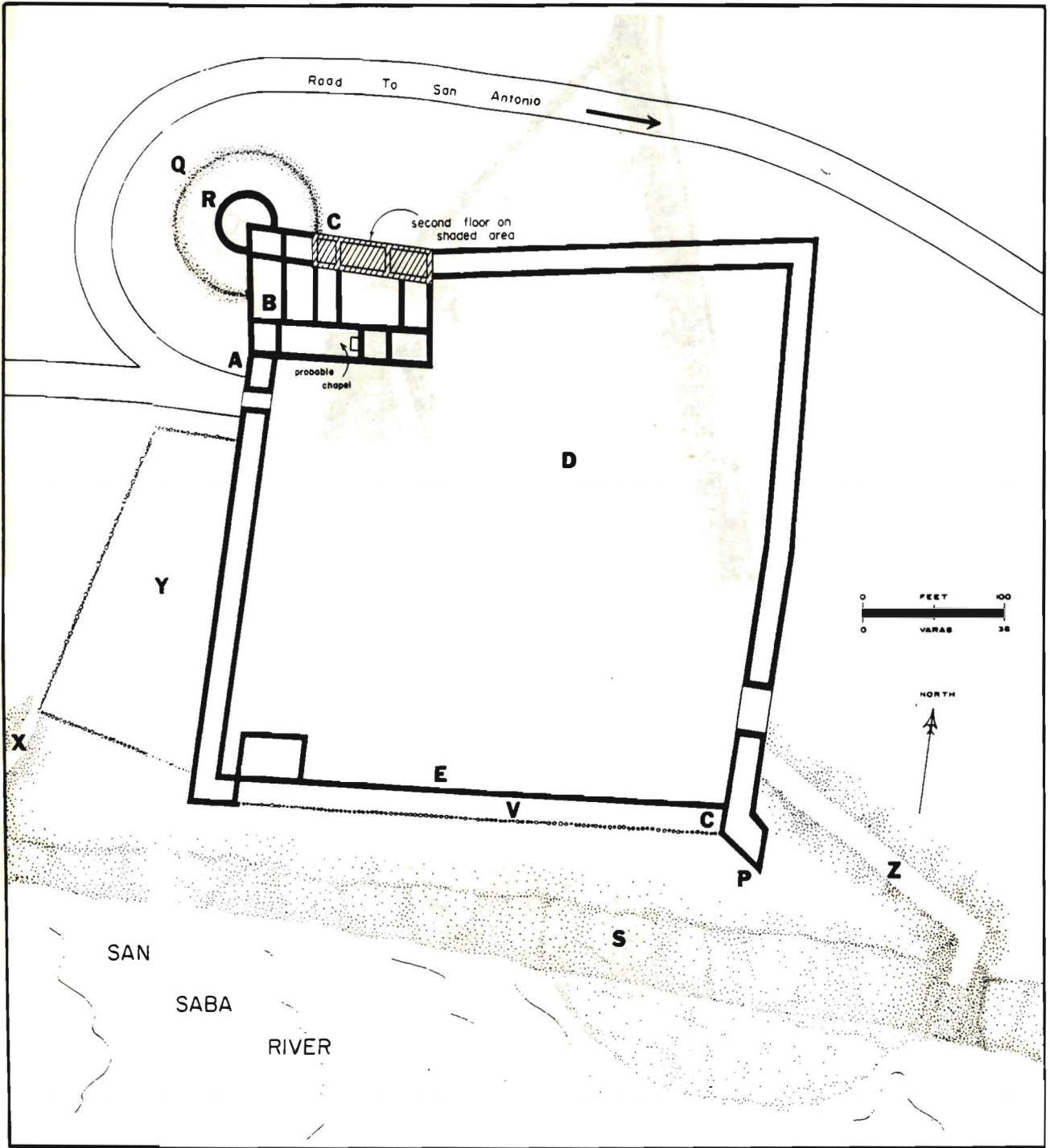
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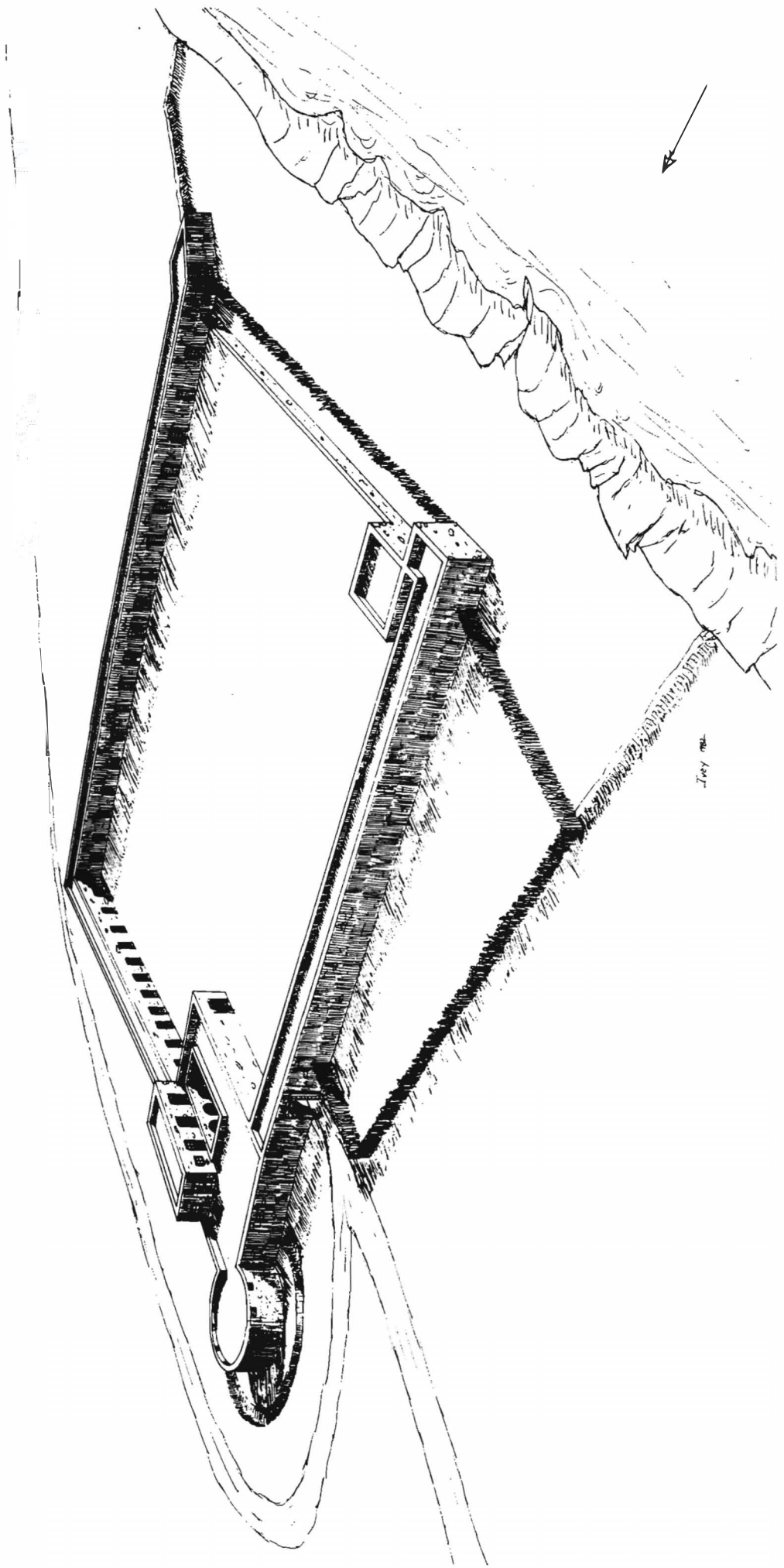
The materials of which the fort is made is entirely of mud and stone, and all of it is very badly constructed, because of the poor foundations of the stone, and because of the many irregularities of the walls, as much horizontally as vertically.

Of the seven cannon which are in the Presidio, four are inserviceable because they do not have trunnions, and they are all constructed improperly. Because of this they are badly proportioned and of unequal calibres, which is supposed to be 3 pounds. The gun-carriages are made with the same skill, and without some ironwork they are of little use, especially because of the lack of trunnion plates and trunnion clamps, which may cause the cannon to fall to the ground at each shot.

Presidio of San Antonio de Béxar,  
12 August 1767.

Nicolas de Laffora."





## References

- Gregory, H. F.  
1980 *Excavations: 1979, Presidio Nuestra Señora del Pilar de los Adaes.* Williamson Museum, Northwestern State University. Nachitoches.
- Gilmore, Kathleen  
1967 A Documentary and Archeological Investigation of Presidio San Luis de las Amarillas and Mission Santa Cruz de San Sabá, Menard County, Texas: A Preliminary Report. *State Building Commission Archeological Program, Report No. 9.* Austin.
- Moorhead, Max L.  
1975 *The Presidio: Bastion of the Spanish Borderlands.* University of Oklahoma Press. Norman.
- Weddle, Robert S.  
1964 *The San Sabá Mission: Spanish Pivot in Texas.* University of Texas Press. Austin.
- (Author unknown)  
1959 *Petit Larousse.* Librairie Larousse. Paris, France.

←  
Figure 3. Appearance of Presidio San Sabá based on archaeological data developed in the 1981 survey of the site and referenced historical documents. Illustration developed and drawn by James Ivey.



NOTES ON TWO SITES ALONG OSO CREEK,  
NUECES COUNTY, SOUTHERN TEXAS

Malcom L. Johnson

ABSTRACT

The purpose of this paper is to describe and discuss the artifacts found while surface-collecting at two sites along Oso Creek beginning in the early 1950s, and to discuss their cultural affiliation. Two additional types of shell artifacts are added to the known assemblage from the Oso Creek area, and an excavation carried out by the Coastal Bend Archeological Society in 1967 is documented.

INTRODUCTION

Two sites are located along a clay dune ridge on the north bank of Oso Creek. Oso Creek is a major drainage which flows around the southern part of Corpus Christi, Texas, and empties into Corpus Christi Bay.

From the number of sites located along the Oso, it is possible that the upstream portion was the major source of fresh water south of the Nueces river during aboriginal times. As the area was settled and the land cleared for farming and ranching operations, the silting-up process may have been accelerated. It is also my understanding that waste salt water from nearby oil wells has, at times, also been drained into the Oso. The result has been that in recent times the Oso has become a stagnant mud flat or salt flat.

The sites under discussion are adjacent to each other, and may have actually been a single, large, scattered area of occupation, at least at times (Figure 1). These sites have been visited by numerous collectors many times over the years. It probably would be no understatement to say that nearly everyone interested in archeology or relic-collecting in the Corpus Christi area in the last 75 years has, sooner or later, made a few collecting trips up and down the Oso. It is probably also safe to assume that the known assemblage of artifacts from the Oso Creek area is very incomplete.

Site 41 NU 29 is located just south of Rodd Field. My original designation for this site was Oso Creek Area 5, Site 1. The designation of the Coastal Bend Archeological Society for this site was C.B.A.S. 1, or the Rodd Field Site.

Site 41 NU 46 is located on a bend of the Oso Creek, and just west of Site 41 NU 29. My original designation for this site was Oso Creek Area 5, Site 2. This was later changed to 60-21.

Site 41 NU 29

Site 41 NU 29, or the Rodd Field Site as it is locally referred to, is a large area of scattered debris that has been eroding out of a clay dune ridge for some time (Martin 1930). No diagnostic artifacts were located while surface-collecting this site, except for a scattering of potsherds that probably were all attributable to the Rockport Focus. There was an abundance of fire-hardened clay lumps, likely the remnants of fire hearths. There were also many scattered and broken bone fragments, and a number of various kinds of shell scattered about.

Excavations have been carried out in the area of this site by various people over the years. I understand that someone from A. & M. University conducted excavations here about 1960, but this has not been verified. In the mid-1960s Bill Stanton published "A Survey of Karankawa Camp Sites Near Corpus Christi." It is believed, although not certain, that some of the excavations he refers to in his report were carried out in the area of 41 NU 29. At least it is known that he had conducted excavations in the area of the site (Bill Stanton, Personal Communication).

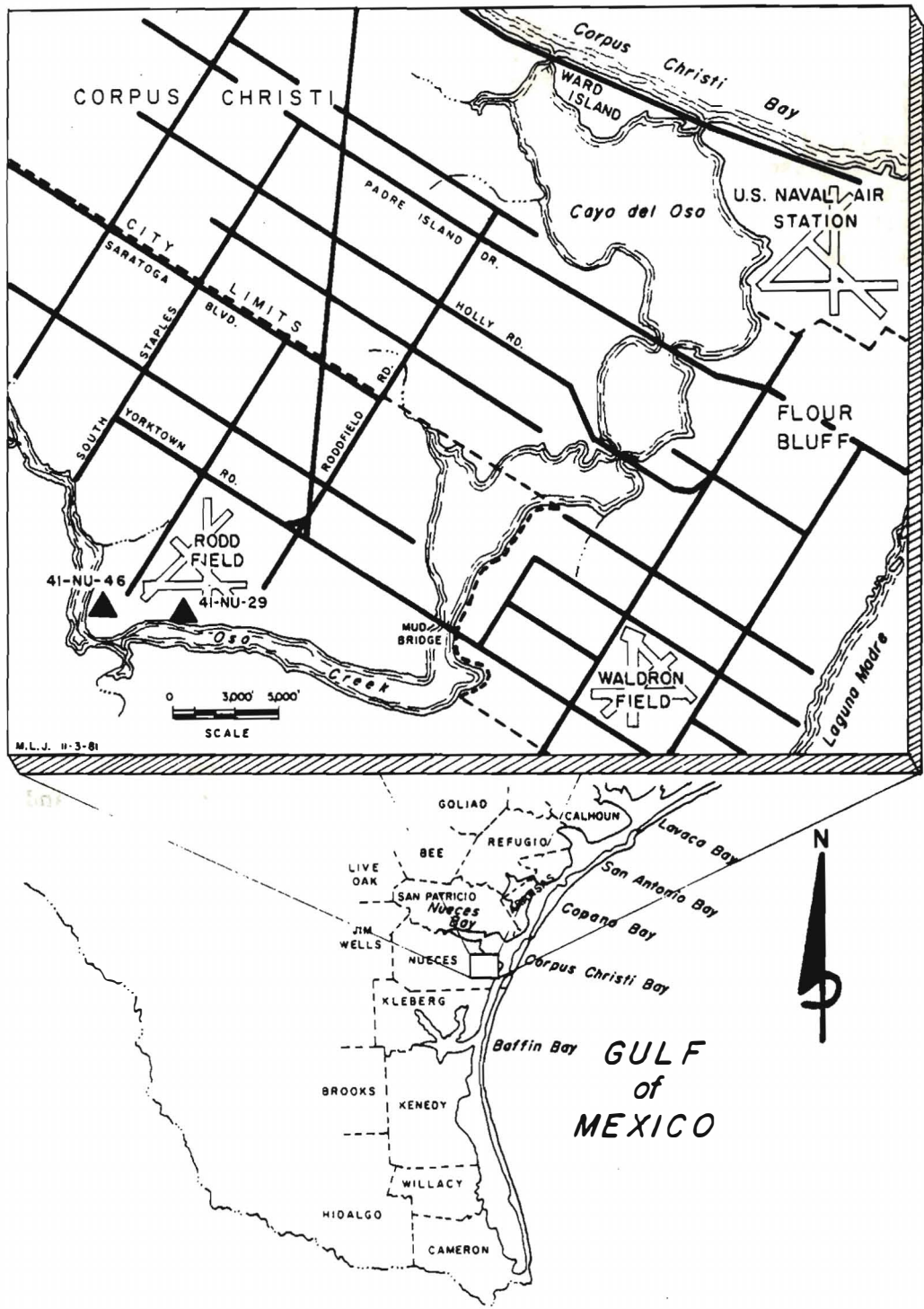


Figure 1. Location of Sites 41 NU 46 and 41 NU 29 relative to Oso Creek and Corpus Christi, Nueces County, Southern Texas.

Shortly after the organization of the Coastal Bend Archeological Society in 1967, the decision was made to conduct excavations at a site on Oso Creek, in an attempt to describe the burial customs and locate diagnostic artifacts. It was planned to establish a display of local artifacts in the then newly-constructed Corpus Christi Museum. After some discussion, and a couple of preliminary field trips to the Oso Creek area, Site 41 NU 29 was selected as the site to be excavated. The excavations were carried out on May 6th and 7th, 1967. The following CBAS members are believed to have participated in this first excavation: B. E. Beecroft, Dick Bowen, Cecil Calhoun, Dewey Chauvin, Dawn East, David Espy, Victoria Espy, Bob Everett, Diana Files, Malcom Johnson, Ann Johnson, Ed Page, Bill Stanton, and Jim Stickter. Several other people probably also took part, but cannot be recalled at this time.

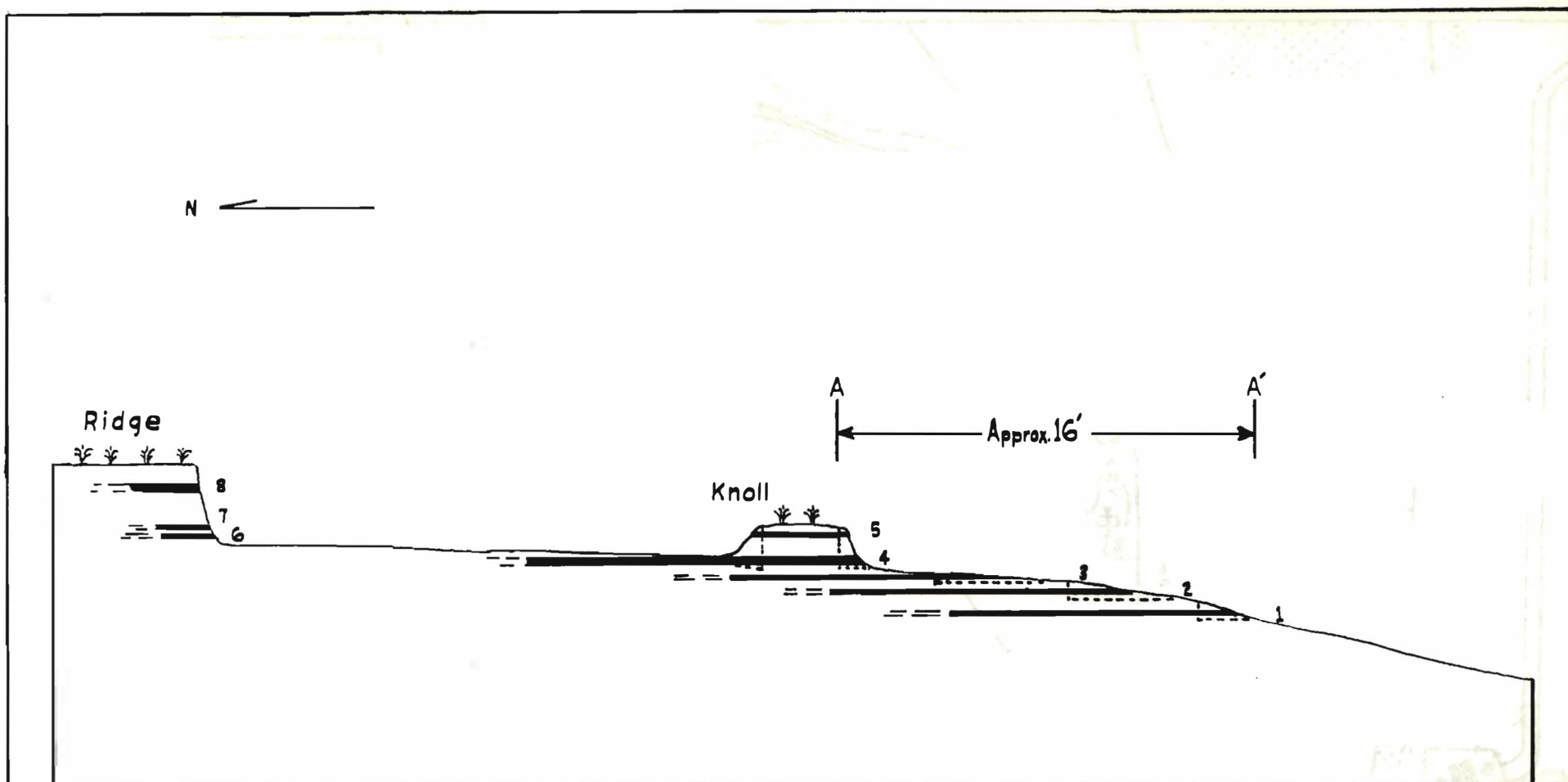
An alidade and plane table were utilized to map the site, which was laid out in a north-south grid. A steel pipe was driven for a datum point. Square and level reports were kept. At least one cross-section was made, and black and white photographs were made. Unfortunately, a final report was never submitted to TARL (Carolyn Spock, Personal Communication). All the data sheets, notes, photos, etc., have been lost or misplaced (Ed Mokry, Personal Communication). Evidently only copies of the site map and cross-section which the author had done are presently available for reference, and are included (see Figures 2 and 3). There are also a small number of color slides.

According to my recollections, the first burial was located by Bill Stanton in a test pit which was outside the grid area. It was a flexed burial in a poor state of preservation. It was lying on its left side, with the head oriented toward Oso Creek. Later, another flexed burial was located beneath the first, and I believe this was one of two burials which were removed intact, in a block of earth.

Test Pit 1, Burial 1, was another flexed burial on its left side with its head oriented toward the creek. This may possibly have been the second burial which was removed intact, but cannot be recalled for certainty. Test Pit 3, Burial 1, I believe was also flexed. Test Pit 1, Burial 2, I believe was the group burial that we encountered. There were adults and infants, all disarticulated, in the common grave. Evidently the bones had been gathered up elsewhere, and all just dumped into the burial together. As I recall, there were from seven to nine individuals represented in the grave, and possibly more. The bones of some infants were very poorly preserved, and could not be recovered. So altogether we encountered between eleven and thirteen individuals. I believe all four of the flexed burials were oriented with their heads toward Oso Creek, which agrees with some of Stanton's earlier findings (Stanton, undated) I don't recall that any skulls were present in the group burial, only long bones, lower jawbones, pelvis, vertebrae, etc. seemed to be present. A possible explanation is that the group represented some enemy whose skulls were kept as trophies, but there may be other explanations as well. No measurements were actually made, but all four of the complete skulls appeared to be dolichocranic, or long-headed, with one or two individuals having fairly pronounced brow ridges. This agrees with some of the burial material recovered at another Oso Creek site by George Martin, and commented on by Cyrus N. Ray in 1929 (Martin 1930), and also agrees with an osteometric study published in 1935 by George and Edna Woodbury on remains from Oso Creek.

No artifacts were found in any of the excavations. A clamshell fragment found in the chest area of one of the flexed burials (possibly Test Pit 1, Burial 1) had likely been utilized as a digging implement, and had been broken in the process. It should be noted that along the Southern Texas coast, interment often contain large amounts of grave goods (Prewitt 1974). There was some discussion among ourselves that the burials were probably Archaic in age, and were probably not associated with the historic Karankawa (Campbell 1947).

Square N75-W15 was excavated only one or two levels deep, but it yielded two, and possibly three, fire hearths, and some burned bone fragments, probably deer. It cannot be recalled for sure, but it seems that we were excavating in either three- or four-inch levels, and the squares were laid out in a five-foot by five-foot grid. The test pits where the burials were located were not included in the original grid system. After the burials were located, which happened in a fairly rapid succession, excavations in other areas were halted, and the burials were concentrated on because of the time limits involved.



While mapping this site on May 6, 1967 several dark zones were noted. They are located in a badly eroded portion of the site. The following day farther investigation was carried out. Small excavations were made in the dotted areas to obtain fresh vertical walls. Some traces of ash were found. A fire hearth was found in zone 4 so the N. side of the knoll was excavated to make certain it was not a trench or gulley. No evidence of this was found. The zones can be traced for some distance and zones 5 & 6 appear to be the same. It is possible that 7 different zones are represented. For more information on the ridge see Profile #1.

RODD FIELD SITE  
 COASTAL BEND  
 ARCHEOLOGICAL SOCIETY  
 CROSSSECTION A-A'  
 NOT TO SCALE  
 Drafted by: M.J. Date: 5-6-67

Figure 2. Profile of the Rodd Field Site (41 NU 29).

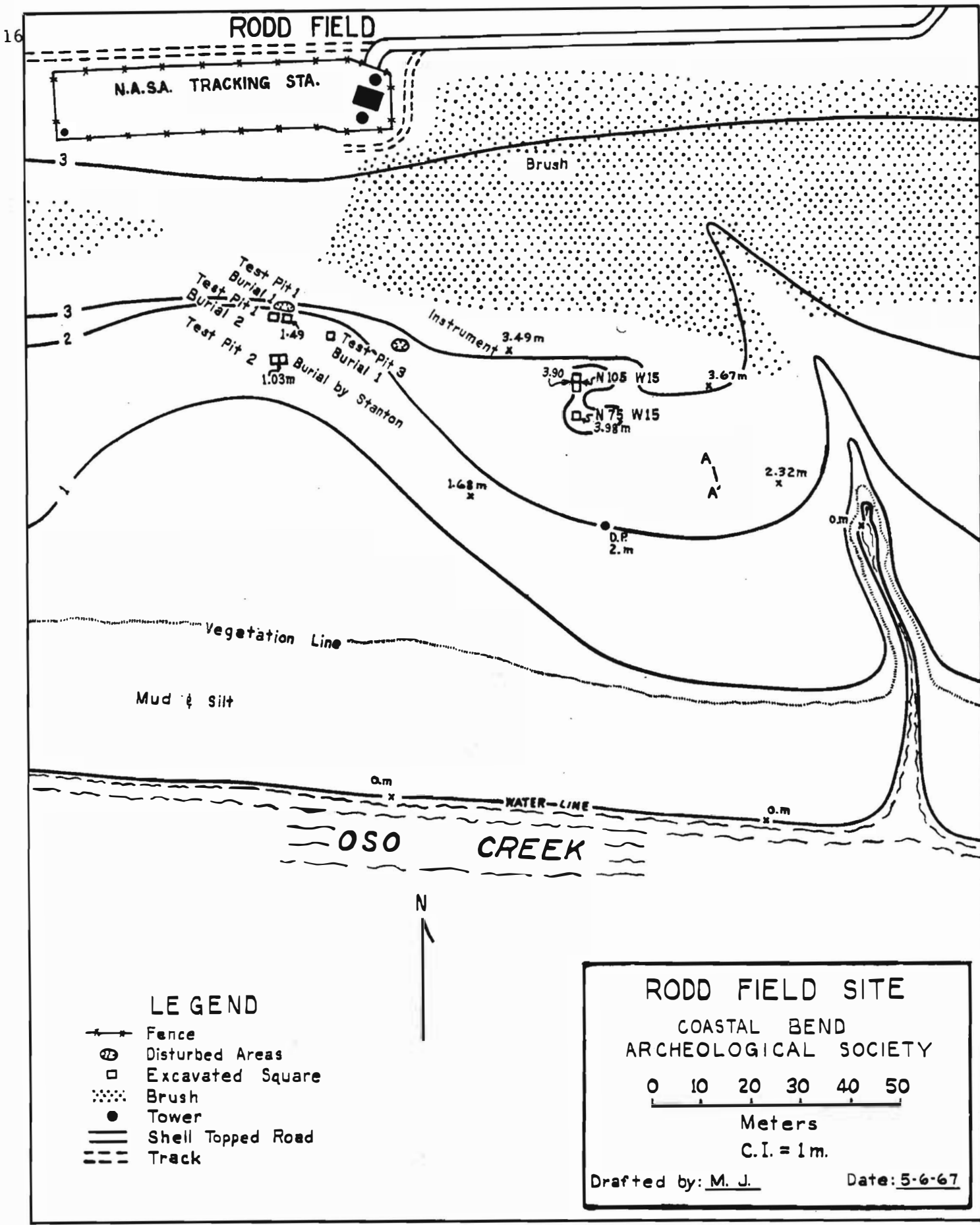


Figure 3. Coastal Bend Archeological Society Map of the Rodd Field Site (41 NU 28).



Cross-section A-A', located southeast of the excavations, illustrates the dark zones of occupation that were revealed in an erosional area (see Figures 2 and 3). There were at least seven zones of occupation present, but time did not permit us to determine how they were related to the burials.

As mentioned previously, an attempt was made to remove two of the flexed burials *in situ* in a block of earth. The burials were covered with damp tissue paper to pad the bones, then a layer of paper, cloth, and plaster was applied. One of the blocks broke in half as it was raised, doing some damage to the midsection of the burial. The other was successfully removed intact, and was transported to the Corpus Christi Museum.

The other remains were taken to David Espy's home for cleaning and reconstruction. An interesting observation was made by a visiting dentist when he noted that the skulls, all adults, apparently showed no evidence of having wisdom teeth. It would be interesting to know if the burials from other sites on Oso Creek also lack wisdom teeth, or if this indicates a family trait. The bones were also checked for evidence of disease, and some evidence was found on a few of the bones, but at this late date it cannot be recalled what diseases were indicated. After a time the balance of the recovered material was also removed to the Corpus Christi Museum.

#### Site 41 NU 46

This site is, for me, the more important of the two sites under discussion, in terms of the diagnostic artifacts which were recovered. Most of the artifacts recovered from the surface of this site could be placed within the Archaic Aransas Focus, with the exception of a few small fragments of pottery which are attributable to the Rockport Focus. There are a few other exceptions, such as a bone pin (Figure 4,B). Bone pins are reported only in Stratum 1, the lowest stratum, at the Kent-Crane Site (Campbell 1952), which indicates use in early Archaic time. However, they have been mentioned in historical accounts which indicate that the Karankawa may have worn bone pins through their noses.

Another exception may be the clay ball. At the mention of fired clay, the assumption is usually made that the artifact must be historic or prehistoric in age. There are numerous references to fire-hardened clay lumps being associated with Archaic sites, and it would be a small step for an individual to roll a ball of clay in his palms that would later become fired either intentionally, or accidentally. It should be mentioned that tubular pipes, which are generally regarded as components of the Archaic Aransas Focus, have been found made of pottery along the Southern Texas coast (Prewitt 1974). For the present time, the clay balls' use and age must remain open to speculation.

An incised bone (Figure 4,C) possibly represents the remains of a bone awl. It has an incised diamond-shaped decoration, with cross-hatching. Both bone awls and incised diamond shaped decoration, and cross-hatching are known from the Aransas Focus at the Johnson Site (Campbell 1947), and the Kent-Crane Site (Campbell 1952).

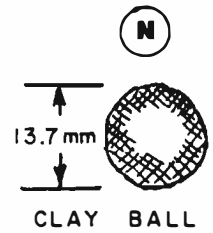
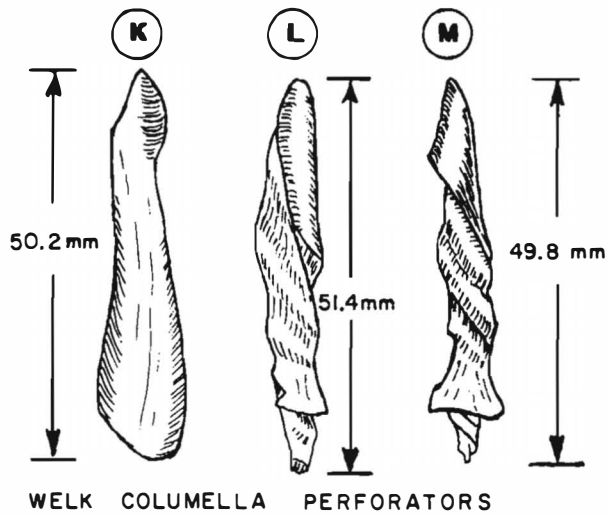
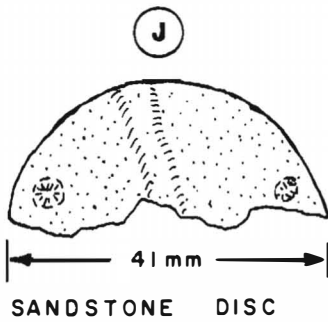
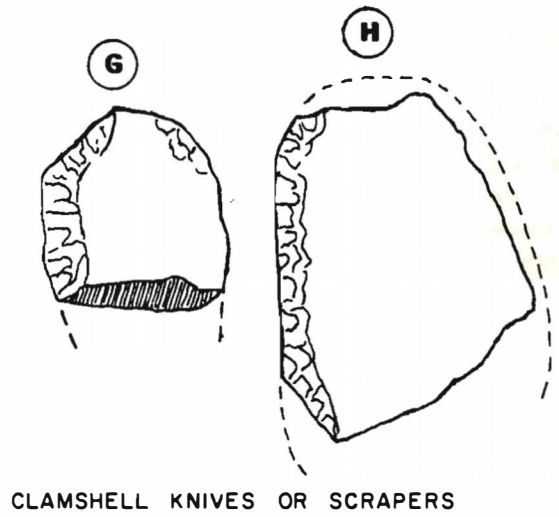
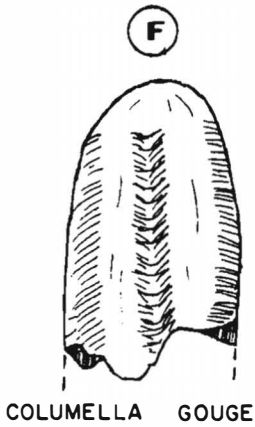
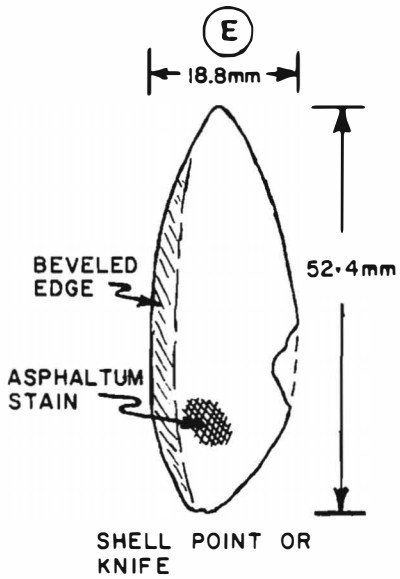
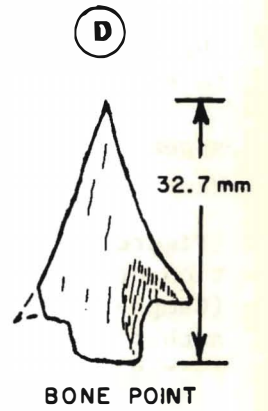
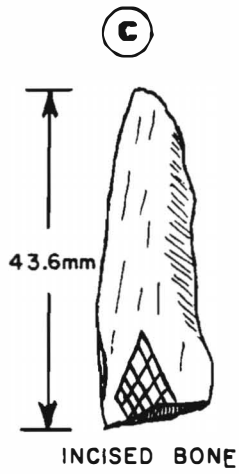
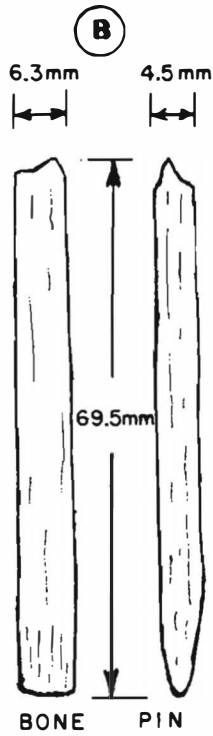
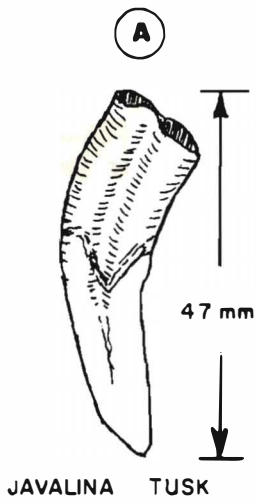
Bone points are known from the Oso Creek area (Ed Mokry, Personal Communication) and the Brownsville Focus (Campbell 1958b), but they are unlike the one illustrated in Figure 4,D, which is shaped somewhat like a stemmed and barbed dart point. This artifact is badly weathered, and its shape may be due to natural causes. However, the right edge of the blade appears to be ground smooth, and the left edge may have been, forming a chisel-like point.

Shell projectile points are known from several sites along the Oso. These points are usually *Fresno*-like arrow points that have been flaked from clamshells. Similar points are found on islands in the Laguna Madre (Campbell 1956) and are known from the Brownsville Focus (Campbell 1958b). The shell point, or knife, shown in Figure 4,E is larger and has been ground, rather than flaked, possibly from the outer whorl of a whelk shell. It appears to have asphaltum stains on both sides of the basal area.

Columella gouges are known from the Archaic levels of several sites; at the Johnson Site (Campbell 1947), and at the Kent-Crane Site, where they seem to fade out in the Late Prehistoric Rockport Focus (Campbell 1952). Figure 4,F appears to be part of such a gouge. Donald Ball (1974) has published a paper linking shell adzes and

Figure 4. Artifacts from Site 41 NU 46, Nueces County, Texas.

- A. Javalina tusk, 47 mm long. The base of the tusk is broken and it is not possible to tell if it was perforated or grooved for use as a pendant.
- B. Bone pin, 69.5 mm long, 6.3 mm wide, and 4.5 mm thick. The end has been worked down to a wedge shape, and it exhibits a high degree of polish.
- C. Incised bone. This may have been a bone awl, but its condition is too fragmentary to be certain. The incised design appears to have been a diamond shape, with cross-hatching inside of it.
- D. Possibly a bone point. It is badly weathered and its shape may be due to natural causes. However, one edge of the blade, on the right in the illustration, appears to have been ground smooth and flat, forming a chisel-like tip. It is 32.7 mm long, 19.3 mm wide, and 4.2 mm thick.
- E. Shell projectile point or knife. Possibly made of the outer whorl of a whelk shell, it is slightly curved and has a thin edge all around. As illustrated, one side has what appears to be asphaltum stain. The other side is stained a slightly darker color for about half its length. It is 52.4 mm long, 18.8 mm wide, and 2.4 mm thick.
- F. The blunted end of a large whelk columella that may have been utilized as a gouge. It is 40.5 mm long, 19.5 mm wide, and 15 mm thick.
- G. Clamshell knife or scraper, possibly made of a Sunray clam. It is 25.8 mm long, 24 mm wide, and 5 mm thick.
- H. Clamshell knife or scraper, possibly made of Sunray Venus clam. It is 44 mm long, 33.4 mm wide, and 4 mm thick.
- J. Sandstone disc, made of an orangey, brown-colored sandstone, it appears to have been exposed to fire. If it originally was circular in shape, then the estimated diameter would probably have been about 45 mm. Its present length, or diameter is 41 mm, 19.2 mm wide, and 6.6 mm thick. It has a shallow groove across its face 1.2 mm in depth, and approximately 4.4 mm wide. This may have been a natural groove in the rock. The disc also has a small depression near each end. The one on the left side of the illustration is 1.8 mm deep, and 4.7 mm in diameter. The one on the right side of the illustration is 1.7 mm deep, and 2.8 mm in diameter. The disc may have been a pendant or other ornament, or may have been part of a bead-drilling or fire-making apparatus.
- K-M. These are three whelk shell columella that appear to have been smoothed and utilized as perforators. It is interesting to note that they are very nearly the same length, with only 1.6 mm difference between the longest and the shortest. This series averages 50.4 mm in length.
- N. This artifact is a clay ball or sphere, that has been fired, but is unglazed. Its color is a uniform light pink. There are tiny, white inclusions that may be crushed shell or bone. Other tiny reddish-brown inclusions may be hematite. The color of the clay is unlike the pottery and fired clay lumps observed in the area. The latter tend to be a more yellowish-orange, or brownish- or tannish-orange. This may indicate that the source of the clay for the ball was from another locality. Under magnification there are faint striations, which may be the fingerprints of the maker. It is uncertain if the clay ball could be considered historic or prehistoric in age. It is entirely possible it was made for use as some kind of gaming piece. However, it should be noted that when enclosed in a pair of clamshells, it makes a fine rattle, and considering the shortage of rounded stones in the area, this use should be considered a definite possibility.



gouges with the manufacture of dugout canoes in the southeast. This may be an indication, at least, that canoes were being manufactured along the Texas coast as early as Archaic times.

Clamshell scrapers or knives, Figure 4, G-H, are known from numerous sites along the Texas coast. They are often made of the Sunray Venus clam, which is not now common to the area.

The sandstone disc, Figure 4, J, has a small depression near each end, and what appears to be a shallow groove across its face. This may have been a pendant, or part of a bead drilling, or fire-making apparatus.

Whelk columella awls, or perforators, are a common artifact found on local sites (Figure 4, K-M). It has also been suggested they were used to pick out the edible portion of gastropods. At the Kent-Crane Site they were present only in the lower deposits (Campbell 1952), which may suggest they are a Middle or Early Archaic component. The author suggests, but has no proof, that at least some of these artifacts, which are fairly pointed on both ends, may have served as fishhooks.

Of the flint projectile points illustrated in Figure 5 and Figure 6, all can be classified as dart points, and most can be said to be Archaic in age. The exceptions are the *Catan*-like specimens (Figure 5, A, E, H, and L), which may have persisted until historic time. *Catan* points are known from numerous sites including the Johnson Site (Campbell 1947), the Kent-Crane Site (Campbell 1952), and islands in the Laguna Madre (Campbell 1956).

It should be mentioned that good flint is not a common commodity around the coastal sites. There are gravel bars in the Nueces River near Callallen, which is about the nearest source the author can think of, and they are sixteen or eighteen miles from 41 NU 46. Also, there is no way of knowing if these beds had been deposited or exposed, as the case may be, during the time of the Archaic occupation. It is unusual to find large cores or unworked flint cobbles on the coastal sites. Indeed, most flint was utilized as far as possible. Good examples of this are the points (Figure 5, A-H) which were made from primary flakes. Figure 5, B was made from a curved flake. Figure 5, L was reworked from a broken point, and Figure 5, M is a small biface apparently worked down as far as possible. It appears that it would be necessary for the coastal inhabitants to either travel inland to a source of flint, or to trade shells or beads to inland inhabitants for flint or points.

Several reports of shell artifacts that have been found in Central Texas are known. Probably the most recent evidence is a small, grooved whelk columella bead, found in an Archaic context at the Dan Baker Site, 41 CM 104 (Shirley Van der Veer, Personal Communication). This can be taken to suggest some kind of relationship between the coastal inhabitants, and the Central and Southern Texas inhabitants.

Pumice abraders, Figure 6, A, are known from the Live Oak Point Site (Campbell 1958a), from islands in the Laguna Madre (Campbell 1956), and other sites in the region. The pumice could be obtained locally along the seashore where it had washed up.

Probably the most unusual artifact to come from 41 NU 46 is one which only recently came to light. It was collected by Emilia Johnson in the early 1950s, and had remained unnoticed in a bag with a sample shell collection until work began on this paper. It is a spoon, or ladle-like implement made of whelk shell, Figure 6, D. It was made by cutting a small whelk shell more or less in half, lengthways, and removing the spire and columella. The edges were then ground smooth, and it was well polished over the outer surface. It is 46 mm long, 35 mm wide, and 18 mm deep. I refer to it as a spoon, since that is what it most nearly resembles. Its liquid capacity is limited to about one-and-one-half teaspoons, due mainly to the concavity where the spire was removed, so it would actually function better as a container for something dry or solid rather than liquid. It could serve well as part of a bead-drilling kit, especially where the soft drill and abrasive method were used. It could be filled with fine sand or grit, and the abrasive could be trickled out through the open canal, similar to a funnel, to just where it was needed to accomplish drilling action. Many other suggestions for its use probably could be offered. The whelk shell from which it is made is tentatively identified as that of a Turnip Whelk, *Busycon coarctatum* (Sby.), but identification is not certain. A *Field Guide to Shells of the Atlantic and Gulf Coasts and West Indies* (Morris 1973) was used in the identification.

An "eating implement" made from a conch shell whorl has been reported from the Kent-Crane Site (Campbell 1952), and a conch shell container from the Johnson Site (Campbell 1947). A container made of conch shell has also been reported from the Live Oak Point Site (Campbell 1958a, and possible conch shell cups have also been found associated with the Brownsville Focus (Prewitt 1974).

Another type of shell artifact that needs to be recorded from the Oso Creek area is a shell bracelet (not illustrated). The late Ray Russell of Corpus Christi, Texas, had at least one in his collection. He indicated to me that it came from "next to Rodd Field," and I understood him to mean Site 41 NU 46. It had been made from a fair-sized clamshell by cutting out the center portion of the shell, and then smoothing the inner edges. I do not recall that it had any other decorations or perforations. The bulk of the Russell collection was donated to the Corpus Christi Museum in 1967, after he had passed away.

A similar shell bracelet was found near Anahuac, Texas, in the 1920s or 1930s (R. Freis, Personal Communication). It was unearthed during road-building activity, and was associated with a burial. Two small shell bracelets with perforated unbos are believed to have been found in Gillespie County, Texas, associated with two Black-on-White pottery vessels (Johnson 1979), but these are considered to be intrusive from the New Mexico-Arizona area. Shell bracelets made of the whorl of conch shells are known to occur in the Brownsville Focus (Prewitt 1974).

### Shell Types

As mentioned earlier, a sample collection of some of the shells, which were probably gathered by the inhabitants and are now exposed on the surface of 41 NU 46, is available. However, this is but a small sampling of the shells present on the site, and cannot be considered a complete list. The shells have been tentatively identified according to Morris (1973).

#### Gastropods

Apple Murex-Murex pomum  
 Banded Tulip Shell-Fasciolaria  
 hunteria ■  
 Hays Rock Shell-Thais haemastoma  
 haysae  
 Lightning Whelk-Busycon  
 contrarium  
 Lobed Moon Shell-Polinices duplicatus  
 Paper Fig Shell-Ficus communis  
 Tulip Shell-Fasciolaria tulipa  
 Turnip Whelk-Busycon Coarctatum (Sby.)

#### Pelecypods

Chemnitz's Ark-Anadara chemnitzii  
 Disk Shell-Dosinia discus Reeve  
 Southern Scallop-Aequipecten  
 irradians concentricus  
 Wedge Rangia-Rangia cuneata (Gray)

### Cultural Affiliations

As previously stated, much of the material collected from 41 NU 46 could be placed in the Archaic Aransas Focus, however, the author feels this may be incorrect. Jim Corbin has made a strong case for dividing the Aransas Focus into an Early Archaic, as yet unnamed, horizon, and a Late Archaic horizon, possibly retaining the name Aransas. He would limit the range of these cultures to just south of Nueces Bay, and suggests that a new Archaic component be named for the area south of Corpus Christi, toward Baffin Bay. The need for these revisions is suggested on the basis of a change in projectile point types (Corbin 1974).

For a number of years the author has felt that the term Aransas Focus was being too broadly used. Some notice had been made that the collections of points north of Nueces Bay seemed to be different from collections that were made south of Nueces Bay. The main objection to lumping everything into the Aransas Focus is based on the observation of the distribution of a shell artifact which has largely been neglected, namely, the perforated oyster shell net weight.



Figure 5. Lithic Artifacts from Site 41 NU 46, Nueces County, Texas.

- A. An attempt to manufacture a point from a scrap of flint, it could possibly be considered a *Catan*-like point. One side retains approximately 50% cortex, while the other side exhibits crude flaking along the edges. It is 24.2 mm long, 14.8 mm wide, and 8.8 mm thick. The color is a dark gray.
- B. A stemmed point made from a plano-convex flake. It exhibits crude flaking and pressure retouch. The brackets indicate areas of retouch on the opposite side of the illustration. The point still retains some of the curve of the flake from which it was made. The color is tan with a pinkish cast around the stem, possibly from heat treating. It is 41 mm long, 19.8 mm wide, and 5.6 mm thick.
- C. *Pedernales*- or *Gower*-like point made of medium brown flint (Shafer 1963). A fairly large flake was removed from one side of the base to form the concavity. Fairly good workmanship. May have been heat treated. It is 42.7 mm long, 24.6 mm wide, and 7.6 mm thick.
- D. *Matamoros* type point of creamy tan flint with small brownish speckles, possibly petrified palm wood. Workmanship good. It is 32 mm long, 22.4 mm wide and 6.5 mm thick.
- E. *Catan* point made of a glassy, dark-gray flint with numerous light-gray bands running through it. Workmanship good. It is 28.5 mm long, 20 mm wide, and 7.2 mm thick.
- F. Unidentified point made of medium-brown flint. The edges are alternately bevelled. The sides are roughly parallel for about one-third of its length. The basal edges are not ground. Workmanship good. It is 40.2 mm long, 19 mm wide, and 6.7 mm thick.
- G. *Tortugas*-like point made of medium-gray flint with small tannish speckles. Workmanship good. It is 29.2 mm long, 27.7 mm wide, and 5 mm thick.
- H. Triangular point made from a primary flake, it might be considered to be *Catan*-like. One side retains about 60% cortex. The smooth hinge fracture of the flake is used as the base. The original flake surface is somewhat lighter in color than the pressure flaking, indicating some time had elapsed between the initial striking off of the flake, and its final utilization as a point. Color is light-gray with brownish cortex. It is 21 mm long, 22 mm wide, and 6.3 mm thick.
- J. Made of a mottled, tannish-brown flint, this artifact may be a perforator. It is thick and crudely made. It is 40.5 mm long, 19.7 mm wide, and 13.6 mm thick.
- K. Made of a dull, brown and tannish mottled flint of poor quality. Workmanship is poor. This artifact may be a perforator. One edge of the tip exhibits heavy wear, and is indicated by the bracket in the illustration. It is 36 mm long, 19.5 mm wide, and 11.9 mm thick.
- L. Triangular point or perforator. Made of a light-gray flint, this artifact is patinated to a white color. This artifact was probably reworked from a broken dart point. It is 26.7 mm long, 15.4 mm wide, and 7.5 mm thick.
- M. Made from a dull, light- and dark-brown mottled flint, this small biface exhibits wear on most of its edges. Workmanship poor. It is 28 mm long, 17.6 mm wide, and 8.2 mm thick.
- N. Biface made of grayish-tan flint, with part of the original cortex remaining on the dorsal surface. Some of the edges appear to be worn, or perhaps ground, in preparation for further flaking. It is 64.6 mm long, 34.2 mm wide, and 20.4 mm thick.

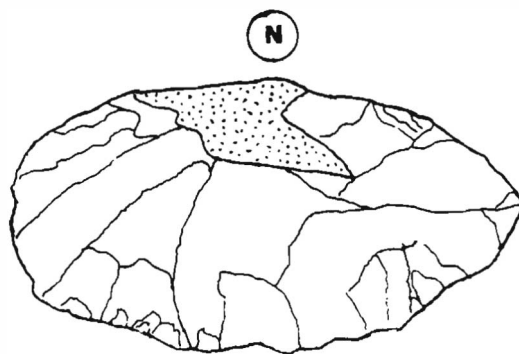
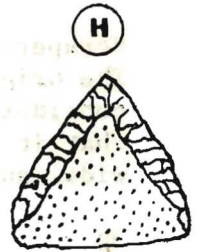
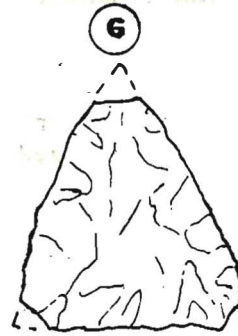
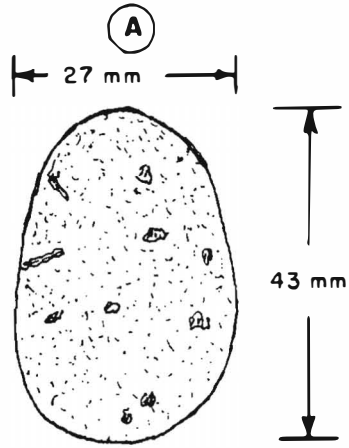


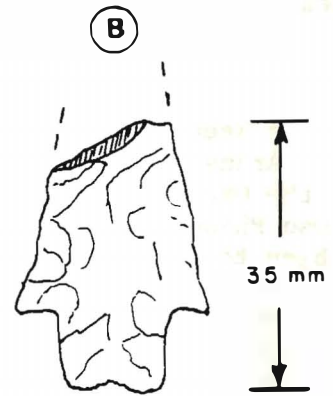
Figure 6. Additional Artifacts from Site 41 NU 46, Nueces County, Texas.

- A. An abraded made of volcanic pumice. Somewhat oval in shape, it is worn smooth over most of its surface. Pumice was obtained along the seashore after having been washed ashore. It is 43 mm long, 27 mm wide, and 18.2 mm thick.
- B. Unidentified dart point. This point has similar attributes to some *Pedernales* points and possibly should be placed in that type. It is made of a grayish flint with a pinkish cast on the stem and basal area. The flint may have been heat-treated prior to flaking, or may have been subjected to heating at some later date. The point is broken, and its present length is 35 mm. The blade edges are more or less straight, with the barbs flaring outward slightly. The width across the barbs is 24.8 mm. Maximum thickness is 5.6 mm. The stem is 10 mm long, and contracts slightly. The base is concave, with the depth of the concavity being 1.4 mm.
- C. Scraper made from a thick flake with about 60% cortex remaining on one side. The original flake scar has weathered and begun to patinate, indicating considerable time lapse from the time the flake was first struck, to the time that it was flaked and utilized as a scraper. It is 34 mm long, 27.6 mm wide, and 13.5 mm thick.
- D. Spoon or ladle made of the outer whorl of a whelk shell. The shell has been tentatively identified as that of a Turnip Whelk, *Busycon coarctatum* (Sby.) (Morris 1973). The artifact is 46 mm long, 35 mm wide, and has a maximum depth of 18 mm. Due to the concavity resulting from the removal of the spire, its liquid capacity is limited to approximately one-and one-half teaspoons. It is well smoothed along all external edges and surfaces. It is an ivory color rather than the chalky-white color of most of the exposed and weathered shells in the area. This may be due to its having been impregnated with some type of grease or fat during use, or possibly having been covered with some type of pigment.

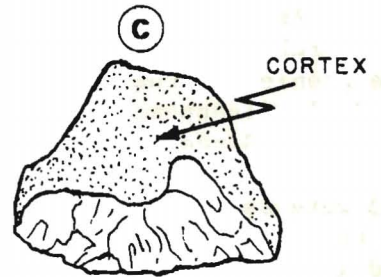
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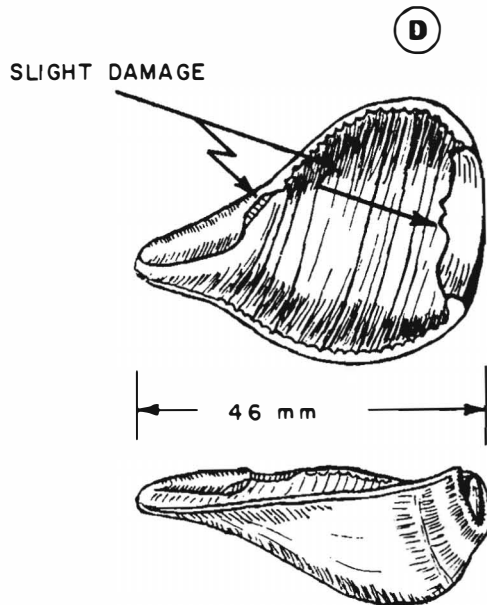
PUMICE ABRADER



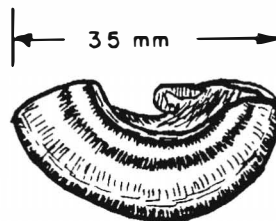
DART POINT



SCRAPER



ALL EXTERIOR SURFACES AND EDGES POLISHED.  
 GROWTH RIDGES ON INTERIOR.  
 LIQUID CAPACITY APPROX. 1 1/2 TEASPOONS.



WHELK SHELL SPOON OR LADLE, POSSIBLY MADE OF THE OUTER WHORL OF A TURNIP WHELK *Busycon coarctatum* (Sby.).

The perforated oyster shell is a significant part of the cultural trait list presently considered diagnostic of the Aransas Focus.

Originally the Aransas Focus was limited, more or less, to the area around Live Oak Peninsula where the Johnson Site (Campbell 1947), the Kent-Crane Site (Campbell 1952), and the Live Oak Point Site (Campbell 1958a), are located. The Johnson Site has been designated as the type site for the Aransas Focus. In the description of the Aransas Focus, it appears that it was seen as a separate and distinct culture from the Oso Phase of Sayles (1935), but was not necessarily intended to replace it. The Oso Phase was never confirmed by fieldwork and fell into disuse, and the tendency has been to lump all preceramic Archaic sites into the Aransas Focus.

At the Johnson Site only one perforated oyster shell was recovered in Duffen's excavations in 1940, but six or eight were reported found in Wilson's excavations in 1930. The provenience of these artifacts within the midden is not clear.

During excavation of the Kent-Crane Site in 1941 by Duffen, twenty perforated oyster shells were found in Stratum 1-a, the lowest stratum, and none were found in the layers above it (Campbell 1952). Martin had reported finding them on the surface during his 1927-1929 surveys, and states they were "fairly numerous" (Campbell 1952).

Assuming that Corbin is correct in stating that the Johnson Site material is Late Archaic and should therefore overlies the Kent-Crane material, we are faced with the problem of the perforated oyster shell being abundant in the Early Archaic, then suddenly disappearing in the middle strata, then suddenly reappearing in the Late Archaic. Since the provenience of the perforated oyster shells from the Johnson Site is unclear, perhaps it can be assumed they were from the lower levels of the midden, and were associated with a brief and unrecognized Early Archaic occupation. If this is the case, they would have to be removed from the Aransas Focus trait list altogether, and included in the trait list of the, as yet unnamed, Early Archaic occupation. On the other hand, it may be possible that the perforated oyster shells continue on into the Late Archaic and for some reason were simply absent in the middle strata of the Kent-Crane Site. This is a problem that future excavators in the Central Texas coastal area should be aware of and try to resolve.

Whatever the case may be, the perforated oyster shell is a useful marker to determine the limits of the area occupied by the culture it represents. It indicates a culture which relied heavily on the use of nets for taking fish. Perhaps it should even be considered primarily a "fishing and gathering" culture, rather than a "hunting and gathering" culture.

For the present, it is assumed that the area of Live Oak Peninsula was the center of this culture. This assumption is based on the number of perforated oyster shells that have apparently been recovered there, as compared to other areas. As noted previously, a number of these artifacts have been found in excavations at Live Oak Peninsula, and Martin had stated they were "fairly numerous" on the surface.

Other collectors over the years have spoken of finding several perforated oyster shells on a single collecting trip. In particular, the late Ray Russell spoke of having found two or three dozen of these artifacts in the course of a day's surface-collecting around the shores of Live Oak Peninsula. Based on this information, it can be said that the perforated oyster shell is, or was, very numerous around Live Oak Peninsula.

No comment can be made by the author as to the range of distribution of the perforated oyster shell along the coast to the north of Live Oak Point. Corbin would place the northern limit of the Aransas Focus at Guadalupe Bay, and he would limit the earlier, unnamed, Archaic culture to the Brazos-Colorado River vicinity (Corbin 1974).

From personal observations, the author would place the southern limit of the perforated oyster shell culture at Nueces Bay. This observation is based on the fact that the numbers of perforated oyster shells that have been reported from sites seems to diminish rapidly as the Nueces Bay is approached from the north. Two sites are known from the north side of Nueces Bay that have each produced one perforated oyster shell. Two other sites north of Nueces Bay, and one on the south side of the bay are known by Ed Mokry (Personal Communication) to have each produced one perforated oyster shell.



At the present time, the author can recall no perforated oyster shells that have been observed in collections from the Oso Creek vicinity. Ed Mokry (Personal Communication) reports that he has knowledge of only two perforated oyster shells which have been collected along the Oso. Taking into account the number of sites that contain other shell artifacts along the Oso, and the number of collectors that have been there over the years, it is the author's opinion that these two specimens should probably be considered intrusive to the Oso Creek area, thus limiting the southern range of the perforated oyster shell culture to the Nueces Bay area. This would agree extremely well with Corbin's findings, which were based on a change in projectile point types.

From these findings, based on entirely different types of artifacts, it appears that the Aransas Focus needs to be reviewed and possibly revised. Paleo points have been found in the area of the coast in Nueces and San Patricio Counties (Hester 1980), and it would be no surprise to eventually learn that there is a full range of Early, Middle, and Late Archaic sites along the coast. Likewise, considering the length of the Texas coast, it would be no surprise to find two or more cultures coexisting on the coast at the same time, and possibly sharing some traits, while not sharing others. For example, one culture might use a special purpose artifact, such as a perforated oyster shell net weight, while another culture might not.

It is conceivable, then, that the Oso Creek area was fairly densely inhabited by one culture, and that the presence of this group is what kept the perforated oyster shell culture from being extended farther south along the coast than Nueces Bay.

#### References

- Ball, Donald  
1974 Dugout Canoes in the Southeast; An Evaluation of Archaeological Evidence of Their Manufacture. Manuscript.
- Campbell, T. N.  
1947 The Johnson Site. Type Site of the Aransas Focus of the Texas Coast. *Bulletin of the Texas Archeological and Paleontological Society* 18.  
1952 The Kent-Crane Site. *BTAPS* 23.  
1956 Archeological Material from Five Islands in the Laguna Madre. *Bulletin of the Texas Archeological Society* 27.  
1958a Archeological Remains from the Live Oak Point Site, Aransas County, Texas. *Texas Journal of Science* X(4).  
1958b A Review of Texas Archeology. *BTAS* 29.
- Corbin, James  
1974 A Model for Cultural Succession for the Coastal Bend Area of Texas. *BTAS* 45.
- Hester, Thomas R.  
1980 A Survey of Paleo-Indian Archaeological Remains Along the Texas Coast, In: Papers on the Archaeology of the Texas Coast, Highley and Hester, Editors. *Center for Archaeological Research, The University of Texas at San Antonio, Special Report* 11:1-12.
- Johnson, Malcom L.  
1979 Black-On-White Pottery Vessel from Central Texas. *La Tierra* 6(4).
- Martin, George C.  
1930 Two Sites on the Callo del Oso, Nueces County, Texas. *BTAPS* 2.

- Morris, Percy J.  
1973 *A Field Guide to Shells of the Atlantic and Gulf Coasts and West Indies*  
(3rd Ed.). Houghton Mifflin Co., Boston.
- Prewitt, Elton R.  
1974 Preliminary Archeological Investigations in the Rio Grande Delta of  
Texas. *BTAS* 45.
- Sayles, E. B.  
1935 An Archaeological Survey of Texas: Gila Pueblo. *Medallion Papers* No. 17.
- Shafer, Harry J. ■  
1963 Test Excavations at the Youngsport Site: A Stratified Terrace Site in  
Bell County, Texas. *BTAS* 34.
- Stanton, Wm.  
n.d. A Survey of Karankawa Camp Sites Near Corpus Christi. *Corpus Christi*  
*Museum, Publication No. 3.*
- Suhm, D. A., and E. B. Jelks  
1962 Handbook of Texas Archeology: Type Descriptions. *Texas Archeological*  
*Society Special Publication 1 and Texas Memorial Museum Bulletin 4.*
- Woodbury, George and Edna Woodbury  
1935 Prehistoric Skeletal Remains from the Texas Coast: Gila Pueblo.  
*Medallion Papers* No. 18.

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#### A RECENT PUBLICATION

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## A CHERT COBBLE FLAKING EXPERIMENT

L. W. Patterson

## ABSTRACT

Details are presented of a chert cobble flaking experiment, where aboriginal flintknapping operations are replicated for a quarry site and a remote campsite. Information developed in this experiment may be useful for lithic analysts in particular and archeologists in general.

## INTRODUCTION

In a previous article (Patterson 1979a), I have commented on the need for experimental flintknapping to be oriented more toward producing information that is useful for the analyst of actual archeological materials. An example is given here of a flintknapping experiment that is aimed at providing information for the lithic analyst. Experimental flintknapping can provide the basis for more detailed analyses of archeological lithic collections.

It is common to see archeological reports with incomplete analyses of lithic debitage. The analysis of debitage can provide significant data concerning activities at archeological sites. The analysis of edge damage patterns can provide data on the functions of utilized flake tools (Tringham, et al. 1974, Patterson 1975). The study of flake size distribution can give details on types of lithic manufacturing activities (Patterson and Sollberger 1978). Comparison of flake attributes in lithic collections can show some technological differences for various cultures. For example, Paleo-Indian lithic assemblages frequently have high percentages of large, thick flake tools (Patterson 1977) not found in high percentages in assemblages of later time periods. The amounts of remaining cortex on flakes may sometimes give insight on lithic procurement patterns.

The flintknapping experiment presented here replicates a common situation found at archeological sites on the Texas coast. Here, initial reduction of lithic raw materials was performed at remote quarry sites, using alluvial deposits of chert cobbles as raw material. Selected materials were then transported to campsites for final lithic manufacturing operations. Less frequently, finer lithic raw materials were imported to campsites from more remote locations. Heat treating of tough alluvial cherts was often done at campsites before final lithic manufacturing. The end products of this multistage process were projectile points, scrapers, perforators and a variety of other tools.

## EXPERIMENT FIRST STAGE, QUARRY SITE REPLICATION

The first stage of this experiment involved replication of Indian quarrying activity, where chert cobbles were the source of raw materials. Chert cobbles used here were from a dry streambed near quarry site 41 FY 56 in Fayette County (see Figure 1). This location is part of the Colorado River drainage system. Chert types from this location are typical of alluvial cherts used by Indians over wide areas of the Texas coast.

This experiment utilized eleven rounded chert cobbles that were completely covered with cortex. Average dimensions of the cobbles were 15 by 10 by 4 cm. A bifacial reduction technique was used for initial reduction of this raw material, using two quartzite hammerstones, weighing 0.82 and 0.51 kilograms respectively. Use of a bifacial reduction technique is often found at quarry sites in this region (Patterson 1974), as this technique is suitable for initial reduction of tough chert cobbles. Flaking by this method is similar to making handaxes, except that the desired product is the flakes rather than the core. High striking platform angles, in the range of 70 to 90 degrees, are used to facilitate production of large size flakes.

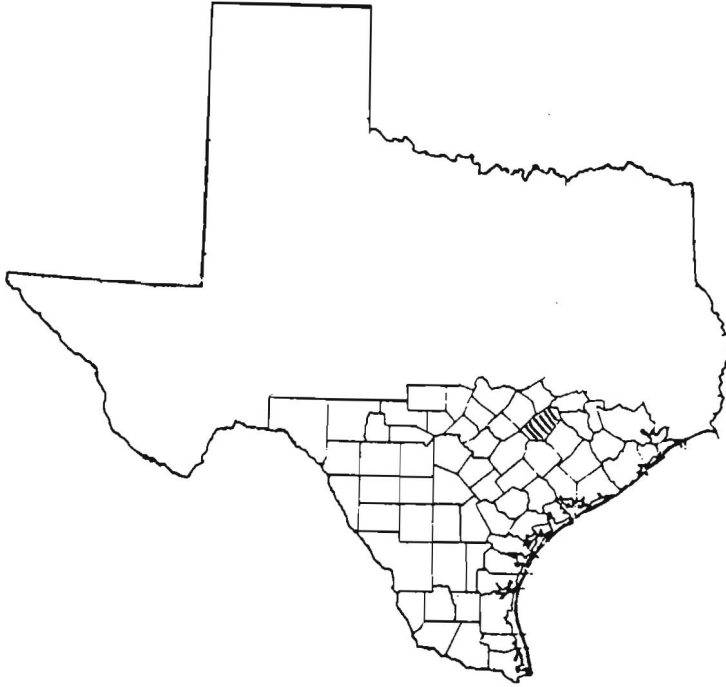


Figure 1. Fayette County, Texas. Chert cobbles for this Replicative Experiment were obtained from a streambed near Site 41 FY 56, in the Colorado River drainage system.

After initial reduction of the chert cobbles, 121 large flakes were selected as being useful for the second stage of this experiment for replication of campsite lithic manufacturing activities. Initial reduction of raw materials at a quarry site has two main advantages. First, a large weight reduction for materials to be transported is obtained. Second, the quality of the raw material is tested, so that inferior materials can be discarded. The quality of materials cannot be judged for whole cobbles that are completely covered with cortex.

The weights of products from the initial reduction of the chert cobbles is as follows:

	<u>Pounds</u>	<u>Kilograms</u>	<u>%</u>
Useful flakes	4.81	2.18	30.7
Residual cores	4.38	1.99	27.9
Thick chips	0.75	0.34	4.8
Reject flakes	4.56	2.07	29.0
Small debitage	1.19	0.54	7.6
	<u>15.69</u>	<u>7.12</u>	<u>100.0</u>

It may be seen that this experiment gave a reduction of over two-thirds in the weight of material for transport to a remote campsite, by doing initial reduction work at the quarry site. The category of "small debitage" includes all flakes under 15 mm square.

Figure 2 shows the flake size distribution for all flakes produced from the initial reduction of the chert cobbles. The shape of this curve is characteristic of bifacial reduction in general (Patterson and Sollberger 1978:Figure 1), having an exponential shape, skewed toward higher percentages of smaller size flakes. It should be noted that the use of other core shapes does not give the same type of flake size distribution curve.

FIGURE 2  
FIRST STAGE REDUCTION  
TOTAL FLAKE SIZE DISTRIBUTION

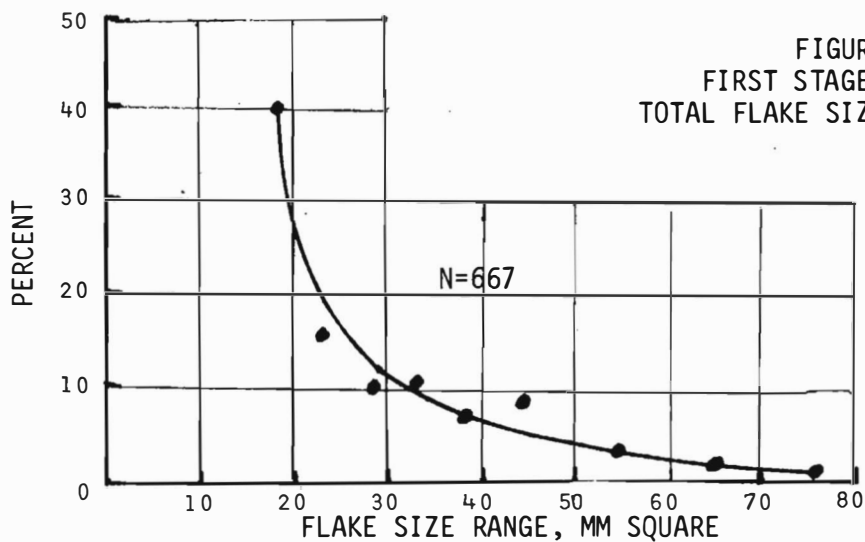


FIGURE 3  
FIRST STAGE REDUCTION  
FLAKE SIZE DISTRIBUTIONS

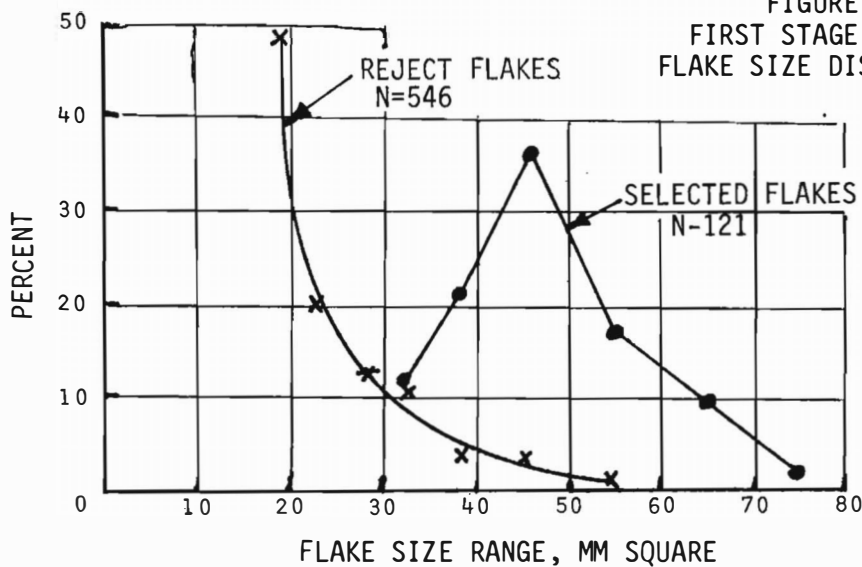


FIGURE 4  
SECOND STAGE REDUCTION  
TOTAL FLAKE SIZE DISTRIBUTION

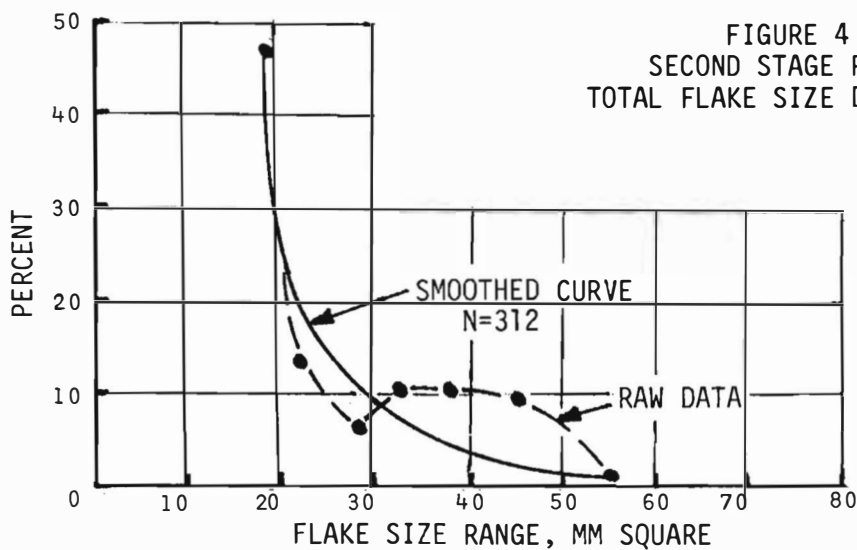




Figure 3 shows flake size distributions for the simulated quarry operation after selection of useful flakes. The curve for reject flakes retains the characteristic shape resulting from bifacial reduction. The size distribution curve for selected flakes is roughly bell-shaped, reflecting the bias of the selection process.

Reject flakes of the first stage, for the replicated quarry operation, consisted of 12.8% primary flakes (covered with cortex), 37.9% secondary flakes (partially covered with cortex), and 49.3% interior flakes (with no remaining cortex). Only flakes over 15 mm square were measured. Flakes selected as useful for the second stage of this experiment consisted of 15.7% primary flakes, 51.2% secondary flakes, and 33.1% interior flakes. Sizes of selected flakes ranged from 30 to 80 mm square.

#### EXPERIMENT SECOND STAGE, CAMPSITE LITHIC MANUFACTURING

The selected flakes from the first stage of this experiment were removed for use in the second stage, to replicate campsite lithic manufacturing activities. Before flintknapping began, all selected flakes were heat treated for four hours at 500°F (260°C), as is my usual practice for this type of material (Patterson 1979b). Manufacture of bifacial items was accomplished using a small elk antler billet weighing 0.11 kg for percussion, and a copper-tipped pole for pressure flaking.

The flake size distribution for the debitage of this experimental stage is shown in Figure 4. The smoothed curve has a shape typical of bifacial reduction, which represents the manufacture of dart points and preforms in this case. The curve for the raw data is somewhat less regular, reflecting that not all of the original large flakes were made into bifaces.

Manufacturing work in the second stage consisted of the production of 10 dart points, 9 dart point preforms, 3 perforators, and 19 fairly large unifacial scrapers. Some of these items are illustrated in Figure 5. Several of the selected flakes were not retouched, as representing cutting tools with sharp edges.

Data for remaining cortex on flakes for this complete experiment are as follows:

Flake Type	% of Flakes			Second Stage
	First stage			
	Reject	Useful	Total	
Primary	12.8	15.7	13.3	7.1
Secondary	37.9	51.2	40.3	33.6
Interior	49.3	33.1	46.4	59.3
	100.0	100.0	100.0	100.0
P plus S	50.7	66.9	53.6	40.7

Second stage flakes have a total of 40.7% primary plus secondary flakes, compared to first stage reject flakes of 50.7% primary plus secondary flakes. There are 53.6% primary plus secondary flakes for the first stage if both useful and reject flakes are included. While there is a somewhat lower percentage of flakes with remaining cortex in the second stage than in the first stage, the difference is not really large. It would appear that remaining cortex alone is not always a reliable indicator as to whether or not whole cobbles or trimmed materials were being worked at a campsite. In this experiment, the most distinctive differences between simulated quarry and campsite materials were the presence of residual cores and large, thick chips only in the first stage, which replicates a remote quarry site.

One interesting by-product of the second stage work was the fortuitous production of five prismatic blades, with widths of 11 to 19 mm. This was 1.9% of the total flakes above 15 mm square. This again demonstrates that a few prismatic blades with rather random widths do not necessarily represent a distinct blade industry.

The nature of the materials produced in the second stage of this experiment is similar to Late Archaic lithic collections from archeological sites in Harris County where all lithic materials were imported from remote raw material sources.

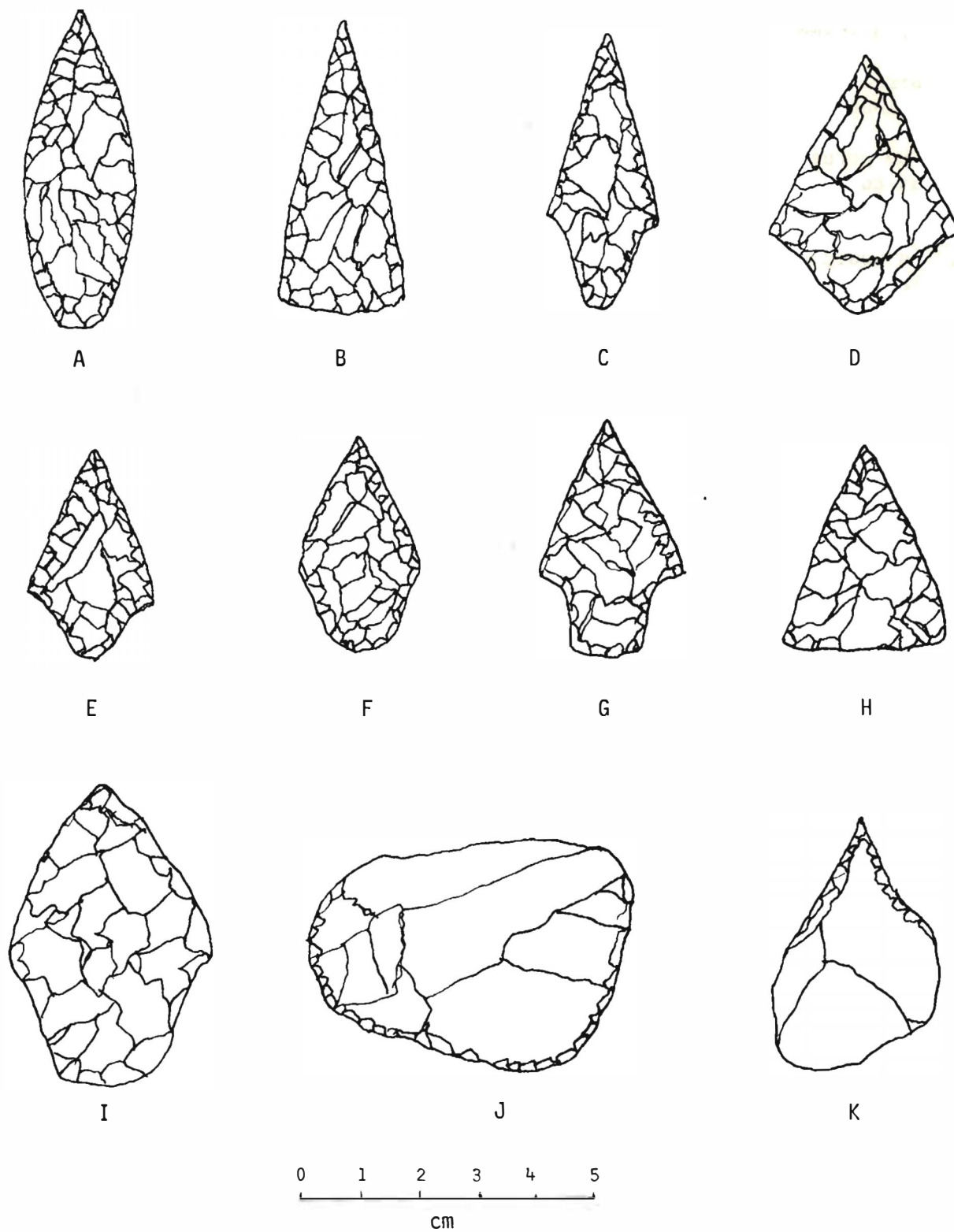


Figure 5. Replicate artifacts manufactured from chert cobbles: A to H, Dart Points; I, Bifacial Preform; J, Unifacial Scraper; K, Perforator.

## CONCLUSIONS

Several key points can be made concerning this experiment, as follows:

1. It is possible to do a fairly good replication of aboriginal quarry and campsite flintknapping operations.
2. Bifacial reduction to produce large flakes gives the same type of flake size distribution curve as bifacial reduction to produce finished bifacial tools.
3. The percentage of remaining cortex on flakes may not always be a reliable indicator as to whether whole cobbles or trimmed pieces were being used as starting raw materials for lithic manufacturing at campsites.
4. As would be expected, initial reduction of raw materials at a quarry site gives a large weight reduction for materials to be transported to remote campsite locations.
5. Contrary to some popular opinion, quarry site debitage need not consist of mainly large size reject materials. When bifacial reduction is being done, core trimming produces significant quantities of small size flakes, even when no finished bifaces are being produced. Bifacial reduction at quarry sites may include the manufacture of preforms, as well as use of the technique to obtain properly sized pieces of raw material.

## References

Patterson, L. W.

1974 Chipping Stations in Fayette County. *Texas Archeology* 18(2).

1975 Lithic Wear Patterns in Deer Butchering. *Texas Archeology* 19(2):10-11.

1977 A Discussion of Possible Asiatic Influences on Texas Pleistocene Lithic Technology. *Bulletin of the Texas Archeological Society* 48:27-45.

1979a Goals of Experimental Flintknapping. *Flintknappers' Exchange* 2(2):7-8.

1979b Experimental Heat Treating of Flint. *La Tierra* 6(1):11-13.

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

1978 Replication and Classification of Small Size Lithic Debitage. *Plains Anthropologist* 23(80):103-112.

Tringham, R, G. Cooper, G. Odell, B. Voytek and A. Whitman

1974 Experimentation in the formation of Edge Damage: A New Approach to Lithic Analysis. *Journal of Field Archaeology* 1(1-2):171-196.

THREE POINT FRAGMENTS OF THE LATE PALEO-INDIAN PERIOD  
FROM LA SALLE COUNTY, SOUTHERN TEXAS

Fred Valdez, Jr., Joy White and L. D. White

INTRODUCTION

Three Late Paleo-Indian point fragments from La Salle County, southern Texas are reported. The specimens are surface finds from the H. D. Storey Ranch. A brief description of the three artifacts will be provided below along with brief comparative notes. Several statements on typological problems will also be presented as each specimen has typological attributes of both the *Plainview* and the *Golondrina* forms.

GENERAL DESCRIPTION

Widths, thicknesses and other such data will not be provided here as these measurements can be determined from Figure 1. The chert used for these artifacts is of a tannish-grayish stone. One specimen (see Figure 1,c) has a waxy, somewhat vitreous surface indicating the possibility of having been chipped from heat-altered chert. The three fragments have dulled lateral edges from their broken edges to the ear tips. Flaking is generally irregular with the removal of small lunate flakes as the method of basal thinning. One of the illustrated fragments (Figure 1,c) exhibits two long basal thinning scars. However, the method of basal thinning on the other side of this specimen (not illustrated) is of the small lunate type observed on the other two fragments. Thomas C. Kelly (ms) has been working on a project which will provide detailed information on the flaking techniques used on selected Paleo-Indian points.

COMPARATIVE NOTES

Paleo-Indian points similar to those from La Salle County have been reported from other parts of South Texas in recent years (Birmingham and Hester 1976; Hester 1979; McReynolds, McReynolds and McReynolds 1979, 1980; and Dusek 1980). Suhm and Jelks (1962) provide a description and several illustrations of *Plainview* as the type was understood in the late 1950s. There is another type, once thought to be a variant of *Plainview*, which is known as *Golondrina* (Kelly ms). Both *Plainview* and *Golondrina* were treated as one type in Suhm and Jelks (1962). The illustrated specimens accompanying their description encompass both point types. Hester (1980:100-103) briefly describes and provides illustrations of the two points in respective classic forms. Birmingham and Hester (1976:21) also provide illustrations of both *Plainview* and *Golondrina* forms as represented at the Johnston-Heller Site in Victoria County.

Hester recently reported data on the *Golondrina* Complex as understood from Baker Cave, Val Verde County, and information on a *Plainview* occupation revealed in excavations at St. Mary's Hall in Bexar County (Hester 1979:26-33). Despite numerous finds in recent years and the increase in archaeological investigations throughout southern Texas by institutions, professional and avocational organizations and individuals, the interpretative data on the Paleo-Indian period remains scanty. A brief synthesis of this era in Texas was put forth by Hester which contains much information relating to South Texas (Hester 1976, 1977).

Some of the earliest comments concerning a *Golondrina* "variant" of *Plainview* were by Johnson (1964:46-52 and 56-57) in his report on the Devil's Mouth Site. Illustrations were presented along with specific comments on the differences between *Plainview* and the *Golondrina* variety.

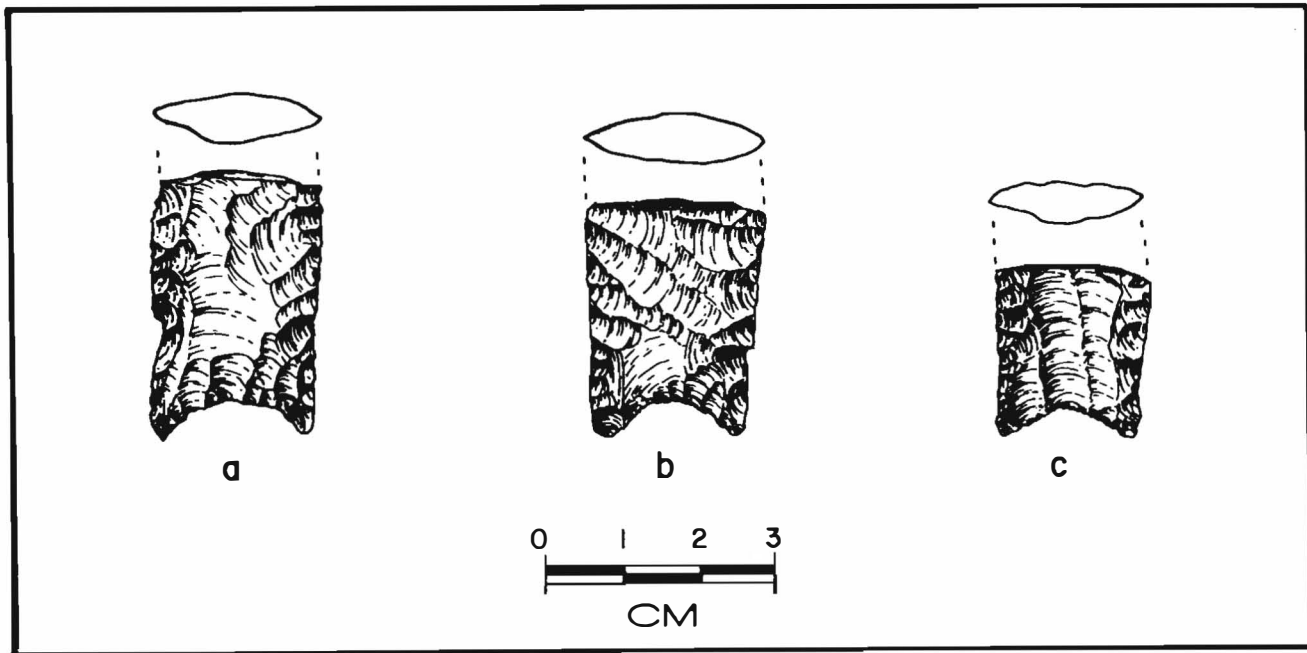


Figure 1. Paleo points from the H. D. Storey Ranch, La Salle County, Southern Texas.

Epstein (1969:27, 29-32) reported *Plainview* points from the San Isidro Site in Nuevo Leon, northeastern Mexico, adjacent to southern Texas. The typological problems with the *Plainview* and *Golondrina* point types noted at the Mexican site are quite applicable to South Texas in general and the La Salle County material presented here in particular. While recognizing Johnson's criteria for separating *Plainview* from *Golondrina*, Epstein felt that his examples could not be easily sorted into the two distinct forms and therefore opted to keep them all as *Plainview* (ibid.: 31-32).

#### TYPOLOGICAL PROBLEMS

As stated in the introduction, the three specimens from La Salle County have typological attributes of both *Plainview* and *Golondrina*. The problem centers around certain characteristics that should aid in sorting the two types. Using Johnson's (1964) descriptive attributes, it is easy to see the difficulty of trying to link the La Salle County examples to a specific type. This problem was also faced with the San Isidro Site samples and commented upon by Epstein (1969:32) as follows: "If we take Johnson's criteria and apply them to our San Isidro Site material, we find that the San Isidro specimens show features of both the classic and *Golondrina* varieties of the *Plainview* type."

Thomas C. Kelly is presently working on a computer-assisted project which confirms the validity of the *Golondrina* type as separate from the *Plainview* (Kelly, personal communication). Kelly also stated that most so-called *Plainviews* from South Texas tend to be smaller and thinner than the original specimens on which the type descriptions are based. The various observations noted above which confirm the existence of the *Golondrina* type and its related *Plainview* type may be manifestations of regionalized attributes. Kelly's (ms) work, when published, should be a very useful



source to aid in clarifying *Plainview* and *Golondrina* or regional counterparts. The complexities of sorting problems have been quite simplified for use in this paper. Additional work will be most valuable in building a stronger case for attribute categories needed to distinguish types and varieties in the future.

#### SUMMARY AND CONCLUSIONS

This paper has served to report three Late Paleo-Indian points recently discovered in La Salle County. A brief description and illustrations of the specimens have been provided. The comparative notes were somewhat selective to emphasize other recent papers concerned with this period and to note the point types represented by the three specimens from La Salle County. Typological problems are presented as a very real concern with its roots in the mid-1960s. Perhaps the current work of T. C. Kelly (ms) will prove to be the much needed tool by which sorting is validated.

To assure that Kelly's (ibid.) results are justified, it is vital that information on *Plainview* and *Golondrina* points continue to be made available. The next few years will serve to test our ideas about the two types. Also to be checked are possible sub-variants, whether they are slightly different forms from the same area or different in form due to regionalized attributes. Only through a continued and combined effort of artifact descriptions from various parts of southern Texas can it be expected to obtain a better understanding of the selected point types.

#### ACKNOWLEDGEMENTS

Many thanks are extended to Dr. Thomas R. Hester for his comments and for reading several versions of this paper. Much appreciation goes to Thomas C. Kelly for ideas and comments on the *Plainview-Golondrina* typology. Special regards are given to Kathy Bareiss Roemer for taking time from a very busy schedule to draw the illustrations contained herein. Dr. Earl Hubert, Jr., is especially thanked for bringing the authors together.

#### References

- Birmingham, W. W. and T. R. Hester  
1976 Late Pleistocene Archaeological Remains from the Johnston-Heller Site, Texas Coastal Plain. *Center for Archaeological Research, The University of Texas at San Antonio, Special Report 3:15-33.*
- Dusek, Curtis  
1980 *Plainview* Points from 41 MC 10, McMullen County, Texas. *La Tierra 7(3):39-41.*
- Epstein, J. F.  
1969 The San Isidro Site, An Early Man Campsite in Nuevo Leon, Mexico. *Anthropology Series No. 7, Department of Anthropology, The University of Texas at Austin.*
- Hester, Thomas R.  
1976 Late Pleistocene Aboriginal Adaptations in Texas. *Center for Archaeological Research, The University of Texas at San Antonio, Special Report 3:1-14.*

- 1977 The Current Status of Paleoindian Studies in Southern Texas and North-eastern Mexico. In: *Paleoindian Lifeways*, edited by Eileen Johnson. *The Museum Journal* XVII:169-186. West Texas Museum Association, Lubbock.
- 1979 Early Populations in Prehistoric Texas. *Archaeology* 32(6):26-33.
- 1980 *Digging into South Texas Prehistory*. Corona Publishing Company, San Antonio, Texas.

Johnson, L., Jr.

- 1964 The Devil's Mouth Site, A Stratified Campsite at Amistad Reservoir. *Archaeology Series, No. 6*. Department of Anthropology, The University of Texas at Austin.

Kelly, Thomas C.

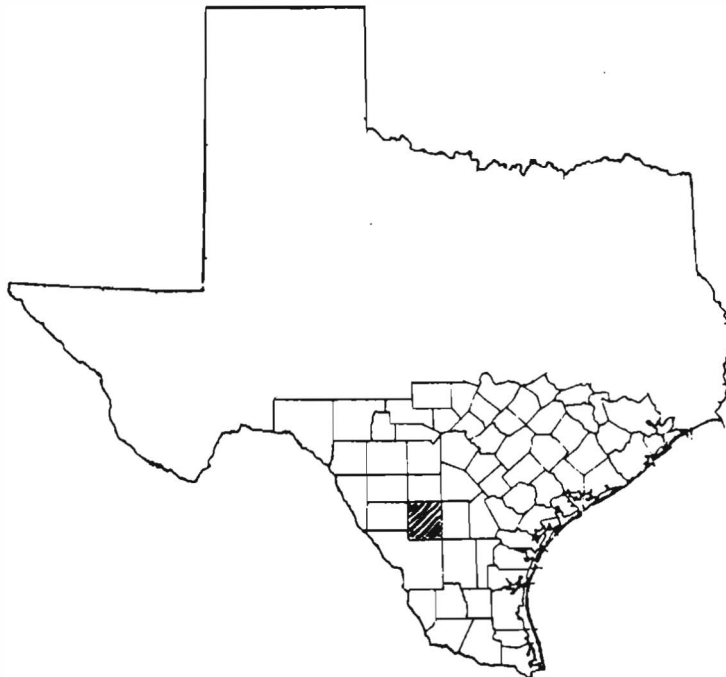
- ms. Unpublished manuscript concerning the *Plainview-Golondrina* problem.

McReynolds, R., B. McReynolds and M. McReynolds

- 1979 Additional Paleo-Indian Artifacts from San Miguel Creek, Atascosa County, Texas. *La Tierra* 6(2):20-25.
- 1980 Additional Late Paleo-Indian Artifacts from Southwestern Atascosa County, Texas. *La Tierra* 7(3):34-38.

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

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



WAX, MEN, AND MONEY. By Curtis Tunnell, Texas Historical Commission, Office of the State Archeologist Report No. 32, Austin, 1981, 97 pages, illustrated (66 maps, drawings, and photographs).

This recently published, excellently compiled report is somewhat erroneously subtitled "A Historical and Archeological Study of Candelilla Wax Camps along the Rio Grande Border of Texas." This subtitle is incomplete since the report includes on-site observations of candelilla wax operations and personal interviews with key figures in this on-going industry. This is indeed "living history" and might more appropriately be labelled as an anthropological study (which, in this context, subsumes both archaeology and history).

The candelilla plant (*Euphorbia antisiphilitica*) grows in various parts of the Chihuahuan desert including a number of Texas counties along the Big Bend of the Rio Grande. A little known industry developed early in this century to gather the plant and process it to produce wax which is then sold in bulk to commodities brokers in New York and New Jersey. Such wax eventually finds its way into garment sizing, chewing gum, breath mints, and other products which are marketed world wide. This very specialized, almost invisible (since some quantities move across the border) industry came to light through archaeological surveys in the Big Bend region (1964-1980) and this report provides the first comprehensive analysis of both the industry and the archaeological remains of camp sites used by the transient wax workers (*Candelilleros*).

This report by Dr. Tunnell, the Texas State Archeologist, is a rather unusual collection of materials ranging from a detailed analysis of the chemistry involved in wax processing to a somewhat strained attempt to relate data on the wax camps to prehistoric archaeology by assessing the loss of data over the last 50 years. This "attrition rate" is then extrapolated to the prehistoric era ("projected 500+ years") to make the point that in prehistoric archaeological sites we are seeing only a very biased, limited sample of cultural materials. This is an obvious conclusion which is already well known and accepted among almost everyone who is familiar with South Texas archaeology and one which can never be more than very grossly approximated in a quantitative model. While the conclusion is well taken, this attempt at model building detracts somewhat from the very significant value of the report as living, breathing anthropology.

As an anthropological report, Tunnell's well-written and well-documented volume represents a major contribution to the science. It illustrates all too well a major scientific truth--there is more going on out there in our cultural area (Southern Texas and Northeastern Mexico) than most of us realize! What other cultural phenomena are occurring along the Rio Grande which would help us better understand the "human condition"? What are the interactions between various Tex-Mex cultural groups which will impact on our mutual future history? What other special adaptations are native Americans (whose ancestors include the prehistoric inhabitants of the region) involved in which remain hidden beneath the surface of our homogenized mass media culture? Are there still cultural and linguistic remnants of the prehistoric groups extant among the borderland populations?

Curtis Tunnell and his staff have expended a lot of time and effort to bring us a well-developed, excellently illustrated, very readable report of an unknown sub-culture along the Rio Grande in the Big Bend country. It is an exceptionally informative piece of work. For all my quibbling with his subtitle and his model, I am convinced that his report is of major significance to Texas history and archaeology. I highly recommend this report for your reading and contemplation. Read it! (and think about its implications...).

## AUTHORS

JAMES ("JAKE") IVEY is a member of the staff of the Center for Archaeological Research at the University of Texas at San Antonio. He is well known to most STAA members through his several excellent presentations to our quarterly meetings (including his analysis of historic structures on Camp Bullis, the Radio Shack project, and most recently his report in Victoria in July on locating the compound walls and an earlier church structure in excavations at Mission Concepción. Jake has several additional reports in progress including an analysis of the *Presidio de Béxar* and a report on the fortified mission ranch headquarters complex near Floresville (*Las Cabras*).

MALCOM JOHNSON is the former president of the Coastal Bend Archeological Society who reports in this issue on several CBAS projects. Malcom now lives in Fredericksburg where he is currently building a house and tending his peach orchards. Malcom has authored a number of previous articles for this journal including reports of two historic Indian pottery vessels from the Fredericksburg area and a historic or prehistoric canoe from the vicinity of Corpus Christi. Malcom's report in this issue reveals his talents as a surveyor and illustrator; he has recently been nominated as STAA vice-chairman for 1982.

LELAND PATTERSON of Houston is a prolific author of archaeological articles and is one of the most active avocational archaeologists in the state. He is a frequent contributor to this journal (for which the Editor is eternally grateful!!!). Lee is currently reworking an article on the early introduction of the bow and arrow to Texas for publication early next year, as well as a site report on several sites in Uvalde County located while he was deer-hunting this winter (and he got a very excellent buck as well!).

FRED VALDEZ recently returned to San Antonio from a doctoral program in archaeology with Harvard University, Cambridge, Massachusetts. He is currently working on his dissertation. He has recently accepted an appointment as a member of the archaeological faculty at the University of Texas at San Antonio and has been hard at work in the Center for Archaeological Research laboratory. Fred has previously published a report in this journal of sites along the San Antonio River and its tributaries south of San Antonio which were identified in a CAR survey for the new sewage treatment facility; this report included artifacts found in excavation of the pig farm site. (I've always considered that report as an example of a truly dedicated archaeologist; it may sound humorous, but it is a good model for the pursuit of the science!)

JOY AND L. D. WHITE, who coauthored the report with Fred Valdez, are familiar names to anyone interested in the LaSalle County area of Southern Texas. They have previously coauthored (with Dr. T. R. Hester) the major report of collections from sites in the county; this report (1969 *Texas Journal of Science*) is the most cited publication in the archaeological literature dealing with this area of South Texas. The Whites have long been members of STAA and live near Cotulla, Texas.

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 amateur 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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