

LA TIERRA



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About the Cover: Richard McReynolds has depicted rifles used in the Mexican-American battle of Palo Alto (see Timothy Perttula's papers on the battle starting on page 25.) Right, Mexican, left, Texan. Taken from *On the Prairie of Palo Alto* by Chs. M. Haecker and J. G. Mauck. Another drawing by Richard is on page 11.

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NOTES ON SOUTH TEXAS ARCHAEOLOGY: 1999-4
***Geological Source Analysis of Obsidian Artifacts from the Rio Grande Delta,
Texas and Tamaulipas***

***Thomas R. Hester, Frank Asaro, Fred Stross, Robert Giauque
and Mike Krzywonski***

In earlier papers (Hester et al. 1992, 1996) the analysis of archaeological obsidian from sites in the Rio Grande delta has identified several Mexican obsidian sources, including Sierra de las Navajas, Hidalgo, Zacualtipán, Hidalgo, and Ojo Zarco, Guanajuato (Davis, Brown and Hester, ms). The artifacts, except for specimens up the Rio Grande, north of the Delta (e.g., Falcon Lake) are largely linked to the Brownsville Complex, reflecting trade between the Delta region and the Huasteca during the Late Prehistoric (the Mexican Late Postclassic), probably around A.D. 1450 (Hester 1994; 1995).

In 1997-1998, the authors participated in a study of additional specimens documented in this region (Figure 1). Five specimens were submitted to the Lawrence Berkeley National Laboratory for non-destructive precise x-ray fluorescence analysis (PXRF). The trace element data, obtained for 9 elements, were recorded in parts per million (ppm), except for iron (Fe) which was measured in terms of percentage of abundance.

Of the specimens submitted, TOP 197 (Cameron County site 68 near the Brownsville Ship Channel) turned out to have a "high silica content," indicating that it was glass, rather than obsidian. It is a very small triangular arrow point, 11 mm long, 10 mm wide, 4 mm. thick and weighing 0.4 grams. It has a slightly concave base and would fit into the Cameron arrow point type. Other glass arrowpoints are known from the A. E. Anderson collection at TARL, and have been examined by C. K. Chandler and drawn by Richard McReynolds.

Two other specimens, TOP 195 and TOP 196, are both from Site 165 (specimens .3 and .0 respectively), in the vicinity of Caballo Island, Cameron County. Both of these specimens are indeed obsidian and are from the same geologic source, but that source is presently unknown. It is distinguished by high Strontium (Sr) and high

Rubidium (Rb) values, the latter on the order of 600 ppm. Specimen 195 is either a flake or a shattered small biface, made of opaque gray to black obsidian, translucent on the edges. It is 16 mm long, 14 mm wide, 4 mm thick and weighs .9 grams. Specimen 196 is visually identical (opaque black obsidian); it is a flake fragment retaining a small patch of cortex on one side. It is 30 mm long, 12 mm wide, 6 mm thick and weighs 1.7 grams.

Specimen TOP 198 (site 85, specimen 0) comes from a site in the San Martin Lake area of Cameron County. It is a tiny fragment, the proximal (platform) end of an obsidian flake, gray-black in color and opaque. Dimensions are: 10 mm long, 8 mm wide, 2 mm thick and weighs 0.2 grams. The trace element data suggest that it is from Zacualtipán, though as Table 1 indicates, there are some differences with the Zacualtipán source. Asaro and Stross suggest that this may reflect variation in the vast horizontal obsidian exposure at that source.

Finally, TOP 201 is specimen 29.1 from TM29 (coastal Tamaulipas, west of the Laguna el Rabon). It is made of opaque black obsidian, and appears to be a heavily worn medial biface fragment, biconvex in cross section. It is 18 mm long, 15 mm wide, 7 mm thick, and weighs 2.1 grams. It is battered on the edges and looks as if had been "sand blasted" (the site is not near a beach, and the wear is not due to wave action). This is likely due to repeated exposure on the surface of TM29, an ephemeral site that yielded only a small chipped stone uniface (scraper) and a few shell fragments.

Its geologic source is Zacualtipán (Table 2), based on its profile of trace element abundances. There is some deviation in terms of Strontium and Rubidium, but still clearly fits within the Zacualtipán characterization. If visual comparisons were made with TOP 195-196, their appearance might be similar but their chemistry is quite distinct.

Table 1. Abundance data of TOP-198 artifact resembling Zacualtipán, Hidalgo, Mexico source composition¹

Element	TOP-198 Abundances and errors ²		Zacualtipán References		Macdonald et al. 1992 (RLS-129)	Devia- tion, % ⁵
			PXRF ³	INAA ⁴		
Elements which agree with reference values						
Ce	110 ± 3	113 ± 3	111 ± 1	110 ± 5	2.7	
Ga	27.5 ± 1.2	27.0 ± 1.3			1.9	
K, %	4.35 ± 0.07	4.36 ± 0.08	4.52 ± 0.26	4.34 ± 0.0	0.2	
La	52.6 ± 1.5	50.7 ± 2.0	54.7 ± 0.8	56 ± 3	3.8	
Nb	18.3 ± 0.3	19.3 ± 0.3		24 ± 1	5.2	
Rb	291 ± 3	302 ± 1	284 ± 12	296 ± 6	3.6	
Y	48.6 ± 0.6	46.7 ± 0.7		47 ± 1	4.1	
Zr	227 ± 2	219 ± 2		212 ± 4	3.7	

Average deviation, 8 elements = 3.2%

Problematical elements

As	14.7 ± 0.9	16.2 ± 1.0			
Ba	305 ± 3	272 ± 3		305 ± 9	
Fe, %	1.173 ± 0.022	1.034 ± 0.010	1.06 ± 0.02	1.119 ± 0.013	
Mn	196 ± 15	191 ± 18	171 ± 2	155 ± 48	
Pb	25.8 ± 1.3	26.6 ± 1.5		24 ± 1	
Sn	10.4 ± 0.6	8.0 ± 0.7		9.4 ⁶	
Sr	45.9 ± 0.5	38.2 ± 0.4		40.0 ± 0.8	

Elements which are different when measured smooth side down or smooth side up

Ti, % ssd	0.279 ± 0.010	0.150 ± 0.010		0.138 ± 0.001	
Ti, % ssu	0.740 ± 0.012				
Zn, ssd	95.7 ± 2.1	43.1 ± 1.9		27 ± 1	
Zn, ssu	66.4 ± 1.9				

¹ Element abundances are in parts per million except where otherwise indicated.

² For elements with counting errors less than one per cent, the error was taken as one percent.

³ The Zacualtipán PXRF reference was TOP-183, an artifact previously assigned to the Zacualtipán source (1996).

⁴ The INAA references were one source sample (ZACU-1, 846-V), obtained from Terrence Stocker, and one artifact (COXV-20, 853-Z) obtained from Edward B. Sisson via Thomas Hester (5/14/74). The INAA errors are taken as the average counting errors if the standard deviations of the two measurements are accidentally smaller than the counting error, and 1% for all the other elements.

⁵ Deviations (in per cent) = 100 x (PXRF abundances in TOP-198/PXRF abundances in reference) - 1.

⁶ Error was not given for Sn.

Table 2. Provenience assignment of TOP-201 artifact to the Zacualtipán, Hidalgo, Mexico source.¹

Element	Top-201	PXRF errors this work ²	Zacualtipán Refs.		Devia- tion, % ⁵
	abundances PXRF		TOP-183 PXRF ³	INAA ⁴	
Elements which agree with reference values					
Ce	109	7		111.2 ± 1.3	2.2
Fe, %	1.09	0.02		1.06 ± .02	3.0
La	56.5	8		54.7 ± .7	3.2
Nb	19.9	0.4	19.3		3.0
Rb	304	3	302		0.7
Y	46.5	0.9	46.7		0.4
Zr	229	3	219		4.4

Average deviation, 7 elements = 2.4%

Elements slightly deviant from the reference values

Ba	294	3	272		7.5
Sr	41.7	0.5	38.2		8.4

Average deviation, 9 elements = 3.6%

¹ Element abundances are in parts per million (ppm) except for Fe, which are in %.

² For Nb the measurement error was taken as the counting error. For other elements with counting errors less than 1%, such as Rb and Ba, the error was taken as 1%. In addition a minimum error of 0.5 ppm was used for Sr because of interference from other elements. For all other elements the coefficients of variation calculated from 6 artifacts assigned to Cerro Toledo Rhyolite were used to obtain measurement errors.

³ The Zacualtipán PXRF reference was an artifact previously assigned to the Zacualtipán source (TOP-183) in 1996.

⁴ The INAA references were one source sample (ZACU-1, 846-V), obtained from Terrence Stocker, and one artifact (COXC-20, 853-Z), previously assigned to the Zacualtipán source. The artifact was obtained from Edward B. Sisson via Thomas Hester (5/14/74). The INAA errors are taken as the average counting errors as the standard deviations of the two measurements are accidentally smaller than the counting error, and 1% for all the other elements.

⁵ Deviations (in %) = 100 x (PXRF abundances in artifact/PXRF abundances in reference) - 1.

The Zacualtipán Source

In a prior paper (Hester et al. 1992), some discussion was provided of the geologic obsidian source at Zacualtipán, Hidalgo, Mexico (Figure 1). More recently, a paper presented by Alejandro Pastrana (1998) at the 1998 meeting of the Society for American Archaeology has characterized Zacualtipán as part of the "Northern Neovolcanic Axis" obsidian source area, which includes Sierra de las Navajas, Otumba, Paredon, and Pico de Orizaba. At all of these, he notes "clear evidence of specialized and intensive mineral extraction for the production of prismatic cores, and with regional and long distance distribution systems" (Pastrana 1998:8). Located as it is at the edge of the Huastecan cultural area, Zacualtipán was easily accessible, and a major Huastecan site is said to be located at or near the source (Hester et al. 1996:4).

The presence of the Zacualtipán obsidian reported here, and the specimens of this source reported earlier (Hester et al. 1992, 1996), doubtless reached the lower Rio Grande delta as a result of the trade connections between that area and the Huasteca in Late Prehistoric times. Other sources, noted at the

beginning of this paper, are also part of this trade network. Given the detailed analyses that have been done of so many Mexican obsidian sources, we are perplexed at our inability to identify the source for TOP 195 and 196. Of course, it was only a few years ago that two specimens of a then-unknown source (TOP 53, 54; 41 WY40) were linked to the Ojo Zarco source in Guanajuato. There are a number of sources in the Querétaro-Guanajuato region that do not appear to have been fully studied in terms of chemical characterization and perhaps the specimens of unknown source reported here will derive from that area.

Our ability to carry out the analyses reported here reflects the important data that can be obtained from well-documented artifacts held in private collections. Moreover, these specimens can be analyzed without any damage to them and returned to the owner because of the non-destructive nature of the PXRf technique. Though the data come slowly, tiny obsidian piece by tiny obsidian piece, the cumulative effect is beginning to reveal interesting patterns that can hopefully be illuminated by continuing research.

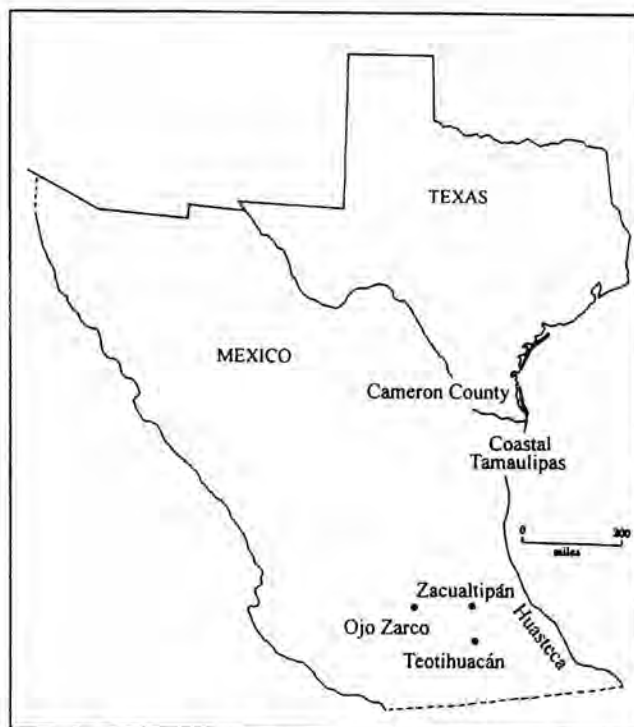


Figure 1. Locations of Sites and Areas Noted in Text.

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THE VERTEBRATE REMAINS FROM THE DAN BAKER SITE

Bonnie Yates, LeeAnna Schniebs, and W. L. McClure

ABSTRACT

The Dan Baker site (41CM104) is a burned rock complex in Comal County, Texas. Vertebrate remains indicate that during the centuries between the late Paleo-Indian and the Late Prehistoric occupations the people were relying on bison, deer, pronghorn, rabbits, and turtles for primary subsistence with small mammals, birds, and snakes being added to the diet.

INTRODUCTION

The Dan Baker site (41CM104) is a multi-component site consisting primarily of buried burned rock middens. The site is adjacent to the Guadalupe River in Comal County, Texas. Members of the Southern Texas Archaeological Association have performed excavations at the site over several years. Artifacts recovered within and near the site indicate sporadic occupation may have extended from the Paleo-Indian into the Late Prehistoric times (Mitchell and Van der Veer 1983, Chandler 1989).

The remains of vertebrates that were recovered during excavations at the site were examined to identify the species involved and to determine such environmental and cultural information as could be ascertained from them. Condition of the bones varies from extremely eroded to fair. The only whole bones are some of the teeth and some of the denser items such as carpals and tarsals. Obvious indication of burning appears on 1857 (17%) of the bones. Some bones had significant erosion while others had calcareous deposits obscuring the surface. Among the bones were some calcareous objects of cylindrical, conical, and random shape. These apparently formed within the soil and may represent casts of decomposed bones or roots.

DISCUSSION

Exclusive of bones that had been modified by humans, 11,124 items were recovered. Of these 8,142 (73%) were too fragmentary to assign to a

particular category of vertebrate. There were no human bones in the assemblage. The identified material includes 2,982 items of which there is one fish bone, 168 turtle bones, eight snake bones, 15 bird bones, and 2,694 mammal bones. The number of bones in each taxon (NISP) and the minimum number of individuals (MNI) are shown in Table 1.

SPECIES ACCOUNTS

Fishes

Channel catfish (*Ictalurus punctatus*).

The angular of a mandible of this fish was the only fish bone recovered. The species is common in the Guadalupe River today (Hubbs 1976).

Reptiles

Uncertain turtles.

Turtle bones that are too fragmentary to identify are 98 shell fragments, 3 pleurals, 6 peripherals, and 6 plastrons.

Yellow mud turtle (*Kinosternon flavescens*).

Bones of this species include two peripherals and a pygal.

Stinkpot (*Sternotherus odoratus*).

Bones of this species include two peripherals and a



Table 1. Number of bones in each taxon (NISP) and minimum number of individuals (MNI).

		NISP MND				INISP MNI	
Channel catfish	<i>Ictalurus punctatus</i>	1	1	Mammal <deer	Mammalia	348	
				Deer-size mammal	Mammalia	1381	
Turtle	Testudine	113		Bison-size mammal	Mammalia	56	
Yellow mud turtle	<i>Kinosternon flavescens</i>	3	1	Jackrabbit	<i>Lepus californicus</i>	18	4
Stinkpot	<i>Sternotherus odoratus</i>	4	2	Swamp rabbit	<i>Sylvilagus aquaticus</i>	4	2
Slider turtle	Emydidae	20	2	Cottontail	<i>Sylvilagus floridanus</i>	164	30
Box turtle	<i>Terrapene</i> sp	18	2	Rat	Rodentia	4	
Softshell turtle	<i>Trionyx</i> sp	10	2	Gray squirrel	<i>Sciurus carolinensis</i>	2	1
				Rock squirrel	<i>Spermophilus variegatus</i>	1	1
Snake	Serpentes	1		Attwater's pocket gopher	<i>Geomys attwateri</i>	48	12
Snake	Colubridae	3		Beaver	<i>Castor canadensis</i>	4	2
Rat snake	<i>Elaphe</i> sp	1	1	Hispid cotton rat	<i>Sigmodon hispidus</i>	2	2
Coachwhip	<i>Masticophis</i> sp	1	1	Eastern woodrat	<i>Neotoma floridana</i>	13	4
Rattlesnake	<i>Crotalus</i> sp	2	1	Carnivore	Carnivora	3	
				Raccoon	<i>Procyon lotor</i>	6	2
Bird	Aves	11	3	River otter	<i>Lutra canadensis</i>	1	1
Turkey	<i>Meleagris gallopavo</i>	4	2	Domestic dog	<i>Canis familiaris</i>	5	2
				Coyote	<i>Canis latrans</i>	19	3
				Deer	<i>Odocoileus virginiana</i>	494	10
				Pronghorn	<i>Antilocapra americana</i>	15	2
				Deer or pronghorn	Artiodactyl	169	
				Bison	<i>Bos bison</i>	33	2

hyoplastron from adults and a hyoplastron of a juvenile individual.

Slider turtle (Emydidae).

Bones of this genus of turtles include nine pleurals, 3 peripherals, and 8 plastrons. These are probably from the red-eared slider (*Trachemys scripta elegans*) but some could be from the Texas river cooter (*Pseudemys texana*). Fragmentary bones of these two turtles cannot be separated.

Box turtle (Terrapene sp).

Bones of this terrestrial turtle include one neural, 2 pleurals, 4 peripherals, and eleven plastrons. The ornate box turtle (*T. ornata*) is probably the species represented although the eastern box turtle (*T. carolina*) could be included.

Softshell turtle (Trionyx sp).

Eight unidentifiable fragments and 2 pleurals are from the softshell turtle. The spiny softshell (*T. spiniferus*) is probably present rather than the uncommon smooth softshell (*T. muticus*).

Uncertain snakes (Serpentes).

Three vertebrae of non-poisonous snakes and one other fragment were recovered.

Rat snake (Elaphe sp).

One vertebra of a rat snake was recovered. Either the Great Plains rat snake (*E. guttata*) or the Texas rat snake (*E. lindheimeri*) is represented.

Coachwhip (Masticophis sp).

One vertebra of a whipsnake was recovered. It could be from a coachwhip (*M. flagellum*) or the striped whipsnake (*M. taeniatus*).

Rattlesnake (Crotalus sp).

Two vertebrae of rattlesnakes are included. The species is either the Western diamondback rattlesnake (*C. atrox*) or the blacktail rattlesnake (*C. molossus*).

The known ranges of the indicated turtles and snakes include Comal County, Texas (Dixon 1987).

Birds

Uncertain birds (Aves).

Eleven fragments of long bones of three sizes of birds were among the recovered items.

Turkey (Meleagris gallopavo).

Four tarsometatarsi of turkey were recovered and

three are from males with spurs. The other was too incomplete to determine gender. Turkeys are common in the area today.

Mammals

Uncertain smaller mammals (Mammalia).

Bones (347) of mammals smaller than deer consist of cranial, vertebral, and mostly appendicular elements. These bones probably are from the same varieties of mammals that are identified below.

Uncertain deer-size mammals (Mammalia).

Bones (1381) of deer-size mammals include cranial, vertebral, and appendicular elements. Deer, pronghorn and perhaps other mammals of similar size are represented.

Bison-size mammals (Mammalia).

Bones (52) that are consistent with morphology of bones of bison are also cranial, vertebral, and appendicular elements. They are probably all from bison (*Bos bison*).

Jackrabbit (*Lepus californicus*).

Bones of jackrabbits include mandible (7), isolated teeth (4), humerus (1), ulna (1), metacarpal (1), and astragalus (2).

Swamp rabbit (*Sylvilagus aquaticus*)

Swamp rabbit bones are premaxilla, femur, and tibia (2).

Cottontail (*Sylvilagus floridanus*).

Cottontail bones include premaxilla (2), maxilla (18), palatine (1), mandible (65), isolated teeth (9), vertebra (1), scapula (13), radius, innominate (11), femur (4), tibia (12), metapodial (6), phalanx (1), astragalus (1), and calcaneus (16).

Uncertain rat (Rodentia).

Bones from rats that are probably from some of the rodents listed below include one mandible, two tibiae, and a leg bone.

Gray squirrel (*Sciurus carolinensis*).

A mandible and a tibia of the gray squirrel are in the assemblage.

Rock squirrel (*Spermophilus variegatus*).

An upper molar is the only element of the rock squirrel that was recovered.

Attwater's pocket gopher (*Geomys attwateri*).

Pocket gopher bones include premaxilla (8), maxilla (1); mandible (23), isolated teeth (9), humerus (3), femur (1), and tibia (1).

Beaver (*Castor canadensis*).

Four beaver teeth were recovered.

Hispid cotton rat (*Sigmodon hispidus*).

Two mandibles of hispid cotton rats were in the assemblage.

Eastern woodrat (*Neotoma floridanus*).

Elements of woodrat (pack rat) include premaxilla, mandible (8), isolated teeth (2), scapula, and calcaneus.

Uncertain carnivore (Carnivora).

Three teeth are of some variety of carnivore but cannot be assigned to a particular animal.

Raccoon (*Procyon lotor*).

Bones of the raccoon include mandible (2), isolated teeth (3), and humerus.

River otter (*Lutra canadensis*).

A mandible with p3, p4, & m1 are from the river otter.

Coyote (*Canis latrans*).

Coyote bones include mandible (3), isolated teeth (11), and phalanx. Probable coyote bones are isolated teeth (3) and metatarsal. Since there are remains of domestic dogs in the assemblage, it is possible that these bones are of dogs that were the size of a coyote.

Domestic dog (*Canis familiaris*).

Two varieties of domestic dog that were smaller and larger than coyote are represented by mandible (2), isolated teeth (M1 & c), and radius.

White-tailed deer (*Odocoileus virginianus*).

Deer bones include cranial fragment (2), parietal (2), petrosal (5), maxilla w/teeth (2), antler pedicle, antler (9), mandible w/teeth (17), mandible w/o teeth (10), tooth fragment (145), isolated teeth (85), vertebra (3), scapula (3), humerus (10), radius (7), ulna (7), innominate (12), femur (2), patella, tibia (17), malleolus (8), metapodial (20), metacarpal (10), metatarsal (16), phalanx (11), 1st phalanx (10), 2nd

phalanx (3), 3rd phalanx (16), unciform (5), trapezoid magnum (5), scaphoid, lunar, cuneiform (3), 2nd & 3rd tarsal (5), astragalus (16), calcaneus (10), centroquartal (3), and sesamoid (3). Adult, sub-adult and juvenile individuals are included. Some of these elements could be from mule deer (*Odocoileus hemionus*) but this is doubtful because of known ranges of that species

Pronghorn (*Antilocapra americana*).

Bones of pronghorn are mandible w/roots, isolated teeth (7), scapula, humerus (2), innominate, metatarsal, cuneiform, and calcaneus.

Deer or pronghorn

Bones that are from either deer or pronghorn are petrosal, occiput, mandible w/o teeth (8), isolated teeth (10), vertebra (3), rib (4), scapula (3), radius (3), ulna (2), innominate (2), femur (4), tibia (7), metapodial (58), metacarpal (6), metatarsal (6), phalanx (19), 1st phalanx (6), 2nd phalanx, 3rd phalanx (4), trapezoid magnum, astragalus, calcaneus, centroquartal, sesamoid (2), and long bone fragment (13).

Bison (*Bos bison*).

Bones of bison include squamous part of occipital, mandible w/m1, mandible w/o teeth, isolated teeth (20), innominate, scapula, humerus, femur (2), scaphoid, astragalus, centroquartal, sesamoid, and distal sesamoid. Adult and sub-adult individuals are included. It is possible that some of these elements are from domestic cattle (*Bos taurus*) but because of the excavation details that possibility is remote. In the following discussion bison-sized bones will be considered to be from bison.

Bison and pronghorn were once known to be in the area. The range of pronghorn has retreated to the west and the bison have been extirpated as a wild population due to a combination of climatic factors and human activities during historic times. The site is on the western edge of the present range of swamp rabbit, gray squirrel, and river otter. Domestic dogs of at least two varieties were at the site along with the humans. The other identified species of mammals are common residents of Comal County today (Davis & Schmidly 1994).

DISTRIBUTION OF VERTEBRATE REMAINS

Bones of turtles, deer and deer-sized animals

were recovered throughout the site. Some of the deer-sized animals were either deer or pronghorn while others could be of other species such as wolf, puma, etc. Cottontails, rodents, canids, and bison (including bison-sized animals) were found throughout the site with the exception of units away from the major excavation effort. Bird bones have a similar but smaller distribution. Pronghorn bones were found in only four units from the northwest to the southeast part of the excavated area. The fish, snake, raccoon and otter remains are in such low numbers that no significance can be attributed to their distribution.

Bison bones were recovered from 14 pits from 10 cm below the modern surface to as deep as 260 cm. In three of the pits the bison bones were in many excavation levels from 60 to 70 cm in total depth. In Pit N104/E100 bison was found from 90 to 110 cm and from 160 to 260 cm. Thus, bison bones were deposited in the midden during a considerable time when the midden debris was accumulating. The absence of bison in one pit between two intervals when they were present may be significant. Bison bones were in Pit N115/E109 from 10 to 30 cm and there were no deer or pronghorn in that pit.

Since pronghorn and bison are the two wild species that are no longer present in the area, a comparison of the distribution of bones of the two was made. Pronghorn bones were in only one pit that included no bison, while bison bones were in ten pits without pronghorn. In pit N102/E107 pronghorn bones were found above bison levels. In pit N114/E103 the two species were in the same level at 90 to 100 cm. In Pit N104/E100 pronghorn were present during the hiatus of bison bones.

Deer bones were recovered from 16 pits at depths from 20 to 260 cm below present surface. Bones that could be either deer or pronghorn were in one additional pit. The pits that had pronghorn bones had deer bones in the same levels.

Bones of domestic dogs were in four levels of three pits. In all cases rabbit bones were in same levels or both above and below the level. Bones of coyotes or what may have been coyote-sized dogs were in ten levels of seven pits. Except for two instances, these levels concur with levels having rabbit bones. The exceptions were both located below the rabbit levels.

All parts of the bodies of the prey species are in the assemblage indicating that entire animals were brought to the site for processing and consumption.

DISCUSSION

The number of people living on the premises and the numbers of the various animals used to sustain their economy would be useful information. The Dan Baker site was populated at an unknown number of times for many centuries and there is no apparent discrete activity center or an indication of a specific annual accumulation of debris. Thus a precise indication of population and of annual food intake are not possible. In addition, the variation in the number of bones of the various species, the parts brought to the site by the hunters, the sharing of parts with others, processing practices, disposal practices, dispersal of bones after disposal, survival of bones in the soil, and excavation practices all contribute uncontrolled biases as to which items were delivered to the faunal analyst. However, the minimum number of the various species would be useful for determining the relative importance of the animals and for comparison with other sites. At this site there is no apparent shift in the use of animal resources through time except as noted above. The

minimum number of individuals (MNI) was derived by considering the site as a whole and determining numbers by size, age and matching elements of each taxon. The actual number of individual animals is much greater than the MNI but the ratio between the species reveals the importance of each to the inhabitants. MNI is shown in the table above.

The data indicate that animal flesh was a significant part of the diet of the occupants of the site during the entire occupation. The major portion of the animal resources was large mammals including bison, deer, and pronghorn. Rabbits were the next most important with turtles, rodents, birds, and snakes being supplemental dietary items. Fish appear to have been largely ignored even though water turtles were acquired from the river. The people had domesticated dogs and these may have been used for assistance in hunting as well as for food. There is indication that bison were not included in the refuse for part of the time either because the bison were not present or hunting practices may have differed. Other species were acquired during the hiatus of bison.

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A FLUTED CLOVIS POINT FROM TARRANT COUNTY IN NORTH CENTRAL TEXAS

C. K. Chandler

ABSTRACT

A single fluted Clovis point from Tarrant County is documented and illustrated. There are no fluted Clovis points previously reported (as of 11/97) from Tarrant County.

ARTIFACT DESCRIPTION

This Clovis point, Figure 1, A, A', was found by Stuart Taylor on a gravel bar in an unnamed dry creek in eastern Tarrant County in July 1997. This is the first documented fluted Clovis from Tarrant County known to this author as of November, 1997.

Maximum dimensions are 54.3 mm in length, 21.2 mm wide at 27 mm above the base, 7.7 mm thick at 35 mm above the base and it weighs 10.5

grams. Lateral edges are ground 29.5 and 32 mm. The base is straight and is also ground. There is a single flute on each face. The obverse flute is 27 mm long by 12 mm wide. The reverse flute is 26 mm long by 11 mm wide. It is 3.3 mm thick in the fluted area near the base.

The distal tip has been broken and there is retouch along both distal edges. All artifact surfaces and flake arrises are smoothed, polished and rounded, apparently from stream rolling. This specimen is of fairly good quality Edwards chert. The obverse face is light brown and the reverse is light gray with several white specks.

All of the counties bordering Tarrant County have a Clovis presence (Meltzer and Bever 1995). The initial state-wide survey for Texas Clovis Fluted points (Meltzer 1987) reported 205 Clovis from 95 of the 254 counties in Texas. The recent survey (Meltzer and Bever 1995) increased the Clovis fluted point count to 406 from 128 counties. This nearly doubled the Clovis count and substantially increased the area of Clovis distribution by 33 new counties.

Both Clovis and Folsom points continue to be published in *La Tierra* and these generally (but not always) have been included in the state-wide surveys.

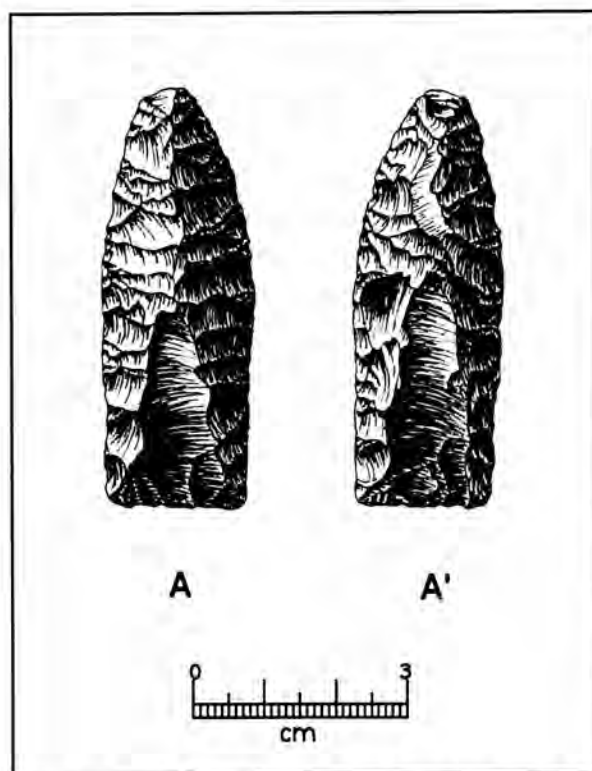
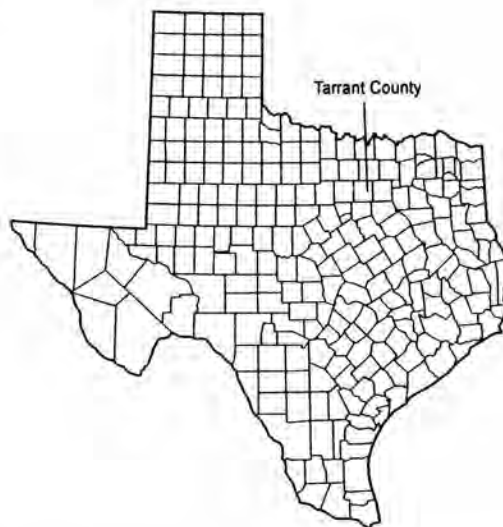


Figure 1. A, A'. A Clovis point from Tarrant County in North Central Texas.



ACKNOWLEDGMENTS

Sincere appreciation is extended to Stuart Taylor for the loan of his Clovis for study and documentation and to Richard McReynolds for preparation of the illustrations.

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COMMENTS ON POPULATION DYNAMICS OF SOUTHEAST TEXAS

Leland W. Patterson

ABSTRACT

Methods for the estimation of relative population levels in various archaeological time periods are considered. A discussion is then given on the population dynamics of the inland and coastal margin portions of Southeast Texas.

INTRODUCTION

This article gives the author's current ideas on methods for the estimation of relative population levels for various archaeological time periods. The calculation methods considered are then applied to the study of population dynamics for Indians of Southeast Texas. The study area of Southeast Texas is shown in Figure 1.

Available archaeological data do not permit the estimation of absolute population levels. The basic data type is the number of site components for each archaeological time period. It is not possible to

determine the total population of each period from site components. It is possible, however, to consider trends in relative population levels for various time periods.

There is a basic assumption for all cases that the number of sites that have been found for each period are about the same proportion of the total population of sites of a region for each period. There is also an inherent assumption that on average each site has been used by about the same number of people.

Regardless of calculation method used to estimate relative population levels for each time period, it is not possible to give rigorous proof for an answer. The best that can be done is to assure that reasonable assumptions have been made. Also, it should be noted that estimations of relative population levels are for averages of long time periods. Short-term population fluctuations cannot be detected due to the limitations of available data, such as the accuracy of radiocarbon dating.

Archaeological time periods used here for

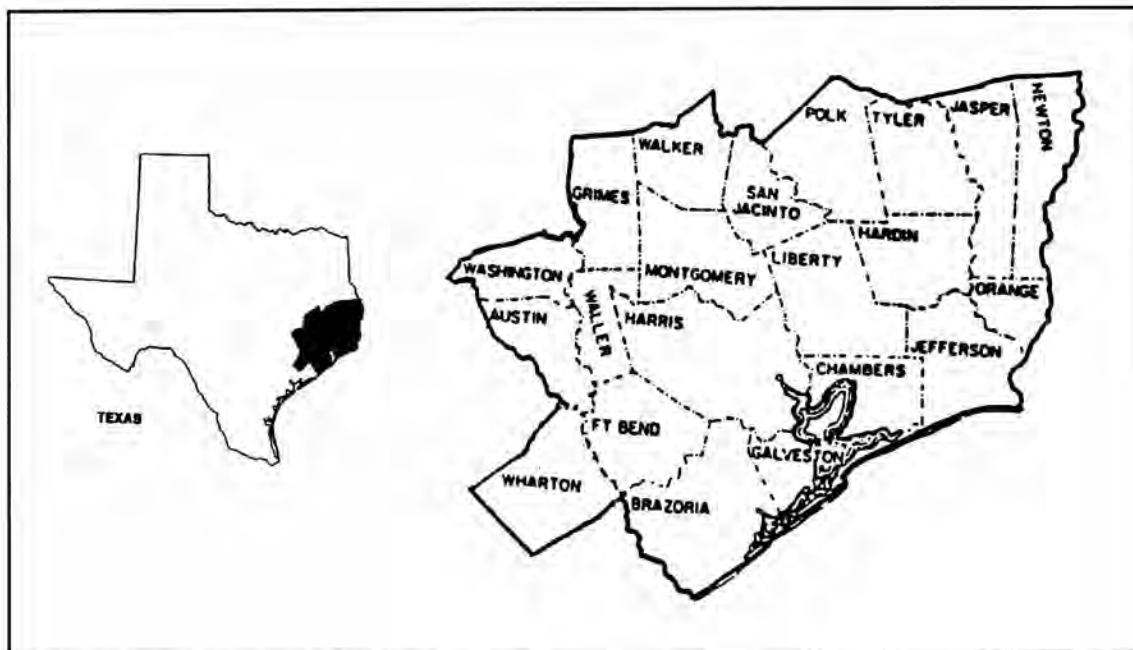


Figure 1. Southeast Texas Study Area.

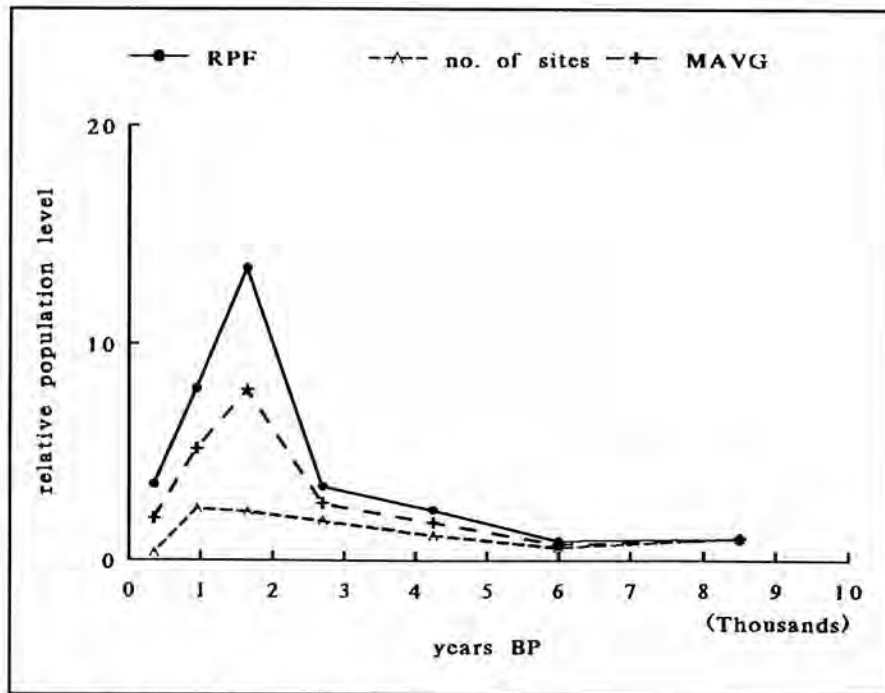


Figure 2. Inland Population Dynamics

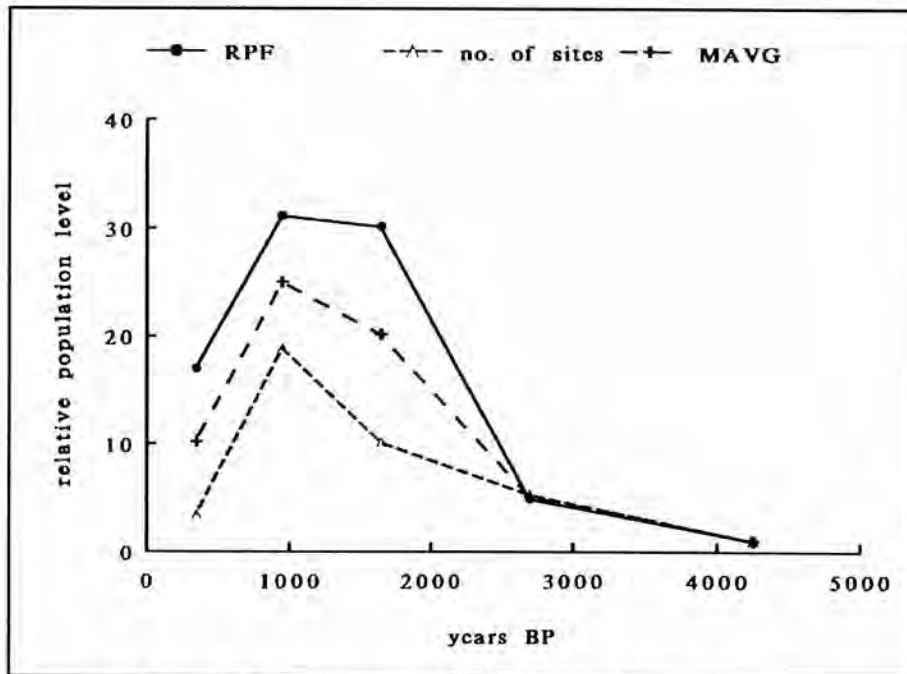


Figure 3. Coastal Margin Population Dynamics

Southeast Texas are the same as previously used (Patterson 1995:243, 1996:9). These periods include Late Paleoindian (10,000-7,000 BP), Early Archaic (7000-5000 BP), Middle Archaic (5000-3500 BP), Late Archaic (3500-1900 BP), Early Ceramic (1900-1400 BP), Late Prehistoric (1400-500 BP), and Historic Indian (500-200 BP). As used in this article, the Historic Indian period includes both proto-Historic and Historic periods after AD 1500.

Data used here are from the 1998 updates of computer data bases for the inland (Patterson 1989a) and coastal margin (Patterson 1989b) portions of Southeast Texas plus newly collected data for sites of the coastal margin with Middle Archaic components.

Details on sites with Historic Indian components are given in a separate publication (Patterson n.d.). The coastal margin of Southeast Texas is a zone about 20 km wide along the Gulf shoreline.

ESTIMATION METHODS

In previous publications, I have used the relative population factor (RPF) to estimate relative population levels for each archaeological time period (Patterson 1991, 1995:246, 1996:58). The RPF is

Table 1. Inland Population Levels

Period	Period length, years	No. of Sites	Relative Population level			
			RPF	RPF	Sites	MAVG
Late Paleoindian	3000	83	2.77	1.00	1.00	1.00
Early Archaic	2000	50	2.50	0.90	0.60	0.75
Middle Archaic	1500	97	6.47	2.34	1.17	1.76
Late Archaic	1600	152	9.50	3.43	1.83	2.63
Early Ceramic	500	187	37.40	13.50	2.25	7.88
Late Prehistoric	900	198	22.00	7.94	2.38	5.16
Historic	300	29	9.70	3.50	0.35	1.93

RPF - Relative Population Factor

MAVG - Methodology Average

defined as the number of site components of a time period times 100, divided by the number of years in the period. A basic assumption is made that the number of sites used during a time period is proportional to the length of the time period. In other words, at a given population level, a longer time

period would have more sites.

Another method of estimating relative population level would be to simply use the total number of site components of a period, regardless of length of the time period. Ignoring the lengths of time periods creates an obvious problem.

In using the above two methods to calculate relative population levels, I have concluded that these two calculation methods may yield high and low extremes for relative population levels. Perhaps a better answer lies between these two extremes. As a third method of calculating relative population level, an average of the other two calculation methods has been examined. This additional method is termed the methodology average (MAVG).

To compare results of the above three calculation methods for relative population level, all results discussed here use a base number of 1.0 for the earliest time period. Relative population levels for later time periods are then expressed as a proportion of the base period.

INLAND POPULATION DYNAMICS

Using the three calculation methods described above, relative population levels for inland South-

east Texas are given for each archaeological time period in Table 1, and shown graphically in Figure 2. All calculation methods show a decline in population level for the Historic Indian period, when European diseases decimated Indian populations. All calculation methods show a low relative population level in

the Late Paleoindian and Early Archaic periods, followed by modest population growth rate from the Early Archaic to the Late Archaic. The main differences in population growth rates by the various calculation methods is for the Late Archaic to Early Ceramic periods and for the Early Ceramic to Late Prehistoric periods. Using the number of site components in each period, the steady growth rate of previous periods continues through the Early Ceramic and Late Prehistoric periods in a rather linear manner. However, use of RPF gives a sharp increase in relative population level from the Late Archaic to the Early Ceramic periods, and a population decrease from the Early Ceramic to the Late Prehistoric periods. Use of MAVG still shows the same trends as use of RPF, but at lower change rates.

I am inclined to believe that trends in relative population levels shown by use of RPF are fairly realistic. Fagan (1991:333) and Wenke (1990:565) have noted a rapid increase in population growth rate during the Late Archaic period throughout the Eastern Woodlands, of which Southeast Texas is a border area. The reasons for this rapid increase in population growth rate have been discussed by Fagan (1991:334, 1995:375) but are not yet well defined. One factor for increase in population growth rate that has been generally overlooked is the early use of the bow and arrow as a more efficient hunting weapon system (Patterson 1992; Nassany and Pyle 1999). Wenke (1990:568) notes that the bow and arrow may have added enough extra production to some economies that significantly higher population densities were possible.

There seems to have been a decrease in relative population level from the Early Ceramic to the Late Prehistoric for inland Southeast Texas. This corresponds to a possible increase in mobility for

hunter-gatherers (Patterson 1976) during this time interval. High population density in the Early Ceramic period may have caused Indians to move more to obtain food. Increased mobility may have then caused a decline in birthrate. It has been observed that in hunting-gathering societies, fertility rates are suppressed significantly simply due to maternal mobility (Wenke 1990:262).

COASTAL MARGIN POPULATION DYNAMICS

Using the three calculation methods described above, relative population levels for the coastal margin of Southeast Texas are given for each archaeological time period in Table 2, and shown graphically in Figure 3. The earliest time period used is the Middle Archaic, because rising sea level would have inundated most earlier sites. All calculation methods show a decline in population level for the Historic Indian period when European diseases decimated Indian populations of both the inland and coastal margin portions of Southeast Texas. A modest population growth rate is shown by all calculation methods from the Middle to Late Archaic periods. Use of RPF and MAVG both show a significant increase in population growth rate from the Late Archaic to the Early Ceramic periods. There is a more modest increase in population growth rate from the Late Archaic to Early Ceramic periods using the number of site components in each period. Use of RPF shows a leveling off of population growth rate from Early Ceramic to Late Prehistoric periods, while use of number of site components and MAVG both show significant population growth rates for this time interval. In any case, there is no decrease in population level from the Early Ceramic to Late

Table 2. Coastal Margin Population Levels

Period	Period Length, Years	No. of Sites	Relative Population Level			
			RPF	RPF	Sites	MAVG
Middle Archaic	1500	7	0.47	1.00	1.00	1.00
Late Archaic	1600	37	2.31	4.91	5.29	5.10
Early Ceramic	500	71	14.20	30.21	10.14	20.18
Late Prehistoric	900	132	14.66	31.19	18.86	25.03
Historic	300	24	8.00	17.02	3.43	10.23

RPF - Relative Population Factor
MAVG - Methodology Average

Prehistoric periods of the coastal margin as indicated for the inland portion of Southeast Texas. Marine and brackish water food resources probably permitted a higher population level for the coastal margins than inland food resources could provide.

SUMMARY

Several methods have been used here to calculate relative population levels for each archaeological

time period in Southeast Texas. It is concluded that use of RPF and MAVG give better descriptions of population dynamics than simple use of number of site components for each period. This additional study of population dynamics for Southeast Texas has not resulted in any conclusions that are significantly different than previous conclusions (Patterson 1991, 1995:246, 1996:58) where only RPF was used to calculate relative population levels.

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PRELIMINARY TESTING OF A ROCKSHELTER ON THE RIO SALADO, TAMAULIPAS, MEXICO

James B. Boyd

ABSTRACT

A small rockshelter located in a sandstone ledge on the Rio Salado in Tamaulipas, Mexico is reported. The rockshelter, located within the confines of a large occupation site, was tested on a limited basis by the author in 1989, resulting in the recovery of several artifacts and other lithic debitage. The shelter and recovered artifacts are described, as is the surrounding occupation site and artifacts recorded there.

SITE LOCATION

The rockshelter is located on the Rio Salado, in the Mexican state of Tamaulipas. The site is approximately 15 km southwest of Zapata, Texas and about 5 km north-northwest of the abandoned city of Guerrero Viejo, Tamaulipas (Figure 1). Guerrero Viejo, formerly known as Revilla, was founded in this location in 1754 and was abandoned following the building of Falcon Dam on the Rio Grande in the early 1950s and the subsequent partial flooding of the city (Flores Gutierrez 1994:201) from waters backed up the Rio Salado.

The rockshelter is located approximately 300 meters east of the riverbed of the Rio Salado, within an area corresponding to the lomeria zone as described by Nunley (1989:195) for areas along the nearby Rio Grande. The site is located about 5 km east of Mexican Highway 2, which runs north to south, paralleling the Rio Grande.

THE ROCKSHELTER

The author discovered the shelter on February 2, 1989. It is formed by a sandstone overhang located near the crest of a ridge that runs along the bank of the Rio Salado (Figure 2). The overhang is approximately four meters in width, three meters in depth, and about 1-½ meters in height. The shelter is located in a rocky outcropping at an approximate elevation of 110 meters above mean sea level.

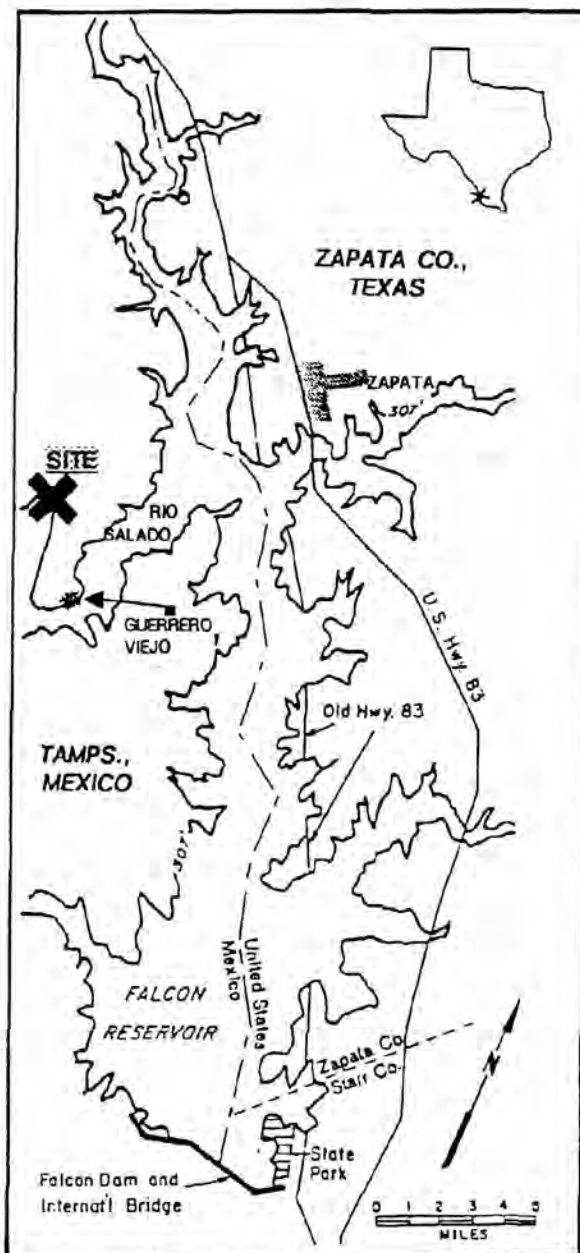


Figure 1. Map of the area around Falcon Reservoir, showing the location of the site. Note the Rio Salado. Inset shows location of area in the state.



Figure 2. Wide view of the rockshelter, view east. Photo taken by the author on February 13, 1989.



Figure 3. Interior view of the shelter, view northeast. Note collapsed wall at left.

A number of large sandstone rocks, apparently once stacked to form a wall, are located along the north edge of the shelter (Figure 3). The wall feature, now fallen, is repeated by a number of other similar rocks along the shelter's south edge. When the walls were standing, they effectively formed a small, enclosed area with only the side facing the river (west) remaining unobstructed. The rocks are not altered in any way, and are similar in size and composition to others observed in the area of the rocky outcropping where the rockshelter is located. It is unknown whether the original walls were built by the aboriginal peoples who once inhabited the adjacent site (or the shelter itself), or whether they are of more recent origin, i.e., constructed by goat-herders or others. Similar stacked-rock features have been documented in a few other rockshelters along the Rio Salado (Boyd n.d.).

The rockshelter and the surrounding rocky outcropping are located on the westward facing, moderately sloping north bank of the adjacent river. The surrounding area is dominated by flora characteristic of the region, e.g., scattered mesquite, huisache, acacia, blackbrush, guayacan, cenizo, tasajillo, maguey, prickly pear, and various other species of brush and cacti. Faunal types observed by the author include whitetail deer, javelina, coyote, bobcat, racoon, badger, skunk, armadillo, squirrel, diamondback rattlesnake, indigo snake, various types of lizard, and numerous species of birds, most notably Vultures and Caracara. Ground surface visibility is high, but is in sharp contrast to the nearby riparian environment along the riverbank of the Rio Salado, where there is a dense undergrowth of a varietal assortment of plant types, as well as very large trees including ebony and cypress.

Rockshelters as a rule are not commonly found in the region, as geologic conditions do not exist which makes their presence likely. No rockshelters are known on the adjacent Texas side of Falcon Reservoir (Boyd n.d.; Krieger and Hughes 1950: 19), but a few small rockshelters were recorded during an archaeological survey in 1950 along the Rio Salado (ibid.:19). It is unknown whether the rockshelter being reported was one of those previously recorded. The author has also discovered a small number of other rockshelters along the Rio Salado (Boyd 1999:9-17), as well as in other areas on the Mexican side of the Rio Grande, most notably a region west of the Rio Grande in the northern portion of Falcon Reservoir.

THE RECOVERED ARTIFACTS AND DEBITAGE

On February 13, 1989 the author conducted limited testing of the shallow deposits in the shelter. Due to the obvious shallow nature of the deposits, and the assumption that they had probably been disturbed by animal traffic over the years, no strictly controlled testing procedure was utilized. The floor of the rockshelter consists of a few inches of soil overlying what is believed to be solid sandstone bedrock. The deposits were simply scraped in a horizontal fashion with a shovel and screened through ¼" wire mesh. Approximately ten five-gallon buckets of material were screened, yielding a moderate amount of lithic material. Additionally, a few sherds of Historic period aqua-colored bottle glass were also recovered, as were a small number of miscellaneous items of bone, shell, and stone.

Prehistoric. Several classes of prehistoric artifacts and debitage were recovered during the screening process. Twenty chert flakes with one or more retouched or worked edges were recovered (Figure 4). These flakes range in size from 1.78 cm to 4.49 cm. Some of the specimens appear to be flakes with only very slight modification along one edge, while other specimens appear to be more specialized scrapers or cutting tools, some with two or three well-worked edges. Chert color ranges from light tan to brown to reddish, as well as dark gray. Some of the flakes retain cortex on their surface, and some are translucent.



Figure 4. Chert flakes with edge modification screened from the deposits. Author photo.

Five chert flakes that were recovered show no evidence of modification. The largest measures 6.38 cm in width, while the smallest measures 1.40 cm in width. Color of these unmodified flakes ranges from off-white to brown to gray. Two are translucent, and one exhibits a considerable degree of patina on one face. The largest specimen, as well as one of the smaller flakes, also exhibits cortex.

Three fragmented bifacial artifacts were also recovered (Figure 5). Specimen 5A appears to be the proximal fragment of a thin biface, light brown in color, with finely worked edges. It has a maximum thickness of 6.61 mm. Specimen 5B appears to be the medial fragment of a biface, perhaps from a bifacial tool or dart point blank, made from a very light tan-colored chert. Its maximum thickness is 7.21 mm, and its maximum width is 2.60 cm. Specimen 5C is also a medial fragment of a biface made from a white chert. The maximum thickness is 8.51 mm. All three fragmented bifacial artifacts exhibit random flaking.

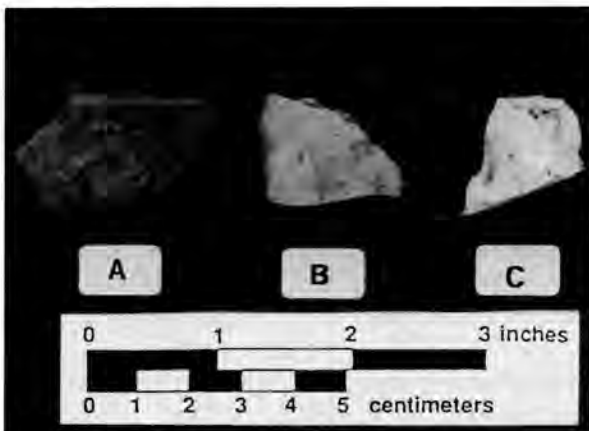


Figure 5. Fragmented bifacial artifacts screened from the deposits. Author photo.

One apparently thermally altered, fragmented chert specimen was also found (Figure 6A). This specimen exhibits a considerable degree of cortex on one side, and the constituent internally exposed chert material is multi-colored in appearance. One edge of the specimen has been deliberately flaked, forming an edge scraper with a small concavity. It is presumed that this artifact was flaked after being thermally altered. The artifact measures 2.87 cm in length. It has a maximum thickness of 1.08 cm, and the modified edge measures 2 cm in width.

A graver-like artifact was collected during the screening process (Figure 6B). The specimen is made from a pinkish-brown chert, and it exhibits

alternate flaking along the lateral edges near the bit end. The specimen measures 3.69 cm in length, with a maximum thickness of 6.70 mm. The proximal edge of the artifact is broken.

A small, possibly exhausted chert core was also

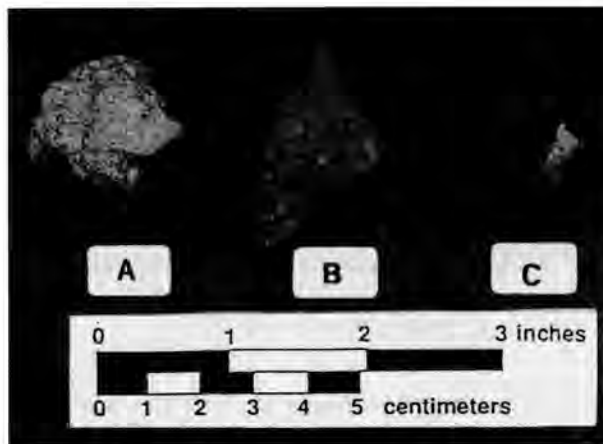


Figure 6. Miscellaneous artifacts screened from the deposits (A=scraper, B=graver, C=chert core). Author photo.

recovered (Figure 6C). It is made from a pinkish-brown chert with a small amount of cortex on one edge. The specimen measures 2.14 cm in width, and 1.17 cm in maximum thickness.

Historic. A total of seven aqua-colored glass sherds were collected from the deposits in the shelter (Figure 7). Four of the sherds (Figure 7A) measure over 6 mm in thickness. Two of the sherds appear to be from the body of a bottle, while two appear to be fragments of the outer basal areas of the vessel. All are the same color, and are presumably from the same vessel. None of the sherds exhibit writing, embossing, or designs of any sort. The largest specimen measures 3.51 cm in diameter, while the smallest measures 2.12 cm. The glass sherds appear to be quite old, exhibiting a patina that gives them a "frosted" appearance. A considerable degree of scratching and pitting is evident under 10x magnification.

Three sherds (Figure 7B) are considerably thinner than the four mentioned above. They are curved in cross-section, and of the same color glass. These sherds measure from 2.0-3.2 mm in thickness, and also exhibit the same patina, pitting, and scratching that is evident on the other sherds.

Aqua colored glass, in some instances, is among the oldest glass found in Historic period sites in the



Figure 7. Aqua-colored glass sherds recovered from the deposits. Author photo.

area of (nearby) Falcon Reservoir (Dr. Timothy K. Perttula, personal communication 1996). Although it is difficult, if not impossible, to date with precision in the absence of any writing or markings on the glass, the older aqua-colored glass found in sites in the region predates the 19th Century (ibid.). The sherds recovered in the rockshelter, though quite old in appearance, are not directly dateable. It is notable that the entire surrounding site area is free of Historic period artifacts of any sort. Due to the relative proximity of the old city of Guerrero Viejo, it is the possible source of the glass found in the shelter.

Other items. Five items not necessarily classifiable as artifacts were also recovered from the rockshelter during the testing. One is a small (D=3.00 cm) black, stream-rolled chert cobble that has been broken or cracked roughly in half. It is unknown whether natural or man-made processes were responsible for this breakage. Another item is a small stream-worn pebble, gray in color, with a maximum diameter of 2.29 cm. This specimen resembles a small river pebble. A small (D=1.19 cm) brown natural bead-like sandstone rock was also recovered. Additionally, a small, fragmented section of bone was recovered. It appears (under 10x magnification) to be petrified. Also, a small portion of the umbo section of a mussel shell was found in the screened deposits. The presence of this specimen in the rockshelter, well away from the river and at a considerably higher elevation, may be due to transport by either man or animal.

THE SURROUNDING SITE

As previously mentioned, the rockshelter is located in an extensive occupation site that was originally visited by the author on August 16, 1987. The site was designated the Big Bend site, as it is located on a very pronounced curve or bend of the Rio Salado. The site is characterized by a vast area of open, eroding terraces situated primarily along the east bank of a tributary arroyo that runs into the Rio Salado from the north. The site is extensive, measuring approximately 1.4 km in length, and up to 0.3 km in width. The orientation is from north to south. The rockshelter is located in the site's south-central area. The Big Bend site is dominated by massive amounts of burned sandstone rock, huge amounts of chert flakes and other lithic debitage, and large amounts of snail shells (*Rabdotus*) and mussel shells, numbering in the thousands. The most common mussel shell type observed was the Tampico pearly mussel (*Cyrtoneias tampicoensis*).

Projectile point types recorded in this site include both arrow and dart points. Dart point types recorded include Abasolo, Andice, Castroville-like, Catan, Charcos-like, Ellis-like, Langtry, Matamoros, Pandora, Shumla, Tortugas, and several unclassified stemmed varieties (Boyd n.d.). Recorded arrow point types include Bonham-like, Caracara, Cienegas-like, Clifton, Fresno, Guerrero, Harrell-like, Perdiz, Starr, and Toyah (Boyd n.d.). The recorded projectile point types indicate that the Big Bend site was occupied at least from the Early Archaic through the Late Prehistoric or possibly even the Historic period. In addition to projectile points, large numbers of various types of stone tools were found in the site, including examples of Clear Fork, Nueces, Olmos, mano stones, sandstone abrading stones, etc. Ornamental artifacts have also been found in the site. These include a marine shell (unknown type) pendant blank (Boyd n.d.), and a marine shell bead (Doug Bryan, personal communication 1991). An avocational archeologist also discovered an engraved mussel shell pendant in the site in the late 1980s (Mike Ryan, personal communication 1987; see Chandler and Kumpe 1992:8-9; ref. Fig. 1A).

Within the confines of the Big Bend site there are at least two earth oven features, partially washed away, immediately adjacent to a very deep and narrow wash in the southern portion of the site. This

wash is in proximity to the rockshelter. Also, in the hills bordering the east edge of the site are a number of areas where sandstone blocks were quarried during the construction of Guerrero Viejo. These areas appear as huge, stone lined "pits" where the constituent sandstone was quarried as early as the mid-1750s. A small number of old fence lines traverse the site, and cattle regularly traffic through the area, as do artifact collectors.

CONCLUSION

The limited testing of the rockshelter in February 1989 yielded an assortment of artifacts, both prehistoric and historic in age. This confirms that the rockshelter was utilized by the former aboriginal population who once inhabited the region and the surrounding occupation site. Although no diagnostic artifacts were recovered during the limited testing of the shelter, numerous tools, mainly flake and edge scrapers, were recovered. Other artifacts, including unmodified chert flakes and broken bifaces were also recovered. The recovery of the Historic period aqua-colored glass sherds was interesting, considering the remoteness of the site.

The adjacent occupation site was inhabited from the Early Archaic through at least the Late Prehistoric period(s), as evidenced by the projectile point types recorded there. It remains undetermined whether the rockshelter was utilized during all or part of this time period, though the density of artifacts recovered during the very limited testing was relatively light.

Based on the recovery of artifacts from the deposits in the shelter, and similar recovery of artifacts from other rockshelters in the region (Boyd n.d.), it appears that in this particular region prehistoric man utilized small caves and rockshelters whenever they were located in proximity to established occupation sites. Although small caves and shelters in this area are relatively rare, the few that have been found have nearly all exhibited evidence of prehistoric use (Boyd n.d.).

Further testing of this and other shelters in the region is highly recommended. An eventual synthesis of information will add to the larger picture of the prehistoric settlement patterns of the nomadic hunters and gatherers who once thrived in sites such as the Big Bend site, and the many other vast occupation sites located in the lower Rio Salado river basin.

ACKNOWLEDGMENTS

Dr. Timothy K. Perttula, of Frontera Archaeology in Austin, Texas is thanked for his comments regarding the dating of Historic period glass. Dr. Perttula has been quite helpful to the author on many occasions regarding various topics related to Historic period archaeological sites and artifacts. The Falcon Reservoir map used in Figure 1 was provided by Christopher Lintz and the staff of Mariah Associates, Inc. of Austin. Information provided by Doug Bryan and Mike Ryan, both of Mission Texas, was also helpful regarding ornamental artifacts they had recovered in the Big Bend site.

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A NAVAL OFFICER'S BELT BUCKLE COVERING, FOUND NEAR THE FANNIN BATTLEGROUND, FANNIN, TEXAS

E. H. (Smitty) Schmiedlin

ABSTRACT

This article describes a Naval officer's belt buckle covering found near the Fannin battleground in Fannin, Texas, Goliad County.

BACKGROUND

In June of 1991 the author was shown what appeared to be a gold-plated object which had an eagle clutching an anchor (Figure 1). It was found by Juan Ramirez while excavating a drainage ditch at his home. The close proximity to the Fannin Battleground (1836 battle of Coletto Creek) indicated that it may have come from one of Fannin's troops. I contacted Jeff Huebner, staff archaeologist at The Texas Archeological Research Laboratory in Austin, to assist me in identifying the object. Jeff in turn contacted James W. Cheevers, Assoc. Director of the United States Naval Academy in Annapolis, Maryland who furnished the following information:

"The Navy first illustrates its officers' sword belt buckle in the Regulations of 1841. It is of similar design to the photograph of the object found near Fannin, Texas, but the anchor in the center is erect and the eagle is perched atop the shank of the anchor. The next uniform regulations—those of 1852—illustrate the buckle much in the configuration of your specimen with the horizontal anchor and the eagle perched on the shank. The Navy continues to use much the same buckle design to this day. Although a pile of three cannon balls was added under the anchor shank on uniform buttons in 1852, it would appear that the six cannon balls on the sword belt buckle covering you describe was added much later, some time between 1883 and 1913."

The document also states that the method of manufacture was cast, metal mold and die-stamped bronze, with a weight of 4 1/4 ounces, and measuring 53 x 86 millimeters. This type of buckle covering was only used on dress uniforms and generally reserved for Admirals, Commodores, Captains and Commanders.

CONCLUSION

Obviously this item was not in any way related

to the Battle of Coletto Creek, but it may have been worn by a Naval officer during a ceremony honoring Fannin's men at a much later date. Possibly archival research on the Fannin Monument might reveal such an occasion.



Figure 1. Not actual size.

ACKNOWLEDGMENT

My thanks to Jeff Huebner and to Malcom Johnson for his extensive research on this artifact. There is much more such research to be done, however, to reach a satisfactory conclusion on the artifact.

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ARCHAEOLOGICAL INVESTIGATIONS AT MEXICAN-AMERICAN WAR BATTLEFIELDS AND RELATED SITES IN TEXAS

Part IV: The Galveston Ranch Sites and Thornton's Skirmish

Timothy K. Perttula

ABSTRACT

This paper discusses a series of mid-19th century archaeological sites on the Galveston Ranch in Cameron County, Texas, and considers their relationship to the April 25, 1846 skirmish between Captain Seth Thornton's squadron of U.S. Second Dragoons and General Anastasio Torrejon's Mexican Cavalry Brigade.

INVESTIGATIONS

On April 25, 1846, Captain Seth Thornton's squadron of Second Dragoons was ambushed by Brevet Brigadier General Anastasio Torrejon's Cavalry Brigade on the north bank of the Rio Grande (Figure 1). Thornton had been sent upriver to track the movement of the Mexican troops along the Rio Grande, and ascertain if some portion of the Mexican army had crossed the river (see Butler 1996a, 1996b). Unbeknownst to Thornton, Torrejon's brigade, about 1,600 strong, had come across the Rio Grande at the Soliseño crossing on the 24th of April (Mahr 1997).

As Thornton's men followed the river road, they camped at a *rancho* on the 24th of April near San Pedro. The next day they moved another 10 miles or so upriver to another *rancho*, where Thornton learned through informants that Mexican forces had crossed the Rio Grande and were in the vicinity in force. He pushed on until they came to a large field at Carricitos, surrounded by a chaparral fence and with a few houses at the western edge of the field. Shortly after Thornton and his men entered the enclosed field, and rested near the houses and a low marshy bog, they were attacked in overwhelming numbers by Torrejon's men (Butler 1995:52).

A total of 14 U.S. soldiers were killed during the skirmish, including one officer and 13 enlisted men (Butler 1996c). Another seven wounded soldiers were

taken prisoner, among them Captain Thornton. Forty-eight other soldiers were also taken prisoner that were not wounded during the engagement.

Based on the American and Mexican battle reports (Butler 1996a, 1996b; Mahr 1995, 1997), including rough maps drawn by Thornton and other American participants (Figure 2), as well as other 19th century maps of the Rio Grande, the Rancho de Carricitos battlefield was some 24 miles upriver from Fort Brown (see Figure 1). As a result of a December 1994 archaeological survey completed by the Texas Historical Commission and the National Park Service (Perttula 1996), and a subsequent archival research effort by Mahr (1995), a definitive location could not be established for the Rancho de Carricitos skirmish. As best as could be determined, one possible location of the battle was near one of the Soliseño crossings of the Rio Grande in a large plowed field south of the small modern town of Carricitos. Archaeological survey in 1994 of the large plowed field west of Las Palomas Banco failed to identify any Mexican-American War military artifacts, though the river channel positions and landforms (particularly the location of the banco, which may have been the low, marshy bog described by Thornton) conformed to Thornton's rough map. The more commonly accepted location of the skirmish, near Galveston Ranch (Butler 1995:54), several miles upriver from Carricitos, was slated for examination in 1994, but the area was in crops and could not be surveyed at that time. We were able to examine the Galveston Ranch area in 1997, however (see below).

Carricitos

Further archaeological and archival investigations to help identify the battle or skirmish at Rancho de Carricitos were conducted in 1997, but no

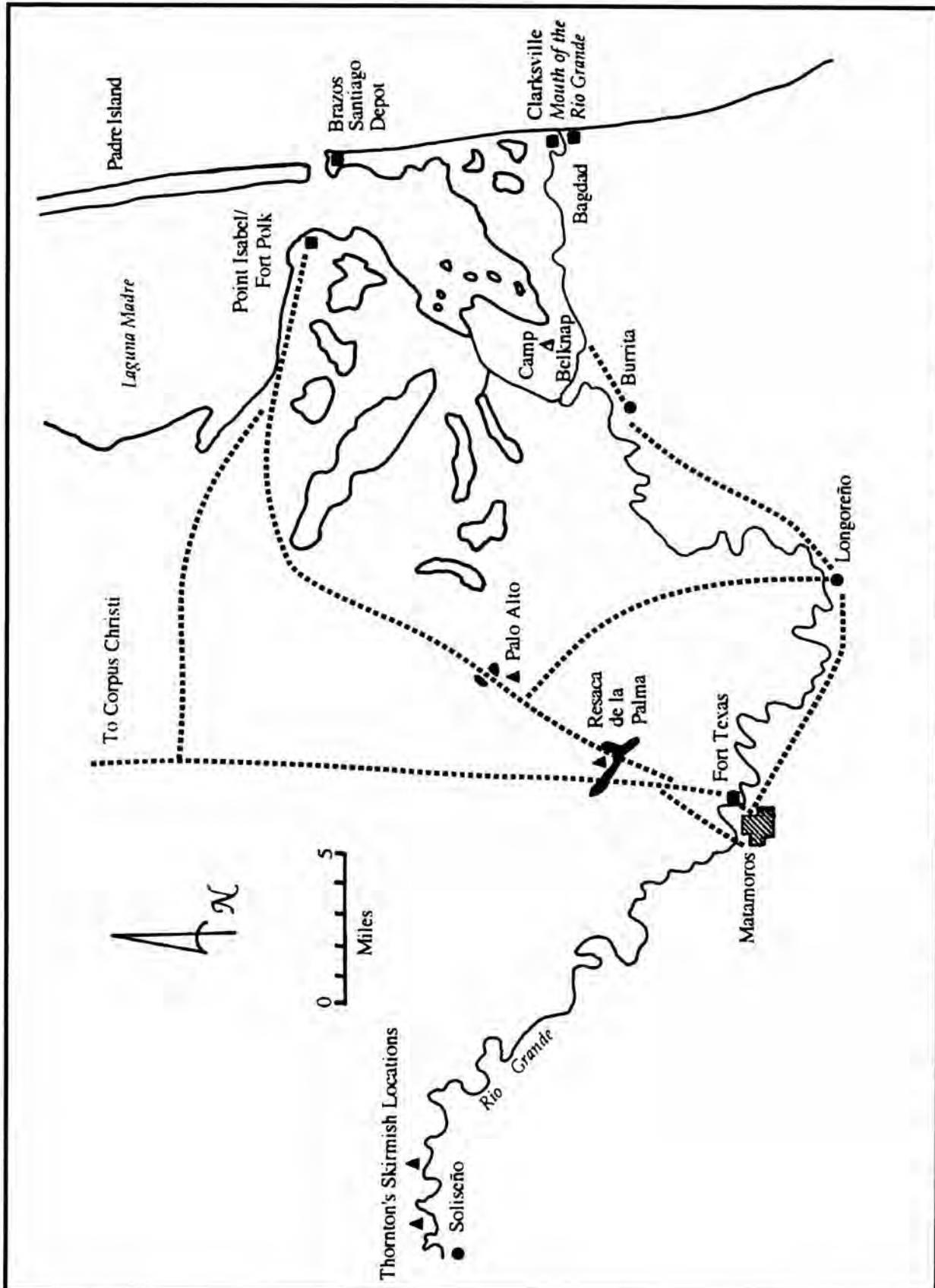


Figure 1. Thornton's Skirmish Locations and Other Mexican-American War Battlefields and Related Sites.

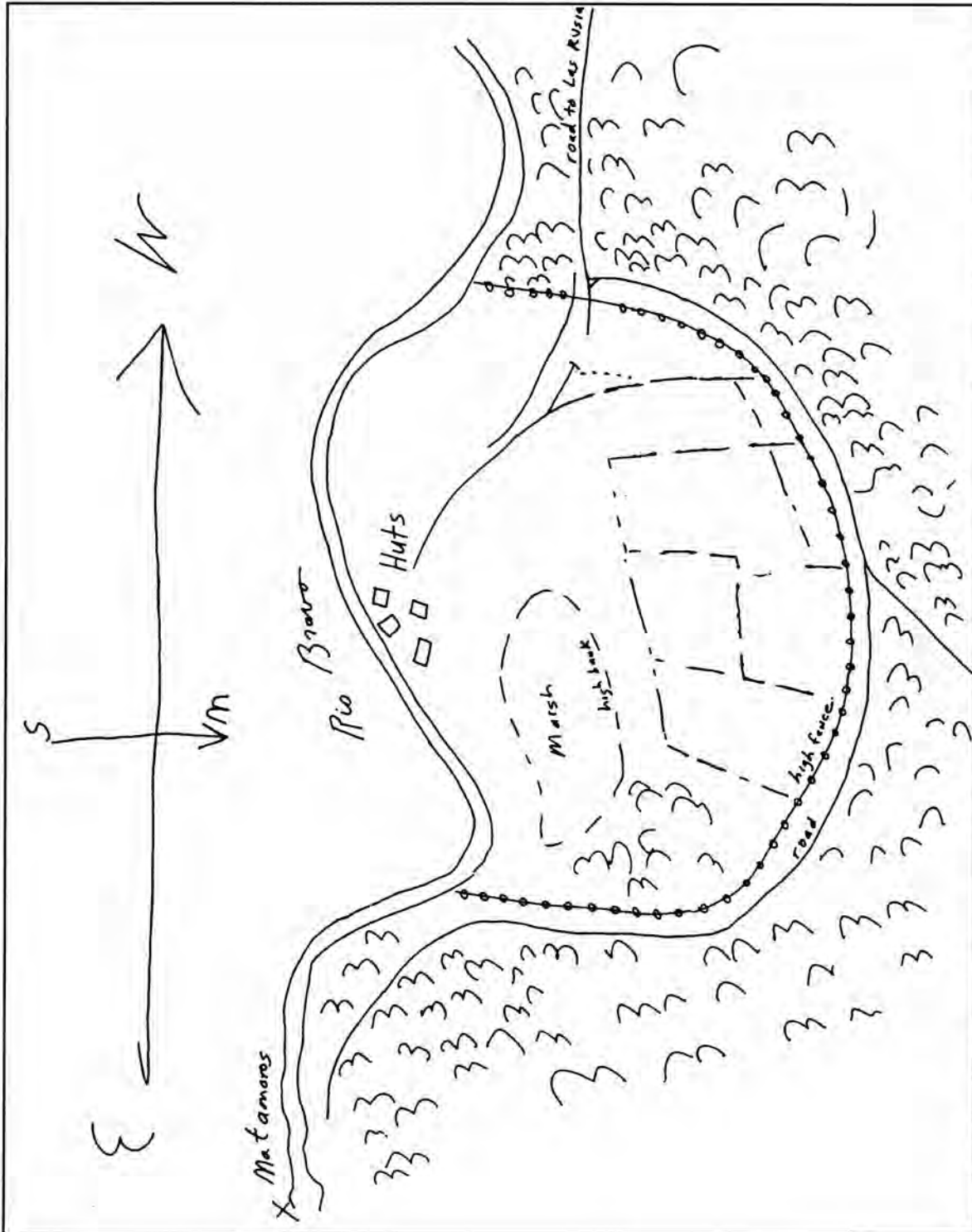


Figure 2. Map of Rancho de Carricitos drawn by Thornton. Map redrawn from original in the papers of the Judge Advocate General, National Archives, Washington, D. C.

definitive archaeological evidence was recovered during our survey effort that established the location of the Rancho de Carricitos skirmish. The almost total absence of any 19th century archaeological materials (moreover, 20th century archaeological materials were also scarce) around Las Palomas Banco, however, strongly suggests that this area south of the modern town of Carricitos was not the location of the skirmish; 19th century archaeological sites possibly associated with the structures mentioned by Thornton would have provided confirming evidence of the location of the skirmish, were any such sites to be found. Only a single archaeological site was recorded during our investigations in the Carricitos area.

Site 41CF165

The only archaeological site found in the Carricitos area was located on a low rise in the modern floodplain of the Rio Grande. Las Palomas Banco No. 142 lies directly to the east, with the modern river channel about 500 meters to the south of the site.

20th century archaeological materials cover about 2500 square meters (0.6 acres) of the rise, where they have been exposed on the surface in a plowed field. Artifacts noted include plain whiteware and ironstone ceramic sherds, decalcomania and stencil-decorated whiteware, semi-automatic and machine-made bottle glass sherds, a 2-hole shell button, and wire nails. A structure is shown at this site on the 1929 La Paloma 15' USGS quadrangle. Area H-East of site 41CF165, about 25 meters east of the early to mid-20th century component, had two mid-19th century whiteware sherds (blue transfer-printed and annular ware) in surface contexts.

Because of its age, shovel tests and systematic surface collections of area H-East may be warranted to determine if intact Mexican-American War era archaeological deposits remain on this portion of 41CF165. However, the 20th century component at the site is not associated with the Rancho de Carricitos battle or skirmish. Deep plowing may have also thoroughly disturbed the integrity of the archaeological deposits, and levee construction has also disturbed 41CF165.

Galveston Ranch

A number of mid-19th century archaeological

sites were identified on the Galveston Ranch in the 1997 archaeological survey. They tended to occur on the modern Rio Grande floodplain, between the current channel and Soliseño Banco No. 23, an old channel of the Rio Grande which formed through a cut-off in 1859 (Zavaleta 1995:317-319 and Table 1). This is the same area apparently settled about 1851 by Josiah Turner (Zavaleta 1995:Figure 1), a Mexican-American War veteran (Larralde 1997), who declared in a 1910 deposition to the International Boundary and Water Commission that he was "the owner of the land surrounding the Banco Soliseño [Soliseño Banco No. 23], and of the banco itself" (Zavaleta 1995:317). Eight separate archaeological sites occur in the Galveston Ranch survey areas (Table 1), three along what would have been the high bank of the 1853 Rio Grande channel (41CF166, 41CF167, and 41CF173), four between Soliseño Banco No. 23 and the modern course of the Rio Grande (41CF168-171), and the last site is east of Soliseño Banco No. 23 and north of the modern levee system (41CF172).

41CF166

Site 41CF166 is on the active flood plain of the Rio Grande, about 100 meters north of Soliseño Banco No. 23. It was an historic farmstead occupied between ca. 1840-1860, and then from the 1890s to the 1920s, the abandoned site was used as a family cemetery by the Longoria family. The small cemetery plot contains about six graves with head markers.

The mid-19th century occupation at 41CF166 covers about 7200 square meters (1.8 acres), and historic ceramics and bottle glass occur on the surface in the plowed field, as well as in disturbed contexts where site deposits had been scraped onto the artificial levee as levee fill. A large assortment of mid-19th century artifacts were recovered from 41CF166 including dark green and olive green wine and champagne bottle glass, decorated whiteware (transfer-printed, hand-painted, annular wares, shell-edged), yellowware, salt-glazed stoneware, lead-glazed Mexican earthenwares, coarse-tempered hand-made earthenwares,¹ 19th century Mexican majolica, blade gun flints for muskets, lead sprue, and an iron pistol barrel.

Systematic surface collections, metal detecting, and shovel testing of the area between the river levee

Table 1. Artifacts Documented from the Galveston Ranch, Cameron County, Texas**Galveston Ranch #A (41CF166)**

- 2 dark green bottle glass body sherds
- 3 olive-green bottle glass sherds
- 1 yellowware sherd
- 2 plain whiteware rim sherds
- 94 decorated whiteware sherds: 6 transfer-printed, 39 hand-painted, 28 annular ware, 6 spongeware/spatterware, 4 shell-edged, 10 flown blue, and 1 unidentified
- 1 salt-glazed stoneware body sherd
- 4 lead-glazed earthenware body sherds
- 2 coarse hand-made earthenware body sherds (Mier Plain)
- 1 blade gun flint (English)
- 1 lead sprue
- 1 iron pistol barrel

Galveston Ranch (41CF166), 2nd Collection

- 1 dark green bottle glass body sherd
- 88 decorated whiteware sherds: 1 decalcomania, 10 flown blue, 37 hand-painted, 3 blue shell-edged, 18 annular ware, 3 transfer-printed, 13 spongeware/spatterware, and 3 cut sponge
- 3 19th century Mexican majolica body sherds: 1 plain, 1 Guanajuato Polychrome, and 1 green-on-white
- 2 coarse hand-made earthenware body sherds (Mier Plain)
- 2 lead-glazed earthenware body sherds
- 3 salt-glazed stoneware body sherds
- 1 possible blade gun flint

Galveston Ranch #B (41CF167)

- 1 dark green bottle glass body sherd
- 1 olive green bottle glass body sherd
- 1 green milk glass body sherd
- 1 yellowware body sherd
- 3 plain whiteware rim sherds
- 1 annular ware body sherd
- 1 flown blue body sherd
- 1 lead-glazed earthenware body sherd

Galveston Ranch #C (41CF168)

- 1 hand-made brick fragment
- 1 yellowware sherd
- 1 plain majolica body sherd
- 3 decorated whiteware body sherds: 1 transfer-printed, 1 blue shell-edged, and 1 hand-painted

(Continued on next page)

Table 1 (Continued)

Galveston Ranch #D (41CF169)

- 1 piece of daub
- 1 olive green bottle glass body sherd
- 1 decorated whiteware body sherd (red stencil)

Galveston Ranch #E (41CF170)

- 1 plain porcelain rim
- 2 hand-made brick fragments
- 1 Galera Polychrome lead-glazed earthenware

Galveston Ranch #F (41CF171)

- 1 plain porcelain rim
- 5 lead-glazed earthenware body sherds
- 1 coarse hand-made earthenware rim sherd (Mier Plain)
- 5 decorated whiteware: 1 blue shell-edged, 1 spongeware/spatterware, and 3 hand-painted

Galveston Ranch #G (41CF172)

- 2 lead-glazed earthenware sherds
- 1 Guanajuato Polychrome majolica body sherd
- 2 decorated whiteware sherds: 1 annular ware and unidentified green glaze
- 1 transfer-printed porcelain body sherd

Galveston Ranch #S (41CF173)

- 1 blue transfer-printed whiteware rim sherd
 - 1 dark blue transfer-printed body sherd
-

and the Longoria cemetery should be conducted at 41CF166 to document its horizontal and vertical integrity, establish whether Mexican-American War-era archaeological deposits are well preserved, and gather archaeological information on the functional character of the archaeological deposits. The site, along with others in the Galveston Ranch area, also has the potential to contribute important information on farming and ranching lifeways on the lower Rio Grande in the mid-19th century.

41CF167, Galveston Ranch

The 1956 Santa Maria 7.5' USGS quadrangle shows four structures and a barn for the Galveston Ranch at the location of 41CF167. These structures have been removed, and the area—on the active floodplain of the Rio Grande—is currently being deep plowed for the cultivation of carrots and lettuce. A large surface scatter (about 16,000 square meters or 4 acres) of ca. 1860-1950 bottle glass and ceramics (see Table 1) was present in the plowed field north of the river levee. Because of the deep plowing, and the levee construction, it is doubtful that discrete 19th or 20th century occupations can be defined at 41CF167. Other parts of Galveston Ranch that were not investigated during this project may be better preserved: Zavaleta (1995:Figure 2) indicates at least seven other Galveston Ranch structures were present to the west and northwest of 41CF167.

The site clearly postdates the Rancho de Carricitos battle or skirmish, and thus no further archaeological investigations are warranted here as they pertain to the full documentation by the National Park Service (NPS) of Mexican-American War battlefield archaeological remains along the lower Rio Grande. This site may have research values that are related to a better understanding of the history of more recent agricultural settlements in the lower Rio Grande.

41CF168

Site 41CF168 is among a cluster of five historic archaeological sites on the plowed active floodplain between Soliseño Banco No. 23 on the west and the modern course of the Rio Grande; the current channel of the Rio Grande is about 250 meters to the south. The site covers only 800 square meters (0.2 acres), and is characterized by a low density surface scatter of mid-19th century ceramics (yellowware, majolica,

and transfer-printed, hand-painted, and shell-edged decorated whiteware) and hand-made brick fragments that were probably associated with a structure. The limited number and range of historic artifacts found at 41CF168 suggests that the site was only occupied for a short period, certainly less than 30 years.

Systematic surface collections, metal detecting, and shovel testing should be conducted at 41CF168 to document its horizontal and vertical integrity, establish whether Mexican-American War-era archaeological deposits are well preserved, and gather archaeological information on the functional character of the archaeological deposits (for example, what kind of structure stood on the site?). This site, along with others in the Galveston Ranch area, has the potential to contribute important information on farming and ranching lifeways on the lower Rio Grande in the mid-19th century.

41CF169

This 19th century historic archaeological site is located just north of the bank of the Rio Grande, and at the edge of the current plowed field. Artifacts were found over only a 400 square meter area on the surface in the plowed field, as well as in grass and brush along the river bank, including daub, olive green wine or champagne bottle glass, plain whiteware, and whiteware with a red stencil design.

Systematic surface collections, metal detecting, and shovel testing should be conducted at 41CF169 to document its horizontal and vertical integrity, establish whether Mexican-American War-era archaeological deposits are well preserved, and gather additional archaeological information on the functional character of the archaeological deposits (for example, is the daub from the walls of a *jacal* that stood on the site?).

41CF170

Site 41CF170 is a short distance to the south of 41CF168 and southwest of 41CF169, midway between Soliseño Banco No. 23 and the modern Rio Grande channel. A small scatter (400 square meters) of 19th century ceramics and hand-made brick fragments was exposed on the surface of a plowed field. Materials noted include plain whiteware, a porcelain rim sherd, hand-made brick fragments like

those from 41CF168, and Galera Polychrome lead-glazed earthenware. The Galera Polychrome sherd appears to be from a *chocolatera* or chocolate pot, and these types of pots have been made from the 18th century to modern times in Mexico (Dial 1992:34), but thus it would not be surprising to find Galera Polychrome in a mid-19th century context in the lower Rio Grande. Indeed, Galera Polychrome ceramics and other Mexican lead-glazed wares are common on sites dating from ca. 1800-1860 in the Falcon Reservoir area along the Rio Grande (Perttula et al. 1996, 1999).

Systematic surface collections, metal detecting, and shovel testing are warranted at 41CF170 to document its horizontal and vertical integrity, establish whether Mexican-American War-era archaeological deposits are well preserved, and gather additional archaeological information on the functional character of the archaeological deposits. This site, along with others in the Galveston Ranch area, has the potential to contribute important information on farming and ranching lifeways on the lower Rio Grande in the mid-19th century.

41CF171

This mid-19th century artifact scatter, probably yard trash from a farmstead, is only a short distance south of 41CF170 in the same plowed field. It was defined as about 400 square meters in size, and contained English-made porcelain and decorated whiteware (shell-edged, hand-painted, and spongeware/spatterware), Mexican lead-glazed earthenwares, and coarse hand-made earthenwares. Like 41CF168, the limited number and range of historic artifacts found at 41CF171 suggests that it was only occupied for a short period, certainly less than 30 years, between ca. 1830-1860.

Systematic surface collections, metal detecting, and shovel testing are warranted at 41CF171 to document its horizontal and vertical integrity, establish whether Mexican-American War-era archaeological deposits are well preserved, and gather additional archaeological information on the functional character of the archaeological deposits.

41CF172

Site 41CF172 is in a plowed field on the active flood plain of the Rio Grande, with Soliseño Banco

No. 23 to the west, and the modern channel of the river about 500 meters to the south. The modern river levee system runs near the southern end of the site, and the presence of mid-19th century artifacts in levee fill atop the levee itself suggests that the site area was a source for the fill used in its construction.

The site covers about 4000 square meters (1 acre) of the plowed field. The range of mid-19th century artifacts at 41CF172 include Mexican lead-glazed earthenware, Guanajuato Polychrome majolica (Cohen-Williams 1992), and annular ware and transfer-printed whiteware. Also present were fine earthenwares with a distinctive green-colored glaze. This type of decorated earthenware was fairly common in Mexican-American War and Civil War-era contexts at Fort Polk (41CF10) and Brazos Santiago (see Banks 1983; Perttula et al. 1997), and has recently been reported from a mid-19th century rancho in the Falcon Reservoir area at Southern Island, Tamaulipas, Mexico (James B. Boyd, 1997 personal communication).

Systematic surface collections, metal detecting, and shovel testing should be completed at 41CF172 to document its horizontal and vertical integrity, establish whether Mexican-American War-era archaeological deposits are well preserved, and gather additional archaeological information on the functional and temporal character of the archaeological deposits.

41CF173

Both mid-19th century and early-mid 20th century archaeological materials were present on the surface in a plowed field at 41CF173. The Santa Maria 1956 7.5' USGS quadrangle depicts a standing structure at 41CF173, and thus it is probable that the early to mid-20th century bottle glass, ceramics, and bricks at the site are associated with this structure/farmstead. The mid-19th century archaeological materials include two blue transfer-printed whiteware sherds along the northern and eastern portions of the 3200 square meter (0.8 acres) site area.

Because mid-19th century archaeological materials are present at the site, shovel tests and systematic surface collections of 41CF173 may be warranted to determine if intact Mexican-American War-era archaeological deposits are preserved on it. However, the 20th century component at the site is clearly not associated with the Rancho de Carricitos

battle or skirmish.

Galveston Ranch as the location of the Rancho de Carricitos battle or Thornton's skirmish?

It is conceivable that 41CF166 and the other nearby mid-19th century archaeological sites east of Soliseño Banco (41CF168, 41CF169, 41CF170, 41CF171, 41CF172, and one component at 41CF173) represent the cluster of occupied *jacales* reported by Thornton in the large cultivated field of the Rancho de Carricitos. The position of the river in the skirmish area as sketched in 1846 maps, is also relatively similar to its known position in 1853. If it were the case that the Galveston Ranch sites were the *jacales* in question, this would suggest that the cultivated field and chaparral fenced-in area was in the vicinity of the *jacales* and the historic location of the Galveston Ranch, and north to the Old Military Highway. Local legend has it that the Thornton skirmish took place on the Galveston Ranch, and the 1936 marker for the battle is on U.S. 281 immediately to the north of the Galveston Ranch.

However, no definitive military accouterments or armaments were located during our survey of the Galveston Ranch, and ca. 1846 farmsteads and *jacales* probably occurred up and down this stretch of

the lower Rio Grande, so the fact that several were identified at Galveston Ranch is not necessarily strong evidence for the area being the scene of the Thornton skirmish. The sites may also be related to the Josiah Turner farm, which dates from 1851 (Zavaleta 1995). If further archaeological survey along this stretch of the lower Rio Grande were to show that, indeed, ca. 1846 farmsteads and sites were not common on the north bank other than at Galveston Ranch, a stronger case could then be made that these archaeological sites are related to the Rancho de Carricitos battle/skirmish.

End Note

1. These coarse hand-made earthenwares, frequently tempered with bone, are quite similar to Mier Plain, a common ceramic utility ware found in early to mid-19th century contexts in the Falcon Reservoir area of the Rio Grande. Alex Krieger defined the type based on the ceramics recovered in excavations at 41SR39 and 41SR43 near the Falcon Reservoir dam (Pertula et al. 1996:76, 79). Comparable hand-made earthenware have also been reported at the 1830s-1840s Fort Lipantitlan on the Nueces River (Ing 1976; Warren 1988).

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ARCHAEOLOGICAL INVESTIGATIONS AT MEXICAN-AMERICAN WAR BATTLEFIELDS AND RELATED SITES

Part V: Archaeological Remains at Boca Del Rio or Clarksville, at The Mouth of The Rio Grande

Timothy K. Perttula and Bo Nelson

ABSTRACT

The Clarksville site (41CF7) is a nationally significant Mexican-American War and Civil War depot and community at Boca del Rio, the mouth of the Rio Grande. Archaeological investigations were conducted at the 15-acre site, which has seen extensive looting and metal detecting, in 1997 as part of NPS-sponsored efforts to document Mexican-American War battlefields and related sites in Texas.

INVESTIGATIONS

The area called Boca del Rio, and later Clarksville, on the left bank of the Rio Grande was an important staging and depot area during the Mexican-American War (Figure 1) at the mouth of the river. The right bank at the mouth of the Rio Grande had been used by Mexico as a customhouse and depot beginning in the early 1830s, and "that maritime hamlet was given the pompous name of Villa Hermosa de Santa Anna" (Berlandier 1980:445). Because of the shallow bar at the mouth of the river, and the difficulty of wagon traffic during the wet seasons, it was less favored than Brazos Santiago, and the river port community was then destroyed during the 1835 hurricane. The Civil War-era Mexican town and part of Bagdad was subsequently built on the right bank at the mouth of the Rio Grande (Irby 1977; Kelley 1986:73-76).

U.S. military forces established a camp and depot at the mouth of the Rio Grande in April 1846. Structures built included several wooden-framed buildings along the river bank. A shipyard was later built there by the Quartermaster Department to build, as well as repair, vessels used during the Mexican-American War (Kelley 1986:31). Early in 1848, Brevet Major W. W. Chapman became assistant quartermaster for the U.S. Army on the Rio Grande,

and in October he was ordered to take over the depot and boats at Boca del Rio. His wife Harriet commented in one of her letters that the mouth of the Rio Grande was a great depot, with "a vast amount of property...collected" there (Coker 1992:67), and she went on to say that there were a number of people in residence at the mouth of the river in December 1848.

Supplies for the U.S. troops were frequently stored at the mouth of the river, then lightered to Brazos Santiago and Point Isabel by wagon or boat. In 1848, a Richard L. (Dick) Ogden had a commercial business at the mouth of the river (Messrs. Ogden & Mosby), "making a large fortune by trade" selling "Groceries, Wines, Liquors, Boots, Shoes, Clothing, Segars [sic], Sardines" (Coker 1992:9, fn. 19 and 45, fn. 22). Cholera passed through the community in March 1849, and by July 1849, Harriet Chapman commented that the Boca del Rio was a "little settlement called into existence by the necessities of the warehousing, it is not permanent and is composed almost wholly of young unmarried men" (Coker 1992:137-138).

After the war, the firm of Bodman and Clark maintained offices and boats at the mouth of the Rio Grande, primarily engaging in "lightering off Brazos Island and in towing incoming schooners over the bar for off-loading" (Kelley 1986:35). William H. Clark, the Clark of Bodman and Clark, founded the town of Clarksville in 1847, purchasing the structures built by Taylor's army. Clark later served as an agent for M. Kenedy & Co. in the small town.

Other business interests maintained warehouses and boats at the mouth of the river, perhaps the most important being the firm of M. Kenedy & Co., the partners including Charles Stillman, Richard King, and Mifflin Kenedy. Warehouse terminals for Kenedy & Co. were established at Clarksville in 1850. However, the U.S. Army began to dismantle their

structures at Boca del Rio in 1851, using the materials in the construction of the new fort at Fort Brown (Coker 1992:56, fn. 4). In 1854, Clarksville had only about 15 wood structures along and near the river bank, including an observatory built by William Emory in 1853 during the U.S. and Mexican Border Survey (Emory 1857). The structures were frame houses, and later there was a general store in Clarksville. Kenedy & Co., through strong business dealings and U.S. government contracts, controlled river mercantile trade on the Rio Grande through the Civil War, particularly the lucrative cotton trade. Even during the heyday of the Civil War, Clarksville was described as "a small place of no importance" (McIntyre 1959:386).

Setbacks to river traffic and Kenedy & Co. began in 1867 with an October hurricane that destroyed Bagdad, many of the storage, dock, and warehouse facilities at White's Ranch (41CF6, and

the first place of elevated land along the lower Rio Grande), Brazos Santiago, and Clarksville, and sunk a number of the company's boats. King, Kenedy and Company (the company name changed in 1866 after Charles Stillman divested himself of any riverboat operations) sold out in 1874 (Kelley 1986:78), shortly before another hurricane destroyed Clarksville, and before a rail-line between Point Isabel and Brownsville made river commercial traffic unnecessary.

When the Clarksville site (41CF7) was originally recorded by the Office of the State Archeologist, Texas Historical Commission, in 1969, the site form noted that it had been extensively looted, and that few traces remained. Prewitt commented on an updated site form about the looting activities as well during his 1970 visit, and collected a few pieces of bottle glass, stoneware, whiteware, porcelain, and bricks. In 1981, however, Texas



Figure 1. Clarksville, the mouth of the Rio Grande, and the Boca Chica bridge, from Webster's (1847) Map of the lower Rio Grande.

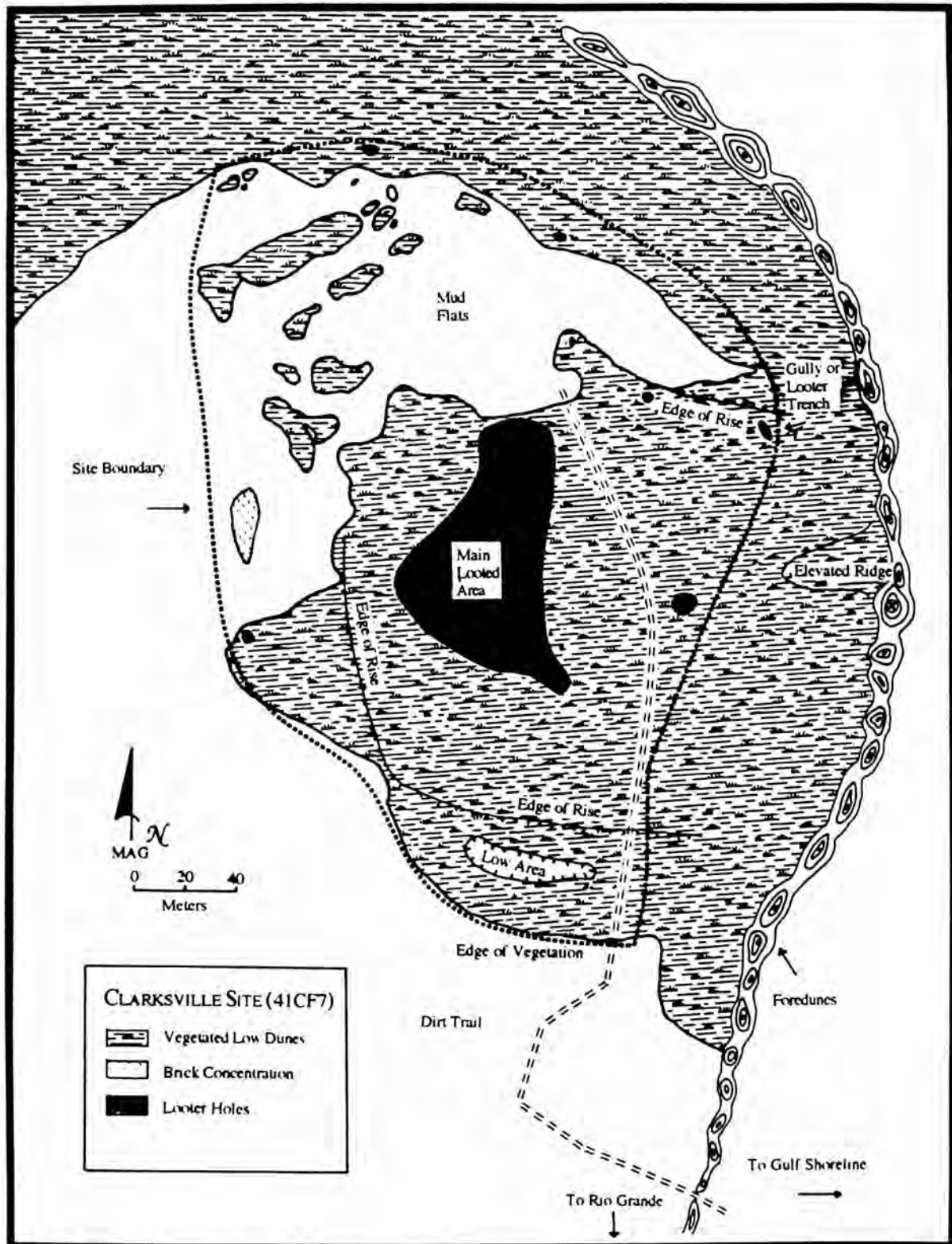


Figure 2. The Clarksville Site (41CF7).

Antiquities Committee archaeologists conducted a reconnaissance of the Boca del Rio, attempting to again relocate the town of Clarksville. They were unsuccessful, concluding that they were "sure the mouth of the river has moved over Clarksville and Bagdad many times in the past, possibly removing any traces of the towns" (1981 Journal on file, Office of the State Archeologist, Texas Historical Commission). Similar unsuccessful findings were reported by Bond (1987:6-15) during 1987 investigations at the mouth of the Rio Grande, and he also suggested that the site may have been destroyed by movement of the river. One blue transfer-printed rim sherd was collected by EHA archeologists from the general site area.

The Clarksville site (41CF7) was successfully relocated during 1997 survey efforts by Frontera Archaeology (Perttula et al. 1997a) (Figure 2) archaeological. It is clear that the 1981 and 1987 investigations were looking too close to the modern river channel, which has moved a considerable distance to the south of the river channel during the 1847-1874 occupation at the mouth of the river, as the Clarksville site is tucked behind the beach dunes, which do not extend to the modern mouth of the Rio Grande.

The Clarksville site lies on the leeward side of the coastal dunes, with large mud flats on its western side that extend all the way to the Laguna Madre (see Figure 2). The site itself covers about 15 acres (60,800 square meters) on a distinct, low rise (1-2 feet above the mud flats) covered with scrub and bushes, with low dune/vegetation hummocks on its north and west sides.

Extensive looting and bottle collecting has occurred, and is still occurring, at the Clarksville site, although it is estimated that 75-80 percent of the site probably remains intact. During our 1997 investigations at the Clarksville site, metal detectorists were working along the foreshore dunes, just to the south of the site, and two other individuals were noted metal detecting and digging about 300-400 meters to the north of the estimated northern boundaries of the site.

The center of the site, an area of about 4000 square meters (1 acre) has been rather thoroughly looted in recent years (see Figure 2). Many of the



Figure 3. Bitters Bottles from the Clarksville Site.



Figure 4. Dark olive green wine bottle lips from Clarksville.



Figure 5. Ginger Beer bottles.

Table 1. Artifacts Documented at the Clarksville site (41CF7)

2 plain whiteware rim sherds
1 purple transfer-printed whiteware body sherd
2 decorated Mexican majolica body sherds
6 Ginger beer body sherds
1 bitters bottle body sherd
12 salt-glazed stoneware sherds
11 aqua bottle lip and panel sherds, medicine bottles
3 iron buttons
1 porcelain button
2 shoe eyelets
1 percussion cap
1 iron horseshoe
1 amber paneled bottle base sherd
37 dark olive green bottle glass sherds: 11 lips, wine and champagne bottles; 26 bases
6 black bottle glass bases
1 hand-made yellowish-green brick (195 mm length, 95 mm width, and 58 mm height)

other smaller looter holes and backdirt piles are recent, while others were dug in previous years as they have become covered with scrub and bushes and are difficult to detect. From looter holes, we estimate that 60-80 cm of archaeological deposits are present at Clarksville, and features (trash pits and privies) probably extend below that depth.

A scatter of large (195 mm in length, 95 mm in width, and 58 mm in height) yellow and red hand-made bricks, like those noted at the Brazos Santiago Depot (Perttula et al. 1997b), was located along the western portions of the site (see Figure 2). This probably marks a chimney fall, as the wood frame structures at Clarksville reportedly stood on wood pilings (Bond 1987:6-14).

Bottle glass of various sorts was abundant at the Clarksville site, including amber-colored and log cabin-shaped bitters bottles (Figure 3), aqua medicine bottles, and dark olive green wine and champagne bottles (Figure 4 and Table 1). Other than ginger beer (Figure 5) and salt-glazed stoneware containers, ceramic tableware (plain whitewares)

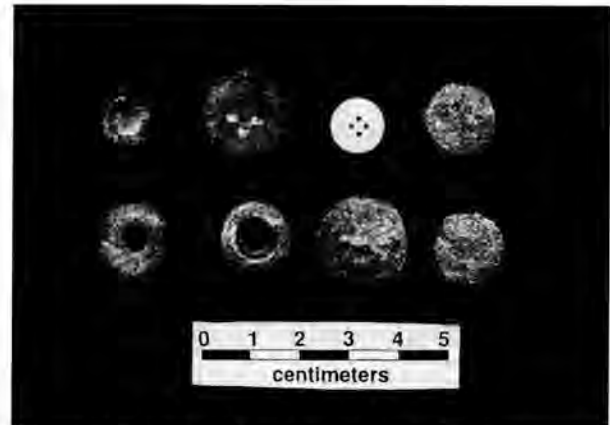


Figure 6. Selected artifacts from the Clarksville site. Top row, left to right: percussion cap, metal button, ceramic button, metal button; Bottom row, left to right: shoe eyelet, shoe eyelet, metal button, metal button.

were uncommon; two sherds of 19th century Mexican majolica were also recovered in the large looter area in the center of the site. Poorly preserved metal artifacts were widely dispersed across the site, and a small assortment of buttons (including several ceramic buttons), shoe eyelets, an iron horseshoe, and a percussion cap were documented during the survey (Figure 6)--all from the main looter area.

Although the Clarksville site has been disturbed by looting and metal detecting, the site as a whole contains substantial undisturbed archaeological deposits of the Mexican-American War era and Civil War era. It is a nationally significant archaeological and historical site. The site also has considerable archaeological and interpretive potential with respect to the depot layout, structures and features, furnishings, supplies, and daily lives of the military and civilian personnel that lived at the mouth of the river.

Further archaeological efforts are clearly warranted at the Clarksville site. This should include systematic metal detector investigations, shovel testing and other controlled excavations, and intensive pedestrian archaeological surveys and mapping, to better define the town and depot layout, locations of features, and areas of intact archaeological deposits of the Mexican-American War period.

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ARCHAEOLOGICAL INVESTIGATIONS AT MEXICAN-AMERICAN WAR BATTLEFIELDS AND RELATED SITES IN TEXAS

Part VI: Brazos Santiago Depot (41CF4)

Timothy K. Perttula

ABSTRACT

In 1997, archaeological work at the Brazos Santiago Depot documented extensive Mexican-American War and Civil War deposits and features in six different parts of the ca. 950-acre site area. The findings of that work are discussed here, along with recommendations for future work and a review of the archaeological and archival collections from this nationally important site on the northern tip of Brazos Island.

INVESTIGATIONS

The Brazos Santiago Depot (41CF4) was located on the northern tip of Brazos Island, separated from Padre Island by the relatively narrow, but occasionally deep waters of Brazos Santiago Pass. According to Kelley (1986:16):

A ship could slip through the pass and find an anchorage safe from the Gulf's hard-blowing trade winds and storms...Water over the bar varied in depth from eleven feet at the entrance to around seven and a half feet some distance in, then deepened to about twenty feet at the anchorage inside the island. If a boat's draft was too deep, goods could be lightered to Point Isabel, loaded in wagons, and hauled overland. If overland transportation was not desirable, cargo could be loaded directly onto shallow draft vessels for shipment directly to Boca del Rio...over the shallow bar of the Rio Grande, and upriver.

Originally established as a small Mexican post, customhouse, garrison, and port as early as 1829 (Berlandier 1980:438, 440-441), and subsequently destroyed in an October 1837 hurricane (after a hurricane in 1835 destroyed a number of buildings at

the town [Berlandier 1980:441]) and a 1844 hurricane. The U.S. Army established a large supply depot on the island in 1846 (Figure 1). Among the buildings constructed at the depot during the Mexican-American War period were a lighthouse, a star-shaped brick fort, a customs building, and several storage buildings (Butler 1995).

The depot and quartermaster's camp continued to play an important supply function for the U.S. Army after the cessation of hostilities in 1848, and became a Union Army depot during the Civil War. More structures, wharves, and storage facilities were built along the Brazos Santiago pass at the depot, as well as a narrow gauge railroad that ran from Brazos Santiago depot, across Boca Chica, to a terminus at the warehouses at White's Ranch (e.g., Kelley 1986: 51). With the development of a short-rail system between Point Isabel and Brownsville in 1874 to haul cargo, the use of the Brazos Santiago area as a depot and warehouse waned, and it was essentially abandoned shortly thereafter.

During and after the Mexican-American War, the Brazos Santiago depot was the main Quartermaster's store for the U.S. army along the Texas border. The depot provided subsistence stores, clothing, camp, and garrison equipment, including a variety of foods and goods (pork, bacon, hams, salt beef, flour, hard bread, beans, rice, coffee, sugar, vinegar, candles, salt, whiskey, molasses, kraut, pickles, dried fruit, and potatoes), as well as wood, hay, corn, oats, tarpaulins, coal, paper, nails and tacks, glass, paint, bricks, anchors, wagon parts, iron, timbers, tools, sails, saddles, harnesses, buckets, horses, chains, clothing, blankets, etc. (U.S. Treasury Department 1850:67-69; Crimmins 1938).

The Brazos Santiago Depot was listed on the National Register of Historic Places (NRHP) in 1971, having been nominated by the Texas State Historical Survey Committee (now the Texas Historical Commission) on the basis of the 1967 investigations (see below) following Hurricane Beulah. Its main significance, according to the

NRHP form, was as a “major supply area to the [Mexican-American] war effort.”

The Brazos Santiago Depot site (41CF4) was initially recorded by the Office of the State Archeologist (OSA) at the Texas State Historical Survey Committee in 1967, after substantial archaeological materials and features were exposed following a hurricane (Tunnell and Jensen 1971) that removed the overlying sand dunes. A number of different site areas were defined at that time over an

area of about 950 acres, from Brazos Santiago Pass and Back Bay on the north to the southern tip of Brazos Island (see Pertula et al. 1997:Figure 15). These include areas A and B along the South Jetty, areas D-F on Dyer’s or Brazos Island, and area 5 (designated by Banks [1983]) west of areas A and B. Additional investigations by OSA were conducted in 1980, as several 200 x 200 foot grids were surface collected for artifacts exposed by another hurricane.

Of the archaeological materials analyzed by

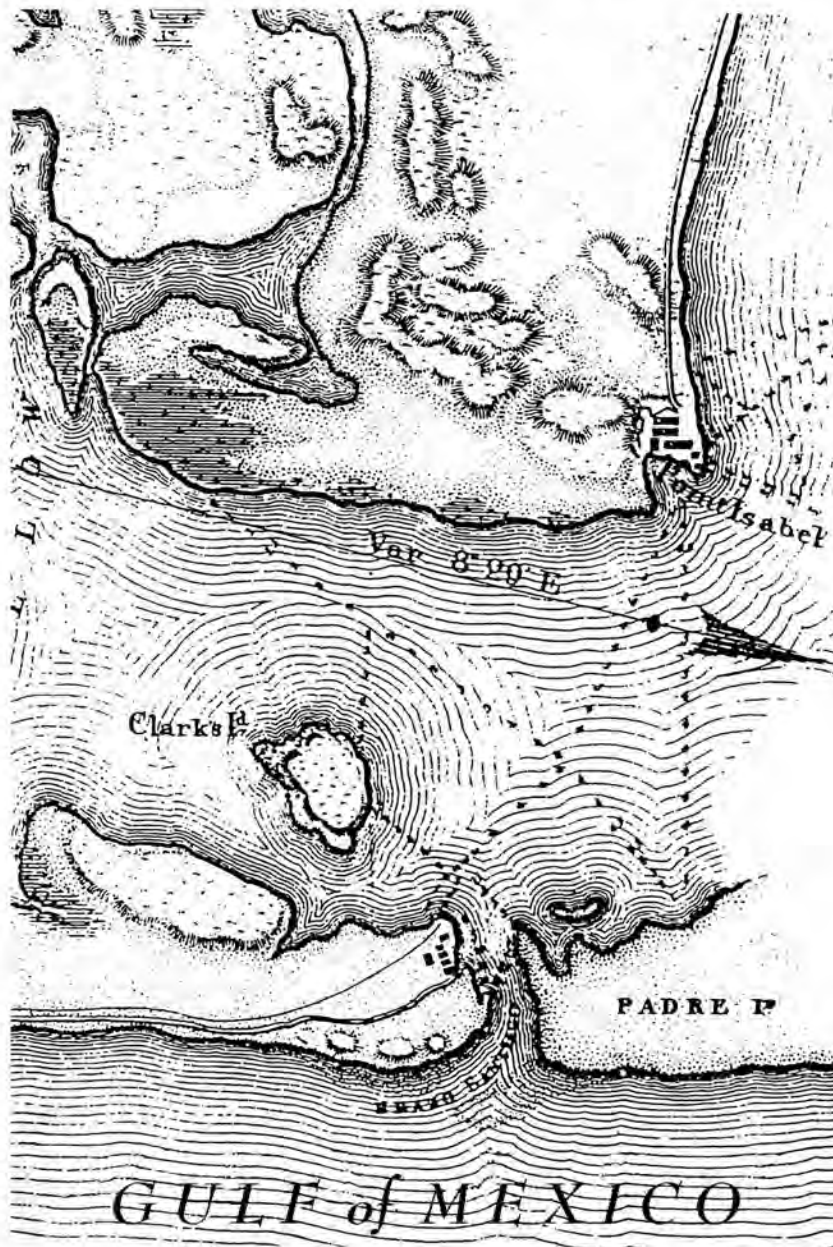


Figure 1. Detail of the Brazos Santiago Depot and Point Isabel, from Webster’s (1847) Map of the lower Rio Grande.

Banks (1983) from Brazos Santiago Depot, most were collected from areas A, E, and 5. She noted concentrations of plain whiteware plates and ginger beer bottles in areas thought to have been occupied by enlisted men (Banks 1983:178), namely in area E, also designated in THC records as a cooking and latrine area. During our 1997 investigations, area E was noted to have had significant numbers of ginger beer bottles and patent medicine bottles (see below).

The Brazos Santiago Depot site was revisited by Elton Prewitt during a 1970 survey, by Hall and Grombacker (1974), then again in 1980 by OSA staff after a second hurricane had re-exposed the archaeological deposits, and by Nichols et al. (1981). Underwater archaeological investigations were completed in the Back Bay area of Brazos Santiago Pass in the early 1990s (Hoyt 1992; Hoyt and Meyers 1991), and this work defined various submerged Civil War-era features and structures associated with the Brazos Santiago depot.

Mexican-American War and Civil War-era archaeological deposits at Brazos Santiago occur in two topographic settings: coastal dunes (Brown et al. 1980; Williams et al. 1977) near the Pass (areas A, A', and B), and low, hummocky dunes on Dyer's or Brazos Island that face Laguna Madre (areas C, D, E, and F) (see Perttula et al. 1997:Figure 15). The higher elevations in both settings are covered in brush, cactus, and Spanish dagger, while the lower elevations are bare mud or lagoonal flats.

Area A

In Area A, evidence of extensive and deep (50-100 cm+) looting was noted in locality #3, in a relatively low area to the north of dunes paralleling lagoonal mud flats in South Bay. Badly corroded metal artifacts were noted on the backdirt, along with plain whitewares and 1 mm-thick aqua window glass.

Area A'

Two archaeological localities (#1 and #2) were identified where mid-19th century artifacts are eroding out from under sand dunes in Area A'; both areas were along the Back Bay shoreline from the west end of the South Jetty west toward the railroad trestle piles. These areas contained quantities of dark green, olive green, brown, and aqua-colored bottle glass, whiteware, lead-glazed Mexican earthenware, coarse hand-made earthenwares, and salt-glazed stoneware, as well as scatters of large yellow and red

hand-made bricks (Table 1).

Area B

Most of Area B is now under fairly massive and extensive coastal dunes, but two mid-19th century archaeological localities (#4 and #5) were located in eroded areas at the contact between the lagoonal mud flats and the foreshore dunes. Both localities contained small amounts of olive green and dark olive green wine and champagne bottle glass sherds.

Area C and D

Only a very cursory reconnaissance of these areas was conducted during our investigations of the Brazos Santiago depot, but no archaeological materials were located. Probable factors hindering the identification of archaeological sites in Areas C and D were the following: (a) the mud or lagoonal flats in these areas of Brazos Island held water, although similar settings in Areas E and F were relatively dry; and (b) the low, hummocky and ridge-like sand dunes were covered in virtually impenetrable thick grasses and bushes, and visibility of the surface was less than 1 percent.

Area E

Area E historic archaeological materials were immediately apparent by extensive surface scatters of wine, champagne, and bitters bottle glass sherds as well as ginger beer sherds. Particularly common here were Civil War-era amber-colored and cabin-shaped bitters bottles (cf. Switzer 1974:Figures 50 and 52). These materials were exposed along relatively dry lagoonal mudflats, while the adjacent low dunes were thickly covered in grass and bushes. Looters and bottle collectors have been active in Area E, and many of the looter holes are more than 50-100+ cm in depth, suggesting that deeply buried archaeological deposits (i.e., trash pits and latrines) are present here.

Area F

Area F, a narrow northeast-southwest trending dune, is the northernmost patch of high ground on Dyer's or Brazos Island. Looting activity is apparent on both the western and eastern portions of the dune, particularly along the western part of the dune overlooking South Bay. Here, looters have exposed extensive trash deposits (bottles, ceramics, and animal bones) and scatters of large yellow and red hand-made bricks from structural features.

Artifacts noted in area F include plain white-ware and yellowware, decorated whitewares (hand-painted, flown blue, annular ware, and spongeware/spatterware), lead-glazed Mexican earthenware, dark olive green wine or champagne bottle glass sherds, and aqua paneled bottle sherds. A large portion of a ginger beer bottle was collected from area F', along with Mexican lead-glazed earthenware, and a railroad spike (see Table 1).

Brazos Santiago Depot Recommendations

Although the Brazos Santiago site has been disturbed by dredging, beach wave action, and looting and metal detecting, the site as a whole contains substantial undisturbed archaeological deposits (with well-preserved wood, bone, and leather artifacts) of both the Mexican-American War-era and Civil War-era. It is listed on the National Register of Historic Places, and is a nationally significant archaeological and historical site. Needless to say, it possesses considerable archaeological and interpretive potential with respect to the depot layout, structures and features, furnishings, supplies, and daily lives of the soldiers in Taylor's army. Because of its clear and recognized importance as a supply depot for the U.S. forces during the Northern campaign of the Mexican-American War, and its unique and exceptional archaeological character, it would be appropriate that the Brazos Santiago depot site be nominated for National Historic Landmark status under the theme "Political and Military Affairs, 1783-1860" and the subtheme "Mexican War, 1846-1848" (National Park Service 1987:1-9).

Further archaeological efforts are warranted for each of the seven Brazos Santiago site areas, including systematic metal detector investigations, shovel testing and other controlled excavations, and intensive pedestrian archaeological surveys and mapping in the depot, camp, cooking, and latrine areas, to better define the site layout, features, and areas of intact archaeological deposits. The site should be monitored after major storms and hurricanes, as these weather events tend to re-expose much of the site's archaeological deposits and features now lying under shifting sand dunes. Should major storms re-expose substantial portions of the Brazos Santiago depot, the site area, features, and artifact concentrations should be mapped and documented with a Total Data Station, and key areas then systematically surface-collected to retrieve valuable archaeological

information on the layout of the site and the distribution of military features and artifactual remains. Additionally, the extensive Mexican-American War-era artifact collections from Brazos Santiago Depot at the Corpus Christi Museum of Science and History have never been fully studied or reported (e.g., the ceramics have been reported in Banks [1983]), and a thorough analysis and reporting of the whole collections (especially the wood and leather artifacts) is long overdue.

Brazos Santiago Archaeological and Archival Collections

The archaeological collections and original specimen inventories/analysis forms for the Brazos Santiago Depot are currently curated at the Corpus Christi Museum of Science and History. They were donated to the museum by the Office of the State Archeologist (OSA) at the Texas Historical Commission in 1994.

With the assistance of Dr. Susan deFrance, then the Archeological Curator, the collections and records were examined in 1997 with the express purpose of assessing: (1) the archaeological character and content of the collections by site area; (2) the interpretive potential of the archaeological collections, either through display/exhibit or by photographic documentation; and (3) the variety of available notes and documents accompanying the collections. After completing the assessment of the Brazos Santiago Depot collections and records, it is clear that they represent an archaeological and interpretive resource of premier caliber for both the Mexican-American War and Civil War periods.

The Brazos Santiago Depot collections at the Corpus Christi Museum of Science and History include 75 boxes of artifacts, 8 large plastic bags with wooden artifacts (such as tent pegs and shovel handles), 1 box of supporting documentation (including field notes, artifact inventories; artifact analysis sheets; Banks' [1983] Master's thesis, and miscellaneous notes), historic maps, and a set of zerographs of metal concretions recovered from the site. These materials were collected and assembled as the result of 1967 and 1980 archaeological investigations at the site by the OSA.

There are detailed analysis notes and records available for the Brazos Santiago ceramics, glass tableware (tumblers and pressed glass), marbles, chimney glass, window glass, and the glass bottles

Table 1. Artifacts Documented from Brazos Santiago Depot (41CF4)

locality #1, Area A'

- 3 dark green olive wine bottle glass bases
- 1 dark green olive bottle lip, champagne finish
- 1 aqua paneled bottle body, decorated with three dots
- 1 aqua medicine bottle
- 1 coarse earthenware (Mexican) rim sherd, with interior green lead glaze
- 1 lead-glazed earthenware body sherd (Mexican)
- 1 stoneware body sherd, light salt-glazed

locality #2, Area A'

- 1 19th century brown beer bottle base with pontil
- 1 light green bottle base with deep pushup
- 1 olive green bottle lip, wine finish
- 1 aqua paneled bottle body, decorated with three dots (see locality #1)

locality #3, Area A

- 1 whiteware base sherd with chipped edges
- 2 aqua window glass, 1 mm thick

Area E

- 1 possible percussion cap (brass)
- 1 4-hole porcelain button
- 3 ginger beer body sherds
- 3 whiteware body sherds, spongeware/spatterware
- 1 colorless bottle base, hand-blown
- 1 copper sheet with small rivet holes
- 4 dark olive green-black bottle bases, no pushup. One marked with "K", and another with "PITTSBURGH PA."
- 3 aqua bottle lips, probably glass tableware
- 7 aqua bottle bases, 1 with base pushup, the others without
- 5 amber-brown bitters bottle bases
- 6 olive green bottle sherds, 5 bases with pushup, and 1 lip with a champagne finish

Area F

- 3 whiteware rims, plain, one with a maker's mark
- 1 whiteware body sherd with maker's mark
- 2 yellowware rims
- 1 hand-painted body sherd
- 1 whiteware (spongeware/spatterware) rim
- 1 flown blue rim
- 1 lead-glazed earthenware rim
- 1 blue annular ware body sherd
- 1 aqua paneled bottle body, with "...NO EXT."
- 2 dark olive green bottle bases, no pushup; wine or champagne

Area F'

- 1 ginger beer bottle base/body
 - 1 railroad spike
 - 1 lead-glazed earthenware body sherd
-

and jars, including bottles holding beverages, foods (such as catsup, mustard, olive oil, pickles, and preserves), gun oil and ink, medicine bottles or pharmaceuticals, and patent medicines. Also in the records are analysis notes on the many ceramic ginger beer bottles (made in England) in the collections, which contained mineral waters, lager beer, whiskey, and soft drinks like lemonade and ginger beer.

Materials suitable for exhibits and interpretive displays from the Brazos Santiago Depot collection include the following:

- restorable English refined earthenware plates and cups, both decorated and plain
- whole and restorable ginger beer bottles, some with the original wire stoppers around the neck
- whole and restorable glass bottles that contained wine, alcohol, patent medicines (i.e., Drake's Plantation Bitters), pickles, gun oil, and ink
- bugles, epaulette fragments, brass and wood uniform buttons, possible scabbard and holster pieces, knapsack hook
- personal items, including spurs and buckles (or belt plates), toothbrushes, keys, pocket knives, button molds, forks, belts, hats, leather riding whip, leather shoes (Figure 2), riding boots, and leather shoe soles
- wood brushes, cork and wood stoppers, wood screws, and wood tools
- brass screws, fasteners, and tack heads, iron files and fasteners
- wood barrel staves, tent pegs (in excellent condition), horse harness pieces, and shovel handles (in excellent condition) from Area A
- weapons and ammunition, including lead balls and percussion caps, brass gun parts

Such materials provide vivid examples of the types of products and goods that were brought to the depot in the 1840s-1860s, and made available by the U.S. Army for soldiers and civilians in nearby camps and battlefields. The well-preserved condition of some of the normally perishable wood and leather items will be quite informative about the manufacture of the accouterments and equipment of U.S. soldiers during the Mexican-American and Civil wars (cf. Steffen 1977-1979).



Figure 2. Leather Boot and Shoe from the Brazos Santiago Depot in the collections at the Corpus Christi Museum of Science and History. Drawing by Sergio A. Iruegas.

The Office of the State Archeologist maintains extensive files on the Brazos Santiago Depot. These include artifact specimen inventories and analysis forms, correspondence, field notes, and copies of historical documentation on the site (Simons et al. 1996:7), along with color slides and black and white photographs of the site and selected artifacts in the collections. One particular item of note in the Office of the State Archeologist files for Brazos Santiago is a 1967 sketch map attached to the Brazos Santiago site form depicting different features in the area to the west of the west end of the South Jetty. Although there is no scale on the map, it does show the locations of wagon ruts, graves, a trench with wood posts, and an area of tent pegs on either side of the trestle poles (which are still visible at the site today), and extending to the water line. The 1967 field notes more specifically indicate that several large trenches for retaining walls or fortifications were present in this area, along with numerous wooden barrels, crossed timbers from a possible fence, a possible flag pole, and sets of large posts (3 feet in diameter) that

may be the holes for pilings from structures. The trenches ranged from 1-3.5 feet in width and 40-280 feet in length.

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ARCHAEOLOGICAL INVESTIGATIONS OF MEXICAN-AMERICAN WAR BATTLEFIELDS AND RELATED SITES IN TEXAS

Part VII: Taylor's bridge between Boca Chica and the Rio Grande

Timothy K. Perttula

ABSTRACT

The Pilings site (41CF117) is a mid-19th century archaeological deposit adjacent to the Boca Chica Highway that may be related to the construction and use of the Boca Chica bridge crossing built by General Zachary Taylor in 1846, and/or to a more substantial bridge built by General Sheridan during the Civil War.

floating bridge to cross an inlet of Laguna Madre (Figure 1), thus facilitating the movement by wagon of goods and supplies from Brazos Santiago upriver to Fort Brown. During the Civil War, a more substantial bridge was built in the same area by General Sheridan's forces for a comparable purpose, moving supplies upriver to federal forces at Fort Brown. The latter bridge, some 500 feet long, was built of palmetto and other woods, and the wood pilings are visible from the Boca Chica Highway.

INVESTIGATIONS

General Zachary Taylor's army built a short

In addition to the wood pilings themselves, 19th century archaeological deposits were identified adjacent to the remains of the bridge during the 1997



Figure 1. The Boca Chica Bridge, Clarksville, and the mouth of the Rio Grande, from Webster's (1847) Map of the lower Rio Grande.

Table 1. Artifacts Documented from the Pilings Site (41CF117)

1 shell-edged whiteware rim sherd
 1 plain whiteware rim sherd
 7 dark olive-green wine bottle glass sherds, deep
 pushup bases
 bone, hand-made brick, and iron railroad spikes

archaeological investigations. The Pilings site (41CF117) is on two or three low dunes in a lagoonal setting in Boca Chica Bay, and the scatter of mid-19th century ceramics, bottle glass, and hand-made bricks covers about 0.5 acres of the dunes and mud flats. As with so many of the 19th century archaeological sites along the lower Rio Grande, the Pilings site has been looted by artifact collectors; backdirt piles from looter activities are present in three different areas.

Preserved animal bone and hand-made brick

concentrations on the Pilings site suggest that sub-surface cultural features may be present in addition to accumulations of mid-19th century artifacts. The latter include iron railroad spikes, blue shell-edged whiteware (with an unscalped rim with impressed lines), a plain whiteware rim, and dark olive green wine bottle glass with deep push-up bases (Table 1). According to Hunter and Miller (1994:Pl. V), shell-edged whiteware with unscalped rims and impressed lines date from ca. 1830-1860.

The Pilings site possesses research significance, regardless if it can be reliably linked to the Mexican-American war campaign itself. It is more likely that the site contains archaeological deposits related to U.S. Civil War soldier camps by the Boca Chica bridge crossing. Additional archaeological survey, including surface inspection and controlled surface collection, shovel testing, and systematic and controlled metal detecting, is warranted at the Pilings site to determine if intact Mexican-American War era and/or Civil War era archaeological deposits are present.

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 877, 1847-Texas. National Archives,
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W. L. (BILL) MCCLURE is a retired civil engineer. He spent 40 years with the Texas Highway Department and the Harris County Toll Road Authority in producing freeways and toll roads in Houston. A long-time hobby involved nature studies and archaeological studies. He has combined those interests in an avocation sometimes called "archeozoology" and sometimes "zoarcheology."

BO NELSON has pursued his interest in archaeology for over 30 years, and recently has made the transition from being an avocational to being a practicing professional archaeologist. Growing up in Northeast Texas led to his primary interest in Caddoan archaeology, but with more archaeological experiences throughout the state, Spanish Colonial archaeology and the archaeology of South Texas can be added as new interests. Bo is an active member in the Texas Archeological Society (Regional Director, Region 4), and the Texas Archeological Stewardship Network.

LELAND W. PATTERSON is a retired chemical engineer and an active avocational archaeologist. His current research interests include the prehistory of southeast Texas, lithic technology, and the early peopling of the New World. Patterson has authored or coauthored over 379 publications in archaeology. Some of his publications have been in *American Antiquity*, *Journal of Field Archaeology*, *Lithic Technology*, the *Bulletin of the Texas Archeological Society*, and *Current Research in the Pleistocene*. He is author or

senior author of several major archaeological site reports, and has recently published a detailed synthesis of Southeast Texas archaeology. He has received the Crabtree Award of the Society for American Archaeology for research by an avocational archaeologist.

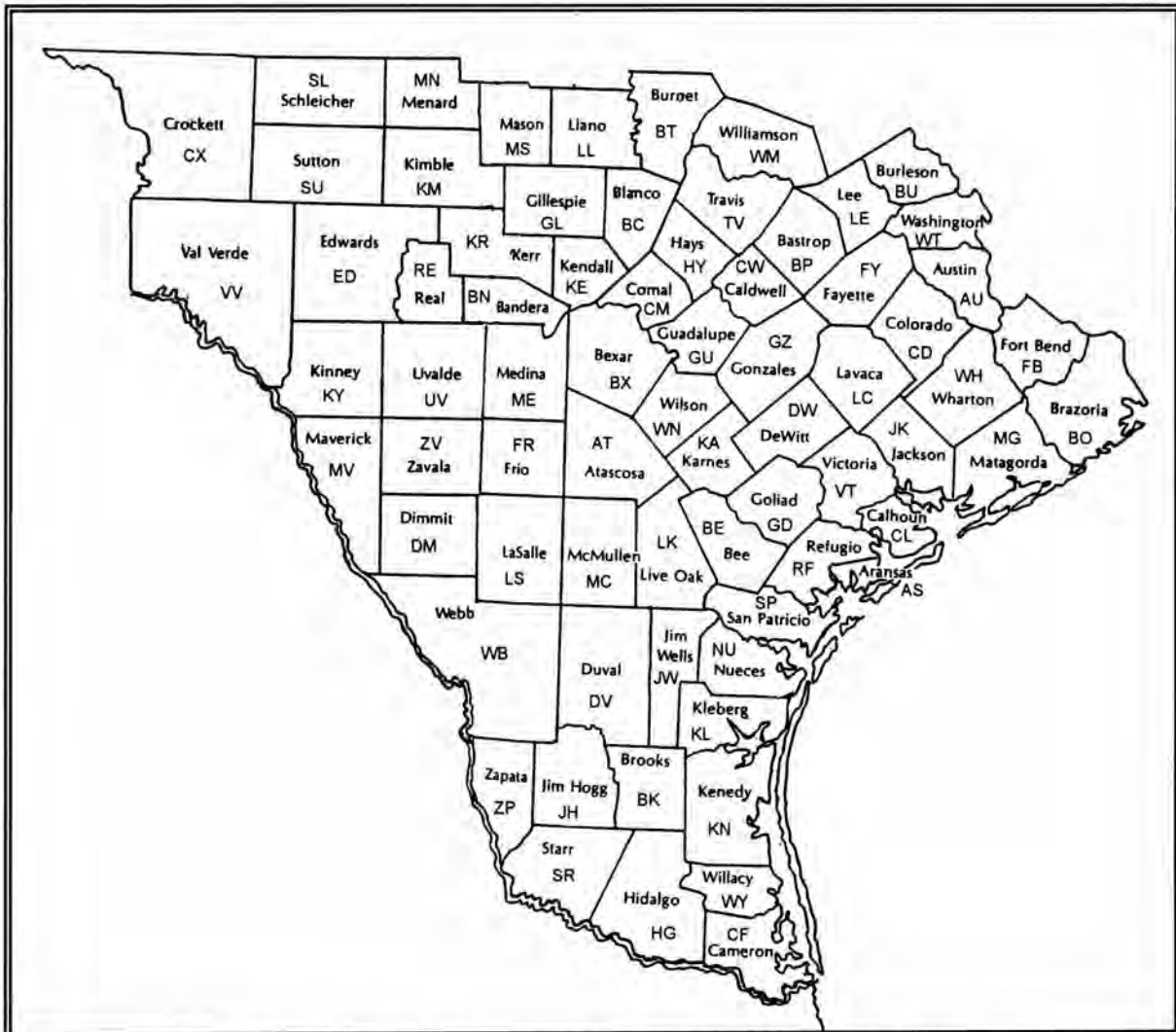
TIMOTHY K. PERTTULA, who lives in Austin, has a PhD in Archaeology from the University of Washington (1989), and has been doing archaeology in Texas since 1974. While his principal research interest is Caddo archaeology and ethnohistory, in the last few years he has also become fascinated with South Texas archaeology, particularly the prehistoric, Hispanic, and Tejano archaeology at Falcon Reservoir on the lower Rio Grande.

E. H. "SMITTY" SCHMIEDLIN has most recently worked with the Office of the State Archeologist (OSA) in field and archival research on Spanish sites in the Victoria area. He has worked with City officials to allow work at Victoria City Park (Hester, Collins, et al.) and with private landowners to allow testing at Mission Espiritu Santo mission (Hester, Walters, et al.). He located and recorded Quarry site for Espiritu Santo Mission on Guadalupe River (1726-1749) and located and recorded earthen dam on tributary of Guadalupe River (age undetermined). He was given (with Bill Birmingham) the 1998 Outstanding Archaeologists of the Year Award. Smitty is a charter member of STAA, a member and past regional Vice President of Region 6 for the Texas Archeological Society, past president of STAA, member of the Texas State Historical Association, steward for the Texas Historical Commission/OSA 12 years, crew chief on various field schools since 1967, and publisher of articles in *La Tierra* and in *OSA Cache* publications. He is presently retired from Union Carbide (38 years) as supervisor.

LEE ANNA SCHNIEBS graduated in 1982 from the University of North Texas (UNT) with a BFA degree. She majored in Art, and minored in English and Anthropology. From 1986 to 1990, she worked at the Institute of Applied Sciences at UNT in the zooarchaeological lab under the supervision of Bonnie Yates. Over the next four years, she worked for several archaeological companies in New Mexico, until she returned to Texas in 1994. Since that time, she has been an independent faunal analyst for clients in Texas, New Mexico, and Colorado.

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APPENDIX A



South Texas counties with symbols for archaeological site designations.

CONVERSION CHART

<u>Multiply</u>	<u>By</u>	<u>To Get</u>	<u>Multiply</u>	<u>By</u>	<u>To Get</u>
millimeters (mm)	0.0394	inches	inches	25.4	millimeters
centimeters (cm)	0.394	inches	inches	2.54	centimeters
centimeters	0.0328	feet	feet	30.48	centimeters
meters (m)	3.281	feet	feet	0.3048	meters
meters	1.094	yards	yards	0.9144	meters
kilometers (km)	0.621	mile	mile	1.609	kilometers
hectares (ha)	2.471	acres	acres	0.4047	hectares

INFORMATION FOR CONTRIBUTORS

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

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

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

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

Other figures can be line drawings or photographs; line drawings are preferred if they are good quality—every photograph used requires special processing which adds to the cost of the issue. Sharp Black and White photos are preferred but color can be used. If you need assistance with illustrations, please let us know—there are several STAA members who have volunteered to help with illustrations. For examples of good artifact and map illustrations, see those by Richard McReynolds and Ken Brown in previous issues.

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

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

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

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

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THE SOUTHERN TEXAS ARCHAEOLOGICAL ASSOCIATION

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

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