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TEXAS ARCHEOLOGICAL SOCIETY

The Society was organized and chartered in pursuit of a literary and scientific undertaking; for the study of history, prehistory, and the major artifacts of man and fossils representing the past floras and faunas of Texas; for the encouragement of the proper collection and preservation of such artifacts and fossils in museums and their study and classification and the publication of the results of researches incident thereto.

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BULLETIN
of the
TEXAS ARCHEOLOGICAL SOCIETY

VOLUME 37, for 1966

THE GILBERT SITE
A Norteño Focus Site in Northeastern Texas

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Foreword

The first group dig organized by the Texas Archeological Society was held in the summer of 1962 at the Gilbert Site, an 18th-century Norteño Focus site on the upper Sabine River in northeastern Texas. The Dallas Archeological Society was a co-sponsor.

The editor of this report directed the dig. R. K. Harris, representing the Dallas Archeological Society, was assistant director. The Texas Archeological Society provided funds for miscellaneous expenses. The University of Texas Department of Anthropology furnished camp and excavation equipment.

Professional archeologists who helped supervise the field work were: Mardith K. Schuetz of the Witte Memorial Museum and three University of Texas archeologists — E. Mott Davis, Lathel F. Duffield, and Dee Ann Story. Society members who participated were: Mr. and Mrs. Harold Akins, Mr. and Mrs. G. L. Allen, Jr., Kent Askins, Dr. and Mrs. J. Frank Autry, Byron L. Barber, Mr. and Mrs. Jay C. Blaine, Charles N. Bollich, Mr. and Mrs. William P. Caskey, Mr. and Mrs. Herschel Cobb, Mr. and Mrs. Joe F. Cochran, Robert O. Coleman, Kathleen Gilmore, Sally Gilmore, Clyde Grauke, M. Charles Grauke, Mr. and Mrs. Loyd Harper, Loyd Harper, Jr., Robert K. Harris, Jr., Mr. and Mrs. Bill L. Hayes, Dale Hoffrichter, Dawn Hoffrichter, Mr. and Mrs. Wally B. Hoffrichter, Mark Huff, Jr., Mr. and Mrs. Griffin King, Isabelle Lobdell, Mr. and Mrs. Paul Lorrain, W. T. Lowthorp, Lorraine McGraw, Mr. McMahan, J. W. McManus, Edward Moorman, Charles Nemeec, J. Parker Nunley, Roy Padgett, Ray Parker, Mr. and Mrs. Mark Parsons, Charlotte Pennington, Mr. and Mrs. Herman Rhoads, Mr. and Mrs. Wm. R. Royal, Andre Schuetz, Roy Schuetz, Stuart Schuetz, Mr. and Mrs. Dan Scurlock, Mr. and Mrs. D. J. Smelley, C. A. Smith, Jr., Mr. and Mrs. Robert L. Tapscott, Robert Turner, Jr., Bobby Vance, Bob Weaver, Donny Weaver, Timmy Weaver, Mr. and Mrs. Lester Wilson, Bill Wisdom, Bill E. Yancy.

This first effort at a society-sponsored field project was planned and conducted as a professionally directed excavation employing society members to do the work. It was not a field school, nor was its purpose to train amateurs how to dig: whatever was learned about field techniques by the participants was incidental to the primary objective of getting the site excavated. However, on-the-job training was provided in excavation and recording techniques whenever possible, as well as in cleaning and processing specimens. And everyone was invited to participate in the discussion of field problems as they arose.

After the field work was completed, the specimens from the excavation were washed and cataloged at The University of Texas and were then transferred to Dallas, where the analysis of materials and writing of the first draft of a report were accomplished during the winter of 1962-1963, principally by members of the Dallas Archeological Society but with some assistance from members of the Tarrant County Archeological Society.

In planning the report an outline comprising 10 major sections was prepared, and the writing of each was assigned to a team of amateurs headed by a professional who was to serve as coordinator. Some of the people originally assigned to the teams did no work at all, while in some instances people who were not included in the original assignments became active team members and contributed substantially to the report. But despite the shuffling of team members, the first drafts of all sections were completed, remarkably, on schedule.

The sections of manuscript were turned in to R. K. Harris, who made editorial changes, assembled the manuscript, and passed the whole along to the editor who—along with the other professional archeologists assigned to the report—was then at The University of Texas in Austin. Each professional edited the section or sections for which he was coordinator and returned them to the editor. This took considerable time as the professionals, by and large, were not nearly so punctual in meeting their deadlines as were the amateurs.

The editor, meantime, moved from Austin to Dallas, where he joined the faculty of Southern Methodist University. In the summer of 1966, the manuscripts of all the sections except one (which was being revised by one of the professionals in Austin) were edited for spelling, grammar, and style by Mrs. Kathleen Gilmore. Finally, all the manuscript was collected by the editor who, with the assistance of Mrs. Norma Hoffrichter, put it in final shape for the printer.

This report, then, is truly the creation of dozens of people, and it is the editor's earnest desire that all who contributed to it be given due authorship credit. Naturally some worked longer and harder than others. Some co-authored a brief first draft in 1962 and did nothing more; others have labored over the full five years, continually adding new data that was coming in intermittently from the site and revising the manuscript over and over again. There were changes in the editorial staff, too, over the years; furthermore, some editors were responsible for sections that required only minor editing while others found it necessary to do extensive rewriting of major sections.

In cases where one person unquestionably wrote a lion's share of a

section, his name is listed first in the by-line and is italicized. In all other cases the authors of a section are listed alphabetically. Where significant *additions* have been made to a section by an editor, he is included as a co-author of the section.

In all the confusion it is quite possible that someone's name that should have been included was left off, or that someone who by rights should have been listed as senior author of a section will find his name in the middle, or even at the end, of the by-line. If such a mistake has been made, the editor, who is solely responsible, begs forgiveness and offers assurances that the oversight was entirely inadvertent.

Special acknowledgment is due the following:

John C. Gilbert, Lennon Gilbert, J. T. Henry, C. L. Lennon, and Jewell McMillan, landowners who generously granted access to the site and gave permission for the field party to excavate and to camp on their property;

Harold Akins, who procured a large water tank for use of the field party and kept it filled;

Hazel Gilboe, Inus Marie Harris, and Etoile Smith, who typed most of the manuscript;

Norma Hoffrichter, Sherry Humphreys, and Linda Smith, who photographed the artifacts;

Marcia McGee, Jay C. Blaine, Diana Lorrain, and Paul Lorrain, who prepared the line drawings;

Kathleen Gilmore, who identified the material from which the stone pipes were made;

B. J. Scull and Stanley B. McCaleb, Sun Oil Company, who identified minerals in pottery by petrographic and X-ray defraction analysis;

R. E. Forrester, who determined the metallic constituents of a finger ring;

Joel Shiner, who permitted use of his unpublished data on gun parts excavated at Fort Frederica, St. Simons, Georgia.

EDWARD B. JELKS

July, 1967

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The Site

by E. MOTT DAVIS, KATHLEEN GILMORE, LOYD HARPER, R. K. HARRIS,
EDWARD B. JELKS, C. A. SMITH, JR., and BILL YANCY

SETTING

The Gilbert Site (41 RA 13) is in Rains County, Texas, some 70 miles east of Dallas, at the southern edge of the valley of Lake Fork Creek, a tributary of the upper reaches of the Sabine River. This location is near the western margin of the forested area of eastern Texas, and hence of the southeastern United States. The local uplands consist of broad fields and meadows interspersed with wooded areas, while the stream valleys characteristically are thickly wooded. A few miles to the west rolling prairie begins.

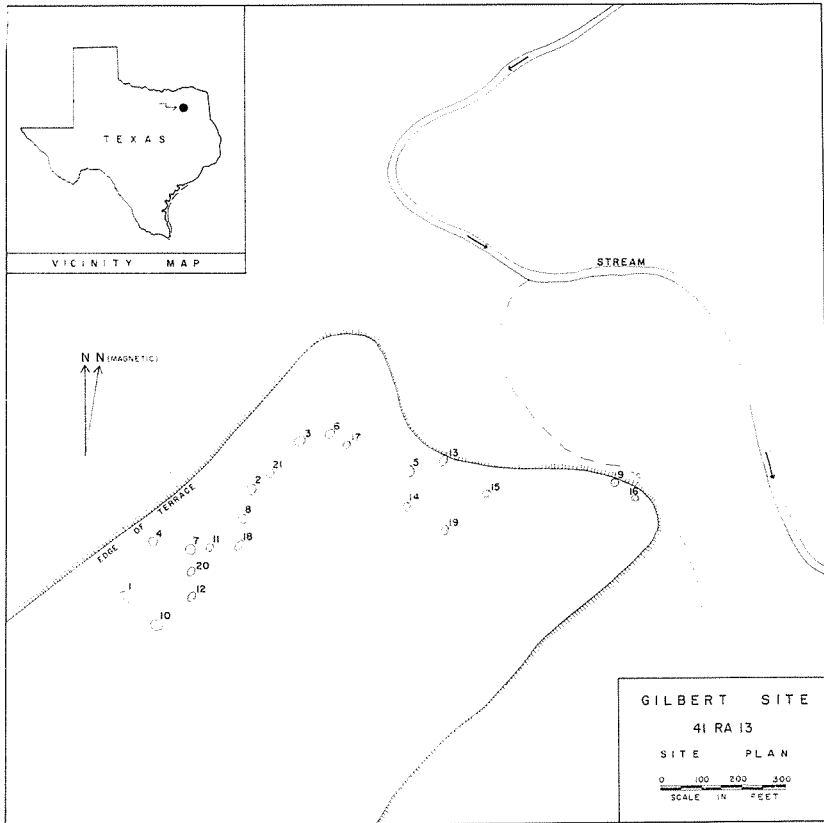


FIGURE 1. Sketch map of the Gilbert Site and environs, showing the distribution of the features.



FIGURE 2. Briefing session preparatory to digging Feature 7. The field director is putting the finger on the assistant field director while the shovel hands look pensive.

Trees in the immediate area are mostly hardwoods — pecan, prickly ash, locust, water elm, hackberry, several varieties of oak, and persimmon. The underbrush consists of Indian currant, poison ivy, wild dewberries, blackberries, haw, and Cherokee rose. The countryside is relatively rich in wild plant and animal food; catfish and other fish are to be caught in Lake Fork Creek. (Charlie Bollich, in fact, caught several catfish in the creek during the field school using — improbably — longitudinally split frankfurters for bait.)

The subsoil in the vicinity of the site comprises red and yellow clays of the Wilcox Group of the East Texas Eocene (Oetking, 1959). No *in situ* cultural material is to be found, of course, in these clays. Overlying the clays is a thin layer of fine sand comprising the topsoil. Once loosened by the plow or by erosion, the sand is rather quickly removed by wind and water, exposing the clay subsoil. All cultural materials and features at the Gilbert Site were in the sand layer except for some pits that had been dug down into the clay.

SITE DESCRIPTION

Superficially the site consists of a series of small mounds on a low, sandy hill about 500 yards from Lake Fork Creek (Fig. 1). Much of



FIGURE 3. Excavating Feature 7. Charlie Smith showing open-mouthed wonder at the dexterity of Bill Caskey.

the hill has been under cultivation in the past, but it is now in pasture. The western part of the hill, and of the site, lies in thick woods. A small amount of cultural debris—glass beads, metal scraps, flint spalls, and the like—may be found on the surface of the ground.

The mounds, actually middens, are circular to oval in outline, 20 to 30 feet in diameter, and about a foot high on an average. There are more than 20 of them scattered over an area of some 50 acres. Stretching between Lake Fork Creek and the elevated ground on which the site lies is the flood plain of the creek.

HISTORY OF INVESTIGATION

The site was first noted by Mr. and Mrs. Harold Akins of Sulphur Springs in 1962. They sent metal artifacts and pottery sherds found at the site to the University of Texas for identification. Recognizing that the metal artifacts were parts of 18th-century flintlock muskets, Jelks requested R. K. Harris to investigate. Harris visited the site and collected enough material to verify that it was the location of an Indian village or encampment probably dating from before 1800. It was named the Gilbert Site after the principal landowners, Messrs. John C. Gilbert and Lennon Gilbert.

Early in 1962, preliminary tests were made at two of the middens,

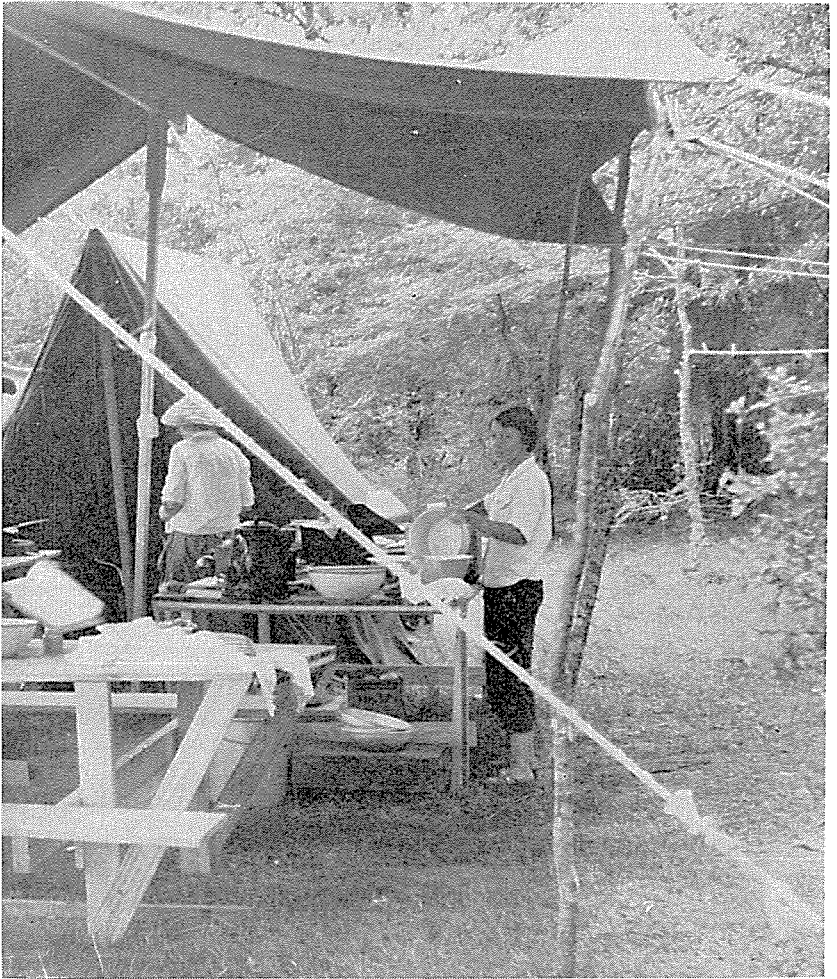


FIGURE 4. Meanwhile, back at the cookhouse, Louise Caskey and Dessamae Lorrain start supper.

Features 1 and 2, by members of the Dallas Archeological Society under the supervision of R. K. Harris. Material found in the tests indicated that the Gilbert Site was a component of the Norteño Focus, an archeological manifestation identified with Wichita tribes of the 1700-1850 period. The focus had been defined not long before on the basis of data from a series of sites in Texas and Oklahoma, including the Spanish Fort Site, the Womack Site, a late occupation at the Sanders Site, the Stansbury Site, the Vinson Site, and the

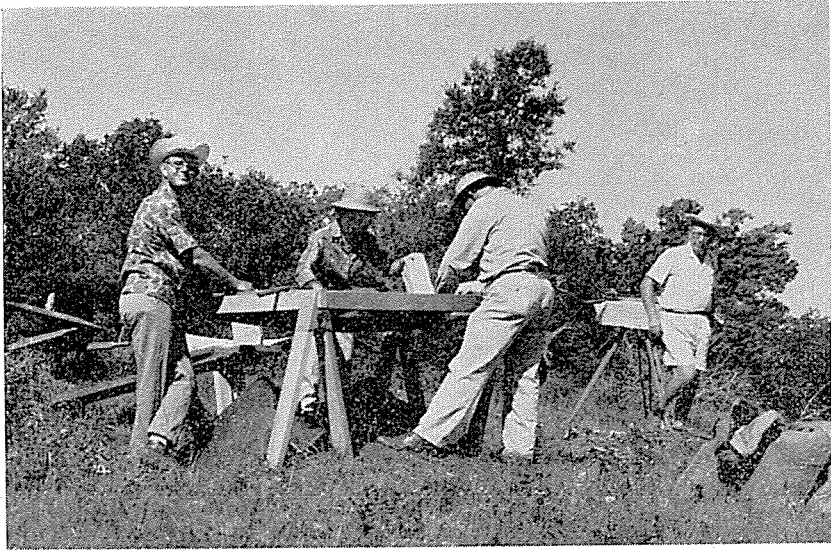


FIGURE 5. Screening crew at Feature 6. Left to right: Bill Yancy, Mardith Schuetz, D. J. Smelley, Griffin King. In right foreground are bags of dirt collected under the screen for processing at the bead mine.

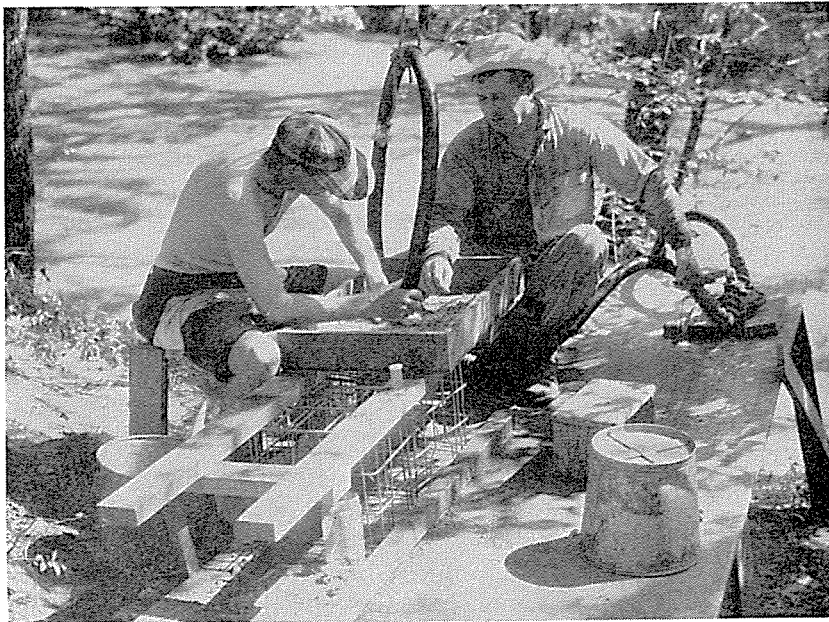


FIGURE 6. The bead mine in operation. Bob Turner pumping with left hand while Loyd Harper hoses water through fine screen.

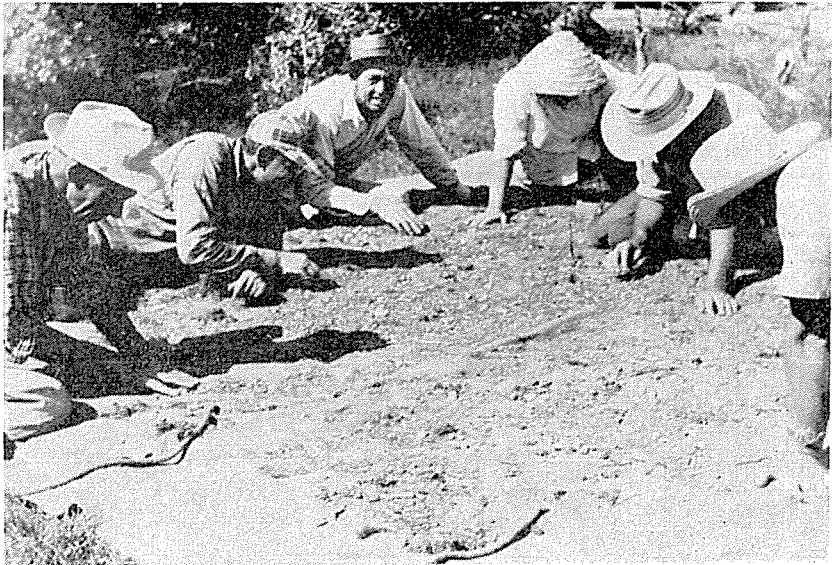


FIGURE 7. Scratching for beads. The residue left behind after washing the bead dirt through the fine screen has been dried out on a tarpaulin. Scratchers, left to right: Bill Caskey, Loyd Harper, Byron Barber, Louise Caskey, two unidentified straw-hatted pickers.

Pearson Site (Duffield and Jelks, 1961).

It was clear from the tests in Features 1 and 2 that the Gilbert Site merited intensive investigation, and it was decided to hold the group dig planned by the Texas Archeological Society there that summer. The dig began on June 22 and continued through July 15. During that period the number of participants present at any time varied from 6 or 7 to 25 or 30.

WORK DONE

Seventeen middens (designated as features) were located and recorded (Fig. 1). Four of them (Nos. 3, 4, 6, and 7) were tested extensively. Four others (Nos. 1, 5, 10, and 16) were tested briefly. The only occupational features discovered besides the middens were two pits that were evidently used for storing grain or other products. No house floors, post-mold patterns, burials, hearths, or other such structural remains were found. The middens did, however, yield a rich harvest of artifacts, both European trade items and objects of native manufacture.

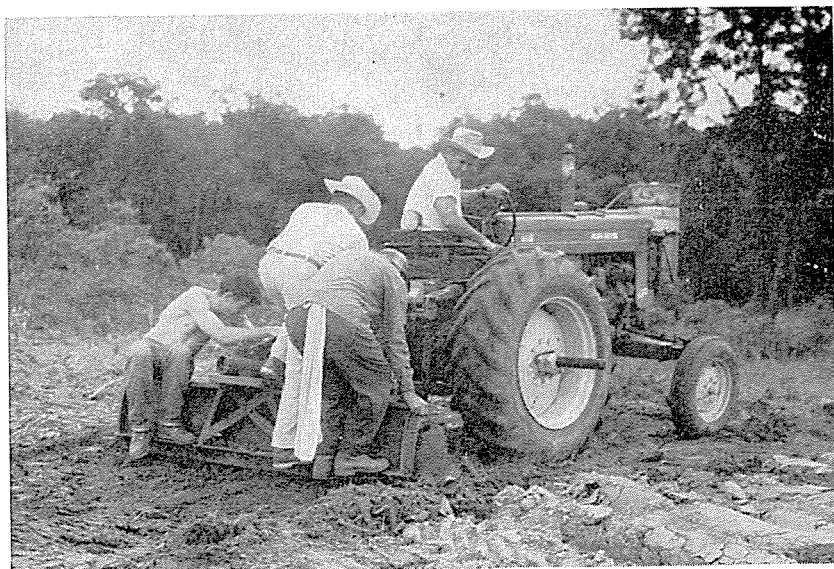


FIGURE 8. Blading the Feature 5 area. Harold Akins driving, blade riders unidentified.

TECHNIQUES OF INVESTIGATION

At each feature that was excavated, an independent reference system was established for horizontal and vertical control. All the systems were ultimately tied together in the course of a plane table survey of the site.

Vertical control at each feature was based on a nail driven into a nearby tree or post, or on a stake driven into the ground. This base point was assigned an arbitrary elevation of 100 ft. Horizontal control at each feature was achieved through a system of cardinal-direction coordinates based on magnetic north. The first step in establishing a coordinate system was to put a stake in the approximate center of the feature and assign that point the value N100/E100 (that is, North 100 ft., East 100 ft.). This placed the center (NO/EO) point of the system at a spot southwest of the feature and placed the feature itself entirely within the northeast quadrant of the system. All measurements were in feet and tenths of feet.

The basic excavation technique was to dig by five-foot squares, a half-foot at a time, passing the earth through a screen of one-fourth inch mesh and putting the specimens in paper bags labeled by feature, square, and level. Most of the digging was done with shovels.

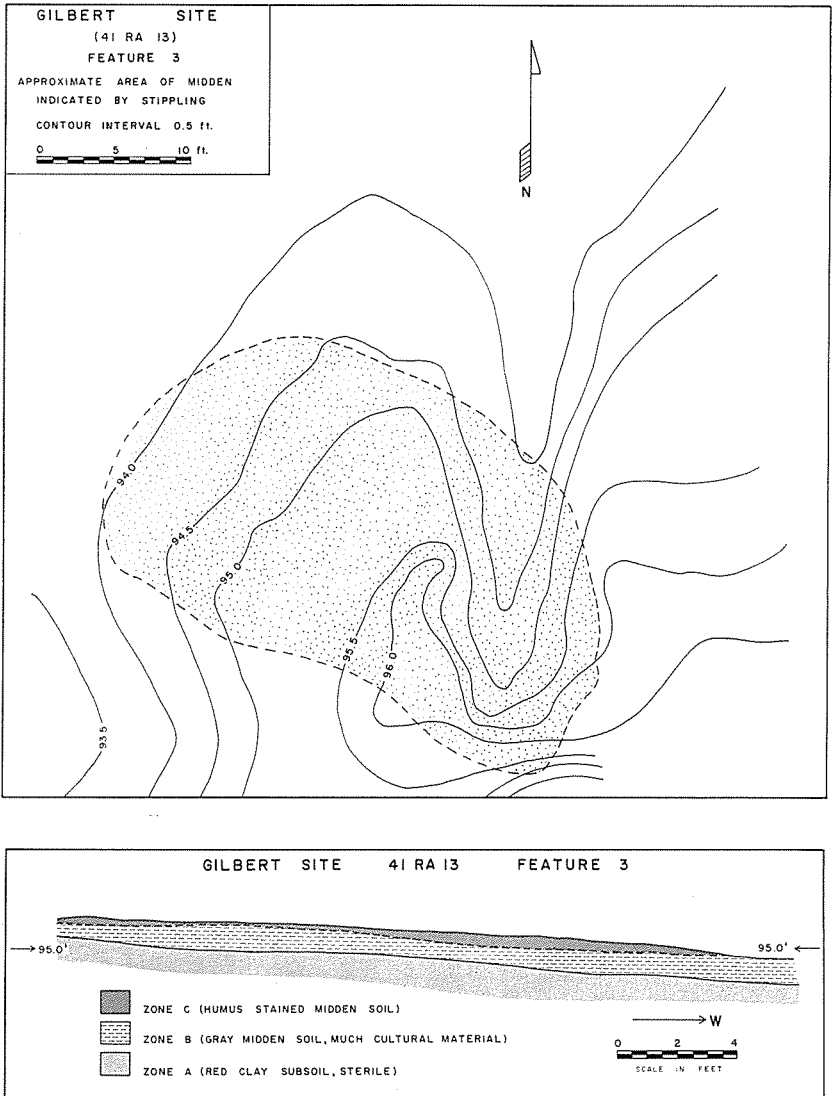


FIGURE 9. Feature 3. Plan of midden above, profile through midden below.

When each half-foot level was finished, the floor and walls were scraped with trowels and examined for significant soil changes. The exact location of important finds, such as pits or significant artifacts, was recorded. Materials found on the surface away from features were sacked under the general label *surface random*.

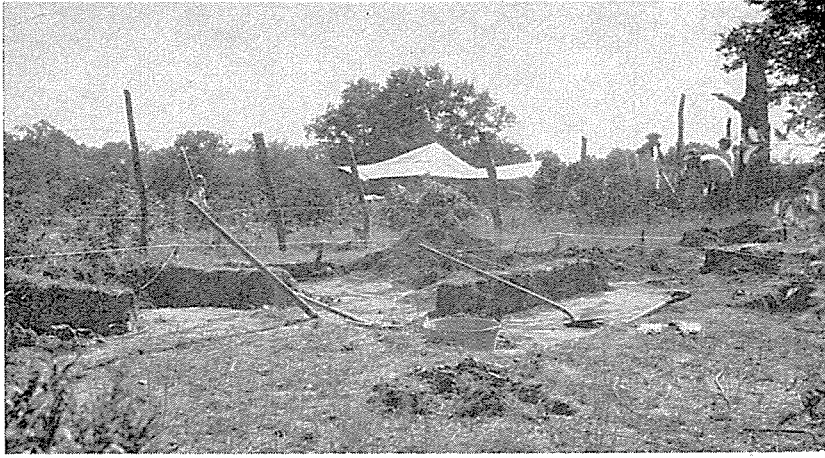


FIGURE 10. Feature 3 under excavation. The approximate depth of the midden soil is shown by the height of the standing pedestals of earth.

Modifications of the basic excavation technique were implemented to suit particular circumstances. For instance, Feature 7, a relatively large clay-capped midden which had discernible strata, was excavated by zones rather than by half-foot levels.

Samples of earth from each midden were washed through window screen to check for glass beads and other wee objects that would pass through the one-fourth-inch mesh screens being used generally. In some areas — Feature 3, for example — large numbers of beads were found; consequently a fairly sizable bead-washing operation (fondly known at the time as the bead mine) was set up for washing the midden soil through window screens, using water pumped from a nearby slough (Fig. 6). After the fine soil had been washed through, the material remaining on the screens was spread out and dried, and the tiny beads were picked out (Fig. 7).

A tractor and blade were employed at Features 1, 3, and 5 to scrape off the sod and plow zone in a search for burial pits, post molds, or other intrusions into the subsoil. In certain areas between and beyond the middens, a tractor and plow were used to cut long single furrows in the surface of the ground as a means of testing for signs of occupation not visible superficially. The use of machinery, although not productive of abundant evidence, nevertheless did turn up information which otherwise would have gone undiscovered.

The written record of the work consisted of detailed notes and sketches of each feature, of the levels in each square, and in some

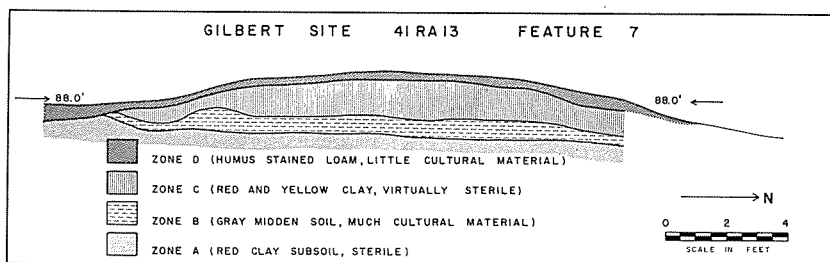
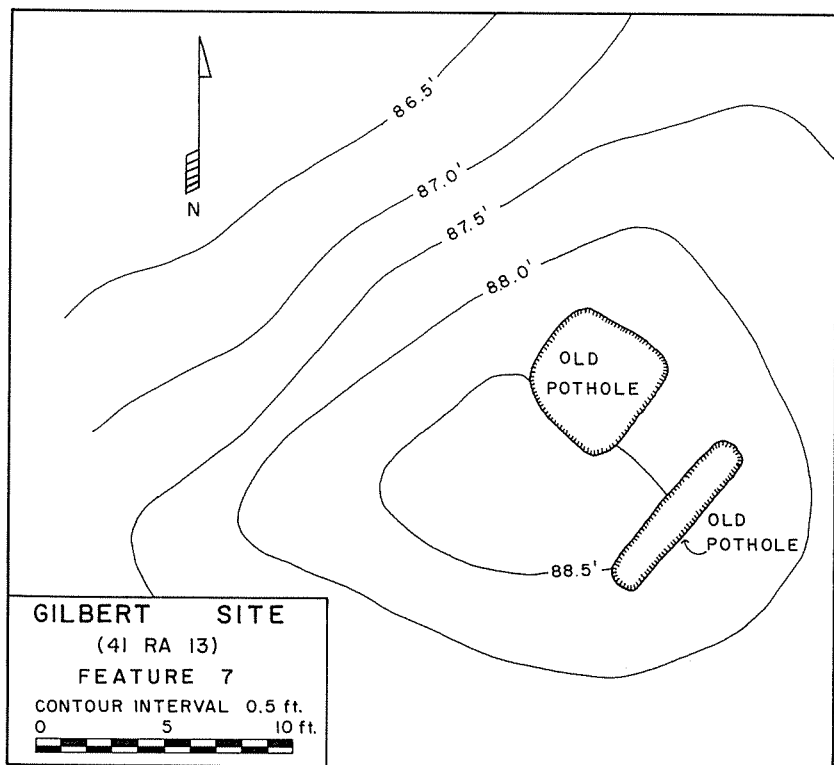


FIGURE 11. Feature 7. Topography above, profile through midden below.

cases of individual finds, on standard record forms used by the University of Texas Department of Anthropology. Scale drawings were made of significant profiles and excavation floors. In addition, a field journal was kept during the entire project, and a record was maintained of the photographs taken at the site. Contour maps were made of Features 3 and 7, and a master site plan was prepared with alidade and plane table on which the feature locations were plotted.



FIGURE 12. Starting the first test at Feature 7. Charlie Smith seated at extreme left; in background are Louise Caskey, Bill Caskey (crouching, with hat), Isabelle Lobdell (leaning forward over Bill's head), Bob Turner, and Charlie Bollich (crouching, with bald spot shining); Dessamae Lorrain and Jo Ann Parsons at transit.

In the five years that have passed since the Gilbert Site dig, several society members have continued to work at the site intermittently. They have located several middens that were not found in 1962 and have carried out additional excavation both at the old and at the newly discovered middens. The approximate positions of the recently found middens have been added to the site plan (Fig. 1), but their precise locations have not been surveyed in. Much of the artifactual material found since 1962 has been included with that from the group dig in the descriptions and discussions of artifacts that follow.

OCCUPATIONAL FEATURES

The individual midden areas previously mentioned were the primary units of excavation at the Gilbert Site. They were termed features. A total of 16 such features had been recorded by the end of the field work in the summer of 1962; five more have been located since.

During the 1962 summer dig, Features 3, 4, 6, and 7 were excavated extensively, and Features 10 and 16 were tested briefly. The Feature 1 and Feature 5 areas were bladed with machinery in a search for post molds or other evidence of structures. The blading produced no house remains but did expose a small pit at Feature 5.

Features 1 and 2 had been dug rather completely by various per-

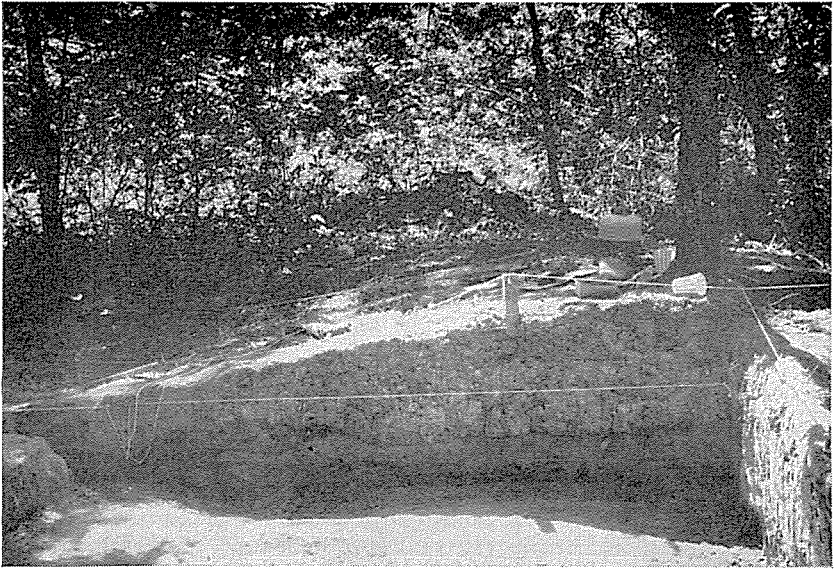


FIGURE 13. Profile at Feature 7. Clay cap resting unconformably on midden.



FIGURE 14. Midden soil at Feature 7. The richness of the midden is indicated by the garbage bones.

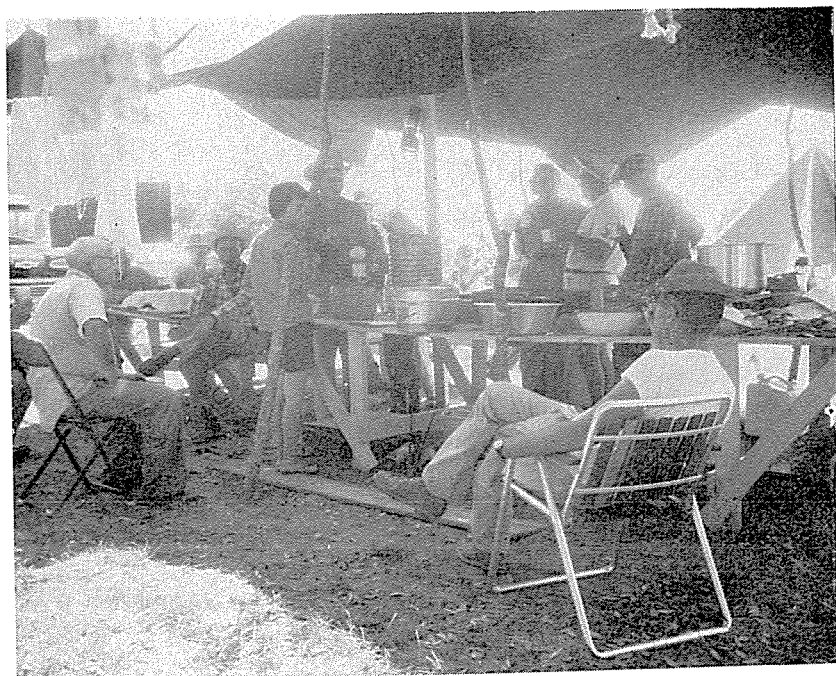


FIGURE 15. Gathering for supper. Lester Wilson seated at left, Charlie Smith seated at right; standing around table, left to right, are Dessamae Lorrain, Bob Turner, the Griffin Kings, and Loyd Harper; seated people in background unidentified.

sons before the summer of 1962. Material collected from those two features by R. K. Harris is included in the present study. Since 1962, Harris and Jay C. Blaine have continued to work at the site on occasion and have dug tests in Features 9, 11, 12, 13, 14, 15, 17, 18, 19, 20, and 21. Their artifacts from those features are also included in the artifact analysis here.

The features were small, individual midden areas, oval to roughly circular in outline. As far as could be determined, they were all between 20 and 35 feet in diameter. Maximum thickness of the middens ranged from 5 or 6 to about 12 inches. The midden soil, gray and sandy, contained varying amounts of bone scrap, charcoal, ash, and other debris resulting from human habitation. Features 4, 6, 7, 8, and 11 were covered by layers of clay from about 5 to about 18 inches thick. The reason for capping the middens with clay is unknown, but the same trait occurred at the Vinson Site in Limestone County, a Norteño Focus site partially excavated by a Texas Archeological Socie-

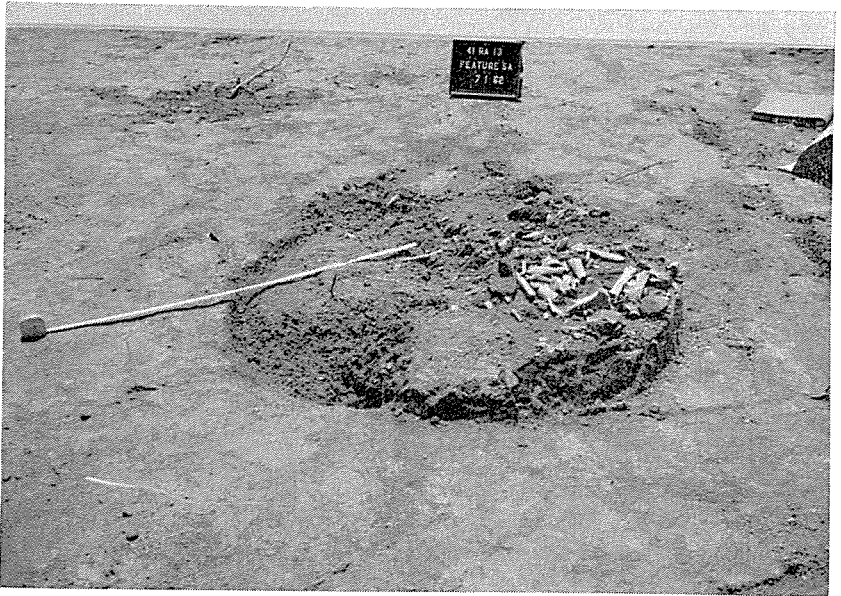


FIGURE 16. Pit filled with midden dirt at Feature 5, before excavating.

ty dig in the summer of 1964. Illustrations showing the appearance and structural details of a typical uncapped midden (Feature 3) and a typical capped midden (Feature 7) are shown in Figures 9 and 11 respectively.

The only structural remains found besides the middens themselves were an ash lens — perhaps a fireplace — in the middle of Feature 3 and two small, shallow pits dug into the clay subsoil at Features 5 and 6 (Fig. 17). The latter were probably storage pits. Features 1, 2, and 10 are reported by R. K. Harris to have had centrally located fireplaces too.

It was thought that each midden probably marked the location of a house, and a special effort was made to locate post-mold patterns or other physical evidence of houses. But none was found. Similar middens have been excavated at two other Norteño Focus sites — Vinson and Spanish Fort — and they proved to be abandoned pit-house depressions that were filled with trash. A slight offset in the floor of Feature 7 at Gilbert (Figs. 11 and 13) may be the edge of a very shallow pit-house depression, but this is by no means certain. With that one possible exception, there was no indication of pit houses at the features excavated. Bits of wattle-impressed clay daub which evidently came from clay-plastered houses were found at Features 1,

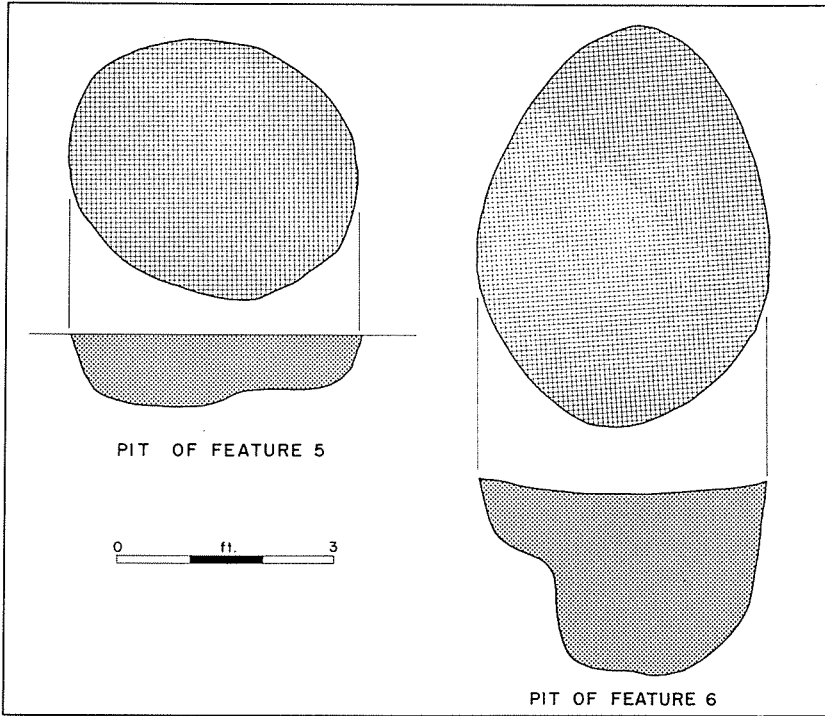


FIGURE 17. Plans and profiles of storage (?) pits at Features 5 and 6.

3, 4, 5, 6, and 7, but it is uncertain whether they derived from houses standing at the features or merely happened to be included in trash that was dumped there.

In short, the way in which the Gilbert middens came to be deposited is not clear. Were they originally pit-house depressions that became filled with trash like those at Vinson and Spanish Fort? If so, the house depressions could not be detected. It has been conjectured that the whole surface of the site may have been lowered through erosion over the past 200 years, removing all traces of the house depressions in the process. But it is difficult to see how this could have happened without the middens being scattered far and wide at the same time. Did the middens accumulate inside houses built at ground level? Or were they formed through the dumping of trash at favored spots on the ground surface? We cannot be certain of the correct answer to these questions.



FIGURE 18. Bob Turner dressed for a trip to town.

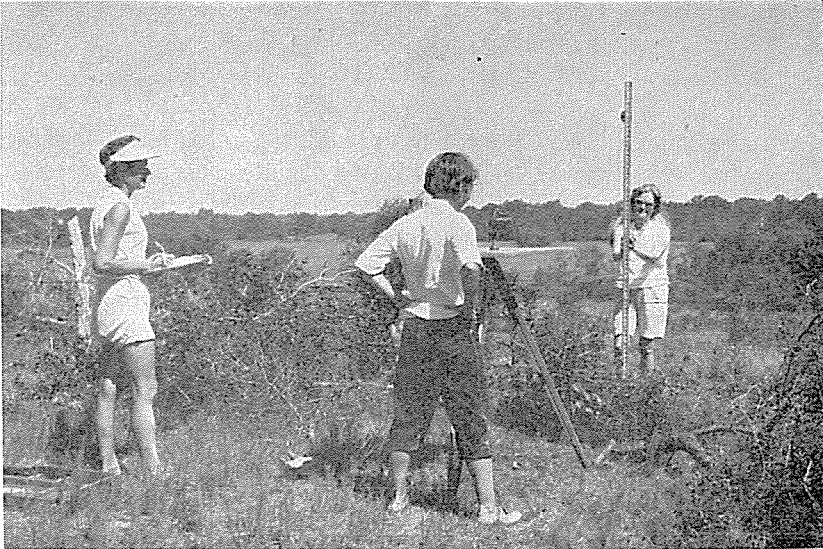


FIGURE 19. Mapping crew. Short shorts, Norma Hoffrichter; Bermuda shorts, Kathleen Gilmore; baggy britches, Dessamae Lorrain.



FIGURE 20. Happy hour. Left to right: Ed Jelks, Bob Turner, Dessamae Lorrain, Kathleen Gilmore.

European Trade Goods

Artifacts found at the Gilbert Site are here separated into two large groups. All objects made originally by the White man are classed in one group labeled *European Trade Goods*, described in this section of the report. In the main, these are articles made of metal and glass, although a few items — for example, gunflints — are made of other substances. Artifacts fashioned by the Indians from gun fittings, kettle brass, and other materials obtained from Europeans are included.

The second major artifact group, described in a later section, is designated *Indian Artifacts* and comprises artifacts made by the Indians from native materials.

The European trade goods are divided into four primary categories: tools, guns, ornaments, and miscellaneous trade goods.

TOOLS

by R. K. Harris, INUS M. HARRIS, and J. NED WOODALL

Subgroups described under the general heading of tools are: knives, axes, wedges, scrapers, awls, chisels, scissors, and metal arrow points.

KNIVES

Except for metal scraps, knives constitute the largest group of iron artifacts recovered from the Gilbert Site. Forty-one knife blades, knife handles, and fragments of blades were found, testifying to the popularity of metal knives among the Indians.

For classificatory purposes the knives were divided into clasp knives, case knives, and miscellaneous fragments. As names stamped on some specimens could be detected after cleaning, a secondary division into country of origin was possible in some instances.

French Clasp Knives

No. of Specimens: 14

Provenience: Feature 2 (1), Feature 3 (2), Feature 4 (1), Feature 5 (6), Feature 11 (1), Feature 17 (1), Feature 20 (2)

Illustrations: Fig. 21

The sample of French clasp knives comprises eight complete and

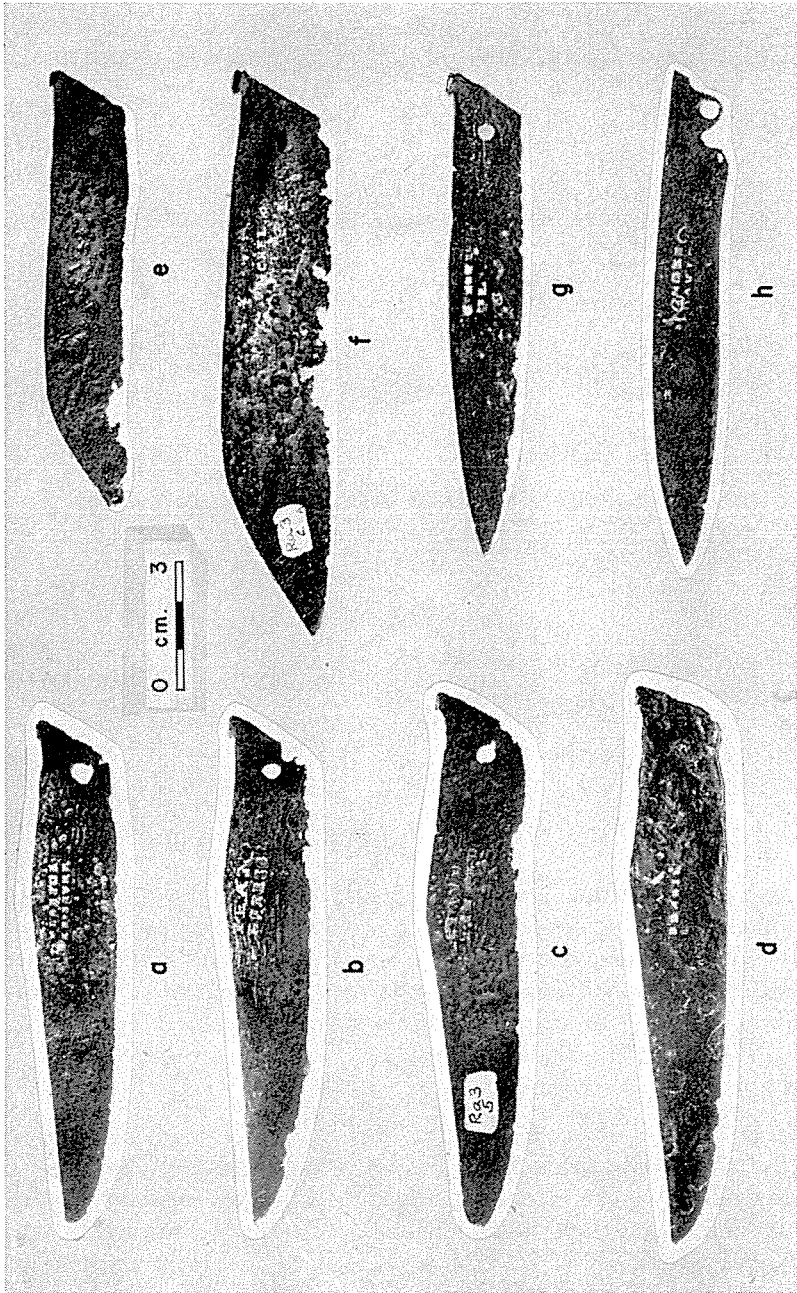


FIGURE 21. French clasp knives. *a-d*, Type 1; *e-g*, Type 2; *h*, Type 3.

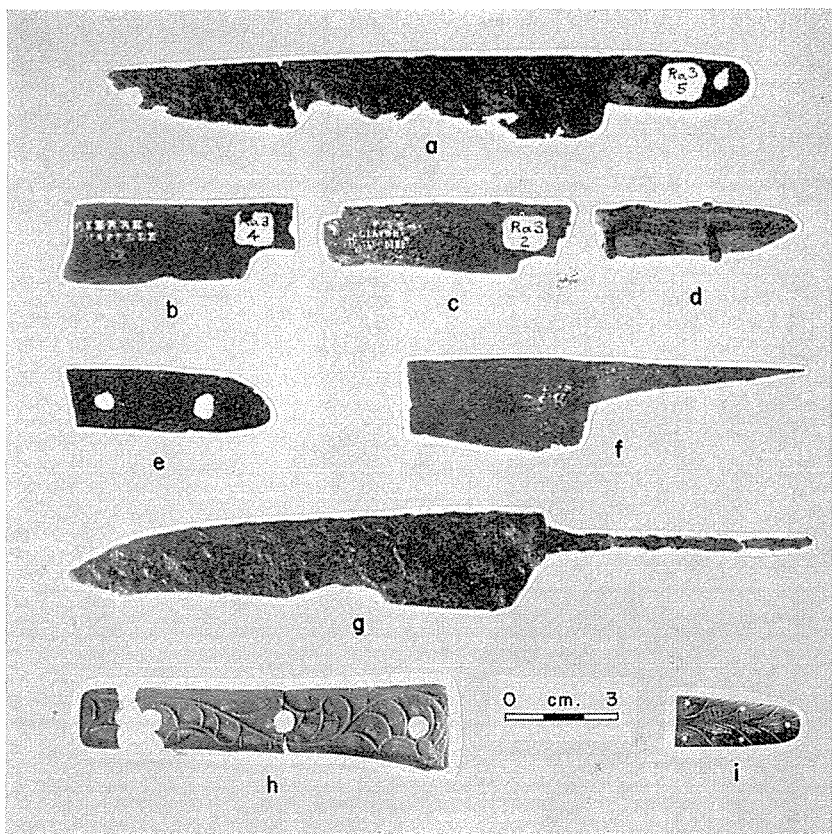


FIGURE 22. Case knives. *a-e*, Type 1; *f-g*, Type 2; *b-i*, metal handles.

six fragmentary blades. The fragments may be sorted into two groups: (1) medial sections bearing French names, and (2) proximal sections that are similar in form to the complete specimens with French names. The complete blades and one of the fragments can be subdivided according to shape into three types, designated Types 1, 2, and 3 (Harris et al., 1965: 348-350).

TYPE 1.

There are five specimens of this type (Fig. 21, a-d): two from Feature 5 and one each from Features 3, 4, and 20. The type is characterized by (a) a cutting edge which curves upward toward the tip and (b) a back edge which slopes downward toward the tip for about two-thirds of its length. This form has been referred to as "sword-shaped" by Maxwell and Binford (1961: 106); it is the most

common blade form in modern clasp knives. The four complete Type 1 blades are stamped with the entire manufacturer's name; the fifth specimen — a proximal fragment — bears only two letters near the broken edge. After meticulous cleaning and X-raying, three of the complete blades yielded the following names: *Abadion Braenwer*, *Jean Efriol* (letters reversed), *Jean Ferriol*. There is a name stamped on the fourth complete blade, but it is not decipherable. The fragment bears only the letters *R* and *T*. The *R* reads upright when the blade is held with the tip up, while the *T* is upside down in relation to the cutting edge; a portion of a third letter is seen just at the broken edge. All specimens have a hole near the butt end (to admit a swivel pin) and a flanged projection that acted as a stop when the blade was opened.

The four complete blades vary in length from 114 mm. to 126 mm., and in maximum width from 18 to 22 mm.

TYPE 2.

Three complete clasp knife blades (Fig. 21, e-g), from Features 3, 5, and 17 respectively, are classified as Type 2. These have a straight or nearly straight cutting edge all the way to the tip, while the back edge curves downward to the tip. The downward curve of the back edge begins very near the tip and consequently is relatively steep, especially on two of the specimens. Type 2 knife blades have swivel pins and flanges at the proximal end similar to those of Type 1. The only complete name found impressed on a Type 2 blade is *Gibodief OL*; present on one specimen. Of the two remaining blades, one shows the letters *CHEL*, evidently the end of a name, and below these the letter *T*; the other has only the letter *R*, apparently part of a complete name rather than an initial.

The largest Type 2 specimen measures 133 mm. long by 25 mm. at its widest point; the smallest is 105 mm. long by 19 mm. wide. On all three the hole for the swivel pin is 3.5 mm. in diameter.

TYPE 3.

This type is represented by a single complete specimen (Fig. 21, h) from Feature 5. The blade edge is slightly concave near the proximal end, probably as a result of wear, and becomes convex in curving upward toward the tip. The back is straight for about one-half the blade length and then begins a gradual slope toward the tip. The Type 3 clasp knife blade differs from the other types in the manner of attachment to the knife handle: a downward projection near the proximal end has been punched to admit the swivel pin,

and a small rearward projection of the blade serves as a stop. Stamped on the blade is the name *Andre Bauer*, with a crown on the left side and a heart on the right.

The blade is 114 mm. long and 15 mm. across at the widest place. The hole for the swivel pin is 4 mm. in diameter.

UNIDENTIFIED FRAGMENTS

Five proximal fragments of clasp knife blades were found, but all are too small to be identified with any particular type. The attaching arrangement on all five is similar to that of Types 1 and 2, wherein the blade is perforated for the swivel pin and the stop is a horizontal flange protruding above the back of the blade. The following letters and complete names are stamped on the blade fragments: *N*; *RA* (above) and *U* (below); *N* (above) and an unidentified letter below. Two fragments either bore no letters or they have been obliterated by oxidation.

On the blade with the letters *RA* above and *U* below, a cut extends from the inside of the pin hole to the proximal end of the blade. This cut may represent an unsuccessful attempt by Indians to alter the broken blade.

Length of the blade fragments ranges from 29 to 49 mm., width from 15 to 20 mm. On each fragment the hole for admitting the swivel pin is 3 mm. in diameter. One fragment has a complete swivel pin 18 mm. long which is bradded flat on each end.

Remarks: Judging by the relatively large number of blades found, clasp knives must have comprised a significant proportion of French goods traded to the aboriginal population of the region. Beginning about 1700 and continuing until the end of French influence in Texas, pocket or clasp knives were included on almost every trade list, often a gross or more being the requested number (Swanton, 1942: 197-203; Thwaites, 1959: 25-33).

Knife blades of the same shapes as Type 1 and Type 2 have been recovered from Fort Michilimackinac in Michigan. These have been identified as French and probably date from the French occupation of about 1715-1760, or, less likely, from the subsequent British occupation which lasted until 1781 (Maxwell and Binford, 1961:106). Similar knife blades have also been found at other historic sites, including Roseborough Lake (Harris et al., ms), Womack (Harris et al., 1965: 348), and Spanish Fort.

Type 3 knife blades have been recovered from the Womack Site (*ibid.*: 349) and the Spanish Fort Site.

Case Knife Blades

No. of Specimens: 2 complete, 13 fragments

Provenience: Feature 2 (1 fragment), Feature 3 (1 fragment), Feature 4 (1 fragment), Feature 5 (7 fragments, 1 complete), Feature 6 (2 fragments), Feature 12 (1 fragment), Feature 20 (1 complete)

Illustrations: Figure 22, a-g

On the basis of the case knife typology set forth by Harris, Harris, Blaine, and Blaine (1965: 348-350), the two complete specimens from Gilbert are respectively Type 1 and Type 2.

The complete Type 1 specimen — from Feature 5 — is characterized by a straight-backed blade, a convex cutting edge curving upward to the tip, and a method of handle attachment involving a narrowed extension of the blade that is pierced with two holes for receiving the securing pins (Fig. 22, a). Although this type case knife was traded by both the French and English (*ibid.*: 348), the Gilbert Site specimen bears the name *Coobon* — evidently French — stamped near the butt in the form of an arc with its convex side toward the tip of the blade. Directly above the name is an indistinct mark, possibly a cross.

The over-all length of this specimen is 16.8 cm.; the blade itself (exclusive of the handle extension) is 13.1 cm. long; the widest portion of the blade, just above the handle, is 22 mm. across. The holes for securing the handle are approximately 2.5 mm. in diameter. One of the securing pins, complete and in place, is 12 mm. long.

The second complete specimen (Fig. 22, g), a Type 2 case knife, has the same blade shape as the Type 2 clasp knives. It was found in Feature 20. The back curves sharply downward near the tip, while the cutting edge is straight, or nearly so. The handle of this knife was attached to a long, rod-like extension jutting out from the butt of the blade and separated from it by a flange or frog. No identifying marks were found on this specimen, possibly because of extensive rust damage. The origin of this type of knife is not certain, but the authors have observed similar specimens from predominately Spanish settlements in Texas.

The total length is 194 mm.; the blade itself is 123 mm. long and 27 mm. wide (directly below the handle frog). The handle core or rod averages about 3 mm. in diameter.

Of the 13 case knife fragments, six median fragments are stamped with names or initials. Although one of the six has been broken across the letters and consequently the full inscription cannot be read, the remaining five bear the following names: *Pierre Chappelle*; *Claude Gibodief* (with a crown to the left of the name); *EROI* (letter miss-

ing) *N* with an emblem to the left of the name; the initials, *SK*; and the letter, *E*, followed by a dot or period.

Six fragments appear to be portions of the handle core that extends from the butt end of Type 1 case knife blades. Four of them have been punched with at least two holes, averaging about 4 mm. in diameter. The remaining two, because of their small size, have a single hole. One specimen has the two securing pins in place. These are respectively 195 and 182 mm. in length, with the longer pin at the back of the attachment process. Both pins are lightly bradded on the ends.

Remarks: Two of the case knife fragments, the one from Feature 6 stamped *EROI* (letter missing) *N* and a thick, heavy handle core from Feature 3, are quite large. If case knives are thought of as comprising three varieties — the equivalent of the modern-day hunting or sheath knife, the table knife, and the relatively large butcher knife — these two specimens would fall in the butcher knife size range.

Miscellaneous Knife Blade Fragments

No. of Specimens: 7

Provenience: Feature 1 (1), Feature 3 (1), Feature 4 (1), Feature 5 (4)

These are blade fragments that could have come from either clasp or case knives. They are so incomplete that their original form cannot be reconstructed.

Knife Handles

No. of Specimens: 5

Provenience: Feature 4 (3), Feature 5 (1), Feature 11 (1)

Illustrations: Figure 22, h-i

Several fragments of cast brass are probably parts of handles for case knives. Although no complete specimen was found at the Gilbert Site, the line-up of fragments shown at Figure 22, h, gives an idea of the over-all appearance of the complete handles. They were decorated with curvilinear designs. Similar fragments have been found at the Womack Site in Lamar County, Texas (Harris et al., 1965, Fig. 22, N) and at the Spanish Fort sites on both sides of the Red River in Montague County, Texas, and Jefferson County, Oklahoma.

The specimen shown at Figure 22, i, is possibly part of a clasp knife handle. It is made from sheet brass, and the feather-like design is engraved. It is pierced by five small holes by which it evidently

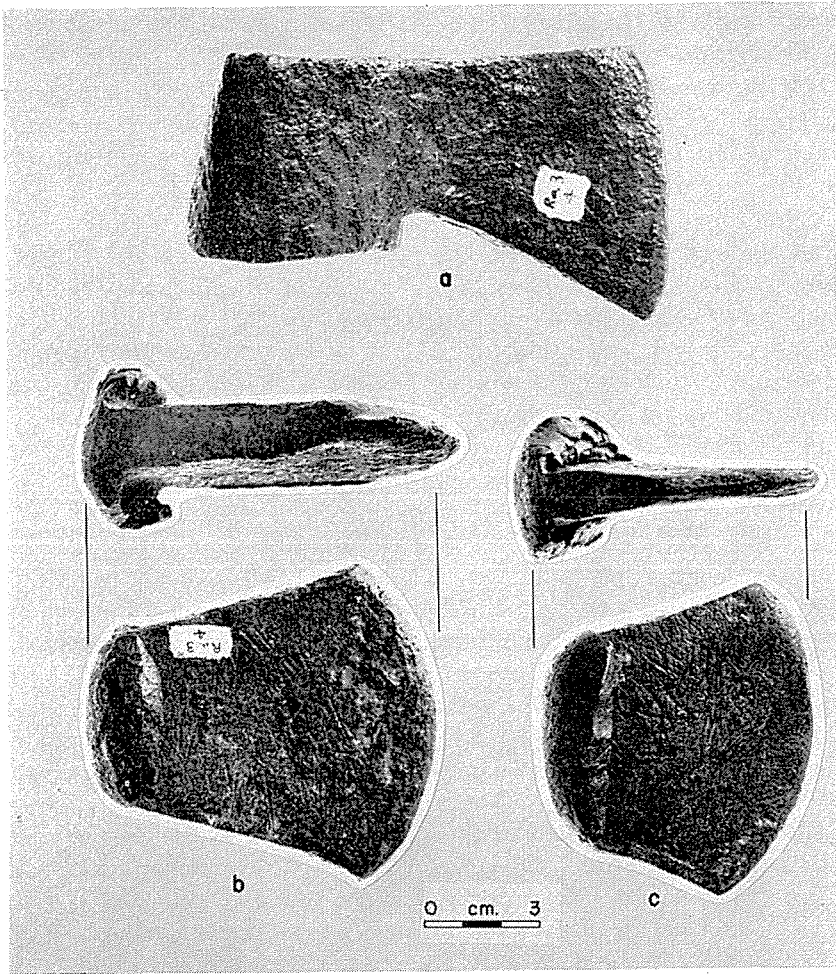


FIGURE 23. Axe (a) and wedges (b-c).

was pinned to a wooden knife handle or possibly to some other object. It is 33 mm. long, and its maximum width is 14 mm.

At present it is not possible to identify the country of manufacture of these pieces, but it is suspected that they are French.

AXES

No. of Specimens: 1 complete, 2 fragmentary

Provenience: Feature 4 (1 complete), Feature 10 (1 fragment),

Feature 21 (1 fragment)

Illustrations: Figure 23, a

Of the three axes, at least two were manufactured by the laminated method wherein a piece of sheet iron was bent around a form, doubled back on itself, and forged together, leaving a hafting eye at the proximal end.

The complete specimen from Gilbert (Fig. 23, a) is unusual in that the back of the eye (i.e., the part farthest from the bit) is composed of two distinct layers of iron which have split apart slightly. The eye of this axe is 46 mm. high; its blade is 37 mm. high where it joins the eye, expanding to 70 mm. across the bit. The original thickness is difficult to determine because of heavy rust damage to the metal, but it was at least 5 mm. around the eye and at least 10 mm. along the blade. The eye itself has been badly bent, but its original inside diameter was approximately 45 mm.

The axe from Feature 10, consisting of a portion of the eye, measures 155 mm. in thickness and 50 mm. in height at the back of the eye, contracting to 44 mm. where the blade remnant joins the eye. By projecting the curvature of the fragment, a measurement of approximately 35 mm. for the inside diameter of the eye is obtained.

The other fragmentary axe, a blade fragment from Feature 21, is 10 mm. thick at the broken proximal end, which must have been very near the eye. The blade, 30 mm. high at the proximal end, flares to form a bit approximately 85 mm. wide. Over-all length of this specimen is 90 mm.

Probably the small individual differences between the axes can be attributed to individual hand manufacture. The laminated eye of the complete specimen from Feature 4 is not typical of the Texas area. The greater height of the eye in comparison to the adjoining part of the blade is a common feature found not only on Indian trade axes but also on modern tools.

WEDGES

No. of Specimens: 4

Provenience: Feature 1 (1), Feature 4 (1), Feature 5 (2)

Illustrations: Figure 23, b-c

The iron wedges are similar to one another in shape. All have a relatively wide, curved bit from which the lateral edges taper back to a thick butt. The butts are greatly splayed as a result of vigorous hammering. Two of the specimens were evidently used as small anvils as they have hundreds of small, overlapping cut marks on both

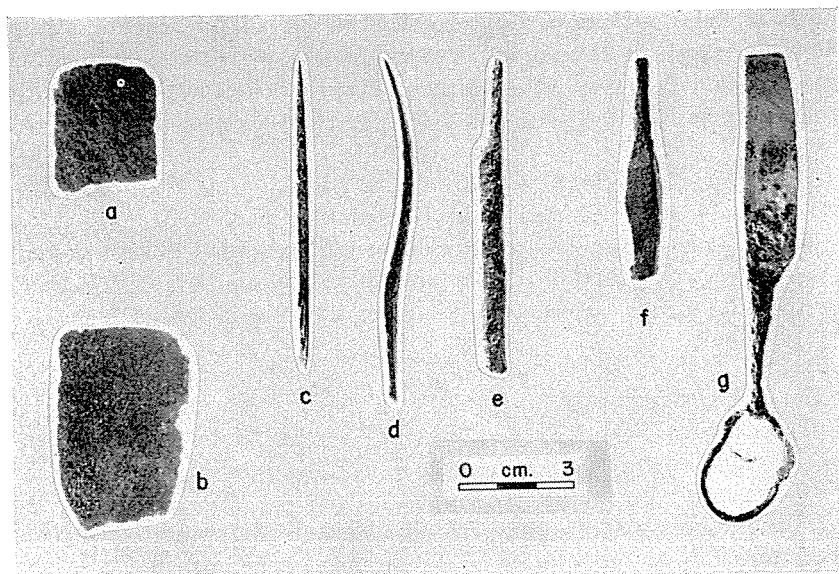


FIGURE 24. Iron tools. *a-b*, scrapers; *c-e*, awls; *f*, chisel; *g*, scissors.

flat blade surfaces. A third has a few such marks on one side only.

The largest wedge (Fig. 23, *b*) measures 90 mm. long, 15 mm. thick just above the butt, 83 mm. wide at the bit, and 45 mm. wide just above the butt. The original dimensions have been distorted by pounding and flattening.

Another wedge (Fig. 23, *c*) is 13 mm. thick just above the butt, 83 mm. wide across the bit, 58 mm. wide above the butt, and 68 mm. long.

The smallest wedge is 63 mm. long, 13 mm. thick just above the butt, 69 mm. wide across the bit, and 50 mm. wide just above the butt.

The fourth wedge, thinner than the others, is distinguished by a marked concavity of one edge. It appears to have been made from an axe blade. This tool measures 90 mm. long, 50 mm. wide at the butt, and about 90 mm. across the bit. Its maximum thickness, just above the butt, is 8 mm.

SCRAPERS

No. of Specimens: 3

Provenience: Feature 3 (3)

Illustrations: Figure 24, *a-b*

Three thin, rectangular pieces of iron, all slightly bowed along the long axis, are classed as scrapers. All are roughened and pitted by rust, and the working edges are difficult to identify; but at least one of them has one end and one long side filed or honed to an edge.

Length varies from 51 to 33 mm. and width from 34 to 26 mm. Thickness of all three specimens is 1 mm. or less.

These tools presumably were used to scrape animal hides but may have served as knives also. They probably were made by the Indians from metal scraps, perhaps barrel hoops in some instances.

AWLS

No. of Specimens: 9

Provenience: Feature 1 (2), Feature 3 (2), Feature 4 (1), Feature 5 (1), Feature 6 (1), Feature 7 (1), Feature 12 (1)

Illustrations: Figure 24, c-e

This category includes those iron tools presumably used to puncture leather, cloth or other material to permit lacing and binding. The awls are slender and generally straight. Two specimens (Fig. 24, d), however, show a gentle S curvature and one shows a double bend. Although all have been honed to a rounded point at the working end, at least four are square in medial cross section while one is rectangular and flattened. One of the awls was found with its pointed end resting on a small piece of grooved sandstone, leaving little doubt as to the method of sharpening these tools.

Three of the awls warrant particular attention. A straight specimen (Fig. 24, c) presumably of European manufacture as evidenced by its symmetrical shape and squared shaft, had been cut half way through at a point 19 mm. from the end, and the portion between the cut and the end removed, leaving a tip that is triangular in cross section. The result is a tool with one end useful as an awl, the other as a drill. This specimen is 80 mm. long and is 3 mm. thick in the center.

A broken awl has a double bend in the shaft with a cut 10 mm. from the bend and a transverse section between the cut and the broken end removed, similar to the awl described above. The opposite end is badly damaged by rust but was probably pointed. Either the numeral 3 or 8 has been stamped into the squared shaft. This specimen is 56 mm. long and 3 mm. wide and is probably of European manufacture.

On a third awl (Fig. 24, e), at a point 8 mm. from the blunt broken end, is a deep cut extending about half way through the

shaft. Also, 25 mm. from the tip of this tool the shaft has been cut and a transverse section removed in a manner similar to the two awls already described. This specimen is 83 mm. long and 7 mm. thick. It is probably of native manufacture.

The remaining six awls range from 39 to 80 mm. long and from 4 to 6 mm. in diameter. Two of them were probably made as awls in Europe while the remainder were homemade by the Indians.

Metal awls, which would hold a sharp point and resist breakage better than either bone or stone, were probably highly valued by the Indians. Any elongate piece of scrap metal could be honed to a sharp tip, and such homemade forms, as well as European trade awls, were found at the Gilbert Site.

Three of the awls were curved in the manner of modern sailmaker's and upholsterer's needles (Fig. 24, d). This permits the application of greater pressure with the awl owing to increased leverage.

CHISELS

No. of Specimens: 1

Provenience: Feature 1

Illustrations: Figure 24, f

This tool was made from a short iron rod of rectangular cross section by hammering one end to a shaft of reduced diameter and fashioning a narrow chisel point at its extremity. The proximal end of the implement has been splayed by pounding.

Over-all length is 58 mm., with the narrow shaft beginning approximately 35 mm. from the proximal end. The thickness of the main squared shank varies from 5 mm. to 8 mm., tapering to 3 mm. at the narrow shaft leading to the point.

This chisel appears too light for heavy use and may have been employed for cutting the thin sheet iron and brass found at the site.

SCISSORS

No. of Specimens: 3 fragments

Provenience: Feature 4 (1), Feature 5 (1), Feature 14 (1)

Illustrations: Figure 24, g

Three pairs of scissors are represented by the three fragments. Two are handle fragments with portions of the blade attached; one is a right blade fragment. No identifying marks were found on any scissor fragments, although there are four small indentations around the screw on the inside of the blade of the largest specimen.

The larger handle fragment (Fig. 24, g) is 121 mm. long. By extend-

ing the curvature of the blade remnant, an approximate measurement of 154 mm. is obtained for the over-all length of the original unbroken scissors. Maximum blade width is 13 mm. It is beveled at the top and slopes inward to the cutting edge. The handle is straight, 66 mm. long, with the finger opening slanted slightly downward.

The other handle fragment measures 82 mm. in over-all length and has a maximum blade width of 10 mm. The blade has been so badly corroded that reconstruction of the original outline is impossible. It appears to have been smaller than the other specimen, however. The handle is bent at a 45-degree angle, tilting the finger opening sharply downward. Whether this bend was present originally could not be determined.

The blade fragment is broken off at the right side through the hole that once held the center screw. It is 45 mm. long and 15 mm. wide, with a screw opening 5 mm. in diameter. The top is beveled toward the outside and slopes inward to the cutting edge; the inside surface is flat. This specimen represents the largest pair of scissors found.

METAL ARROW POINTS

No. of Specimens: 9

Provenience: Feature 3 (1), Feature 5 (6), Feature 12 (2)

Illustrations: Figure 25

All of the metal arrow points are homemade affairs fashioned by the Indians from odd pieces of brass and iron acquired from Europeans. The arrow points of iron were probably made from flattened sections of gun barrels. Iron arrow points made from bridle bit fragments — of relatively common occurrence at other Norteño Focus sites — were not found at Gilbert.

Three arrow points (Fig. 25, b-d) were made from scrap kettle brass, while the heavier brass points (Fig. 25, a, f) were worked from decorated gun fittings — probably side plates, trigger guard bows, or butt plates.

Seven of the nine metal arrow points are of a form which occurs so frequently in sites of the Norteño Focus that its recognition as a formal type appears warranted. Therefore, a brief description will be given here under the name *Benton* Type, so designated in honor of the late Joe Benton, a pioneer cattle and oil man of Nocona, Texas, who, with his wife and daughter Clarice, made extensive surface collections from the Spanish Fort sites in Montague County, Texas, and Jefferson County, Oklahoma. The type is divided into two subgroups: *Benton Type A* and *Benton Type B*.

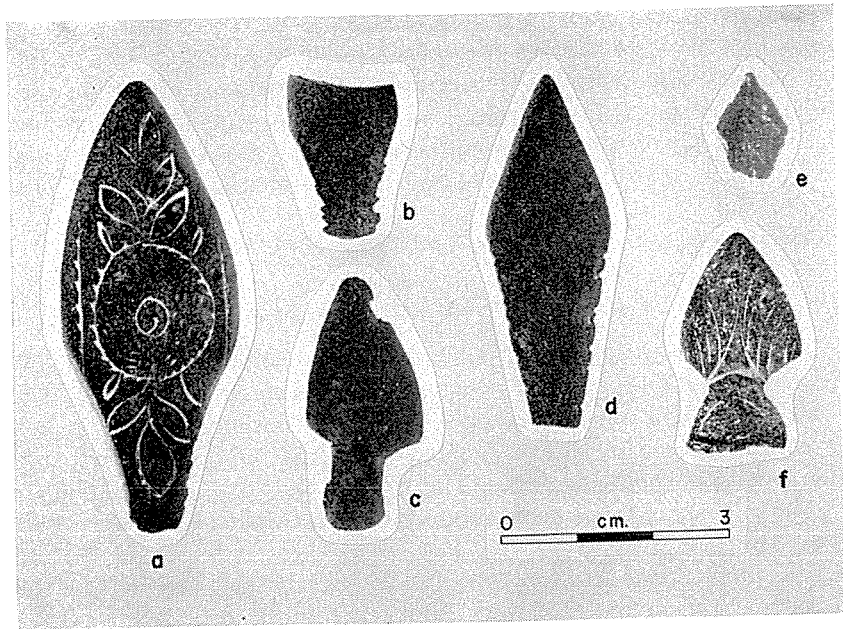


FIGURE 25. Metal arrow points. *b, d, e, Benton Type A; a, Benton Type B; c, e, f, miscellaneous.*

Benton Type Arrow Points

No. of Specimens: 7

Dimensions: 15 to 60 mm. long; 7 to 20 mm. wide; 0.5 to 3 mm. thick. The thickness varies according to the material (kettle brass, barrel hoops, gun parts, etc.)

Provenience: Feature 3 (1), Feature 5 (4), Feature 12 (2)

Illustrations: Figure 25, a, b, d, e

TYPE A (Fig. 25, b, d, e)

This form is diamond-shaped, with straight edges converging to a sharp tip at the distal end and to a narrow, straight base at the proximal end. The length of the blade approximately equals the length of the stem. The converging edges of the blade are sharpened; the stem edges, in most cases, are notched with irregular hack marks, probably to facilitate hafting.

TYPE B (Fig. 25, a)

Type B is similar to *Type A* in all significant respects except that the lateral stem edges are slightly concave instead of straight. As

with *Type A*, the blade and stem tend to be of approximately equal length and the stem edges are often crudely notched.

Cultural Affiliations and Distribution: Observations of the authors indicate that the *Benton* arrow point is found in significant quantities in Norteño Focus sites of the southern plains on the Arkansas, Brazos, Red, Sabine, and Trinity Rivers and their tributaries in Texas, Oklahoma, and Louisiana.

Estimated Age: Mid-18th to mid-19th century.

Miscellaneous Metal Arrow Points

Two of the metal arrow points found at Gilbert do not fit the *Benton* Type. One of them (Fig. 25, f) is made from an engraved, brass, butt-plate finial off a trade gun. The outline appears to approximate the shape of the original finial, the only alteration being sharpening of the blade edges. The sides of the stem are unmodified; the base bears a chisel mark produced when the finial was separated from the butt plate.

The other metal arrow point (Fig. 25, c) was cut — probably with scissors — from a piece of very thin kettle brass.

Most of the arrow points at the Gilbert Site were chipped from stone rather than being made of metal. The stone arrow points are described in a later section.

GUNS

by *Jay C. Blaine* and R. K. HARRIS

Most of the features at the Gilbert Site produced parts of flintlock guns and gunflints. The gun parts were made from iron or brass and were manufactured in Europe as far as can be determined. Some of the gunflints were European made, but most of them by far were native made.

In the study of the firearms, authoritative literature was used in an attempt to search out reliably identified fusils (light muskets) and to determine characteristics typical of given periods in England, France, and Spain. Not all of the opinions published by authorities could be used because contradictions were noted, sometimes within the work of a single author. The observations used are those which seem to hold true after examination of material from archeological sites, independent research, and comparisons with published opinions.

The weapon parts described here all appear to be from smoothbore flintlocks, the fusil or light musket (Figs. 26, 27) apparently being the major class represented. The parts were identified by comparison with gun parts of known origin.

In some of the conclusions, reference will be made to the French trade gun. No gun part described in this report can be positively said to be of French manufacture, but both the historical record and present typological knowledge suggest that many of them are of French origin.

Many of the gun parts were cleaned of rust to look for makers' marks or to attempt to determine original measurements; in some cases, however, oxidation was so great that major cleaning was not possible. Measurements made where extensive cleaning was done are believed to be nearer to the original ones than those taken from parts which could not be cleaned of rust.

Some of the gun parts were found in four caches as follows:

Cache No. 1, Feature 5: Cocks No. 1, 2, 3, and 4, a sear, a main-spring, and a frizzen spring;

Cache No. 2, Feature 4: a cock, a frizzen, and a frizzen spring;

Cache No. 3, Feature 4: a breech, a breech plug, and a frizzen;

Cache No. 4, Feature 8: Gunlocks No. 1, 2, and 3.

LOCK PLATES

No. of Specimens: 2

Provenience: Features 4 and 5

Illustrations: Figure 28, e-f

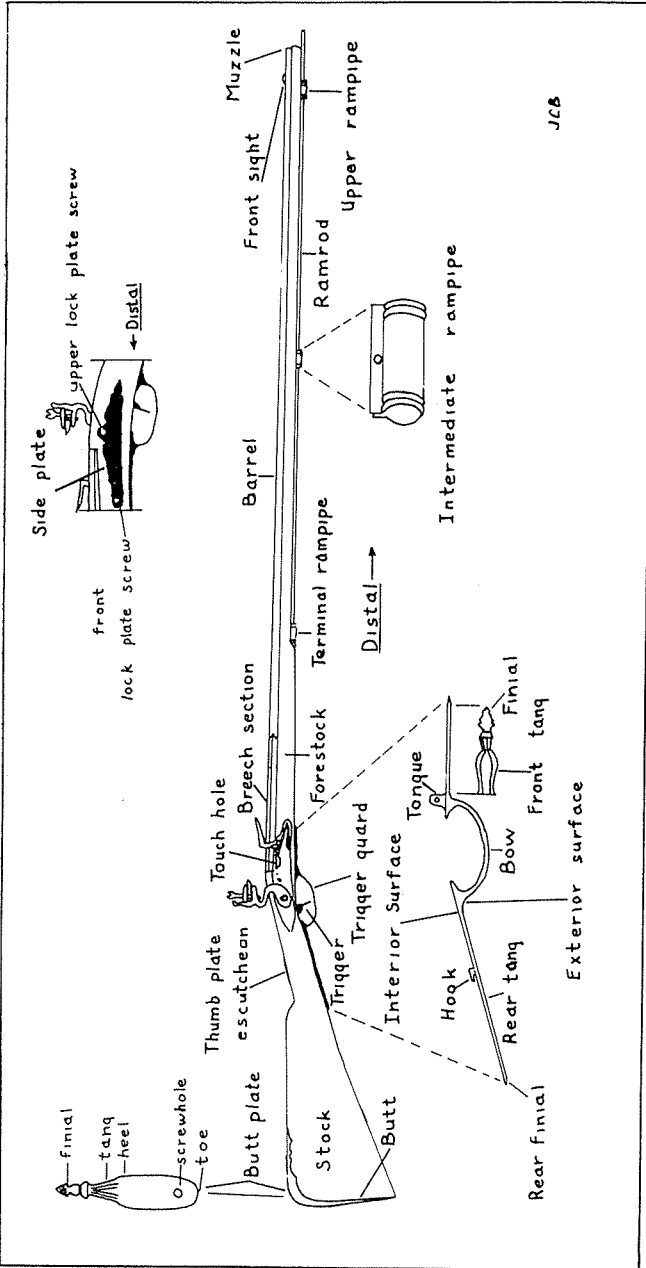


FIGURE 26. Sketch showing the parts of flintlock musket.

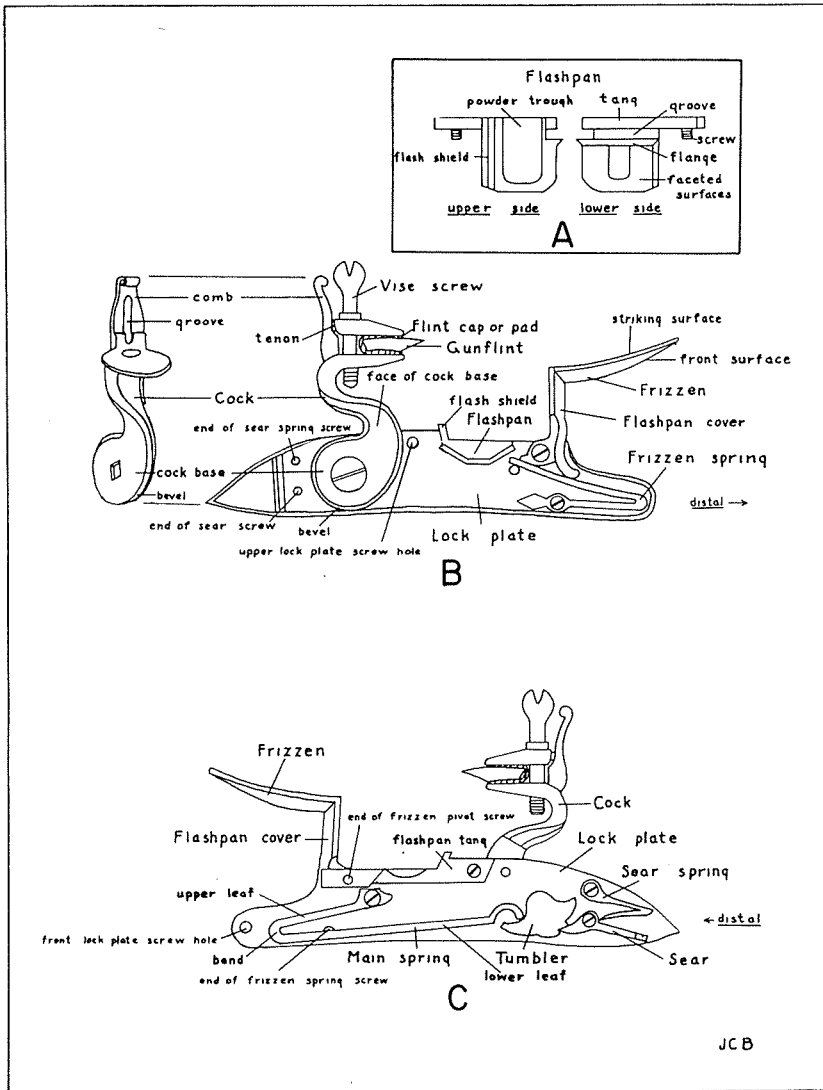


FIGURE 27. Sketch showing the parts of a flintlock mechanism.

Lock Plate No. 1 (Fig. 28, f). This distal section of a lock plate is broken at the mainspring screw hole, is flat in cross section, and has a beveled edge. The frizzen spring screw hole is countersunk on the inside of the lock plate and shows no screw threads, indicating the use of a hidden frizzen screw. The lock plate is designed for a removable flash pan.

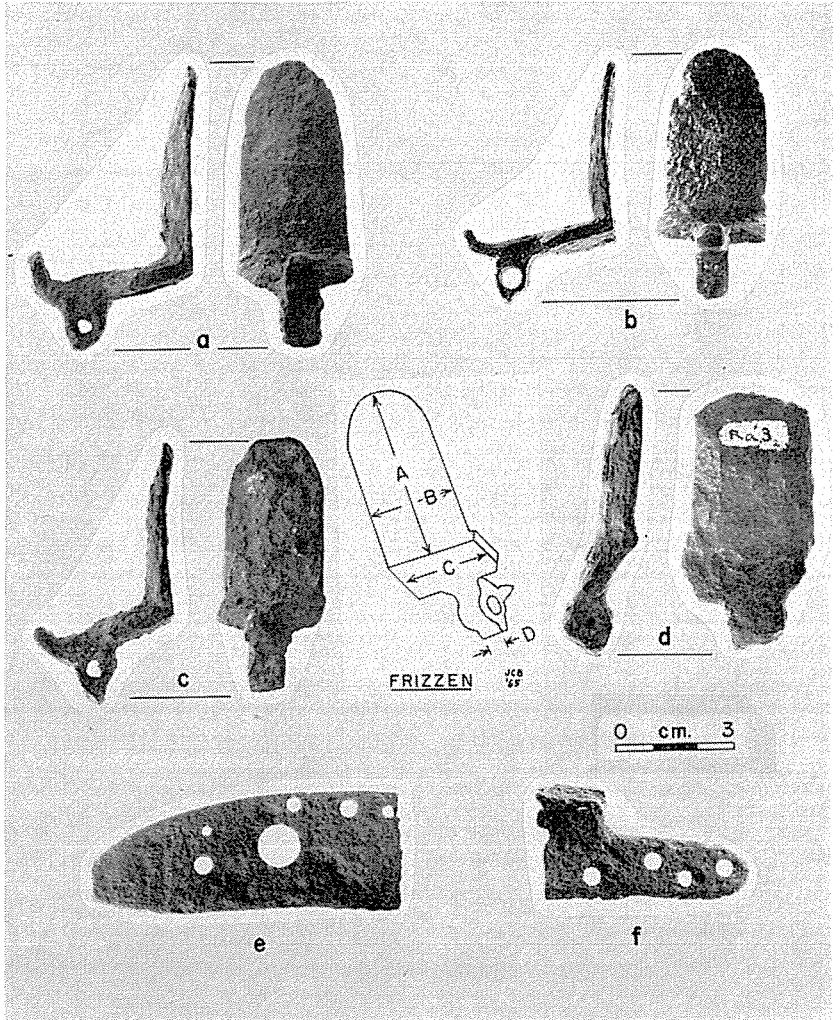


FIGURE 28. Gun parts. *a-d*, frizzens; *e-f*, lockplate.

Measurements were taken after major cleaning. The maximum width of the lock plate fore section is 25 mm.

Lock Plate No. 2 (Fig. 28, *e*). This is a proximal section, broken at the rear screw hole where a removable pan was once attached. It is flat in cross section and has rounded edges, the lower edge being moderately curved.

It was attached with two screws. A screw hole for a tumbler bridge

is present. There is no ledge, the tail of the pan having served as a ledge. There is a center or upper lock screw hole where the pan tail would be located inside the lock plate. No marking is visible on the plate surface.

Measurements after major cleaning: maximum width, 27 mm.; diameter of tumbler axle hole, 10 mm.

Remarks: Lock plate No. 2, probably manufactured between 1690 and 1740, is a rear section from a flintlock gunlock plate of good quality. It does not follow Hudson's Bay Company's specifications for their "trade gun" gunlock.

The bridle lock was in use in England by 1660 on *fine* arms and came into general use after 1700 except for lowest quality arms (George, 1947: 12, 103). According to Gooding (1960: 93), "bridle locks" were ordered in 1697 by Hudson's Bay Company. The curvature of Lock Plate No. 2 would indicate it probably was manufactured between 1690 and 1740 according to Peterson (1956: 36, Pl. 38). The lock plate is flat in cross section, and Gooding (1960: 85) states that English trade guns used the "oval or rounded" form of lock plate from the end of the 17th century on. Though the lock plate is broken at the rear, the profile remaining doesn't seem to allow room for a third lock screw. By 1683 English civilian guns were using two screws to attach the flint lock to the stock and Hudson's Bay Company had to specify three-hole round locks at that time (*ibid.*: 85, 93). Some feel the use of a hidden frizzen-spring screw is an indication of a French gun lock, but this trait by itself is not proof of origin (Hamilton, 1960a: 6-7).

FRIZZENS

No. of Specimens: 8

Provenience: Feature 1 (3), Feature 2 (2), Feature 3 (1), Feature 4 (1), Feature 18 (1)

Illustrations: Figure 28, a-d

All of the frizzens are of the type with combined striking surface, or "steel," and flashpan cover. The loci of measurements are shown in Figure 28.

Frizzen No. 1 (Fig. 28, c). The steel is curved and has a rounded top. There was no major cleaning.

Measurements: A, 38 mm.; B, 23 mm.; C, 24 mm.; D, 8 mm.

Frizzen No. 2. The steel is curved and has a rounded top. The frizzen is broken at the pivot arm. The corners are eroded.

Measurements: A, 39 mm.; B, 23 mm.; C, 23+ mm.

Frizzen No. 3. The steel is curved (originally) and has a rounded top. It appears that the frizzen screw had broken off in the frizzen pivot arm, and punch marks indicate that an attempt to drive out the broken screw was unsuccessful. Distortion of the frizzen suggests that the exasperated repairman might finally have hit the pesky thing a resounding whack in the middle and thrown it away.

Measurements made after major cleaning: A, 40 mm.; B, 23 mm.; C, 25 mm.; D, 7 mm.

Frizzen No. 4 (Fig. 28, a). The steel is curved and has a rounded top. In general appearance this specimen resembles the three described above but is heavier and would suggest a military frizzen. There was no major cleaning.

Measurements: A, 46 mm.; B, 25 mm.; C, 27 mm.; D, 9 mm.

Frizzen No. 5 (Fig. 28, d). The steel is straight with partly rounded top and is battered and eroded. The front of the frizzen (opposite the striking surface) was formed flat and has wide bevels. It is trapezoidal in cross section. Traces of longitudinal grooves can be seen on the striking surface. This frizzen appears to be from a *miquelet* type flintlock and is most likely of Spanish origin.

There was no major cleaning. Measurements: A, 33 mm.; B, 29 mm.; C, 31 mm.; D, 13 mm.

Frizzen No. 6. The steel is curved with rounded top. There has been no major cleaning.

Measurements: A, 38 mm.; B, 22 mm.; C, 24 mm.; D, 7 mm.

Frizzen No. 7 (Fig. 28, b). The steel is curved and has a rounded top.

Measurements after major cleaning: A, 38 mm.; B, 24 mm.; C, 26 mm.; D, 8 mm.

Frizzen No. 8. The steel is curved and has a rounded top.

Measurements after major cleaning: A, 46 mm.; B, 25 mm.; C, 25 mm.; D, 7 mm.

Remarks: Three of the frizzens — Nos. 1, 2, and 6 — are virtually alike in size and form. According to the manufacturing standards of the day, they probably would have been considered interchangeable. They all may well have been made by the same manufacturer. Two others — Nos. 3 and 7 — are only slightly larger than the foregoing and may have been used on the same size and type of weapon.

FRIZZEN SPRINGS

No. of Specimens: 6

Provenience: Feature 3 (1), Feature 4 (2), Feature 5 (1), Feature 17 (1), Feature 20 (1)

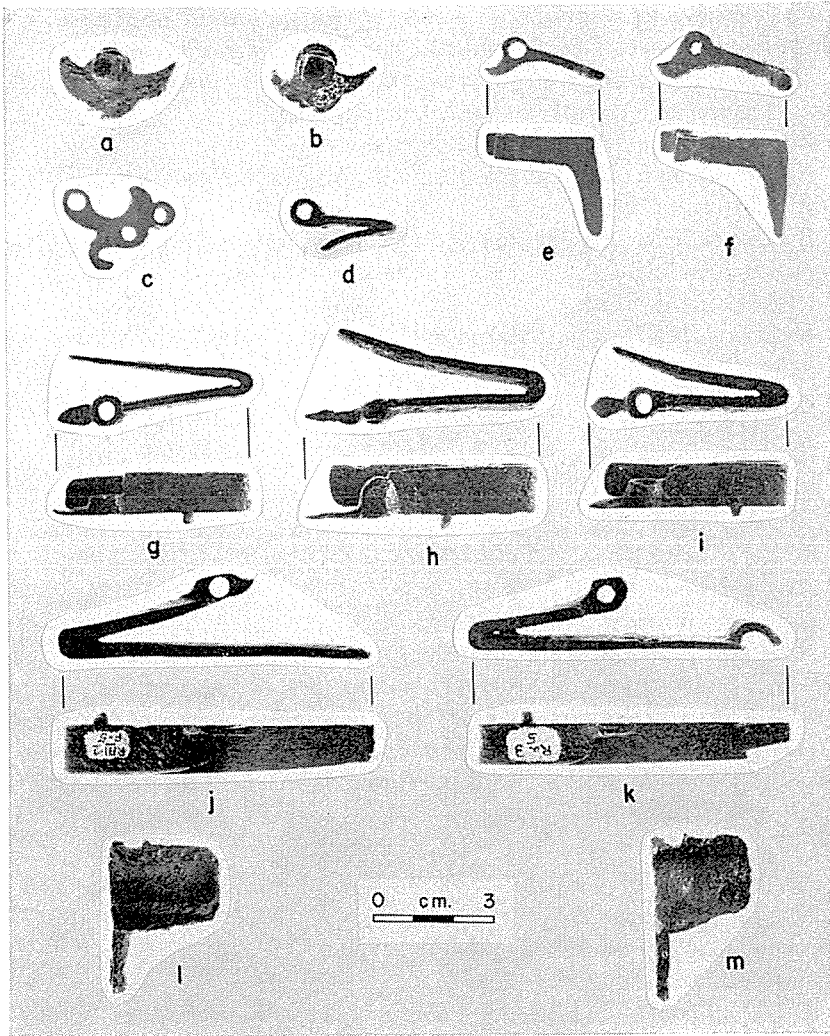


FIGURE 29. Gun parts. *a-b*, tumblers; *c*, tumbler bridle; *d*, sear spring; *e-f*, sears; *g-i*, frizzen springs; *j-k*, mainsprings; *l-m*, flashpans.

Illustrations: Figure 29, *g-i*

Frizzen Springs No. 1, 2, 4, and 5. These (Fig. 29, *g, i*) are not notched for a bridle link and show no indication of use with an antifriction device. They are designed for an exposed frizzen-spring screw.

Frizzen Spring No. 3 (Fig. 29, *h*). Designed for a hidden frizzen-

spring screw, this specimen shows no indication of use with an antifriction device. Details indicate good quality workmanship.

Frizzzen Spring No. 6. This spring, which had a hidden screw, shows no evidence of use with an antifriction device.

Loci of frizzzen spring measurements:

A. Lower leaf: straight line distance from center of screw hole to apex of outside bend.

B. Upper leaf: straight line distance from frizzzen end of spring to apex of outside bend.

C. Maximum width.

Measurements for the frizzzen springs are as follows:

<i>Spring No.</i>	<i>A</i>	<i>B</i>	<i>C</i>
1	33 mm..	43 mm.	10 mm.
2	35 mm.	43 mm.	9 mm.
3	38 mm.	49 mm.	10 mm.
4	33 mm.	43 mm.	10 mm.
5	33 mm.	42 mm.	9 mm.
6	33 mm.	43 mm.	10 mm.

Remarks: Frizzzen Springs No. 1, 2, 4, 5, and 6 are comparable in size and probably came from locks of similar size. Frizzzen Spring No. 3 is longer and may be from a larger lock or from one of higher quality. Frizzzen springs such as these evidently were in use prior to 1785, and they continued to be used for several years after that date, especially on military and poor quality locks (Held and Jenkins, 1957: 136; George, 1947: 116).

FLASHPANS

No. of Specimens: 2

Provenience: Features 4 and 5

Illustrations: Figure 29, 1-m

Flashpan No. 1 (Fig. 29, 1). This specimen is iron, is flat or shallow V-shaped, and was removable from the lock plate. The flashpan was secured to the lock plate by a tail with a screw hole at the rear and by an oblique key surface at the front, with a flange on the underside of the pan to contact the lock plate surface. There is no provision on the pan for a frizzzen bridle (or pan strap). The powder trough has parallel sides, and there is a low flash shield, or fence, at the rear of the pan.

Measurements after major cleaning: width (same as frizzzen dimension "c"), 26 mm.; length from end of tail, or tang, to key surface, 37 mm.

Flashpan No. 2 (Fig. 29, m). The description of this specimen is generally the same as above. The tang screw is broken off in its hole.

Measurements after major cleaning: width (same as frizzen dimension "c"), 24 mm.; length from end of tang to key surface, 40 mm.

Remarks: These flashpans exhibit none of the refinements that were in general use on good quality flintlocks by 1785 (George, 1947: 114-115; Held and Jenkins, 1957: 136). Such refinements did not usually appear on trade guns or military locks.

The Gilbert flashpans probably are from French trade guns. This is in agreement with Harris, Harris, Blaine, and Blaine (1965: 321-323) who describe similar flashpans from the Womack Site and believe them to be from French trade guns of a style in major use between about 1720 and 1750.

TUMBLERS

No. of Specimens: 2

Provenience: Features 1 and 5

Illustrations: Figure 29, a-b

Tumbler No. 1 (Fig. 29, a). This is an unbridled tumbler with half- and full-cock notches. It was designed for use with a vertical action sear and was keyed into the base of the cock. There is no provision for a stirrup.

Measurements were made after major cleaning: tumbler axle diameter, 7 mm.; squared end of tumbler axle across flats, 6 mm.; length of squared end, 6 mm.

Tumbler No. 2 (Fig. 29, b). This specimen is the same shape as the one described above. Its face is stamped VIII.

Measurements were made after major cleaning: tumbler axle diameter, 7 mm.; squared end of tumbler axle across flats, 6 mm.; length of squared end, 4 mm.

Remarks: These tumblers could be from good grade English guns made prior to 1700, or they could be the unbridled form common to lower quality locks made later than 1700 (George, 1947: 103). The length of the squared portion of Tumbler No. 1 indicates that the cock probably had a thick, round face on the base.

TUMBLER BRIDLES

No. of Specimens: 1

Provenience: Feature 1

Illustrations: Figure 29, c

This tumbler bridle has a graceful design which may be a clue to French origin. One of the same style is shown in Denis Diderot's *Encyclopedia*, 1751-1765, illustrated in the article "Arquebusier" (Held and Jenkins, 1957: Fig. 243).

MAINSPRINGS

No. of Specimens: 2

Provenience: Both from Feature 5

Illustrations: Figure 29, j-k

Mainspring No. 1 (Fig. 29, j). This specimen is an internal mainspring which is broken at the end of the lower leaf. The external edges are beveled.

Measurements made after major cleaning: length of upper leaf (straight-line distance from center of screw hole to apex of outside bend), 39 mm.; maximum width, 11 m.; length of lower leaf to break, 72 mm.

Mainspring No. 2 (Fig. 29, k). This internal main spring has flat edges. It is not designed for use with a tumbler stirrup.

Measurements after major cleaning: length of upper leaf, 33 mm.; length of lower leaf, 73 mm.; maximum width, 10 mm.

SEARS

No. of Specimens: 2

Provenience: Features 1 and 5

Illustrations: Figure 29, e-f

Sear No. 1 (Fig. 29, e). This is a horizontal pivot (vertical action) sear with a pronounced back-rake on the trigger arm. The size and shape indicate possible use in the same lock as Tumbler No. 1.

Sear No. 2 (Fig. 29, f). This is a horizontal pivot (vertical action) sear with a pronounced back-rake on the trigger arm.

SEAR SPRINGS

No. of Specimens: 1

Provenience: Feature 12

Illustrations: Figure 29, d

This sear spring was used with a vertical action sear.

Measurements: length of upper leaf (straight line distance from center of screw hole to outside apex of bend), 22 mm.; length of lower leaf (straight line distance from free end of spring to outside apex of bend), 18 mm.

COCKS

No. of Specimens: 10

Provenience: Feature 1 (1), Feature 3 (1), Feature 4 (1), Feature 5 (5), Feature 6 (2)

Illustrations: Figures 30; 31, e-i

Except where noted, measurements were made after major cleaning.

Cock No. 1 (Fig. 30, a). This pistol-size cock has a wide comb that is grooved for a tenon which projected from the missing upper vise jaw. The cock base is flat and has beveled edges. The general curvature is sharp. The gooseneck is not reinforced. There was no major cleaning. A single engraved line borders the flat base of the cock.

Measurements: A, 33 mm.; B, 64 mm.; comb width, 10 mm.

Cock No. 2 (Fig. 30, b). This cock has a wide, grooved comb and a flat-faced base with beveled edges. The general curvature is sharp. The gooseneck is not reinforced. There was no major cleaning.

Measurements: A, 39 mm.; B, 72 mm.; comb width, 12 mm.

Cock No. 3 (Fig. 30, c). The comb is wide and grooved, the cock base has a flat face with beveled edges; the gooseneck is not reinforced. The general curvature is sharp, and a single engraved line borders the flat base of the cock.

Measurements: A, 37 mm.; B, 71 mm.; comb width, 11 mm.

Cock No. 4 (Fig. 30, d). This cock has a narrow comb and a flat-faced base with beveled edges. The base is engraved with a single-line border, and there is a dim foliate design in the lower neck area. The general curvature is sharp. The gooseneck is not reinforced.

Measurements: A, 38 mm.; B, 73 mm.; comb width, 7 mm.

Cock No. 5 (Fig. 30, e). The only complete cock found at Gilbert, this specimen has a narrow, tapered comb, a slotted upper vise jaw that fits around the comb, and a vise screw with a slotted head. The base has a flat face with beveled edges. The general curvature is sharp, and the gooseneck is not reinforced.

Measurements: A, 37 mm.; B, 71 mm.; comb width, 7 mm.

Cock No. 6 (Fig. 31, e). The comb is wide and grooved. The cock base has a flat face with beveled edges and is engraved with a single-line border. The general curvature is sharp. The gooseneck is not reinforced.

Measurements: A, 39 mm.; B, 73 mm.; comb width, 11 mm.

Cock No. 7 (Fig. 31, f). There is a slight step on the face of the wide, grooved comb. The base has a flat face with beveled edges.

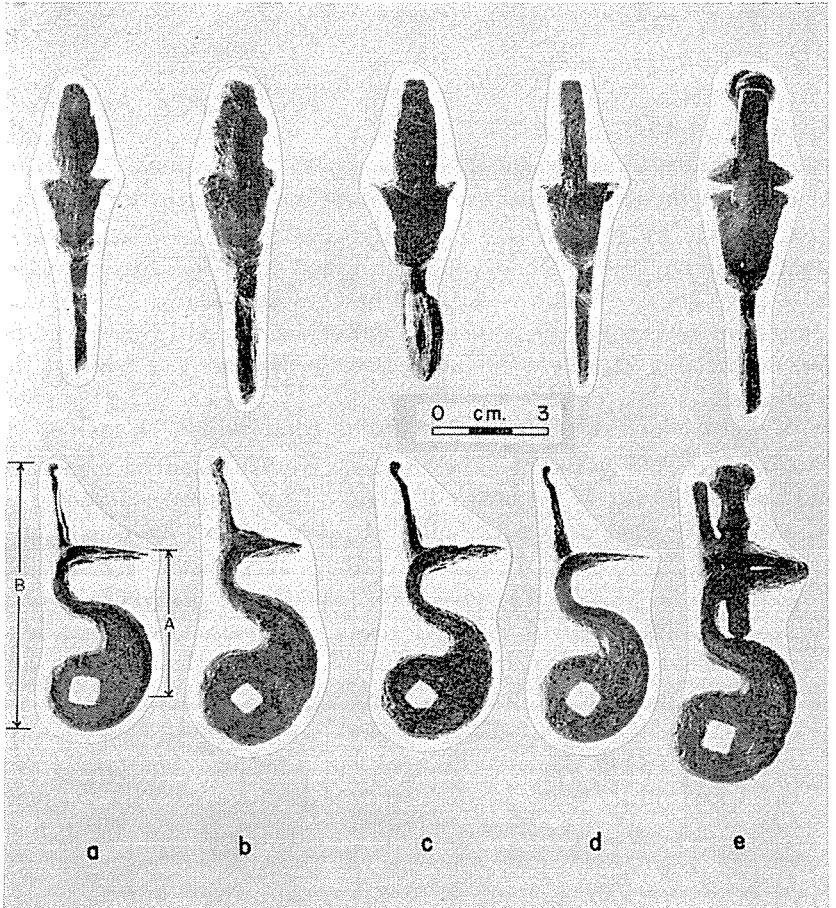


FIGURE 30. Gun cocks. In top row are front views, in bottom row side views of the same specimens. Measurement loci shown at *a*.

The general curvature is sharp. The gooseneck is not reinforced.

Measurements: A, 37 mm.; B, 70 mm.; comb width, 10 mm.

Cock No. 8 (Fig. 31, g). This cock has a wide, grooved comb and a flat-faced base with beveled edges. The general curvature is extreme. The gooseneck is not reinforced. A single engraved line borders the flat base of the cock.

Measurements: A, 34 mm.; B, 66 mm.; comb width, 14 mm.

Cock No. 9 (Fig. 31, h). The comb is wide and grooved. The cock base has a flat face with beveled edges. The general curvature is sharp. The gooseneck is not reinforced.

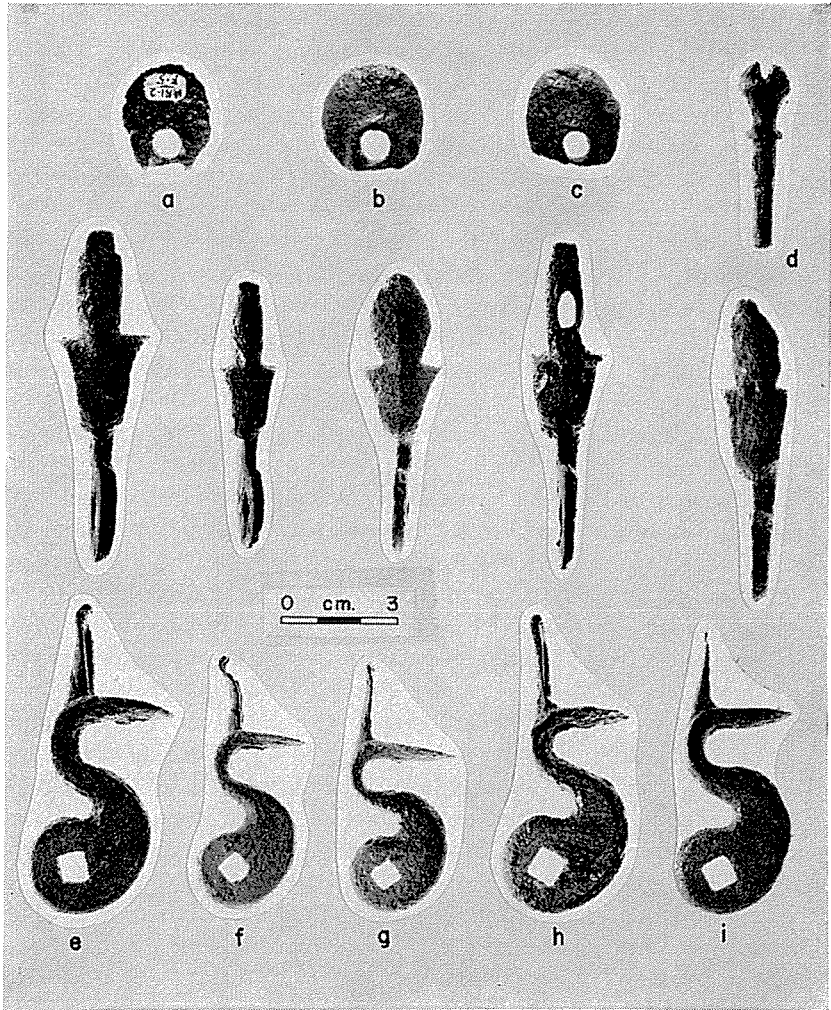


FIGURE 31. Gun cocks. *a-c*, upper vise jaws; *d*, vise screw; *e-i*, cocks. Second and bottom rows are front and side views respectively of the same specimens.

Measurements: A, 39 mm.; B, 76 mm.; comb width, 9 mm.

Cock No. 10 (Fig. 31, *i*). This cock has a wide comb but it is not grooved. The base is flat-faced with beveled edges. The general curvature is sharp. The gooseneck is not reinforced.

Measurements: A, 38 mm.; B, 66 mm.; comb width, 11 mm.

Remarks: Hamilton (1960d: 154), quoting A. N. Kennard, states

that his cock types 1 and 2 (illustrated in his Figure 70) are typical of the English cocks of the late 18th century. These cocks have a flat face on the base with beveled edges, sharply curved necks, and narrow combs. Cocks 4 and 5 from Gilbert appear to fit this description. However, it must be noted that no late 18th-century material has been identified at this site. If they are English in origin they apparently do not represent the English trade gun, for Gooding (1960: 85) states that locks for English trade guns were round from the end of the 17th century to the end of the 19th century. Since it was customary to use rounded base cocks on round locks, it would appear that none of the cocks from Gilbert represents the English *trade* gun. It is also unlikely that high grade late 18th-century English weapons are present, for none of the ornamentation held to be typical of the class can be identified. For these reasons it is doubtful that Cocks 4 and 5 should be classed as late 18th century or as of English origin.

The balance of the disassembled cocks (Cock No. 10 is included despite the absence of a groove) appear to fit Hamilton's (1960d: Fig. 71), cock types, 4, 5, and 6, which are stated to be most popular in this form in the mid-18th century. Hamilton also notes they can be English, French, or from the European low countries.

It appears unlikely that the cocks from this site were manufactured in England. As noted, the typical English trade gun is not represented in either group of cocks because the plano-convex cock base is absent. Concerning better grade English locks and cocks, Hayward (1963: 200) notes that the rounded surface was used by the English makers beginning in the last quarter of the 17th century and was not generally superseded by the flat-faced units until the 1770's. This persistence in English style is also confirmed by Joel Shiner's research at Fort Frederica on St. Simons Island, Georgia (Shiner, ms.) The thirteen fusil- and pistol-size cocks found there are all plano-convex. They can be dated at approximately 1743 by Manucy's (1959: 49, 51) description of the blacksmith shop where this type was found, and they are evidently of English origin. Hayward (1963: 49) has stated that the French style in fashionable guns called for the flat cock between about 1700 and about 1750. Later, between about 1750 and the French Revolution, high style accommodated both flat and convex forms.

Harris, Harris, Blaine, and Blaine (1965: 318-320, 332) have stated a case for the reflection of high French fashion in the design of guns used in the French trade. They have also noted the influence of French design on continental European gunsmiths, an influence which apparently did not extend so strongly to the 18th-century English gun-

smiths, including those producing common-grade guns.

The group of cocks from Gilbert conforms to French fashion in gun design of the mid-18th century, and they appear most likely to represent guns used in the French trade of that period.

COCK UPPER VISE JAWS

No. of Specimens: 3

Provenience: All from Feature 5

Illustrations: Figure 31, a-c

Upper Vise Jaw No. 1 (Fig. 31, a). This jaw is notched to fit around the comb, and the notch contains a step.

Upper Vise Jaw No. 2 (Fig. 31, b). The ventral face is slightly concave. A shallow notch designed to fit around the comb has a step in it.

Upper Vise Jaw No. 3 (Fig. 31, c). This specimen is so badly eroded that details of its original form cannot be determined.

COCK VISE SCREWS

No. of Specimens: 2

Provenience: Features 5 and 7

Illustrations: Figure 31, d

Specimen No. 1. This screw has a slotted head. The threads have been stripped.

Measurements: length, 44 mm.

Specimen No. 2. This specimen consists of the slotted head portion only, the threaded part of the screw having broken off.

FLINTLOCK GUNLOCKS

No. of Specimens: 3

Provenience: Feature 8 (all three found together in a cache)

Illustrations: Figures 32, 33, 34

Because of severe oxidation only limited cleaning was attempted on the gunlocks. Some areas were cleaned of the major rust build-up where pertinent details and measurements were needed, but such cleaning was halted at the estimated original surface. Measurements and descriptive information for the gunlocks are given in Table I.

Gunlock No. 1 (Fig. 32). The upper cock jaw, cock-jaw screw, frizzen, and frizzen screw are missing from this specimen. There is a brass shim in the lower jaw screw hole. This consists of a half cylinder of thin brass and appears to be an attempt by an Indian to repair a stripped jaw screw or screw hole. The front lock screw is broken off in its hole.

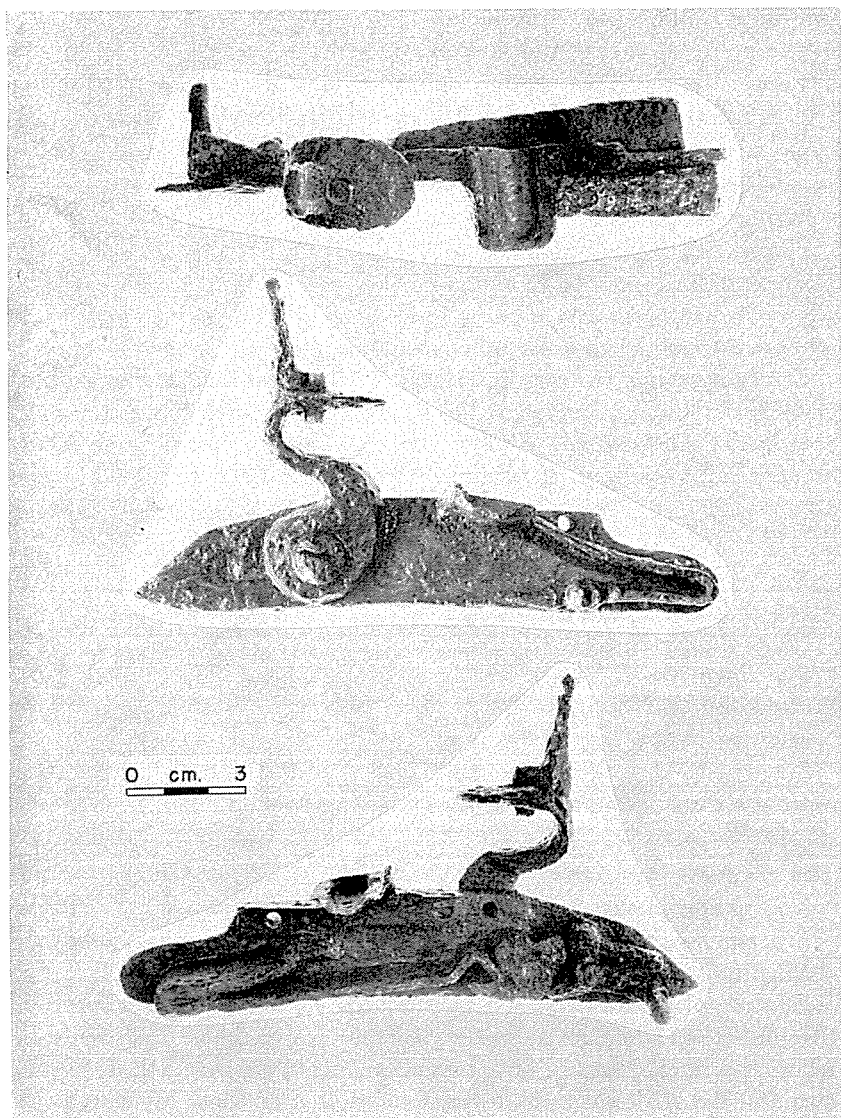


FIGURE 32. Gunlock No. 1. Top, interior, and exterior views.

The tumbler has half- and full-cock notches and is engaged by a vertically acting sear. There are no antifricition devices on the frizzen spring or between mainspring and tumbler. The general description of the flashpan is the same as for Flashpan No. 1. The sear arm does not angle back (no "backrake").

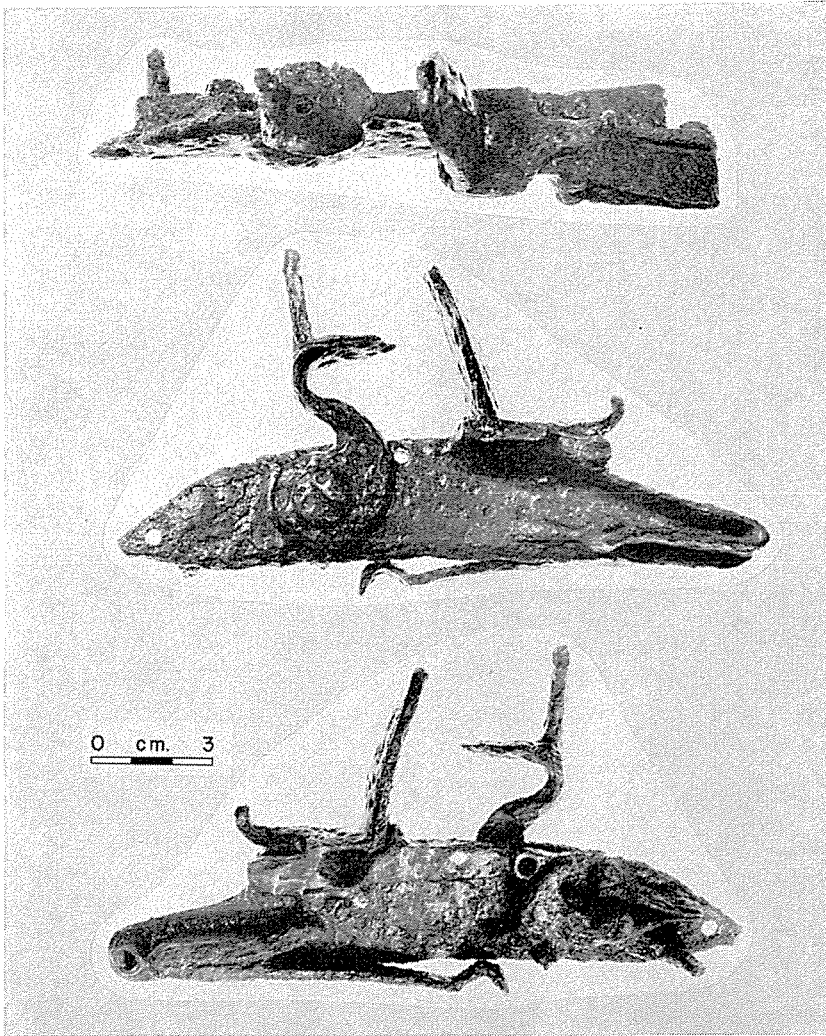


FIGURE 33. Gunlock No. 2. Top, interior, and exterior views.

Gunlock No. 2 (Fig. 33). The upper cock jaw and cock-jaw screw are missing from this gunlock as is the upper tumbler bridle screw. The tumbler has half- and full-cock notches and is engaged by a vertically acting sear. The sear arm has no backrake. The lock has no antifriction devices between the frizzen and frizzen spring or between the mainspring and the tumbler. Bridles are present on both frizzen and tumbler. The frizzen "steel" is curved and has a rounded top with

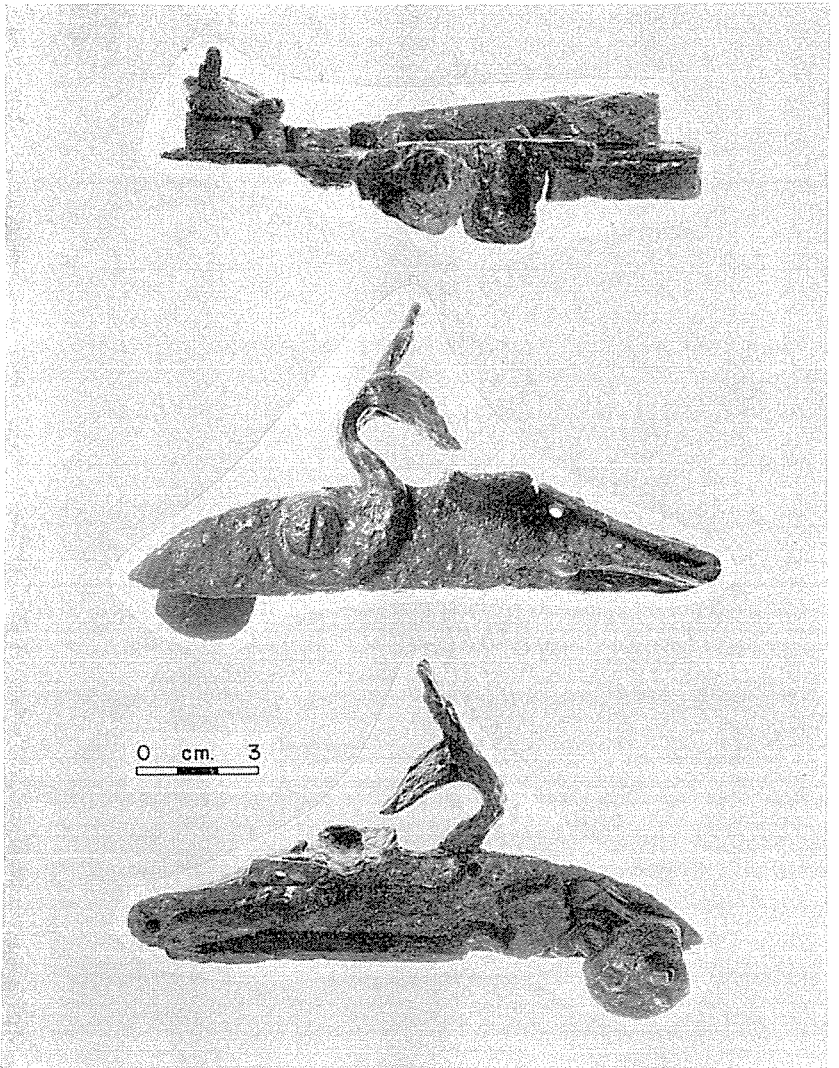


FIGURE 34. Gunlock No. 3. Top, interior, and exterior views.

the front formed in two major longitudinal facets. Some traces of brass appear in the rust on the upper front of the "steel." The tumbler bridle resembles Bridle No. 1 but is larger and has a brace extending from the inside surface of the lower extension to the lock plate.

Gunlock No. 3 (Fig. 34). The frizzen, frizzen screw, and cock-jaw screw are missing from this gunlock. An upper cock jaw placed inside

the lock has been hung over the sear trigger arm by means of the cock-jaw screw hole. This upper cock jaw is badly rusted and no tongue can be detected on the back edge, but it is definitely intended for use with a wide-comb cock. The upper jaw is concave on the under surface as viewed from the side. The upper part of the cock is bent toward the inside of the lock.

The mechanical details of this lock are the same as those for Lock No. 1.

Remarks: Side Plates No. 1, 2, and 10 have the same side, or lock, screw hole measurements as Gunlock No. 1. Frizzen No. 3 would probably fit Gunlock No. 1. Frizzen No. 7 would fit Gunlock No. 3. Flashpan No. 1 would fit either of those gunlocks as would Flashpan No. 2. Cocks No. 2, 6, 9, and 10 would fit either lock. Sear Spring No. 1 would fit Lock No. 3. Various other parts would fit Locks 1 and 3 with only minor modification. In short, we have many parts apparently stripped from gunlocks similar in size and style to Gunlocks No. 1 and 3.

The curvature of the lockplates would appear to indicate a pre-1770 date for Gunlocks No. 1 and 3, according to Peterson (1956: 36, pl. 38). The lockplates and cock bases are flat with beveled edges; the combs are wide with central grooves; the flashplans are shallow and faceted underneath. Only two lock or side screws were used. These details and others have been discussed previously in this report, and at present it appears that Gunlocks 1 and 3 are typical of fusils used in the French trade about 1750.

Gunlock No. 2 presents an enigma. The cock seems a bit short for the gunlock and may be a replacement. As noted, the cock has a narrow ungrooved comb, and the base has a flat face with beveled edges. In the section on cocks, two generally similar specimens, Nos. 5 and 4, are discussed and reasons given for not automatically accepting a late 18th century English origin for them at this site. In fact, except for the lack of a slight "step" on the front of the comb, these three cocks can also be said to resemble those of French military guns dating as early as 1728 (Boudriot, 1963: *Modele 1728, Modele 1733, Modele 1746*). It appears quite possible that some nonmilitary locks may also have been manufactured with this simplified comb; possibly some of them appeared in the French trade during this and later periods. Also arguing against a late 18th century date is the fact that the curve of the bottom edge of the lock plate indicates a pre-1770 date (Peterson, 1956: pl. 38). The presence of a pan strap (frizzen bridle) as well as a tumbler bridle, generally indicates a post-1700

date (*ibid.*: 35). We know that the English trade gunlock was fastened to the gunstock by three screws during this period (Hanson, 1955: 36). However, such gunlocks were round in cross section (Gooding, 1960: 85) and Gunlock No. 3, while it does have three side screw holes, is flat in cross section. In addition, it would be uncommon for a pan strap to appear on an English trade gun-lock until about 1820 (Hanson, 1955: 36).

In short, it is the third screw hole that appears to be the major crux of our problem. Without it, this gunlock could be considered as generally best reflecting French design of good to high quality during the period assigned. However, we have not thus far been able to detect use of the third side screw in connection with 18th century French gun design.

TABLE 1.
Characteristics of gunlocks.

	Gunlock No. 1	Gunlock No. 2	Gunlock No. 3
Lock plate proper			
Cross section			
Flat with beveled edges	x	x	x
Bottom edge—moderate curve	x	x	x
Two lockscrew holes	x	—	x
Three lockscrew holes	—	x	—
Location of center (or upper) hole behind mainspring ledge	x	—	x
Location of center (or upper) hole in mainspring ledge	—	x	—
Frizzen spring screw hole exposed	x	x	x
Flashpan: Flat "V"	x	x	x
Pan removable from lock plate	x	x	x
Frizzen			
Curved	—	x	—
Bridled (strap on pan)	—	x	—
Not bridled	x	—	x
Frizzen Spring			
Notched for frizzen bridle (or pan strap)	—	x	—
Not notched for bridle link	x	—	x
Frizzen spring screw hidden	—	—	x
Frizzen spring screw exposed	x	x	—
Tumbler			
Bridled	—	x	—
Not bridled	x	—	x
Cocks			
Wide comb with groove	x	—	x
Narrow comb with no groove	—	x	—
Base: flat face with beveled edges	x	x	x
General curvature: sharp	x	x	x
Neck style: gooseneck (not reinforced)	x	x	x

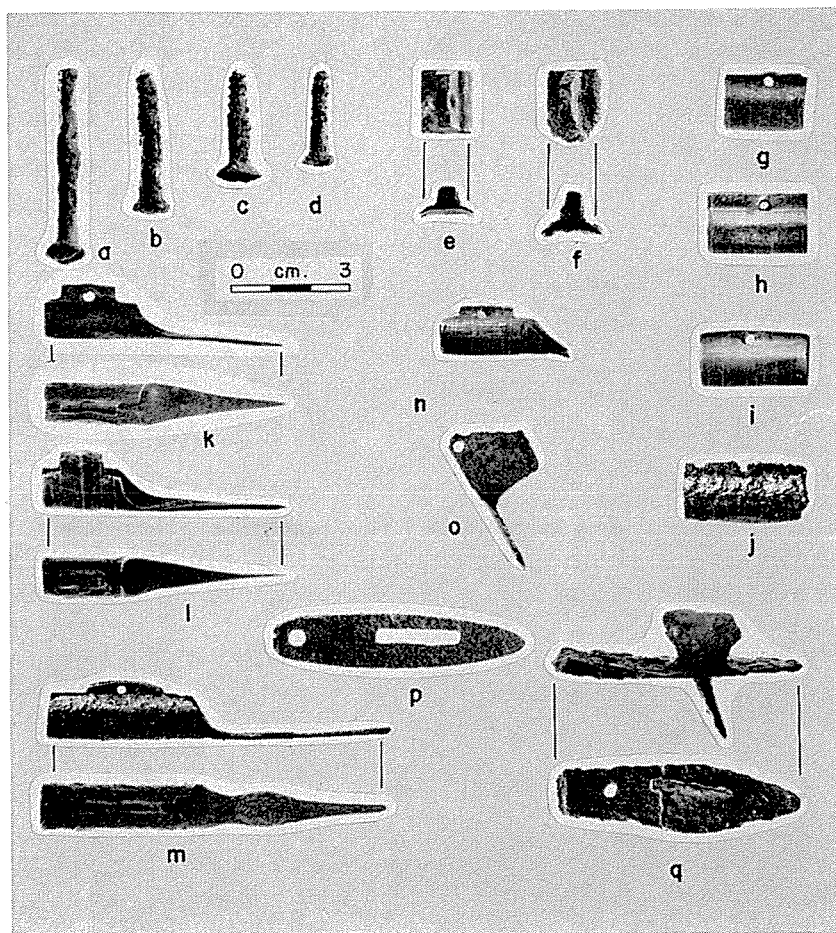


FIGURE 35. Gun parts. *a-d*, screws; *e-f*, lugs; *g-n*, ramrod guides; *o*, trigger; *p*, trigger plate; *q*, trigger assembly.

TRIGGER ASSEMBLIES

No. of Specimens: 1

Provenience: Feature 7

Illustrations: Figure 35, *q*

This complete trigger assembly, including the trigger, trigger plate, and trigger pin, is intact and maintains the same relationship of one part to another as when it was mounted in the stock. The trigger plate is iron, with the trigger slot centered laterally. Without major cleaning, the muzzle (upper) end is 4 mm. thick. It has a lip projecting

from the bottom, or ventral, surface forward and a threaded hole 12 mm. from the lip edge. This plate tapers to 2 mm. in thickness at the butt (lower) end.

Measurements: length, 61 mm.; width, 18 mm.

TRIGGERS

No. of Specimens: 1

Provenience: Feature 5

Illustrations: Figure 35, o

This trigger is similar to the one in the assembly described above.

TRIGGER PLATES

No. of Specimens: 1

Provenience: Feature 6

Illustrations: Figure 35, p

This trigger plate is made of iron. The trigger slot is offset laterally to the left in ventral view with muzzle end up. A threaded hole is present in the upper, or muzzle, end. The plate is beveled toward the inner surface.

Measurements were made after major cleaning: length, 62 mm.; width, 14 mm. This specimen is 3 mm. thick at the muzzle end and tapers to 1 mm. at the butt end. The hole is 6 mm. from the end.

SCREWS

No. of Specimens: 11

Provenience: Feature 1 (2), Feature 2 (2), Feature 3 (2), Feature 4 (1), Feature 5 (2), Feature 6 (1), Feature 20 (1)

Illustrations: Figure 35, a-d

Screw No. 1. This is a side- or lock-plate screw which was used to fasten the gunlock to the stock. It was not cleaned.

Measurements: length, 44 mm.; head diameter, 11 mm.

Screw No. 2. This side- or lock-plate screw was not cleaned.

Measurements: length, 42 mm.; head diameter, 11 mm.

Screw No. 3. This is a side- or lock-plate screw with a wedge-shaped, threaded end. It was cleaned.

Measurements: length, 47 mm.; head diameter, 12 mm.

Screw No. 4 (Fig. 35, a). This tang screw is beveled under the head and was countersunk into the tang. It passed down into a trigger plate like the one described above and like the one on the complete trigger assembly.

Measurements: length, 46 mm.; head diameter, 10 mm.

Screw No. 5. This is a side- or lock-plate screw.

Measurements: length, 44 mm.; head diameter, 11 mm.

Screw No. 6. This lock screw was for securing a sear, an unbridled frizzen, or a tumbler bridle.

Screw No. 7. This lock screw probably was used on an unbridled frizzen or a bridled tumbler.

Screw No. 8 (Fig. 35, d). This wood screw has the upper head surface rounded and the lower head surface beveled for countersinking. This screw is suitable for securing a butt plate (George, 1947: 104).

Measurements: length, 28 mm.; head diameter, 11 mm.

Screw No. 9 (Fig. 35, c). This wood screw has a rounded upper head surface.

Measurements: length, 25 mm.; head diameter, 8 mm.

Screw No. 10 (Fig. 35, b). This is a wood screw with rounded upper head surface and beveled lower head surface. It is suitable for securing a butt plate to the stock.

Measurements: length, 36 mm.; head diameter, 9 mm.

Screw No. 11. This is a side- or lock-plate screw.

Measurements: length, 42 mm.; head diameter, 12 mm.

PINS

No. of Specimens: 2

Provenience: Feature 1 (2)

Pin No. 1. This specimen is cylindrical and has one end flattened. It is bent. It probably was used to fasten a fitting (trigger guard, barrel, etc.) to the stock by insertion through a perforated tongue, or it may have been a pivot pin for a trigger.

Pin No. 2. This pin is cylindrical and was probably used to fasten a fitting to the stock or to serve as pivot pin for a trigger.

Measurements: length, 38 mm.

LUGS

No. of Specimens: 4

Provenience: Feature 1 (2), Feature 4 (1), Feature 12 (1)

Illustrations: Figure 35, e-f

Two or three of these lugs (also called pin loops or wire loops) were soldered onto, or set into, the lower surface of a barrel. Iron pins passed through the holes in the lugs—and through the wood of the stock on either side—fastened barrel and stock together.

RAMROD GUIDES

No. of Specimens: 16

Provenience: Feature 1 (1), Feature 2 (2), Feature 3 (4), Feature 4 (4), Feature 6 (1), Feature 7 (2), Feature 17 (1), Feature 18 (1)

Illustrations: Figure 35, g-n

Ramrod Guide No. 1. This is a lateral half of an intermediate or upper guide made of sheet brass. In the center of the flange area is a hole for pinning the guide to the stock.

Measurements: length, 28 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 2. This guide is similar to the one described above.

Measurements: length, 24 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 3. This intermediate or upper ramrod guide is made of iron and is flanged at the upper edges. There was no major cleaning.

Measurements: length, 36 mm.; outside diameter, 13 mm.; thickness, 1 mm.

Ramrod Guide No. 4 (Fig. 35, g). This is an intermediate or upper ramrod guide made of brass. It is tubular with two grooves filed, or stamped, parallel to the edges on each end. There is a flange with a centrally located hole for pinning to the stock.

Measurements: length, 20 mm.; outside diameter, 12 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 5 (Fig. 35, i). This is an intermediate or upper ramrod guide made of brass which may be described in the same way as No. 4.

Measurements: length, 25 mm.; outside diameter, 11 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 6. This guide of sheet brass is broken and flattened. There is a pinning hole in the one remaining lip.

Measurements: length, 23 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 7 (Fig. 35, m). Tubular and made of iron, this guide is the terminal or lower guide used at the ramrod point of entry to the stock, having a tail or finial on the lower end. Triple grooves parallel the edges on each end. It has a flange with a centrally located hole for pinning to the stock.

Measurements after major cleaning: length, 87 mm.; outside diameter, 12 mm.; average thickness, 1 mm.

Ramrod Guide No. 8 (Fig. 35, n). Made of cast brass and tubular, this is a terminal, or lower, guide used at the ramrod point of entry to the stock. The finial is broken off. The flange is pierced for pinning.

Four longitudinal facets extend 20 mm. downward from the upper, or muzzle, end. Grooves are present at both ends of the faceted area.

Measurements: length to break, 32 mm.; outside diameter, 10 mm.; average thickness, 1 mm.

Ramrod Guide No. 9 (Fig. 35, h). Tubular and formed from thin sheet brass, this is an upper or intermediate guide. Five small (2 mm. wide), longitudinal, flat surfaces on the lower tube body extending to within 1 mm. of the ends are apparently a result of the filing technique used on the tube. The upper edges are flanged and pierced for pin fastening to the gun stock.

Measurements: length, 24 mm.; outside diameter, 11 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 10. This upper or intermediate guide, originally tubular but now flattened, was formed from thin sheet brass with the upper edges brought together in a flange and centrally pierced for pinning. A double groove parallels each end.

Measurements: length, 25 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 11 (Fig. 35, k). This complete specimen is virtually identical to No. 8. The plain finial tapers evenly to a point.

Measurements: length, 61 mm.; outside diameter, 11 mm.; average thickness, 1 mm.

Ramrod Guide No. 12. This fragment, made of iron, is probably half of an upper or intermediate guide.

Measurements after no major cleaning: length, 34 mm.

Ramrod Guide No. 13 (Fig. 35, l). This complete terminal, or lower, guide made of cast brass is flanged and centrally pierced for pinning. Remains of the iron pin are still in place. This guide is similar to Guides No. 8 and 11 except that it is shorter in the tubular portion.

Measurements: length, 62 mm.; outside diameter, 10 mm.; average thickness, 1 mm.

Ramrod Guide No. 14. Tubular and formed from thin sheet brass, this is an upper or intermediate guide. The upper edges are flanged and pierced for pinning. There is a groove parallel to each end.

Measurements: length, 24 mm.; outside diameter, 11 mm.

Ramrod Guide No. 15. Flanged and pierced for pinning, this is an upper or intermediate guide formed from sheet brass. It has been flattened.

Measurements: length, 22 mm.; thickness, less than 0.5 mm.

Ramrod Guide No. 16 (Fig. 35, j). Made of iron, this intermediate or upper guide is tubular with the upper edges flanged and centrally pierced for pinning.

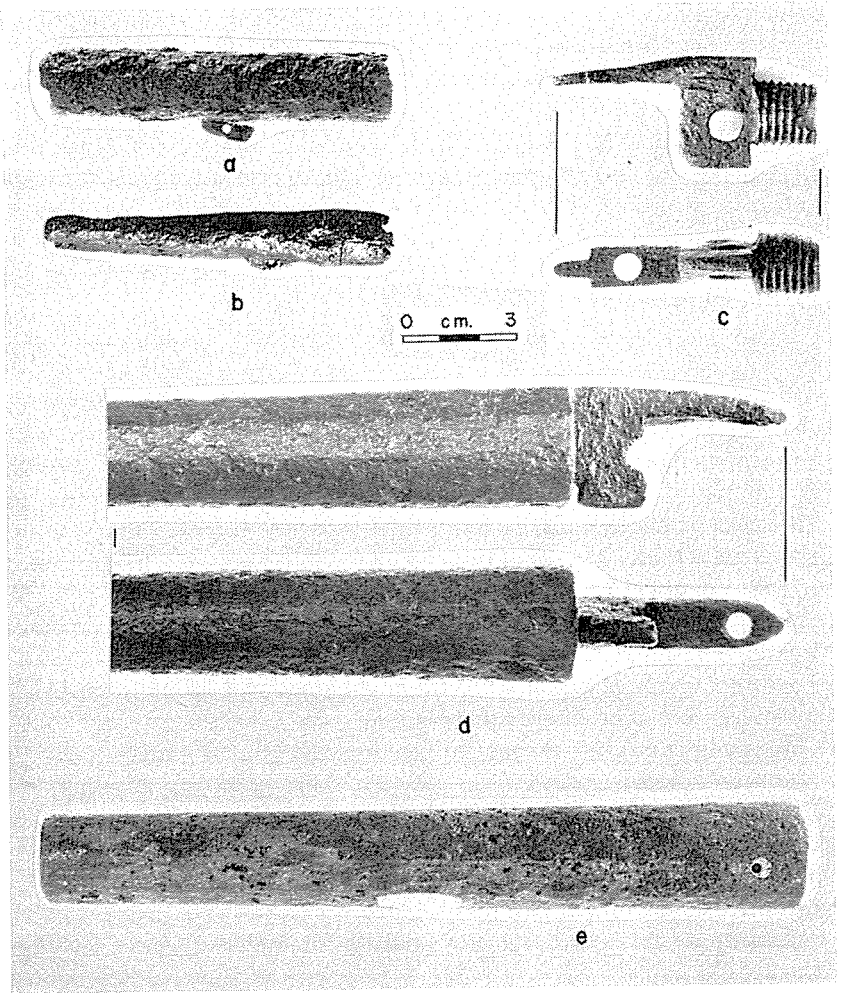


FIGURE 36. Gun parts. *a, b, d, e*, barrels (total length of *d* not shown); *c*, breech plug.

Measurements after no major cleaning: length, 30 mm.; approximate thickness, 1 mm.

Remarks: The ramrod guides found at Gilbert were probably used in a combination of three to the gun—one upper guide, one intermediate guide, and one lower or terminal guide. None of the guides is “fluted,” “ribbed,” or marked in the manner of those used on later Northwest guns.

BARRELS

No. of Specimens: 23 fragments

Provenience: Feature 1 (1), Feature 2 (3), Feature 3 (7), Feature 4 (4), Feature 5 (3), Feature 12 (2), Feature 14 (1), Feature 18 (1), Feature 20 (1)

Illustrations: Figure 36, a, b, d, e

Four of the barrel fragments are octagonal, 18 are round, and one is of indeterminate shape. Most have been battered or flattened, and one appears to have been reshaped into a stake. Only those fragments which retain significant features are described in detail.

Barrel No. 1 (Fig. 36, a). This round muzzle section has a perforated front barrel lug soldered or sweated to it. The base of the front sight blade, apparently silver-soldered iron, is set two inches back from the muzzle. The location of the barrel lug—centered 1.63 in. from the muzzle—indicates a full-stocked weapon.

Measurements were made after major cleaning: caliber at muzzle approximately .60, or 20 gauge.

Barrel No. 2 (Fig. 36, d). This is an octagonal breech section with the breech plug intact. The flats extend approximately 190 mm. then merge gradually with the round part of the barrel. An exception is the flat on top of the breech which extends the entire length of the remaining barrel section. There is a sighting groove two inches long on the breech-plug tang and rear of the breech. A slightly undercut flat for a barrel mounting lug is filed into the undersurface of the barrel, centered 195 mm. forward of the back of the breech. The end of the breech-plug tang is triangular with convex sides, and the tang screw hole is countersunk into the external surface. A touch hole is present on the right side of the breech.

No major cleaning was attempted.

Measurements: diameter across breech at flats, 30 mm.; bore caliber .55, or 20 gauge.

Barrel No. 3 (Fig. 36, e). This breech section is octagonal in cross section, with the bottom three flats poorly defined. Straight lines have been engraved adjacent to, and parallel to, the four ridges bordering the upper three flats. The touchhole is brass-lined.

Measurements were made after major cleaning: diameter across breech at flats, 29 mm.; bore caliber .58, or 24 gauge.

Barrel No. 4 (Fig. 36, b). The barrel section which was originally round has been partly flattened. A barrel mounting lug is in place on the underside. One end of the section is slightly smaller in diameter

than the rest of the barrel. The smaller area is bordered by a well-defined shoulder.

BREECH PLUGS

No. of Specimens: 6

Provenience: Feature 3 (2), Feature 4 (1), Feature 5 (2), Feature 11 (1)

Illustrations: Figure 36, c

Breech Plug No. 1. This is the tang end of a breech plug broken across the tang screw hole. The screw hole is countersunk and has no threads. The tang end is square.

Breech Plug No. 2 (Fig. 36, c). This piece has a lateral hole through the rear body behind the screw portion. The screw hole in the tang is countersunk and shows no threads. The tang is battered on one upper edge and is bent at an angle, apparently the result of hammering to loosen and unscrew it from the breech. The tang terminates in a small, narrow-necked, simple finial.

Measurements made after major cleaning: overall length, 69 mm.; maximum diameter, 29 mm. The threaded portion indicates use in a bore of approximately .58 caliber, or 24 gauge.

Breech Plug No. 3. This specimen is broken across the tang at the screw hole, which is countersunk and shows no threads. There is a lateral hole through the rear body behind the screw portion.

Measurements were made after major cleaning. Maximum diameter indicates use with a breech of approximately 9 mm. diameter. The threaded portion indicates use in a bore of approximately .58 caliber, or 24 gauge.

Breech Plug No. 4. This is the tang end of a breech plug that is broken across the countersunk, unthreaded tang screw hole. It is triangular with the lateral edges convex.

Breech Plug No. 5. This tang end of a breech plug, broken across the screw hole, is of the same shape as — though slightly larger than — Breech Plug No. 4. Its screw hole is not countersunk.

Breech Plug No. 6. This breech plug is broken across the tang at the screw hole. The screw hole has no evidence of threads *or* of being countersunk. The top of the tang is covered with a brass plate on which some engraved design can be discerned despite considerable battering and corrosion. There are three straight lines parallel to each side of the tang, and between the two outer lines are remnants of a cyma-like pattern. The tang has been hammered on one upper edge and is bent in the direction that this part rotates to unscrew from the breech.

Measurements were made after major cleaning. The threaded portion indicates use in a bore of approximately .55 caliber, or 28 gauge.

Remarks: Breech sections No. 1, 2, 12, and 13 all measure more than an inch in diameter across the thickest part, from flat to flat. According to Hamilton (1960c: 126) breeches of that diameter might be either from 18th-century trade guns or from 18th- or 19th-century military muskets. None of the bores measured match those of flintlock French or English military muskets, or of Colonial smoothbores (Hamilton, 1960e: 208). Typical Spanish guns have characteristics which identify them rather easily, and only one part of such a weapon, a frizzen, has been found at the Gilbert Site.

If these are, indeed, 18th-century trade guns, it seems likely they were manufactured after the earlier part of the century. The smaller bores (.44, .50, and .53 caliber) which Hamilton believes may characterize French trade guns of the late 17th and early 18th centuries are not present here. Bores of .55 caliber are present, and Hamilton (1960c: 129; 1960e: 208) believes this caliber may represent progression towards the .58 caliber and .62 caliber bores common to trade guns by the 19th century. The 25 mm. diameters of the breech areas would also appear to rule out the 19th-century Northwest gun which has not been found, thus far, to exceed one inch across the flats. (Hamilton, 1960c: 127)

These breech sections would seem to be from French or English trade guns, probably dating near 1750. The breech plugs indicate by their measurements that they were used with breeches of the same dimensions and bores as those previously described, and the same conclusions should hold true except for Breech Plug No. 5, which is probably from a pistol. All of the tangs are designed to receive a screw that passed downward into the trigger plate. Hanson (1955: 16) states that all early Northwest guns have the tang screws coming from below.

BUTT PLATES

No. of Specimens: 20

Provenience: Feature 1 (4), Feature 2 (3), Feature 3 (2), Feature 4 (1), Feature 5 (6), Feature 7 (1), Feature 8 (1), Feature 12 (1), Feature 18 (1)

Illustrations: Figure 37

All the butt plates found at the Gilbert Site are made of cast brass except Nos. 18 and 20 which are made of wrought iron.

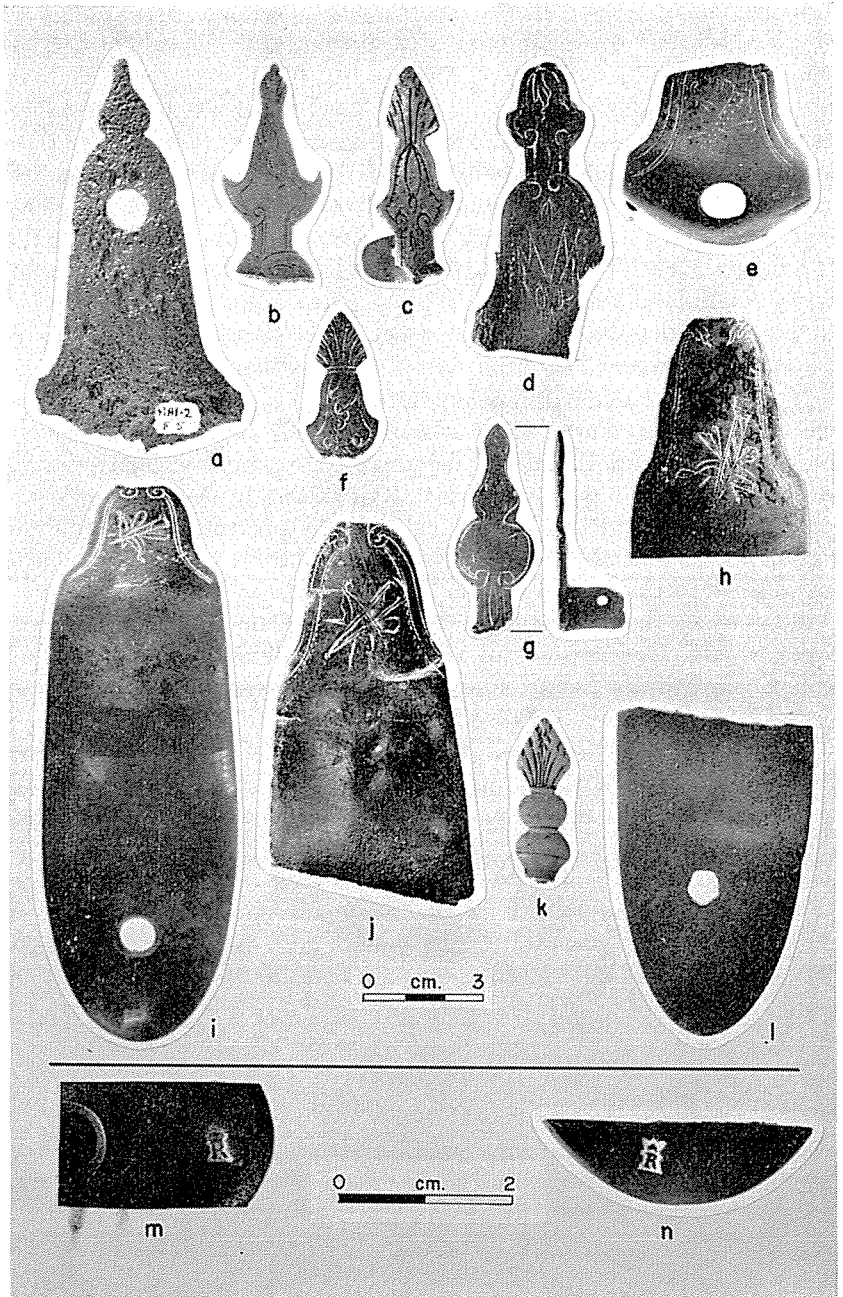


FIGURE 37. Butt plates.

Butt Plate No. 1 (Fig. 37, h). This specimen is broken at the toe of the plate and in the final section. The edges of the plate proper are beveled; the plate is convex on the exterior surface and concave on the interior, the interior surface showing marks that indicate hammering was used to aid in contouring the plate. The portion of the tang remaining is engraved with three parallel lines and a row of marks resembling tiny arrowheads. A series of triangular marks is based upon the center line. The center portion of the plate is engraved with an unstrung bow, arrow, quiver, and club. This type of butt plate was usually attached to the stock by a countersunk screw in the toe and a tongue and pin in the finial portion. Both of these sections are missing. The treatment of the edges indicates that the finial was probably inlaid flush with the top of the stock, or comb.

Measurements: maximum width, 46 mm.

Butt Plate No. 2 (Fig. 37, n). This toe section was partially cut through from each lateral edge and then broken off. The exterior is convex, the interior concave. The edges are beveled. Contouring hammer marks are present on the inside surface. The piece has oxidized until it is almost black. It is stamped with a crown over an R.

Butt Plate No. 3 (Fig. 37, b). This finial, with a tongue for pin fastening, is broken at the tang. The exterior surface is convex, the interior surface concave.

Butt Plate No. 4 (Fig. 37, g). This finial, with a perforated tongue for pin fastening, is broken at the tang. Engraved parallel lines along the borders end in scrolls.

Butt Plate No. 5 (Fig. 37, e). This plate is broken at the tang and below a beveled screw hole in the corner of the right angle bend between the tang and the plate proper. The plate is convex on the exterior surface and concave on the interior. The interior surface shows marks that indicate hammering to aid in contouring the plate. The edges of the plate are beveled. The tang was probably inlaid flush with the comb of the stock. Three parallel engraved lines border the tang, and an unstrung bow, arrow, quiver, and club are engraved in the center of the tang. This plate was probably fastened with a tongue and pin on the finial, a screw set flush in the heel, and probably a second flush screw in the missing toe.

Measurements: width, 44 mm.; screw hole diameter, 10 mm.

Butt Plate No. 6. This toe section is broken through the lower screw hole. The screw hole is beveled. The section is convex on the exterior surface and concave on the interior surface; the edges are beveled. Hammer marks are present on the interior surface.

Butt Plate No. 7. This section of a butt plate has the heel and toe

sections missing. It has beveled edges, is convex on the exterior, and is concave on the interior. On the interior are marks which indicate hammering to form.

Measurements: width, 46 mm.

Butt Plate No. 8 (Fig. 37, i, m). This plate is broken at the finial on the tang. It is concavo-convex with beveled edges, and the exterior concave surface shows the effects of hammering to aid in contouring the plate. Engraved parallel lines which terminate in scrolls decorate the border of the tang, and in the center is engraved an unstrung bow, a quiver, and two clubs. There is a countersunk screw hole in the toe of the plate. The plate was probably fastened with a flush or round-head screw at the hole and a tongue and pin on the missing finial. The toe is stamped with a crown over an R.

Measurements: width, 44 mm.; screw hole diameter, 10 mm.

Butt Plate No. 9 (Fig. 37, c). This finial is broken at the tang. The interior is flat, the exterior convex. A tongue pierced by a single hole is molded onto the undersurface. The finial is similar in form and engraved design to Finial No. 3.

Butt Plate No. 10 (Fig. 37, l). This finial is broken across the mid-section of the plate proper. The edges are beveled, and the plate is concavo-convex with hammer marks on the interior concave surface. The toe section contains a crude, five-sided hole in the proper location for a fastening screw.

Measurements: width, 44 mm.

Butt Plate No. 11 (Fig. 37, f). This finial is broken at the tang. Convex on the exterior and concave on the interior, it is engraved with a design similar to the one on Butt Plate No. 3.

Butt Plate No. 12. This finial is cut and broken at midsection. The edges are beveled. Part of a countersunk screw hole is present.

Butt Plate No. 13 (Fig. 37, j). Broken at the base of the finial and across the plate, this butt plate is concavo-convex and has beveled edges. The tang is engraved with three single lines paralleling each border that terminate in scrolls at the upper end. There is a double set of triangular marks along the inner lines. The central element consists of a quiver, an unstrung bow, an arrow, and a club. The lower plate area is covered with light peck marks.

Measurements: width, 44 mm.

Butt Plate No. 14. This engraved finial section is broken off at one end and has been bifacially filed to a point at the other so as to produce an arrow point.

Butt Plate No. 15. This piece is broken in the tang and in the body

below the heel. It is concavo-convex, and its edges are beveled. Corrosion is severe, but faint elements of an engraved design can be discerned. An engraved single line upon which is based a row of triangular marks parallels each edge of the tang. Engraved in the center of the tang are a quiver, an arrow, a bow, and perhaps a club.

Measurements: width, 41 mm.

Butt Plate No. 16 (Fig. 37, k). This is a plano-convex finial section broken across the neck of the finial. A tongue molded on the under surface is broken through the pin hole. The end of the finial was engraved with a design which is probably a simplified acanthus leaf.

Butt Plate No. 17. This is a finial section that is broken at both ends. A tongue with a hole for pin fastening is present on the lower surface. Each side is bordered by three engraved straight lines with an elliptical form engraved in the center.

Butt Plate No. 18. This tang section, broken at the finial and in the heel, is made of iron. It is convex on the exterior surface and concave on the interior. A slightly raised ridge crosses the tang just below the break at the finial. Rust damage has obliterated any engraving that may have been present.

Measurements: width, 39 mm.

Butt Plate No. 19 (Fig. 37, d). This is a tang and finial section that is broken at each end. The finial area is shaped and engraved in a fashion similar to Butt Plate No. 3. A double set of parallel lines borders each edge, and, in the finial neck and tang area, a line of triangular marks is strung along the inside line. The central tang area was engraved with a military trophy design of drum and banners. A molded tongue under the neck of the finial is broken through the pin hole. The tang is concavo-convex and the lateral edges are slightly undercut.

Butt Plate No. 20 (Fig. 37, a). A tang and finial section made of iron, this specimen is broken or rusted through across the heel area. The entire section is concavo-convex. There is a countersunk screw hole in the tang.

Measurements: width, 46 mm.; screw hole diameter, 8 mm.

Remarks: In regard to decoration it is tempting to assume that the engraved designs of bows, arrows, quivers, and clubs always have a special connotation where encountered on gun parts from Indian sites. Russell (1957: 113, 114) illustrates an early 19th-century English trade gun by P. Bond with two such designs (one appears to incorporate a pipe). Hamilton (1960c: 140, item 3, row 1) shows a design of bow, arrow, and quiver on a butt plate from a Little Osage

site occupied from 1730 to 1775. Maxwell and Binford (1961: 101, 102) illustrate a lock plate and a side plate from Fort Michilimackinac that are engraved with bow, arrow, and quiver. During the first half of the 18th century some English sporting guns were decorated with the huntsman's bow, a sheaf of arrows, and sometimes a club (George, 1947: 108, 153). Concerning the use of this general motif by the French, a bow and quiver form part of the decoration illustrated on Plate No. 6 of a French pattern book engraved by Claude Simonin and published in Paris in 1685 (Hayward, 1963: Pl. 91). The French pattern book of De Lacollombe, first published about 1705 and again in 1730, shows a design combining an unstrung bow, an arrow, and a club (*ibid.*: Pl. 93). Harris, Harris, Blaine, and Blaine (1965: Fig. 16E) illustrate a bow, quiver, and clubs on a butt plate from the Womack Site.

These data suggest that the earlier use of such decoration was not dictated by demands of the Indian trade and, furthermore, that both English and French gunmakers utilized the design. The design does appear, however, on five butt plates and two side plates from the Gilbert Site, which suggests that it was a major decorative motif on guns used in the French trade around the mid-18th century.

The butt-plate finials No. 3, 9, 11, and 13 all show a definite similarity to one in the pattern book of De Lacollombe (Hayward, 1963: Pl. 93). Although this particular finial pattern was available as early as about 1705, there are no specimens of this design noted from either the Angola Site or the Womack Site, both of which have yielded gun parts thought to date before 1730 as well as later trade material (Harris et al., 1965: 338, 340). All this suggests that butt-plate finials bearing a bow-arrow-club design were rarely, if ever, put on French trade guns prior to 1730. The pre-1730 butt plates from the Angola Site, incidentally, are 6 or 7 mm. wider in the lower section of the plate than the butt plates from Gilbert.

A strong resemblance in outline may be noted between the butt-plate finials from the Gilbert Site and those of the 1733 model French cavalry musketoon (Boudriot, 1963: *Modele* 1773). Hamilton (1960c: 120, Fig. 52) illustrates a similar finial from a Little Osage site in Missouri known to have been occupied between 1730 and 1775. This tang and finial section is also engraved with a military trophy as is specimen No. 19 from the Gilbert Site. A butt-plate finial similar to the ones under discussion has been reported from Fort Michilimackinac by Maxwell and Binford (1961: 104, Fig. 18a).

Butt-plate finials of this style, then, appear regularly around the

mid-18th century on sites where French trade is indicated. Designs of military trophies and scenes of the chase were commonly used as gun decorations in Continental Europe and England and do not by themselves offer good evidence of origin.

Butt Plate No. 20 may be English. The finial itself resembles in outline some of those from Fort Frederica on St. Simon's Island, Georgia, illustrated and described by Shiner (ms.). A butt-plate tang from the Vinson Site in Limestone County, Texas – similar to the Fort Frederica specimens – is believed to be from an English fusil dating from the 1740-1770 period. The English light service smoothbore of the mid-18th century apparently shared some characteristics with the Northwest gun intended for Indian trade. It must be noted, however, that the only resemblance the specimen from Gilbert bears to the foregoing is in the outline shape of the finial. Comparison on such a limited basis offers at most only a possible indication of origin and age.

Finial No. 4 resembles that on a complete brass butt plate from the Spanish Fort Site as well as on a finial from the same site. The complete plate has what is best interpreted as a shell-like design engraved below the finial neck. This particular design element often appears as part of a rococo style that first appeared on French guns in the 1730's (Hayward, 1963: 48). Also, the narrow width of the complete plate from Spanish Fort would seem to place it in a post-1730 time period (Harris et al., 1965: 341). The same conclusions may be true for the finial from the Gilbert Site. Of rare occurrence in Norteño Focus sites, this design possibly represents either a minor type or one which occurs late in the French gun trade.

Conclusions: Most of the brass butt plates are probably from French trade guns dating from about 1750. One finial section, No. 18, could represent a somewhat earlier period. The method of securing the butt plate to the stock by means of a tongue and pin on the finial and with one or two countersunk screws (one in the heel, and/or one in the toe) was employed on better grade English fusils from about 1700 onward (George, 1947: 104). This general form of butt plate is also similar to that of the French style in 1724 (Neal, 1955: 17, Fig. 8). This style may also be found on various other types of shoulder arms from England and the low countries. In contrast, Spanish traditional style stocks of the period were square underneath (Neal, 1955: 17). Such stocks usually employed a small right angled plate on the heel of the butt.

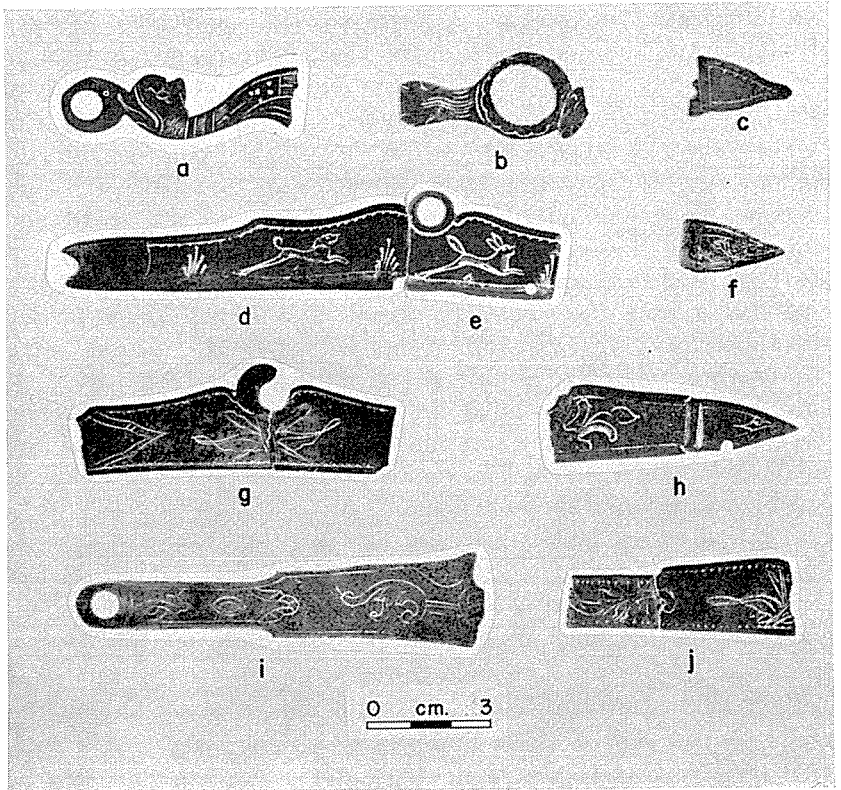


FIGURE 38. Side plates.

SIDE PLATES

No. of Specimens: 9

Provenience: Feature 2 (1), Feature 3 (2), Features 3 and 18 (1) (two pieces that may fit together: one from Feature 3, the other from Feature 18), Feature 5 (1), Feature 6 (2), Feature 12 (1), Feature 14 (1)

Illustrations: Figure 38

In describing side plates, the term "upper screw hole" is used to indicate the hole in the upper area of the side plate at the point of greatest width. In measuring the thickness of the side plates, measurements were taken at each end of the long axis of the part. All the side plates are of cast brass and are essentially flat-surfaced.

Side Plate No. 1 (Fig. 38, i). This is the front portion of a flat side plate, extending from the upper screw hole to the front end.

The edges are slightly undercut (i.e., beveled on the bottom surface), leaving the bottom surface smaller in area than the upper surface. This would simplify inlaying. The plate is decorated with a single-line border and two opposed leaf-scroll designs, one of which is interrupted by the break. The extreme front part of the plate is engraved with two double-line elliptical forms and a ribbon-like design.

Measurements: thickness, 1 to 2 mm.

Side Plate No. 2 (Fig. 38, d-e). This flat side plate consists of two fragments that seem to fit together, one found in Feature 3, the other in Feature 18. The plate is broken across the front screw hole and in the area of the upper screw hole. An engraved design portrays a curl-tailed, collared dog on the left that is chasing an impossibly large hare or rabbit on the right. The upper border of the plate has an engraved scalloped line.

Measurements: thickness, 1 mm. to 3 mm.

Side Plate No. 3 (Fig. 38, c). This fragment is the proximal end of a two-screw side plate with undercut edges. A single engraved line strung with triangular marks borders the edges. Two parallel, vertical, engraved lines transect the plate some 20 mm. from its proximal end.

Measurements: thickness, approximately 1 mm.

Side Plate No. 4 (Fig. 38, j). This specimen comprises a section of flat side plate between the front and upper screw holes. The edges are slightly undercut. It has an engraved leaf-scroll design toward the front part; an unstrung bow with an arrow appear at the proximal break, which interrupts the design. Along the upper and lower borders are single engraved lines made up of tiny, closely spaced triangles.

Measurements: thickness, approximately 1 mm.

Side Plate No. 5 (Fig. 38, h). This side-plate rear section, broken at the upper screw hole, is flat with undercut edges. It was definitely used with a two-screw lock. An engraved design, within a single-line border, consists of what appears to be a basket containing a plant and a blossom or bud. There is a small notch in the lower edge.

Measurements: thickness, approximately 2 mm.

Side Plate No. 6 (Fig. 38, g). In cross section this side plate is slightly convex on the exterior surface and concave on the interior surface. The edges are slightly undercut. Both ends are missing. The borders are engraved with what are basically scalloped lines. The break at the front end apparently interrupted a design or scene; in the center is engraved an unstrung bow, a quiver, and two clubs. A ribbon-like design was engraved across the plate between the center

design and the interrupted scene at the front end.

Measurements: thickness, approximately 1 mm.

Side Plate No. 7 (Fig. 38, f). This proximal end of an apparent two-hole side plate is slightly convex on the exterior surface and concave on the interior surface. The edges are weakly undercut. Engraved double lines parallel the upper and lower edges, and there is an engraved leaf-scroll design in the center.

Measurements: thickness, approximately 1 mm.

Side Plate No. 8 (Fig. 38, b). This is the front section of a side plate shaped and engraved to resemble a dragon or serpent. The edges are undercut. There are five round punch marks near the broken end. The specimen has oxidized to a dark color.

Measurements: thickness, 1 mm.

Side Plate No. 9 (Fig. 38, a). This is a fragment of a flat brass side plate shaped in a manner suggestive of a dragon or serpent. Details of the engraving are difficult to interpret meaningfully.

Measurements: thickness, approximately 1 to 2 mm.

Remarks: Side Plate No. 9 (Fig. 38, a) is definitely zoomorphic in outline. Its profile is relatively complex with both the upper and lower edges outlining a serpent or dragon shape. The engraved details supplement this theme. Side Plate No. 8 (Fig. 38, b) possibly represents a highly stylized version of a zoomorphic outline. This is uncertain because the specimen is too incomplete. While "dragon" side plates usually have an opening through a circular coil in the proximal end, they are not considered as truly pierced for decoration.

The first *flat plates* of the "dragon" or "serpent" type began to appear in the late 17th century and seem to have gone out of style in *general* usage shortly thereafter, for by 1720 the foliated side plate was in fashion in English higher quality guns (George, 1947: 106-107). Hanson (1955: 57, Pl. 1, B) illustrates a flat "serpent" or "dragon" side plate from a 1700 period British all-purpose musket. Hamilton (1960c: 135-136) illustrates flat, engraved dragon plate sections from a site known to have been occupied from 1730 to 1775 and assigns a tentative date of 1750 to this type dragon plate. The example from the Gilbert Site is of flat cast brass. The outline was produced in the casting and dressed by filing, but the surface is flat and details are engraved.

In later versions, detail was produced by casting in low relief, not by engraving. Hanson (1955: 15-16) describes one of the earliest known examples of a molded detail dragon side plate on a Northwest gun by Grice who was active from 1770 to 1780.

Side Plate No. 9 from Gilbert does not match any of the more common versions of dragon side plates.

Dragon Side Plate No. 8 shows a definite similarity to both the 1700 version (Hanson, 1955: 57, Pl. 1, B) and the one assigned the tentative 1750 date (Hamilton, 1960c: 135-136). It should date prior to 1770 according to Blaine's unpublished analysis of such side plates from the Vinson Site.

The outlines of the other side plates exhibit gentle curves and small steps and generally reflect the functional shape of a lock plate but in decorative form. These plates also are solid – not pierced for decorative purposes. Their engraving themes vary, primarily suggesting the hunt, floral, or foliate designs. According to George (1947: 111), this general type of side plate for English guns was in style from approximately 1750 to 1775 on weapons such as the blunderbusses, fusils, and fowling pieces of "second quality." George (*ibid.*: 112) also points out that between 1790 and 1800 the side plate, as such, was replaced by screw cups in the side of the English sporting gun.

French use of the flat unpierced side plate of relatively simple outline began about 1715-20 on fashionable weapons. These early plates were decorated in low relief by cast or chiseled designs (Hayward, 1963: 45).

Harris, Harris, Blaine, and Blaine (1965: 332) hypothesize that fashionable French designs were often reproduced in an inexpensive manner on weapons used in the French trade. A plate of designs by Guerard shows decoration for flat side plates that appears intended, or most suitable, for reproduction by engraving (Hayward, 1963: Pl. 92). Because of the apparent absence of flat unpierced side plates at the Angola Farm Site, Harris, Harris, Blaine, and Blaine (1965: 331) believe it unlikely that they were commonly used on guns in the French trade prior to 1730. Such side plates appear to have been current in the French trade around 1750.

TRIGGER GUARDS

No. of Specimens: 29

Provenience: Feature 1 (4), Feature 2 (2), Feature 3 (5), Feature 4 (4), Feature 5 (6), Feature 6 (2), Feature 7 (1), Feature 11 (1), Feature 12 (1), Feature 17 (1), Feature 18 (1), Feature 21 (1)

Illustrations: Figures 39, 40

All measurements of thickness were made at the point of maximum width of the guard section being described. Thickness measurements

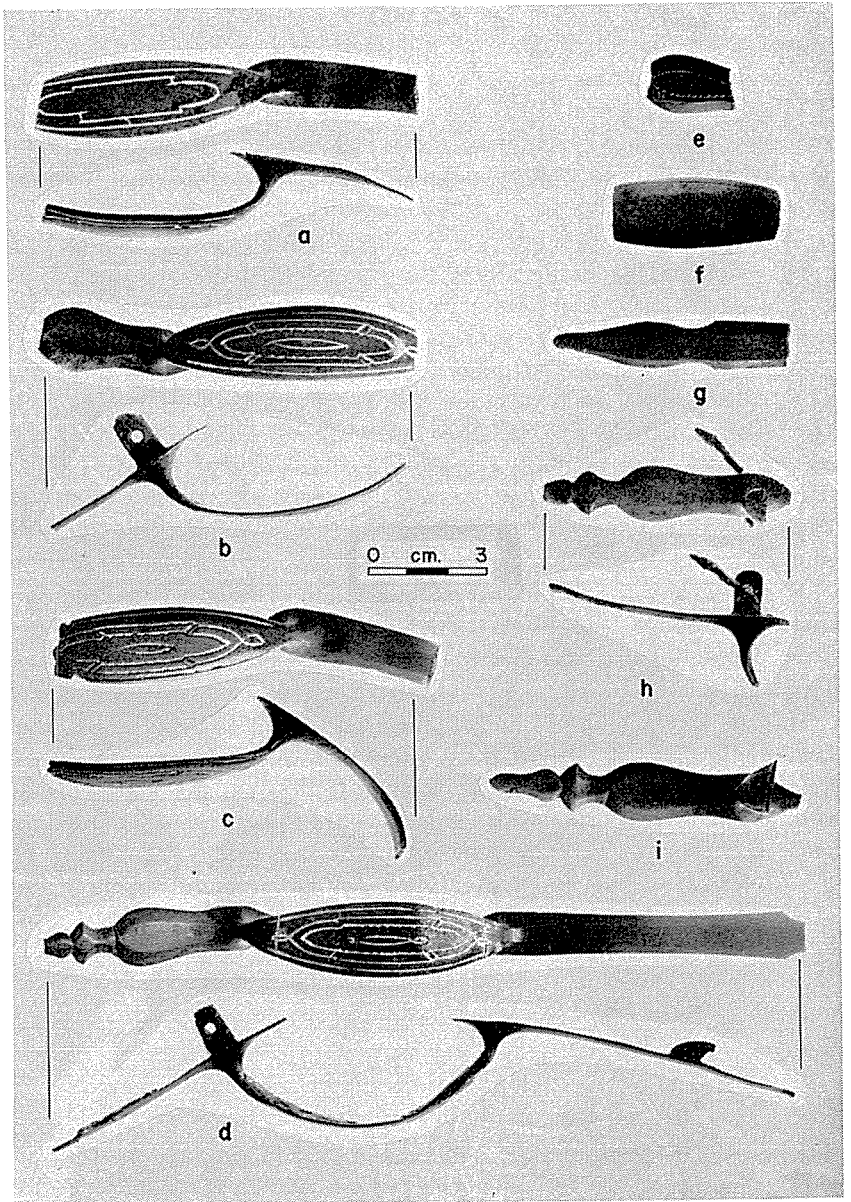


FIGURE 39. Trigger guards.

marked with an asterisk are for fragmentary, badly rusted, or battered specimens and do not reflect true maximum dimensions of the

original, complete trigger guard. All the trigger guards are made of cast brass except Nos. 2, 7, 10, 11, and 19 which are made of iron.

Trigger Guard No. 1 (Fig. 39, i). This trigger guard, broken in the bow section, bears part of an engraved design on the bow which has single-line borders and a leaf-scroll design in the center. The fore tang, or forestock plate, ends with a finial. In cross section the shape of the tang is trapezoidal. It has a wide bevel on each side, the unbeveled under surface being mounted next to the stock. A projecting tongue with a hole through it is molded onto the under surface; the tongue was inserted into a slot in the wooden stock, and a pin was passed through the stock and the perforation in the tongue, thus securing the front end of the trigger guard to the gun. A similar perforated tongue or more commonly a hooked projection served to secure the rear trigger guard tang to the stock.

Measurements: Front finial—maximum width, 12 mm.; maximum thickness, 2 mm. Front tang—maximum width, 15 mm.; width at base of bow, 12 mm.; maximum thickness, 2 mm.

Trigger Guard No. 2. This specimen is broken in the bow section and in the rear tang. The borders of the bow are molded with a slight ridge along each edge. The tang has wide bevels along the edges, producing a trapezoidal cross section. This guard section is of the same pattern as No. 1 but is made of iron rather than brass.

Measurements: Rear tang—maximum width, 13 mm.; maximum thickness, 2 mm.; width at base of bow, 12 mm.

Trigger Guard No. 3. This trigger guard is broken at the front base of the bow and in the forestock plate immediately before and after the base of the bow. A tongue for pin fastening is present. The forestock plate remnant is trapezoidal in cross section and has wide bevels.

Measurements: Front tang—width at base of bow, 11 mm.

Trigger Guard No. 4. This tang fragment is round on one end and broken at a screw hole on the other end. It is badly bent and is semi-round in cross section.

Measurements: maximum width, 11 mm.

Trigger Guard No. 5. Broken at the neck of the bow and at the rear tang, this specimen is trapezoidal in cross section.

Measurements: Width at base of bow, 12 mm.; maximum width at break, 9 mm.*; maximum thickness, 2 mm.

Trigger Guard No. 6 (Fig. 39, a). This specimen is broken in the bow and in the rear tang. The bow is engraved with single-line borders and a simple, rather formal, design in the center.

Measurements: Bow—maximum width, 19 mm.; maximum thick-

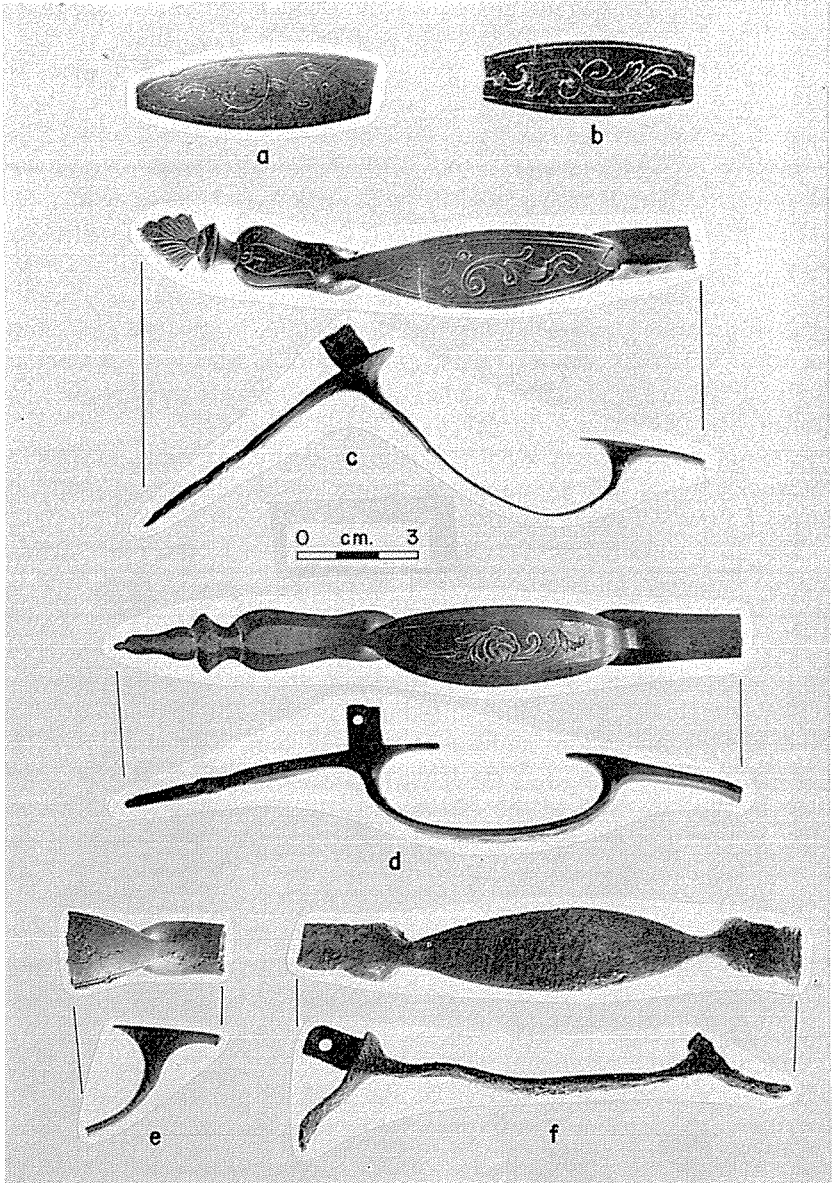


FIGURE 40. Trigger guards.

ness, 2 mm. Rear tang—width at base of bow, 12 mm.; width at break, 10 mm.; maximum thickness, 2 mm.

Trigger Guard No. 7 (Fig. 40, f). This iron trigger guard is broken

in the tangs before and after the bow proper. The bow and both tangs are beveled, and the cross section is flatter than that of the brass guards, although the pattern is similar. A tongue for pin fastening is present.

Measurements: Front tang—maximum width (widened by battering), 15 mm.; maximum thickness, 2 mm.; width at base of bow, 13 mm. Bow—maximum width, 20 mm.; maximum thickness, 2 mm. Rear tang—width at base of bow, 15 mm.; width at break, 11 mm.; maximum thickness, 2 mm.

Trigger Guard No. 8. Broken in the rear tang at both ends, this trigger guard is trapezoidal in cross section and has wide bevels. A break on one end is at a narrow spot which was probably the neck of a rear finial. A tongue for pin fastening is present.

Measurements: maximum width, 13 mm.; maximum thickness, 2 mm.

Trigger Guard No. 9 (Fig. 39, f). This center section of a bow is broken at both ends. It is trapezoidal in cross section, has wide bevels, and is engraved with a single-line border.

Measurements: maximum width, 17 mm.; maximum thickness, 2 mm.

Trigger Guard No. 10. This is an iron forestock plate with a simple round finial. It is broken at a beveled screw hole.

Measurements: Maximum width of finial, 14 mm.; maximum thickness, 2 mm.

Trigger Guard No. 11. This is a front tang and finial section made of iron.

Measurements: Finial—maximum width, 11 mm.; maximum thickness, 2 mm. Tang—maximum width, 15 mm.; maximum thickness, 2 mm.

Trigger Guard No. 12 (Fig. 40, d). This complete forestock plate and bow is broken in the rear tang. It is trapezoidal in cross section and has wide bevels. A tongue for pin fastening is present in the front section. The bow is engraved with a single-line border and with an embellished leaf-scroll design in the center.

Measurements: Front finial—maximum width, 14 mm.; maximum thickness, 3 mm. Front tang—maximum width, 15 mm.; maximum thickness, 3 mm.; width at base of bow, 13 mm. Bow—maximum width, 19 mm.; maximum thickness, 2 mm. Rear tang—width at base of bow, 14 mm.; width at break, 11 mm.*; maximum thickness, 2 mm.

Trigger Guard No. 13 (Fig. 39, c). This specimen is broken in

the bow and in the rear tang. It is trapezoidal in cross section and has wide bevels. The bow is engraved with single-line borders and with a formal design in the center.

Measurements: Bow — maximum width, 18 mm.; maximum thickness, 2 mm. Rear tang — width at base of bow, 12 mm.; width at break, 11 mm.; maximum thickness, 2 mm.

Trigger Guard No. 14 (Fig. 39, g). A rear finial section that is broken in the tang, this specimen is trapezoidal in cross section and has wide bevels.

Measurements: Tang — width across shoulders, 13 mm.; maximum thickness, 2 mm. Finial — maximum width, 12 mm.; maximum thickness, 2 mm.

Trigger Guard No. 15. This trigger guard, broken in the rear tang and at the rear finial, is trapezoidal in cross section and has wide bevels. A hooked tongue for pin fastening into the stock is present.

Measurements: maximum width, 12 mm.; maximum thickness, 2 mm.

Trigger Guard No. 16 (Fig. 40, a). This center section of a trigger guard bow is broken at both ends. Plano-convex in cross section, the bow was expertly engraved with a leaf-scroll design enclosed in a single-line border.

Measurements: maximum width, 19 mm.; maximum thickness, 2 mm.

Trigger Guard No. 17 (Fig. 40, b). This specimen is almost identical to No. 16, including measurements, but the scroll design is slightly varied.

Trigger Guard No. 18. This center section of a guard bow was filed bifacially into an arrow point. There is an engraved floral design in the center. Triangular engraved marks are aligned along the single-line border.

Trigger Guard No. 19. This is probably a forestock plate section including the finial, but it may be a butt plate finial instead. It is made of iron and has rounded edges. It was designed for mounting on the surface of the stock rather than for inlaying.

Measurements: maximum width, 13 mm.; maximum thickness, 2 mm.

Trigger Guard No. 20. This oxidized finial section of a forestock plate is engraved and filed to produce the effect of acanthus foliage.

Measurements: maximum width, 11 mm.; maximum thickness, 2 mm.

Trigger Guard No. 21 (Fig. 39, e). This forestock plate, broken in the plate and at the base of the finial, has a trapezoidal cross section

and wide bevels. Around the edges of the flat area between the bevels is an engraved line with triangular marks spaced along it.

Measurements: maximum width, 15 mm.; maximum thickness, 2 mm.

Trigger Guard No. 22 (Fig. 39, d). This trigger guard comprises the bow and major portions of front and back tangs. The bow is engraved with single-line borders and with the same formal design in the center as on Trigger Guard No. 13. The tangs are trapezoidal in cross section and have wide bevels. The front tang has a perforated tongue for pin fastening while the rear tang has a hook-shaped tongue.

Measurements: Front finial — maximum width, 11 mm. Front tang — maximum width, 15 mm.; width at base of bow, 12 mm. Bow — maximum width, 19 mm.; maximum thickness, 2 mm. Rear tang — width at base of bow, 12 mm.; width across shoulders, 12 mm.; maximum thickness, 2 mm.

Trigger Guard No. 23 (Fig. 39, b). Broken in the bow and at the front tang finial, this piece has the same design on the bow as Nos. 13 and 22.

Measurements: Front tang — maximum width, 16 mm.; maximum thickness, 2 mm.; width at base of bow, 12 mm. Bow — maximum width, 19 mm.; maximum thickness, 2 mm.

Trigger Guard No. 24 (Fig. 39, h). This piece is broken at the tip of the front tang finial and at the beginning of the bow proper. Its cross section is trapezoidal, and it has wide bevels. The pin is still present in the tongue.

Measurements: Finial — maximum width, 11 mm.; maximum thickness, 2 mm. Tang — maximum width, 14 mm.; maximum thickness, 2 mm.; width at base of bow, 11 mm.

Trigger Guard No. 25. This specimen comprises a finial section only. It has wide bevels and is trapezoidal in cross section.

Measurements: maximum width, 10 mm.; maximum thickness, 2 mm.

Trigger Guard No. 26. Broken in the plate and at the finial, this forestock plate has a trapezoidal cross section. A tiny fish-like figure is engraved on the piece and a hole has been drilled through the center after the piece was manufactured. The plate has oxidized to a black color.

Measurements: maximum width, 15 mm.; maximum thickness, 3 mm.

Trigger Guard No. 27 (Fig. 40, e). This piece is broken in the bow and in the rear tang. In cross section the bow is plano-convex,

while the tang — having wide bevels — is trapezoidal. Each edge of the bow is bordered with a double set of parallel engraved lines. A small section of an engraved design surviving on the bow bears a strong resemblance to the corresponding section of the design on Guard No. 26.

Measurements: Bow — maximum width, 18 mm.*; maximum thickness, 4 mm.*

Trigger Guard No. 28. This specimen is broken in the bow and in the rear tang. The small surviving section of the bow indicates that the original bow was engraved with single-line borders. The rear tang has wide bevels and is trapezoidal in cross section.

Measurements: Tang — width at base of bow, 11 mm.; width at break, 10 mm.*; maximum thickness, 2 mm.

Trigger Guard No. 29 (Fig. 40, c). This piece, consisting of a complete forestock plate and bow, is broken in the rear tang. The forestock plate and the rear tang have wide bevels, and both are trapezoidal in cross section. The forestock plate has a tongue, pierced by a pin hole, molded on its inner surface. The bow section, plano-convex in cross section, has been partially cut through on the external (convex) surface and is bent in two places. There are double engraved lines paralleling each edge of the bow, and an opposed leaf-scroll design is engraved in the center. Each bevel on the front tang is engraved with a double set of parallel lines, and a small obscure design is engraved in the center panel of the tang. The design of the finial may represent a formalized acanthus leaf.

Measurements: Front finial — maximum width, 13 mm.; maximum thickness, 2 mm. Front tang — maximum width, 15 mm.; maximum thickness, 2 mm.; width at base of bow, 12 mm. Bow — maximum width, 19 mm.; maximum thickness, 3 mm. Rear tang — width at base of bow, 12 mm.; width at break, 11 mm.*; maximum thickness, 2 mm.

Remarks: One iron forestock plate and finial section (Trigger Guard No. 10) resembles one described by Hanson (1955: 16, 77, Pl. XXI, A) from an early Northwest gun sold by the Montreal independents and dated approximately 1770. The iron finials of Trigger Guards No. 11 and 19 resemble finials illustrated by Hamilton (1960c: 138, Fig. 51) from sites dated between 1730 and 1775.

One trigger guard bow section (No. 18) is considerably wider than corresponding sections of other bows from the site. The center element of an engraved floral design on this specimen is enigmatic, but it may represent a flower or a wicker-type basket as seen from below.

If the engraver set forth to represent a flower blossom, he took the long way around and got lost along the way.

A trigger-guard finial section (No. 20) with an acanthus design has some resemblance to a finial illustrated by Hamilton (1960c: 140 and Fig. 52, second item) of the 1730-1775 period. There is also some resemblance to two finials from Fort Michilimackinac illustrated by Maxwell and Binford (1961: 122, Pl. VI) and to those on a pair of complete brass trigger guards from the Angola Farm Site near Shreveport, Louisiana (personal observation of the authors). This may be an earlier form than the plainer finials such as that on Trigger Guard No. 12.

One rear tang finial (No. 25) is virtually identical in form to that of the *fusil de dragon* French military model of 1733-34 (Boudriot, 1963: *Modele* 1733-34). The only major difference is that the military model has a screw hole and the Gilbert specimen has none.

One forestock plate section (No. 26) is decorated with a small engraved figure having a fish-like head and a tail resembling that of a sting ray, or perhaps, a serpent. The small size of the design, 4 mm. by 12 mm., suggests that this is an identifying insignia rather than merely a decoration. If that is true, it is quite likely that the gun from which it came was not a common trade gun.

The trigger-guard sections may be classed into two groups: a group comprising 21 stylistically similar specimens and a smaller group of seven atypical ones. In the former group are portions of at least 11 individual trigger guards, two of iron and nine of cast brass, that are all of the same basic form. These were attached to the wooden stock by means of a hook at one end and a perforated tongue at the other, both molded on the inner surface of the guard. It is believed that this form of trigger guard is characteristic of 18th-century guns.

On English fowling pieces of the early 18th century, one method of securing the trigger guard in a groove on the stock was by passing pins through perforated tongues molded on the inner surface of the guard (George, 1947: 104). On a French trigger guard illustrated in 1751-65 are a perforated tongue and a hook like those on the Gilbert specimens (Held and Jenkins, 1957: 115). A Spanish stock made in the "French style" in 1724 exhibits the style of trigger guard – and butt plate, too – most common at the Gilbert Site (Neal, 1955: 17, Figs. 8, 10, 11). Another trigger guard of similar style dates from 1706 (*ibid.*: 12, Fig. 1). Guards of this style seem to occur more frequently on fusils or fowling pieces from the Continent than on guns of the same period from England (George, 1947: Pl. IV, 3; Pl. V, 2; Pl. VII, 2, 3; Pl. VIII, 1, 2, 3).

The trigger-guard finials from the Gilbert Site do not resemble those on standard English sporting guns from approximately 1720 through 1800 (George, 1947: 107, 111, 112). They also do not resemble those on presumably English fusil trigger guards of about 1742 unearthed at Fort Frederica, Georgia (Shiner, ms.).

The Gilbert Site trigger guards are sligher than those of military muskets of the 18th century. The designs engraved on the bows vary. On three (Nos. 13, 22, and 23) appears an identical design, while on another (No. 6) is a simpler version of the same. This design, in its simplest form, somewhat resembles the Chevrolet automobile trademark. A basically similar design occurs on two brass guard bows from the Angola Farm Site and on two brass guard bows from the Womack Site (Harris et al., 1965: 327). Similar design elements appear in a book of French gunsmith patterns which was initially printed around 1705 and reprinted in 1730 (Hayward, 1963: 297, Pl. 93). Unfortunately for our study, the use of patterns from such books was not confined to France: they were copied throughout Continental Europe. However, it appears that during the 18th century the English did not make significant use of such design books except on fine-grade guns (Harris et al., 1965: 320). The English trade gun at that time was assuming characteristics of its own which do not reflect the French decorative preferences.

What appears to be an earlier version of the typical trigger guard at Gilbert occurs at the Angola Farm Site and at the Womack Site. The Angola Farm Site evidently was occupied from about 1709 to 1729 (Swanton, 1911: 311, 314). The Womack Site has been tentatively identified as a Kichai village of 1719 (Harris et al., 1965: 357-360). The only complete specimens are two from the Angola Farm Site.

Comparisons have been made of the thickness and width of some corresponding sections of trigger guards from the Gilbert, Womack, and Angola Farm Sites. These comparisons were based on the maximum width of the front tang, of the bow, and of the rear tang, together with thickness measured at the same points. These points of maximum width were selected because they can be recognized, when present, on fragmentary specimens. At the Womack and Angola Farm Sites the dimensions are, on the average, wider and thicker than at the Gilbert Site. This factor, together with variations in decoration, offers a possible method of separating trigger guards from French trade guns of about 1720 from those of about 1750. Unfortunately, the samples — particularly those from Womack and Angola Farm — are too small for complete reliability.

Three of the Gilbert guard bows (Nos. 16, 17, and 29) are engraved with an opposed pair of leaf-scroll designs. This design appears also on a Gilbert side plate (No. 5) as well as on a side plate from the Womack Site (Harris et al., 1965: Fig. 13, C) and quite possibly is adapted from the pattern book of De Lacollombe (Hayward, 1963: Pl. 93).

One guard bow (No. 12) has an engraved leaf-scroll design with an incorporated shell-like element. The asymmetrical form of decoration in rococo style first appeared on French firearms in the 1730's (Hayward, 1963: 48). De Marteau added sheets to De Lacollombe's book of designs, and one, dated 1749, includes leaf scrolls combined with shell-like forms much like that the Gilbert specimen (*ibid.*: 94).

There is a definite resemblance in shape between the typical trigger guard from Gilbert and the trigger guards of the French cavalry and dragoon model pistol, fusil, and musketoon of 1733-34. However, the treatment of the finials on the Gilbert specimens is slightly different from that of the French military models; also the French military version used two screws to secure the rear tang instead of a molded hook as at Gilbert (Boudriot, 1963: *Modele* 1733-34).

Thus the evidence strongly suggests that the typical trigger guard from the Gilbert Site portrays the style used on French trade guns about 1750. Finial No. 20 could well be from an earlier period. The trigger guards seem to emerge as the most reliable single indicator of 18th-century French trade guns.

GUNFLINTS

The 114 gunflints can be divided into three categories: spall flints, conventional flints, and native-made flints. Some specimens of European origin had been reworked by the Indians; these were classed on the basis of original form whenever possible.

Spall Gunflints

No. of Specimens: 32

Provenience: Feature 1 (4), Feature 2 (1), Feature 3 (9), Feature 4 (3), Feature 5 (5), Feature 6 (2), Feature 7 (1), Feature 10 (2), Feature 12 (3), Feature 16 (1), Feature 20 (1)

Illustrations: Figure 41, a

The 32 spall gunflints are wedge-shaped. They are thick on the back side and taper to a thin edge along the front. The back, or heel, and the sides have been trimmed with secondary chipping. The front

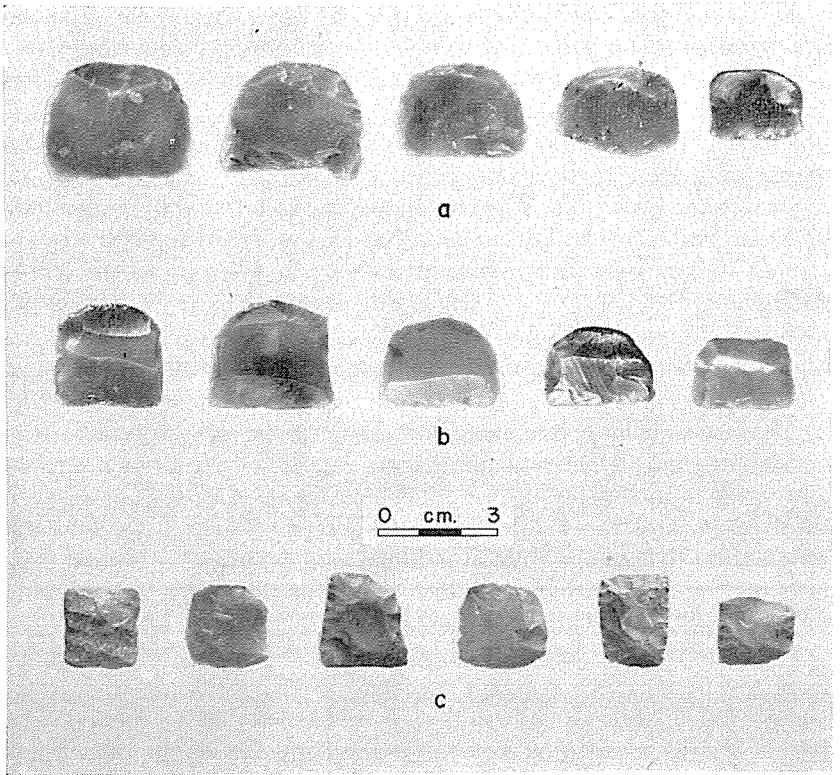


FIGURE 41. Gunflints. *a*, spall type; *b*, conventional type; *c*, native-made flints.

edge also was trimmed straight across when necessary. Except for one black specimen, the spall gunflints are of light-colored chert and flint, ranging from buff to light gray.

Hamilton (1960d: 73-79) has described a kind of spall gunflint that was produced by a blow on a rounded cobble of chert or flint. The spall flints from the Gilbert Site, however, were struck from prepared cores, not directly from cobbles. The major preparation of the cores consisted of producing two planes or surfaces which intersected at an angle of about 60 degrees. One of these prepared surfaces served as the striking platform for removing the desired spall; the other surface became the dorsal surface of the spall. (The terms *dorsal* and *ventral* are used here in the usual archeological sense, the ventral face being the surface of a flake or blade having the positive bulb of percussion, the dorsal face the opposite one.)

Fourteen of the Gilbert spall flints exhibit a striking platform in the heel area, prepared before the spall was struck from the core. Secondary flaking has removed direct evidence of the striking platform from the rest of the specimens. Eleven of the spall flints, including 9 of the 14 described above, clearly show the dorsal surface, the flatness of which together with the absence of a negative bulb of percussion indicate that it was produced before the striking platform was prepared for detachment of the spall flint. Secondary and use flaking has obscured evidence of knapping technique on 21 of the spall flints.

According to Witthoft (cited in Hamilton, 1964: 52), the spall gunflint is the predominant European form found in Indian sites dating between 1650 and 1750.

Measurements: (size range based on complete specimens) length, 19 to 28 mm.; width across striking surface, 22 to 35 mm.; thickness, 6 to 11 mm.

Conventional Gunflints

No. of Specimens: 13

Provenience: Feature 1 (3), Feature 3 (2), Feature 4 (2), Feature 5 (2), Feature 6 (1), Feature 8 (1), Feature 10 (1), Feature 12 (1)

Illustrations: Figure 41, b

Conventional gunflints were produced by sectioning specially prepared blades of flint. Such a section usually exhibits two or three major facets on the dorsal side and one major facet on the ventral side. The dorsal facets are segments of blade scars.

The longest bevel is trimmed in a straight edge where it meets the opposite side. Opposite this straight edge is the back. The back and adjacent sides were blunted by secondary chipping.

Of the 13 conventional gunflints found at Gilbert, all appear to be French and all are made of honey-yellow flint, probably from such sources as Loir-et-Cher or Indre, France.

The conventional gunflints all appear to be of the "French" type. They exhibit the well rounded and closely flaked heel described as characteristic of the type by C. S. Smith (1960: 46). The conventional gunflint was probably introduced to this country about 1680 (Hamilton, 1964: 55) but did not begin to displace the spall gunflint until about 1750 (Witthoft, cited in Hamilton, 1964: 52).

It is important to note that the identification of French gunflints in Indian sites cannot be taken as a reliable indication of French *trade*.

As the French exported quantities of gunflints to other countries — including Holland, Spain, and England — traders from those countries must have sometimes distributed French-made flints to Indians (Hamilton, 1960d: 74-75).

Native-made Gunflints

No. of Specimens: 69

Provenience: Feature 1 (10), Feature 2 (1), Feature 3 (19), Feature 4 (13), Feature 5 (12), Feature 6 (5), Feature 7 (2), Feature 12 (2), Feature 15 (1), Feature 18 (3), Feature 20 (1).

Illustrations: Figure 41, c

The Indian gunflints were produced from flakes by secondary flaking. Specimens of good workmanship are generally square to rectangular, thin, and bi-convex in cross section; all four sides are usually worked to a fine edge. The material used is chert and flint, including two specimens made of Kay County, Oklahoma, flint.

One specimen has a thin sheet of lead wrapped around it, leaving one striking edge and the adjacent sides uncovered. A lead "cap" or "grip" was sometimes used to aid in securing the gunflint firmly in the jaws of the cock. Leather pads, however, were most commonly used for that purpose (Caldwell, 1960: 198).

Indians produced rectangular, bifacially chipped gunflints like those from the Gilbert Site from the 17th century on according to Witthoft (cited in Hamilton, 1960d: 73).

Measurements: (Range based on complete specimens) length, 12 to 30 mm.; width, 22 to 31 mm.; thickness, 4 to 10 mm.

LEAD BULLETS

No. of Specimens: 10

Provenience: Feature 3 (1), Feature 5 (3), Feature 12 (1), Feature 14 (1), Feature 18 (1), Feature 20 (1), Feature 21 (2)

This category of spherical lead bullets includes all specimens over "Large Buck" shot size. Large Buck shot at 5/oz. is the largest size shot listed in an early table (George, 1947: 211). Of the 10 bullets found at Gilbert, only three are unfired and suitable for measuring. All the bullets, however, were weighed to provide a basis for the estimates of their caliber. Of course, the weights of any two balls of the same caliber may vary somewhat because of such factors as differences in lead purity, sprue cutting, and bullet molds. In addition, fired balls can be subject to weight loss because of bore and impact

abrasion. Hamilton's system (1960c: 128-129, 132) was used as the basis for the following estimates of bullet caliber and gauge, and the probable bore they were meant for. The weight scale used is in grains.

TABLE 2.
Specifications of lead bullets.

<i>Feature</i>	<i>Specimen Number</i>	<i>Weight in Grains</i>	<i>Caliber</i>	<i>Probable Gun Bore</i>	<i>Caliper Measurement</i>
3	1	203.1 gr.	.50-.53*	.55 (32 gauge)	
5	2	234.5 gr.	.53-.55*	.58 (28 gauge)	
5	3	252.4 gr.	.55°	.58 (28 gauge)	
5	4	268.5 gr.	.58°	.60 (24 gauge)	
12	5	143.5 gr.	.44-.45°		
14	6	243.0 gr.	.55	.58 (28 gauge)	9/16''**
18	7	131.0 gr.	.44		7/16''**
20	8	228.5 gr.	.53-.55°	.58 (28 gauge)	
20	9	196.0 gr.	.50-.53°	.55 (32 gauge)	
21	10	255.6 gr.	.55	.58 (28 gauge)	9/16''**

* Fired, distorted

** Caliper measurement to nearest 1/32 inch

The .44 caliber bullets from Features 12 and 18 could be for a rifle. However, no rifle barrel sections were found at the Gilbert Site.

LEAD SHOT

No. of Specimens: 23

Provenience: Feature 1 (5), Feature 3 (11), Feature 4 (2), Feature 5 (5)

Of the 23 lead shot recovered, two deserve individual comment. One had been fired in company with a loading of smaller shot which left deep impressions on it. The closeness of the pattern indicates that they were probably still in the bore during impact and suggests a loose loading. The large shot was abraded against the inside of the bore, and the resulting contour suggests a caliber of approximately .69 for the bore.

The other shot singled out for special comment has been flattened on one side and has a hole drilled through it. Evidently it was intended for use as a bead.

All of the shot were weighed in grains and assigned size designations in accordance with the early table of Ezekial Baker given in George (1947: 211). Since the shot were sized by screening, shot of the same "size" may vary somewhat in weight. In many instances the sizes assigned do not correspond to modern tables. It is quite

possible that some of the lead shot were left at the site after the Indian occupation as a result of later hunting. Data on shot size are given in the following table, Table 3.

TABLE 3.
Specifications of lead shot.

<i>Feature</i>	<i>Grains</i>	<i>No. of Shot per Ounce (AVG.)</i>	<i>Shot Size</i>
1	3.5	125	No. 3
1	4.3	102	No. 2
1	7.4	59	B
1	10.3	42	BB
1	60.0	7	Small Buck
3	0.9	486	No. 8
3	2.0	219	No. 5
3	2.2	199	No. 5
3	3.0	146	No. 4
3	3.3	133	No. 3
3	4.3	102	No. 2
3	4.5	97	No. 2
3	4.8	91	No. 1
3	5.5	80	No. 1
3	5.9	74	No. 1
3	48.5	9	Musket Grape
4	4.8	91	No. 1
4	10.2	43	BB
5	1.2	365	No. 8
5	3.7	118	No. 2
5	8.8	50	BB
5	80.7	5	Large Buck
5			Drilled "bead"

ORNAMENTS

by LOYD HARPER, RUBY HARPER, R. K. HARRIS, INUS M.
HARRIS, EDWARD B. JELKS, and J. NED WOODALL

Classified as ornaments are these: hawk bells, tinklers, pendants, sheet-brass cylinders, finger rings, buttons, bracelets, lead beads, and glass beads.

HAWK BELLS

No. of Specimens: 1 complete, 12 fragmentary

Provenience: Feature 1 (5), Feature 2 (1), Feature 3 (3), Feature 5 (3), Feature 6 (1)

Illustrations: Figure 42

These were made by joining together two cupped hemispheres of sheet brass so as to form a hollow, approximately spherical "jingle" bell. At least three different methods are known by which the two hemispheres were joined together. One method was simply to solder the two halves together with their edges flush. A second method was to turn the edges of both halves outward and then solder them together under pressure so that a narrow flange was produced which encircled the equatorial circumference of the bell. The third method was to lap the edges of one half over the edges of the other half and to crimp and/or solder them in place. A pellet of iron or other substance was usually enclosed within the bell to make it tinkle.

The smallest bell (Fig. 42, a), and the only complete specimen, is of the flanged-edge form with an iron pellet inside; the largest bell (Fig. 42, g), represented by the reverse half only, is to all appearances of the lapped-edge form. The other 11 specimens (Fig. 42, b-f) are all of flush-edge construction.

Seven of the Gilbert hawk bells include all or part of the obverse face. On all seven there are two round holes cut through the sheet brass and a slit connecting the two holes. The slit was made by slicing through the wall of the bell, without a strip of metal being removed in the process. The seven specimens that include the reverse portions of the bells all have an eye fastened at the back by which the bell was attached to clothing or accouterment. The eyes are made of narrow strips of brass bent into loops, with the two ends of the strip inserted through a small hole and bradded on the inside of the bell in the same way that the ends of a cotter pin are bradded down. A drop of solder holds the bradded ends securely in place.

The 11 flush-edged specimens are all in the same general size range

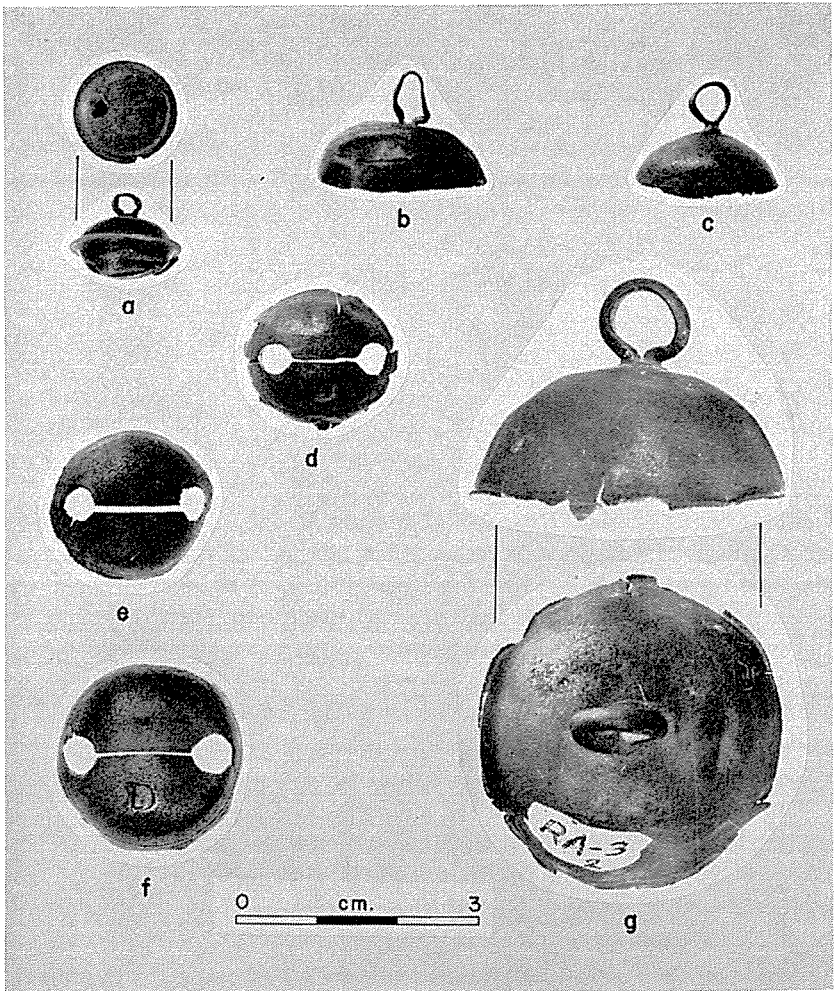


FIGURE 42. Hawk bells. *a*, flanged-edge form; *b-f*, flush-edge form; *g*, probably lapped-edge form.

(see dimensions below) and all have two or three parallel lines impressed into the surface, just back from the edge, on both the obverse and reverse faces. One of them, in addition, has the letter *D* stamped into the obverse face, evidently a maker's mark.

The largest specimen consists of a reverse body half which is 38 mm. in diameter and has a maximum thickness of 15 mm.; the attachment eye is made of a heavy strip of brass about 3 mm. wide by 1.5 mm. thick formed into a loop that is 11 mm. in diameter. The sheet

brass from which this bell was made is appreciably thicker than that of the smaller bells.

The body of the smallest specimen (the only complete one) is 12 mm. in diameter and 7 mm. thick. The attachment eye, approximately 3 mm. in diameter, is made of a brass strip about 1 mm. wide and perhaps 0.5 mm. thick. The flange where the two halves are joined is about 1 mm. wide. The two round holes on the obverse face are 2 mm. in diameter and 6 mm. apart.

There appear to be several slightly different sizes represented by the 11 fragmentary flush-edge hawk bells. Diameters range from 16 to 21 mm.; attachment eyes are relatively uniform at 4 to 5 mm. in diameter, with the strips from which they are formed all being between 1 and 2 mm. wide by about .5 mm. thick. The obverse holes are 3 to 4 mm. in diameter and they are set from 7 to 11 mm. apart.

Remarks: Hawk bells are known from many sites in the southern plains, but few have been described in sufficient detail for close comparisons. Twenty-five lapped-edge and two flanged-edge hawk bells made of sheet brass were recovered from the White Site, a historic burial in Yoakum County, Texas (Suhm, 1962b: 87-89). The flanged-edge specimens are too fragmentary for full description, but they have attachment eyes like those from the Gilbert Site: that is, they were made of narrow strips cut from sheet brass. The lapped-edge bells, however, have wire eyes and differ further from the Gilbert specimens in being almost perfectly spherical and in having two crossed slots in the obverse face rather than a single slot with round holes at each end. The slots, instead of being just sliced through, were made by removing narrow strips from the bell wall.

Newcomb (1955: 188) reports bells from the Yellowhouse Canyon burial in Lubbock County, Texas, but he does not describe or illustrate them. The editor of this report examined one of the Yellowhouse Canyon bells and found it to be identical with the lapped-edge bells from the White Site. The Yellowhouse Canyon burial certainly dates after 1858 as it contained an 1858 model pistol (Newcomb, 1955: 187), and the White Site probably dates between 1860 and 1875 (Suhm, 1962b: 116).

The Watson Site, a historic burial in Fisher County, Texas, has been estimated to date between 1820 and 1840 (Ray and Jelks, 1964: 139). It contained 39 flanged-edge and 6 flush-edge hawk bells, both forms similar structurally to those from the Gilbert Site. A flanged-edge bell that is apparently identical to those from the Watson Site has been reported from Kipp's Post, South Dakota, a trading station of the 1820's (Woolworth and Wood, 1960: 282 and Pl. 60, n).

Hawk bells comparable to those from the Gilbert Site have been found at two pre-19th century sites: the Spanish Mission of San Lorenzo de la Santa Cruz in Real County, Texas, and the Fanning Site in Doniphan County, Kansas. The San Lorenzo Mission, which was excavated in the fall of 1962 by Curtis D. Tunnell of the Texas Memorial Museum, is well documented and can be dated precisely between 1760 and 1769 (Castañeda, 1939: 158-199). One hawk bell (not yet described in print but examined by the editor) was found there, a flush-edge specimen with a strip eye, paired grooves along the equatorial seam, and hole-and-slit treatment of the obverse face. It is essentially identical to the flush-edge specimens from the Gilbert Site, the only difference being that along the paired grooves are tiny, closely spaced tick marks.

The Fanning Site in Kansas is estimated by Wedel (1959: 170-171) to date prior to 1724 and perhaps earlier than 1700. Two hawk bells found there appear to be of the flush-edge form, with strip eyes, paired grooves along the equatorial seam, and hole-and-slit piercing of the obverse face (*ibid.*: 166 and Pl. 13, g). Since one of them is 1.6 cm. in diameter and the other is slightly larger, they are evidently identical in all respects, including size, to the flush-edge bells from the Gilbert Site.

On the basis of the foregoing meager data, the following inferences may be made as to stylistic changes in hawk bells traded into the southern plains during the 18th and 19th centuries:

1. Hawk bells of the 18th and early 19th centuries were of oblate spheroid shape. Most were made with a hole-and-slit design cut through the obverse face, and the attachment eye was made from a narrow strip of sheet metal. The two halves of the body were joined by either a flanged-edge or a flush-edge seam.

2. The most common kind of hawk bell during the latter half of the 19th century was approximately spherical and had an attachment eye made of wire; there were two simple, crossed slots *cut out* of the obverse face; the body halves were joined by a lapped-edge seam.

Needless to say, these inferences cannot be proved or disproved until more data have been compiled. It is believed, nevertheless, that they are probably indicative of general trends in hawk bell styles, and it is hoped that from this feeble beginning a useful, accurate typology for hawk bells will develop. In any case, this suggested chronology, even though tentative and quite general, is all we have to go on at present, and it leads us to estimate that the Gilbert Site hawk bells, when considered strictly on the basis of typology, date somewhere between 1700 and 1850.

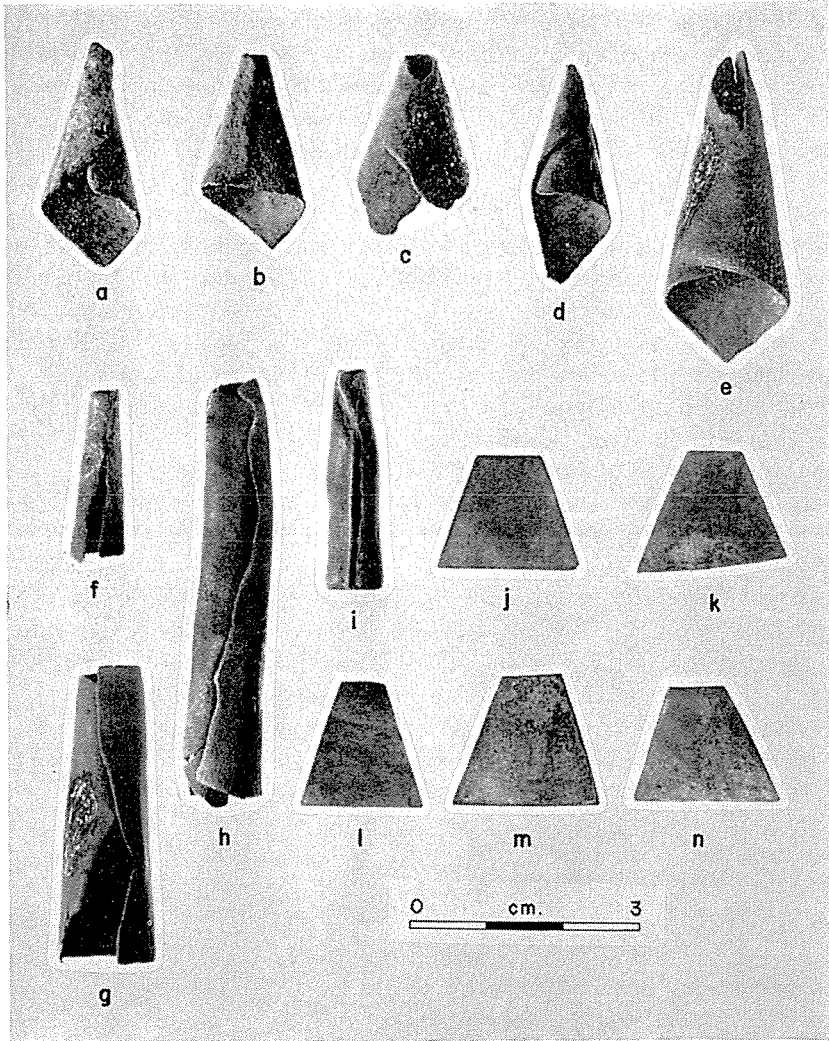


FIGURE 43. Tinklers. *a-e*, pointed-base form; *f-i*, straight-base form; *j-n*, blanks.

TINKLERS

No. of Specimens: 46 completed tinklers and 12 flat blanks that were never rolled into shape.

Provenience: Feature 1 (18), Feature 2 (3), Feature 3 (11), Feature 4 (4), Feature 5 (4), Feature 6 (4), Feature 7 (2). All 12 blanks are from Feature 5.

Illustrations: Figure 43

Tinklers were made by rolling into cones pieces of sheet brass which had been cut to the desired shape and size. There are two basic forms: (1) a cone with a point projecting downward from one side of the base (Fig. 43, a-e), and (2) a cone with a base which is in a single plane, or approximately so (Fig. 43, f-i). On all specimens a small opening was left at the top of the cone through which a string or thong could be passed for attachment. Most of the blanks from which the tinklers were made were approximately rectangular or of isosceles trapezoid shape. Interestingly, there is no apparent correlation between blank shape and cone shape: that is, both forms of blanks were used for both the plane-base and the pointed-base forms of cones.

Some of the cones are slender, others are "fat". Most are between 20 and 40 mm. long, but the largest one measures 66 mm. in length and the shortest one 16 mm. The sheet brass of which the tinklers were made is of variable thickness, the thinnest being approximately 0.2 mm. thick, the thickest about 0.5 mm. thick, and most falling into the intermediate range between those two figures.

The blanks, the presence of sheet-metal trimming scraps, and the general appearance of the tinklers themselves indicate that these ornaments were made by the Indians, not traded to them in finished form. The source of the sheet metal is unknown, but probably discarded kettles and other containers acquired from the French and Spanish provided a major portion. Several bail ears from sheet brass kettles were recovered from the site (Fig. 46).

Tinklers similar to these are common to historic Indian sites throughout most or all of the plains, including sites of the Norteño Focus. They were attached to garments or other articles by passing a thong or cord through the opening at the small end of the cone and knotting the end so that the cone would not slip off. Thus an Indian clad in tinkler-trimmed garments would have, like the lady from Banbury Cross, music wherever he went.

PENDANTS

No. of Specimens: 3

Provenience: Features 4, 5, and 10

Illustrations: Figure 44, a, b, g

One pendant (Fig. 44, a) is a small piece of sheet silver cut into the shape of an isosceles triangle with a suspension hole at the apex and four notches spaced along the base. The edges of the triangle are slightly convex and the corners are rounded. One face has a

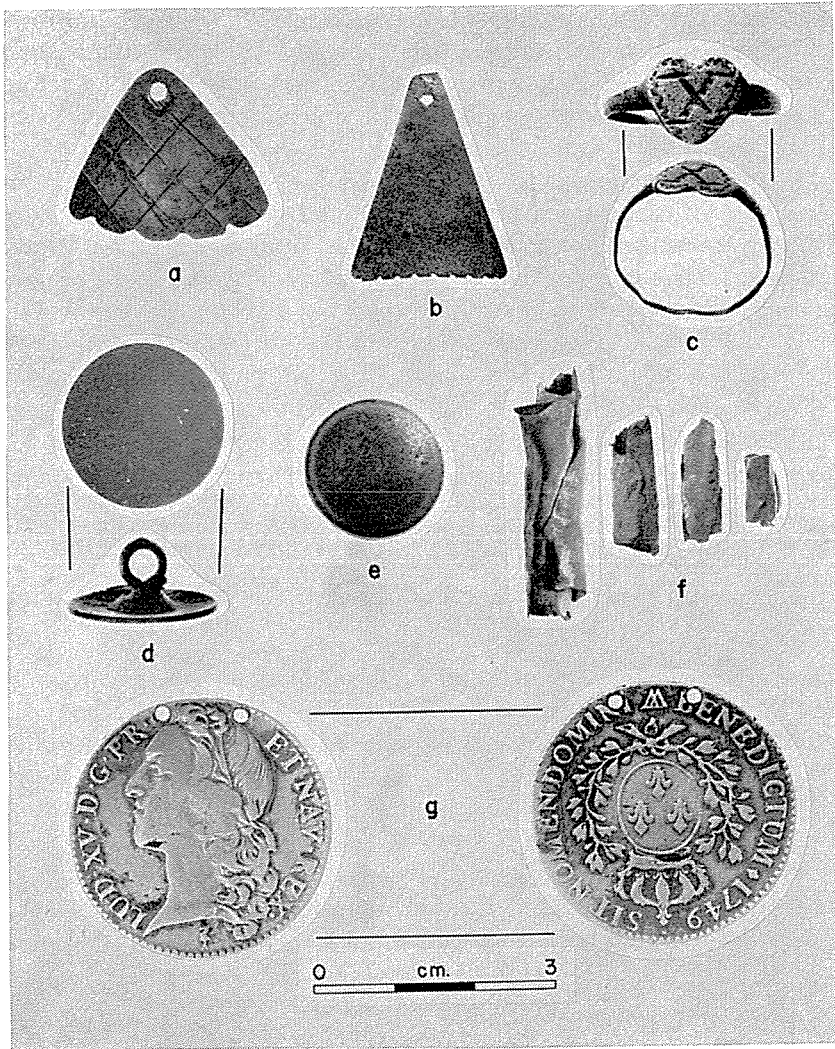


FIGURE 44. Ornaments. *a-b, g*, pendants; *c*, finger ring; *d-e*, buttons; *f*, sheet brass cylinders.

simple crosshatched design that appears to have been made by placing the edge of a knife on the pendant and tapping it in with a hammer. Since some of the lines were cut across the suspension hole after its edges had been smoothed down, it is certain that the crosshatching did not just happen to be on the piece of metal from which the pendant was made but was intentionally put on the pendant

itself as a decoration. Across one corner, however, are two faint rows of tiny triangular punctations that probably are a small surviving remnant of some decoration that was on the piece of metal before it was fashioned into the pendant. The notches appear to have been made with a file.

A second pendant (Fig. 44, b), made of sheet brass, is also an isosceles triangle perforated at the apex and notched along the base. The apex has been squared off and the basal corners are slightly rounded. The nine notches on the base are approximately equally spaced, but they are much smaller than those on the silver pendant; also, they seem to have been made with a sharp knife rather than by filing. There is no decoration other than the basal notches.

The former specimen is 21 mm. high by 24 mm. wide at the base. The latter is 25 mm. high, 19 mm. wide at the base, and about 0.5 mm. thick, somewhat thinner than the other.

Similar triangular pendants have been observed by the editor in collections from other Norteño Focus sites, but none of them has been described in print.

The third pendant (Fig. 44, g) is made from a coin identified as a French *ecu* (Reinfeld, 1955: 67). The obverse side of the coin is decorated with the left profile of the head of Louis XV, and encircling the head appear the letters *LUD • XV • D • FR ET • NAV • REX*. On the reverse side the letters *BENEDICTUM • 1749 SIT NOMEN DOMINI W* encircle a design consisting of a crown above an oval containing three *fleur de lis*. Around the oval and extending to the crown is a wreath of leaves.

Two holes were made in the coin above the profile of Louis XV.

Measurements: diameter, 32 mm.; thickness, 2 mm. The holes are 2 mm. in diameter and 8 mm. apart.

SHEET-BRASS CYLINDERS

No. of Specimens: 5

Provenience: Feature 1 (1), Feature 4 (1), Feature 5 (1), Feature 6 (1), provenience unknown (1)

Illustrations: Figure 44, f

These are small cylinders made by rolling up pieces of sheet brass. They range in length from 8 to 30 mm., and all are near 5 mm. in maximum diameter. Like the cone-shaped tinklers, these were probably made by the Indians from discarded sheet-brass vessels. They could have been used as beads, or possibly they were used on cloth-

ing or other articles for clamping the ends of fringe strands to prevent fraying.

FINGER RINGS

No. of Specimens: 2

Provenience: Both from Feature 3

Illustrations: Figure 44, c

One of the finger rings (not illustrated) is a flat metal strip bent into a circle with a 3 mm. gap left between the ends. This plain, undecorated ring has an iron core that has been plated with brass.

The second ring (Fig. 44, c), cast in brass, has a heart-shaped area on top which is bordered with a dashed line and has the Roman numeral X in the center. Both the border and the X are stamped into the surface of the metal rather than being molded or etched. The sides of the ring, as they extend from the heart-shaped area, are progressively narrower and thinner, the point opposite the heart being quite slender and fragile.

The iron-cored specimen averages about 20 mm. in diameter, and the strip from which it is formed is between 3 and 4 mm. wide by approximately 1 mm. thick. The other ring averages about 19 mm. in diameter, and the sides vary from a maximum of 3 mm. to a minimum of 1 mm. wide and from less than 0.5 mm. to slightly more than 1 mm. thick. The heart design is 19 mm. tall by 20 mm. maximum breadth and is approximately 1.0 mm. thick.

The ring with the heart design can be readily identified as a style which was formerly worn by Jesuits, although members of that order are not allowed to wear rings of any kind today. The design is intended to portray a bleeding heart, the dashed lines representing drops of blood. Similar Jesuit rings, many with slashed or bleeding heart designs and one with the Roman numeral XX, have been reported by Maxwell and Binford (1961: 105 and Pl. IX, e-r) from the site of Fort Michilimackinac in Michigan, a historically documented site dating from about 1715 to 1781, occupied first by French and later by English troops.

The Jesuit ring from the Gilbert Site is surely of French origin; therefore, it probably reached the Indians of the upper Trinity River region via the French trading post of Natchitoches, Louisiana. Since the first Jesuit priest regularly assigned to Natchitoches arrived there in 1730 (Nardini, 1961: 43), and as the French Jesuit priests were generally replaced throughout Louisiana by Spanish Franciscans after the Treaty of Paris in 1763, those two dates (that is, 1730 and 1763)

may be considered to bracket, generally, the most likely period of time during which a Jesuit ring might have reached the vicinity of the Gilbert Site.

This specimen was analyzed spectographically by R. E. Forrester who reported the following metals to be present, in order of quantity: copper, tin, zinc and lead (equal proportions), and silver.

BUTTONS

No. of Specimens: 2

Provenience: Features 2 and 4

Illustrations: Figure 44, d-e

A plain brass button (Fig. 44, d), from Feature 2, is an example of the spun-back variety pictured by Olsen (1963: Fig. 1, D). The body is 17 mm. in diameter and about 1 mm. thick; the eye is 4 mm. across. According to Olsen (*ibid.*: 552), spun-back buttons were in use by both civilians and the military throughout the 1760-1785 period.

The other button (Fig. 44, e) is represented by a plain obverse part of a two-piece form. It is made of sheet brass in the shape of a flattened hemisphere, and its edges are bent inward where they were at one time crimped around the backing piece, which presumably was made of wood, bone, or metal. The diameter is 16 mm., the maximum thickness 5 mm. The sheet metal, by estimate, is less than 0.5 mm. thick. According to Olsen (1963: 552 and Fig. 1, F, I) the first two-piece, all metal buttons were made about 1812, and the earliest ones shaped like the specimen in question here appeared about 1830. Two-piece bone- or wood-backed buttons, however, are said by Olsen (*ibid.*: 552) to have been in use as early as 1700. We are unable to tell from the Gilbert specimen what kind of back it had.

BRACELETS

No. of Specimens: 1

Provenience: Feature 5

Illustrations: Figure 46, a

This bracelet was made from a length of brass wire 5 mm. in diameter (between 4 and 5 gauge on the American scale) by bending it into an incomplete oval, leaving a gap 30 mm. wide between the two ends of the wire. There is no decoration.

Measurements: long axis, 79 mm.; maximum width, about 55 mm.

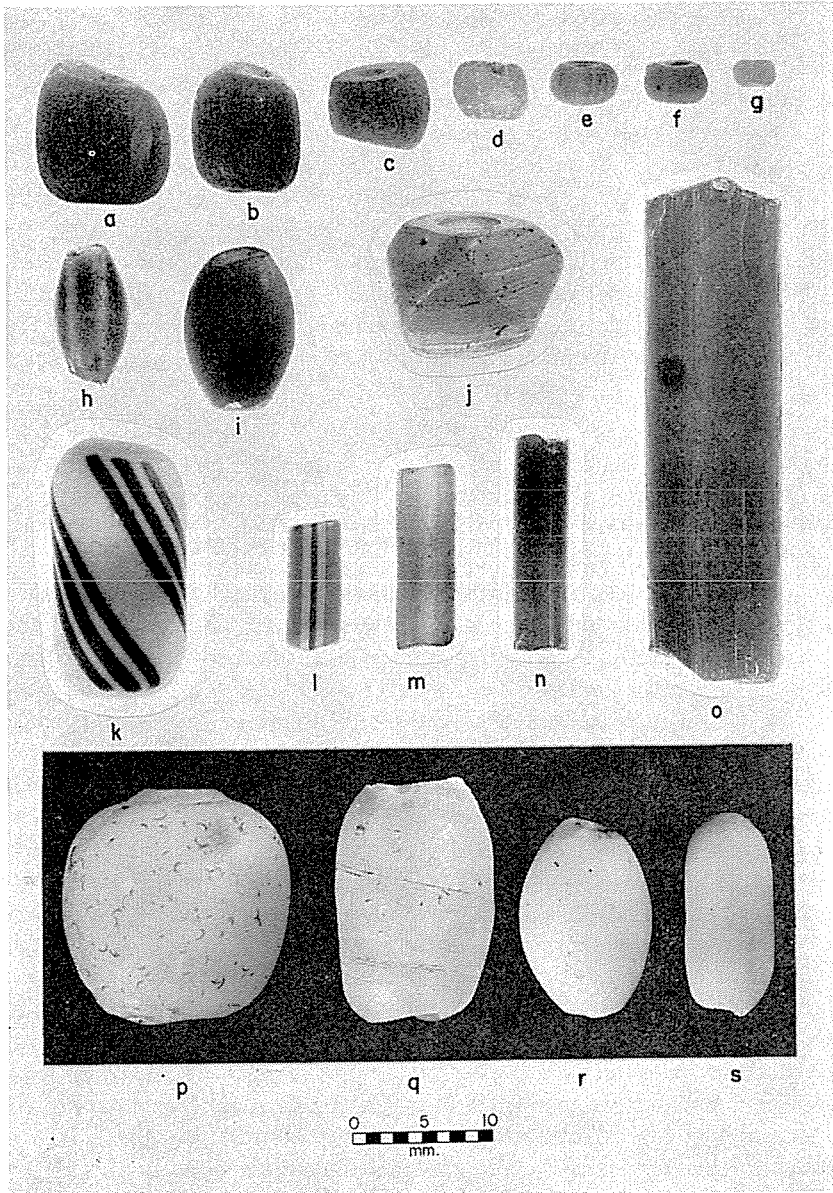


FIGURE 45. Glass beads. This sample is selected to show the range of shapes and sizes. *a-c*, necklace beads; *d-g*, garter beads. *a-c*, Type 10; *d-f*, Type 11; *g*, Type 46; *b*, Type 14; *i*, Type 13; *j*, Type 40; *k*, Type 26; *l*, Type 68; *m*, Type 62; *n*, Type 57; *o*, Type 59; *p*, Type 53; *q*, Type 54; *r*, Type 1; *s*, Type 2.

LEAD BEADS

No. of Specimens: 1

Provenience: Feature 5

This imperfectly spherical lead ball is perforated through the approximate center. It is battered and flattened on one end.

The perforation is round, diminishing in diameter from 2.2 mm. at one end to 1 mm. at the other, thus producing a hole with the shape of a truncated cone. The hole may have been made by hammering a sharp implement into the ball, thus producing the flattened end of the bead, or the hole may have been produced by drilling.

Measurements: diameter parallel to perforation, 10.2 mm.; diameter perpendicular to perforation, 10.6 mm.

GLASS BEADS

No. of Specimens: 3,453

Provenience: see Table 4

Illustrations: Figure 45

Glass beads constituted an important item of trade on the southern plains in the 18th century. A large sample was collected from the Gilbert Site, mainly by washing midden soil from the features through fine-mesh screen.

The beads were classified according to a system originally worked out by Duffield and Jelks (1961: 40-51) and later modified by Harris, Harris, Blaine, and Blaine (1965: 307-315). Under this system beads are classified on the basis of size, color, shape, use, and structure.

Beads are graded by size as follows (all measurements are outside diameter): *small* (0 to 4 mm.), *medium* (4 to 6 mm.), and *large* (more than 6 mm.). A color chart (Bustanoby, 1947: 28-29) was used to designate the color of the beads. The various shapes are described with the same terms used by Harris, Harris, Blaine, and Blaine (1965: 307-315) in their report on the Womack Site. Use is indicated by the terms *necklace* and *garter*. Documentary evidence (Du Pratz, quoted in Swanton, 1911: 56) states that larger beads were used mainly for necklaces, while medium and small ones were used mostly for making colorful designs on skins, garters, and the like.

As to structure, beads were classified as *simple* (one homogeneous piece of glass), *compound* (formed of two or more different-colored concentric layers of glass), and *complex* (decorated with stripes, dots, or other designs). Techniques of manufacture are: *hollow-cane*, *faceted*, and *mandrel-* or *wire-wound*. At the Gilbert Site, bead types 40, 41, 53, and 54 are *mandrel-wound*; types 40 and 41 have facets

that were pressed while the glass was molten; all the others were made by the *hollow-cane* method. The terms *tumbled*, *untumbled*, and *twisted* have the following meanings: *tumbled*—after breaking the hollow canes to the desired length, the broken sections were placed in a heated drum which was rotated, a process that rounded the broken edges; *untumbled*—the beads were not tumbled but were used with their edges sharp; *twisted*—the hollow canes were twisted as they were drawn out.

Descriptions of the bead types from Gilbert follow. The type numbers refer to specific types in a general system of bead classification that has been worked out by R. K. Harris and is soon to be published in its entirety.

TYPE 1: (1 specimen) Large, white, opaque, olive-shaped necklace bead of simple construction. The glass is porcelain-like in texture. Tumbled.

TYPE 2: (1 specimen) Large, white, opaque, elongate olive-shaped necklace bead of simple construction. The glass is porcelain-like in texture. Tumbled.

TYPE 3: (1 specimen) Large, white, opaque, round necklace bead of simple construction. The glass is porcelain-like in texture. Tumbled.

TYPE 4: (38 specimens) Large, white, opaque, barrel-shaped necklace bead of compound construction. The inner layer of glass has a porcelain-like texture, while the outer layer has a slightly frosted appearance. Tumbled.

TYPE 5: (79 specimens) Medium, white, opaque, barrel-shaped garter bead of compound construction. The inner layer of glass has a porcelain-like texture, while the outer layer has a slightly frosted appearance. Tumbled.

TYPE 6: (4 specimens) Medium, white, opaque, olive-shaped garter bead of simple construction. The glass is porcelain-like in texture. Tumbled.

TYPE 7: (2 specimens) Large, grayish-white, semitranslucent, olive-shaped necklace bead of simple construction. The glass has a frosted appearance. Tumbled.

TYPE 8: (12 specimens) Large, light grayish-white, semitranslucent, donut-shaped necklace bead of simple construction. The glass has a frosted appearance similar to No. 7. Tumbled.

TYPE 9: (3 specimens) Large, Peacock Blue, opaque, elongate olive-shaped necklace bead of simple construction. The glass has fine lines running lengthwise with the bead, giving it a texture reminiscent of stripped sugarcane. Tumbled.

TYPE 10: (56 specimens) Large, Peacock Blue, opaque, barrel-

shaped necklace bead of simple construction. The glass is the same as No. 9. Tumbled.

TYPE 11: (44 specimens) Medium, Peacock Blue, opaque, barrel-shaped garter bead of simple construction. The glass is the same as No. 9. Tumbled.

TYPE 12: (2 specimens) Large, Turquoise Blue, opaque, olive-shaped necklace bead of simple construction. The glass is porcelain-like in texture. Tumbled.

TYPE 13: (2 specimens) Large, dark Bluebird Blue, translucent, olive-shaped necklace bead of simple construction. Tumbled.

TYPE 14: (2 specimens) Medium, dark Bluebird Blue, translucent, olive-shaped garter bead of simple construction. Tumbled.

TYPE 15: (5 specimens) Medium, Gobelin Blue, opaque, barrel-shaped garter bead of simple construction. The glass is porcelain-like in texture. Tumbled.

TYPE 26: (1 specimen) Large, white, opaque, olive-shaped necklace bead of complex construction. The bead surface is covered with three sets of three blue stripes which are twisted in an S-shape around the bead. The white glass of the bead is porcelain-like in texture. Twisted. Tumbled.

TYPE 40: (1 specimen) Large, Bluebird Blue, translucent, eight-faceted necklace bead of mandrel-wound, pressed facet, simple construction. The surface of the glass sometimes appears to be frosted, probably due to age.

TYPE 41: (1 specimen) Large, milk-glass, eight-faceted necklace bead of mandrel-wound, pressed facet, simple construction. The surface of this bead sometimes appears frosted, probably due to age.

TYPE 44: (1,013 specimens) Small, white, opaque, donut-shaped garter bead of simple construction. The glass has a porcelain-like texture. Tumbled.

TYPE 45: (196 specimens) Small, white, opaque, donut-shaped garter bead of compound construction. The two layers of glass in this bead are the same as those in bead Type 4. Tumbled.

TYPE 46: (511 specimens) Small, Peacock Blue, opaque, donut-shaped garter bead of simple construction. The glass of this bead has the sugarcane-like texture of bead Types 9, 10, and 11. Tumbled.

TYPE 47: (23 specimens) Small, Gobelin Blue, opaque, donut-shaped garter bead of simple construction. The glass has a porcelain-like texture, and is the same glass as No. 15. Tumbled.

TYPE 48: (255 specimens) Small, dark Bluebird Blue, translucent, donut-shaped garter bead of simple construction. The glass in this bead is the same as Nos. 13 and 14. Tumbled.

TYPE 49: (69 specimens) Small, clear, donut-shaped garter bead of simple construction. The glass of this bead is the same as that of Nos. 16, 35, 36, 41, 42 and 43, in which specimens the surface is frosted, apparently due to age. Tumbled.

TYPE 50: (391 specimens) Small, black, opaque, donut-shaped garter bead of simple construction. The glass of this bead is porcelain-like in texture. Tumbled.

TYPE 51: (202 specimens) Small, red, opaque (outer layer), donut-shaped garter bead of compound construction. The outer layer of opaque glass is brick red, and the inner layer is a translucent light green. This bead is generally referred to as "Cornaline d'Aleppo." Tumbled.

TYPE 53: (1 specimen) Large, milk-glass, translucent, round necklace bead of mandrel- or wire-wound, simple construction.

TYPE 54: (1 specimen) Large, milk-glass, translucent, olive-shaped necklace bead of wire-wound simple construction.

TYPE 56: (10 specimens) Small, but long (bugle type, 9 mm. long and 4 mm. in diameter), Brittany Blue, opaque, tube-shaped, probably a necklace bead, of simple construction. The glass of this bead is porcelain-like in texture. Tumbled.

TYPE 57: (178 specimens) Small, red, opaque (outer layer), tube-shaped necklace bead of compound construction. The outer layer of opaque glass is brick red and the inner layer is a translucent light green. Tumbled.

TYPE 59: (1 specimen) Large, red, opaque (outer layer), tube-shaped necklace bead of compound construction. The outer layer of opaque glass is brick red and the inner layer is a translucent light green. Tumbled.

TYPE 60: (6 specimens) Small, Gobelin Blue, opaque, tube-shaped necklace bead of simple construction. The glass has a porcelain-like texture and is the same glass as No. 15 and No. 47. Tumbled.

TYPE 61: (89 specimens) Small, dark Bluebird Blue, translucent, tube-shaped necklace bead of simple construction. Tumbled.

TYPE 62: (1 specimen) Small, Fern Green, opaque, tube-shaped necklace bead of simple construction. Tumbled.

TYPE 66: (2 specimens) Small, black, opaque, tube-shaped necklace bead of simple construction. The glass of this bead is porcelain-like in texture. Untumbled.

TYPE 67: (3 specimens) Small, red, opaque (outer layer), tube-shaped necklace bead of complex construction. The surface of the bead is covered with three evenly spaced sets of stripes, each of

TABLE 4.
TABLE 4 (Continued)
Provenience of glass beads.
FEATURE

<i>Bead Type</i>	1	2	3	4	5	6	7	8	10	11	12	15	16	<i>Sur- face</i>	<i>Total</i>
67		2				1									3
68						1									1
69					1										1
76	4	1	7		1	2	1								16
77	6		6		5	1	2								20
78	3	2		1	1		1								8
79	10	1	12		3	2	1			1					30
80	9	1				1									11
81	7	3	4	1											15
82	2	1	2			1									6
83	27	3	18	1	6		1								56
84	2	1			3										6
85					1										1
86	2	1					1								4
87	1				1	1				1					4
164	6	18	14	3	11	3	3	2	1			6			67
TOTAL	1229	354	1038	110	395	203	61	10	10	1	33	3	1	5	3453

covered with nine alternating red and white stripes which run parallel to the long axis of the bead. Tumbled.

TYPE 76: (16 specimens) Large, black, opaque, donut-shaped necklace bead of simple construction. The glass is porcelain-like in texture. Tumbled.

TYPE 77: (20 specimens) Large, dark Bluebird Blue, translucent, donut-shaped necklace bead of simple construction. The glass of this bead is the same as Type No. 13. Tumbled.

TYPE 78: (8 specimens) Medium, pearly-white, opaque, donut-shaped necklace or garter bead of simple construction. Tumbled.

TYPE 79: (30 specimens) Small, Sky Blue, opaque, donut-shaped garter bead of simple construction. Tumbled.

TYPE 80: (11 specimens) Small, Peacock Blue, translucent, donut-to barrel-shaped garter bead of simple construction. Tumbled.

TYPE 81: (15 specimens) Small, Colonial Yellow to Brass colored, opaque, donut-shaped garter bead of simple construction. The bead has a sugar cane-like texture. Tumbled.

TYPE 82: (6 specimens) Small, Colonial Yellow to Brass colored, translucent, donut-shaped garter bead of simple construction. Tumbled.

TYPE 83: (56 specimens) Small, Emerald Green, translucent, donut-shaped garter bead of simple construction. Tumbled.

TYPE 84: (6 specimens) Small, Emerald Green, opaque, donut-

shaped garter bead of simple construction. The glass of this bead sometimes has a cane-like texture. Tumbled.

TYPE 85: (1 specimen) Large, Emerald Green, translucent, barrel-shaped necklace bead of simple construction. Tumbled.

TYPE 86: (4 specimens) Large, brick red, opaque, donut-shaped necklace bead of compound construction. The outer layer of glass is brick red, and the inner layer is translucent light green. This bead is generally referred to as "Cornaline d'Aleppo." Tumbled.

TYPE 87: (4 specimens) Small, brick red over red, opaque, donut-shaped garter bead of compound construction. Tumbled.

TYPE 164: (67 specimens) Medium, Bluebird Blue, translucent, barrel-shaped garter bead of simple construction. Tumbled.

Remarks: The 51 bead types found at the Gilbert Site exhibit a style range thought to be characteristic of 18th-century trade beads in the southern plains. More specifically, it may be estimated on a basis of bead styles that the major occupation of the Gilbert Site was between 1740 and 1770.

MISCELLANEOUS EUROPEAN GOODS

by R. K. HARRIS and CURTIS D. TUNNELL

In addition to the tools, guns, and ornaments described above, several other objects of European provenance were found at the Gilbert Site. Grouped under the heading *Miscellaneous European Goods*, these include a bail and several bail ears from brass kettles, some horse trappings, metal scraps, and fragments of glass.

KETTLE BAIL EARS

No. of Specimens: 7

Provenience: Feature 1 (3), Feature 3 (2), Feature 7 (2)

Illustrations: Figure 46, b-g

The heaviest bail ear (Fig. 46, g) is of cast brass. The lower end consists of three lobes, each lobe pierced by a copper rivet. On the interior a remnant of the sheet-brass body of the kettle is still attached by the rivets. Above the three-lobed lower portion is a rectangular extension with rounded corners which is perforated to receive one end of the bail. Between the bail perforation and the three-lobed lower part the body of the ear bulges outward so as to create a broad channel on the inside. Presumably the rim of the kettle fitted into this channel. Maximum length of this specimen is 79 mm.; maximum width of the lower portion is 80 mm.; maximum width of the upper, rectangular part is 45 mm. The thickness is variable, ranging from 2 mm. to slightly more than 3 mm. The attached sheet-brass remnant of the kettle body is approximately 0.2 mm. thick.

Two other large bail ears (Fig. 46, b, f) resemble one another. Each is composed of five or six thicknesses of thin sheet brass (about 0.2 mm. thick) folded together into a rectangle. They are respectively 58 and 79 mm. high by 58 and 65 mm. wide. Each was fastened to its kettle by two large copper rivets (these are still in place in both specimens), and each has an oval perforation at the top for insertion of the bail end. The two lower corners of both ears are trimmed across, but their upper corners are bent over and hammered down in "dog-ear" fashion. A similar bail ear from a 19th century site, 14 PO 24, in Kansas has been described and illustrated by Wedel (1959: 195, Pl. 19b), but it was attached with iron, rather than copper, rivets.

A fragment consists of a dog-eared corner and part of the perforation for the bail. Made of four layers of sheet brass, it appears to have come from a bail ear that was almost identical to the two specimens described immediately above.

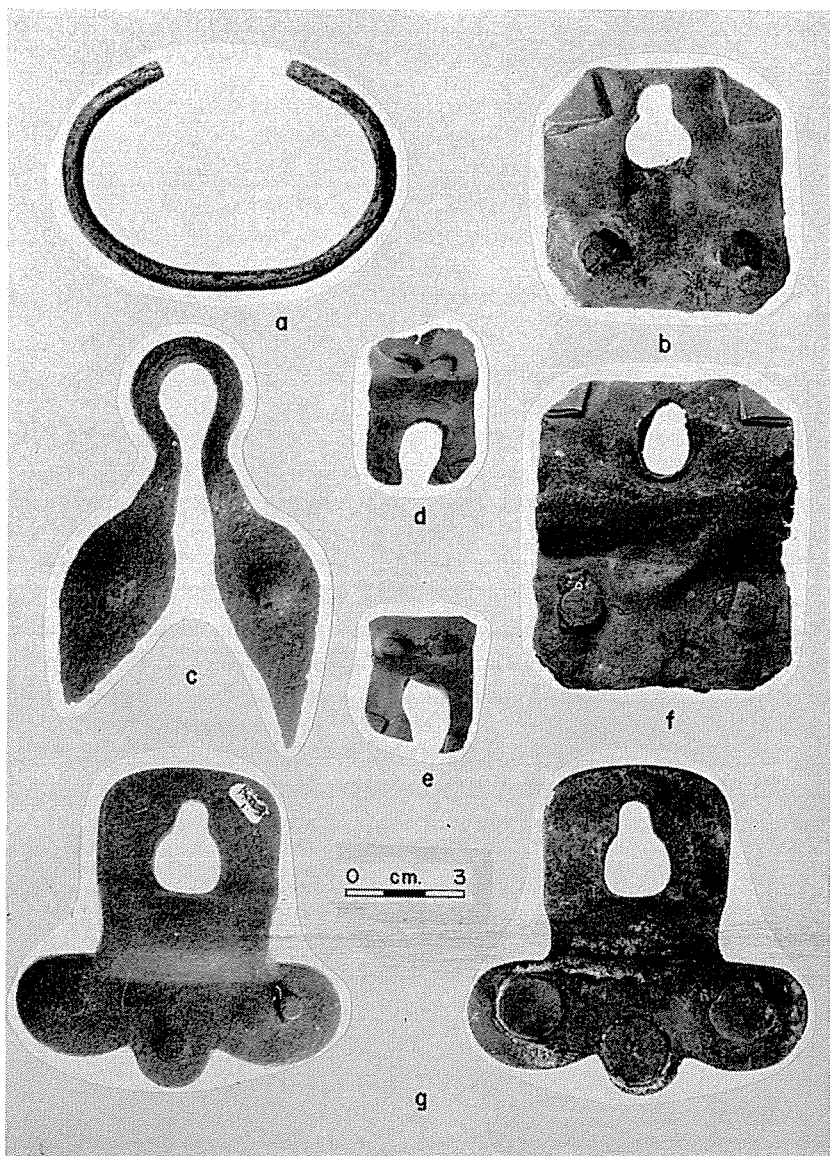


FIGURE 46. Metal artifacts. *a*, bracelet; *b-g*, kettle bail ears.

Two small bail ears (Fig. 46, *d-e*), both from Feature 7, probably are from the same vessel. They are made from a single thickness of sheet brass and are rectangular in shape with the lower corners trimmed off and the upper ones dog-eared. At the lower end of each

specimen are two small copper rivets for attachment to the vessel wall, but in place of the usual perforation for insertion of the bail end, there is a deep notch. From appearances these ears were mounted in an upside down manner (in comparison with the others) as the notches would not engage the ends of the bail if mounted in the orthodox way. However, their exact position is not known. These specimens are from 26 to 28 mm. wide; if straightened out (both are bent) they would be slightly more than 40 mm. long.

The remaining bail ear (Fig. 46, c) was made by bending a small iron rod into a loop and then hammering the two ends flat. The rod is approximately square in cross section and is from 6 mm. to 8 mm. wide. The flattened ends are spatulate in shape with pointed tips; both ends are between 1 and 2 mm. thick with maximum width of about 25 mm. Between the loop and the flattened ends the rod sections bulge toward the outside, evidently to fit snugly around the rim of the vessel. The bail ear of cast brass described above is bent in similar fashion.

KETTLE BAILS

No. of Specimens: 1

Provenience: Feature 3

This is a length of heavy iron wire about 5 mm. in diameter (approximately 4 gauge) that originally had a small loop bent into each end. One of the loops is now missing.

Total length, from the bottom of the loops, was 44.0 cm., from which it can be calculated that the diameter of the kettle (or pail?) to which the bail was attached was probably between 30 and 35 cm.

HORSE TRAPPINGS

No. of Specimens: 9 bridle fragments, 1 concho

Provenience: Feature 3 (2), Feature 4 (2), Feature 5 (4), Feature 11 (concho and 1 bridle fragment)

Illustrations: Figure 47

Included in the bridle trappings are two large chin-piece fragments, four pieces of cheek plate, one *higo*, or decorative jingler, and one unidentifiable fragment from either a headstall or cheek plate.

The two chin-piece fragments (Fig. 47, a, d), which originally connected the cheek plates and were suspended below the horse's mouth, are rather elaborately formed. They are pierced with holes, apparently for the attachment of the small decorative *higos* (Di Peso,

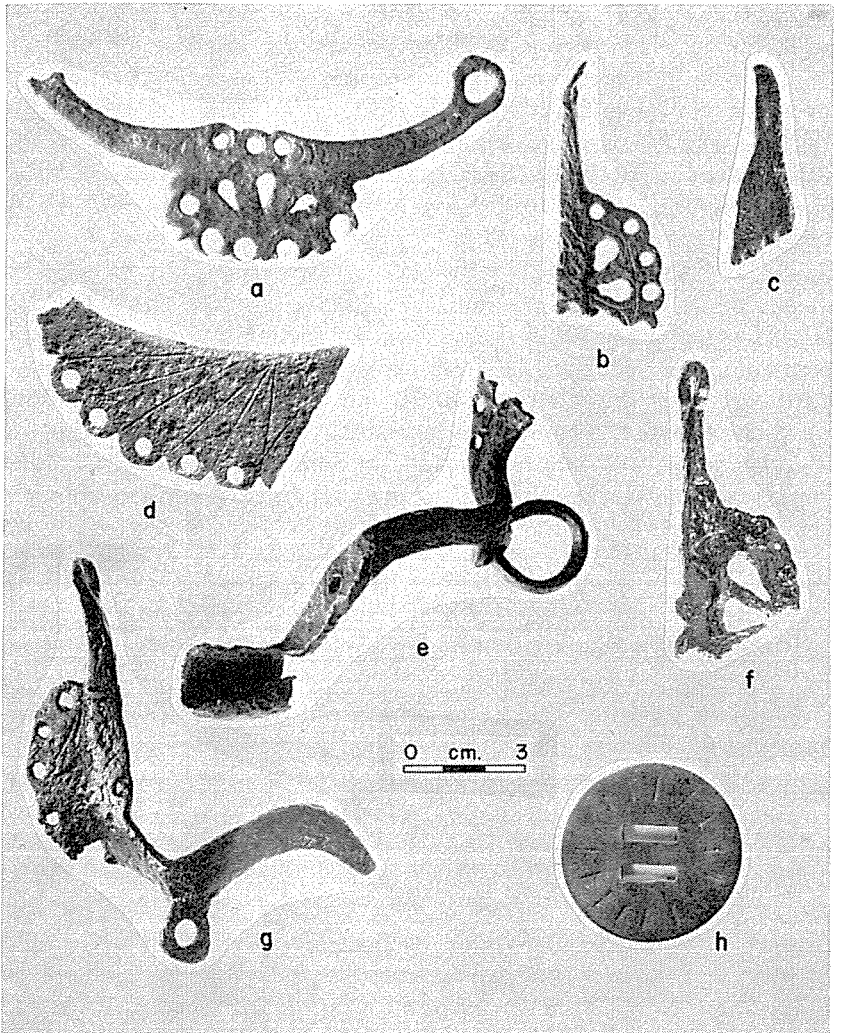


FIGURE 47. Horse trappings. *a, d*, bridle headstalls; *b, f, g*, bridle cheek plates; *c*, *bigo*; *e*, bridle cannon; *b*, concho. The *bigo* (*c*) is double scale.

1953: 194). On one (Fig. 47, *d*) a series of straight engraved lines radiate downward from the upper border of the plate and bracket each perforation along the bottom. The decorated side of this plate undoubtedly faced outward when the bridle was in place. The other chin-piece fragment (Fig. 47, *a*) is a crescent-shaped, flattened bar of iron with a center flange projecting downward. The flange is

pierced with several holes arranged in a decorative pattern. This specimen measures 100 mm. between the center of the holes for the cheek-plate connection, at least 32 mm. wide at the center, and approximately 80 mm. in width near the cheek plate hole. Another crescent-shaped fragment, 33 mm. wide, is pierced with holes spaced at 9 mm. intervals. This plate has been cut and its exact length cannot be determined, but judging from the curvature the size must have been close to that of the specimen described above.

Four fragments of cheek plates (Fig. 47, b, e, f, g) were found, two with the cannon still attached. Cheek plates are those portions of the Spanish bridle which were alongside the lower jaw of the bridled horse. The cheek plates, like the chin pieces, are provided with means of attaching the *higos*. On three of the fragments these consist of holes punched in a flange extending downward from a transverse bar, the latter connecting to the chin piece at one end and to the cannon at the other.

Only one cheek plate (Fig. 47, g) is intact enough for measurement, and it is distorted. It is 68 mm. from the center of the hole for admitting the chin piece to the cannon, which normally meets the cheek plate at a right angle. The width is 29 mm. at the flange, and 6 mm. near the chin piece. The flange is perforated with four holes, each approximately 4 mm. in diameter, spaced at about 7 mm. intervals along the crescent-shaped border of the extension.

The single *higo* (Fig. 47, c) found at Gilbert is a stylized representation of the *fica* or clasped human hand, a symbol employed to ward off the evil eye (Di Peso, 1953: 210-211). This amulet was extremely popular among colonial Spaniards and later among Mexicans for ornamental purposes. The specimen measures 23 mm. long and 7 mm. wide at the "fist." Apparently it was attached by bending the upper part to form a loop which passed through the holes of the bridle plates.

One piece of bridle trapping cannot be positively identified. It is probably a fragment of either a chin piece or a cheek plate. There are three holes, 4 mm. in diameter, which are spaced along a lunate border at 8 mm. intervals. This is characteristic of both plates as described above.

A round brass concho (Fig. 47, h), probably off a saddle, was evidently attached by passing a strap through two broad slits in its center. A series of short, widely spaced lines provides additional decoration. This concho is 44 mm. in diameter.

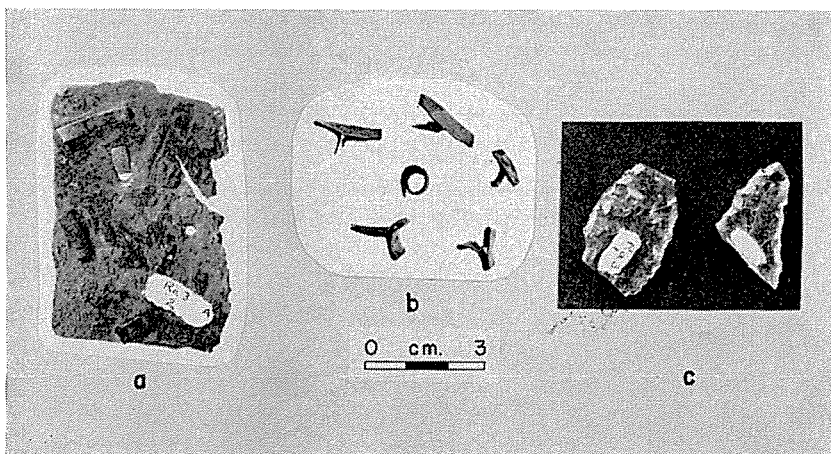


FIGURE 48. Sheet brass patch (a), rivets (b), and chipped glass (c).

METAL SCRAPS

Scraps of metal were found at all the features. It is apparent that the inhabitants of the Gilbert Site placed a high value on metal and that any piece they obtained was likely to be used and reused until it became too small for further alteration. Over 300 scraps of copper, approximately 100 fragments of iron, several pieces of lead, and two fragments of sheet silver were found, most of it at Features 1, 3, and 5.

Almost all of the brass scraps appear to have come from kettles made of thin sheet brass. Many are evidently trimmings cut with scissors, presumably residue from making arrow points and other artifacts from kettle brass. A number of sheet-brass fragments were found with rivets or rivet holes in them (Fig. 48, a-b). The rivets were made of thin strips of sheet brass. Evidently kettles with holes in them were repaired by rivetting sheet-brass patches over the holes, using homemade rivets.

Among the iron scraps are pieces of flattened gun barrels, kettle bail fragments, and what is perhaps a medial section of a sword blade. The two scraps of thin sheet silver both bear engraved scroll designs reminiscent of the decoration on snuff boxes. The lead scraps are nondescript.

GLASS FRAGMENTS

Flat Glass

No. of Specimens: 44

Provenience: Feature 1 (16), Feature 2 (3), Feature 3 (5), Fea-

ture 4 (4), Feature 5 (8), Feature 6 (1), Feature 7 (1), Feature 10 (2), Feature 12 (1), Feature 18 (2), Feature 20 (1)

Sherds of flat clear glass are probably pieces of mirrors traded to the Indians by the French. On two fragments, what appears to be silvering covered over with shellac adheres to one side of the glass. One small sherd has the two numbers, 1 and 3, scratched into the surface of one side. The flat glass sherds vary in thickness.

Bottle Glass

No. of Specimens: 24 green, 1 brown

Provenience: Feature 1 (6), Feature 2 (1), Feature 3 (9), Feature 4 (1), Feature 5 (3), Feature 17 (5)

Since most of the bottle sherds are small, bottle shapes cannot be determined. The necks seem to have tapered toward the top, and the bodies were straight for a distance of at least 65 mm. from the base. Body diameter was about 100 mm. The bases were indented. The bottles were almost certainly hand blown since the use of molds was not common until after A.D. 1800. One neck sherd has stress marks, a condition which results from reheating and stretching the glass when a rim is hand finished.

Chipped Glass Fragments

No. of Specimens: 10

Provenience: Feature 1 (8), Feature 3 (1), Feature 7 (1)

Illustrations: Figure 48, c

Seven pieces of clear flat glass have been bifacially retouched into points or knives. One sherd of clear, flat glass and two green bottle fragments have unifacial flaking along one edge which may be intentional retouch or wear from use as scrapers.

Indian Artifacts

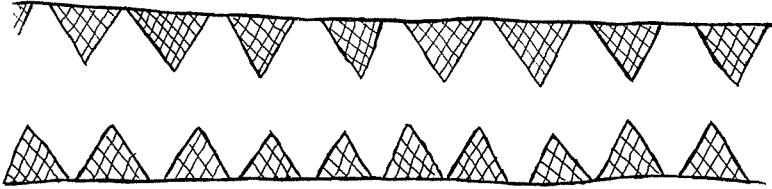
Artifacts made by the Indians from metal and glass are described in the preceding section. Except for gunflints, which are described with the gun parts, all the artifacts made by Indians from native materials are treated in this section. The major categories are: pottery vessels, pipes, stone tools, and bone and shell artifacts.

POTTERY VESSELS

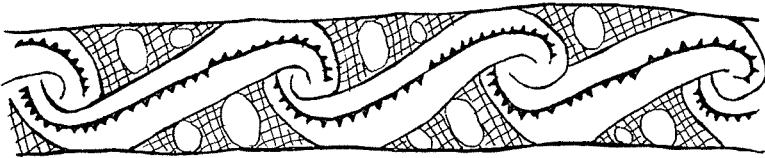
by *Dee Ann Story*, BYRON BARBER, ESTALEE BARBER, EVELYN COBB, HERSHEL COBB, ROBERT COLEMAN, KATHLEEN GILMORE, R. K. HARRIS, and NORMA HOFFRICHTER

The Gilbert Site has yielded 2,221 fragments of native-made earthenware, most of which compare favorably with the ceramics described for components of the Norteño Focus (Duffield and Jelks, 1961: 36-40; Harris et al., 1965: 299-303). Indeed, the size of the collection and the reasonably good associational data accompanying it (see description of the features) provide an excellent opportunity for a close study of pottery from a Norteño Focus site. Since the Gilbert pottery does represent such a valuable corpus of information, considerable time has been invested in the restoration of vessels because of the conviction that vessels are more meaningful units of analysis than sherds. Of the 2,221 sherds, 810 have been assigned to 47 vessels (Table 6). These vessels, however, represent varying degrees of completeness, and the term has been applied to essentially whole specimens (such as Fig. 63, a) as well as to interesting rim sherds (such as Fig. 50, d). The remaining 1,411 sherds, mainly undecorated fragments, surely represent many more vessels, but it has been impossible to accomplish their restoration or even to assign individual sherds to particular vessels.

Both the vessels and the sherds have been divided into two broad categories, decorated and undecorated. Within these (admittedly at times artificial) groupings, finer sortings have been made on the basis of differences in the mode and style of decoration, in surface finish, in paste characteristics, and, whenever possible, in vessel shape. Decorative techniques represented in the collection are (in descending order of frequency) engraving, incising, brushing, punctating, combing, pinching, and appliquéing. Surface finish varies from well polished to poorly smoothed; slipping is quite rare. Paste and temper show a great deal of variation and have entered prominently into the analysis. The two most common tempering agents are



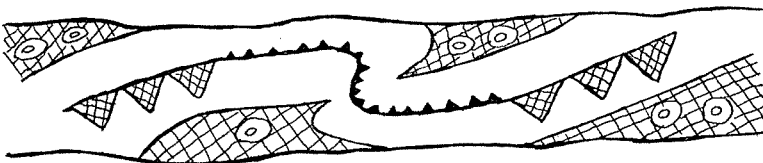
a



b



c



d

FIGURE 49. *Womack Engraved* designs A, B, C, and D.

shell and bone. These have been distinguished from one another largely on the basis of their differing morphological characteristics as revealed by microscopic examination. In addition, tests were sometimes made with a dilute solution of muriatic acid. While such tests should be viewed with caution, it is significant that clearly recognizable examples of shell temper from the site did consistently react to the acid, while obvious examples of bone did not. Grog, the third most common temper occurring in the collection, "includes any fired clay-product that is crushed and utilized as an aplastic in the potter's clay" (Porter, 1964: 521). In most cases this appears to be crushed sherds. Fine sand particles appear in the paste of a good many sherds, often without the presence of any other aplastic. Since it is not clear whether or not the sand was intentionally added, these specimens are simply said to have a sandy paste. Vessel shapes, particularly as revealed in the restorations, have provided yet another useful attribute for analysis. Included are at least two distinctive bowl forms and a wide variety of jars.

Most of the descriptive groups resulting from an analysis of the above-mentioned attributes are difficult to identify with established types. The major exception is the engraved pottery, a large percentage of which can be related to types *Womack Engraved*, *Simms Engraved*, and *Natchitoches Engraved*. In addition, two tentative new types, *Womack Plain* and *Emory Punctated*, along with a more inclusive category, *Womack Ware*, are introduced.

In the descriptions of these various groups there has been some lumping, but an effort has been made to organize the collection in such a manner that individual attributes can be studied. The distributional data are detailed in Tables 5 and 6 and generalized in Tables 7 and 8.

DECORATED CERAMICS

Engraved

WOMACK ENGRAVED (Figures 50, 51, and 52, a-h)

Six vessels and 80 sherds are identifiable as *Womack Engraved*. Conforming closely to the original definition of the type (Duffield and Jelks, 1961: 36-39), these comprise exclusively small to medium-sized bowls with rounded shoulders and incurved rims. The one basal fragment is disk-shaped and concave. Decoration in all instances is confined to the upper portion of the vessel and consists of engraved designs delimited by two (very rarely one) horizontal lines. The upper line consistently appears just below the lip and the lower

one just below the shoulder. Four major design variations (Fig. 49) have been previously recognized (*ibid.*: 37; Harris et al., 1965: 304). Design A, the most common at Gilbert, consists of opposing, cross-hatched triangles; Design B is a negative meandering scroll motif with a ticked line running through the center of the scroll; Design C, typically crude in execution, features sets of parallel, curved lines; and Design D, similar in many ways to Design B, is a negative scroll with crosshatched triangles as well as ticks suspended from the medial line. It is difficult to be certain, but in many cases the decoration appears to have been applied before firing, presumably after the vessel had been hardened by sun-drying. In their initial definition of *Womack Engraved*, Duffield and Jelks included infrequent incising as characteristic of the type. Here these, along with one specimen deviating in vessel form, have been placed in a separate category, termed "*Womack Engraved variants*". The typical *Womack Engraved* of the Gilbert Site, represented by six vessels and eight sherd groups, is described below.

Vessel 1 (Fig. 50, a). Fifteen sherds (1 from Feature 1 and 14 from Feature 4) have been fitted together to restore almost half of this vessel, the most nearly complete *Womack Engraved* bowl recovered from the site. Two additional sherds, both from Feature 4, cannot be affixed but are confidently attributed to this specimen. When complete, Vessel 1 had an inside oral diameter of approximately 24 cm., an outside maximum diameter (at the shoulders) of about 26 cm., and a height of between 13 and 15 cm. Thickness ranged from 0.5 cm. at the lip to 1.0 cm. at the base. The lip was flat to slightly rounded and flush with the rim.

Identifiable as Design D, the engraved decoration on Vessel 1 begins about 1.0 cm. below the lip and continues downward some 5.0 cm. to just beyond the evenly rounded shoulder. Flanking each scroll are crosshatched areas each of which contains three blank, double-lined (*i.e.*, concentric) circles. Each scroll is partitioned by a line running longitudinally through the middle. Suspended from the bottom margin of this line are six (in one instance, seven) crosshatched triangles (apexes pointing downward) which alternate with a series of upward-pointing tick marks. Judging from the surviving portions of the vessel, the scroll motif was repeated six times. Possibly the number three, and multiples thereof, had particular importance to the potter who manufactured Vessel 1.

Fire clouds appear on both the exterior and interior surfaces. The former varies in color from reddish buff to very dark brown with the darker hue prevailing. By contrast, the interior surface is a rich red-

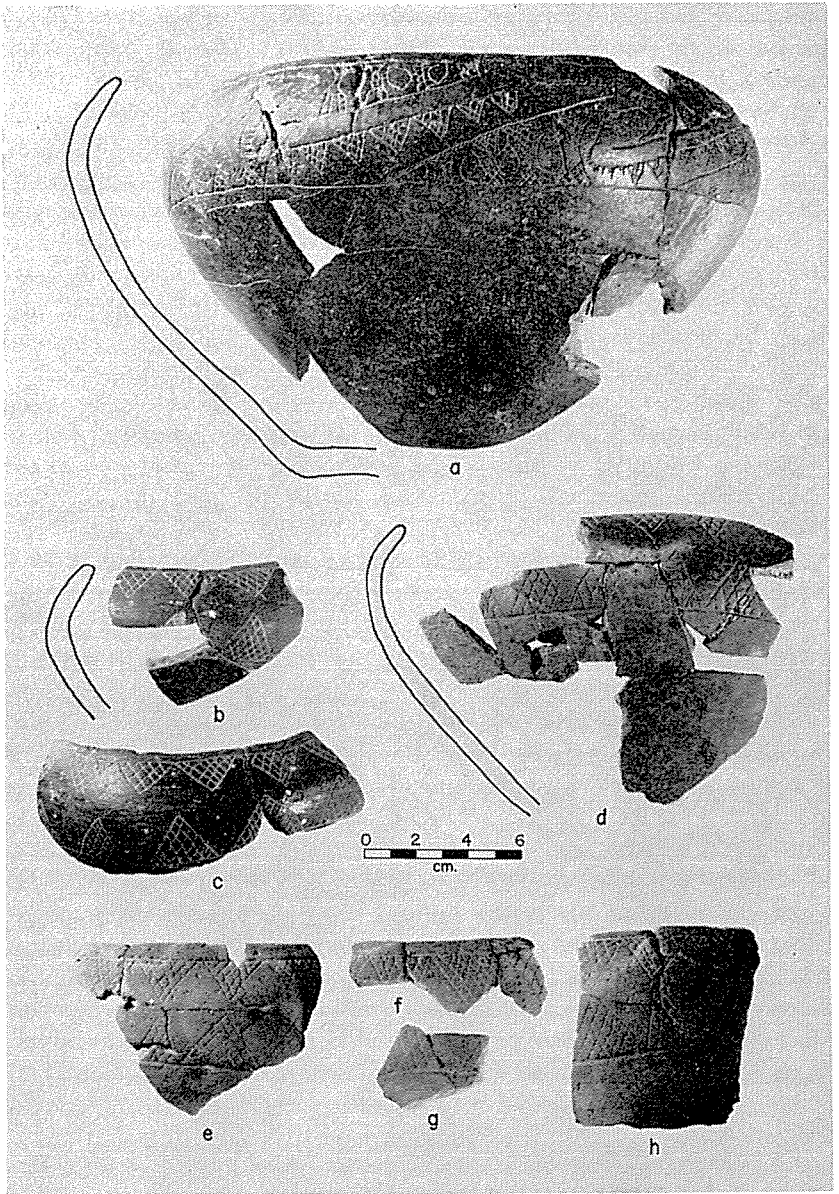


FIGURE 50. *Womack Engraved*. *a*, Vessel 1; *b*, *c*, Vessel 2; *d*, Vessel 3; *e-h*, Vessel 4. Exterior to left on profiles.

dish buff color showing an occasional dark fire cloud. The core is gray, turning a burnt orange toward the edges. Neither surface is

particularly well finished, and marks left by tools used to scrape and smooth the vessel are common. Weathering out of shell particles has further marred the vessel's finish.

In addition to pulverized shell, the hard and compact paste contains an occasional piece of hematite and grog. Shell appears in sufficient abundance to suggest that it is an intentional additive.

Vessel 2 (Fig. 50 b-c). Heavily tempered with pulverized mussel shell, this bowl is represented by 10 sherds, all from Feature 1. Roughly half of the rim has been restored, and there are five loose body sherds but no basal fragments. Vessel 2 was rather small, perhaps about 10 cm. in height and 12 cm. wide at the mouth. Its wall thickness ranged from 0.5 to 0.8 cm.

The Design A decoration of Vessel 2 consists of opposing, cross-hatched triangles bounded by two horizontal lines which encircle the upper portion of the vessel. Apexes of the upper set of triangles point downward and those of the lower set point upward. By and large, the opposing triangles are offset, although on occasion the apexes match. On this particular vessel, and on a complete Design A vessel from the Womack Site (Duffield and Jelks, 1961: 35, Fig. 9, c) there is a tendency for every fourth lower triangle to align with an upper one. In addition, the lower set of triangles on both vessels is slightly larger than the upper set. The significance of these features is uncertain, though the difference in size of the triangles could be related to the sequence of decoration. That is, it suggests that the lower row may have been applied before the upper one.

Both the exterior and interior surfaces of Vessel 2 are dark grayish black. The core is dark gray-black occasionally changing to orangeish toward the exterior. The outside surface is fairly well smoothed, but scraping scars are still apparent on the interior surface. Paste texture is smooth and compact with fine sand, bits of mica, and moderate amounts of shell being present. Depressions left by leaching of the shell temper are visible in the paste and on the surface.

Vessel 3 (Fig. 50, d). Consisting of 17 sherds from Feature 1, this partially restored bowl now includes portions of the rim, shoulder, and upper body. Two of the sherds, both from the shoulder area, could not be attached but can be assigned with assurance to Vessel 3 on the basis of paste, design, and surface finish. Accurate size measurements of the original bowl cannot be given although it is apparent that Vessel 3 had approximately the same dimensions as Vessel 1. The existing wall fragments vary in thickness from 0.5 to 0.8 cm. The lip is essentially flat and flush with the rim.

The engraved decoration, of Design A style, begins 0.6 cm. below

the lip and continues downward for a distance of 5.0 cm. below the lip. There is no discernible pattern in the matching of the triangles, and the upper and lower rows are about the same size. The color of both surfaces is predominately dark grayish brown with some fire-mottled areas appearing on the exterior. The paste is basically gray and contains dark to light gray particles (evidently grog) as well as a few reddish (probably hematite or siltstone) fragments. Some shell appears to have leached out, perhaps coming from sherds used as temper. On the whole, the paste of this vessel is coarse and moderately compact. The exterior surface is eroded in places but appears to have once been fairly well smoothed; the interior was less well finished and has a sandy texture.

Vessel 4 (Fig. 50, e-h). This bowl, when complete, was perhaps only slightly smaller than Vessels 1 and 3. It now consists of 17 sherds, all from Feature 12. One of the sherds has not been attached; the remainder have been restored to form three rim fragments and a section of the shoulder. Wall thickness varies between 0.6 and 0.8 cm.; the lip is flat to slightly rounded and flush with the rim. In one of the rim sections (Fig. 50, e) is a small, round hole and, opposite this, traces of a second hole. Both were drilled from the exterior surface and probably were for crack lacing.

The Design A decoration on Vessel 4 begins 0.8 to 1.1 cm. below the lip and continues downward 4.0 to 5.5 cm. It is rather crudely done and, unlike the other examples of this design, the apexes of the opposing triangles are matched. Dark brownish gray is the predominating surface color with fire clouds being most prominent on the exterior. The center of the core is generally gray, bleeding out on the edges to a buffish gray. Fine-grained sand and shell (most of the latter having leached out) are major constituents of the paste. Both the outside and the inside surfaces have been smoothed, and both have a sandy texture.

Vessel 5 (Fig. 51, a-b). Three small body sherds and two larger rim/shoulder fragments from this *Womack Engraved* bowl were found in Feature 3. This was evidently a rather small vessel, probably less than 10 cm. high. Wall thickness varies from 0.5 cm. at the lip to 0.7 cm. at the shoulder. The lip is flat and flush with the rim.

Undoubtedly a variation of Design A, the decoration consists of a single row of small triangles whose apexes point toward the lip. Both the bases and the tips of the triangles touch the lines which encircle the vessel. The surface colors range from dark gray to black and the core is a uniform dark gray. Finely pulverized shell has been added as a tempering agent, and the paste on the whole is smooth, compact,

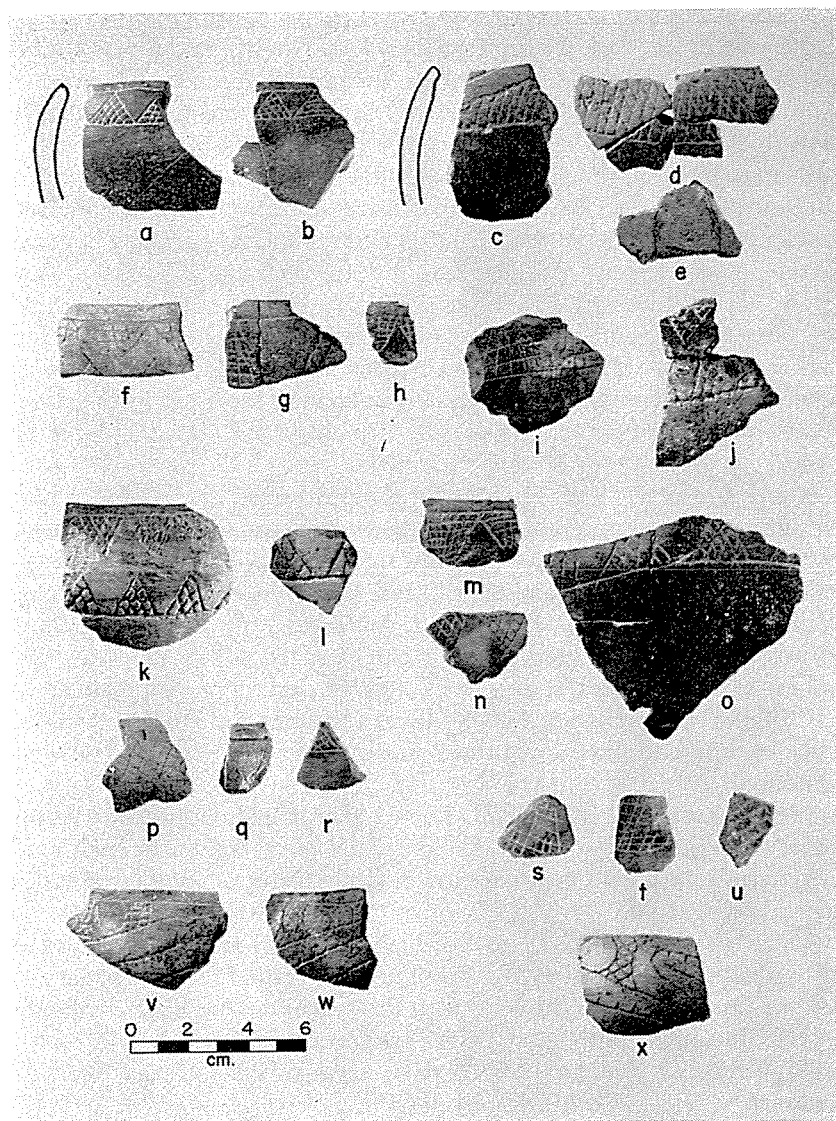


FIGURE 51. *Womack Engraved*. *a, b*, Vessel 5; *c-e*, Vessel 6; *f-j*, Sherd Group 1; *k, l*, Sherd Group 2; *m-o*, Sherd Group 3; *p-r*, Sherd Group 4; *s-u*, Sherd Group 5; *v, w*, Sherd Group 6; *x*, Sherd Group 7. Exterior to left on profiles.

and somewhat sandy. The exterior surface is well finished, the interior surface much less so.

Vessel 6 (Fig. 51, c-e). Twelve sherds from Feature 3 appear to be fragments of one vessel despite the fact that only limited restoration was achieved. Their identification as *Womack Engraved*, however, is somewhat tentative as the original lip is missing and a new one has been formed by grinding. Most of the sherds attributed to Vessel 6 are from the rim/shoulder area and they display the characteristic *Womack* shape. The flat, reformed rim has interrupted the decoration, making it difficult to identify the original design. Crosshatching appears as the major element, and the layout suggests Design B or D. Certainly, it is not Design A. Surface colors are buff to gray-brown while the core is gray-buff with many darkened areas. The origin of the darkened areas—which sometimes appear as distinct particles and at other times as discolored splotches—is unknown. Included in the paste are fine grains of sand, bits of soft hematite, and, rarely, pieces of bone.

Sherd Group 1 (Fig. 51, f-j). Finely pulverized shell temper and Design A are the attributes common to this group of 22 *Womack Engraved* sherds. They are typically small rim and/or shoulder fragments which cannot be assigned to individual vessels without fear of duplication. In addition to the shell, some have tiny hematite pellets or possible pieces of grog in the paste. Surface colors are gray-buff to black, while the cores tend to be light to dark gray. Approximately half of the specimens have a slightly sandy surface texture and paste. The interior and exterior surface finish varies from poorly to well smoothed.

Sherd Group 2 (Fig. 51, k-l). The 12 sherds included in this group differ from the above only in that they lack shell temper. In each case the paste has a fine to medium-coarse, sandy texture. No other aplastic can be recognized.

Sherd Group 3 (Fig. 51, m-o). Each of the 18 fragments included in this category has traces of a Design A decoration and grog temper. Six are rim pieces with the lip intact; the remainder are shoulder/body sherds. Included in the paste of a few specimens are tiny white particles, probably shell or bone derived from crushed sherds used as temper.

Sherd Group 4 (Fig. 51, p-r). Like the Group 1 sherds, these four rim pieces are shell tempered. However, the engraved decoration on each consists of a single row of triangles, apexes pointed upward toward the lip—a modification of Design A much like that described for *Womack Engraved* Vessel 5. Two of the Group 5 sherds (Fig. 51, p, r) lack the upper horizontal line, while a third (Fig. 51, q) lacks cross-hatching within the engraved triangles. All four are small sherds but

appear to be from vessels less than 10 cm. high. Perhaps the condensing of the design is related to the vessel size. If so, it would indicate that the proportional area of decoration was of greater importance to the potter than uniform representation of the motif.

Sherd Group 5 (Fig. 51, s-u). Quite nondescript, these six sherds cannot to clearly assigned to any of the four *Womack Engraved* designs even though each has some crosshatching. In addition, the temper is uncertain. Three have paste characteristics quite similar to those described for Vessel 6 but cannot definitely be assigned to that vessel. The other three have a fine, sandy paste. All are from the shoulder area and display the distinctive curve of *Womack* bowls.

Sherd Group 6 (Fig. 51, v-w). The two sherds included in this group are rim/shoulder fragments that appear to have a Design B or, less likely, Design D decoration, and which may be grog tempered. Positive temper identification is made difficult by the very black cores. In spite of their common features, it is probable that these sherds are from different vessels.

Sherd Group 7 (Fig. 51, x). Represented by only one sherd apparently having a Design B decoration, this group is differentiated from Group 6 primarily on the basis of the presence of shell temper. Additionally, the paste is somewhat less compact than that of the Group 6 sherds, and the interior and exterior surfaces are lighter (a mottled gray-buff) in color.

Sherd Group 8 (Fig. 52, a-h). The 15 rim, shoulder, and upper body sherds comprising this group are identified as *Womack Engraved* principally because each appears to have been derived from bowls with rounded shoulders and incurved rims. Moreover, each is shell tempered and has remnants of an engraved design. Two of the sherds seem to have crosshatching which could represent Design A, and four could be from Design B or D vessels. The majority, however, have decorative motifs which cannot be linked with any of the recognized *Womack* designs. The paste is generally smooth and compact and often somewhat sandy. Two of the Group 8 sherds (Fig. 52, c-d) have a crack-lacing hole drilled from the exterior surface. The one intact hole (Fig. 52, c) appears 1.2 cm. below the lip and has a maximum diameter of 0.8 cm.

WOMACK ENGRAVED VARIANTS (Figure 52, i-r)

Sixty sherds clearly representing four vessels are provisionally labeled as variants of the *Womack Engraved* type. Since the significance of these variations is not presently known, this category is established primarily for descriptive convenience.

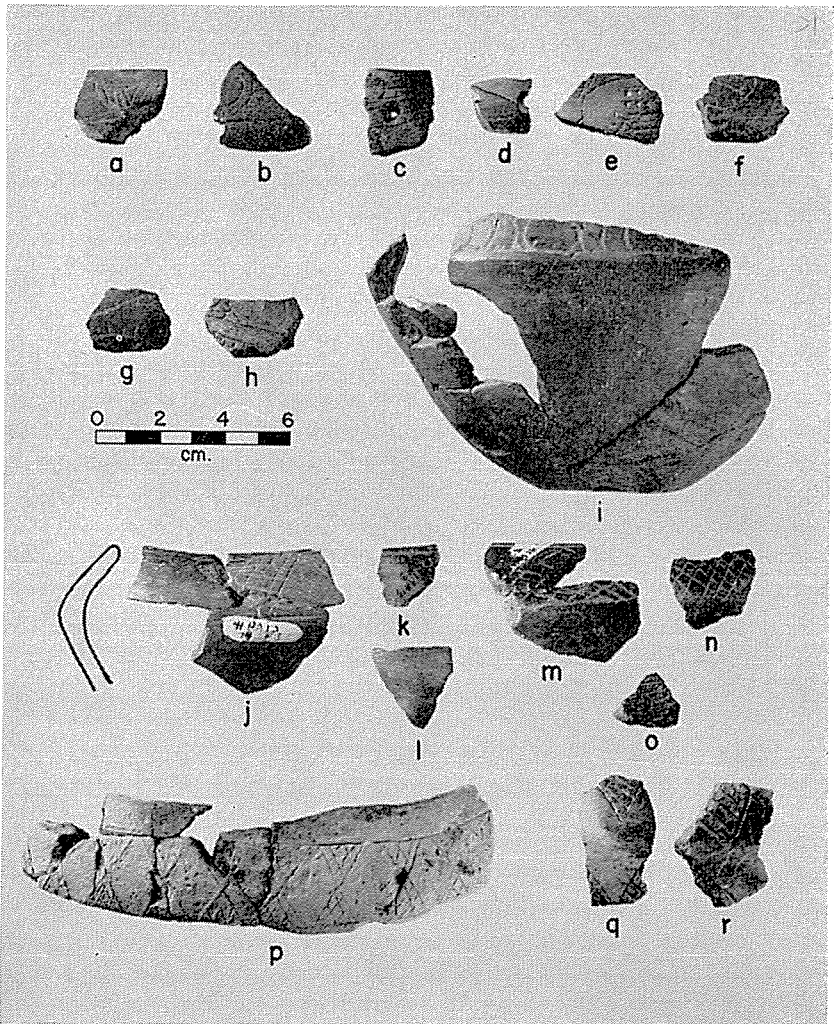


FIGURE 52. *Womack Engraved* and *Womack Engraved* variants. *a-b*, *Womack Engraved*, Sherd Group 8; *i*, *Womack Engraved* variant, Vessel 1; *j-o*, *Womack Engraved* variant, Vessel 2; *p*, *Womack Engraved* variant, Vessel 3; *q, r*, *Womack Engraved* variant, Vessel 4. Exterior to left on profile.

Vessel 1 (Fig. 52, *i*). The most complete of the four vessels now consists of 25 sherds, 18 of which have been fitted together. With one exception, the fragments were recovered from Feature 2. The sole specimen from Feature 5 could not be fitted to the others, but it can

confidently be assigned to Vessel 1, nevertheless. When complete, this bowl was roughly 9 cm. high, had an inside oral diameter of about 11 or 12 cm. and a maximum diameter (at the shoulder) of approximately 14 cm. Unlike the typical *Womack* bowl the base is flat and the shoulder is quite angular. All other characteristics are within the range described for the type (Duffield and Jelks, 1961: 36-39). The design is readily recognizable as type C, and the compact paste is tempered with abundant, fairly coarse fragments of mussel shell. Surface colors are from light to very dark reddish brown, while the core is generally black, becoming reddish toward the exterior. The upper portion of the bowl exterior has been well smoothed, but the lower part and much of the interior are poorly finished. Thickness just below the lip is 0.5 cm., at the shoulder 1.0 cm., at the midpoint on the body 0.7 cm., and at the base 0.8 cm. The lip is very slightly rounded and flush with the rim.

Vessel 2 (Fig. 52, j-o). This vessel, like the one described above, appears to have been a small carinated bowl with an incurved rim and angular shoulder. It now consists of 25 rim and body sherds, most of which could not be fitted together. In addition to the rather unusual shoulder area, the paste is atypically bone tempered, the interior surface is not smoothed (Fig. 52, o), and the engraved rim decoration, while similar to Design A, is aberrant. Bounded by two horizontal lines, this decoration consists of a single row of crosshatched triangles, the apexes of some pointed upward, others downward. Unexpectedly, the triangles are arranged into groups or sets, with an undecorated area at least 3 cm. wide separating each set. Probably the apexes of the triangles comprising each set were alternately pointed toward the lip and away from the lip. The exterior surface is well to poorly smoothed and quite strikingly fire-mottled, varying in color from black to reddish buff. The interior and the core are of more uniform coloration, being brownish gray to black. Wall thickness varies from 0.4 to 0.8 cm.

Vessel 3 (Fig. 52, p). Eight sherds from Feature 7 have been joined to form the upper portion of a vessel which displays the characteristic *Womack* rim and shoulder profile but which has an incised rather than an engraved decoration. While easily identified as Design A, the motif is somewhat unusual in that the apexes of the upper and lower triangles are joined. Vessel 3 is too fragmentary for close measurement although the oral diameter was probably between 13 and 14 cm., and the over-all bowl height about 10 cm. Exterior and interior surfaces are light tan and the core is a uniform gray-black. The fine, smooth paste contains numerous cavities formed by weathered-out temper.

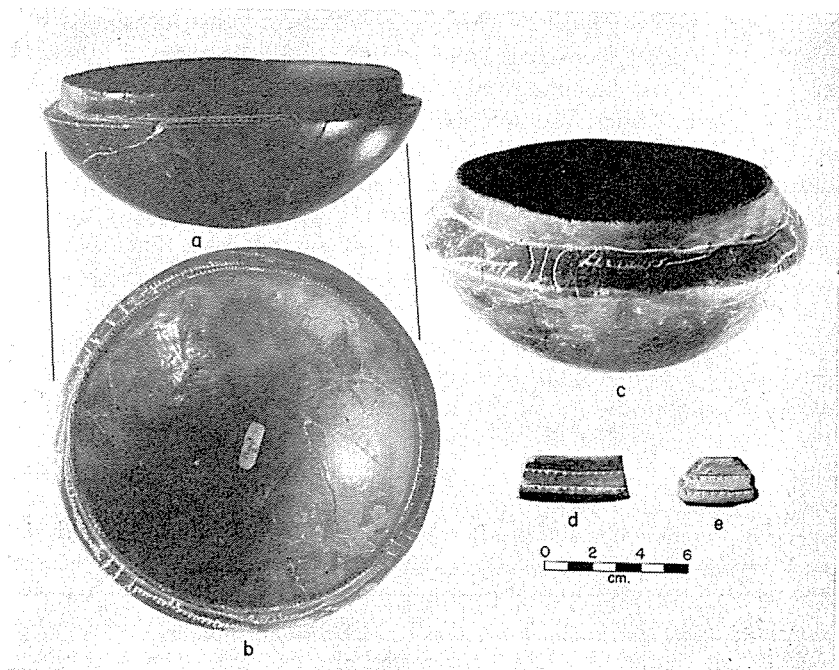


FIGURE 53. *Simms Engraved*. *a, b*, Vessel 1; *c*, Vessel 2; *d, e*, rim sherds.

Similar leaching scars mar the vessel's surfaces, neither one of which has been well finished.

Vessel 4 (Fig. 52, q-r). Two sherds from Feature 1 are from the shoulder area of a *Womack*-shaped bowl. Both bear remnants of a boldly incised Design A. They have a fine, sandy paste containing tiny bits of shell and an occasional piece of grog, and their surface coloration is tan to black. Their cores are a uniform dark gray-black. Vessel size is impossible to approximate, but the wall thickness varies from 0.7 to 0.9 cm.

SIMMS ENGRAVED (Figure 53)

This type, with its highly distinctive carinated bowl form, is represented at the Gilbert Site by two restored vessels and two rim sherds which are from two additional vessels.

Vessel 1 (Fig. 53, a-b). Twenty-eight potsherds from Feature 2 have been joined to form approximately two thirds of this small bowl; the remaining one third has been filled in with plaster. Its evenly convex base, narrow (0.9 cm.) rim and upward-pointing, diagonally

notched lip are characteristic of the *Simms Engraved* type. The interior oral diameter is 14.5 cm., the maximum diameter (at the juncture of the rim and the body) is 16.5 cm., and the height is 6.7 cm. The engraved decoration is confined to the rim zone and consists of two opposing, slightly curved, ticked lines (Fig. 53, b). This motif is repeated four times with each set of curved lines being separated by three nearly parallel lines. Interior and exterior surfaces are well polished and a fairly uniform dark brownish black in color. The paste is also dark, has a fine, compact texture, and is tempered with finely pulverized shell.

Vessel 2 (Fig. 53, c). Comprised of 29 sherds from Feature 1, this vessel is a less striking example of the *Simms* bowl form. The rim does not turn inward as sharply as that of Vessel 1, nor is the juncture with the lip as abrupt. Other features, including fine shell temper, shallow lip notching, a slightly convex base, and a characteristic engraved design, are typical. Though less compressed, the rim decoration is very similar to that described for Vessel 1. It is confined to a space between 1.7 and 3.0 cm. below the lip. Both surfaces are polished, although the interior is less well finished than the exterior. Surface color is predominantly brownish gray with some mottled reddish and black-brown hues.

Sherds (Fig. 53, d-e). Two small sherds clearly represent two more *Simms Engraved* bowls. Each displays a sharply bent inward rim which merges with an inward-pointing lip. Notching is not present and both lips are thin and rounded. The curvature and wall thickness suggest that these sherds are from bowls considerably larger than either Vessel 1 or 2. The decoration in each case consists of two horizontal ticked lines (0.6 cm. apart on both sherds) which either encircled the rim or, more probably, were divided into four(?) sets. One sherd (Fig. 53, e) is a light tan color with a black core; the other (Fig. 53, d) is dark brownish black with a black core. Both have a fine, compact paste with possible grog and shell (the shell may be from crushed sherds) temper. Exterior surfaces are well smoothed, interior ones less so.

NATCHITOCHE ENGRAVED (Figure 54, a-b)

Natchitoches Engraved, generally regarded as one of the diagnostic pottery types of the historic Caddo Indians (Webb, 1945: 63-64; Suhm and Jelks, 1962: 113-114), is known at the Gilbert Site from nine sherds, eight of which have been fitted together to form the lower portion of a rather large-bodied bottle (Vessel 1). It appears to have

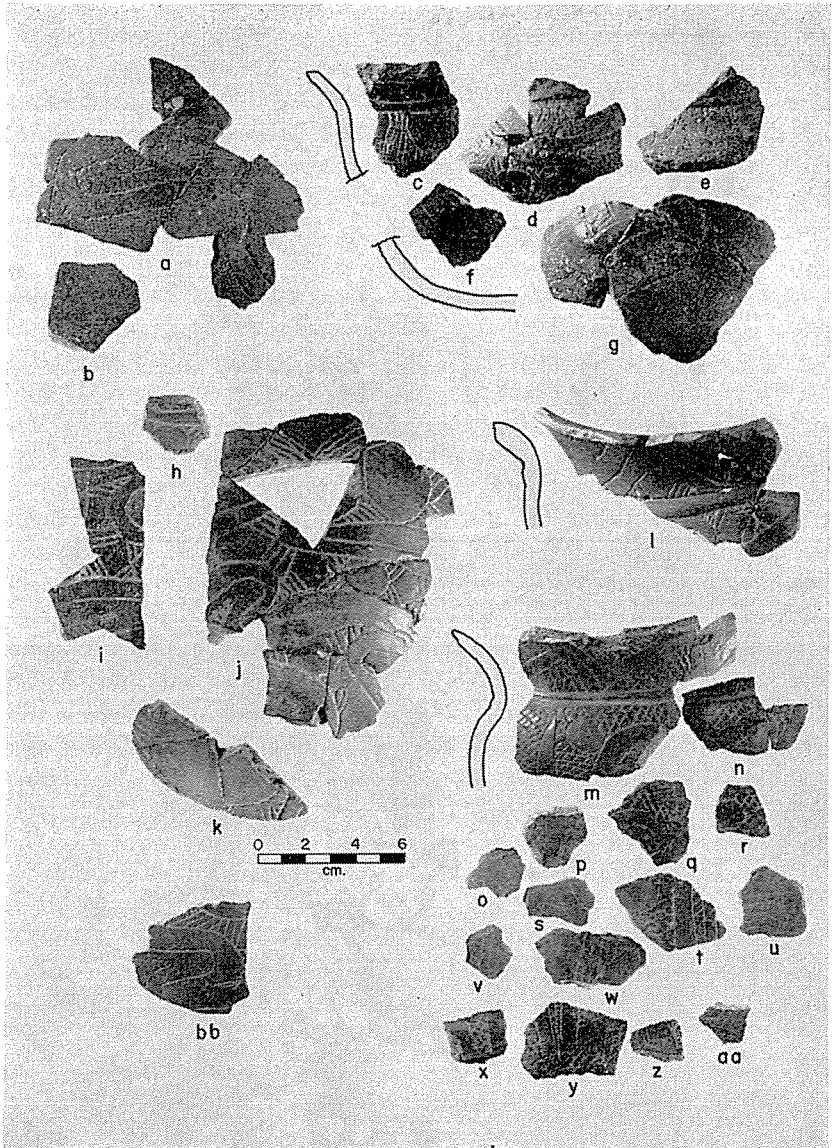


FIGURE 54. *Natchitoches Engraved* and *Natchitoches Engraved* variants. *a, b*, *Natchitoches Engraved*, Vessel 1; *c-g*, *Natchitoches Engraved* variant, Vessel 1; *b-k*, *Natchitoches Engraved* variant, Vessel 2; *l*, *Natchitoches Engraved* variant, Vessel 3; *m-aa*, *Natchitoches Engraved* variant, Vessel 4; *bb*, *Natchitoches Engraved* variant, Vessel 5. Exteriors to left on profiles.

been similar in both shape and decoration to one illustrated in Suhm and Jelks (1962: Pl. 57, A).

Folded scrolls bisected by ticked medial lines and flanked by cross-hatched areas, as well as by negative disks, make up the surviving engraved design. The temper is finely pulverized shell, although tiny bits of hematite and perhaps some grog can also be recognized in the paste. Surface colors vary from reddish to grayish brown while the core is a uniform light gray. The interior surface is smoothed and the exterior one is fairly well polished. Wall thickness ranges from 0.5 to 0.8 cm.

NATCHITOCHESES VARIANTS (Figure 54, c-bb)

An interesting group of 69 sherds from five vessels are quite reminiscent of *Natchitoches Engraved*; however, when examined closely they differ from that type in design layout and execution as well as in some paste characteristics. The significance of these seemingly minor differences is not clear, but perhaps these vessels represent local copies of *Natchitoches Engraved*, or variations not yet recognized for the type.

Vessel 1 (Fig. 54, c-g). Found scattered over Features 1, 3, and 4 are 20 sherds assignable to one vessel, evidently a small bowl or very wide-mouthed jar. Although a number of these sherds could be fitted together, the lower and upper portions of the vessel could not be joined. None of the lip is intact, but the outflaring rim appears to have been low (between 2.0 and 2.5 cm.) and to have formed an almost continuous recurve with the body wall which in turn gradually merged with the slightly flattened base. Juncture of the rim and body is emphasized by a narrow (0.3 to 0.4 cm. wide) band or fillet formed between two deeply engraved, ticked lines. The oral diameter is estimated at about 13 cm. and the vessel height is less confidently approximated at between 8 and 9 cm.

Though incompletely preserved, the rather crude, engraved decoration clearly differs from the scroll motif typical of *Natchitoches Engraved*. It extends over all of the body and consists primarily of panels comprised of a series of blank disks outlined by both hachuring and crosshatching. A vertical ticked line evidently separated each panel. Unlike *Natchitoches Engraved* bowls (Suhm and Jelks, 1962: 57, D, F-K)—and, indeed, at least two of the variant forms at Gilbert—the rim is not extensively decorated. Curiously, the lip is fractured (by percussion chipping?) and somewhat worn. In addition to the fillet mentioned above, there is a single engraved line encircling the vessel just below the lip. Small triangles extend upward from this line.

The compact, but rather coarse paste of Vessel 1 contains a number of white, gray, and black particles—possibly pulverized bone. A petrographic analysis made by B. J. Scull and Stanley B. McCaleb of the Sun Oil Company Laboratory, Richardson, Texas, revealed the mineral content of one sherd to be, in descending order of abundance, montmorillinite, quartz, orthoclase, collophane, hematite, and limonite. Fire clouds are quite evident on the exterior which varies in color from grayish brown to black. The interior is a uniform gray-brown and the core is light to dark gray. The exterior is eroded in places but appears to have been polished; by contrast, the interior is poorly smoothed.

Vessel 2 (Fig. 54, h-k). Eighteen sherds from Feature 3 comprise this vessel, apparently a large bottle similar in shape to the one good example of *Natchitoches* recovered from the site. Restored portions include a large section of the body and about half of the base. One of the unattached sherds (Fig. 54, h) has a narrow fillet which is presumed to mark the juncture of the rim and body. No over-all vessel dimensions can be given, but the wall thickness is between 0.4 and 0.6 cm. while the base reaches a maximum thickness of 1.3 cm.

The engraved decoration covers all of the body and consists of folded scrolls flanked by blank disks and hachured areas. In concept it is close to that of the *Natchitoches* type, falling short only in execution and failure to convey fully the negative design effect. Traces of a white substance, possibly intentional pigment, can be seen in a few of the engraved lines. Both the exterior and interior surfaces are polished and vary in color from light to dark gray, almost black. The core is gray, and the paste is very firm with fine sand and perhaps a few tiny bits of shell.

Vessel 3 (Fig. 54, l). This vessel is represented by nine sherds (eight from Feature 7 and one from Feature 4) which have been fitted together to form a section of the rim and a small portion of the upper body. The lip is badly damaged (perhaps intentionally chipped) but appears to have been rounded and turned outward while the rim is markedly concave. Since so little of the body was recovered, the over-all shape and size are uncertain, except that the rim form suggests a wide-mouthed jar or bowl.

The engraved rim decoration deviates from that described for the *Natchitoches* type (Suhm and Jelks, 1962: 113). Instead of the typical rectilinear pattern with horizontal ticked lines, there are alternating sets of chevrons filled with blank disks and hachured areas. Faint traces of what seems to be red pigment are present in and about several of the engraved lines. All that remains of the body decoration are

several blank disks flanked by hachured lines—possibly remnants of a design similar to that described for Vessel 2.

Surface colors range from black to gray and the core is a uniform dark gray. No obvious tempering material can be recognized, although unidentified dark particles are abundant in the compact, slightly sandy paste. Both the exterior and interior surfaces are well smoothed, and the wall thickness is between 0.6 and 0.8 cm.

Vessel 4 (Fig. 54, m-aa). Twenty-one rim and body sherds seem to belong to Vessel 4, a small bowl with an outflaring rim. Rim diameter is estimated at between 12 and 14 cm. and the over-all height at between 10 and 11 cm. A narrow (0.3 to 0.4 cm. wide) fillet formed between two deeply engraved lines appears at the juncture of the rim and body. The lip, like that of Vessel 1 and Vessel 3, is badly damaged but was probably rounded and outturned. For reasons not readily apparent, the broken edges of the lip of this vessel, as well as that of Vessel 1, are worn smooth.

Engraved chevrons outlined by crosshatching decorate the rim while scrolls flanked by crosshatched areas and blank disks adorn the body. The body decoration was apparently divided into panels each of which was separated from one another by a wide (generally 0.8 cm.), vertical band which tapers to a point just below the rim. Surface colors vary from black to gray-brown and the core is uniformly black. A rather thick, sooty substance appears on the interior surface of the rim and suggests that this bowl, unlike any of the other engraved vessels found at Gilbert, was used in cooking. The exterior surface is polished and the interior one is well smoothed. Numerous fragments of grog appear as the major tempering agent. Wall thickness is 0.6 cm. just below the lip, 0.5 cm. at about midpoint on the body, and 0.9 cm. near the juncture of the body and the base.

Vessel 5 (Fig. 54, bb). One body sherd with portions of an engraved scroll motif outlined by hachuring is tentatively identified as a variant of the *Natchitoches Engraved* type. An occasional piece of grog and fine shell may be present in the compact, slight sandy paste. The well smoothed exterior and interior surfaces are dark gray in color and the core is a lighter shade of the same hue. Wall thickness is 0.8 cm.

MISCELLANEOUS ENGRAVED (Figures 55 and 56, a-q)

Included in this category are four very incompletely restored vessels and 37 small rim and body sherds, all of which bear traces of an engraved decoration. The sherds are typically nondescript and do not preserve much of the design nor the vessel form. While more can be

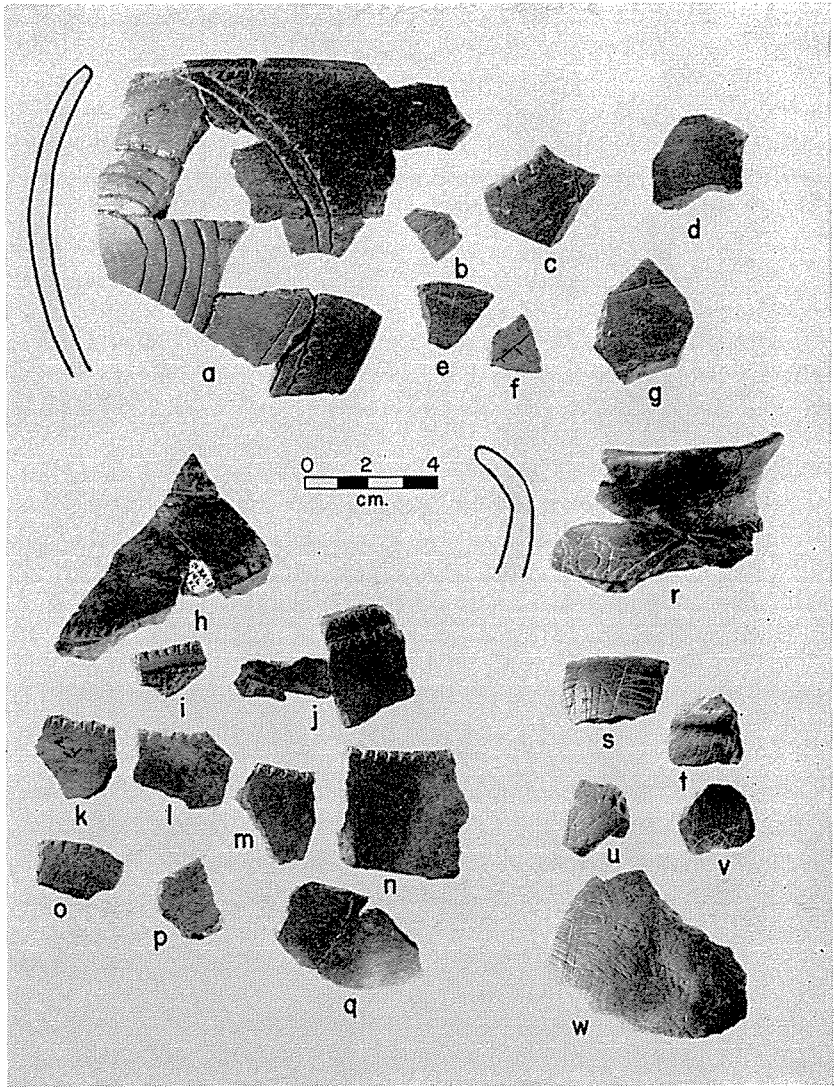


FIGURE 55. Miscellaneous engraved. *a-g*, Vessel 1; *b-q*, Vessel 2; *r*, Vessel 3; *s-w*, Vessel 4. Exterior to left on profiles.

discerned from the partial vessels, none possesses a combination of attributes readily identifiable with an established type.

Vessel 1 (Fig. 55, *a-g*). This vessel is known from 17 sherds, 11 (10 from Feature 3 and one from Feature 4) of which have been joined to form a portion of the rim and upper body. It appears to have

been a large bowl (oral diameter of about 20 cm.) with a convex rim and body which merge to form an even curve. The lip is flat and flush with the rim. The deeply engraved decoration, evidently restricted to the upper part of the bowl and repeated several times, consists of concentric, sometimes ticked, circles. In addition, a ticked line encircles the rim just below the lip. Both surfaces are well smoothed and vary in color from light, reddish brown to brownish black. Dark fire clouds are particularly apparent on the exterior. The paste is dark to light gray in color, very hard and moderately fine in texture, and tempered with finely pulverized bone. Wall thickness is from 0.4 to 0.6 cm.

In general shape and decoration this vessel is similar to *Patton Engraved* (Suhm and Jelks, 1962: 117). However, it lacks the characteristic sandy feeling of *Patton* vessels and has a somewhat unusual design layout for that type.

Vessel 2 (Fig. 55, h-q). Although represented by 29 sherds (one from Feature 1, 10 from Feature 3, one from Feature 4, and 17 from Feature 6), very little of this vessel could be pieced together. Consequently, the shape is uncertain; however, the convexity of the sherds suggests a small vessel. The lip is thinned and flush with the rim. Two deeply engraved, ticked lines appear below the lip (Fig. 55, h); the remainder of the design seems to have consisted of ticked horizontal(?) bands and perhaps widely shaped concentric circles. *Vessel 2* is quite well polished on both surfaces and has a hard, compact paste which contains finely pulverized shell and an occasional piece of siltstone. The exterior surface varies in color from black to reddish brown while the interior one is a uniform reddish buff. Wall thickness is between 0.5 and 0.6 cm.

Vessel 3 (Fig. 55, r). Four sherds from Feature 3 have been joined to restore a portion of the rim and upper body of this shell-tempered vessel. It appears to have been a small jar with an outflaring rim, constricted neck, and, less certainly, a globular body. The lip is slightly rounded and flush with the rim, and the oral diameter is estimated at about 8 cm. Remnants of an engraved decoration, including a concentric, ticked circle, appear just below the neck. Surface and core colors are various shades of gray, and the wall thickness is between 0.8 and 1.0 cm. *Vessel 3* is thick and poorly finished.

Vessel 4 (Fig. 55, s-w). This vessel also appears to have been a small, poorly made jar. It now consists of two rim sherds, two body sherds, and one large base sherd, all from Feature 2. The lip is essentially flat and flush with the rim and a raised fillet marks the juncture of the rim and body. The base (Fig. 55, w), is disk-shaped,

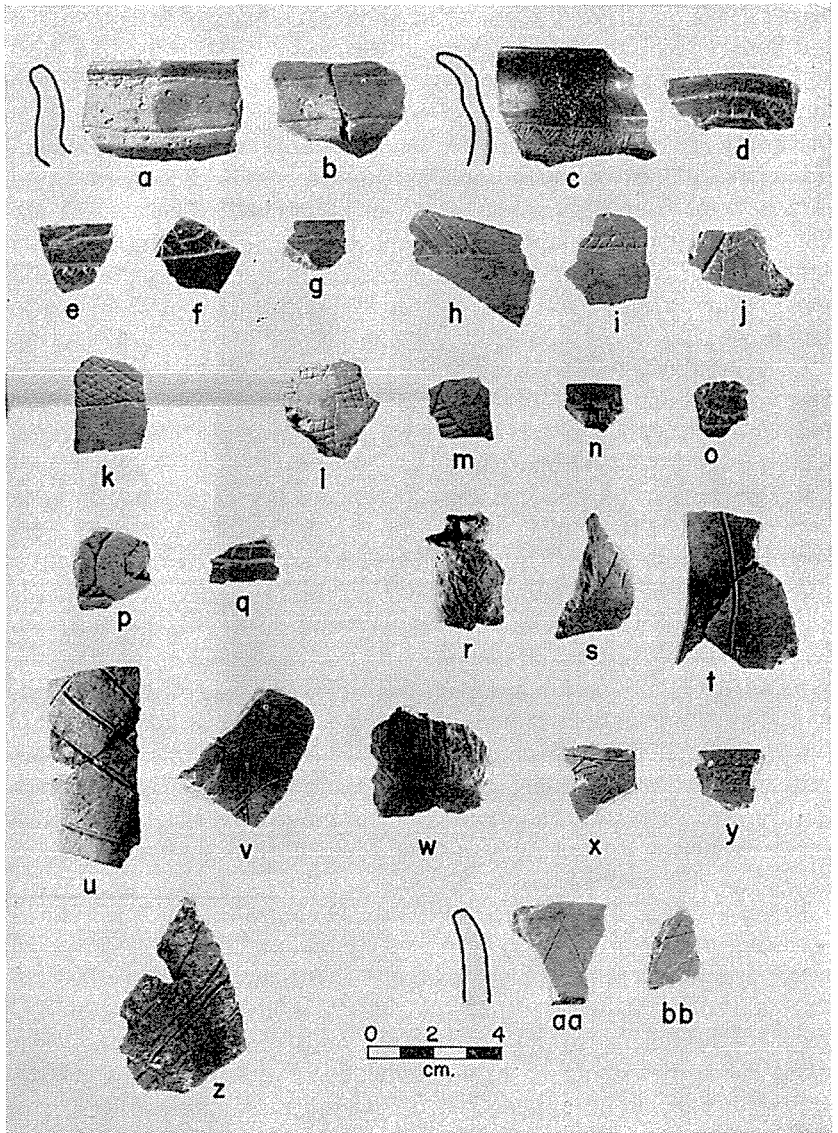


FIGURE 56. Miscellaneous engraved and incised sherds. *a-j*, engraved Sherd Group 1; *k*, engraved Sherd Group 2; *l-o*, engraved Sherd Group 3; *p-q*, engraved Sherd Group 4; *r-w*, incised Sherd Group 1; *x-z*, incised Sherd Group 2; *aa*, *bb*, incised Sherd Group 3. Exterior to left on profiles.

concave, and slightly thicker than the vessel walls. Very crudely engraved vertical, horizontal, and diagonal lines seem to have covered

all of the rim and body. Numerous dark particles, perhaps hematite pellets, appear in the paste which, on the whole, is rather sandy. The interior surface is quite irregular while the exterior one is poorly smoothed. Surface colors are from gray-black to gray-brown.

Sherd Group 1 (Fig. 56, a-j). Eighteen rim and body sherds with traces of engraved designs are shell tempered. Three of the rim pieces (Fig. 56, a, b) are possibly from one carinated bowl with a vertical rim and everted, slightly thickened lip. Two horizontal lines, one just below the lip and the other just above the shoulder, are present on each of these sherds. A fourth rim fragment (Fig. 56, c) possibly from a spool-necked bottle has hachured triangles suspended downward from two engraved lines. A fifth, much smaller rim sherd (Fig. 56, d) has traces of red pigment in a ticked line. The remaining 13 sherds are nondistinctive and may even include some fragments from *Womack Engraved* vessels.

Sherd Group 2 (Fig. 56, k). Each of the two small sherds included in this group is heavily tempered with grog. One has remnants of a crosshatched design and the other has portions of a ticked scroll motif.

Sherd Group 3 (Fig. 56, l-o). The 10 engraved sherds comprising this group have sandy pastes containing some grog as well as unidentified dark particles. The edge of one is worn and may represent portions of a reformed rim. Another (Fig. 56, n) is a small rim fragment which has a deeply engraved design consisting of a wavy band and, below this, a series of vertical lines. None of the remaining sherds exhibits any feature of particular interest.

Sherd Group 4 (Fig. 56, p-q). The six sherds making up this category also have a sandy paste, but, unlike the above, they contain some hematite particles. None is very large and little can be said of vessel shape or design.

Incised

Ninety-eight sherds from the site have portions of incised decorations. No significant restoration could be accomplished, and the majority of the incised sherds are miscellaneous body fragments. Three groups, however, can be recognized on the basis of differences in the aplastic used as temper.

Sherd Group 1 (Fig. 56, r-w). The 80 sherds included in this group are tempered with crushed mussel shell. In general the paste is contorted and the shell is coarse and moderately abundant. Two of the sherds are basal fragments (Fig. 56, w), one is a rim piece, and one (Fig. 56, r) is a fragment of a rivet type handle; the remainder are

body sherds. Although no particulars of vessel shape can be discerned, it is quite probable that most Group 1 sherds are from jars. The incised decorations appear to have been simple, consisting principally of more or less parallel lines arranged into straight, slightly concentric, diagonal, and radiating patterns. There are four examples of cross-hatching (for example, Fig. 56, s) and the incised lines on the handle fragment form a crude chevron motif. Width of the incised lines varies from rather narrow (Fig. 56, s, v) to moderately broad (Fig. 56, t, u). On several of the sherds the decoration has been smoothed over; however, on most the slightly mounded margins of the incised lines are preserved. The exterior surfaces are from poorly to well smoothed. Surface colors range from buff to dark gray and a number of the sherds show indications of having come from vessels used in cooking.

Sherd Group 2 (Fig. 56, x-z). Fifteen of the incised sherds seem to be tempered with pulverized bone. Of these, nine are body fragments (Fig. 56, z) quite similar in decoration and other details to the Group 1 incised sherds. The remaining six Group 2 sherds, all from Feature 5, are small rim and shoulder fragments evidently from carinated bowls with incurving rims (Fig. 56, x, y). At least two vessels appear to be represented. Very little of the over-all design can be determined, but specific decorative elements include a concentric circle (Fig. 56, x), horizontal lines flanking a blank disk (Fig. 56, y), and crosshatching.

Sherd Group 3 (Fig. 56, aa-bb). This group is comprised of three sherds with grog temper. Two (Fig. 56, aa, bb) are rim fragments; one (Fig. 56, aa) with the lip intact appears to have been a vessel with a high, slightly outflaring rim. Both rim sherds bear traces of very widely spaced crosshatched lines. Their surfaces are rather poorly smoothed and buffish in color. The third Group 3 sherd is a tiny body fragment with a single incised line.

Punctated

The 18 punctated sherds recovered from the Gilbert Site are rim fragments, most with the lip intact. It is probable that these sherds are from jars, the bodies of which may have been decorated by other techniques, particularly incising. Like the incised sherds, they can be subdivided into several groups on the basis of variations in temper.

Sherd Group 1 (Fig. 57, a-d). Crushed shell temper is the most distinctive attribute of this group of 13 sherds. Ten are slightly outflaring rim fragments having one row of diagonal, gash-like punctations 1.7 cm. below the rounded lip (Fig. 57, a, b). On two of these the punctations have been smoothed over, while on the others the clay is

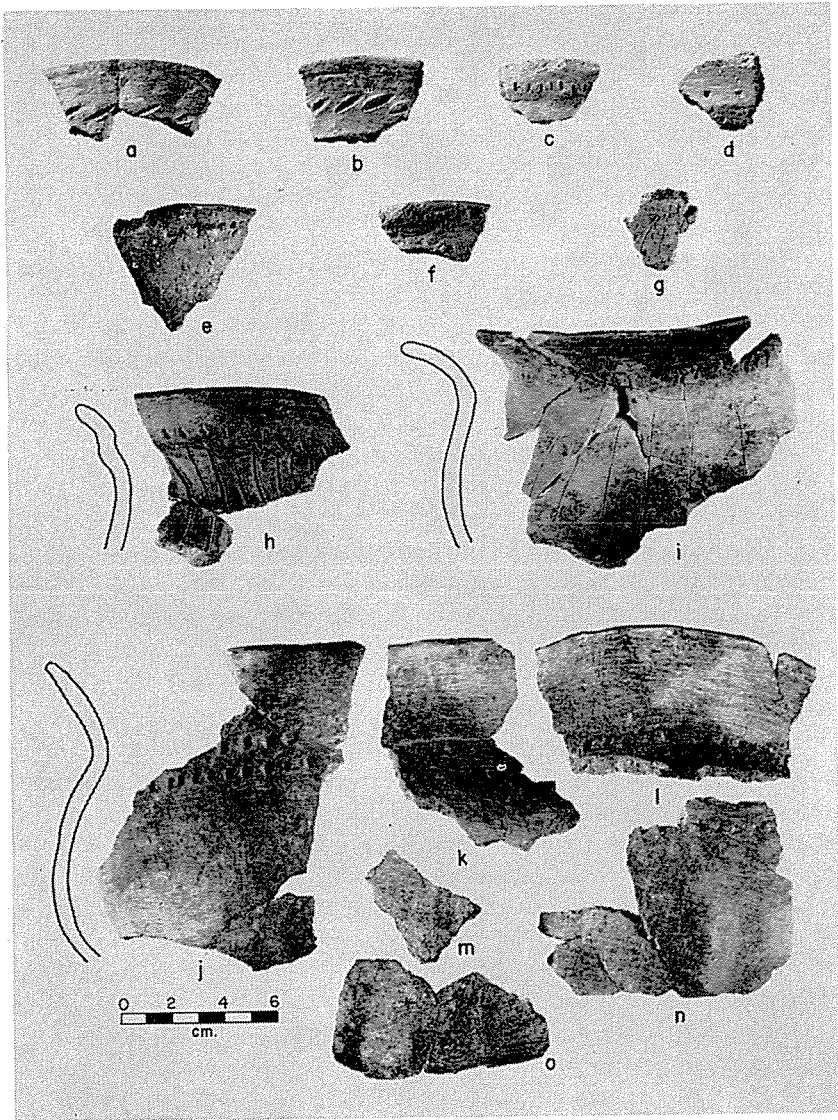


FIGURE 57. Punctated, punctated-incised, and brushed-punctated pottery. *a-d*, punctated Sherd Group 1; *e*, punctated Sherd Group 2; *f*, punctated Sherd Group 4; *g*, *Emory Punctated*, Vessel 1; *b*, *Emory Punctated*, Vessel 2; *i*, *Emory Punctated*, Vessel 3; *j-o*, brushed-punctated vessel. Exterior to left on profiles.

mounded about one or, less often, both sides of punctations. Two of the remaining three sherds lack the lip. Each has a single row of short,

closely spaced punctations formed by forcing an implement into the plastic clay at a slight angle (Fig. 57, c). When viewed in cross section the punctated areas on both sherds are concavo-convex, the concavity being on the exterior, the convexity on the interior. The well defined, groove-like concavity, is 0.8 cm. wide and must have encircled the vessel. The exterior bulge is less easily delineated but is approximately 10 cm. wide.

The last of the Group 1 sherds (Fig. 57, d) is also from the lower portion of a rim. It has two small, almost square punctations which have been smoothed over. In general, all of the Group 1 sherds are rather poorly finished and vary in surface color from buff to nearly black. The interior surface of five have carbonaceous encrustations suggesting that they are from vessels used to cook foods.

Sherd Group 2 (Fig. 57, e). The two Group 2 punctated sherds are bone tempered and possibly from the same vessel—evidently a jar with a high vertical rim and a slightly outflaring, rounded lip. Both have a single row of punctations formed by pressing a blunt implement into the clay at a sharp angle, 0.8 cm. below the lip. The interior surfaces are black and sooty, while the exterior ones vary in color from black to buff.

Sherd Group 3. Only one of the punctated sherds, apparently a body fragment, is definitely grog tempered. It is covered with small, randomly placed punctations which have been smoothed over.

Sherd Group 4 (Fig. 57, f). The fourth and last group of punctated sherds included two small rim pieces with everted and crudely thickened lips and a row of squarish punctations 1.9 cm. below the lip. Probably from the same vessel, both have a very black core which makes temper identification difficult. However, some quartz sand and tiny pellets of hematite, along with a few light particles which may be pieces of grog and/or bone, can be recognized in the paste. On the larger of the two Group 4 sherds (Fig. 57, f) an exterior bulge and an interior groove-like concavity coincide with the row of punctations.

Punctated-Incised

EMORY PUNCTATED (Figure 57, g-i)

Twelve sherds from the site have one or two rows of punctations at the juncture of the rim and body and, on the body and suspended from the punctations, a series of essentially vertical, incised lines. These sherds and, less certainly, some of the incised, punctated, and brushed specimens described elsewhere, seem to fall well within the

range of a tentative new type *Emory Punctated*. Although the name has appeared in print (Harris et al., 1965: 299), no detailed description has yet been published for the type. R. K. Harris, the first to recognize the type, has provided the following definition for *Emory*.

PASTE

Temper: Sand, sand and shell, sand and clay, or sand and bone in varying quantities.

Texture: Varies with the tempering agent used; when the temper is sand or when sand is dominant, the paste is smooth and compact; when clay is dominant, the texture tends to be rough and compact.

Color: Generally black to gray cores, and tan, brown or grayish buff exteriors. Fire clouds appear on some vessels.

Surface finish: On vessels with only rows of punctations below the rim, the exterior body is usually smoothed. On others the body is partially or entirely covered with brushing or incising. Interiors vary from poorly to moderately well smoothed.

FORM

Wall thickness: Ranges from 3 to 12 mm., average 5 or 6 mm.

Lip: Rounded, bent outward slightly.

Base: Convex on small vessels and flat on large ones.

Vessel shape and size: Occurs only in the form of jars. Some bodies are globular, others squat. Vessel capacity varies from an estimated one-half gallon to one gallon.

DECORATION

Treatment: Punctating, incising, and brushing.

Designs: Some vessels have only punctations arranged into one to four rows around the vessel, usually just below the lip. If brushing is present, it may occur almost anywhere on the vessel, from the lip to the base. If incising is present, it usually consists of straight to slightly curved lines extending from below the rim to the base or to about the middle of the body. Punctations are often combined with either incising or brushing, and on some vessels all three decorative techniques are utilized.

CULTURAL AFFILIATIONS AND DISTRIBUTION

Emory Punctated vessels and sherds have been found primarily at Norteño Focus sites but occur less frequently at late Caddo sites. Known occurrences presently include the Womack Site in Lamar County, the historic component at the Sanders Site in Lamar County, the Sam Coffman Site in Red River County,

and the Roseborough Lake Site (Fort St. Louis de Kadodacho?) in Bowie County. In addition, it is probable that some of the small punctated, incised, and brushed sherds found at the Pearson Site (Duffield and Jelks, 1961: 39) belong to this type.

ESTIMATED AGE

This ceramic type is protohistoric and historic in time and appears to have lasted until at least the middle or latter part of the 18th century.

Since *Emory Punctated* is a new type and the authors are not so conversant with the pertinent comparative material as might be desired, only the punctated-incised sherds from Gilbert are definitely identified as *Emory*. These ceramics, from three vessels, make up a discrete group in terms of temper, mode, style of decoration, and, less certainly, shape. Although quite incomplete, each of the *Emory* vessels is briefly described below.

Vessel 1 (Fig. 57, g). This vessel is represented by a single sherd, a small piece from the lower rim and upper body area. It has a single row of small, diagonal punctations which encircled the vessel at the juncture of the rim and body. Suspended from this row is a series of slightly curved, incised lines. The paste is quite friable and contains many cavities, holes left when the shell temper leached out. Both surfaces are poorly smoothed. The exterior is light gray in color and the interior is dark gray. Wall thickness is 0.6 cm.

Vessel 2 (Fig. 57, h). The second *Emory* vessel from the site is known from two sherds which have been fitted together to form a portion of the rim and upper body of a jar. The rim is markedly out-flaring while the lip is flat and somewhat everted. Two rows of small, diagonal punctations appear between 1.3 and 2.3 cm. below the lip. Deeply incised, slightly curved lines extend from these punctations down the vessel body for an undetermined distance. Coincident with the punctated area is an exterior bulge about 1.2 cm. wide and an exterior groove 1.1 cm. wide. The paste of Vessel 2 is compact, slightly sandy, and tempered with a moderate amount of crushed shell. A thick, sooty substance blankets the interior surface and appears as small patches on the exterior surface. Wall thickness varies from 0.5 to 0.6 cm.

Vessel 3 (Fig. 57, i). Nine rim and body sherds have been joined to form a section of the upper part of this vessel, a jar with low, outflaring rim and weakly tapered, everted lip. Two centimeters below the lip, where the body and rim curve join, there is a horizontal

row of lightly smoothed-over punctations. Beginning at different points below this row are downward-radiating lines which only partially covered the vessel body (a minimum of 5.6 cm. below the punctations). The smooth, compact paste has finely pulverized shell temper. Both surfaces are grayish buff in color with fire clouds and carbonaceous staining being present on the exterior. Neither surface is well finished and numerous horizontal striations can be observed. A slight, rounded depression on the interior provides a quite tenuous suggestion of the paddle and anvil technique. Interestingly, there is a large, shell-tempered body sherd (Fig. 62, 1) from the same feature as these sherds which could possibly be from the lower undecorated portion of Vessel 3. This sherd displays more definitive paddle and anvil scars.

Brushed-Punctated

The 19 brushed-punctated sherds recovered from the site were found in two features (13 in Feature 1, 6 in Feature 4) and can be assigned to a single vessel (Fig. 57, j-o). Although no base sherds are included, it is evident that this vessel was a medium-sized jar with a high outflaring rim, a flat lip, and a somewhat squat body. Its oral diameter is estimated at 16 cm. and its height at 18 cm. The exterior of the rim and body are covered with horizontal brush marks presumably made by dragging grass or small twigs across the plastic clay. Where the rim and body join, approximately 3.7 cm. below the lip, there are two rows of horizontal stick punctations, clearly made after the vessel had been brushed. The interior surface has been rather well smoothed but is lumpy, apparently reflecting the coarseness of the underlying paste particles. The identity of these particles is difficult because of the darkness of the core; however, they may be pieces of grog. In addition, the paste contains fine quartz sand and is quite compact. Wall thickness is 0.7 cm. and surface colors range from gray-buff to black with the latter hue resulting from cooking stains.

While this vessel is within the range of variation of *Emory Punctated*, it is not so typed. Reasons for this reservation include the differences between this vessel and three from Gilbert that are called *Emory*, as well as its similarity with a previously defined type, *Boothe Brushed* (Suhm, 1955: 16-20).

Brushed-Combed

One of the most unusual vessels recovered from the site is a partially restored jar (Fig. 58, a-b) which is covered with brush marks

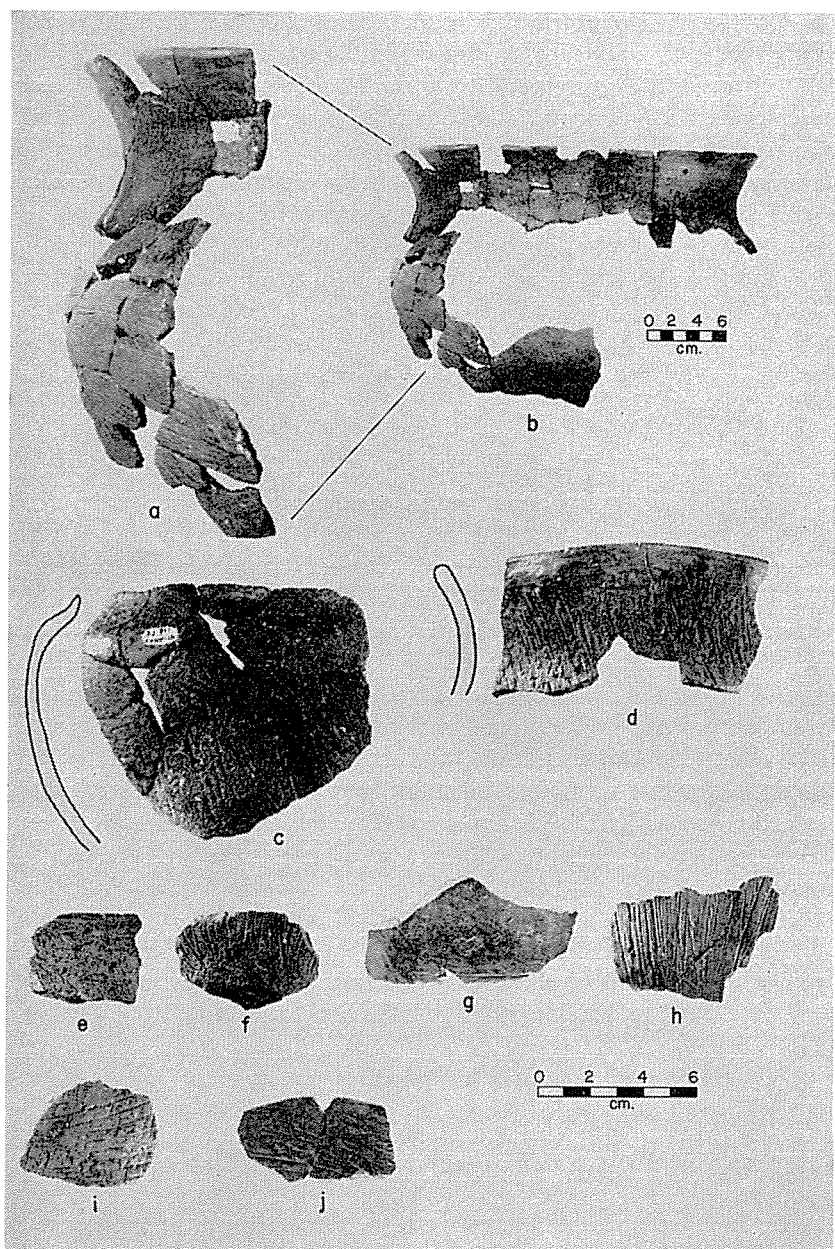


FIGURE 58. Brushed-combed and brushed pottery. *a, b*, brushed-combed Vessel 1; *c*, brushed Vessel 1; *d-b*, brushed Sherd Group 1; *i, j*, brushed Sherd Group 2. Exterior to left on profiles.

as well as small, sometimes overlapping, incised lines. The brushing is random, at times being horizontal and at other times diagonal and vertical, and appears to have extended from the shoulder area over most of the body. From immediately above the brushing to approximately 1.5 cm. below the lip the jar is covered with innumerable small striations (generally about 0.4 cm. long) possibly made by a fine-toothed or serrated implement. Hesitantly, this technique is referred to as combing as the short incisions are far too narrow and numerous to be labeled punctations. At first glance the "comb" marks appear to be cordmarks; however, upon close inspection it is clear that they are not cordmarks nor any other textured decoration made with a wrapped or carved paddle.

Approximately one fourth of the jar has been restored, with 36 of the 46 sherds representing this vessel having been fitted together. It has a constricted neck, a high, outflaring rim, and an irregular, though essentially flat and flush, lip. A prominent bulge marks the shoulder area and the body seems to have tapered rather sharply toward the base. The outside oral diameter was 32 cm. and the over-all height was probably in excess of 35 cm. In view of the size of this vessel, the wall thickness is a surprisingly thin 0.5 to 0.6 cm. The smooth but friable paste is tempered with moderate amounts of mussel shell. Black, sooty, cooking stains blanket the interior surface and are fairly common on the exterior surface. Where free of these discolorations the exterior varies from grayish to reddish buff. Being light to dark gray, the core is more uniform in color. The interior is smoothed while the exterior is covered with decoration except for just below the lip where the vessel has been poorly smoothed.

Brushed

Eighty-five sherds in the collection are brushed only. Some, of course, could be from vessels also decorated by other techniques, while others are probably from vessels with all-over brushing. Included are one partially restored vessel and three sherd groups.

Vessel 1 (Fig. 58, c). Seven rim and body sherds have been joined to form roughly one third of this vessel, a rather deep, carinated-like bowl. It has a gently rounded shoulder, a rather low inward — then upward — pointing rim, and a tapered, slightly everted lip. The body wall appears to have formed an even curve with the base. Outside oral diameter is estimated at between 13 and 14 cm., height at between 11 and 12 cm. Diagonal and vertical brush marks cover all of the body exterior. The rim and shoulder area, as well as much of the inner surface, are badly eroded but appear to have once been well

smoothed. Numerous, rather coarse particles of crushed mussel shell appear in the contorted, compact paste. Surface colors range from black to a deep orangeish red while the core is reddish black. Wall thickness is 0.5 cm. at midpoint on the body, 0.7 cm. at the shoulder, and 0.2 cm. at the lip.

Sherd Group 1 (Fig. 58, d-h). Comprised of 45 specimens, this sherd group is distinguished by the presence of shell temper. Included are 36 body fragments (Fig. 58, d-g). The largest and most interesting of the Group 1 specimens (actually five sherds glued together, Fig. 58, d) is from the rim of what appears to have been a rather wide-mouthed jar with a high, outturned rim and a flat, flush lip. Deep, slightly diagonal brush marks appear about 1.5 cm. below the lip and probably covered all of the body of this jar. None of the remaining Group 1 sherds displays any feature of particular interest.

Sherd Group 2 (Fig. 58, i-j). This group of 29 sherds is differentiated from the other brushed specimens solely on the basis of the presence of bone temper. All but one — a base fragment — are from body areas so that little can be determined of vessel shape or orientation and extent of the brushing. Five sherds, all possibly from the same pot, do merit special mention. In addition to what appear to be crude, partially obliterated brush marks, each of these sherds has an occasional impression suggestive of cordmaking (Fig. 58, j). Positive identification, however, is not possible.

Sherd Group 3. The four sherds making up this category have compact, very dark cores which makes recognition of constituents in the paste virtually impossible without refring. Each is a small body fragment, the exterior of which is completely covered by brushing. The interiors are moderately well smoothed.

Combed

The exterior surfaces of two small sherds (Fig. 59, a, b) are covered with unusual textured decorations. One (Fig. 59, a) is a lower rim fragment found in Feature 7. It displays the short, vertically "combed" incised lines described earlier. Indeed, were it not for its grog temper this sherd could be assigned to the partially restored brushed-combed vessel from the site (Fig. 58, a, b). The other sherd (Fig. 59, b), a bone-tempered body fragment found in Feature 15, also has numerous small, incised lines. These lines, however, are arranged into a honey-comb-like pattern. Both specimens have black cores and are basically gray-brown in surface coloration.

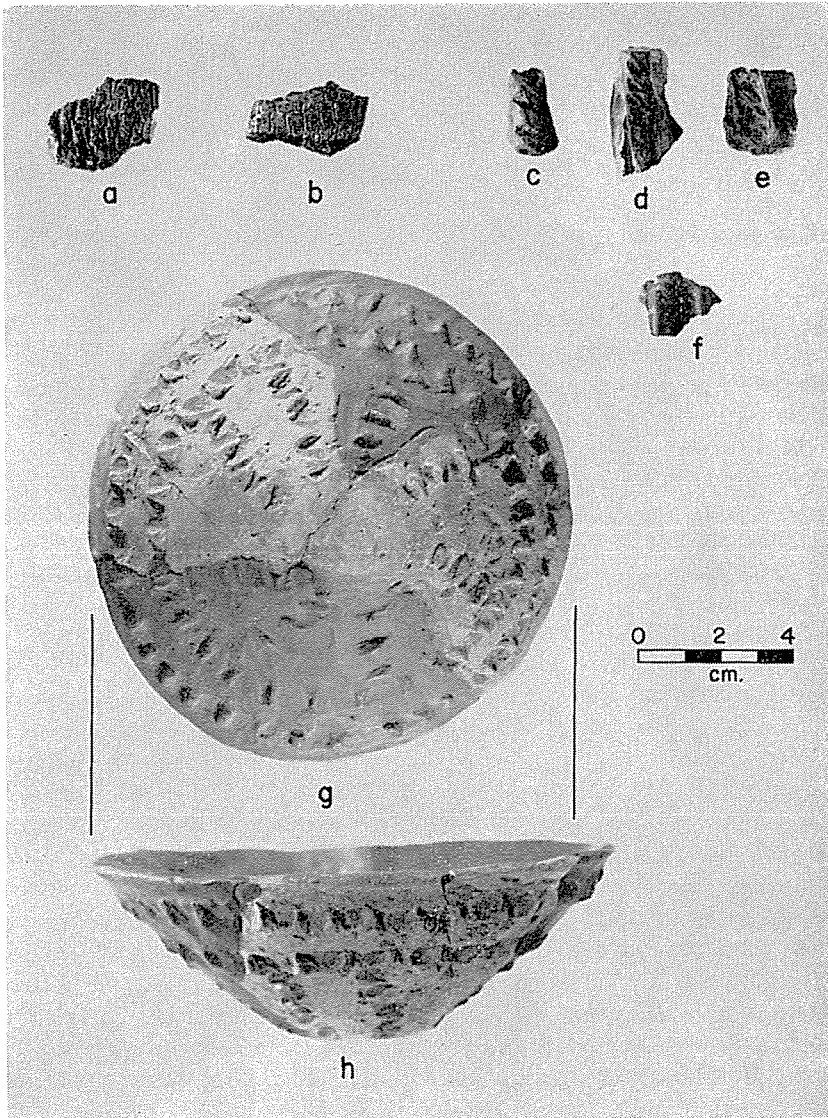


FIGURE 59. Combed, appliquéd-punctated, appliquéd, and pinched pottery. *a, b*, combed sherds; *c-e*, appliquéd-punctated sherds; *f*, appliquéd sherd; *g, h*, pinched vessel.

Appliquéd-Incised

An appliquéd fillet decorated with deep diagonal notches or punctations appears on the exterior surface of three shell-tempered

body sherds (Fig. 59, c-e). While little can be determined about the vessel (or vessels) represented, it is quite possible that these sherds are from a jar (or jars) similar to that found in one of the burials at the Womack Site (Harris et al., 1965: Fig. 4, E). This particular Womack Site vessel, identified as *Emory Punctated* (*ibid.*), has a notched fillet encircling the juncture of the body and rim, as well as two opposing nodes just below the lip. The remainder of the jar is undecorated.

Appliquéd

A tiny black body sherd (Fig. 59, f) with very fine sandy paste has portions of two appliquéd fillets. These fillets are spaced 0.7 cm. apart and appear to have been parallel much like those found on certain *Case Appliquéd* vessels (Suhm and Jelks, 1962, Pl. 13, C-F). This sherd, however, is too small to identify with an established type.

Pinched

Among the small ceramic collection recovered from Feature 18 are four large sherds which have been glued together to form approximately half (the other half has been filled in) of a small bowl (Fig. 59, g, h) with pinched decoration on the exterior surface. Placed side-to-side, the pinched marks are arranged into a pattern consisting of two horizontal rows below the lip and eight more or less equally spaced vertical rows. The vertically oriented pinching extends from just below the second horizontal row of pinch marks to the base. There is no well defined rim and the vessel wall tapers gradually from the everted lip downward to the small, disk-shaped base. The outside oral diameter is 15.5 cm. and the height a mere 5.6 cm. Wall thickness varies from 0.7 to 1.0 cm., with the latter measurement reflecting the thickness of the pinch marks. The rough but compact paste is dark gray and heavily tempered with pulverized bone. Both surfaces are fire mottled, ranging in color from reddish buff to gray-buff.

UNDECORATED CERAMICS

Most (1,487) of the Gilbert Site sherds, and probably many of the vessels they represent, are undecorated. Compared with the decorated pottery from the site, these specimens display fewer variables for technological and typological analysis or for easy recognition of

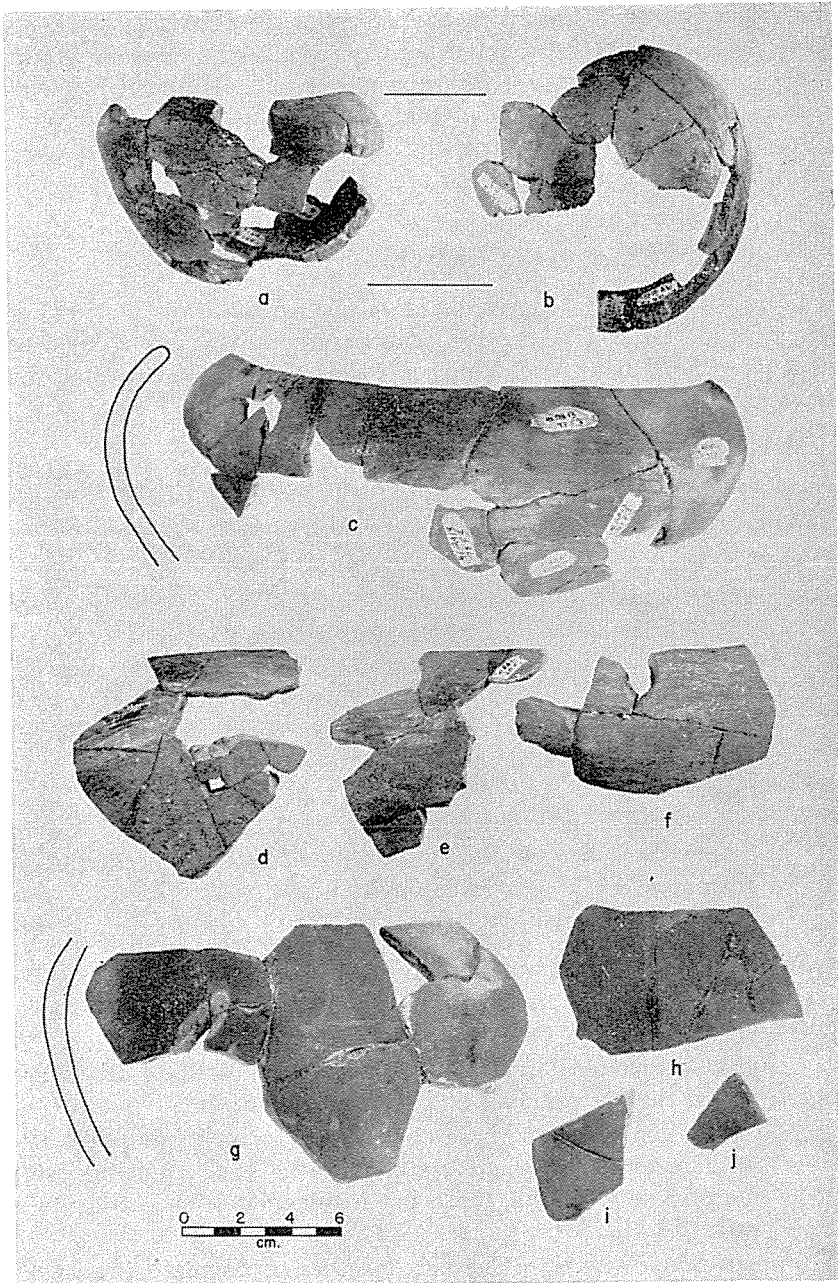


FIGURE 60. Womack Plain. *a, b*, Vessel 1; *c*, Vessel 2; *d-f*, Vessel 3; *g-j*, Vessel 4. Exterior to left on profiles.

individual vessels. Thus, with the exception of *Womack Plain* and *Womack Ware* — both proposed here as tentative new formal groups — the plain pottery has not been formally typed. Rather, it has been sorted into a number of broad categories based mainly upon variations in the paste. Other attributes, such as surface finish and vessel form, have not been ignored but are of less importance in classifying most of the plain pottery.

WOMACK PLAIN (Figures 60 and 61, a-h)

Four partially restored vessels (Fig. 60) and 31 rim sherds (Fig. 61, a-h) make up a distinctive ceramic group which is recognized as a provisional new type, *Womack Plain*. The definition which follows is based solely upon the Gilbert Site material.

METHOD OF MANUFACTURE

Vessel walls were apparently built up by the coil technique and finished by scraping and smoothing.

PASTE

Temper: Fine, naturally-occurring(?) sand and slight to moderate amounts of finely pulverized mussel shell.

Texture: Typically fine and compact with surfaces on occasion being somewhat sandy.

Color: The core is generally a light gray contrasting with darker gray, buffish, or even reddish surfaces. Fire clouds are common.

Surface finish: The exterior is usually well smoothed and in rare cases may even be lightly burnished, while the interior is characteristically less well finished and more likely to bear scraping and smoothing scars.

FORM

Wall thickness: 0.5 to 1.0 cm. with individual vessels often showing considerable range.

Lip: One example (Fig. 60, a) is beveled inward; all others are flat to slightly rounded and flush with the rim.

Base: The only restored base (Fig. 60, b) is small (about 4.0 cm. in diameter), disk shaped, and concave. At the juncture with the body it is 0.6 cm. thick, but it thins out at the center to a scant 0.3 cm.

Vessel Shape and size: The only form now recognized is a small-to-medium-sized modified carinated bowl with convex shoulders and incurved rim. Below the shoulder area the vessel wall

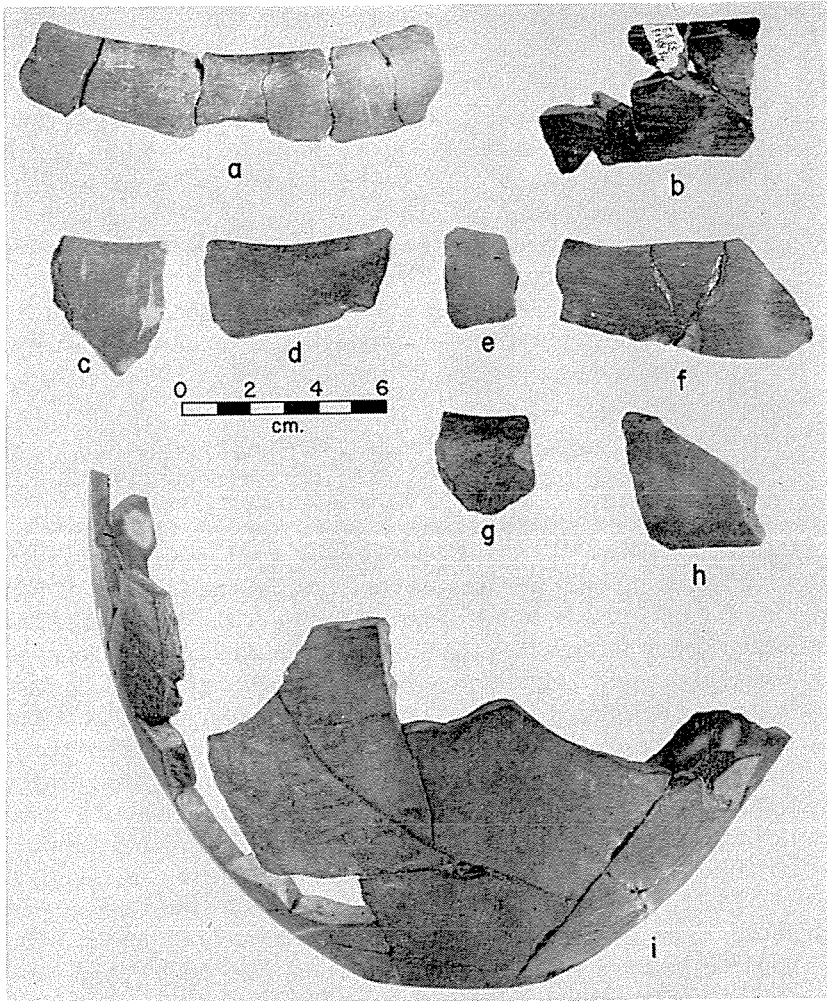


FIGURE 61. *Womack Plain* and *Womack Ware*. *a-b*, *Womack Plain* rim sherds; *i*, *Womack Ware*.

tapers toward the base. The slight constriction about midway between the base and the rim reported by Duffield and Jelks (1961: 36) for *Womack Engraved* has not been noted, although the fragmentary nature of the present samples does not exclude the possibility that it might occur on *Womack Plain* vessels. The height of the four Gilbert bowls ranges from 7.6 cm. to an estimated 12.0 cm., the outside oral diameter from 12.0 to 22.0 cm.

DECORATION

None

CULTURAL AFFILIATIONS AND DISTRIBUTION

The presence of *Womack Plain* at Gilbert and its very obvious kinship with *Womack Engraved* suggest that it should be added to the inventory of Norteño Focus traits. However, a cursory examination of The University of Texas collections from several other Norteño components—Sanders, Pearson, and Womack—failed to reveal additional examples of *Womack Plain*. The significance of this seemingly limited distribution is not entirely clear, although it does hint at a narrow temporal and/or spatial occurrence.

ESTIMATED AGE

The present sample evidently dates from about the middle of the 18th century.

WOMACK WARE (Figure 61, i)

The term *Womack Ware* is proposed as a broad grouping comprising two technologically similar ceramic types, *Womack Engraved* and *Womack Plain*. It has as its most diagnostic character a modified carinated bowl form which features an incurved rim, a rounded shoulder, and a small, circular, concave base. Other attributes, including engraved decoration, surface finish, and tempering agent, are more variable and serve primarily to differentiate the two constituent types.

In addition to being an inclusive category which may well be the principal resident Norteño pottery, *Womack Ware* may be used descriptively to indicate body and base sherds which could be from either *Womack Engraved* or *Womack Plain* vessels. One hundred sixty-five such specimens have been singled out of the undecorated potsherds from Gilbert. How widely and accurately *Womack Ware* sherds can be recognized in other collections will probably depend upon the nature of the collection as well as the experience of the classifier. At any rate, it appears to be a useful conceptual tool for analyzing the Gilbert pottery. The *Womack Ware* sherds from the site have been divided into six groups on the basis of variation in paste.

Sherd Group 1 (Fig. 61, i). This group of sherds is distinguished by the presence of finely pulverized shell temper, gray to grayish black surfaces, a light gray core, generally well smoothed surfaces, and a somewhat sandy paste. Included are 85 loose body sherds, and 47 body and base sherds (all from Feature 3) which have been joined to form the lower portion of a *Womack*-shaped bowl (Fig. 61, i),

possibly the lower part of one of the *Womack Engraved* or *Womack Plain* vessels mentioned earlier. The combination of attributes observable in the Group 1 sherds suggests type *Womack Plain*; however, there are enough overlaps with *Womack Engraved* to make positive type identification impossible.

Sherd Group 2. Each of the 11 sherds making up this category is grog tempered and gray-black to black in surface color. On the whole they are better finished than most of the Group 1 sherds, with both the exterior and interior being lightly polished. The paste is compact, but rather rough, and light gray to black in color. While it is impossible to type these sherds, their surface finish and grog temper are more suggestive of *Womack Engraved* than *Womack Plain*.

Sherd Group 3. Nine of the sherds believed to be from *Womack* vessels are characterized by a somewhat sandy paste which is typically light gray in color and which contains reddish particles (probably ocher) as well as numerous dark areas. In some cases, the dark areas appear to be particles (grog[?]), while in others they are more like stains. Surface colors range from reddish buff to black. The exterior surfaces are all light to well polished and the interiors well smoothed to lightly polished.

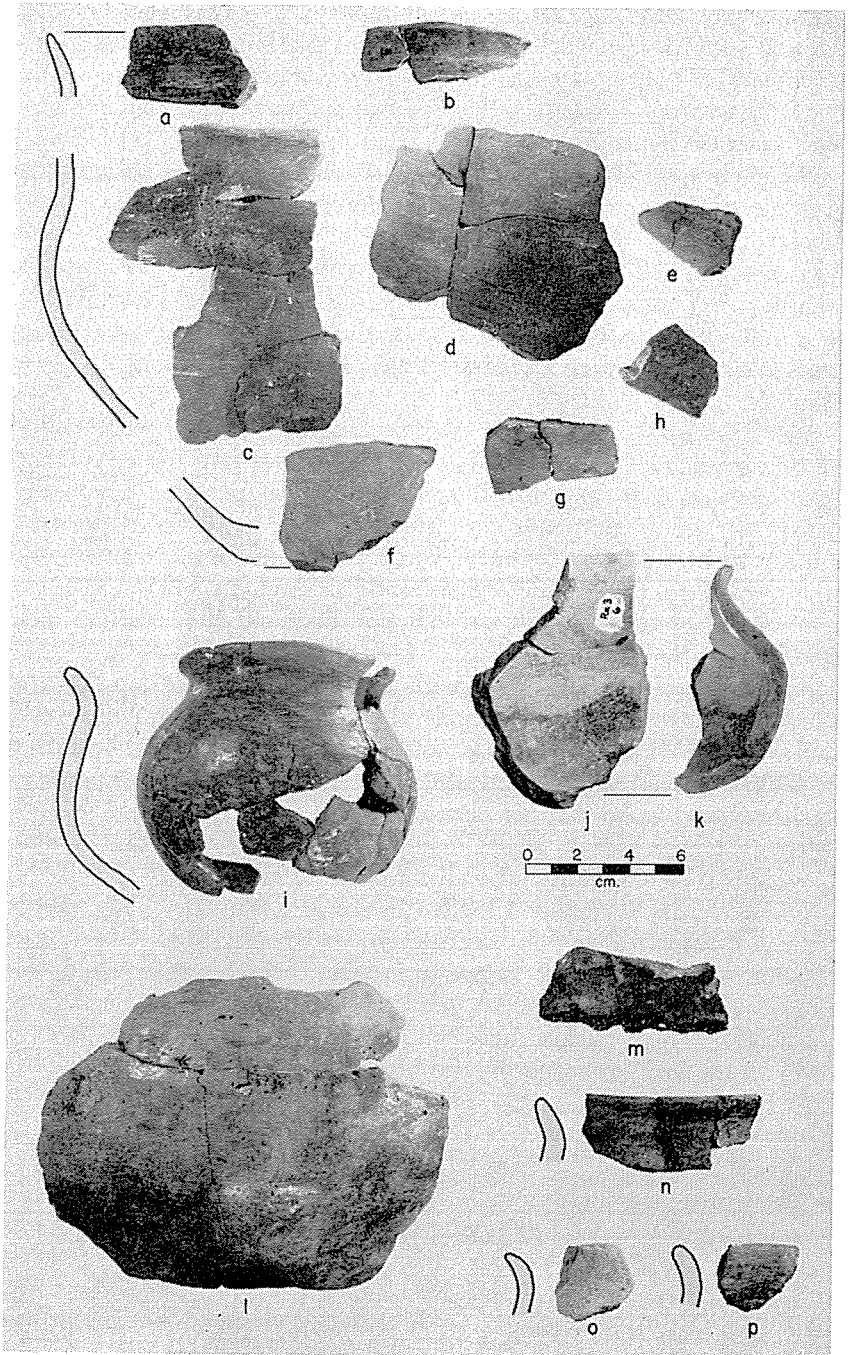
Sherd Group 4. The four sherds making up this group have a sandy paste with very finely pulverized white particles, apparently bone. Bone temper, however, is not common in the *Womack* pottery at Gilbert (it is obvious and abundant only in *Womack Engraved* variant Vessel 2) so that the classification of these sherds as *Womack Ware* is tenuous. It is based mainly on their buffish gray to gray to gray-black coloration and well finished surfaces.

Sherd Group 5. Included in this group are nine tiny body sherds with well smoothed to polished exteriors and poorly to well smoothed interiors. No intentional tempering agent can be recognized, although the paste is somewhat sandy and contains unidentified dark particles or areas. Surface hues range from gray-brown to black, core colors from dark brownish gray to black.

Miscellaneous Plain

SHELL TEMPERED

There are 494 undecorated, shell-tempered sherds from the site which are not typed. Their poorly finished surfaces, moderately abundant and coarse shell temper, and probable vessel forms — largely, if not entirely, small to medium-sized jars — clearly exclude them from *Womack Ware*. On the other hand, they do show similarities



with *Nocona Plain*, at least as that type is presently defined (Krieger, 1946: 109-111; Suhm and Jelks, 1962: 115). In terms of vessel shape, surface finish, and even in the amount and character of the temper, *Nocona*, however, includes quite a wide range of variation. That it could be made into a more serviceable analytical tool by restricting its definition is suggested by recent findings made by Dessamae Lorrain at Henrietta Focus sites in Fish Creek Reservoir, Montague County, Texas. Based upon her preliminary analysis of the Fish Creek material, Lorrain proposed (personal communication) that *Nocona Plain* be limited to large jars with very abundant quantities of shell temper. None of the undecorated shell-tempered sherds from Gilbert fit this description.

Of these 494 specimens, 68 can be assigned to three vessels. The remainder surely represent portions of many more vessels, but sorting them out has proved to be both a frustrating and fruitless task.

Vessel 1 (Fig. 62, i). Sixteen sherds from Feature 3 have been joined to form approximately three fourths of this vessel, a small jar with rounded body, constricted neck, and low, outflaring rim with an everted, slightly rounded lip. The base is missing, but it was probably slightly convex. The outside oral diameter is 8.6 cm., the height is estimated at 10 cm., and the wall thickness varies between 0.5 and 1.0 cm.

Neither the exterior nor the interior surface is particularly well finished and both are covered with broad, essentially horizontal striations which were probably produced in an effort to polish the vessel. The exterior surface is quite uneven, although shiny in spots, while the interior is generally more regular but less polished. Surface colors vary from reddish brown through shades of gray-brown and black. On the whole, the interior tends more toward the darker hues and is less fire mottled than the exterior. The core is uniformly darker in coloration and forms a striking contrast with the particles of crushed mussel shell used as temper. Limited amounts of fine sand also occur in the compact but rather rough paste.

Vessel 2 (Fig. 62, a-h). Although 47 sherds found scattered over three features (one in Feature 2, 45 in Feature 3, and one in Feature 6) seem to be from one vessel, very little of the vessel could be restored. It was evidently a fairly large, wide-mouthed jar with a low (ca. 3.0 cm. high), perhaps slightly outflaring rim, rounded shoulders, and a tapering body. The rounded lip is tapered and flush with the

FIGURE 62. Undecorated shell-tempered pottery. *a-b*, Vessel 2; *i*, Vessel 1; *j, k*, Vessel 3; *l*, large body sherd; *m-p*, typical rim sherds. Exterior to left on profiles.

rim (Fig. 62, a). Only a tiny segment of the base (Fig. 62, f) was recovered, but it is enough to indicate a circular, probably flat bottom which was heavily reinforced where it joined the body wall.

The paste of Vessel 2 is fairly smooth although it is not well bonded. Rather sparse, coarse particles (as much as 0.5 cm. in maximum dimension) of mussel shell appear as the only intentionally added aplastic. The core is orangeish toward the base, generally becoming darker, gray-buff to almost black, on the upper portion of the vessel. Because of unevenness in firing, surface colors also exhibit a considerable range, from orange-buff to black. Much of the interior surface is very well smoothed, while the exterior is a bit more uneven and covered with numerous horizontal to slightly diagonal striations. These striations occur in groups and could well be the result of smoothing with the fingers. Wall thickness is 0.5 cm. just below the lip, 0.6 cm. at the shoulders, and 1.4 cm. at the juncture of the body and the base.

Vessel 3 (Fig. 62, j-k). Five sherds from Feature 6 have been joined to form a jar fragment which has been reworked into a ladle. This restored section, a rim-to-base piece representing approximately one fourth of the original jar, either broke into a convenient cup-like shape or was so fashioned by intentional breakage. The surviving portion of the rim makes a ready handle, and a small, V-shaped notch gouged into one edge from the interior surface forms the pouring spout. One broken lateral edge (to the left in Fig. 62, j) of the rim seems to have been beveled and smoothed either intentionally or, perhaps less likely, from use. Thin, but quite distinct, dark stains appear about the notch on both the interior and exterior surfaces. These stains, along with surface discoloration produced by exposure to fire, indicate that a small amount of some as yet unidentified substance was heated and then poured through the spout.

Enough remains of the original jar to indicate that it had been a small vessel with a flat lip, a low (*ca.* 1.0 cm. high) outflaring rim, a rounded body, and a convex bottom. Over-all height was 8.7 cm., the outside oral diameter between 6 and 7 cm. Wall thickness ranges from 0.4 cm. at the lip to 1.0 cm. at the shoulder. The fine, compact paste is tempered with sparse amounts of pulverized mussel shell. Both surfaces are poorly smoothed, the exterior one being somewhat bumpy and the interior surface having numerous small striations. These scars are most concentrated on the body and may represent either deliberate roughening or efforts to scrape off some of the dark substance adhering to the interior surface. Except where

darkened by exposure to heat, the surfaces are a light grayish buff. The core is dark gray-black to black.

Sherds (Fig. 62, l-p). Included in this category are 32 rim fragments, 14 base pieces, and 80 body sherds. Although all are undecorated and shell tempered, they exhibit a fair amount of variation. The shell in the paste ranges from fine and sparse to coarse and moderately abundant, while the texture is from smooth and compact to rough and friable. Surface colors are predominately shades of gray, but buffish and reddish hues are also present. The cores are consistently darker and are most often dark gray to black. Polished surfaces are uncommon and most are either poorly smoothed or only moderately well smoothed, with the inside tending to be less well finished than the outside.

One large body sherd (actually three pieces glued together) stands out because of the pronounced unevenness in wall thickness (Fig. 62, e). On the exterior there are large and obvious depressions and on the interior complementary raises. These irregularities, of course, suggest the paddle and anvil technique with the supporting tool, the anvil, somewhat surprisingly having been held against the exterior. Additional finishing by scraping and smoothing is indicated by fine, horizontal striations, particularly evident on the interior.

While none of the rim sherds is very large (Fig. 62, m-p), most appear to have come from jars with low, straight to gently outflaring rims and flush lips, which are flat to slightly rounded. Two, however, have everted and thinned lips and a third has a slightly thickened lip. Each of the 14 recognizable base sherds is flat and disk shaped. Their diameters are from a maximum of 9 cm. to an estimated minimum of 4.5 cm.

BONE TEMPERED (Figure 63)

Of the 391 undecorated, untyped, bone-tempered sherds, 122 can unhesitatingly be assigned to four vessels. These vessels and the 269 unassigned sherds are briefly described below.

Vessel 1 (Fig. 63, a). Almost completely restored, this vessel is comprised of 57 sherds recovered from Feature 18. It is a large, wide-mouthed jar with a high, markedly outflaring rim, constricted neck, and gently rounded shoulder. Unlike most other jars from the site, the body tapers to a small (4.6 cm. in diameter) and slightly concave, disk-shaped base. The rounded, markedly undulating lip is flush with the rim. The orifice of the vessel is somewhat like a flattened circle, with the oral diameter varying from 25.5 to 26.8 cm. Maximum

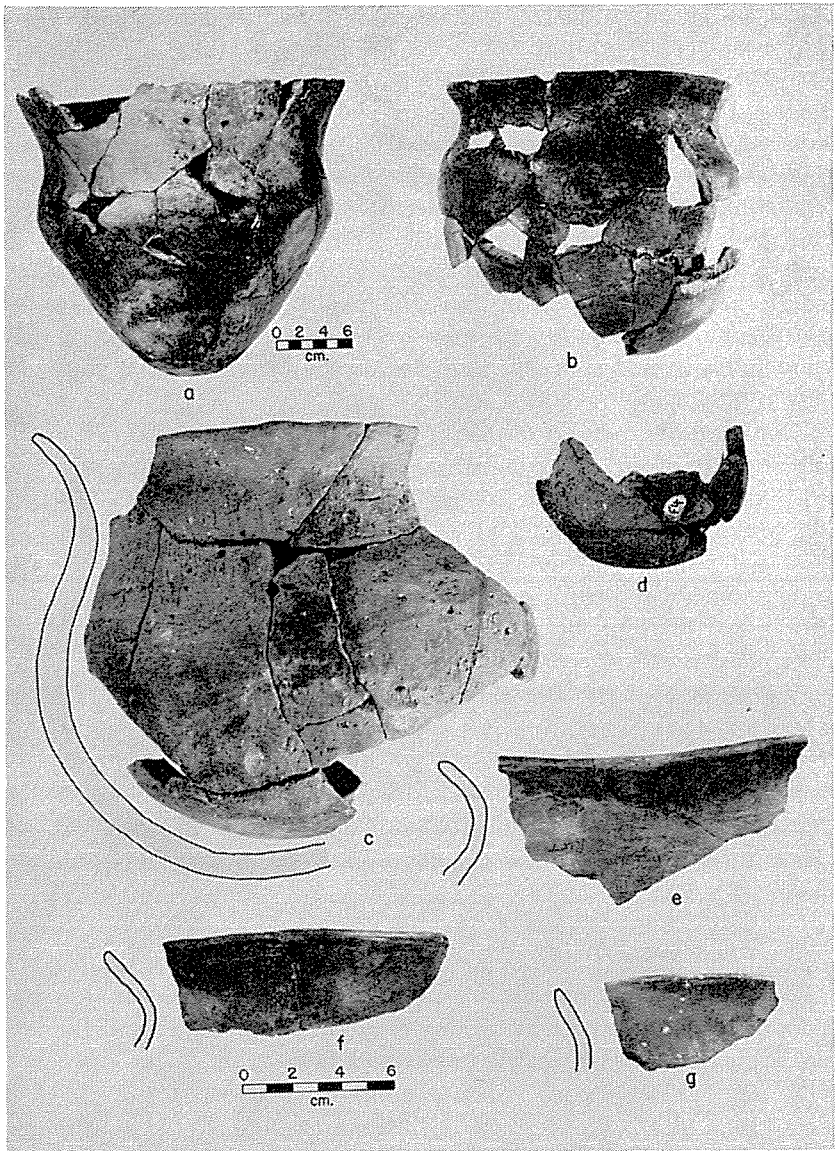


FIGURE 63. Undecorated bone-tempered pottery. *a*, Vessel 1; *b*, Vessel 2; *c*, Vessel 3; *d*, Vessel 4; *e-g*, typical rim sherds. Exterior to left on profiles.

diameter at the shoulder is approximately 24 cm., and the total height is 23.5 cm.

Conspicuous particles of coarsely pulverized bone as much as 6

mm. across are fairly abundant in the paste. The grayish buff paste is surprisingly firm, probably because of its slightly sandy nature. Both surfaces are moderately well smoothed despite the frequent bits of bone that protrude through them. The jar interior is predominately gray-buff to black and the exterior is reddish buff to black. In both cases the dark coloration is due mainly to organic stains. Portions of the interior surface of the rim are particularly heavily coated with this carbonaceous substance. Similar carbonaceous patches appear on the exterior surface, positioned as they would be if some food stuff were overheated and boiled over or the vessel were tipped and its contents partially spilled.

Six biconically drilled crack-lacing holes are on the vessel rim. One pair of opposing holes appears about 2.5 cm. below the rim. The other four are located on a nearly opposite side of the vessel where they served to mend a more complex fracture. They are in two pairs, one above the other, with the uppermost pair 2 cm. below the rim and the bottommost 5 cm. below the rim. Each hole is approximately 0.5 cm. in diameter.

Vessel 2 (Fig. 63, b). Twenty-seven sherds from Feature 3 and one from Feature 5 have been joined to reconstruct about two thirds of Vessel 2, a small, squat jar. An additional ten sherds, all from Feature 3, are undoubtedly from the same jar but could not be affixed. When complete, Vessel 2 stood 11.0 cm. high and had an outside oral diameter of 11.4 cm. Its rim was low (1.7 cm.), its shoulder gently rounded, its body globular, and its base flat and disk shaped. The walls reach a maximum thickness (0.8 cm.) at the shoulder area and thin out toward the base and toward the rim (0.6 and 0.5 cm., respectively).

Finely crushed pieces of bone appear as an intentional additive to the firm, somewhat sandy paste. Neither surface is well finished although the exterior is smoother than the interior. The inside is fairly uniform medium grayish buff color, while the exterior ranges from a darker gray-buff to black, the latter apparently the result of cooking stains.

Vessel 3 (Fig. 63, c). Known from 17 sherds (16 of which have been joined together) recovered from Feature 4, this roughly half-restored vessel was a jar with a globular body and a low (3.0 cm. high), outflaring rim. The base is flat and disk shaped, the shoulder is rounded, but not prominent, and the lip is flat and flush with the rim. Over-all height is 20.0 cm. and outside oral diameter is an estimated 19 cm. Maximum body diameter, at the shoulder, is approxi-

mately the same as the oral diameter. Wall thickness at the base is 1.0 cm., at the shoulder 1.1 cm., and at the lip 0.6 cm.

Vessel 3 is very crudely made. The abundant, coarse particles of crushed bone temper frequently protrude through the surface, the finish is rough and marred by numerous tool marks, and the lip is quite uneven. The paste is compact, gray-buff in color, and, in addition to the many pieces of bone, contains an occasional hematite fragment. Interior colors vary from buff to gray-buff, while the exterior is predominately reddish buff. There is no staining to indicate use as a cooking vessel.

Vessel 4 (Fig. 63, d). The only other partially restored, plain, bone-tempered vessel is a small, almost miniature pot. It is known from ten sherds, eight of which (six from Feature 3, two from Feature 4) have been glued together to form what appears to be the lower two thirds of the vessel. Since no rim sherds are included, the exact size and shape of Vessel 4 remains questionable. It is, however, clear that the body was globular (between 8.5 and 9.0 cm. in maximum diameter) and that the base was convex and not sharply differentiated from the body wall. The most probable form is either a cup-like bowl or a low, wide-mouthed jar which was no more than 10 cm. high.

Numerous moderately fine particles of pulverized bone and an occasional hematite pellet appear in the compact, coarse, sandy paste. Both surfaces are rough and grainy despite the presence of a thin veneer (intentional slip?) of fine clay. Core and surface colors are a fairly uniform grayish black with some reddish tones. The vessel wall is thickest at the base (1.0 cm.) and thins out to 0.6 cm. at the upper portion of the body.

Sherds (Fig. 63, e-g). Among the 269 miscellaneous plain, bone-tempered sherds are 31 rim pieces with lips intact, three basal fragments, and 235 body sherds. The bone temper in most cases is fairly abundant and moderately coarse, while the paste is usually a bit sandy.* Surface colors are most often various shades of buff, reddish

*A petrographic analysis of a typical sherd was made by Drs. B. J. Scull and Stanley B. McCaleb of the Sun Oil Laboratory in Richardson, Texas. They found minerals in the paste to include, in decreasing abundance: montmorillonite, quartz, muscovite, potash feldspar as orthoclase and microcline, hematite, magnetite (manganiferous hematite), clor-apatite or flour-apatite, diasporite, plagioclase. Some of the quartz, they noted, is coarsely rutiled and the albite plagioclase has wide twin planes suggesting the Tishomingo-type granites of the southern Arbuckle Mountain series. The soft white inclusions are composed of about equal parts of clor-apatite (or flour-apatite) and diasporite, and some have the outlines and fibrous structure of bone. As apatite and diasporite are not commonly found in intimate association, the original material may have been

buff, and brown; blacks and grays do occur but are less common than noted for the plain, shell-tempered sherds. Three body pieces have traces of a thin, red wash, and two appear to be slipped. Surface finish varies from poorly smoothed to lightly polished with the bone-tempered sherds being, on the average, better finished than the undecorated shell-tempered ones. This may be, at least in part, a reflection of finer paste, or it may be that a number of sherds from undecorated portions of bowls have been included. It is difficult to verify the latter possibility as the only shapes definitely indicated are jars with slightly to markedly outturned rims (Fig. 63, e-g). In all cases the lip form is simple: flush and rounded, sometimes slightly thinned. The three small base fragments appear to be from two vessels. One sherd is from a flat, disk-shaped base which was considerably thicker than the body wall. The other (actually two sherds which have been joined) is also disk shaped, but it is slightly concave and not much thicker than the body wall. *Womack Ware* is suggested by the latter base, but it is not so identified because such a classification is too tenuous (for example, Vessel 1 above also had a slightly concave base).

SHELL AND BONE TEMPERED

The paste of five body sherds contains finely pulverized particles of both bone and shell. In three the bone predominates, while in the other two shell is more common. Whether or not the minor constituent is an intentional or accidental additive is not apparent. All five sherds have grayish buff surfaces and darker, usually medium gray, cores. Their surfaces are only moderately well smoothed. No particulars can be determined concerning shape, although it is most likely that all are from jars, with a minimum of three vessels being represented. Wall thickness is 0.5 to 0.7 cm.

GROG TEMPERED (Figure 64)

One hundred forty-nine of the plain sherds are tempered with grog (i.e., crushed particles of fired clay). Included are 115 loose sherds which have been sorted into two groups, and two partially restored vessels.

Vessel 1 (Fig. 64, a). This deep cylindrical vessel is represented by 22 sherds (18 of which have been joined) from Feature 1. As it presently stands, it is 13.6 cm. high and about 17 cm. in maximum diameter. This restored portion includes most of the bottom and perhaps as much as two thirds of the body but none of the rim. Enough re-

bone and kaolinite, with the latter being altered to diaspore in the process of vessel manufacture.

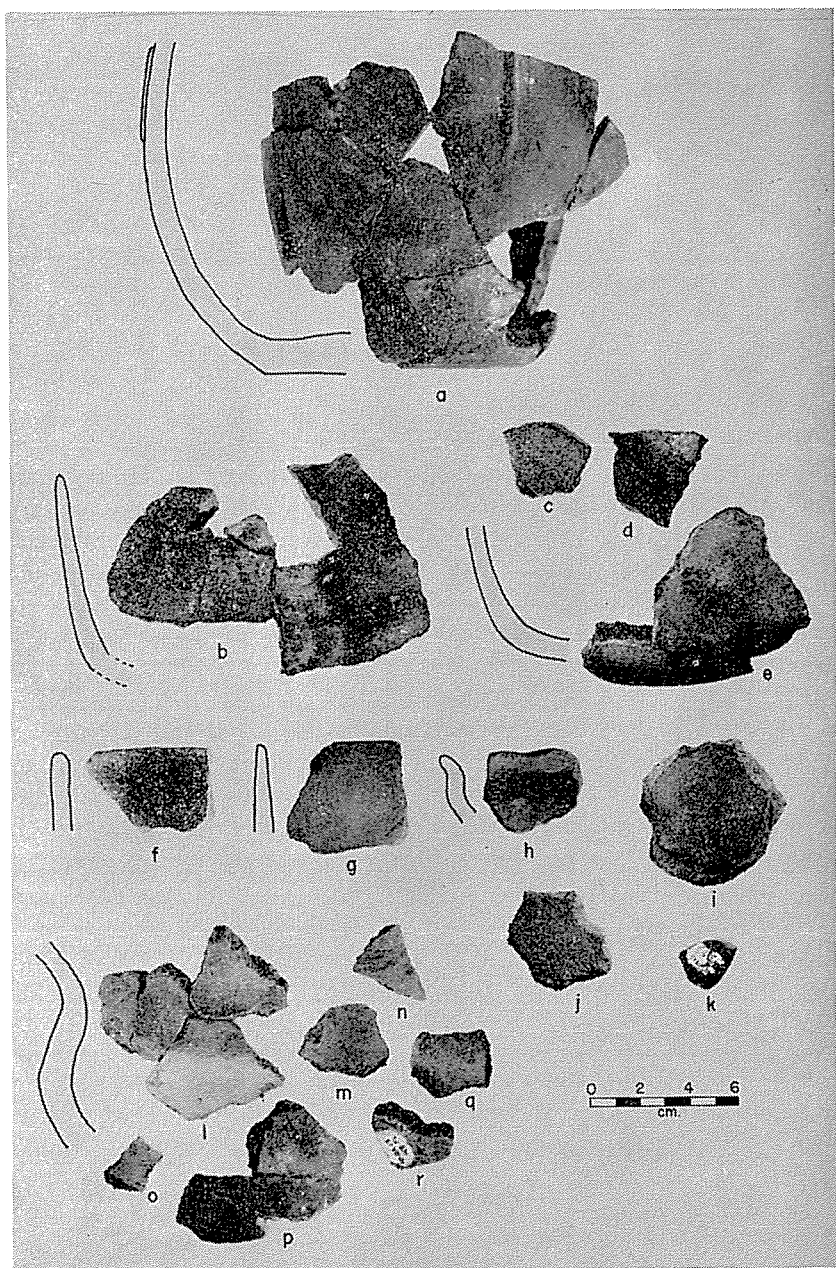


FIGURE 64. Undecorated grog-tempered and grog- and shell-tempered pottery. *a*, grog-tempered, Vessel 1; *b-e*, grog-tempered, Vessel 2; *f-h*, typical grog-tempered rim sherds; *i*, grog-tempered base sherd; *j, k*, grog-tempered Sherd Group 2; *l-r*, grog- and shell-tempered Vessel 1. Exterior to left on profiles.

mains to indicate that the body wall was convex and formed a sharp angle at its juncture with the base. The base is flat, circular (7.3 cm. in diameter), and thicker than the body walls (1.6 cm. versus 1.0 to 0.6 cm.).

Although only one is preserved, it is clear that there were two appliquéd strips on opposite sides of the upper body exterior. The surviving strip is 4.5 cm. long, 0.5 cm. wide, and approximately 0.3 cm. high. Both surfaces are grayish brown to black, moderately well smoothed, and bear shallow indentations made by a finishing tool. The core is quite dark, while the compact, slightly sandy paste contains numerous bits of grayish grog. Black stains and caked carbonaceous matter are present on portions of both surfaces, indicating use as a cooking vessel.

Vessel 2 (Fig. 64, b-e). Also found in Feature 1, this vessel, too, may originally have been a deep cylindrical bowl or jar. It is, however, known only from twelve sherds, ten of which have been glued together to form two larger sherds representing limited portions of the base and lower body. Much uncertainty surrounds details of shape, and all that can be said is that the body walls are outsloping and rounded at their juncture with the flattened, slightly thickened base. The upper edge of the highest projecting body sherd has been smoothed, indicating that Vessel 2 had been broken and a new rim formed by grinding. While the original height is impossible to reconstruct, the modified vessel stood about 9 cm. high.

Both surfaces are well smoothed and much of the exterior is now covered with black, sooty material. Less stained, the interior is predominately brownish gray. The darker core varies from black to dark gray. Because of the numerous pieces of grog, the paste is coarse and uneven.

Sherd Group 1 (Fig. 64, f-i). Most (107) of the undecorated sherds making up this category are nondescript body fragments with smoothed, but not polished, surfaces which are tan to gray-brown in color. There are only two basal fragments and four rim sherds with lips intact. The largest of the base sherds (Fig. 64, i) is a disk about 6 cm. in diameter; the other is also disk shaped but is too incomplete for measurement. Two of the rim fragments (Fig. 64, f, g) appear to have come from simple vessels with essentially straight walls. The third rim (Fig. 64, h) is scalloped and seems to be from an undecorated red-slipped, carinated bowl. The fourth is from a low (3.1 cm. high), slightly outflaring jar rim.

Sherd Group 2 (Fig. 64, j-k). The two sherds included in this group are separated from the above only because each shows signs

of having been modified. One (Fig. 64, j) is a flat body or base sherd which has portions of a biconically drilled hole. It was probably once disk shaped, with approximately half of the specimen now missing. None of the edges of the sherd is smoothed and it is possible that they have been recently broken. The other worked sherd (Fig. 64, k), a rim piece, is a pie-shaped fragment of a disk which may also have once been perforated. Portions of the lip have been left intact to form an edge of the disk, while the remainder of the preserved disk edge was formed by grinding. The first sherd is 0.8 cm. thick, the second one 0.5 cm.

GROG AND SHELL TEMPERED (Figure 64, l-r)

The paste of 17 sherds contains both grog and shell. While it is conceivable that the shell is derived from crushed sherds, it occurs in sufficient quantity to suggest that it, along with the grog, may be an intentional additive. Among the 17 sherds are a partially restored vessel and three loose body sherds which perhaps represent at least two more vessels.

Vessel 1 (Fig. 64, l-r). Thirteen sherds from Feature 6 and one from Feature 3 appear to be from a small, crudely made jar which had a low (approximately 2.4 cm. high), outturned rim, constricted neck, prominent shoulder, and globular body. No base or lower body sherds seem to be included, but the over-all height was probably less than 12 cm. The poorly smoothed exterior bears faint traces of a thin, bright red wash or slip, while the even less well finished inside surface is quite irregular and bears striations left by a finishing tool. Where not covered by the red wash, the exterior is tan to gray-black. The interior is a uniform gray, and the tan to gray core is only slightly darker than the surfaces. The walls are thick (0.8 to 1.4 cm.) and the paste quite rough but surprisingly compact.

Sherds. The only other grog- and shell-tempered specimens are three small body sherds. Their well-smoothed surfaces vary in color from gray-black to reddish tan. Two have smooth, compact pastes in which shell is slightly more common than grog. The paste of the third is much rougher and the particles of fired clay outnumber the pulverized bits of shell. At least two, perhaps even three, vessels are represented.

SANDY PASTE (Figure 65)

The pastes of 123 undecorated potsherds from Gilbert contain very fine to coarse sand grains but no other recognizable aplastic. Since

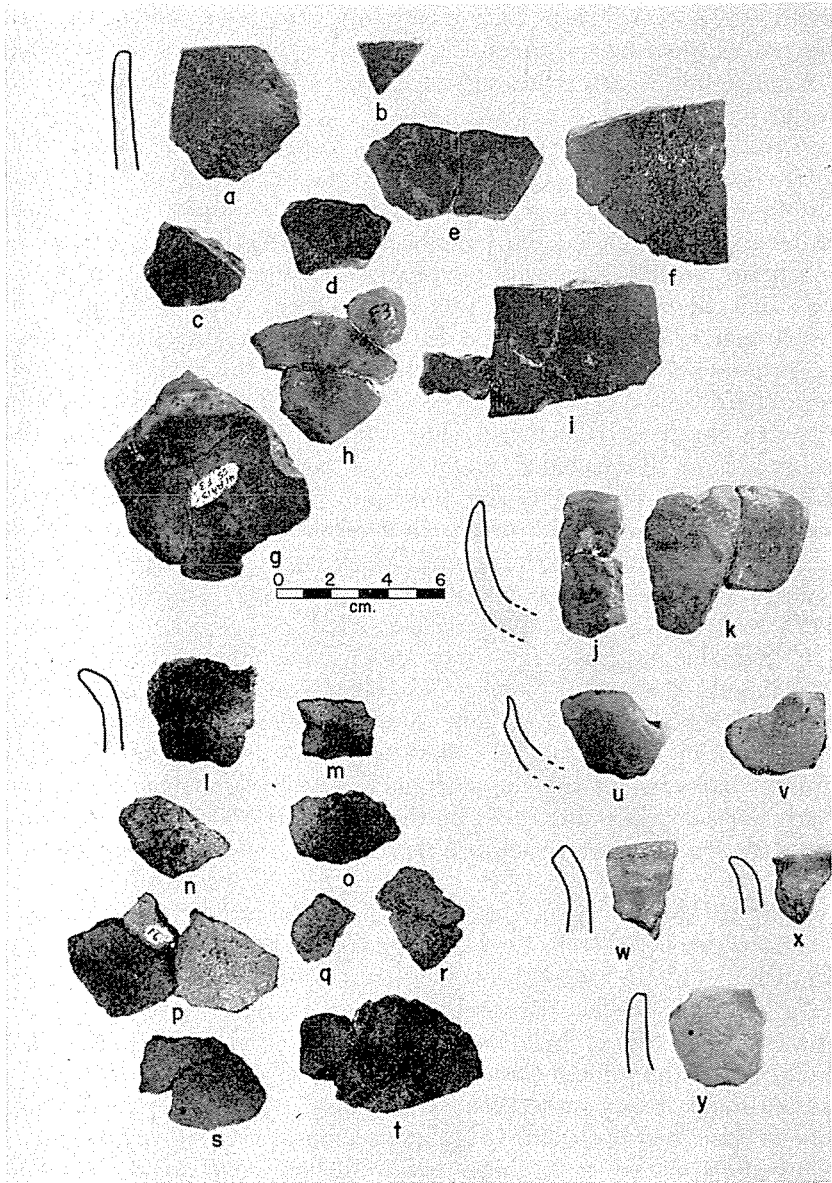


FIGURE 65. Undecorated, sandy paste pottery. *a-i*, Vessel 1; *j, k*, Vessel 2; *l-t*, Vessel 3; *u*, Vessel 4; *v-y*, rim sherds. Exteriors to left on profiles.

various combinations of sand and clay frequently occur in nature, it is not at all certain how much, if any, of the sand is an intentional

additive. To make clear this uncertainty, the term sandy paste is utilized. Seventy-two of these sherds can be assigned to four vessels; the remaining 51 are small and nondescript fragments impossible to assign to individual vessels.

Vessel 1 (Fig. 65, a-i). Although this vessel is represented by 44 sherds (seven from Feature 1 and 37 from Feature 3) only limited restoration could be accomplished. Moreover, the upper edges of two of the sherds (Fig. 65, a, b) have been ground flat forming a new lip and quite possibly somewhat modifying the original form. It is probable that the modified form was a cylindrical bowl or jar with a gently convex body wall and a flat circular base. While meaningful vessel dimensions are impossible to reconstruct, the curvature of the body sherds, the diameter of the base (6.9 cm.) and, to a lesser extent, the wall thickness (0.6 to 1.0 cm.) suggest a vessel that originally stood at least 13 cm. high.

The paste of Vessel 1 is fine and sandy with bits of hematite and dark, possibly carbonized, areas. As a result the core has a mottled appearance with the reddish and black areas forming a marked contrast with the predominately buffish gray core. The surfaces are black to brown black and poorly smoothed.

In terms of paste characteristics and surface coloration, this vessel is strikingly similar to *Womack Engraved Vessel 6* (Fig. 51, c-e), which interestingly, and probably quite coincidentally, also has a new lip formed by grinding. These likenesses, of course, suggest the possibility that some of the sherds from the two vessels may be incorrectly sorted. While this could be the case, it is quite clear nevertheless that two different vessels are represented, one decorated and one plain.

Vessel 2 (Fig. 65, j-k). Vessel 2 is a small, partially restored cup-like bowl recovered from Feature 3. Its convex body wall merges with a tapered, slightly rounded lip as well as with what appears to have been a slightly thicker, convex base. When complete, this bowl stood approximately 6.5 cm. high and had an outside oral diameter of about 8 cm. It is rather crudely made and may have been modeled directly from a lump of clay rather than having been coiled. The exterior surface is smoothed but quite irregular because of the many groove-like depressions left by a finishing tool. Although much of the interior surface has flaked off, it appears to have been somewhat better finished than the exterior. The soft, smooth paste contains fine, rounded particles of sand and a fragment of what seems to be a charred twig. The core is gray, turning yellowish toward the edges; the surfaces are gray with faint tinges of yellow. Wall thickness varies from 0.4

cm. near the lip to 1.0 cm. at the juncture of the body and the base.

Vessel 3 (Fig. 65, l-t). Each of the 23 sherds assigned to this vessel has a very coarse, sandy paste with numerous sand grains protruding through the poorly smoothed interior and exterior surfaces. The cores and surfaces are so black and heavily stained with a fugitive sooty substance that a close analysis of the paste is impossible without refiring. Since so few of these sherds could be joined, the exact size and shape of *Vessel 3* are uncertain. It is, however, probable that it was a small jar with an outflaring rim, a globular body, and a convex base.

Vessel 4 (Fig. 65, u). This clearly lump-modeled miniature bowl is known from a single sherd which, nonetheless, represents about one third of the complete vessel. It has a tiny, somewhat outflaring rim and a slight shoulder. The base is missing, but it appears to have been thick and rounded. When complete, the bowl was probably about 3.5 cm. high and had an oral diameter of between 4.0 and 4.5 cm. The paste is fine and sandy, the core black, the surfaces black to grayish brown. Neither surface has been smoothed. A number of tiny crescent-like scars—possibly produced by a fingernail—occur on both surfaces.

Sherds (Fig. 65, v-y). The 51 undecorated, sandy paste sherds not assignable to individual vessels are typically small and nondistinctive. Included are seven rim pieces with lips intact, two base sections, and 42 body fragments. Simple direct rims with flush lips prevail; however, one rim is low and markedly outflaring, while two are slightly out-turned with thickened lips. The two base sherds are probably from the flat, circular base of a single vessel. The only interesting body sherd (Fig. 65, v) is one that has a small conical node which protrudes about 0.8 cm. above the exterior surface and is about 1.1 cm. in diameter at the base. All of the sherds have a compact, sandy paste which varies from fine to medium in grain size. No other particles can be discerned in the paste, although there are occasional dark (carbonized?) areas. Both surfaces are usually fairly well smoothed and range in color from gray-black through buffish black to orange. The cores are consistently darker—most often either dark gray or black—than the surfaces.

TEMPER UNCERTAIN

A relatively small group of undecorated sherds cannot be assigned to any of the above categories, although a few do have slightly sandy pastes. Some, it must also be admitted, could be tempered with finely pulverized grog which has blended imperceptibly with the paste,

while others could have contained very finely crushed shell which has leached out. At any rate, the paste of all these sherds is smooth and fine with no tempering agent being recognized. All of the sherds are small, and they reveal no significant data concerning vessel form. Included are three rim fragments, three basal pieces, and 22 body fragments.

INTRASITE DISTRIBUTIONS

The intrasite distributions of the native-made vessels and fragments are given in Tables 5-8. Table 5 presents the distributions in terms of the minimal classificatory and recovery units, while Table 6 summarizes basic information obtained for individual vessels. Frequencies of occurrence are emphasized in Tables 7 and 8, with the former being a ranking of ceramic groups by feature and the latter a ranking of features by ceramic group. In all four tables the frequency data are expressed in terms of the smallest practical unit of observation, a sherd. The principal advantage of making all counts in terms of sherds is, quite obviously, that it makes all counts comparable. On the other hand, vessels, not sherds, are the products of manufacture. Vessel analysis, consequently, has a higher cultural yield and avoids some of the sampling problems encountered in dealing with sherds (e.g., a large pot is likely to break into more sherds than a small one, etc.). Since the sherd sample from many of the features (Table 5) is relatively small and quite possibly subject to distortion, it is regrettable that efforts to sort the entire sample into vessels were unsuccessful.

In spite of these limitations, the distributional data clearly reveal that much the same ceramic complex was recovered from most parts of the site. There are, however, some differences, the most apparent of which is the presence of only grog-tempered pottery (59 undecorated sherds and two incised sherds) in Area B. Less striking are differences within Area A: the near absence of *Womack Plain* in Feature 1; the absence of undecorated, bone-tempered pottery and *Womack Plain* in Feature 2; the high incidence of *Womack Plain* but somewhat low incidence of undecorated, grog-tempered sherds in Feature 3; and the high frequency of undecorated, bone-tempered sherds in Feature 18.

These distributional variations can, on theoretical grounds, be explained by one or more of the following hypotheses: (1) noncontemporaneous occupations are represented in various portions of the site, (2) all parts of the site were occupied contemporaneously but by diverse social groups, (3) all parts of the site were occupied concurrently and by the same social group but different activities were

carried out in different areas, and (4) no temporal or cultural differences exist and the observed variations in occurrences are errors in sampling. The best case for meaningful differences in the ceramics can be made for Area B where the pottery is so much at variance with a random pattern that it must surely represent a major temporal and/or cultural variation. Fortunately, the absence of trade goods from only this portion of the site provides a firm basis for placing the Area B occupation (or occupations?) in prehistoric times. As for the cultural affiliations and more exact age, the data are less conclusive. The geographical location suggests Caddoan, a possibility which does not conflict with the ceramic findings. However, in the absence of diagnostic types no more precise alignment can be made.

The remainder of the differences in ceramic occurrences may well be only vagaries in sampling. Certainly this seems to be the most plausible explanation for Features 2 and 18, both of which yielded only small samples of sherds. For Features 1 and 3, where the collections were larger, the distribution of *Womack Plain* tends to complement that of *Womack Engraved* (see comments below). Regardless, the most important conclusions to be reached are that all the features (but not Area B) are essentially coeval and that each feature reflects a similar activity—that is, the use of well defined trash areas. Support for these conclusions is given by the basic homogeneity of the ceramic distributions, the general agreement between the distributional expectations and the actual results (Tables 7 and 8), and the finding of sherds from individual vessels in several different features (Table 6).

TABLE 5 -- (Continued)

Classification	F1	F2	F3	F4	F5	F6	F7	F8	F10	F11	F12	F13	F15	F16	F17	F18	F19	F20	Area Surface &		Totals
																			B	Uncertain	
Vessel 2	1	45	1	5	30	44	2	4	3	12	16	1	12	16	1	1	1	1	12	47	47
Vessel 3	83	10	87	46	76	30	44	2	4	3	12	16	1	12	16	1	1	1	12	5	426
Sherds																				12	
Misc. Bone-Tempered																					
Vessel 1															57						57
Vessel 2			37	17	1																38
Vessel 3				8	2																17
Vessel 4			97	63	37	23	16	14	3	1	2	5	5	1	1	1	1	1	6		10
Sherds																				6	269
Shell- & Bone-Tempered				1	2							2									5
Crog-Tempered																					
Vessel 1	22																				22
Vessel 2	12																				12
Sherd Group 1	8	1	5	1	6	18	1	4				1							58	10	113
Sherd Group 2			1																1		2
Crog- & Shell-Tempered																					
Vessel 1			1	1	13	1															14
Sherds																				1	3
Sandy Paste																					
Vessel 1	7		37																		44
Vessel 2	4																				4
Vessel 3			3			20															23
Vessel 4						1															1
Sherds	16	3	8	7	5	3	1	1	2	2	2	2	2	1	1	1	1	1	2	2	51
Temper Uncertain	4	1	6	2	4	2	4	4	1	1	2	1	1	1	1	1	1	1	3	1	28
TOTALS	376	89	751	178	224	186	118	4	14	13	35	7	31	20	7	66	3	3	61	35	2,221

TABLE 6
Summary of vessel distributions and other pertinent data.

<i>Classification</i>	<i>Feature (No. of Sherds)</i>	<i>Vessel Form</i>	<i>Condition</i>	<i>Fig. Reference</i>
<i>Womack Engraved</i>				
Vessel 1	F1 (1), F4 (16)	Medium-sized, modified carinated bowl	ca. 1/2 restored; sherd from F1 affixed, 2 base sherds from F4 unattached.	50, a
Vessel 2	F1 (10)	Medium-sized, modified carinated bowl	5 sherds joined to form two larger sherds representing ca. 1/2 of the rim and shoulder; remaining 5 sherds are small body fragments.	50, b, c
Vessel 3	F1 (17)	Medium-sized, modified carinated bowl	15 rim, shoulder, and body sherds joined to form ca. 1/5 of vessel; 2 shoulder sherds unattached.	50, d
Vessel 4	F12 (17)	Medium-sized, modified carinated bowl	ca. 2/3 of rim/shoulder area represented by 4 restored sherds; only loose piece is a small body fragment. Perforation, probable crack-lacing hole, present.	50, e-h
Vessel 5	F3 (5)	Small, modified carinated bowl	Small section of rim, shoulder, and upper body restored.	51, a, b
Vessel 6	F3 (12)	Probably small, modified carinated bowl	Very limited restoration possible; new rim has been reformed by grinding.	51, c-e
<i>Womack Engraved variants</i>				
Vessel 1	F2 (24), F5 (1)	Small, modified carinated bowl	Slightly more than 1/2 of vessel restored; sherd from F5 not affixed.	52, i

TABLE 6 — Continued

<i>Classification</i>	<i>Feature (No. of Sherds)</i>	<i>Vessel Form</i>	<i>Condition</i>	<i>Fig. Reference</i>
Vessel 2	F3 (23), F4 (1), F5 (1)	Small, modified carinated bowl	Very few sherds could be joined, and none from F4 and F5 fits onto those from F3.	52, j-o
Vessel 3	F7 (8)	Small, modified carinated bowl	8 sherds glued together to form <i>ca.</i> 1/3 of rim/shoulder of bowl.	52, p
Vessel 4	F1 (2)	Modified carinated bowl	Consists of 2 loose sherds from shoulder area.	52, q, r
<i>Simms Engraved</i>				
Vessel 1	F2 (28)	Small carinated bowl	All sherds joined; gaps filled with plaster.	53, a, b
Vessel 2	F1 (29)	Small carinated bowl	All sherds joined; gaps filled with plaster.	53, c
<i>Natchitoches Engraved</i>				
Vessel 1	F3 (9)	Possibly a bottle with large body and small neck	8 sherds joined to form large body sherd.	54, a, b
<i>Natchitoches Engraved variants</i>				
Vessel 1	F1 (2), F3 (17), F4 (1)	Small bowl?	19 sherds joined to form 4 larger sherds representing portions of the body, rim, and upper body, and base and lower body; sherds from F1 and F4 affixed to sherds from F3.	54, c-g
Vessel 2	F3 (18)	Probably a large bottle	Restored portions include part of base and lower body.	54, h-k

TABLE 6 — Continued

<i>Classification</i>	<i>Feature (No. of Sherds)</i>	<i>Vessel Form</i>	<i>Condition</i>	<i>Fig. Reference</i>
Vessel 3	F4 (1), F7 (8)	Probably wide-mouth jar or bowl	All 9 sherds joined to form rim and upper body.	54, 1
Vessel 4	F3 (2), F6 (17), F7 (1), F10 (1)	Bowl	Only a few sherds from F6 could be joined to form several larger sherds representing rim and upper body areas.	54, m-aa
Vessel 5	F7 (1)	?	A rather small body sherd.	54, bb
<i>Miscellaneous Engraved</i>				
Vessel 1	F3 (16), F4 (1)	Large bowl	11 sherds, including one from F4, joined to form part of rim and upper body.	55, a-g
Vessel 2	F1 (1), F3 (10), F4 (1), F6 (17)	?	All sherds very small and few could be glued together; none from different features affixed to one another.	55, h-q
Vessel 3	F4 (4)	Small jar	All joined to form segment of rim, neck, and upper part of shoulder.	55, r
Vessel 4	F2 (5)	Small jar?	None of sherds joined.	55, s-w
<i>Emory Punctated</i>				
Vessel 1	F6 (1)	Jar	Sherd from lower rim and upper body area.	57, g
Vessel 2	F1 (2)	Jar	2 sherds joined to form part of rim and upper body.	57, h

TABLE 6 — Continued

Classification	Feature (No. of Sherds)	Vessel Form	Condition	Fig. Reference
Vessel 3	F4 (9)	Medium-sized jar	All sherds glued together to form a large sherd from the rim and upper body area.	57, i
<i>Brushed-Punctated</i> Vessel 1	F1 (13), F4 (6)	Medium-sized jar	5 large rim and body sherds restored by joining pieces from F3 and F4; 4 sherds unattached.	57, j-o
<i>Brushed-Combed</i> Vessel 1	F3 (37), F7 (8), F8 (1)	Large jar	Most of sherds from F8 and several from F7 glued together to form about 1/2 of vessel; sherd from F8 not attached.	58, a, b
<i>Brushed</i> Vessel 1	F4 (7)	Small bowl	All sherds joined to form ca. 1/3 of vessel.	58, c
<i>Pinched</i> Vessel 1	F18 (4)	Small bowl	All sherds joined to form 1/2 of vessel; remainder filled in with plaster.	59, g, h
<i>Womack Plain</i> Vessel 1	F1 (1), F3 (21), F7 (1)	Small, modified carinated bowl	Most of sherds from F3 joined to form slightly more than 1/2 of vessel; F1 and F7 sherds not affixed.	60, a, b
Vessel 2	F3 (24)	Medium-sized, modified carinated bowl	19 sherds joined to form ca. 1/2 of rim/shoulder area of vessel; 3 sherds joined to form small section of rim; remaining 2 sherds from upper body.	60, c

TABLE 6 — Continued

<i>Classification</i>	<i>Feature (No. of Sherds)</i>	<i>Vessel Form</i>	<i>Condition</i>	<i>Fig. Reference</i>
Vessel 3	F3 (23)	Medium-sized, modified carinated bowl	21 sherds joined to form 3 large rim/ shoulder sherds; 2 remaining sherds unattached.	60, d, e
Vessel 4	F7 (14)	Medium-sized, modified carinated bowl	Several large shoulder and body sherds restored.	60, g-j
<i>Undecorated shell-tempered</i>				
Vessel 1	F3 (16)	Small jar	16 sherds joined to form 2/3 of vessel.	62, i
Vessel 2	F2 (1), F3 (45), F6 (1)	Jar	Only limited restoration possible; sherds from F2 and F1 could not be attached.	62, a-h
Vessel 3	F6 (5)	Small jar reworked into ladle	All sherds joined to reconstruct com- plete ladle and ca. 1/3 of original vessel.	62, j, k
<i>Undecorated bone-tempered</i>				
Vessel 1	F18 (57)	Large jar	All sherds joined to restore most of vessel. Crack-lacing holes present.	63, a
Vessel 2	F3 (37), F5 (1)	Small jar	Most sherds, including 1 from F5, joined to restore ca. 2/3 of vessel.	63, b
Vessel 3	F4 (17)	Medium-sized jar	16 sherds joined to form slightly less than 1/2 of vessel.	63, c
Vessel 4	F3 (8), F4 (2)	?	8 sherds, including the 2 from F4, joined to form lower portion of ves- sel.	63, d

TABLE 6 — Continued

<i>Classification</i>	<i>Feature (No. of Sherds)</i>	<i>Vessel Form</i>	<i>Condition</i>	<i>Fig. Reference</i>
<i>Undecorated grog-tempered</i>				
Vessel 1	F1 (22)	Deep cylindrical jar or bowl	18 sherds glued together to restore portions of base and lower body wall.	64, a
Vessel 2	F1 (12)	Cylindrical jar or bowl	10 sherds joined to form 2 large sherds from base and lower body wall. New lip produced by grinding.	64, b-e
<i>Undecorated grog- and shell-tempered</i>				
Vessel 1	F3 (1), F6 (13)	Small jar	Very limited restoration accomplished; sherd from F3 not attached.	64, l-r
<i>Undecorated sandy paste</i>				
Vessel 1	F1 (7), F3 (37)	Possibly a cylindrical jar or bowl	Few sherds could be glued together and none from F1 affixed to those from F3.	65, a-i
Vessel 2	F1 (4)	Small, cup-like bowl	4 sherds joined to form 2 larger sherds which represent ca. 1/3 of vessel.	65, j, k
Vessel 3	F3 (3), F6 (20)	Small jar?	Few sherds joined together and none from F3 attached to ones from F6.	65, l-t
Vessel 4	F6 (1)	Miniature bowl	About 1/2 of vessel represented.	65, u

TABLE 7

Sherd frequencies by site and feature.
Only features yielding at least 61 sherds are included.

	<i>Sherds</i>	<i>Percent</i>
SITE AS A WHOLE	2,221	100.0
Undecorated, shell-tempered	494	22.24
Undecorated, bone-tempered	391	17.60
<i>Womack Ware</i>	165	7.42
<i>Womack Engraved</i>	158	7.11
Undecorated, grog-tempered	149	6.71
Undecorated, sandy paste	123	5.54
<i>Womack Plain</i>	115	5.18
Incised	98	4.41
Miscellaneous engraved	91	4.10
Brushed	85	3.83
<i>Natchitoches Engraved</i> variants	69	3.11
<i>Womack Engraved</i> variants	60	2.70
<i>Simms Engraved</i>	59	2.66
Brushed-combed	46	2.07
Undecorated, temper uncertain	28	1.26
Brushed-punctated	19	0.86
Punctated	18	0.81
Undecorated, grog- and shell-tempered	17	0.77
<i>Emory Punctated</i>	12	0.54
<i>Natchitoches Engraved</i>	9	0.41
Undecorated, shell- and bone-tempered	5	0.22
Pinched	4	0.18
Appliquéd-incised	3	0.13
Combed	2	0.09
Appliquéd	1	0.05
FEATURE 1	376	100.0
Undecorated, bone-tempered	97	25.8
Undecorated, shell-tempered	83	22.1
<i>Womack Engraved</i>	46	12.2
Undecorated, grog-tempered	42	11.2
<i>Simms Engraved</i>	29	7.7
Undecorated, sandy paste	27	7.2
Brushed-punctated	13	3.4
Miscellaneous engraved	9	2.4
Incised	9	2.4
Punctated	5	1.3
Brushed	4	1.1
Undecorated, temper uncertain	4	1.1
<i>Womack Engraved</i> variants	2	0.5
<i>Natchitoches Engraved</i> variants	2	0.5
<i>Emory Punctated</i>	2	0.5
<i>Womack Plain</i>	1	0.3
Appliquéd	1	0.3
FEATURE 2	89	100.0
<i>Simms Engraved</i>	28	31.5
<i>Womack Engraved</i> variants	24	27.0
Undecorated, shell-tempered	11	12.4

TABLE 7— (Continued)

<i>Womack Engraved</i>	7	7.9
Incised	7	7.9
Miscellaneous engraved	5	5.6
Undecorated, sandy paste	3	3.4
Brushed	2	2.3
Undecorated, grog-tempered	1	1.1
Undecorated, temper uncertain	1	1.1
FEATURE 3	751	100.0
Undecorated, shell-tempered	148	19.7
<i>Womack Ware</i>	120	16.0
Undecorated, bone-tempered	108	14.4
<i>Womack Plain</i>	91	12.1
Undecorated, sandy paste	48	6.4
Miscellaneous engraved	40	5.3
Brushed-combed	37	4.9
Brushed	32	4.3
<i>Womack Engraved</i>	25	3.3
Incised	20	2.7
<i>Natchitoches Engraved</i>	9	1.2
Undecorated, temper uncertain	6	0.8
Undecorated, grog-tempered	6	0.8
Undecorated, grog- and shell-tempered	1	0.1
<i>Womack Engraved</i> variant	23	3.1
<i>Natchitoches Engraved</i> variant	37	4.9
FEATURE 4	178	100.0
Undecorated, bone-tempered	56	31.5
Undecorated, shell-tempered	46	25.8
<i>Womack Engraved</i>	22	12.3
<i>Emory Punctated</i>	9	5.0
Brushed	9	5.0
Undecorated, sandy paste	7	3.9
Brushed-punctated	6	3.4
Incised	5	2.8
Punctated	3	1.7
Miscellaneous engraved	3	1.7
<i>Womack Ware</i>	3	1.7
<i>Natchitoches Engraved</i> variants	2	1.1
Undecorated, temper uncertain	2	1.1
Appliquéd-incised	1	0.6
Undecorated, grog-tempered	1	0.6
Undecorated, grog- and shell-tempered	1	0.6
Undecorated, shell- and bone-tempered	1	0.6
<i>Womack Engraved</i> variant	1	0.6
FEATURE 5	224	100.0
Undecorated, shell-tempered	77	34.4
<i>Womack Ware</i>	37	16.5
Incised	27	12.0
Undecorated, bone-tempered	24	10.7
<i>Womack Engraved</i>	17	7.6
Miscellaneous engraved	9	4.0
Punctated	7	3.1

TABLE 7 — (Continued)

Undecorated, grog-tempered	6	2.7
<i>Womack Plain</i>	5	2.2
Undecorated, sandy paste	5	2.2
Undecorated, temper uncertain	4	1.8
Appliquéd-incised	2	0.9
<i>Womack Engraved</i> variants	2	0.9
<i>Simms Engraved</i>	1	0.4
Brushed	1	0.4
FEATURE 6	186	100.0
Undecorated, shell-tempered	35	18.8
Undecorated, sandy paste	24	12.9
Incised	18	9.7
Undecorated, grog-tempered	18	9.7
<i>Natchitoches Engraved</i> variants	17	9.1
Miscellaneous engraved	17	9.1
Brushed	17	9.1
Undecorated, bone-tempered	16	8.6
Undecorated, grog- and shell-tempered	14	7.5
<i>Womack Engraved</i>	4	2.6
Undecorated, temper uncertain	2	1.0
<i>Womack Ware</i>	2	1.0
<i>Emory Punctated</i>	1	0.5
<i>Womack Plain</i>	1	0.5
FEATURE 7	118	100.0
Undecorated, shell-tempered	44	37.3
<i>Womack Plain</i>	16	13.5
Undecorated, bone-tempered	14	11.9
<i>Natchitoches Engraved</i> variants	10	8.5
<i>Womack Engraved</i> variants	8	6.8
Brushed-combed	8	6.8
Undecorated, temper uncertain	4	3.4
Brushed	3	2.5
Punctated	2	1.7
Undecorated, shell- and bone-tempered	2	1.7
<i>Womack Engraved</i>	1	0.8
<i>Simms Engraved</i>	1	0.8
Miscellaneous engraved	1	0.8
Incised	1	0.8
Combed	1	0.8
Undecorated, grog-tempered	1	0.8
Undecorated, sandy paste	1	0.8
FEATURE 18	66	100.0
Undecorated, bone-tempered	58	87.9
Pinched	4	6.1
<i>Womack Engraved</i>	1	1.5
Incised	1	1.5
Brushed	1	1.5
Undecorated, shell-tempered	1	1.5
AREA B	61	100.0
Undecorated, grog-tempered	59	96.7
Incised	2	3.3

TABLE 8
Ceramic classification and frequency distributions.

<i>ALL CLASSES</i>		
Feature 3	751 sherds	
Feature 1	376 sherds	
Feature 5	224 sherds	
Feature 6	186 sherds	
Feature 4	178 sherds	
Feature 7	118 sherds	
Feature 2	89 sherds	
Feature 18	66 sherds	
Area B	61 sherds	
Feature 12	35 sherds	
Uncertain provenience	35 sherds	
Feature 15	31 sherds	
Feature 16	20 sherds	
Feature 10	14 sherds	
Feature 11	13 sherds	
Feature 13	7 sherds	
Feature 17	7 sherds	
Feature 8	4 sherds	
Feature 19	3 sherds	
Feature 20	3 sherds	
	<i>Sherds</i>	<i>Percent</i>
<i>Womack Engraved</i>	158	100.0
Feature 1	46	29.1
Feature 3	25	15.8
Feature 4	22	13.9
Feature 12	18	11.4
Feature 5	17	10.8
Feature 2	7	4.4
Feature 11	6	3.8
Feature 17	6	3.8
Feature 6	4	2.5
Uncertain	2	1.3
Feature 7	1	0.6
Feature 16	1	0.6
Feature 18	1	0.6
Feature 20	1	0.6
Feature 15	1	0.6
<i>Natchitoches Engraved</i>	9	100.0
Feature 3	9	100.0
<i>Miscellaneous Engraved</i>	91	100.0
Feature 3	40	44.0
Feature 6	17	18.9
Feature 1	9	9.9
Feature 5	9	9.9
Feature 2	5	5.5
Feature 10	2	2.2
Feature 12	2	2.2
Feature 4	3	3.3

TABLE 8 — (Continued)

Feature 7	1	1.1
Feature 11	1	1.1
Feature 15	1	1.1
Feature 16	1	1.1
<i>Womack Engraved</i> variants	60	100.0
Feature 2	24	40.0
Feature 3	23	38.3
Feature 7	8	13.3
Feature 1	2	3.3
Feature 5	2	3.3
Feature 4	1	1.7
<i>Simms Engraved</i>	59	100.0
Feature 1	29	49.2
Feature 2	28	47.4
Feature 5	1	1.7
Feature 7	1	1.7
<i>Natchitoches Engraved</i> variants	69	100.0
Feature 3	37	53.6
Feature 6	17	24.6
Feature 7	10	14.5
Feature 4	2	2.9
Feature 1	2	2.9
Feature 10	1	1.4
<i>Punctated</i>	18	100.0
Feature 5	7	38.9
Feature 1	5	27.8
Feature 4	3	16.7
Feature 7	2	11.1
Feature 12	1	5.5
<i>Incised</i>	98	100.0
Feature 5	27	27.6
Feature 3	20	20.4
Feature 6	18	18.4
Feature 1	9	9.2
Feature 2	7	7.1
Feature 4	5	5.1
Feature 19	3	3.1
Feature 16	2	2.0
Area B	2	2.0
Feature 7	1	1.0
Feature 8	1	1.0
Feature 11	1	1.0
Feature 17	1	1.0
Feature 18	1	1.0
<i>Brushed-Combed</i>	46	100.0
Feature 3	37	80.4

TABLE 8 — (Continued)

Feature 7	8	17.4
Feature 8	1	2.2
<i>Combed</i>	2	100.0
Feature 7	1	50.0
Feature 15	1	50.0
<i>Appliquéd</i>	1	100.0
Feature 1	1	100.0
<i>Appliquéd Incised</i>	3	100.0
Feature 5	2	66.7
Feature 4	1	33.3
<i>Emory Punctated</i>	12	100.0
Feature 4	9	75.0
Feature 1	2	16.7
Feature 6	1	8.3
<i>Brushed-Punctated</i>	19	100.0
Feature 1	13	68.4
Feature 4	6	31.6
<i>Brushed</i>	85	100.0
Feature 3	32	37.7
Feature 6	17	20.0
Feature 4	9	10.6
Feature 12	9	10.6
Feature 1	4	4.7
Feature 15	4	4.7
Feature 7	3	3.5
Feature 2	2	2.6
Feature 8	2	2.6
Feature 5	1	1.2
Feature 18	1	1.2
Feature 20	1	1.2
<i>Womack Plain</i>	115	100.0
Feature 3	91	79.1
Feature 7	16	13.9
Feature 5	5	4.3
Feature 1	1	0.9
Feature 6	1	0.9
Feature 15	1	0.9
<i>Pinched</i>		
Feature 18	4	100.0
<i>Womack Ware</i>	165	100.0
Feature 3	120	72.7
Feature 5	37	22.4
Feature 4	3	1.8

TABLE 8 - (Continued)

Feature 6	2	1.2
Feature 11	2	1.2
Uncertain	1	0.6
<i>Undecorated, Shell-Tempered</i>	494	100.0
Feature 3	148	30.0
Feature 1	83	16.8
Feature 5	77	15.6
Feature 4	46	9.3
Feature 7	44	8.9
Feature 6	35	7.1
Feature 16	16	3.2
Feature 15	12	2.4
Uncertain	12	2.4
Feature 2	11	2.2
Feature 12	4	.8
Feature 13	3	.6
Feature 10	2	.4
Feature 18	1	.2
<i>Undecorated, Shell- and Bone-Tempered</i>	5	100.0
Feature 7	2	40.0
Feature 15	2	40.0
Feature 4	1	20.0
<i>Undecorated, Bone Tempered</i>	391	100.0
Feature 3	108	27.6
Feature 1	97	24.8
Feature 18	58	14.8
Feature 4	56	14.3
Feature 5	24	6.1
Feature 6	16	4.1
Feature 7	14	3.6
Uncertain	6	1.5
Feature 15	5	1.3
Feature 10	3	.8
Feature 13	2	.5
Feature 11	1	.3
Feature 12	1	.3
<i>Undecorated, Grog-Tempered</i>	149	100.0
Area B	59	39.6
Feature 1	42	28.2
Feature 6	18	12.1
Uncertain	10	6.7
Feature 3	6	4.0
Feature 5	6	4.0
Feature 10	4	2.7
Feature 2	1	.6
Feature 4	1	.6
Feature 7	1	.6
Feature 15	1	.6

TABLE 8 - (Continued)

<i>Undecorated, Grog- and Shell-Tempered</i>	17	100.0
Feature 6	14	82.3
Feature 3	1	5.9
Feature 4	1	5.9
Uncertain	1	5.9
<i>Undecorated, Sandy Paste</i>	123	100.0
Feature 3	48	39.0
Feature 1	27	22.2
Feature 6	24	20.0
Feature 4	7	5.7
Feature 5	5	4.1
Feature 2	3	2.4
Feature 11	2	1.6
Feature 15	2	1.6
Uncertain	2	1.6
Feature 7	1	.8
Feature 10	1	.8
Feature 20	1	.8
<i>Undecorated, Temper Uncertain</i>	28	100.0
Feature 3	6	21.4
Feature 1	4	14.3
Feature 5	4	14.3
Feature 7	4	14.3
Feature 4	2	7.1
Feature 6	2	7.1
Feature 13	2	7.1
Feature 2	1	3.6
Feature 10	1	3.6
Feature 15	1	3.6
Uncertain	1	3.6

INTERSITE DISTRIBUTION

The pottery from the features compares most favorably with ceramics recovered from components of the Norteño Focus, an archeological complex that Duffield and Jelks (1961: 69-75) have convincingly linked with 18th and 19th century southern Wichita-speaking peoples, Taovayas, Tawakoni, Kichai, Yscani, Waco, and Wichita proper. Indeed, the similarity is such that there can be no doubt that the historic occupation at Gilbert is also a component of this focus.

Among the sites recognized as having Norteño Focus occupations—Sanders and Womack in Lamar County, Spanish Fort and related sites in Montague County and in nearby parts of Oklahoma, Stansbury in Hill County, Stone in McLennan County, Vinson in Limestone

County, and Pearson and Gilbert in Rains County—the most frequently shared ceramic traits are types *Womack Engraved* and undecorated, shell-tempered pottery which is often (but not herein) identified as *Nocona Plain* (Duffield and Jelks, 1961: 71-72). Other ceramic comparisons are difficult as only the pottery from Pearson and Womack have been described in any detail. Of these two sites, just Womack has yielded a collection which is comparable in size to that recovered from Gilbert. Pottery common to both includes, in addition to the above, *Emory Punctated*, *Simms Engraved*, *Natchitoches Engraved*, untyped incised and punctated sherds, and plain grog- (or “grit-”) tempered pottery. Present at Gilbert but not recognized at Womack are undecorated, bone-tempered pottery, *Womack Plain*, and several plastic decorative techniques (combing, appliquéing, brushing, and pinching). Conversely, at Womack but not at Gilbert are types *Hudson Engraved* and *Avery Engraved* (both as trade ware), as well as a high incidence of *Womack Engraved* Design B (Design A was far and away the most common at Gilbert).

Harris, Harris, Blaine, and Blaine (1965: 303) have already called attention to the temporal and possible spatial significance of the design variations found on *Womack Engraved*. Specifically, they note:

To judge from the writers' collections, the same design (Design B) is the most common in the Norteño Focus component at the Sanders Site. Significantly, Sanders and Womack appear to be the earliest of the Norteño sites on Red River. While much less frequent, Design C seems to occur along with Design A (*sic**) at both of these sites. Design A, a very minor motif at Womack, becomes more important at Norteño sites located on the Sabine, Brazos, and upper Red Rivers, apparently at the cost of Designs B and C. Design D, as far as is presently known, occurs only at the Gilbert and Womack sites where in both cases it is a very minor form (one and four examples, respectively).

The other ceramic differences between the Gilbert and Womack Sites may follow similar patterns. If so, a check would seem to be at hand in the form of the Pearson Site pottery, as Pearson is near Gilbert but possibly was occupied slightly later (Duffield and Jelks, 1961: 77-79). However, in making a comparison with Pearson it must be emphasized that this site yielded only 272 sherds. With this in mind, the two collections seem significantly similar. In addition to *Womack Engraved* (design motifs not generally discernible), Pearson has undecorated bone-tempered and shell-tempered, and sandy paste sherds in roughly the same proportions as Gilbert. Also the same plastic decorative techniques, exclusive of combing, are present. Absent at Pearson, but known from Gilbert, are *Womack Plain*, *Simms Engraved*, and, less

* This should read Design B.

certainly, *Natchitoches Engraved* and *Emory Punctated*. In view of the inequitable sample sizes, the possible absence of *Natchitoches* and *Emory* at Pearson is probably not important. As for *Simms*, it almost certainly represents trade with historic Caddoan peoples rather than local Norteño manufacture. Perhaps it was simply not traded for by the historic occupants at Pearson, or, more likely, it was no longer being made by Caddoan peoples at the time of the Norteño stay at that site. The apparent absence of *Womack Plain* is less easily disregarded, unless it is a type unique to Gilbert. It has not been recognized in The University of Texas collections from Sanders and Womack, a situation which initially suggested the likelihood that it is a fairly late Norteño type. This does not seem to be borne out at Pearson, but perhaps the sample is too small and fragmentary for recognition of *Womack Plain*. Certainly, this and many other questions concerning the pottery can only be answered when additional collections have been reported in detail and particular attention has been given to specific and well defined attributes.

SUMMARY AND CONCLUSIONS

The foregoing analysis of the 2,221 fragments of native-made vessels reveals that two cultural components, one prehistoric, the other historic, are represented at the Gilbert Site. The earlier and less intensive of the two, identified as Caddoan, was found to occupy only Area B on the northern fringe of the site (Fig. 1). The small ceramic collection made there consisted solely of grog-tempered sherds (59 plain and two incised), apparently from simple bowls and jars having direct rims and flat, circular bases. Precise cultural affiliations cannot be assigned, although the probable vessel forms present, the seemingly high incidence of plain pottery and the temper agent used are all suggestive of Gibson Aspect ceramics, particularly those of the Sanders Focus.

The pottery from the remainder of the site—from 18 of the features in Area A—is attributed to the second and later component, the historic Norteño Focus. It is markedly different from, and far more diverse than, the pottery recovered from Area B. Included is a striking variety of decorative techniques, vessel forms, and tempering materials. In spite of this diversity, few, if indeed any, significant variations could be observed in the pottery collected from the various features. While it is conceivable that this could be a result of inappropriate units of analysis (either the classificatory or the distributional ones, or both), it is believed that the present study has

resulted in an essentially valid picture of the history of the site and the culture of its occupants. Among the inferences that can be drawn from the ceramics found in Area A are:

1) The features represent discrete trash accumulations, a conclusion supported by the fragmentary condition of the pottery and by the scattered distribution of many of the individual vessels. The latter especially suggests that breakage occurred elsewhere, presumably in a nearby dwelling area (or areas).

2) Most, if not all, of the features are generally contemporaneous and many were probably in use simultaneously. The ceramics from the features are quite similar and the few differences which can be observed are probably due mainly to errors in sampling.

3) Only in the surprisingly concentrated occurrence of *Womack Plain* may there be a meaningful variation in the interfeature distributions. It is possible, but not now demonstrable, that this reflects a slightly different age for Feature 3 and perhaps even for Feature 7, where 91 per cent and 16 per cent, respectively, of the sherds recovered were *Womack Plain*. Of course, it is also possible that *Womack Plain* was made by only one or a few persons (presumably women) at Gilbert and, consequently, was not characteristic of the community as a whole.

4) While the interfeature distributions overwhelmingly suggest that a single, integrated socio-cultural group occupied the site during historic times, the pottery seems too stylistically and technologically diverse to represent only one *locally-produced* ceramic complex. Some types, such as *Simms Engraved* and, less certainly, *Natchitoches Engraved* (including the somewhat aberrant examples found at the site) were very probably obtained from historic Caddo Indians. How much of the remainder of the pottery represents introduced wares and how much represents locally manufactured Norteño wares is very difficult to say. Ceramics common to the late occupations at the Gilbert, Womack (Harris et al., 1965), and Pearson (Duffield and Jelks, 1961) sites, the only components reported in sufficient detail for consideration here, are principally *Womack Engraved*, *Emory Punctated* (probably, but not certainly, present at Pearson), and an undecorated shell-tempered ware which is often identified as *Nocona Plain*. These are perhaps the major types made by the Norteños during the early and middle 18th century. Other, apparently not so widespread ceramics—including certain engraved types found at Womack (*Hudson and Avery*),

and the undecorated bone-tempered pottery and various textured utility wares common to Gilbert and Pearson—may be the result of exchange or close social association (such as intermarriage—coupled with patrilocal residence pattern—with another group or groups).

5) Regardless of how much of the pottery was made locally, it is unquestionable (as Duffield and Jelks have already pointed out) that the majority, and perhaps even all, of the decorated ceramics are derived ultimately from the Caddoan, particularly Fulton Aspect, tradition. Many close parallels exist in the modes and styles of decoration, paste characteristics, and vessel forms.

6) The derivation (or derivations) of the plain pottery is less clear. Plain shell-tempered and bone-tempered jars are very common at Gilbert but are not characteristic of late Caddoan ceramics. The shell-tempered jars could well be a reflection of Mississippian influence, while the bone-tempered ones may be a more localized development, one which certainly has prehistoric antecedents in the general vicinity of the Gilbert Site.

7) Lastly, it can be noted that a striking number of the vessels from Gilbert show signs of having been repaired or in some way modified into serviceable containers after breakage had occurred. This suggests that relatively few vessels were being made by the occupants; perhaps they were gradually being replaced by European-produced containers.

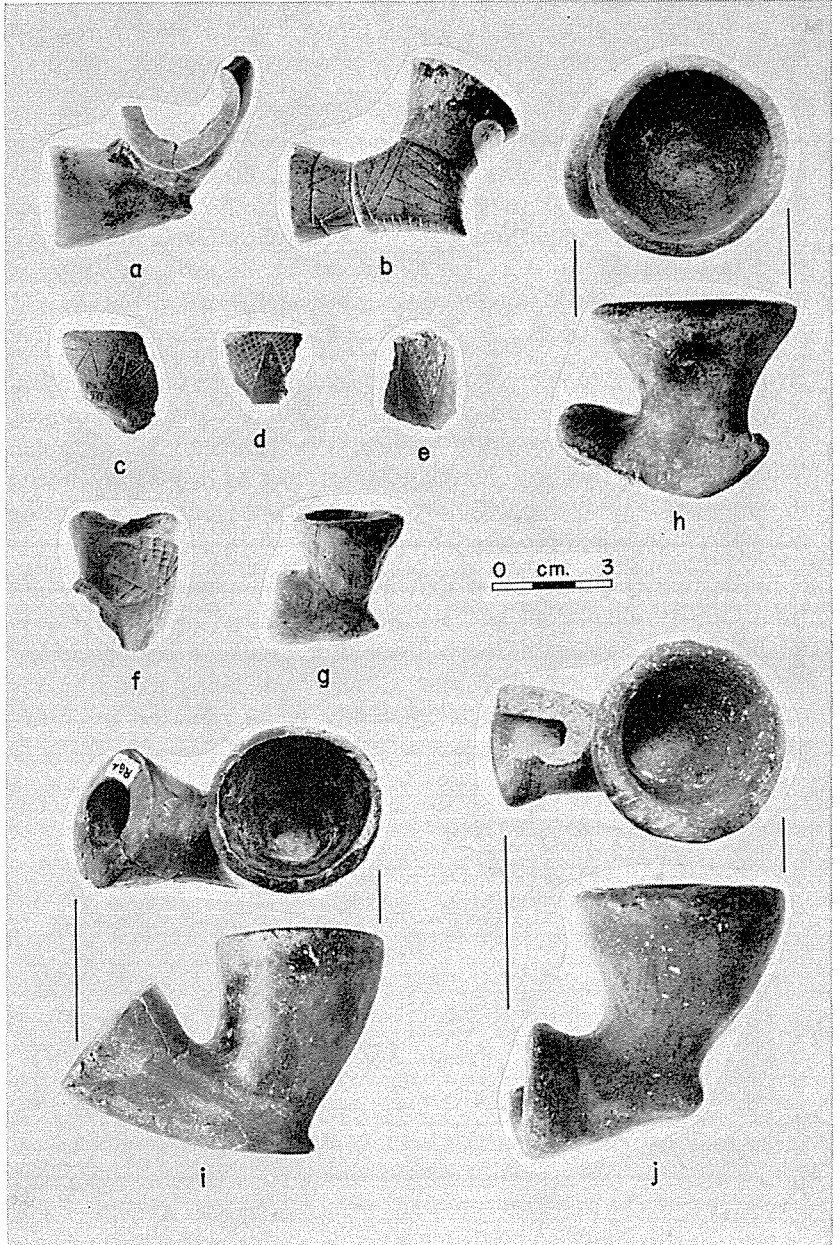


FIGURE 66. Tobacco pipes. *a-e*, stone; *f-j*, ceramic.

TOBACCO PIPES

by R. K. HARRIS, EDWARD B. JELKS, CHARLES NEMEC, BOBBY VANCE,
and LESTER WILSON

There were 205 pipes and pipe fragments found at the Gilbert Site, 193 of them made of pottery and 12 carved of stone. All are native made; no European ones were found. They vary considerably in size, but their form is remarkably consistent (Fig. 66).

All the pipes, both ceramic and stone, are of the elbow variety. They have flaring bowls, many with burned cake still inside, and stems that are usually shorter and of smaller diameter than the bowls. A reed evidently was inserted into the stem section before the pipe was smoked. The angle between bowl and stem is near 90 degrees in most cases but sometimes is slightly acute or obtuse. At the opening of both the bowl and the stem there is usually a flat lip; occasionally, however, a lip is rounded or even sharp, especially on the bowls. The flat stem lips are generally wider than those of the bowls. Most of the pipes have a small spur at the heel.

Seven small ceramic pipe fragments (Fig. 66, c-f) show portions of designs that were engraved (5 examples) or incised (2 examples) on the exterior surface of the bowl, or perhaps of the stem. The designs are made up of straight lines, the most common elements being triangles, frequently filled with hachuring or cross-hatching. Pipes with similar decorations have been reported from the Pearson Site (Duffield and Jelks, 1961: 72-73) and from the Womack Site (Harris et al., 1965: 303; Fig. 6, F). The designs on these pipes closely resembles those on certain *Womack Engraved* pottery vessels. Furthermore, the paste of the ceramic pipes is the same as that of *Womack Engraved* pottery.

The stone pipes are made of a soft, limey marl containing fossil foraminifers. Kathleen Gilmore examined them and identified the marl as of Cretaceous age, probably from the Eagle Ford Formation specifically. While of the same basic shape as the ceramic pipes, they tend to have more slender proportions than the ceramic ones. The stem of one stone pipe (Fig. 66, b) is completely covered with an elaborate incised decoration reminiscent of the decorated ceramic pipes. The design includes triangles, hachuring, and crosshatching.

Measurements were made of the relatively complete ceramic pipes. The bowls are from 28 to 59 mm. high and from 24 to 47 mm. across at the mouth (all outside measurements). The stems are 24 to 66 mm. long (measured from the lip to the end of the spur at the heel)

and 17 to 44 mm. wide at the orifice. Flat bowl lips are 2 to 8 mm. wide, flat stem lips 5 to 12 mm. wide.

The following measurements were obtained for the stone pipes: bowl height, 40 and 60 mm. (2 specimens); bowl diameter at mouth, 33 mm. (1 specimen); stem length (measured from lip to end of spur at heel), 37 and 42 mm. (2 specimens); stem diameter at orifice, 23 and 26 mm. (2 specimens); width of flat stem lips, 5 to 7 mm. (2 specimens). Only two stone pipes retain portions of the upper bowl, and on both specimens the lip is rounded.

STONE TOOLS

by G. L. ALLEN, JR., PAULINE ALLEN, JOE F. COCHRAN, LATHEL F. DUFFIELD, R. E. FORRESTER, JR., ELBERT D. HELM, ISABELLE R. LOBDELL, DAVID LUBELL, ROY E. PADGETT, and ROBERT L. TAPSCOTT

In this section the stone artifacts other than gunflints and stone pipes are described. They are separated into seven categories on the basis of assumed function: projectile points, scrapers, knives, celts, manos, hammerstones, and abrading stones. When appropriate, each category is subdivided into smaller groups of similar specimens. Arrow points and scrapers make up the bulk of the lithic assemblage.

Two major divisions of projectile points are recognized: dart points and arrow points. Dart points are larger and heavier than arrow points. Scrapers are divided into two principal groups: end scrapers and side scrapers.

PROJECTILE POINTS

*Dart Points**Gary* (Small Size)

No. of Specimens: 11

Provenience: Feature 1 (1), Feature 2 (1), Feature 3 (1), Feature 5 (2), Feature 16 (1), Area B (1), surface (4)

Illustrations: Figure 67, a-b

These points have small but well-defined shoulders, triangular blades, and contracting stems with pointed or slightly rounded bases. As a group they are smaller than the small *Gary* points from the Pearson Site (Duffield and Jelks, 1961: 14-16, Fig. 3, a, b). All are made of quartzite.

Measurements: length, 28 to 40 mm.; width, 14 to 21 mm.; stem length, 10 to 15 mm.

Gary (Large Size)

No. of Specimens: 19

Provenience: Feature 3 (1), Feature 5 (2), Feature 7 (1), Feature 15 (1), Feature 16 (1), Feature 20 (1), Area B (2), surface (10)

Illustrations: Figure 67, c-d

This group of dart points varies rather widely in size and shape. The only regular feature is a contracting stem which terminates in a pointed or somewhat rounded base. All are made of quartzite.

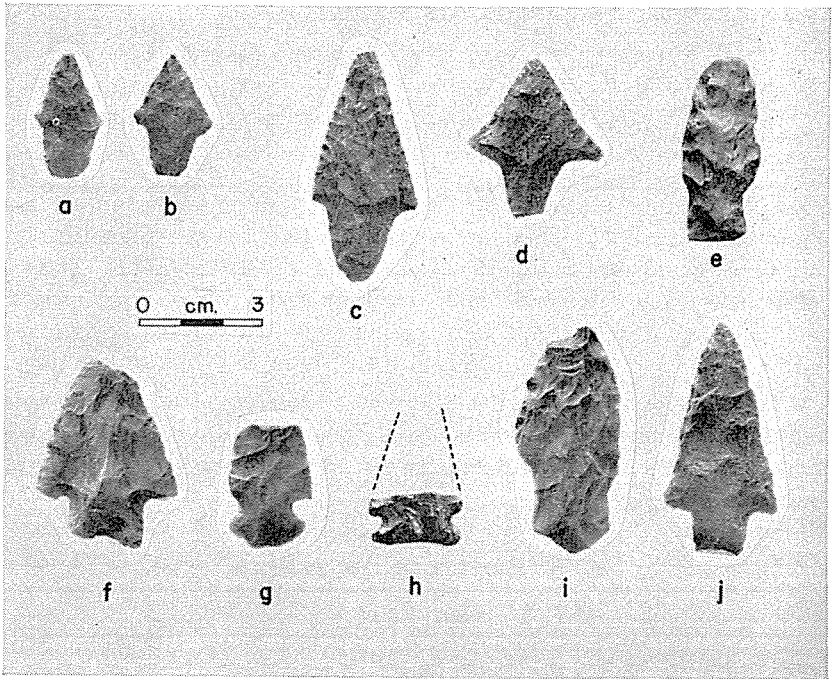


FIGURE 67. Dart points. *a-b*, Gary (Small); *c-d*, Gary (Large); *e*, Yarbrough; *f*, Pedernales; *g*, Palmillas; *b*, side-notched; *i-j*, rectangular stemmed.

Measurements: length, 38 to 59 mm.; width, 22 to 45 mm.; stem length, 13 to 22 mm.

Yarbrough

No. of Specimens: 3

Provenience: Feature 5 (1), Feature 7 (1), Feature 15 (1)

Illustrations: Figure 67, *e*

The blade edges on these points are straight to weakly convex, and the shoulders are unbarbed. The stems are long and slightly expanding with a straight base. The stem edges are straight to mildly concave and are ground on two specimens. Two points are made from chert; one is of quartzite.

Measurements: length, 45 mm.; width, 18 to 23 mm.; stem length, 12 to 16 mm.; stem width, 14 to 15 mm.

Pedernales

No. of Specimens: 2

Provenience: Features 3 and 16

Illustrations: Figure 67, *f*

These specimens have triangular blades with straight edges, corner notches, and prominent shoulders; the slightly expanding stems have straight edges and concave bases. One is made of chert, the other of quartzite.

Measurements: length, 43 mm.; width, 33 and 34 mm.; stem length, 11 and 10 mm.; stem width, both 17 mm.

Palmillas

No. of Specimens: 1

Provenience: Feature 3

Illustrations: Figure 67, g

The blade of this point is broken but appears to have had straight edges. The unbarbed shoulders are well defined. The concave edges and markedly convex base of the stem give it a rounded or bulbous appearance. It is made of chert.

Measurements: length, broken; width, 19 mm.; stem length, 10 mm.; stem width, 18 mm.

SIDE-NOTCHED DART POINTS

No. of Specimens: 1

Provenience: Feature 3

Illustrations: Figure 67, h

Only the base and part of the unbarbed shoulder remain of this broken point. The stem is short and expanding with rounded corners, convex edges, and slightly concave base. The material is petrified wood.

Measurements: length, broken; width, 22 mm.; stem length, 7 mm.; stem width, 21 mm.

RECTANGULAR STEM I

No. of Specimens: 2

Provenience: Both from Feature 1

Illustrations: Figure 67, i

These points have leaf-shaped blades with convex edges, weak, rounded shoulders, parallel stem edges, and straight bases. Both are made of chert.

Measurements of the more complete point: length, 52 mm.; width, 24 mm.; stem width, 18 mm.

RECTANGULAR STEM II

No. of Specimens: 3

Provenience: Feature 5 (1), Feature 17 (1), surface (1)

Illustrations: Figure 67, j

The blades of these dart points are triangular with straight to slightly convex edges. The shoulders are prominent but unbarbed.

The stems have parallel edges and straight bases. All three points are made of quartzite.

Measurements: length, 53 mm.; width, 21 to 27 mm.; stem length, 10 to 14 mm.; stem width, 11 to 14 mm.

DART POINT FRAGMENTS

No. of Specimens: 19

Provenience: Feature 1 (2), Feature 4 (1), Feature 5 (2), Feature 6 (1), Feature 15 (1), Feature 16 (2), Feature 20 (3), Area B (2), surface (5)

Arrow Points

FRESNO

No. of Specimens: 173

Provenience: Feature 1 (39), Feature 2 (9), Feature 3 (38), Feature 4 (15), Feature 5 (13), Feature 6 (20), Feature 7 (3), Feature 10 (4), Feature 12 (5), Feature 15 (1), Feature 16 (1), Feature 18 (8), Feature 20 (2), surface (15)

Illustrations: Figure 68, a-g

These points are shaped like simple triangles. The lateral edges are usually straight. They may be slightly convex but are never concave. The bases are normally straight although a few specimens have slightly to moderately concave bases. As a general rule these points are thin and well made with over-all bifacial flaking. Occasionally, however, a thin, flat, conveniently shaped flake was merely re-touched along the edges. All but two of the *Fresno* points are made from chert or other fine cryptocrystalline quartz material. The two exceptions are made from quartzite.

Measurements: length, range 15 to 39 mm., average 23.4 mm.; width, range 9 to 21 mm., average 13.8 mm. These averages are based on measurements of 131 complete points. The size distributions are presented graphically in Figure 69.

MAUD

No. of Specimens: 1

Provenience: Feature 2

Illustrations: Figure 68, h

This slender, triangular point has straight lateral edges and a deep V-shaped basal concavity. It is made of chert.

Measurements: length, 29 mm.; width, 13 mm.; depth of basal concavity, 5 mm.

Maud is a common arrow type in the Texarkana and Belcher foci.

TURNERY

No. of Specimens: 1

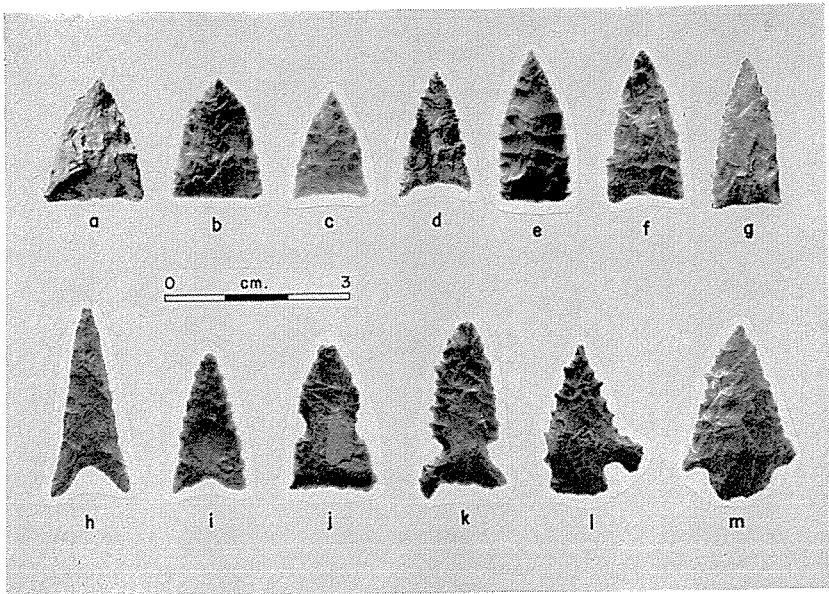


FIGURE 68. Arrow points. *a-g*, *Fresno*; *b*, *Maud*; *i*, *Talco*; *j-k*, side-notched; *l*, *Cataboula*; *m*, contracting stem.

Provenience: Feature 1

Illustrations: Figure 68, *i*

This is a triangular unnotched point with slightly convex, finely serrated edges and a shallow V-shaped basal concavity. This specimen is made from chert.

Measurements: length, 22 mm.; width, 12 mm.; depth of basal concavity, 2 mm.

The *Turney* type is found in Allen Focus sites.

SIDE-NOTCHED ARROW POINTS

No. of Specimens: 3

Provenience: Feature 1 (2), Feature 3 (1)

Illustrations: Figure 68, *j-k*

These small thin side-notched points fit no named type. One has convex blade edges, shallow side notches near the base, rounded shoulders, and a straight base. Another (Fig. 68, *j*) is a straight-sided, straight-based triangular point of the *Fresno* type with a pair of broad shallow side notches about halfway between the proximal and distal ends. The third specimen (Fig. 68, *k*) has convex, strongly serrated blade edges, sharp, pronounced, unbarbed shoulders, side notches near the proximal end, a short stem wider than the

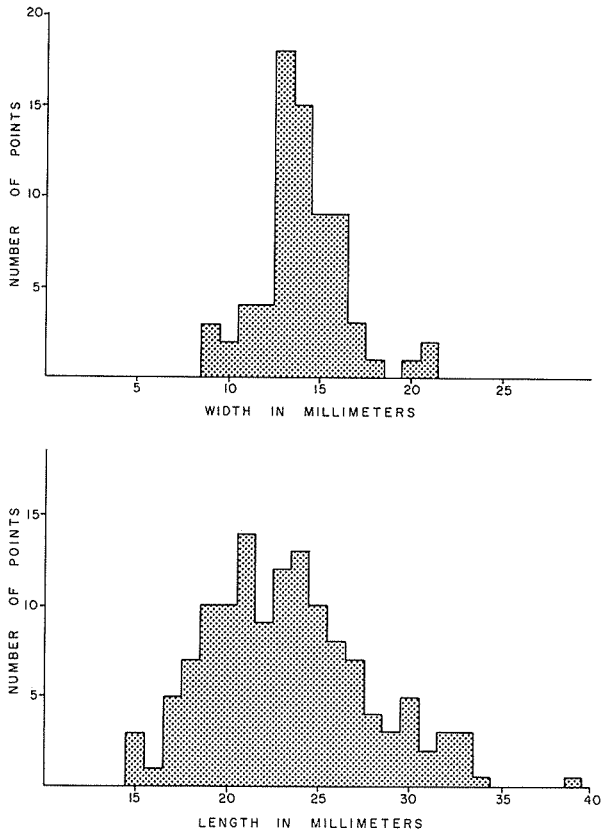


FIGURE 69. Size distribution of *Fresno* arrow points.

blade, and a straight base with downward curving ears at each corner. One basal ear is broken. All three of these points are made of chert.

Measurements: Specimen 1: length, 20 mm.; width, 12 mm.; basal width, 13 mm.; basal height, 4 mm. Specimen 2: length, 23 mm.; width, 10 mm.; basal width, 14 mm.; basal height, 9 mm. Specimen 3: length, 29 mm.; width, 11 mm.; basal width, 14 mm.; basal height, 8 mm.; length of basal ear, 3 mm.

CATAHOULA

No. of Specimens: 2

Provenience: Feature 20 (1), surface (1)

Illustrations: Figure 68, 1

The most characteristic feature of these points is the long, wide, flaring, squared-off barbs. Blade edges are concave and strongly

serrated. The expanding stem has a straight base. Both points are made of quartzite. Only one of them is complete enough to measure.

Measurements: length, 23 mm.; width of blade above barbs, 11 mm.; width across barbs, 19 mm.; stem length, 4 mm.

CONTRACTING STEM ARROW POINTS

No. of Specimens: 1

Provenience: Area B

Illustrations: Figure 68, m

This point has a triangular, straight-edged blade, short pointed barbs, corner notches, and a short wide stem with straight edges which contract slightly toward the straight base. It is made of quartzite.

Measurements: length, 28 mm.; width, 18 mm.; stem length, 5 mm.

ARROW POINT FRAGMENTS

No. of Specimens: 28

Provenience: Feature 3 (9), Feature 4 (8), Feature 6 (2), Feature 10 (1), Feature 18 (1), surface (7)

Remarks: It is worth noting that 83% of the 42 identifiable dart points are made from a quartzite available in the immediate area of the Gilbert Site. In sharp contrast to the dart points, only 2.8% of the 181 arrow points were made of this local material. Three of the arrow points made of locally available material—the *Catahoula* and contracting stem points—seem to belong to an older occupation than the historic one. The use of finer imported material for the triangular points of the historic occupation is probably one result of the greater mobility of these people after they acquired horses.

SCRAPERS

End Scrapers

No. of Specimens: 418

Provenience: Feature 1 (66), Feature 2 (14), Feature 3 (157), Feature 4 (45), Feature 5 (51), Feature 6 (51), Feature 7 (24), Feature 9 (3), Feature 10 (3), Feature 16 (1), Feature 20 (3)

Illustrations: Figures 70 and 71

Several different people worked on the scrapers, and—not too surprisingly—the result was four different classifications of end scrapers. Descriptions of all four classifications follow.

In one study, the end scrapers were sorted into categories of the “outline” classification used by Duffield and Jelks (1961: 24-28) in their report on the Pearson Site. Their categories are:

“Tapering Base Snub-nose Scrapers. This form is elongated, is

widest at the bit end, and tapers from the bit end to a pointed base . . . the working edge is straight to slightly convex.

"Rounded Base Snub-nose Scrapers. These differ from the above group in that the bases are rounded and are of approximately the same width, if not wider, than the working edge. Some, however, are slightly narrower at the base than at the bit. The lateral edges do not taper, but are approximately parallel.

"Subtriangular Snub-nose Scrapers. This form is basically triangular in shape, with strongly convex edges. The lateral edges are slightly longer than the working edge, and they taper down to a rounded, or sometimes flattened, base.

"Straight Base Snub-nose Scrapers. The characteristic attribute of this group is a straight base which may sometimes have resulted from accidental breakage. The cutting edge is usually convex but may occasionally be straight. The lateral edges are approximately parallel, although they occasionally taper slightly toward the base.

"Rectangular Snub-nose Scrapers . . . are rectangular in shape.

"Triangular End Scrapers or Gouges. These implements are characterized by their small size, triangular outline, and by a steeply beveled, straight to slightly convex working edge. One face of these tools is considerably flatter than the other."

When the Gilbert Site end scrapers were sorted into the above groups, the following counts were obtained: tapering base, 170; rounded base, 44; straight base, 146; rectangular base, 28; triangular base, 30.

The same group of snub-nose scrapers was also classified using a "method of manufacture" system similar to that used by Suhm (1962: 69) in her study of scrapers from the Footbridge Site at Canyon Reservoir. She divided the scrapers into three groups: (1) initial cortex flake scrapers, (2) cortex flake scrapers, and (3) secondary flake scrapers.

Initial cortex flake scrapers "are fashioned from the initial or outermost flakes detached from chert nodules . . . with the convex or 'outside' surface retaining large portions of the cortex . . . most, but not all, were struck from cores with prepared striking platforms."

Cortex flake scrapers "are derived from chert nodules after the removal of the initial flake and, therefore, have a positive bulb of percussion on one face and a negative bulb on the other. All, however, still retain portions of the cortex."

Secondary flake scrapers "are made from flakes which lack any traces of cortex."

The counts using this system were: initial cortex, 38; cortex, 136;

secondary flakes, 216; total, 390. The 28 small snub-nose scrapers were not included in these totals.

A third classification system was devised by one analyst. It is based on the outline of the cross section just behind the scraping edge as seen from a "nose-on" view. It is believed that such a cross-section analysis would reflect whether the scraper was intended for heavy, medium, or light duty scraping. It might also indicate whether the scraper was hafted to increase its efficiency.

The results using this system were: heavy dorsal rib, 69; medium dorsal rib, 170; shallow arc, 69; flat dorsal plane, 110.

These classifications are all descriptive approaches to the problem of end-scraper analysis and leave much to be desired as to functional categories. End scrapers have been a matter of archeological record over many areas and time periods although very few good descriptions are found in the literature. It is our belief that a more refined method-of-manufacture system might offer some basic insight into the problem if the following assumptions are valid.

This type of scraper is essentially a utility tool of everyday use, probably a tool for working hides and leather. There are indications that some forms were hafted to increase the leverage and consequent utility or efficiency of the tool. Evidence of this is the greater percentage of basal breakage on the scrapers with flat dorsal faces.

Assuming these are normally utility tools, they would be made, as needed, from the most convenient material at hand. They would be prepared on the march, during the hunt, or in camp. For the same reason, they would be discarded readily as seems indicated by their wide distribution but relatively light concentration.

A technological or method-of-manufacture analysis of the Gilbert end scrapers similar to the system used to describe Old World lithic industries follows. Since many of the terms used by European typologists are unfamiliar to Americanists, they are defined in a glossary.

GLOSSARY

Flake The segment of rock broken off when a core is struck properly.

Blade A flake which is at least twice as long as it is wide.

Core A piece of rock from which flakes are intentionally removed.

Striking Platform The surface of a core which receives the blow when a flake is struck off. Part of the striking platform usually remains on the proximal end of the flake as it breaks away.

Proximal End The end closest to a given point or to the user. The bulb of percussion is at the proximal end of a flake.

Distal End The end farthest from a given point or from the user. The distal end of a flake is the one farthest from the bulb of percussion. The distal end of a projectile point is the tip of the blade.

Ventral Side (or Face) The surface of a flake which has the bulb of percussion.

Dorsal Side (or Face) The "back" side on a flake; the side opposite the bulb of percussion.

Lateral Edge One of the two "side" edges of a flake or tool. An edge between the proximal and distal ends which is formed by the intersection of the dorsal and ventral sides.

Retouch Intentional alteration of a flake, usually by removal of smaller flakes from the edges, to shape it into a tool.

Notch A concave scraper or spokeshave.

End Scrapers on Retouched Flakes

DISTAL END

No. of Specimens: 113

Illustrations: Convex distal end (Fig. 70, a-b); concave distal end (Fig. 70, c); oblique distal end (Fig. 70, d); straight distal end (Fig. 70, e).

One or both lateral edges are blunted by retouch, but only the distal end is steeply retouched to form a scraper edge. The proximal end is never retouched except for occasional thinning of the bulb of percussion.

Measurements: length, 23 to 80 mm. (74 pieces, or 65%, fall between 30 and 45 mm.); width, 20 to 50 mm. (87 pieces, or 77%, fall between 24 and 34 mm.)

CIRCULAR

No. of Specimens: 14

Illustrations: Figure 70, f

The entire perimeter is retouched to produce a circular shape. Ordinarily the striking platform and bulb of percussion have been reduced or removed by retouch. In one instance a cortex surface has been used for the striking platform.

Measurements: length, 31 to 50 mm. (5 specimens, or 36%, fall between 38 and 40 mm.); width, 27 to 50 mm. (8 specimens, or 51%, fall between 33 and 39 mm.)

OVOID

No. of Specimens: 28

Illustrations: Figure 70, g

The entire perimeter is retouched, but the striking platform and

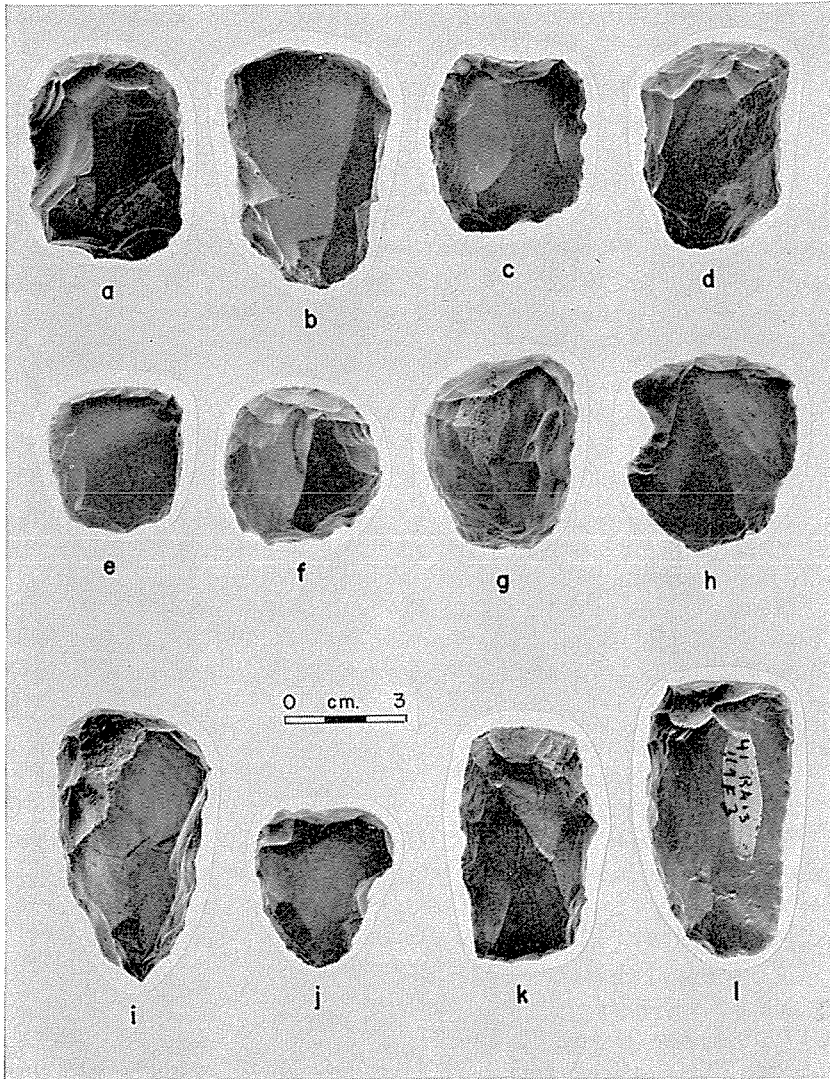


FIGURE 70. End scrapers on retouched flakes. *a-b*, convex distal end; *c*, concave distal end; *d*, oblique distal end; *e*, straight distal end; *f*, circular; *g*, ovoid; *h*, end scraper on a notched flake; *i*, keeled end scraper; *j*, shouldered end scraper; *k*, double end scraper; *l*, combination end and side scraper.

bulb of percussion are frequently left intact to produce an ovoid shape with a basal constriction.

Measurements: length, 29 to 62 mm. (20 pieces, or 71%, fall be-

tween 35 and 45 mm.); width, 21 to 43 mm. (23 pieces, or 82%, fall between 26 and 37 mm.)

END SCRAPERS ON NOTCHED FLAKES

No. of Specimens: 15

Illustrations: Figure 70, h

The flake is notched on one of the lateral edges by retouch. The distal end is retouched to form a normal end scraper. All of these specimens have a convex distal end.

Measurements: length, 30 to 55 mm. (9 pieces, or 60%, fall between 30 and 40 mm.); width, 21 to 38 mm. (9 pieces, or 60%, fall between 21 and 30 mm.)

KEELED END SCRAPERS

No. of Specimens: 9

Illustrations: Figure 70, i

This end scraper is on a thick flake with a keel-shaped profile. The scraper edge is formed by laminate facets which may be wide and short or long and narrow. This category of tools divides into two discrete size groupings as indicated below.

Measurements: length, 31 to 67 mm. (1) 4 pieces, or 44%, fall between 31 and 41 mm.; (2) 5 pieces, or 56%, fall between 51 and 67 mm. Width, 25 to 40 mm. (6 pieces, or 67%, fall between 33 and 40 mm.)

SHOULDERED END SCRAPERS

No. of Specimens: 4

Illustrations: Figure 70, j

This end scraper is made on a thin flake. The scraper edge is formed on a projection resulting from concave retouch on one or both sides of the bit.

Measurements: length, 35 to 40 mm.; width, 24 to 38 mm.

DOUBLE END SCRAPERS

No. of Specimens: 3

Illustrations: Figure 70, k

Both the proximal and distal ends have been retouched to form end scrapers.

Measurements: length, 36 to 56 mm.; width, 31 to 33 mm.

COMBINATION END AND SIDE SCRAPERS

No. of Specimens: 11

Illustrations: Figure 70, l

The flake used for these tools is usually larger and thicker than the average for the Gilbert industry. One or both of the lateral edges may be retouched steeply enough to be considered scraper

edges. These tools are distinguished from either circular or ovoid scrapers by their elongate and rectangular dimensions and by the fact that the side scraper edges are not necessarily continuous with the end scraper edges.

Measurements: length, 34 to 80 mm. (7 specimens, or 64%, fall between 51 and 80 mm.); width, 23 to 54 mm. (9 specimens, or 82%, fall between 28 and 38 mm.)

ATYPICAL END SCRAPERS

No. of Specimens: 17

These are scrapers which cannot be assigned to one of the above types or to new types because of vague morphology resulting from poor technology, insufficient sample size, or heavy weathering which has obscured the morphological and technological characteristics of the piece. These are, however, clearly unbroken, finished tools that belong in the end scraper category.

Measurements: length, 26 to 63 mm. (9 specimens, or 53%, fall between 41 and 46 mm.); width, 17 to 47 mm. (13 pieces, or 76%, fall between 27 and 38 mm.)

End Scrapers on Unretouched Flakes

CONVEX DISTAL END

No. of Specimens: 117

Illustrations: Figure 71, a-b

This subtype represents the largest single category of scrapers in this collection. The end scraper is formed by intentional retouch on the distal end of the flake without any modification to the lateral edges or the proximal end. The size range for these tools is small. Examination of the flakes indicates a prepared-core technology. The core was prepared to yield a flake within a predetermined and accepted size range which required no modifications to any surface but the distal end.

Measurements: length, 24 to 67 mm. (65 pieces, or 56%, fall between 30 and 39 mm.); width, 17 to 40 mm. (62 pieces, or 53%, fall between 25 and 30 mm.)

OBLIQUE DISTAL END

No. of Specimens: 34

Illustrations: Figure 71, c-d

This scraper differs from the above scraper only in the oblique orientation of the transverse angle of the distal end to the proximo-distal axis.

Measurements: length, 25 to 58 mm. (28 pieces, or 82%, fall be-

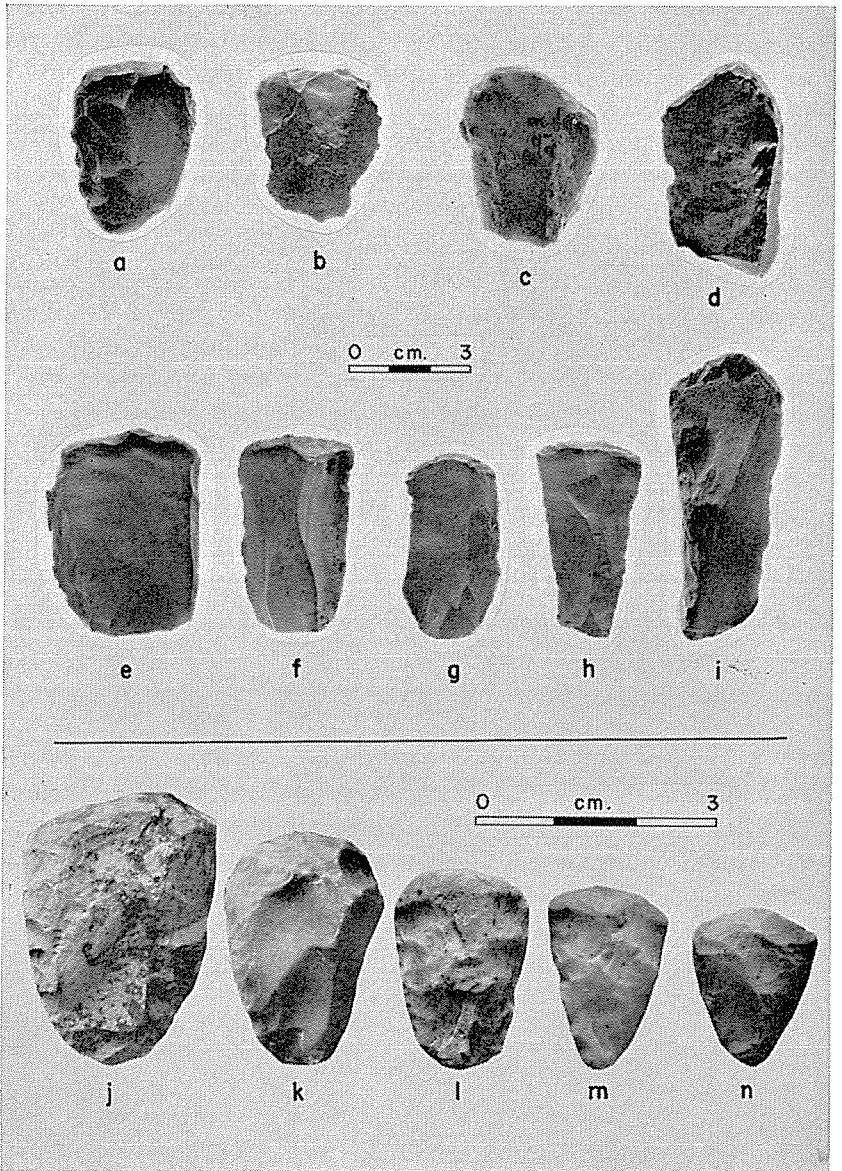


FIGURE 71. End scrapers on unretouched flakes: *a-b*, convex distal end; *c-d*, oblique distal end; *e-f*, straight distal end. End scrapers on blades: *g-h*, convex distal end; *i*, oblique distal end. Thumbnail scrapers: *j-n*.

tween 30 and 42 mm.); width, 19 to 49 mm. (29, or 85%, fall between 20 and 30 mm.)

STRAIGHT DISTAL END

No. of Specimens: 19

Illustrations: Figure 71, e-f

The distal end of this scraper is straight and frequently perpendicular to the proximo-distal axis.

Measurements: length, 23 to 54 mm. (9 pieces, or 47%, fall between 30 and 40 mm.); width, 17 to 38 mm. (8 pieces, or 42%, fall between 20 and 30 mm.)

End Scrapers on Blades

CONVEX DISTAL END

No. of Specimens: 24

Illustrations: Figure 71, g-h

This end scraper is formed by steep retouch on the distal end of a blade. The lateral edges are sometimes retouched as a blunting device, but in no case is the retouch regular or steep enough to be considered a scraping edge.

Measurements: length, 24 to 73 mm. (13 pieces, or 54%, fall between 39 and 47 mm.); width, 14 to 29 mm. (19 pieces, or 79%, fall between 17 and 25 mm.)

OBLIQUE DISTAL END

No. of Specimens: 1

Illustrations: Figure 71, i

The transverse angle of the distal end is oriented obliquely to the proximo-distal axis.

Measurements: length, 24 to 73 mm.; width, 14 to 29 mm.

THUMBNAIL SCRAPERS

No. of Specimens: 17

Illustrations: Figure 71, j-n

These are small, lamellar retouched scrapers with an ovoid shape reminiscent of the size and shape of a thumbnail.

Measurements: length, 11 pieces, or 64%, fall between 20 and 30 mm.; width, 14 pieces, or 82%, fall between 15 and 18 mm.

SIDE SCRAPERS

No. of Specimens: 108

Provenience: Feature 1 (12), Feature 2 (5), Feature 3 (32), Feature 4 (7), Feature 5 (15), Feature 6 (24), Feature 7 (9), Feature 10 (3), Feature 16 (1)

Illustrations: Figure 72, a-e

The salient characteristic of these specimens is steep unifacial re-

touch of at least one lateral flake edge to form a tool suitable for use as a scraper. Most of them are made on flakes but thirteen are on blades.

The sizes and shapes of the flake scrapers are quite diverse. Most have one retouched edge with no additional modification of the flake. Eight, however, have two adjacent retouched edges (Fig. 72, b, d). Most have straight or slightly convex bits but 18 are concave. These latter are commonly called spokeshaves or notches.

The 13 side scrapers made on blades (Fig. 72, c, e) are long, thin flakes that were struck from a core by direct or indirect percussion. The backs of the blades usually have longitudinal ridges from removal of previous flakes in the same direction. In cross section the blades are essentially plano-convex although they occasionally curve slightly from end to end. The blades are modified by retouch.

KNIVES

No. of Specimens: 27

Provenience: Feature 1 (3), Feature 3 (13), Feature 4 (5), Feature 5 (2), Feature 6 (3), Feature 7 (1)

Illustrations: Figure 72, j-m

A knife may be described as an artifact with at least one bifacially retouched edge suitable for cutting. There is no uniformity in size or shape of the Gilbert Site knives. In general, the workmanship is crude. One appears to be a medial portion of a *Harahey* or alternately beveled, diamond-shaped knife. Sixteen of these specimens are made on blades.

There are fewer stone knives in the collection than might be expected probably due to the importance of metal trade knives in the tool kit of the inhabitants.

GRAVERS

No. of Specimens: 16

Provenience: Feature 3 (14), Feature 4 (1), Feature 7 (1)

Illustrations: Figure 72, f-g

A graver is a small, thin flake with a short, sharp projection which could be used to incise or groove material such as wood, bone, soft stone, shell or pottery. The point or projection is usually well worked although the rest of the item may show no pressure flaking at all. Moderate to extensive wear may show on the point.

BORERS OR DRILLS

No. of Specimens: 10

Provenience: Feature 3 (6), Feature 5 (1), Feature 7 (1), Feature

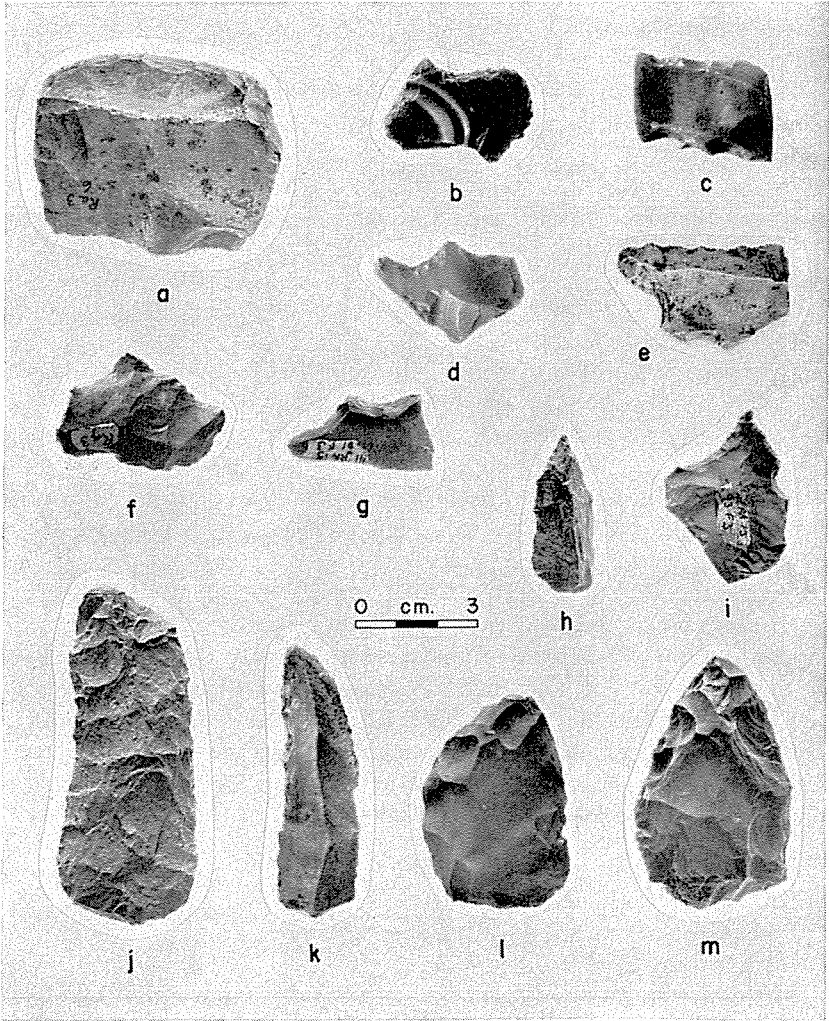


FIGURE 72. Chipped stone tools. *a-e*, side scrapers; *f-g*, graters; *b-i*, borers; *j-m*, knives.

13 (1), surface (1)

Illustrations: Figure 72, h-i

These are flakes with a natural subtriangular outline which are re-touched along one relatively long corner to form a stout point. They are not otherwise modified. Such tools would be suitable for drilling or boring wood, bone, or soft stone.

UTILIZED FLAKES

No. of Specimens: 15

Provenience: Feature 3

These are flakes that show no intentional workmanship but do show wear from use.

DEBITAGE

No. of Specimens: 1,441

Provenience: Feature 1 (27), Feature 2 (14), Feature 3 (538), Feature 4 (204), Feature 5 (218), Feature 6 (227), Feature 7 (67), Feature 10 (9), Feature 11 (8), Feature 13 (2), Feature 15 (70), Feature 16 (39), surface (18)

Debitage is any waste material produced during the manufacture of artifacts. This category includes core fragments, extremely small flakes resulting from retouch and sharpening, and all unretouched flakes.

Thedebitage was sorted according to the type of stone and tabulated. Identification of stone from non-local sources is assumed to be evidence of trade.

Quartzite, sandstone, and petrified wood occur in the local vicinity and are combined in Table 9 under the heading *Local Materials*. Types of stone of known origin are Kay County flint which comes from quarries in north-central Oklahoma and is easily identifiable by the inclusions of small fossils, *fusulinids*; Central Texas flint occurs as nodules or ledges in limestone outcrops throughout the Edwards Plateau; Alibates flint, a silicified dolomite from the Texas Panhandle; and novaculite which occurs in Arkansas.

CELTS

No. of Specimens: 2

Provenience: Feature 2 (1), Feature 6 (1)

Illustrations: Figure 73, d-e

The entire surface of these celts with the exception of the bit shows evidence of the pecking and light grinding which was used to shape the artifacts. The bits are ground smooth into sharp convex edges. The cross sections are oval. The material is a dense, fine-grained, black, igneous rock.

Measurements: Specimen 1—length 84 mm., width, 45 mm.; Specimen 2—length 89 mm., width, 49 mm.

HAMMERSTONES

No. of Specimens: 3

Provenience: Feature 6 (1), Area B (2)

TABLE 9
Analysis of stone flakes and chips.

<i>Material</i>	<i>F-1</i>	<i>F-2</i>	<i>F-3</i>	<i>F-4</i>	<i>F-5</i>	<i>F-6</i>	<i>F-7</i>	<i>F-10</i>	<i>F-11</i>	<i>F-13</i>	<i>F-15</i>	<i>F-16</i>	<i>Surface Total</i>	<i>Percent</i>
Local Materials	1	3	27	5	16	21	2	2	6	51	17	5	156	10.83%
Kay County Flint	1	2	21	10	11	13	3			1	1	1	64	4.44%
Central Texas Flint	2		42		7	6	2					1	60	4.16%
Alibates Flint			2	3									5	.35%
Novaculite							1						1	.07%
Unidentified Material	23	9	446	186	184	186	60	7	2	2	9	18	1143	79.32%
Local Rocks (non-utilized)	27	14	538	204	218	227	67	9	8	2	70	39	1441	100.00%

These quartzite cobbles have battered edges. It is assumed they were used as hammerstones in flint knapping.

MANOS

No. of Specimens: 1

Provenience: Feature 20

Illustrations: Figure 73, f

This is a thick, well shaped, subround, quartzite mano with two flat grinding surfaces. Each grinding surface has small, shallow, pecked depressions in the center.

Measurements: length, 96 mm.; width, 86 mm.; thickness, 52 mm.

SANDSTONE ABRADERS

No. of Specimens: 46

Provenience: Feature 1 (13), Feature 3 (14), Feature 4 (8), Feature 5 (5), Feature 6 (4), Feature 7 (2)

Illustrations: Figure 73, a-c

Twenty-one of these artifacts are loaf-shaped, rectangular pieces of the friable sandstone with a deep, longitudinal, U-shaped groove on the flattest side. Eyewitness accounts by early explorers indicate that this type of artifact was used to smooth arrow shafts (La Flesche, 1924: 113).

Eleven other specimens have one deep U-shaped shaft-smoothing groove with additional smaller, shallower, V-shaped grooves on other surfaces which could have been used to smooth and sharpen awls, needles, or other narrow tools.

One very large block of sandstone has one large, smooth whetting surface and two flat faces. Numerous randomly oriented cuts probably resulted from use as an anvil. The fact that this specimen was found in the bottom of the pit in Feature 6 lends credence to the theory that the pit was a storage pit.

Fourteen specimens are considered to be hones because they have flat, smoothed surfaces suitable for sharpening relatively straight-edged blades such as metal knives, hatchets, wedges, and stone celts.

PITTED STONES

No. of Specimens: 1

Provenience: Feature 3

This triangular piece of sandstone has a shallow pit in the center of each face.

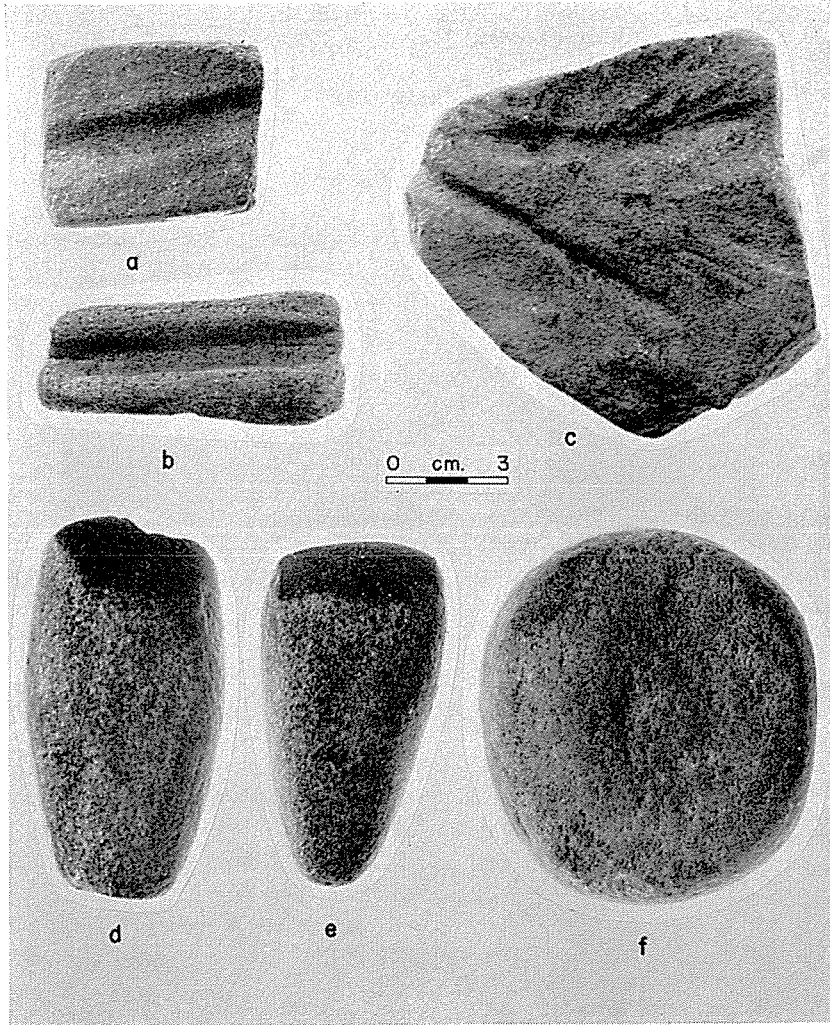


FIGURE 73. Ground stone artifacts. *a-c*, sandstone abraders; *d-e*, celts; *f*, mano.

OCHER

Pieces of yellow and red ocher occurred throughout the site. There were scratch marks on some pieces where the pigment had been scraped off, evidently for use as paint.

BONE AND SHELL ARTIFACTS

by DESSAMAE LORRAIN

BONE BEADS

No. of Specimens: 5*Provenience:* Feature 1 (2), Feature 3 (2), Feature 10 (1)*Illustrations:* Figure 74, a-b

These beads were made from bird limb bones by grooving and snapping off sections and smoothing their ends. The beads have round to oval cross sections, and their exterior surfaces are well polished.

Measurements: length, 28 to 48 mm.; exterior diameter, 7 to 9 mm.; interior diameter, 5 to 7 mm.

BONE PENDANTS

No. of Specimens: 5*Provenience:* Feature 1 (3), Feature 3 (2)*Illustrations:* Figure 74, c-e

Two of these (Fig. 74, d-e) are flat pieces of bone with at least two holes drilled at one end. The holes are biconical, having been drilled from both sides. One pendant has fine vertical lines incised on the face. Both specimens are quite fragmentary.

Measurements: thickness, 2 to 4 mm.; length and width of whole pendants indeterminate.

One burned bone or antler pendant is circular in cross section. It was the most carefully made of the bone artifacts but it is broken on both ends and its original shape cannot be determined. The surface is smooth and highly polished. Three encircling grooves of even width with almost vertical sides were cut near the top. The broken top had a double collar with a hole of perfectly uniform diameter through the junction between the collars and extending partially into each of them. The hole is off-center.

Measurements: length, 32 mm.; diameter, 8 to 9 mm.

A bison incisor and a bear canine (Fig. 74, c) have holes drilled through the root portion. Both show considerable use-polish. The hole in the incisor is biconical. The hole in the bear canine is conical, having been drilled from one side only.

ANTLER HANDLES

No. of Specimens: 1*Provenience:* Feature 1*Illustrations:* Figure 75, a

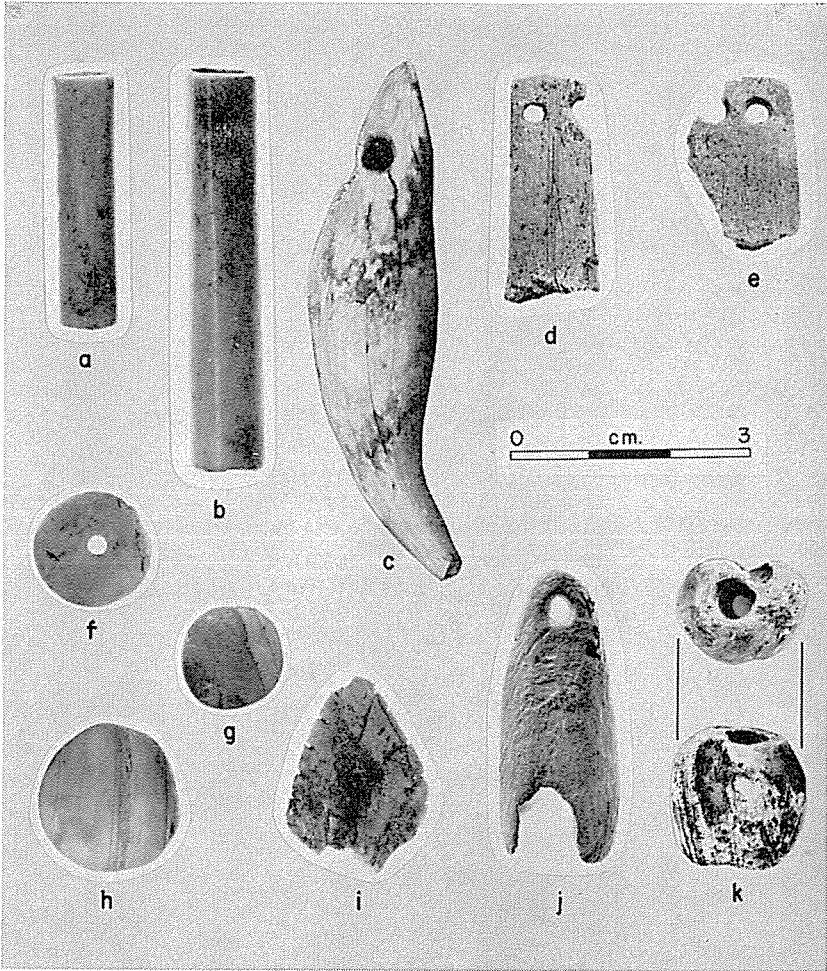


FIGURE 74. Bone and shell artifacts. *a-b*, bone beads; *c*, bear-tooth pendant; *d-e*, bone pendants; *f-h*, shell disks; *i*, notched garfish scale; *j*, *Oliva*-shell pendant; *k*, conch-shell bead.

This segment of deer antler has a small hole hollowed out of the larger end, evidently for the insertion of a stone or metal implement such as a knife or scraper. Oval in cross section, the segment is 145 mm. long and has a maximum diameter of 28 mm. It was removed from the antler by the groove-and-snap method, a process which probably produced the transverse groove that lies athwart one side of the handle 7 mm. from its larger end. The surface of the antler is smooth and use-polished.

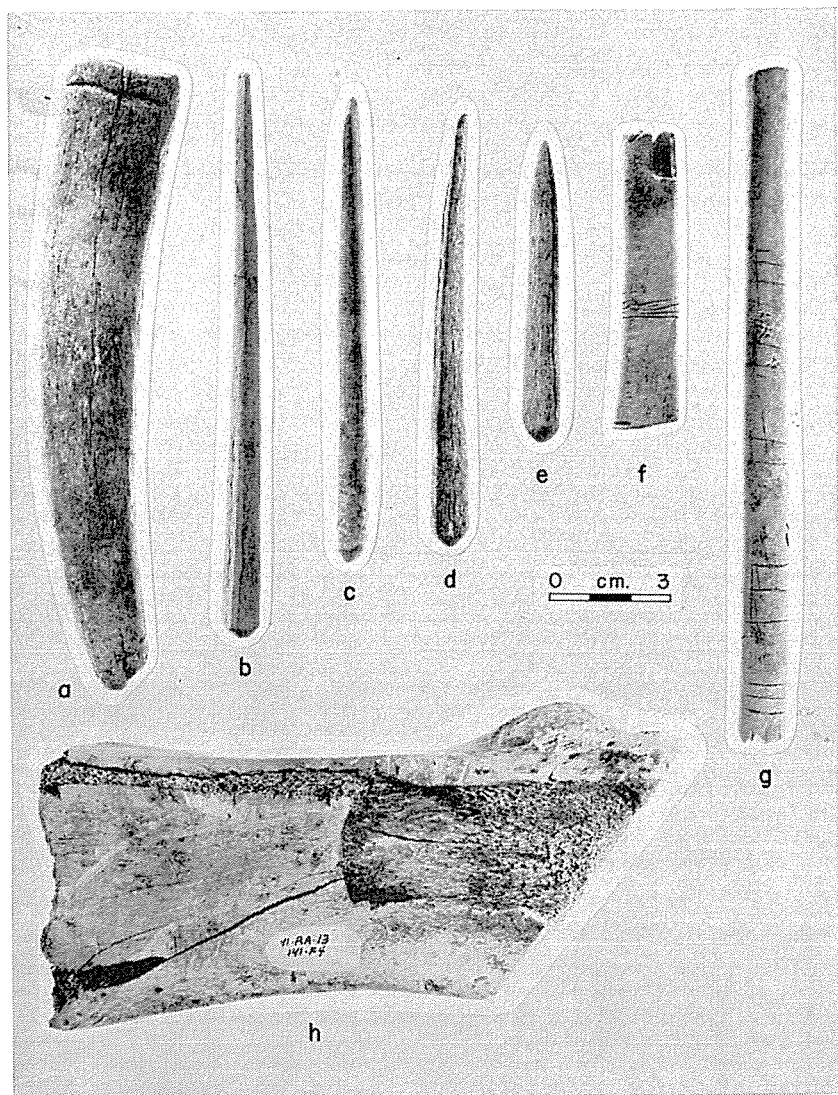


FIGURE 75. Bone artifacts. *a*, antler handle; *b-e*, awls; *f-g*, bird-bone flageolets; *h*, bison-scapula hoe.

BONE AWLS

No. of Specimens: 6 whole, 15 fragmentary

Provenience: Feature 1 (9), Feature 3 (4), Feature 4 (2), Feature

5a (1), Feature 6 (1), Feature 7 (1), Feature 10 (1), Feature 18 (2)

Illustrations: Figure 75, b-e

Two of the awls are made of antler, the others of mammal long bones. Because of extensive modifications including removal of articular surfaces, specific bone identification is impossible.

Segments of antler or bone wall were removed and rounded. The proximal end has been rounded into a rough dome shape. The maximum diameter is at the proximal end which gradually tapers to a point at the distal end. The cross section varies from triangular (18) to oval (1) to round (2 antler awls). Patches of cancellous tissue can be seen on one side of most of these artifacts.

Measurements: length, 65 to 142 mm.; maximum diameter at proximal end, 7 to 10 mm.

Remarks: Three of the awls show the marks of a metal file. Although no files were found in the site, these awls indicate that the Indians had access to such tools.

BIRD BONE FLAGEOLETS

No. of Specimens: 2

Provenience: Feature 6

Illustrations: Figure 75, f-g

These two objects are made from tibias of large birds, possibly turkey. The articular ends have been removed by the groove-and-snap method. Unfortunately one end of each specimen is broken, so that the original completed forms are unknown. One (Fig. 75, f) is 62 mm. long; the cut (unbroken) end has a maximum outside diameter of 17 mm. and a maximum inside diameter of 12 mm. A rectangular notch, 8 mm. wide, extends 10.5 mm. from the broken end down the length of the bone. A band of crudely incised lines about 2.5 mm. wide encircles the artifact about 22 mm. from the cut end.

The other flageolet (Fig. 75, g) is 168 mm. long; the cut (unbroken) end has a maximum outside diameter of 14.3 mm. and a maximum inside diameter of 11.5 mm. There is no cut notch or opening in this specimen, but a number of crudely incised lines are cut into one side starting at a point 45 mm. from the unbroken end and extending to the broken end.

Remarks: These artifacts are probably flutes or flageolets with a single stop hole near one end. Similar artifacts were found with burials at McGee Bend Reservoir (Jelks, 1965). The flageolets from McGee Bend have oval stop holes rather than the square or rectangular one

on the shorter Gilbert specimen. Incised designs on the McGee Bend flangelets are much better executed than those on the ones from Gilbert.

BISON SCAPULA HOES

No. of Specimens: 1

Provenience: Feature 4

Illustrations: Figure 75, h

This artifact was made from the right scapula of a bison. The spine was removed, and a rectangular hafting notch was cut from the lateral side, extending from the articular end down the blade of the hoe. The original shape of the articular end cannot be determined because a fresh diagonal cut removed most of the glenoid fossa. Originally the hoe probably was much longer and wider but was reduced to its present dimensions through wear.

Measurements: Notch—average width, 28 mm.; length, about 70 mm.; average depth, 10 mm. Hoe—length, 165 mm.; width at distal end, 73.2 mm.

Bison scapula hoes are common on the Great Plains among historic bison hunting groups and in prehistoric archeological sites. In Texas they are found in many Henrietta Focus sites in the north-central part of the state and less so in Wylie Focus sites slightly east of the Henrietta Focus area. These foci represent people who apparently combined agriculture with bison hunting—probably on a seasonal basis. There were two methods of hafting used for the scapula hoes. Either a notch was cut out of the side, as was done to the hoe described above, or a hole was cut into the articular end without removing any bone on either side of the scapula. The latter type appears to be earlier in time, being succeeded by the notch-in-the-side type at very late prehistoric Henrietta Focus sites (R. K. Harris, personal communication).

DEER SKULL ARTIFACTS

No. of Specimens: 1

Provenience: Feature 4

Illustrations: Figure 76

This piece consists of parts of the frontal and parietal bones of a young deer with about 5 cm. of the left antler attached. The right antler is broken just below the burr. The bones have been cut into a crude triangular shape, and the antler has been sectioned lengthwise, the back half being removed.

Measurements: length, 72.3 mm.; width, 84.0 mm.

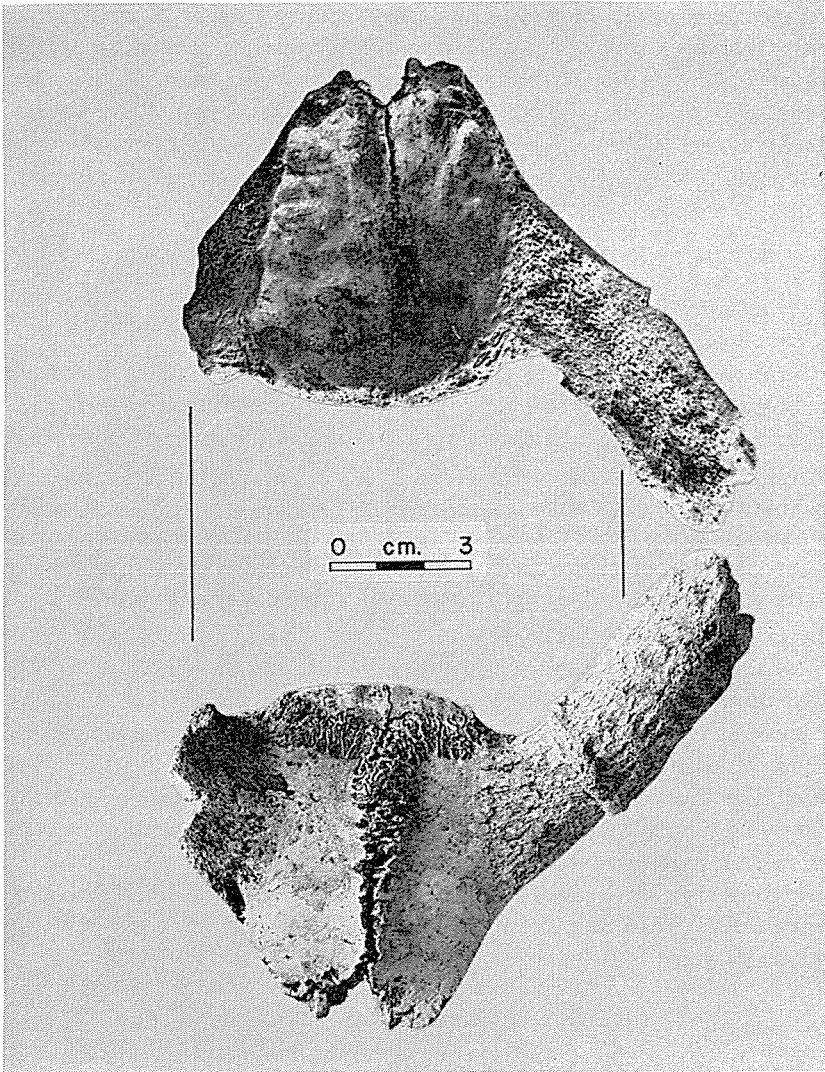


FIGURE 76. Deer-skull artifact.

This artifact was probably part of a headdress. It is perhaps significant that this is the only object of a probable ceremonial nature recovered at the Gilbert Site. It is assumed that the site represents a historic village or camp of one of the Wichita tribes, among whom—according to Newcomb (1961: 173)—the deer dance was the most important ceremony. Kreiger (1946, Pl. 23d, p. 327) illustrated a similar

artifact from the Sanders Site in Lamar County and mentioned (*ibid.*: 193) that four such cut skulls were found in the midden area. The figure caption reads "Deer calvarium, inside view, showing trimmed edge of brain case, and antler stubs. Probably fashioned to serve as decoy or ceremonial object strapped to head." This artifact type is also reported from the Texarkana Focus of the Fulton Aspect (Suhm, Kreiger, & Jelks, 1954: 207-208).

MISCELLANEOUS BONE ARTIFACTS

No. of Specimens: 4

Provenience: Feature 1 (2), Feature 3 (1), Feature 11 (1)

One specimen is a broken rib of a small mammal which has been smoothed and has a biconical hole drilled near the unbroken end. This could have been a hair pin, a clothing ornament, or possibly a needle.

Measurements: present length, 65 mm.; width, 5 mm.; thickness, 3 mm.

A cut piece of antler with a biconical hole has edges which were cut and smoothed. The flat, unnotched edge has striations left by a metal file. The piece is broken.

Measurements: length (at present), 53.0 mm.; maximum width, 20.3 mm.

Another specimen is a cut section of the wall of a mammal long bone. One edge is a gentle convex curve from end to end; the other edge has two concavities with a conspicuous point between them. One end is wider than the other. Any use for this artifact is not immediately apparent.

Measurements: length, approximately 110 mm.; width at the narrow end, 17 to 18 mm.; width at the broad end, 29 mm.; width at the point, 29 mm.

SHELL DISKS

No. of Specimens: 6

Provenience: Feature 1 (2), Feature 2 (1), Feature 3 (2), Feature 5a (1)

Illustrations: Figure 74, f-h

These objects are small, thin, circular disks cut from mussel shells. Two have a hole in the center; the other four are unperforated. Two are too fragmentary to measure. The others have diameters of 9, 13, 14, and 18 mm.

It is possible that these disks and a small, thin, triangular piece cut

of shell from Feature 5 represent inlays similar to those found on stone and wood artifacts from the Craig Mound at the Spiro Site in Oklahoma.

SHELL PENDANTS

No. of Specimens: 2

Provenience: Feature 1 (1), Feature 3 (1)

Illustrations: Figure 74, j

These are made from *oliva* shells with the apex ground off. One specimen, nearly complete, is cone-shaped; the other was evidently of similar form although it is too fragmentary to be certain. Each of the pendants has a small hole drilled near the apical end, and each is 32 mm. long.

SHELL BEADS

No. of Specimens: 1

Provenience: Feature 2

Illustrations: Figure 74, k

This conch columella bead is cylindrical, 17 mm. long, 15 mm. in diameter at the widest point, and has a longitudinal hole of constant diameter. The surface is badly corroded except for one small greenish spot which is probably due to copper salts which have discolored and helped preserve the bead.

Provenience of the Artifacts

The respective authors examined separately the intra-site distribution of the different kinds of artifacts, sometimes in detail (for example, in the case of pottery vessels and glass beads), sometimes cursorily. There has been no over-all analysis of artifact distribution at the site.

While some authors noted minor variations in the occurrence of certain kinds of artifacts from feature to feature, no general patterns suggesting significant temporal or cultural differences were discerned. Still less did anyone observe any significant differences in the artifact content of individual strata at the few stratified places that were dug.

The material recovered from Area B (the point of high ground extending northward from Area A, the main part of the site) consisted entirely of Indian artifacts which seem to be of prehistoric origin, dating well before the 18th century. A few artifacts of late 19th- and 20th-century vintage, too, lay scattered about the site. Otherwise the artifacts appear to be a relatively clean sample from a single occupation dating from the period when the local Indians were trading actively with Europeans. How long this occupation lasted is uncertain.

If a more thorough distributional analysis of the entire artifact collection were carried out, or if more features were excavated extensively, perhaps important differences between features might become apparent. But none have been observed as yet.

Table 10 lists the occurrence of all the artifact categories by feature, except for glass bead types and pottery vessels which are tabulated respectively in Tables 4 and 5. Giving more precise provenience data here would entail lengthy, complex tables of no apparent value. Precise information as to the origin of each specimen is recorded in the artifact catalog, on file at the Texas Archeological Research Laboratory, The University of Texas.

TABLE 10 — (Continued)

Features																							Area	Sur- face	Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	B			
Triggers	1				1																		1		
Trigger plates						1																	1		
Screws	2	2	2	1	2	1														1			11		
Pins	2																						2		
Lugs	2			1							1												4		
Ramrod guides	1	2	4	4		1	2							1			1	1					16		
Barrels	1	3	7	4	3					2	1								1				23		
Breech plugs			2	1	2					1													6		
Butt plates	4	3	2	1	6			1	1										1				20		
Side plates		1	3	2	1	2				1			1						1				10		
Trigger guards	4	2	5	4	6	2	1				1						1					1	29		
Spall gunflints	4	1	9	3	5	2	1			2	3				1				1				32		
Conventional gunflints	3			2	2	1		1		1													13		
Native made gunflints	10	1	19	13	12	5	2			2	1			1				3		1			69		
Lead bullets			1		3						1			1								2	10		
Lead shot	5		11	2	5																		23		
<i>Ornaments</i>																									
Hawk bells	5	1	3		3	1																	13		
Tinklers	18	3	11	4	4	4	2																46		
Tinkler blanks					12																		12		
Pendants				1	1					1													3		
Sheet-brass cylinders	1			1	1	1																	5		1
Finger rings			2																				2		
Buttons		1		1																			2		
Bracelets						1																	1		
Lead beads					1																		1		
Glass beads	1229	354	1038	110	395	203	61	12		10	1	33		3	1								5		3453
<i>Miscellaneous</i>																									
Kettle bail ears	3	2																					7		

TABLE 10 — (Continued)

Features																					Total			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		21	Area	Sur- face
End scrapers	66	14	157	45	51	51	24	3	3	3						1				3			418	
Side scrapers	12	5	32	7	15	24	9									1								108
Knives	3		13	5	2	3	1																	27
Gravers			14	1																				16
Borers				6	1	1	1																1	10
Utilized flakes			15																					15
Debitage	27	14	538	204	218	227	67		9	8			2	70	39								18	1441
Celts		1				1																		2
Hammerstones						1																	2	3
Manos							1																	1
Sandstone abraders	13		14	8	5	4	2												1					46
Pitted stones			1																					1
<i>Bone artifacts</i>																								
Bone beads	2		2							1														5
Bone pendants	3		2																					5
Antler handles	1																							1
Bone awls	9		4	2	1	1	1		1									2						21
Bird bone flageolets						2																		2
Bison scapula hoes				1																				1
Deer skull artifacts				1																				1
Miscellaneous	2		1							1														4
<i>Shell artifacts</i>																								
Shell disks	2		1	2		1																		6
Shell pendants	1		1																					2
Shell beads		1																						1

Animal Remains

by DESSAMAE LORRAIN

The animal remains found at the Gilbert Site are tabulated by feature in Table 11. Most common were white-tailed deer, box turtle, and turkey in that order. Those three animals were undoubtedly the primary protein source for the Indians living at the site.

The quantity and variety of turtle remains is unusually large when compared to the fauna found at most archeological sites in Texas. However, the Vinson Site in Limestone County—another site of the Norteño Focus—also contained numerous turtle fragments. This possibly could be a characteristic trait of Norteño Focus sites.

The large size of the deer bones and the presence of puma, bear, and probably bison, which are no longer present in the area, reflect the impoverishment of the wild fauna after White settlement in the mid-nineteenth century.

Following is an analysis of the deer bones from Features 3, 4, 6, and 7, the only features from which a significant amount of bone material was collected. Of the total bones recovered, almost 90% were the remains of white-tailed deer, *Odocoileus virginianus*. There were at least 127 animals represented by 5,441 counted fragments. Deer was obviously the major source of animal food for the people living at the site.

This study was undertaken primarily in an attempt to determine something of the hunting and butchering techniques and food preferences of these people. An attempt was also made to determine the ages of the deer in order to discover the time of year they were killed. It was thought that the ages of the animals would provide the best clue to the time of the year that the site was occupied. The distribution of bone among the various middens was examined. It was assumed that each midden represented the camping place of a specific group of Indians. If this assumption is valid, any important difference in distribution from midden to midden could have a cultural significance.

Half of the bones were washed at The University of Texas laboratory; the other half were washed in Dallas by Mr. and Mrs. Jack Burch, Norma Hoffrichter, my husband Paul Lorrain, my three children, and myself. After drying, a feature number was inked on

each bone. As there was no significant stratification of the middens, the exact position where a bone was found within the midden was not recorded.

After numbering, the bones were sorted to isolate the deer remains. The latter were in turn sorted according to bone: i.e., skull, femur, tibia, etc. The rights and lefts were separated where applicable. Because the long bones were almost always broken, they were recorded by proximal and distal ends. After counting and recording each bone (Table 12), an estimate of the minimum number of animals represented by each was made (Table 13).

For the long bones, scapulae, pelves, astragali, calcanei, naviculocuboids, and mandibles, after determining how many rights and lefts there were of each, the largest number was taken as the minimum number of animals. The metacarpals and metatarsals were divided by 2. The phalanges were divided by 8. The atlases, axes, and first sacral vertebrae were counted and the rest of the vertebrae were divided by the number found in one animal. A record was kept of the number of certain bones with loose, partially fused, or fully fused epiphyses (Table 14). They were recorded as partially fused if, although the epiphysis was attached, the line between epiphysis and shaft could be seen clearly all around the bone.

The long bones, metapodials, atlases, axes, scapulae, and pelves were examined to determine, if possible, where they had been broken or cut by the Indians. The breaks were then examined and recorded to determine any consistent patterns which would indicate the butchering techniques used (Table 15).

The tooth development was examined to determine the age of the deer. Table 16 lists the number of teeth cut, partially cut, or missing. In addition it shows the height of the crown on the inside of the second posterior cusp of the first and second adult molars.

The data thus recorded were plotted on several graphs to make them easier to visualize. Table 13 shows the minimum number of individuals represented by each bone for each of the four features and for the combined total of all four. Taking the largest number of individuals in each case as 100%, the percentages of this largest number were calculated for the others. For example, if the distal end of the humerus was the most common bone and if it represented 50 animals, then bone representing 25 animals would total 50% of the maximum number. These percentages for the total of all four features combined are plotted in Figure 77. The percentages for each feature are plotted separately in Figure 78. A bar graph (Figure 79) shows the incidence of pre-adult mandibles at various stages of develop-

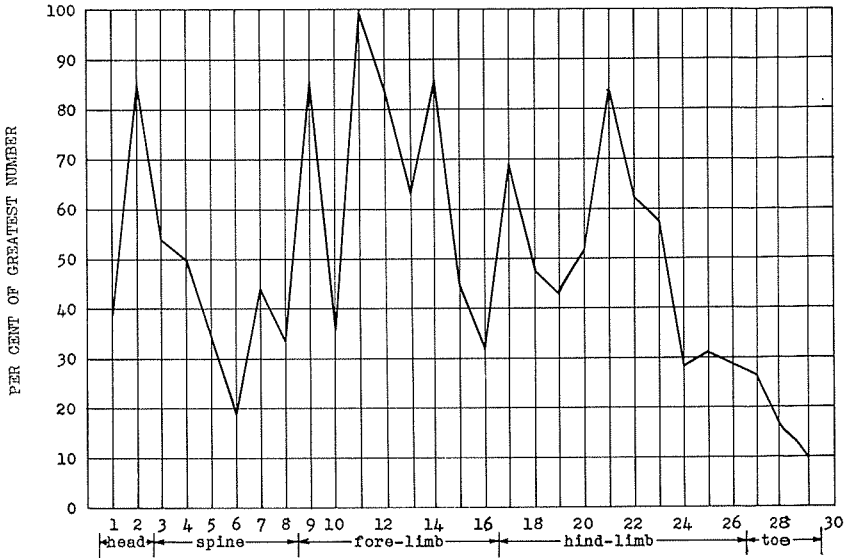


FIGURE 77. Percentage of minimum number of individual deer represented by bones from different parts of the body. Data are for Features 3, 4, 6, and 7 combined.

ment. The variation in crown height of the first molar in mandibles with adult dentition is shown graphically in Figure 80.

The bones were disarticulated with the exception of two vertebrae and one calcaneum and astragalus. During excavation, several cases were observed of an astragalus and calcaneum in articulation, but these were accidentally separated during the washing process and were not recorded. In addition, all but three of the long bones were broken, presumably for their marrow. Other bones were also cracked and broken. The skull in particular was usually fragmented. With the exception of these deliberate breaks, the bones were in excellent condition and required no special handling.

The scarcest deer bones were caudal vertebrae and antlers. The tails undoubtedly remained with the hide when the animal was skinned, and most of them were subsequently removed from the site when the skins were traded for guns, metal tools, glass beads, and other items of European manufacture. Of the few pieces of antler, two were fashioned into artifacts: one (Fig. 75, a) a handle for some type of tool, the other (Fig. 76) a ceremonial headdress made of the antlers and part of the skull. Newcomb (1961: 273) reports that the deer dance was the most important Wichita ceremony. Perhaps most of

PER CENT OF GREATEST NUMBER

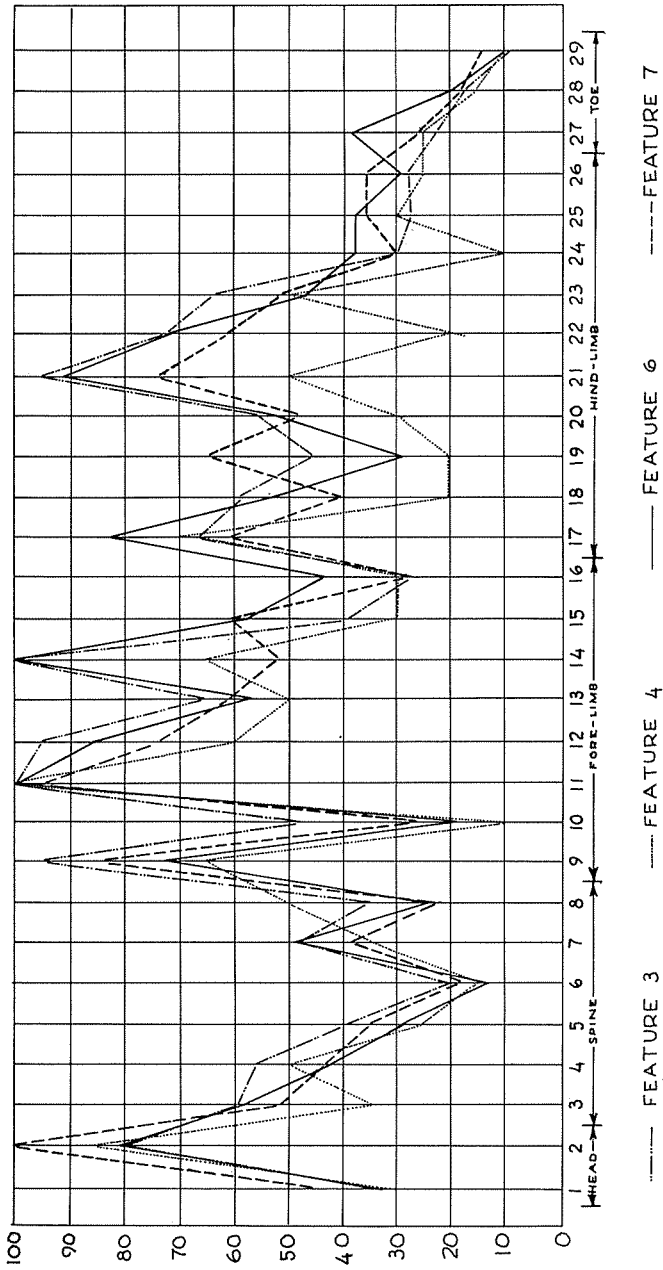


FIGURE 78. Percentage of minimum number of individual deer represented by bones from different parts of the body. Data are given for Features 3, 4, 6, and 7 individually.

the antlers were made into artifacts that the Indians took with them when they left, or perhaps deer were hunted in winter after the antlers had been shed.

There was one direct indication of the method used to kill deer. A stone arrow point was found imbedded in the centrum of one thoracic vertebra. The arrow came from below and to the left of the animal's spine. A few bones showed small conical depressions which might have been made by buckshot. The dents, measured with a vernier caliper, ranged from three to five millimeters in diameter. Whatever methods the Indians used in hunting were apparently successful. The small percentage of other animals would indicate that they were able to obtain an abundance of their favorite food—venison.

There were enough representative bones from each area of the body to indicate that at least half of the deer were brought to the site complete. Figure 77 shows this diagrammatically. It also shows that the vertebral column and feet including metapodials are present for less than 50% of the animals. Some animals were probably butchered at the kill site and only the choice cuts brought to the village. The choice parts are the limbs, excluding metapodials and feet, and the head. The small percentage of skulls is attributed to their badly fragmented condition. Only in Feature 7 were reasonably complete skulls found, and even those were broken so that all bones anterior to the frontals were missing. There was not a complete maxilla anywhere on the site. As a result, calculating the number of skulls was difficult and undoubtedly the number recorded is much too low.

After examining the breaks, the following conclusions were reached about the methods of disjuncting a deer. Starting with the head and working back, the skull was severed by a blow in the general area of the occipital condyle. The condyle was usually broken; 50% of the atlases were broken and 69% of the axes. It looks as if the Indian simply took a swipe at the area and cut wherever he hit. The skull was broken to extract the brains and probably the tongue. The one fairly complete skull from Feature 7 had a large hole in the right temporal area. The mandibles are usually broken behind the third molar.

Most of the forelimbs were severed through or just below the head of the humerus. The head was often so disfigured in the process as to make identification impossible. The graph shows only 34% for the proximal end of the humerus. The distal end of the humerus is the most frequent bone. Most of these are broken about two inches

from the olecranon fossa. The medial portion of the humeral shaft is usually missing. It was apparently thoroughly shattered for extraction of the marrow.

Most of the radii were broken about midway along the shaft, as were the ulnas. The olecranon of the ulna is also missing in the majority of the bones. Figure 81 shows the probable direction of the blows used in butchering the forelimb.

The scapulae most often were broken above the glenoid fossa—quite far above as a rule—in an area where the scapulae are fragile and could have broken accidentally.

The hind limbs were usually separated from the body by cutting into the joint between the pelvis and the femur. There were three distinct types of pelvic breakage observed, as shown in Figure 81.

The femora were broken badly at both ends. The number of proximal ends is 21% below the number of pelvises. The recognizable ones are broken close to the head. There are even fewer remains of the distal ends. Apparently the limb was disjuncted by breaking through the knee joint, thus disfiguring both the distal end of the femur and the proximal end of the tibia. Although those two are among the last epiphyses to fuse, the diaphyses alone are readily recognizable.

There are 34% more distal ends of tibiae than proximal ends. Most of them include a considerable part of the shaft. The distal half of the tibia shaft is very thick-walled and contains a negligible amount of marrow.

The metacarpals and metatarsals are broken about midpoint of the shaft. Most of the carpals and tarsals are complete as are the phalanges. None seem to have been utilized in any way, and they were probably just removed and discarded.

A few of the bones showed evidence of having been cut with metal knives.

One of the questions asked about the Gilbert Site was whether it was a permanent village or a seasonal hunting camp. The lack of house remains and burials and the meager evidence of agriculture suggested the latter. In an attempt to help settle this question, the tooth development and the fusion of the epiphyses were examined closely in an effort to learn the age of the animals. Studies of the development of deer teeth with age have been made, but previous studies on epiphyseal fusion in relation to deer age were not found.

Severinghaus and Cheatum (in Taylor, 1956, p. 91) give this table for white-tailed deer:

<i>Age classes</i>	<i>Teeth partly or fully erupted through gum</i>
1. Birth to 1 week	4 incisiform
2. 1-4 weeks	4 incisiform, 2 premolars
3. 4-10 weeks	4 incisiform, 3 premolars
4. 10 weeks-7 months	4 incisiform, 3 premolars, 1 molar
5. 7-13 months	4 incisiform, 3 premolars, 2 molars
6. 13 months and older	4 incisiform, 3 premolars, 3 molars

The premolars are the milk molars. Between 13 and 19 months they are replaced by permanent premolars.

Harlow and De Foor (1962) give for the same age classes more detailed information on how far the eruption of each molar has progressed. In addition they give the premolar replacement sequence and show the degree of wear of the permanent teeth for deer up to 10½ years of age.

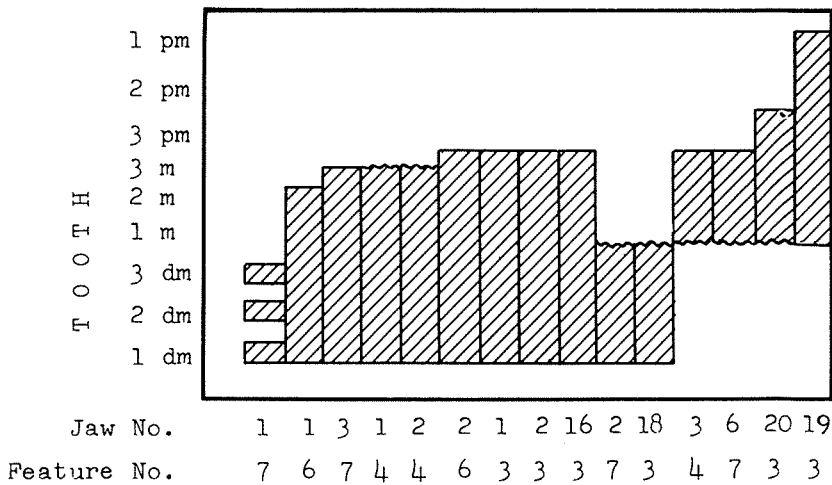


FIGURE 79. Tooth development of pre-adult deer mandibles.

The mandibles from Gilbert represent several stages of development which are shown in Figure 79. A full square on the graph represents a tooth that is cut, and a half square represents a tooth that is partially cut. Fifteen individuals do not have their full adult dentition. In order to estimate the age of a deer at the time it was killed, it is assumed that the fawns were dropped in May or June.

The youngest animal is represented by one tiny jaw with the milk teeth barely showing. This was probably an unborn but almost fully developed fawn. It would indicate a kill in the spring of the

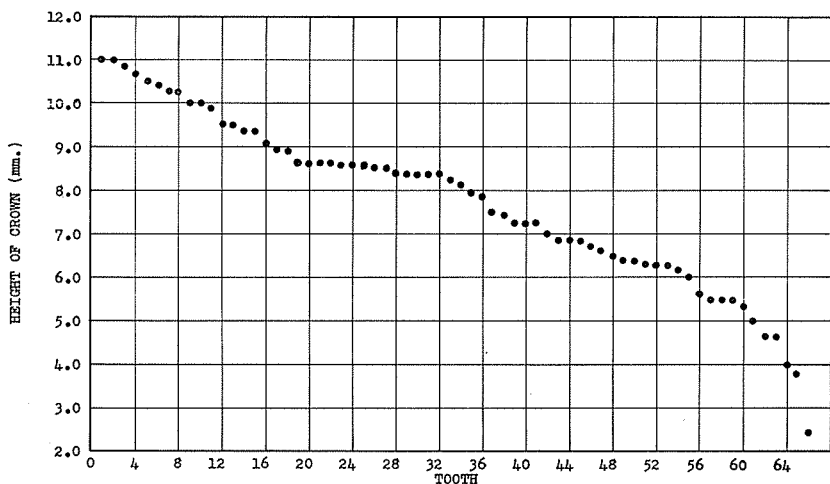


FIGURE 80. Lingual surface crown height, second posterior cusp of first molar of deer mandibles.

year. There is a considerable lapse in time before the next stage. This is a jaw with all three milk molars and one molar cut and the second molar cutting. This indicates an animal killed during its first winter. Next is a jaw with the second molar fully cut, which would be an animal about a year old, killed in the spring. The next stage is shown by six jaws which are cutting the third molar. These represent animals killed during the late summer or early autumn of their second year. There is a jaw with the third premolar just starting to cut which indicates a deer late in its second autumn. Lastly is the jaw with the first premolar cutting. This is a deer in its second winter. The other four immature jaws were broken in such a way that the season could not be determined.

Most of the animals had full adult dentition. To get a rough idea of the age range of these fully grown animals, the height of the crown on the lingual surface of the second posterior cusp of the first and second molars was measured. If the diets and rate of wear are similar for deer in Florida and those from Gilbert, the majority of the Gilbert deer were killed between $1\frac{1}{2}$ and $3\frac{1}{2}$ years of age. Their teeth were quite sharp and showed little wear. The Indians apparently preferred young but fully grown animals, as indeed would we. There are a few jaws, however, which have teeth showing different amounts of wear including some worn down to the gum line. There must have been animals almost 10 years old.

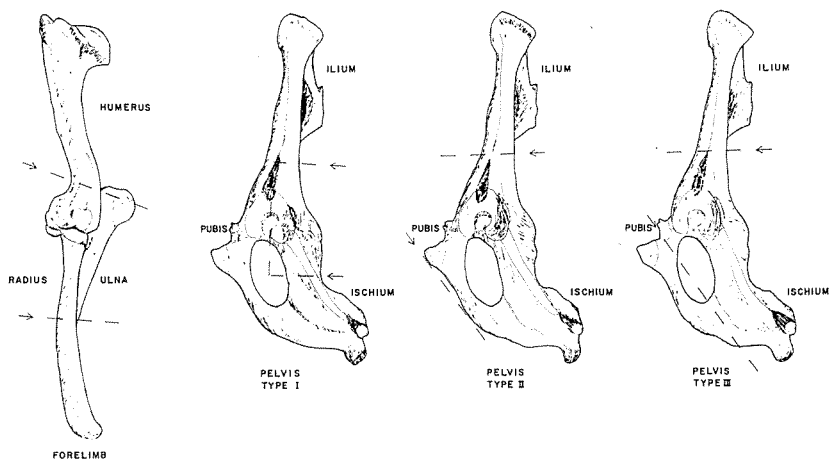


FIGURE 81. Methods of butchering deer forelimb and pelvis.

One of the methods used to determine the age at death of human skeletons is to examine the epiphyses to discover which have or have not fused. The ages at which various human epiphyses become fused has been studied and recorded. However, I was unable to find any similar studies on deer epiphyses. The Gilbert deer bones from Features 3 and 7 were examined for fusion of the epiphyses anyhow, and the data are presented in Table 14.

In order to discover if any significant variation existed in the distribution of bone among the four features studied, the percentages of bone in each feature were plotted in Figure 78. The agreement is generally quite good and the differences could be due to accidents of preservation or collection with the exception of the low percentage of hind limb bones from Feature 4. That feature also returned a higher percentage of animals other than deer, especially bison or cow. The people living there could have had enough of a taste for bison to go some distance to hunt them, or they may have had cattle. At the time this site was occupied either animal was obtainable and no distinguishing bones were recovered. In any event they were a bit more fastidious about their venison and used more of the forelimb than the hindlimb. I have been told by deer hunters that the forelimb is "better eating." The rest of the site is homogeneous as far as distribution of the deer bones is concerned.

The following conclusions about the Gilbert Site are based on the analysis of the bone scraps from Features 3, 4, 6, and 7. The emphasis

is on deer, but the fact that there was a small percentage of other animals is taken into consideration.

1. The main source of animal protein for the people at the Gilbert Site during the historic occupation was white-tailed deer.

2. The only weapon demonstrated by the study of the bone was the bow and arrow. No lead balls or shot were found which would indicate definitely the use of guns.

3. Approximately half of the deer were brought into camp whole; the other half were butchered elsewhere and the choice cuts—heads and limbs minus feet—were brought home.

4. The head was severed in the general area of the occipital condyle, atlas, and axis. The skull and mandibles were broken to remove the brains and tongue. The forelimb was removed by cutting the head of the humerus. It was further separated by cutting just above the olecranon fossa of the humerus and midway along the shaft of the radius. The hindlimb was removed by cutting the acetabulum of the pelvis and the head of the femur. It was divided further by cutting through the knee joint. The shafts of all the limb bones were broken to extract the marrow. The shafts of the humerus and femur, which would have the most marrow, were the most shattered.

5. The site was occupied all year. The teeth show two animals killed in the spring, two in the winter, six in the late summer or early autumn, and one in the late autumn. The small amount of antler is attributed to its use for ornaments and tools rather than to the antlers having been shed.

6. With respect to butchering data the site is culturally homogeneous, with the exception that Feature 4 had a lower percentage of the hindlimbs of deer and more remains of other animals.

TABLE II

Provenience of animal remains. Figures indicate the number of individual animals in each feature. An X indicates presence of an animal, but with no individual count.

Name of Animal	Feature	1	3	4	5	5a	6	7	10	18	Minimum Number of Individuals
<i>Homo sapiens</i> (human)		1	.....	.....	.....	.....	.....	.....	.....	1
<i>Odocoileus virginianus</i> (white-tailed deer)	2	64	20	3	4	21	23	5	3		127
Bison or Bos (bison or cow)	1	3	2	.....	1	1	1	.....	.....	.....	4
<i>Ursus americanus</i> (black bear)	1	5	2	.....	1	1	3	.....	1	.....	5
<i>Felis concolor</i> (puma)	1	1	.....	.....	.....	.....	1	.....	.....	1
<i>Lynx rufus</i> (bobcat)	1	.....	.....	1	1	.....	.....	.....	.....	1
<i>Canis sp.</i> (dog or coyote)	1	.....	.....	.....	1	.....	.....	.....	.....	2
<i>Procyon lotor</i> (raccoon)	1	1	1	.....	.....	1	.....	.....	.....	3
<i>Mephitis mephitis</i> (striped skunk)	2	1	.....	1	1	1	.....	.....	.....	1
<i>Spilogale putorius</i> (spotted skunk)	1	.....	.....	.....	.....	.....	.....	.....	.....	1
<i>Lepus californicus</i> (jackrabbit)	1	.....	.....	.....	.....	1	.....	.....	.....	1
<i>Sylvilagus sp.</i> (cottontail rabbit)	1	.....	.....	.....	.....	.....	.....	.....	.....	1
<i>Sciurus carolinensis</i> (squirrel)	1	1	.....	.....	1	.....	.....	.....	.....	1
<i>Geomys bursarius</i> (gopher)	1	.....	.....	.....	.....	.....	.....	.....	.....	1
<i>Didelphis virginiana</i> (opossum)	1	2	.....	.....	1	.....	.....	.....	.....	2
Horse	1	.....	.....	.....	.....	1

TABLE 12
Count of deer bones from Features 3, 4, 6, and 7.

<i>Feature</i>	3	4	6	7
Skull, fragmentary	22	6	7	10
Mandible, right	47	13	17	23
Mandible, left	51	17	16	20
Vertebra, atlas	38	7	12	12
Vertebra, axis	35	10	9	10
Vertebra, cervical	116	24	27	38
Vertebra, thoracic	169	30	38	50
Vertebra, lumbar	179	37	59	50
Vertebra, sacral	22	10	5	5
Vertebra, caudal	4	----	----	----
Rib, fragments with head	272	63	90	74
Scapula, right	61	13	15	19
Scapula, left	50	12	12	12
Pelvis, right	43	14	17	13
Pelvis, left	40	11	16	14
Phalanx, first	113	34	59	48
Phalanx, second	87	21	29	28
Phalanx, third	46	15	14	20
Calcaneum, right	41	4	10	12
Calcaneum, left	31	10	10	12
Astragalus, right	45	3	15	14
Astragalus, left	46	4	9	11
Naviculo-cuboid, right	15	1	8	7
Naviculo-cuboid, left	19	2	7	7
Humerus, right whole	----	----	----	1
Humerus, right proximal end	31	2	4	4
Humerus, left proximal end	24	2	3	6
Humerus, right distal end	64	13	18	18
Humerus, left distal end	61	20	21	22
Radius, right whole	----	1	----	----
Radius, right proximal end	61	9	14	13
Radius, left proximal end	48	12	18	17
Radius, right distal end	43	4	12	9
Radius, left distal end	37	10	11	14
Ulna, right	62	11	12	9
Ulna, left	42	13	21	12
Femur, right proximal end	31	4	5	8
Femur, left proximal end	37	2	11	9
Femur, right distal end	22	4	3	15
Femur, left distal end	29	3	6	8
Tibia, right proximal end	35	3	11	11
Tibia, left proximal end	34	6	6	6
Tibia, right distal end	60	8	11	12
Tibia, left distal end	61	10	19	17
Metacarpal, whole	----	----	----	1
Metacarpal, proximal end	49	12	23	26
Metacarpal, distal end	35	11	17	11
Metatarsal, proximal end	33	11	15	16
Metatarsal, distal end	36	9	12	16
Antler, pieces	5	5	----	3
Sternum, pieces	14	4	6	2
Hyoid, pieces	20	5	8	7

TABLE 13
Data for estimating number of individual deer represented by the bone sample.

Feature:	Minimum No. Individuals							Percentage of Greatest No.				
	6	7	4	5	6	7	3	all	6	4	7	3	all
1. Skull	6	7	6	10	10	22	45	33	30	44	34	35
2. Mandible	17	17	23	12	38	69	108	81	85	100	80	85
3. Vertebra, atlas	12	7	12	10	35	64	43	57	35	52	59	54
4. Vertebra, axis	9	10	10	8	25	44	29	43	50	44	55	50
5. Vertebra, cervical	6	5	8	4	13	23	14	29	25	35	39	35
6. Vertebra, thoracic	3	3	4	9	30	56	48	14	15	17	20	18
7. Vertebra, lumbar	10	7	9	5	22	42	24	48	35	39	47	44
8. Vertebra, sacral	5	10	5	19	61	108	72	24	50	22	34	33
9. Scapula	15	13	19	6	31	43	19	72	65	83	95	85
10. Humerus, proximal	4	2	6	22	64	127	100	19	10	26	48	34
11. Humerus, distal	21	20	22	17	61	108	86	100	100	96	100	100
12. Radius, proximal	18	12	17	14	43	79	57	86	60	74	95	85
13. Radius, distal	12	10	14	12	62	108	100	57	50	61	67	62
14. Ulna, proximal	21	13	12	14	25	57	57	100	65	52	99	85
15. Metacarpal, proximal	12	6	14	6	18	39	43	57	30	61	39	45
16. Metacarpal, distal	9	6	6	6	18	39	43	57	30	26	28	31

TABLE 13 - (Continued)

Feature:	Minimum No. Individuals			Percentage of Greatest No.						
	6	4	7	3	all	6	4	7	3	all
17. Pelvis	17	14	14	43	88	81	70	61	67	69
18. Femur, proximal	11	4	9	37	61	52	20	39	58	48
19. Femur, distal	6	4	15	29	54	29	20	65	45	43
20. Tibia, proximal	11	6	11	35	63	52	30	48	55	50
21. Tibia, distal	19	10	17	61	107	91	50	74	95	84
22. Astragalus	15	4	14	46	79	72	20	61	72	62
23. Calcaneum	10	10	12	41	73	48	50	52	64	58
24. Naviculo-cuboid	8	2	7	19	36	38	10	30	30	28
25. Metatarsal, proximal	8	6	8	17	39	38	30	35	27	31
26. Metatarsal, distal	6	5	8	18	37	29	25	35	28	29
27. 1st Phalanx	8	5	6	15	34	38	25	26	23	27
28. 2nd Phalanx	4	3	4	11	22	19	15	17	17	17
29. 3rd Phalanx	2	2	3	6	13	10	10	13	9	10

TABLE 14
Epiphyseal fusion of deer bones.

<i>Name of bone</i>	<i>Number of animals with:</i>		
	<i>Epiphysis loose</i>	<i>Epiphysis partially fused</i>	<i>Epiphysis fused</i>
<i>Feature 7</i>			
Femur, proximal end	2	2	2
Femur, distal end	6	4	4
Tibia, proximal end	1	0	9
Tibia, distal end	1	1	14
Humerus, proximal end	1	1	4
Humerus, distal end	1	0	22
Radius, proximal end	0	0	17
Radius, distal end	3	1	10
Ulna, proximal only	3	0	2
Metacarpal, proximal end	0	0	14
Metacarpal, distal end	2	0	4
Metatarsal, proximal end	0	0	8
Metatarsal, distal end	3	0	5
Phalanx, first	0	1	6
Phalanx, second	1	0	5
Phalanx, third	0	0	3
Calcaneum	5	0	5
<i>Feature 3</i>			
Femur, proximal end	6	4	16
Femur, distal end	6	2	10
Tibia, proximal end	10	1	20
Tibia, distal end	4	2	56
Humerus, proximal end	7	2	11
Humerus, distal end	0	0	56
Radius, proximal end	0	0	61
Radius, distal end	7	4	30
Ulna, proximal only	10	0	10
Metacarpal, proximal end	0	0	25
Metacarpal, distal end	4	1	12
Metatarsal, proximal end	0	0	17
Metatarsal, distal end	6	0	12
Phalanx, first	1	1	13
Phalanx, second	1	1	11
Phalanx, third	0	0	6
Calcaneum	9	0	27

TABLE 15

Location of breaks and cuts on deer bones from Feature 3.

<i>Name of bone</i>	<i>Broken just below end</i>	<i>Broken about midpoint</i>
Femur, proximal	38	18 have less than 1/2 of shaft 4 midway
Femur, distal	21	18
Tibia, proximal	11	29 have 1/3 of shaft 8 midway
Tibia, distal	11	44 have 1/3 of shaft 42 midway 4 have over 1/2
Humerus, proximal	32	19
Humerus, distal	14 through end 34 near end	46 have about 1/2 19 have over 1/2
Radius, proximal	32	45 have 1/3 to 1/2 of shaft 20 have 1/2 or more
Radius, distal	17	27 have 1/3 to 1/2 17 have 1/2 or more
Ulna, proximal (measured below coranoid process)	27	39 1 to 3 inches 4 over 3 inches
Metacarpal, proximal	17	30
Metatarsal, proximal	10	20
Metapodial, distal	20	38
Scapula	28 are cut through or just above glenoid fossa. 65 are broken 2" or more from glenoid fossa.	
Pelvis	42 have acetabulum cut and ilium and ischium cut close to it. 12 have acetabulum whole; ilium and pubic symphysis cut. 13 have acetabulum whole; ilium and pubis cut close to it.	
Atlas	12 complete 12 broken	
Axis	9 complete 20 broken	

TABLE 16

Tooth development of deer mandibles. Inside crown heights of second posterior cusps are given in millimeters for the first and second adult molars. Each jaw represents one animal. *dm.* = deciduous molar; *pm.* = permanent premolar; *m.* = permanent molar; * = tooth present in jaw; x = last tooth cut; ½ = tooth partly cut.

Jaw #	1 dm.	2 dm.	3 dm.	1 pm.	2 pm.	3 pm.	1 m.	2 m.	3 m.
<i>Feature 7</i>									
1	½	½	½						
2	*	*	*				?	?	?
3	*	*	*				*10.4	*x12.2	
4			*	*x	½		*8.9	*12.4	
5				?	?	?	?	*x	
6				?	?	?	*10.0	*x12.6	½
7				*	*	*	*9.4	*12.6	*x
8				?	*	*	*8.4	*11.2	*x
9				?	?	?	*10.0	*13.0	*x
10				*	*	*	*7.8	*11.3	*x
11				*	*	*	*7.9	*12.0	*x
12				*	*	*	*9.4	*12.0	*x
13				?	?	*	*6.6	*9.9	*x
14				*	*	*	*8.9	*11.7	*x
15				*	*	*	*6.4	*8.2	*x
16				?	?	*	*4.7	*8.5	*x
17				?	?	*	*6.5	*8.5	*x
18				*	*	*	*5.5	*6.9	*x
19				*	*	*	*8.4	*11.7	*x
20				?	?	?	*5.4	*7.3	*x
21				?	?	?	*5.5	*6.7	*x
<i>Feature 4</i>									
1		*	*				*11.5	*	?
2		*	*				*11.0	*13.0	?
3				?	?	?	*10.5	*x12.0	½
4				?	?	*	*7.5	*9.6	*x
5				*	*	*	*8.7	*11.1	?
6				*	*	*	*6.8	*8.9	*x
7				*	*	*	*6.2	*8.5	*x
8				*	*	*	*7.3	?	?
9				*	*	*	*5.5	*7.0	*x
10				?	?	?	*5.6	*6.5	*x
<i>Feature 6</i>									
1	*	*	*				*x10.3	½	
2	*	*	*				*9.8	*x11.9	½
3				?	?	*	*8.4	*10.4	*x

TABLE 16 - (Continued)

Jaw #	1 dm.	2 dm.	3 dm.	1 pm.	2 pm.	3 pm.	1 m.	2 m.	3 m.
4				*	*	*	* 8.6	*11.6	*x
5				*	*	*	* 8.6	*11.6	*x
6				*	*	*	* 7.0	* 9.4	*x
7				?	?	?	?	*10.3	*x
8				?	?	*	* 9.5	*11.6	*x
9				*	*	*	* 6.4	* 9.8	*x
10				?	?	*	* 6.8	* 7.5	*x
11				*	*	*	* 5.4	* 8.9	?
12				*	*	*	* 5.0	* 7.4	*x
13				?	?	?	?	* 7.4	*x
14				*	*	*	* 4.7	* 7.4	*x
15				?	*	*	* 3.8	* 5.0	*x
<i>Feature 3</i>									
1	*	*	*				*10.3	*x	1/2
2	*	*	*				* 9.4	*x13.2	1/2
3				*	*	*	* 8.2	*10.5	*x
4				*	*	*	* 9.5	*11.3	*x
5				*	*	*	* 8.6	*10.0	*x
6				*	*	*	* 8.7	*10.4	*x
7				*	*	*	out	* 6.2	*x
8				*	*	*	*10.7	*13.4	*x
9				*	*	*	* 8.7	*10.8	*x
10				*	*	*	* 6.8	* 9.0	*x
11				*	*	*	* 7.2	* 9.5	*x
12				*	*	*	* 6.3	* 8.7	*x
13				*	*	*	* 8.5	*10.0	*x
14				*	*	*	*11.0	*13.5	*x
15				*	*	*	* 8.3	* 9.0	*x
16	*	*	*				*10.8	*x14.3	1/2
17							?	*x	1/2
18	*	*	*				?		
19				1/2	*x	*	* 8.5	*11.5	*
20				?	?	1/2	*	*	*x
21				*	*	*	* 8.4	*10.5	*x
22				*	*	*	* 8.7	*10.9	*x
23				?	*	*	* 9.1	*10.5	?
24				*	*	*	* 6.7	* 8.3	*x
25				*	*	*	* 6.0	* 7.0	*x
26				*	*	*	* 7.4	*11.0	?
27				*	*	*	*	* 9.3	?
28				*	*	*	* 8.4	*10.4	*x
29				*	*	*	* 6.3	* 8.4	?
30				?	?	*	* 2.4	* 5.0	*x
31				*	*	*	* 6.3	?	?
32				*	*	*	* 4.0	?	?
33				*	*	*	* 7.3	*10.7	?

Conclusions

These conclusions may be reached regarding the Gilbert Site:

1. It is a component of the Norteño Focus and has augmented knowledge of the focus appreciably.
2. More specifically, it is probably a village site of the Tawakoni, Kichai, or Yscani Indians.
3. Styles of certain artifacts indicate that the site was occupied during the 18th century, principally during the third quarter of the century.
4. Since the most active Indian traders in the area during the 18th century are known to have been French, much of the European trade goods found at the site must have been obtained from French traders operating out of Louisiana.
5. If conclusions 3 and 4 may be accepted, knowledge of 18th-century French trade goods on the southern plains—guns, beads, knives, and the like—is enlarged considerably by the findings at Gilbert.

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Information and Contributors

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