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**AN INTENSIVE SURVEY OF
SIXTEEN PREHISTORIC
ARCHAEOLOGICAL SITES
IN STARR COUNTY, TEXAS**

DANIEL E. FOX

with the collaboration of Thomas R. Hester

Center for Archaeological Research
The University of Texas at San Antonio
Archaeological Survey Report, No. 72

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ACKNOWLEDGMENTS

This study was carried out by the author and his assistant, H. G. Uecker, who provided able assistance during the field work, laboratory and analysis phases of the project. Dr. Thomas R. Hester, Director, and Mr. Jack D. Eaton, Assistant Director, of the Center for Archaeological Research, The University of Texas at San Antonio, acted as principal investigators. Hester collaborated with the author in assessing the sites and developing recommendations for those sites requiring additional investigation.

Silvester Gonzales, Starr County District Conservationist, provided liaison with the Soil Conservation Service and local landowners. We appreciate his support. We also thank Jim Warren of the Soil Conservation Service office in Temple for his helpfulness in facilitating the study.

We are indebted to the landowners of Starr County for their cooperation in giving permission for access to their property; to the communities of Roma, Los Saenz, El Sauz and Rio Grande City for making our visit comfortable and educational; and to the numerous law enforcement officers operating in Starr County for their awareness of our field activities.

Drafting services were provided by H. G. Uecker and personnel of the Office of Instructional Services (UTSA). Carol Graves and Elizabeth Branch provided editorial assistance. The report was typed by Alice Morici and Amarinthia Gretzinger.

INTRODUCTION

This report presents information obtained during intensive archaeological survey and limited testing of 16 prehistoric archaeological sites to be affected by the construction of a series of retarding structures proposed by the United States Department of Agriculture, Soil Conservation Service, for the Los Olmos Creek drainage in Starr County, Texas (Fig. 1). Undertaken as a cooperative arrangement between the Center for Archaeological Research, The University of Texas at San Antonio, and the Soil Conservation Service, this archaeological investigation was conceived as the first phase of intensive survey (test excavation and controlled surface collection) recommended as the result of a reconnaissance reported by Nunley and Hester (1975).

This first phase of intensive survey was carried out during Fall 1977. It was pursued as a continuation of Nunley's 1974 reconnaissance and as a prelude to subsequent phases of intensive study. The present investigations were focused on the retrieval of data necessary for determining the archaeological potential of the 16 sites, as well as on the accumulation of archaeological data which can be incorporated, along with information recovered during Nunley's reconnaissance, into a comprehensive study of the prehistory of the Los Olmos Creek drainage in Starr County, Texas.

THE STUDY AREA

Small scale cattle ranching is the predominant economic activity of the present day inhabitants of the Los Olmos valley. Lands are fenced off as pastures which sometimes are cultivated or rootplowed and seeded in grass, but most often left as unimproved pasture land covered by mesquite trees, cacti and brush (Fig. 2). Run-off water is trapped by large and small earthen tank dams, since most tributary streams are intermittent.

Few, if any, people reside within the project areas. Most of the predominantly Mexican-American population is settled in small communities or clusters or residences near transportation and communication routes. Access is by unimproved dirt roads and senderos which link pasturelands to a system of maintained dirt and/or gravel county roads and paved state highways. Some pipelines and powerlines cross the study area.

For purposes of description, the five project areas can be combined into two groups: Damsites 1B and 2, located in the northern half of the Arroyo los Olmos drainage; and Damsites 6, 7 and 8, located on tributaries which feed the lower portion of the Arroyo los Olmos valley (Fig. 2).

Ten prehistoric archaeological sites scheduled for intensive survey and limited testing are located in project areas 1B and 2. Area 1B, the largest of the five project areas, is used by a number of cattle ranchers. Area 2, the northernmost of the project areas, involves less acreage and fewer ranchers. Both project areas are situated in relatively broad, shallow stream valleys with gently sloping valley walls. Although some gravel deposits are exposed in upland areas, both project areas are characterized by fine sandy loams exposed

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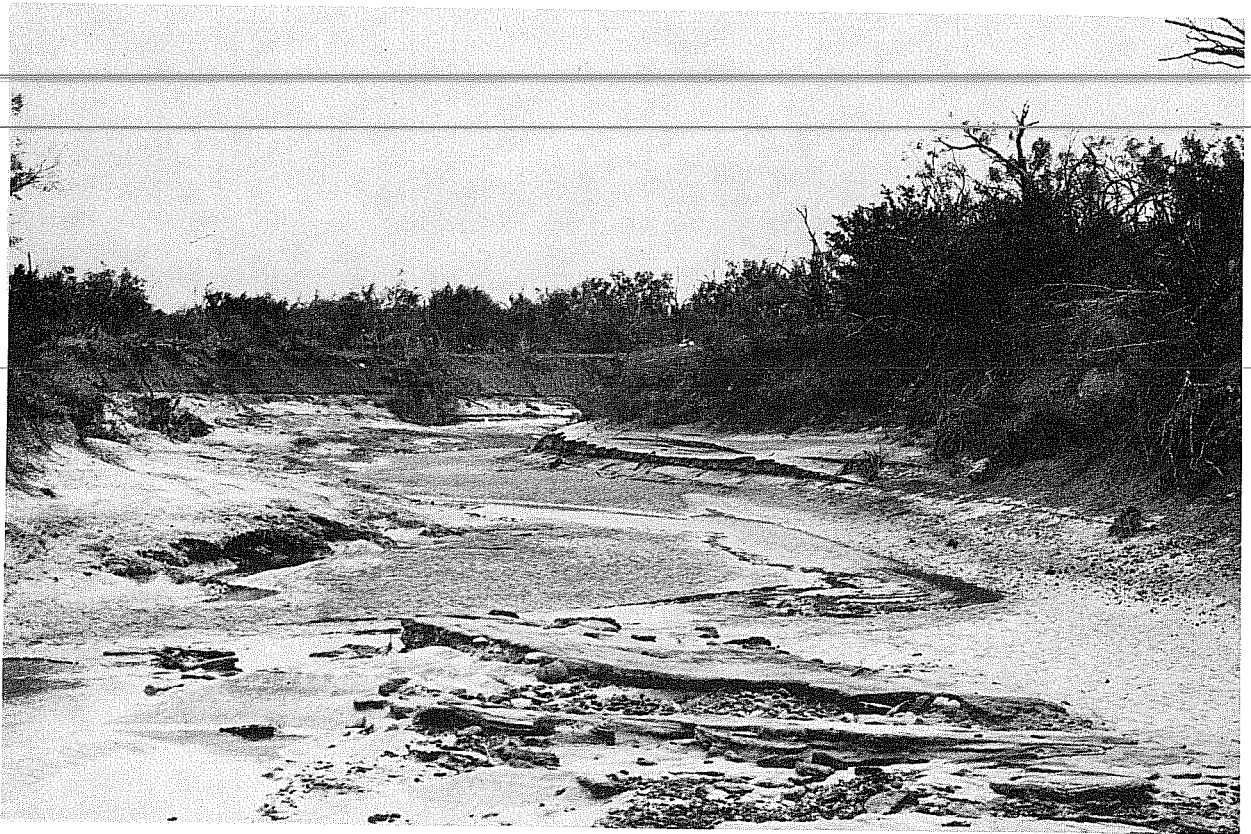
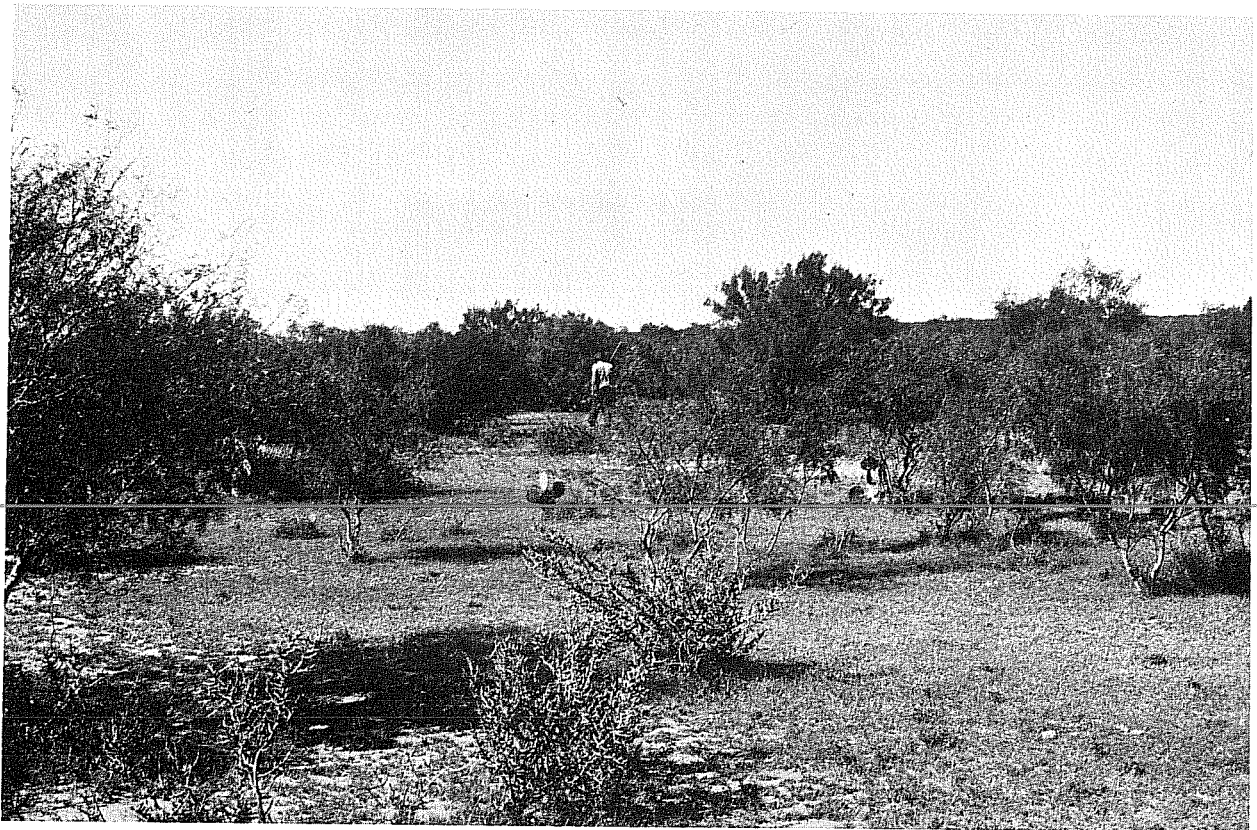
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Figure 2. *Views of Site Areas.* a, Arroyo Los Olmos in the vicinity of site 41 SR 96; b, typical brushland, in the area of site 41 SR 102.

by extensive sheet and gully erosion. Many upland and flood plain portions have been developed by rootplowing, and some upland areas have been cultivated in grass. Dense thickets of mesquite trees, cacti and brush grow on extensively eroded uplands, valley walls and flood plains.

Six prehistoric archaeological sites scheduled for intensive survey and limited testing are located in project areas 6, 7 and 8. Similar in physiographic situation and general appearance, these project areas are less improved and belong to fewer landowners. Valley walls are steeper and flood plains are narrower than in project areas in the headwaters of the Arroyo los Olmos. Extensive gravel deposits and fine sandy loams are exposed by extensive sheet and gully erosion along brush-covered valley walls. Flood plains are unimproved areas of sheet erosion, covered with dense brush, except for a large filled and root-plowed flood plain in project area 8.

ARCHAEOLOGICAL BACKGROUND

Starr County and Southern Texas

Nunley and Hester (1975:6-10) present an adequate review of previous archaeological research in Starr County and the southern Texas region. Most archaeological research in southern Texas before 1960 was the independent work of amateur archaeologists and occasional, scattered salvage investigations by academic institutions. Since 1960, archaeological investigations have intensified and descriptive data from a large number of professional archaeological survey and mitigation projects have been published. As yet, a major synthesis of south Texas prehistory has not been published. However, Hester (1975,1977) and Hester and Hill (1975) have separately treated the Paleo-Indian, Archaic and Late Prehistoric periods.

A tentative, generalized chronological framework for the ordering of cultural remains is provided by Nunley and Hester (1975:7-8). Prehistoric occupations during the end of the Pleistocene, roughly 9200-6000 B.C., are labelled Paleo-Indian, represented by such distinctive projectile point types as *Clovis*, *Folsom*, *Plainview*, *Golondrina* and *Scottsbluff*. The term Archaic is applied to a long post-Pleistocene period of adaptation by hunting and gathering peoples who inhabited southern Texas between 6000 B.C. and A.D. 1200. Archaic occupations are characterized by numerous sites and abundant lithic materials (chipped stone implements, ground stone artifacts, thermally altered stone and chipping debris). Beginning around A.D. 1200, the introduction of the bow and arrow is thought to be represented by small projectile points of various styles. These arrow points, associated new lithic tool forms and bone-tempered ceramics are affiliated with the Late Prehistoric ("Neo-American") period, which may have continued as late as A.D. 1700.

The Historic period began with the intrusion of European culture. Early European explorers report that southern Texas was inhabited by a myriad of small semi-nomadic hunting and gathering groups, most of which seem to have shared a common language, known as "Coahuiltecan." These native peoples, who may have been descendants of populations who had lived in the area for millennia, soon were eliminated through a combination of introduced diseases, missionization and assimilation by various invading populations.

Investigations by Nunley and Hester (1975:1-5)

During August 1974, approximately 76 man-days were spent in an archaeological reconnaissance of approximately 10,000 acres (4048.5 ha.) involving a number of different project areas where floodwater retarding structures have been proposed. Survey efforts were organized by the establishment of three priority areas, based upon the degree to which each project would affect archaeological sites. Most field time was spent at "Priority I" areas, where sites would be directly affected by the construction of dams, levees, spillways, conservation pools, etc.

Fifty-two prehistoric archaeological sites were recorded during the 1974 survey. Each site was recorded on maps and survey forms, and samples of occupational evidence were collected in "grab sample" fashion (at the collector's preference, selecting for tools, tool fragments, as well as samples of chipping debris and other materials).

Interpreting cultural evidence recovered during the original assessment of 52 hunting and gathering occupation sites, Nunley and Hester (1975:93-94) suggest that 36 are sites of temporary occupations; 3 are multipurpose, major occupation localities (base camps); and 10 located in upland areas are quarry or lithic workshops. The function of three sites was not suggested.

Although surface collections were lacking in artifacts comparable to datable styles defined for southern Texas, most sites are considered to be Archaic occupation areas, and one site (41 SR 120) is suggested to be a possible Paleo-Indian occupation. No recognizable evidence of Late Prehistoric occupations was found.

Research Conducted for the Tennessee Valley Authority

During 1975 the Center for Archaeological Research, The University of Texas at San Antonio, carried out survey activities in Starr County under a contract with the Tennessee Valley Authority (TVA). The surveys were made necessary by planned subsurface uranium exploration; however, such exploration was never conducted by the TVA on a large scale.

Surveys were conducted in various parts of the county and at times were in or near areas examined by Nunley and Hester (1975). Forty-nine sites were recorded (41 SR 147-159; 165-171; 222-228; 230-250), and records are on file at the Center (copies of the site survey records have also been placed on file at the Texas Archaeological Research Laboratory, Austin).

Most of the sites were occupation sites and lithic scatters and do not differ significantly from those documented by Nunley and Hester (1975). Flakes and other lithic debris, occasional finished lithic tools, snail shells, scattered burned rock and hearths typify the occupation sites; sometimes, quarry-workshop activities (utilizing local gravel exposures) were associated.

Some of the major sites included: 41 SR 154 (occupation and workshop; concentrations of land snails; estimated depth of deposits, 50 cm); 41 SR 157 (occupation; numerous *in situ* hearths; large quantities of land snails); 41 SR 160 (occupation; extensive snail midden; much debitage, including blades; triangular

dart points); 41 SR 165 (occupation; large quantities of burned rock; triangular dart point); 41 SR 169 (occupation; several intact hearths; heavy concentrations of stone-working debris); 41 SR 225 (buried occupation; artifacts at depths up to 70 cm); 41 SR 230 (large occupation roughly 1000 by 1500 m; over 100 intact hearths; snail shell middens; abundant lithics); 41 SR 232 (prehistoric quarry-workshop and associated Historic period structure of unknown age); 41 SR 242 (prehistoric occupation and remains of Historic period stone structure, with associated square nails and Anglo-European ceramics). Data from the TVA survey are currently under analysis and a report will be published at a later date.

METHODOLOGY

This investigation was proposed and performed as the first phase of an intensive survey and testing of prehistoric archaeological sites recorded during a reconnaissance reported by Nunley and Hester (1975). The 16 sites selected for the present study are located in five separate project areas where retarding structures have been proposed by the Soil Conservation Service. For logistical reasons and in cooperation with the Soil Conservation Service office in Rio Grande City, the two-man survey team organized its efforts by studying sites as they occurred in each project area. The Soil Conservation Service office obtained landowner permission for access in advance of the survey team's movement from one project area to another. In turn, the Soil Conservation Service office, as well as numerous law enforcement officers in the vicinity, could be kept generally aware of the team's activities throughout its 26 man-days of field work in Starr County.

Because the focus of the present study has been the retrieval of data concerning archaeological potential, intensive survey and limited testing activities varied, depending upon: assessments made during previous research; limitations of time; physical accessibility, extent and condition of the different sites; and other factors. The format explained below is used to describe the investigations made at the 16 Starr County sites.

Site Designation

The site designation follows the trinomial convention in which the first number, 41, represents Texas; the two letters, SR, denote Starr County; and the last number designates a specific site.

Damsite: Designates which of the five Soil Conservation Service projects would affect the site in question. Locational data for the site within the project area are available in field notes and on maps on file at the Center for Archaeological Research, The University of Texas at San Antonio. Precise description of location is avoided here to forestall improper use of such information.

Type of Site: Following Nunley and Hester (1975:13-14), two types of sites can be defined, based on physiographic situation: "Gallery" sites are located on terraces or flood plain areas of arroyos and tributaries; "Bower" sites are located in more elevated areas overlooking the lower-lying arroyos, tributaries and "Gallery"-type sites.

Site Description: Brief statements concerning the general appearance, extent and condition of the site. Other descriptive information can be found in Nunley and Hester (1975:14-59; 108-109).

Nunley and Hester Recommendations: The scope of further archaeological investigation suggested for the site by Nunley and Hester (1975).

Intensive Survey and Limited Testing Procedures: Investigations made during the present study of the site.

Man-days: Approximations of field time allotted to the study of the site by the two archaeological investigators. This figure includes time spent gaining permission for access and travelling by vehicle, and often on foot, to reach the site.

Remarks: Brief concluding statements concerning the condition and character of the site.

41 SR 67

Damsite: 1B

Type of Site: Occupational material exposed in a rootplowed pasture; "Bower."

Site Description: Extensively damaged in recent years by rootplowing and subsequent erosion. This site covers a broad hillside of saline clay, fine sandy loam and gravels (Fig. 3). Marginal upland portions of the site (over 400 m long and 200 m wide) are relatively level and covered by dense brush, mesquite trees and cacti.

Nunley and Hester Recommendations: Intensive controlled surface investigation with excavation of appropriate areas.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of the entire site, and surface sampling of upper and lower slope areas. A post-hole digger was used to test the depth of deposits containing a very thin scattering of prehistoric occupational debris in marginal upland areas.

Man-days: 2

Remarks: Site is extensive, but severely disturbed. Less disturbed deposits in upland areas are shallow (less than 15 cm below the surface) and cultural material appears to be scattered very thinly over a large area.

41 SR 70

Damsite: 1B

Type of Site: Occupational material exposed in a rootplowed pasture; "Gallery."

Site Description: Similar in soil type and general appearance to 41 SR 67. This site has been completely disturbed by rootplowing and erosion (Fig. 4). A young growth of brush and grasses covers lower and upper slopes.

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Nunley and Hester Recommendations: Testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site, and surface sampling of general site area. Two 50 cm by 50 cm shovel tests were excavated in lower slope areas of the site, near features observed by Nunley and Hester (1975:20) as concentrations of snail shells.

Man-days: 2

Remarks: Site is located on the same hill as 41 SR 67 and could be conceived of as part of the same extensive occupation area. Concentrations of snail shells mixed with small gravels and some cultural material were found to be erosional deposits of shallow depth. The general site area has been completely disturbed by rootplowing and erosion.

41 SR 73

Damsite: 1B

Type of Site: Occupational debris exposed by extensive sheet and gully erosion; "Bower."

Site Description: A large occupation area (perhaps 200 m long and 120 m wide) covered by dense growths of mesquite trees, brush and cacti, separated by open areas of sheet and gully erosion (Fig. 5). Massive outcrops of gravels are exposed in more elevated areas. A fine sandy loam supports dense vegetation in relatively level, lowlying areas. A greater density of cultural material was observed in these areas.

Nunley and Hester Recommendations: Testing and further survey.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of the entire site, and surface sampling of three general areas (Fig. 5). One 50 cm by 50 cm shovel test was excavated to a depth of 48 cm in a sheet eroded, central part of the site. A posthole was dug into the bottom of this shovel test to a depth of 80 cm below the ground surface.

Man-days: 2

Remarks: The entire site area has been badly disturbed by sheet and gully erosion. The shovel test encountered a thin scattering of cultural material in disturbed deposits of sandy clay loam to a depth of approximately 30 cm below the ground surface.

41 SR 74

Damsite: 1B

Type of Site: Faunal remains protruding from wall of Arroyo El Sauz; "Gallery," buried terrace.

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Site Description: Described by Nunley and Hester (1975:24) as "in situ" bones of modern horse eroding from lower terrace of the arroyo (Fig. 6).

Nunley and Hester Recommendations: Exploratory excavations and sectioning as part of an intensive investigation of buried terrace deposits exposed along the arroyo.

Intensive Survey and Limited Testing Procedures: Intensive examination of arroyo bed and walls in general area of site. Since the original assessment, this portion of the arroyo has become silted, obscuring the lower terrace deposits and arroyo bed so that no faunal remains or cultural material could be found. Attention was focused toward 41 SR 96, a similar site.

Man-days: 0.5

Remarks: This site and 41 SR 96 probably are isolated localities within an extensive terrace deposit which have been buried by heavy silting activity during the Historic period.

41 SR 75

Damsite: 1B

Type of Site: Occupational debris exposed by recent rootplowing, and sheet and gully erosion; "Bower."

Site Description: A prominent hill which has been rootplowed in upland areas and extensively eroded along slopes covered with mesquite trees, brush, cacti and grasses (Fig. 6). Marginal sections of upland slopes of sandy soils appear to be the least disturbed parts of the site.

Nunley and Hester Recommendations: Additional survey and initial testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site, and surface sampling of general site area. Four 50 cm by 50 cm shovel tests were excavated along a fence line running diagonally across the upland and lower slopes of the site (Fig. 6). Below approximately 70 cm, postholes were dug to test deposits to an average depth of 105 cm below the ground surface.

Man-days: 2

Remarks: Between rootplowed field and eroded slopes, shovel tested upland margins of this site appear to contain relatively well-preserved deposits containing cultural material to a depth of at least 70 cm below the ground surface.

41 SR 93

Damsite: 1B

Type of Site: Occupational debris exposed in a broad area of extensive sheet erosion; "Gallery."

Site Description: A broad, flat expanse of fine sandy terrace deposits (Fig. 7). Pedestals of soil supporting dense brush and cacti are separated by large areas of sheet erosion. The site covers an area of approximately 600 m by 100 m which parallels the Arroyo El Sauz. Cultural material was also observed to continue up slope an undetermined distance back away from the arroyo.

Nunley and Hester Recommendations: Controlled surface collections and initial testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site and surface sampling of three broad areas (Fig. 7). A small section was cut into a typical pedestal of soil and roots left by sheet erosion.

Man-days: 1.5

Remarks: The site has been badly disturbed by sheet erosion. Some pedestals of soils containing cultural material appear to be relatively well preserved; however, these deposits may be remnants of previously displaced material.

41 SR 95

Damsite: 1B

Type of Site: Occupational material exposed in a broad area of sheet erosion; "Gallery."

Site Description: Similar in appearance to 41 SR 93. The surface of this extensive occupation area (about 200 m long and 100 m wide) contains less cultural material. Paralleling the Arroyo El Sauz, an elevated margin of the site appears to have been preserved by the deposition of sandy clay flood silts near the arroyo bank (Fig. 8). This area is covered by dense brush and cacti.

Nunley and Hester Recommendations: Extensive excavations.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site and surface sampling of two general areas. Keyed to a fence-line roughly paralleling the arroyo, seven 50 cm by 50 cm shovel tests were excavated into the more elevated portion of the site. These test units were excavated to depths ranging from 30 cm to 67 cm below the ground surface. Postholes were dug into the bottoms of the two northernmost shovel tests.

Man-days: 2.5

Remarks: Although the site is badly disturbed by sheet erosion, an elevated area adjoining the arroyo may contain preserved deposits of small amounts of cultural material to depths of perhaps 50 cm below the ground surface in some areas.

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41 SR 96

Damsite: 1B

Type of Site: Faunal remains protruding from wall of Arroyo El Sauz; "Gallery," buried terrace.

Site Description: Faunal remains exposed in dark grey-brown sandy clay layer near the base of the arroyo wall. Nunley and Hester (1975:29) report lithic artifacts from this zone; however, no lithic material was observed by the intensive survey and testing team. A 2.0 m thick mantle of sand and sandy clay laminae cap this buried terrace deposit.

Nunley and Hester Recommendations: Test excavations.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of arroyo bed and walls. A profile 1.1 m wide and 3.0 m high was cut into the arroyo bank, and faunal remains were collected from approximately 0.5 cubic meters of dark grey-brown sandy clay removed during profile trimming and recording.

Man-days: 1.5

Remarks: This site and 41 SR 74 probably are representative of extensive terrace deposits which have been buried by heavy silting activity during the Historic period.

41 SR 100

Damsite: 7

Type of Site: Large amounts of occupational debris exposed by sheet and gully erosion. Nunley and Hester (1975:33) classify this as a "Gallery" site. The intensive survey and testing team observed that this occupational area covers the lower end and slopes of a long elevated area overlooking two stream valleys, and should actually be classified as a "Bower" site.

Site Description: The southern end of an extensive occupation area, including sites 41 SR 102 and 41 SR 103 (Fig. 9). Site 41 SR 100 is characterized by a variety of kinds and amounts of lithic cultural materials scattered over an area of approximately 1.0 ha. Fine sandy loam and gravels support a dense growth of mesquite, cacti and other vegetation.

Nunley and Hester Recommendations: Testing and intensive surface collections.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site, and surface sampling of upper and lower slopes. Two postholes were dug to depths of about 60 cm to study deposits of the upper slope.

Man-days: 1.3

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Remarks: Badly disturbed by sheet and gully erosion, site 41 SR 100 can be considered the lower, southern end of a huge occupational area including sites 41 SR 102 and 41 SR 103.

41 SR 102

Damsite: 7

Type of Site: Great quantities of lithic cultural material exposed by extensive sheet and gully erosion; "Bower."

Site Description: A broad section of an extensive occupation area including sites 41 SR 100 and 41 SR 103 (Fig. 9). Dense growths of mesquite trees, cacti and other vegetation are separated by areas of sheet and gully erosion in which fine sandy loam and gravels are exposed. The lower slopes of the valley wall on which this site is located are much more disturbed than relatively level upland areas.

Nunley and Hester Recommendations: Preliminary excavations.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site and surface sampling of lower and upper slope areas, and the upland surface of this divide between two stream drainages. Two postholes were dug to depths of approximately 65 cm into the upland surface.

Man-days: 1.3

Remarks: Upland deposits of cultural material appear to be deeper, denser and much less disturbed than slope areas. The lower slope appears to have been completely disturbed by sheet and deep gully erosion.

41 SR 103

Damsite: 7

Type of Site: Great quantities of occupational debris exposed by sheet and gully erosion; "Bower."

Site Description: A broad section of a huge occupational area including sites 41 SR 100 and 41 SR 102 (Fig. 9). Dense thickets of mesquite, cacti and other vegetation are separated by open areas of sheet and gully erosion, especially along lower slopes. The light tan fine sandy loam of this site area contains fewer gravels than the soils of sites 41 SR 100 and 41 SR 102. Concentrations of thermally altered gravels are exposed by erosion.

Nunley and Hester Recommendations: Testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site, and surface sampling of upper and lower slope areas. Three postholes were dug to depths of about 65 cm in the margin between upper slopes.

Man-days: 1.3

Remarks: Upper slopes of this site appear to be relatively well preserved and may contain deposits of cultural material to depths greater than 50 cm below the ground surface. Lower slopes are very disturbed by sheet and gully erosion.

41 SR 118

Damsite: 8

Type of Site: Occupational debris exposed by sheet and gully erosion; "Gallery."

Site Description: A comparatively restricted scatter of lithic cultural material covering an area of about 70 m by 70 m along the lower slope of a large hillside (Fig. 10). Dense thickets of mesquite, cacti and other vegetation are broken by small open areas of fine sandy loam and gravels exposed by sheet and gully erosion. Concentrations of thermally altered gravels may be disturbed hearths exposed by erosion. Thick gravel deposits are exposed in upper slope areas. The southern third of the site has been disturbed by rootplowing.

Nunley and Hester Recommendations: Extensive testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site and surface sampling of upper and lower slope areas. A line of five 50 cm deep postholes was dug into a sheet eroded area near the center of the site.

Man-days: 1

Remarks: Badly disturbed by rootplowing and erosion, small areas of the lower slope may contain hearths and other preserved deposits of cultural material to depths of less than 40 cm below the ground surface.

41 SR 119

Damsite: 8

Type of Site: Occupational material exposed by rootplowing and extensive sheet and gully erosion; "Gallery."

Site Description: Similar in appearance to site 41 SR 118, an extensive scatter of lithic cultural material covering an area of at least 100 m by 200 m (Fig. 11). Most of the site area has been completely disturbed in recent years by rootplowing. Adjoining this rootplowed pasture is an area of erosion covered by dense thickets of mesquite, cacti and other vegetation supported by a fine sandy loam with gravels.

Nunley and Hester Recommendations: Testing in conjunction with site 41 SR 118.

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Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site and surface sampling of rootplowed and sheet eroded areas.

Man-days: 1

Remarks: Numerous animal burrows in sheet eroded areas expose shallow, badly disturbed deposits containing a relatively thin scatter of cultural material.

41 SR 125

Damsite: 2

Type of Site: Occupational material exposed by extensive sheet and gully erosion; "Bower."

Site Description: An extensive thin scatter of cultural material exposed in open erosional areas between dense thickets of mesquite trees, cacti and other vegetation (Fig. 12). This site covers the broad gentle slope which forms a tributary valley wall. The extent of the entire occupational area was not determined.

Nunley and Hester Recommendations: Preliminary testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of large area and surface sampling of upper and lower slopes. A separate surface collection was made of an area of approximately 15 m in diameter in which ceramics, chipped stone, thermally altered stone and a square nail were found.

Man-days: 2

Remarks: The site appears to be completely disturbed by erosion.

41 SR 126

Damsite: 2

Type of Site: Occupational debris exposed by erosion and road construction; "Gallery."

Site Description: Relatively large quantities of lithic cultural material exposed in a county road cut which crosses a gradual hillside of sandy clay loams and sandy clays overgrown by thickets of mesquite trees, cacti, grasses and other vegetation. The extent of the entire site area was not determined, but probably includes an area of greater than 5 ha. (Fig. 13). The soils and vegetation of this site are different from those of other sites studied.

Nunley and Hester Recommendations: Testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of a large area and surface sampling of upper and lower slopes. In the upper slope area, two 50 cm by 50 cm shovel tests were excavated to depths of approximately 60 cm below the surface. Postholes were dug into the bottom of each test to study deposits to depths over 80 cm below the surface. The lower slope area was tested with two postholes dug to depths of 60 cm below the surface.

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Man-days: 2

Remarks: The site appears to be badly disturbed along lower slopes by erosion and possibly other processes. More elevated areas appear to be better preserved, and containing cultural material to depths greater than 60 cm below the surface.

41 SR 144

Dam site: 6

Type of Site: Occupational debris exposed by extensive sheet and gully erosion; "Gallery."

Site Description: A thin scatter of lithic cultural material exposed in an area of approximately 1.3 ha. The site area is restricted to the lowermost gentle slope of a gravel and vegetation covered valley wall and the relatively flat, sparsely overgrown flood plain zone between two converging tributaries (Fig. 14). Fine sandy loam and concentrations of small gravels are characteristic of the surface of the site.

Nunley and Hester Recommendations: Further survey and testing.

Intensive Survey and Limited Testing Procedures: Intensive surface inspection of entire site and surrounding areas, and surface sampling of general site area.

Man-days: 2

Remarks: This site appears to have been completely disturbed by sheet and gully erosion.

CULTURAL MATERIALS

The materials recovered during intensive survey and limited testing operations performed at 16 Starr County archaeological sites were derived from two major types of field procedures: surface sampling and subsurface testing.

Surface Sampling

Samples of material culture were taken from the surface of each of the 16 sites. Sampling technique involved a "grab sample" of what was observed to be representative examples of five general categories: chipped stone tools, chipping debris, pecked and ground stone, thermally altered stone and ceramics. At some badly disturbed sites, samples were collected from the general surface area. At larger and less disturbed sites, samples were collected from areas arbitrarily defined on the basis of elevation and relationship to water source.

Following is a description of the occupational debris sampled by the two-man intensive survey and limited testing team. The size range of archaeological specimens can be determined from the accompanying illustrations which show the artifacts actual size. Sizes of specimens in some categories are included in the text when dimensions are necessary for an adequate morphological description

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of those categories. The provenience of archaeological specimens collected during surface sampling is on file at the Center for Archaeological Research.

CHIPPED STONE (962 specimens)

Products and by-products of lithic tool production from siliceous gravels.

Cores (73 specimens; Fig. 15, a, b)

Nodules or cobbles from which one or more flakes have been removed. Most cores probably represent the initial stages of lithic tool production, although it is possible that some were used as tools. Different kinds of cores can be differentiated on the basis of striking platform morphology and extent of reduction.

Cortex Platform (14 specimens; Fig. 15, a)

Cobbles or nodules from which a flake or flakes have been struck from corticate (unimproved, cortex-covered) platform surfaces.

Decorticate Platform (59 specimens; Fig. 15, b)

Cores created by the removal of several flakes struck from decorticate, as well as corticate, platform surfaces. This sample consists of cores which appear to be representative of the production of both bifaces and flake tools.

Fourteen specimens are relatively large. Each has been trimmed bifacially along one or more continuous edges and retains a substantial amount of nodular cortex. Another 10 decorticate platform cores are smaller, more reduced, and retain little or no cortex. Although bifacially flaked along continuous edges, they tend to be plano-convex in cross section and may have been used in the production of flakes or as tools.

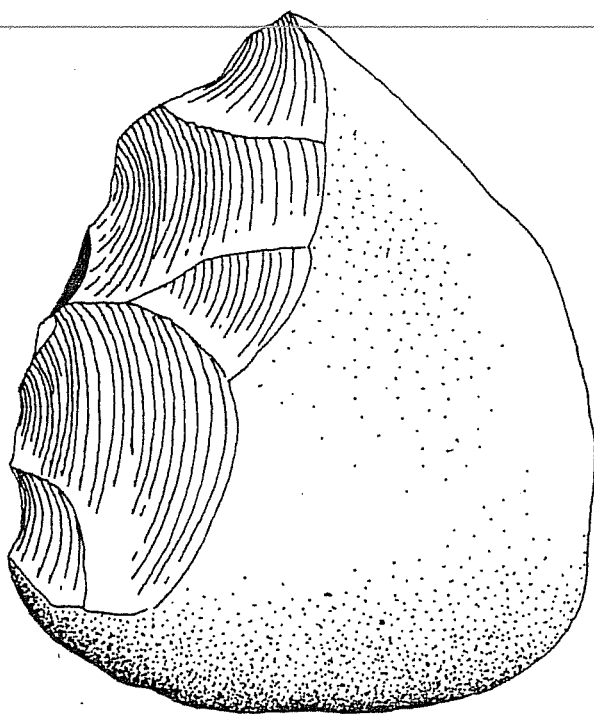
Exhibiting more variety in size, shape and amount of cortex, 24 decorticate platform cores have been shaped by the removal of flakes from more than one separate platform area. The remaining 11 decorticate platform cores are relatively small, retain little or no cortex, and may be cores which were exhausted during the production of flakes.

Core-Bifaces (10 specimens; Fig. 15, c)

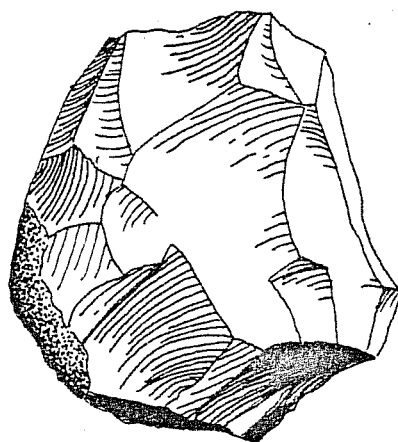
Cobbles or nodules which have been bifacially thinned along continuous edges and are roughly lenticular in cross section. Although similar in general outline to some decorticate platform cores, these artifacts retain less cortex, are more reduced, and may represent either flake tool production or unsuccessful attempts to produce thin bifaces.

Flakes and Chips (754 specimens)

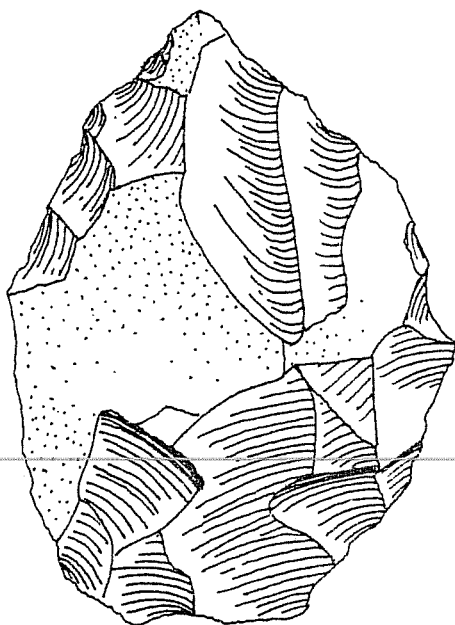
Pieces of chipped stone which have been produced during the reduction of siliceous cobbles or nodules into tools. Flakes and chips often are referred to as flaking debris, debitage, or by-products of lithic tool making. All specimens in this sample appear to be unaltered, although it is possible that some were used as tools.



a



c



b

Figure 15. Cores and Core-Biface from Sites in Starr County. a, cortex platform core; b, decorticate platform core; c, core-biface.

Flakes (463 specimens)

Fragments of siliceous stone which retain portions of platform areas at which they were struck from cobbles, cores, bifaces or other flakes. Flakes are divided into three categories based on the amount of cortex present on each specimen. Another category is defined by a distinctive platform characteristic.

Primary (10 specimens). Flakes removed from unaltered, corticate surfaces of cobbles or cores. Each primary flake retains cortex over its entire exterior surface and has a cortex striking platform.

Secondary (273 specimens). Flakes which have been removed from previously altered surfaces of cores, core-bifaces, bifaces and other flakes. Each secondary flake has a partially decorticate exterior surface.

Interior (180 specimens). Decorticate flakes which have been removed from previously altered surfaces of cores, core-bifaces and other flakes.

Lipped Flakes (58 specimens). Flakes characterized by a visible ridge or lip which extends along the interior edge of the striking platform. Lipped flakes are discussed separately for the purposes of analysis and description. They have been included in totals for primary, secondary and interior flakes, and should not be counted twice.

Although lipping is often thought to be diagnostic of biface thinning (Crabtree 1972), a lipped primary flake and a number of lipped secondary flakes contained in this sample consist of lipped interior flakes which probably have been removed from bifaces.

Chips (291 specimens)

Flake fragments which do not have platforms. Chips are subdivided into three categories based on the amount of cortex present on each specimen.

Corticate (4 specimens). Chips which retain cortex over their entire exterior surfaces and are fragments of primary and secondary flakes.

Partially Decorticate (134 specimens). Fragments of secondary flakes.

Decorticate (153 specimens). Characterized by exterior surfaces which are devoid of cortex. Decorticate chips are fragments of interior flakes and the decorticate portions of secondary flakes.

Trimmed Flakes and Chips (26 specimens; Fig. 16, a-g)

Flakes and chips which have been modified by the removal of flakes along one or more edges. The sample is subdivided using the relationship of the trimmed edge to the medial axis of the original flake.

Side (9 specimens; Fig. 16, a, b). Trimmed along one or both edges, more or less parallel to the medial axis of the flake.

End (6 specimens; Fig. 16, c). Trimmed on the distal end, more or less perpendicular to the medial axis of the flake.

End and Side (4 specimens; Fig. 16, d, e). Trimmed along one or both edges, parallel to the medial axis, and on the distal end, perpendicular to the medial axis of the flake.

Irregular (7 specimens; Fig. 16, f, g). Trimmed in a variety of irregular shapes. Some specimens are fragments of larger trimmed flakes and chips.

Bifaces (99 specimens)

Bifacially thinned chipped stone artifacts which retain little or no cortex and have roughly continuous edges. Bifaces probably are the products and by-products of the reduction of cobbles, cores and flakes into tools. Bifaces are divided here into two major groups based on thickness.

Thick Bifaces (43 specimens; Fig. 16, h, i)

Greater than 1.1 cm thick. Four specimens are plano-convex in cross section and roughly triangular in shape, with straight to slightly convex sides, rounded apexes and straight to convex bases (Fig. 16, h). Ranging from 14.0 to 24.0 mm thick, these artifacts are similar to forms referred to as "bifacial Clear Fork gouges" by Epstein (1969:39-43).

The remaining 39 thick bifaces exhibit a wide range of shapes, flaking patterns and thicknesses. Nine are over 2.0 cm thick, have continuous edges and lenticular cross sections, and are roughly ovate in shape. Somewhat similar in shape, 13 specimens are less than 2.0 cm thick (Fig. 16, i) and may be by-products of the process of thin biface tool production. Another 17 specimens less than 2.0 cm thick appear to be fragments of larger thick bifaces.

Thin Bifaces (56 specimens; Fig. 17, a-i)

Less than 1.1 cm thick. These bifaces are decorticate and appear to represent predetermined shaping, rather than simply reflecting the shapes of the original cobbles, cores and flakes from which they were manufactured. Thicknesses and edges are more uniform than in most thick bifaces. Thin bifaces can be divided into five groups for descriptive purposes.

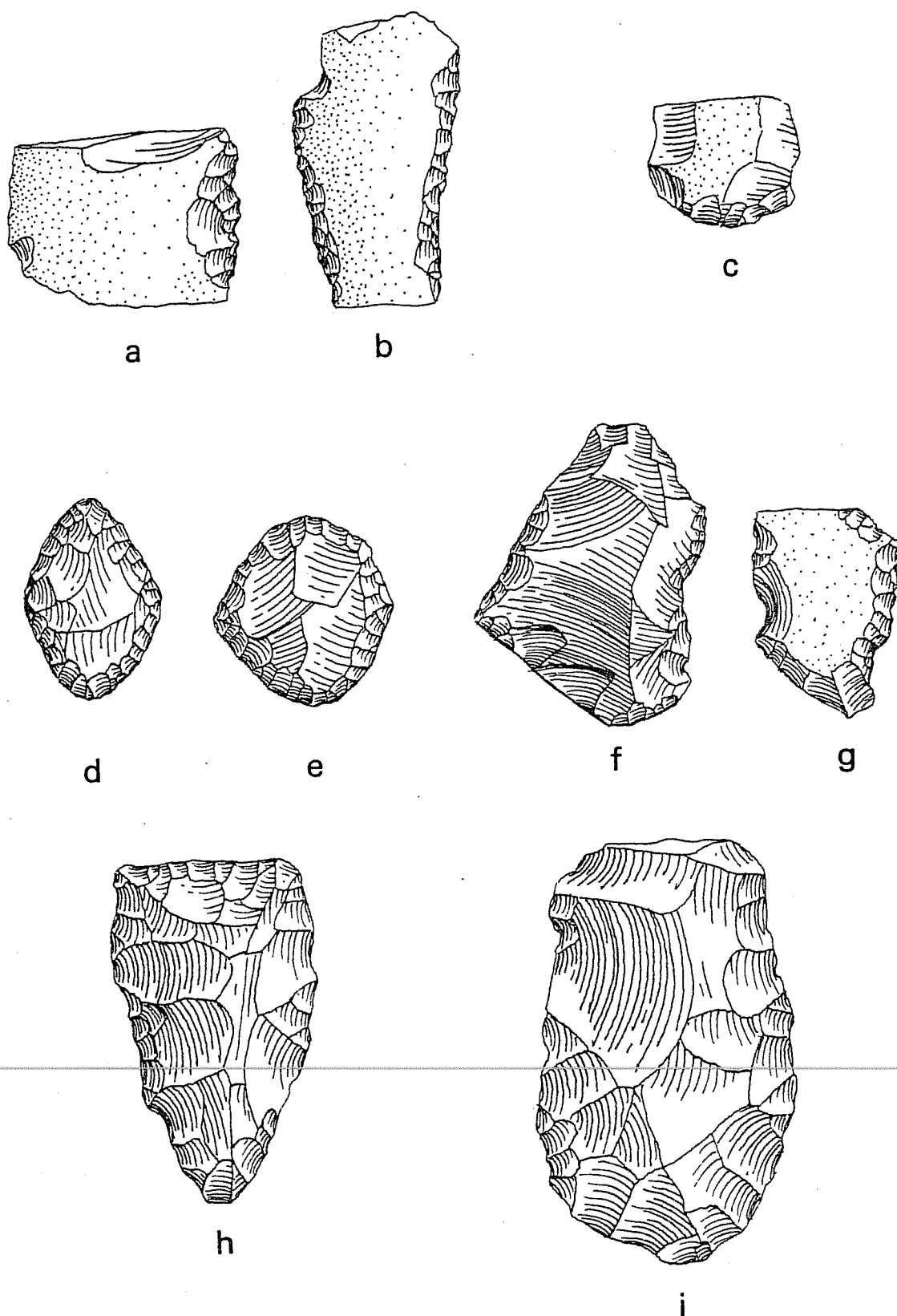


Figure 16. *Trimmed Flakes and Chips and Thick Bifaces from Starr County Sites.* a,b, side trimmed; c, end trimmed; d,e, end and side trimmed; f,g, irregularly trimmed; h,i, thick bifaces.

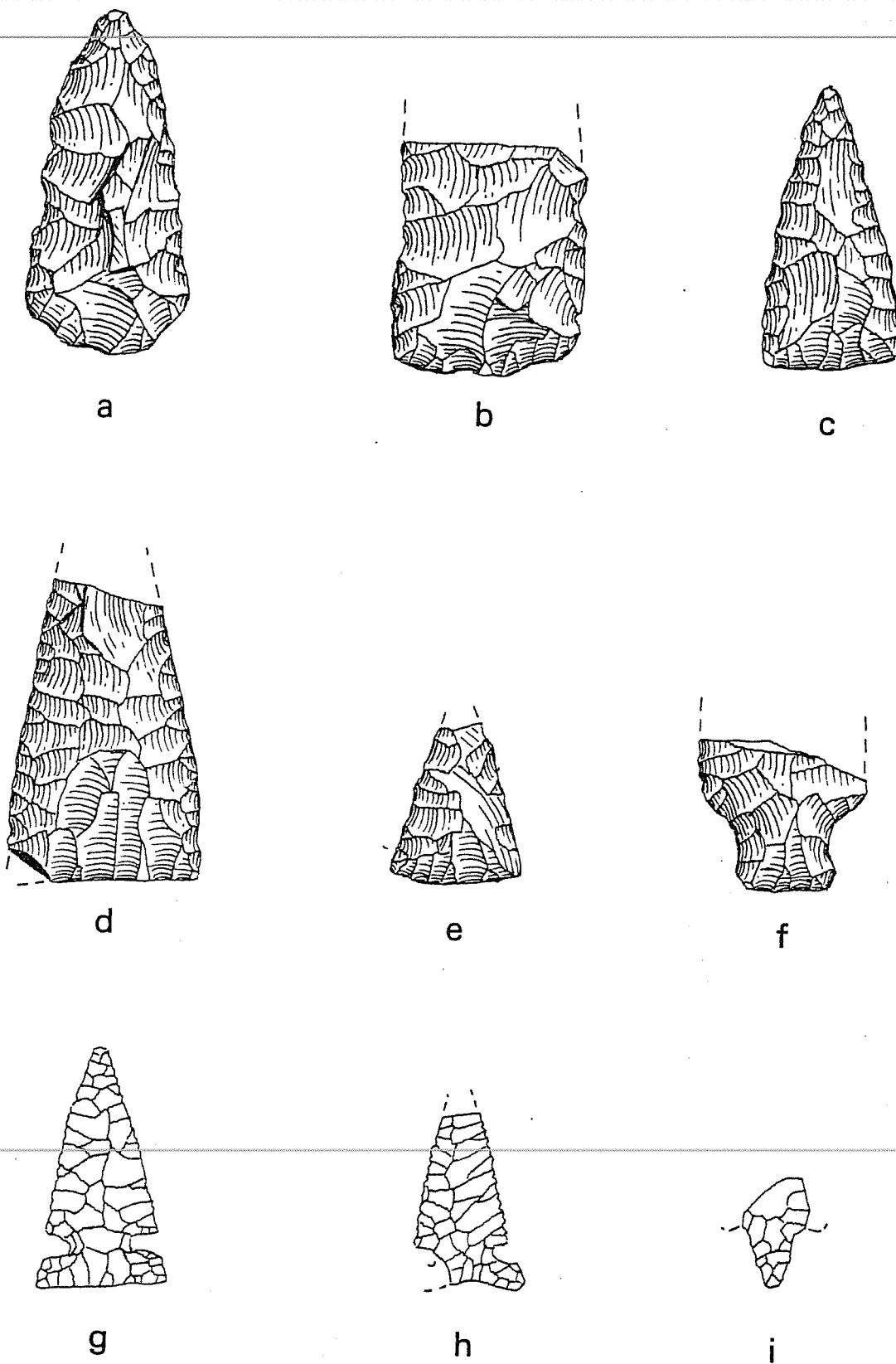


Figure 17. *Unstemmed and Stemmed Thin Bifaces from Starr County Sites.* a, pointed-ovate; b, subtriangular; c, triangular, group 1; d, triangular, group 2; e, triangular, group 3; f-i, stemmed.

Pointed-Ovate (4 specimens; Fig. 17, a). Comparatively irregularly thinned, exhibiting numerous hinge fracture scars and rounded proximal ends. Three are fragmentary, ranging in width from 2.6 to 3.3 cm. Another is complete, measuring 5.3 cm long and 2.6 cm wide. Thicknesses range from 8.0 to 11.0 mm.

Subtriangular (6 specimens; Fig. 17, b). Somewhat larger than pointed-ovate thin bifaces. These specimens have straight to slightly convex sides. Five specimens are fragmentary, ranging in width from 2.7 to 3.4 cm. Another is complete, measuring 5.5 cm long and 3.5 cm wide. Thicknesses range from 6.1 to 11.0 mm.

Triangular (14 specimens; Fig. 17, c-e). Triangular in shape, with straight to slightly convex sides and straight to slightly convex bases. These thin bifaces can be divided into three groups based on width, thickness and flaking treatment.

Group 1 (8 specimens; Fig. 17, c). Thick relative to length and width. These thin bifaces have beveled edges (five are alternately beveled). Six have thinned bases and thick distal ends, while two have steeply beveled bases. Widths range from 2.0 to 3.1 cm. Five complete specimens range in length from 2.8 to 5.0 cm. Thicknesses range from 7.2 to 9.1 mm. The regional literature usually includes such specimens in the *Tortugas* dart point category (Suhm, Krieger and Jelks 1954).

Group 2 (3 specimens; Fig. 17, d). Broad and thin, with uniformly thinned straight sides and uniformly thinned slightly concave bases. These fragmentary specimens range in width from 2.6 to 3.8 cm and in thickness from 5.0 to 7.4 mm.

Group 3 (3 specimens; Fig. 17, e). Comparatively small, short, and thin. Apparently pressure flaked, these thin bifaces range in width from 2.1 to 2.4 cm and in thickness from 4.5 to 4.9 mm. One nearly complete specimen is 2.5 cm long. All three are comparable in size and weight to forms commonly referred to as arrow points. The specimen in Fig. 17, e, resembles the *Fresno* arrow point type described by Suhm, Krieger and Jelks (1954); however, it could also be an arrow point preform.

Stemmed (5 specimens; Fig. 17, f-i). Thin bifaces with stemmed basal ends and pointed distal ends. One heavily patinated specimen is the basal fragment of a large "dart point," measuring 2.7 cm wide at the shoulders, 1.7 cm wide at the base, 1.5 cm wide at the stem, and 9.1 mm thick (Fig 17, f).

The other stemmed thin bifaces are small, thin and apparently pressure flaked into shapes that often are referred to as arrow points. Two are side notched with straight to slightly concave bases and straight sides (Fig. 17, g, h). Dimensions average 1.7 cm at the shoulders, 1.0 cm at the stems, and 2.1 cm at the bases. These small tools range in length from 3.4 to 3.8 cm and average 3.9 mm in thickness. The lateral edges of one specimen are serrated. Hester (1972:Fig. 3, n-2) illustrates similar side notched arrow points from sites in Duval County, and (p. 51) notes the occurrence of other specimens of this form in Tamaulipas.

The two remaining arrow points are fragmentary. Both apparently had contracting stems, comparable in shape to *Perdiz* points defined by Suhm, Krieger and Jelks (1954) (Fig. 17, i). Both are less than 1.4 cm wide at the shoulders and 0.6 cm wide at the stem, and average 3.1 mm in thickness.

Fragments (27 specimens). Fragments of bifaces less than 1.1 cm thick. These thin bifaces can be described as two general categories: nine specimens which are less than 7.1 mm thick, less than 2.7 cm in width, have uniform lateral edges, and probably are medial sections of stemmed and unstemmed thin biface tools; and 18 specimens which are larger, ranging in thickness from 6.5 to 11.0 mm, have less uniform edges, and probably represent various final stages in the process of thin biface tool production.

PECKED AND GROUND STONE (7 specimens)

Three fragments of thin sandstone slabs with ground flat surfaces, three quartzite pebble fragments with ground surfaces, and a small quartzite pebble which is battered and ground on two opposing ends. The sandstone slab fragments range in thickness from 0.8 to 3.2 cm. The quartzite pebble tools are 1.7 cm, 2.2 cm, and 3.8 cm thick. The battered pebble is rectangular in shape, 4.1 cm long, 3.4 cm wide and 1.5 cm thick.

THERMALLY ALTERED STONE

Fragments of burned, fine-grained and coarse-grained gravels which may have been used as hearthstones.

CERAMICS

Aboriginal Earthenware (10 specimens)

Sherds representing one sand- and bone-tempered pottery vessel with an orange to dark tan smoothed exterior surface and a rough orange interior surface. Thicknesses range from 4.8 to 7.2 mm. This vessel is representative of the bone-tempered ware found throughout southern Texas, as described by Hester and Hill (1971).

Historic American Stoneware (2 specimens)

Sherds from Albany-slipped and Bristol-glazed crockery vessels that probably were produced during the early 20th century.

Burned Clay Lumps

Soft gray to tan lumps of sandy clay. Although no burned clay lumps were observed on the surface, a number were recovered during subsurface testing at some sites (see Table 2).

METAL (1 specimen)

The shank of a machine-cut square nail, probably dating to the 19th century.

GLASS (3 specimens)

Bottle Glass (2 specimens)

Fragments of a large aquamarine glass bottle or jar.

Marble (1 specimen)

An aquamarine glass marble, measuring 1.6 cm in diameter. An impact fracture on this artifact supports the idea that it was used as a projectile for a slingshot.

Subsurface Testing

Of the 16 prehistoric archaeological sites for which testing was recommended by Nunley and Hester (1975), 12 were preliminarily tested by the intensive survey and limited testing team. No subsurface testing was carried out at sites 41 SR 119, 41 SR 125 and 41 SR 144 because these sites were reevaluated during intensive surface inspection and found to be too disturbed to warrant subsurface investigation. Site 41 SR 74 was not tested because its exact location has been obscured by recent silting of the arroyo bed in which it was discovered.

Basically, two types of limited testing were employed: shovel testing and posthole digging. Shovel testing involved the excavation of 50 cm by 50 cm units strategically placed so as to probe the condition, content and depth of site areas that appeared from surface inspection to be the best preserved. Depths of each unit varied depending upon such factors as the condition of deposits encountered, the occurrence or lack of occurrence of cultural material and time limits. The dimensions of shovel tests restricted working areas so that a maximum depth of 80 cm could be reached with pick, shovel and trowel. In some cases, postholes were dug into the bottom of shovel tests in order to examine deposits to depths as great as 110 cm below the ground surface.

All excavated deposits were screened through 1/4-inch mesh hardware cloth and notes on soil color, texture and content were recorded by 15 cm arbitrary level. Cultural material recovered by level was bagged together when excavated deposits contained only small amounts of cultural material. In a few cases, when greater quantities of cultural remains were encountered in relatively deep deposits, samples from upper and lower levels were bagged separately. All shovel tests were backfilled.

Considering such problems as time limits and physical inaccessibility of some sites, posthole digging was found to be an efficient means of testing deposits to depths as great as 75 cm below the ground surface. The excavation of postholes averaging approximately 17 cm in diameter removed a smaller volume of soil than did the excavation of shovel tests. Deposits removed from postholes were checked for cultural material. Soil characteristics were recorded and each posthole was backfilled.

Following are the results of limited testing procedures carried out at 12 prehistoric archaeological sites. Cultural material is classified into morphological categories defined in the previous section; provenience of this material is on file at the Center for Archaeological Research.

41 SR 67

Two postholes excavated into the upland area of this site revealed a soft, homogeneous, pinkish-tan, fine sandy loam containing occasional small gravels to a depth of at least 60 cm below the ground surface. Although no cultural material was observed in excavated deposits, scattered fragments of thermally altered stone occur on the ground surface.

41 SR 70

Two shovel tests excavated into the lower slope encountered a dark tan sandy clay loam containing numerous small gravels, snail shells and some cultural material to a depth of approximately 20 cm. Below this, gradual changes in soil color and texture were noted, as well as an increase in gravels and a decrease in cultural material. No cultural evidence was observed in deposits excavated from more than 40 cm below the ground surface. Concentrated gravels and snail shells mixed with occasional cultural material in upper levels appear to have been deposited by rootplowing and erosion.

41 SR 73

One shovel test excavated into a typical sheet-eroded area of this site encountered a small amount of cultural material scattered throughout a dark tan to brown sandy clay loam containing occasional small gravels and snail shell fragments to a depth of approximately 30 cm below the ground surface. A gradual change to a lighter clay soil with fewer gravels, fewer snail shell fragments and no cultural material was observed to a depth of 48 cm. A posthole excavated into the bottom of the shovel test to a depth of 80 cm below the ground surface revealed a continued gradual soil change and no cultural evidence. All excavated deposits appear to have been displaced by sheet erosion.

41 SR 75

Four shovel tests were excavated to depths ranging from 60 to 70 cm into upper and lower slope areas of this site. Soils encountered can be characterized generally as brown sandy loam containing variable amounts of small gravels and snail shells, grading into light tan calcareous clay containing occasional small gravels and snail shells in lower levels.

Located in the more elevated area tested, two shovel tests encountered a thin scattering of cultural material to a depth of approximately 54 cm. Below this, a sharp increase in the amount of cultural material was observed. Decreasing in frequency below 65 cm, cultural evidence was found to be thinly scattered through deposits to a depth of at least 80 cm below the ground surface. A continued gradation into a lighter, more calcareous soil with no cultural material was observed in postholes excavated into the bottoms of these tests to a depth of about 110 cm below the ground surface.

A thin scatter of cultural material was found to be restricted to the upper 20 cm of the two other shovel tests--one located on the lower slope, and the other placed in an upland area of the upper slope of the site. Occasional small gravels and snail shells were observed in the lower levels of these shovel tests.

Although thermally altered stone and chipping debris were found in deposits as deep as 80 cm in the more elevated portion of site 41 SR 75, the condition of these sandy deposits cannot be assessed confidently. It is possible, however, that this small area of the site, situated between sheet eroded slopes and rootplowed upland areas, contains some stratified cultural remains.

41 SR 93

A profile 60 cm wide was cut into a typical pedestal of dark tan fine sandy loam surrounded by extensive sheet erosion. Although no cultural material was encountered during this sectioning, some of the many brush-covered pedestals of soil at site 41 SR 93 appear to be relatively well preserved and probably contain a thin scattering of cultural material. However, it is also possible that these deposits have been displaced by past erosional activity.

41 SR 95

Seven shovel tests were excavated into the more elevated, less eroded part of this site to depths of as much as 30 to 67 cm below the ground surface. These units encountered two major soil zones: upper deposits of tan sandy clay loam containing variable amounts of small gravels, snail shells and cultural material; and a buried deposit of compact brown sandy clay containing very few gravels, occasional snail shells and no cultural material. The upper zone was found to range in depth from 25 to 60 cm. The lower zone extends below the bottoms of the test units. Although the condition of artifact-bearing upper deposits cannot be assessed with confidence, based on limited testing data, this tan sandy clay loam may contain preserved deposits of cultural evidence to a depth of perhaps 60 cm in one isolated, elevated area of the site.

41 SR 96

A profile 1.1 m wide and 3.0 m high cut into the arroyo bank exposed a buried dark gray-brown sandy clay layer containing animal bones. Averaging approximately 80 cm in thickness and capped by over 2.0 m of alluvial silts, this clay layer is referred to by Nunley and Hester (1975:29) as a disconformity containing chipped stone artifacts and the remains of modern horse and bison. The soil characteristics of this buried layer are similar to those of lower deposits at nearby site 41 SR 95.

41 SR 100

Two postholes dug to a depth of 60 cm into the upper slope of this site encountered a light tan fine sandy loam, grading into a darker tan fine sandy loam in lower levels. Although one small fragment of thermally altered stone was the only cultural evidence observed, it is possible that thinly scattered deposits of cultural material are preserved in upper slope areas of this site.

41 SR 102

Two postholes excavated into a relatively level upland area to a depth of 65 cm exposed soils similar to those observed at adjoining sites 41 SR 100 and 41 SR 103. More cultural material was noted on the surface and in postholes at site 41 SR 102, and it is possible that cultural deposits are preserved in upland areas of this site, and occur at depths greater than 65 cm below the ground surface.

41 SR 103

Three postholes were excavated into the margin between the sheet-eroded lower slope and less eroded upper slope areas. Soils similar to those of adjoining site 41 SR 102 were found to contain dense, apparently well-preserved deposits of charcoal, thermally altered stone and other cultural remains to depths greater than 50 cm below the ground surface. It is possible that extensive prehistoric hearth areas are buried in less eroded, gently sloping upper areas of site 41 SR 103.

41 SR 118

Five postholes excavated into a sheet-eroded, gently sloping central area of this site encountered a light tan fine sandy loam containing a thin scattering of cultural material and numerous small gravels to an average depth of 50 cm. This badly eroded surface zone rests on a compact layer of calcareous sandy soil and dense gravel deposits.

41 SR 126

Two shovel tests excavated into the upper slope area of this site encountered relatively large amounts of cultural evidence to depths greater than 70 cm below the ground surface. An upper zone of brown sandy loam containing occasional small gravels and snail shells was found to grade into a light tan sandy clay loam below about 50 cm. These deposits appear to be relatively well preserved.

Two postholes dug to a depth of approximately 60 cm into the lower slope of site 41 SR 126 penetrated a disturbed zone of sandy loam. Although no cultural material was observed in the postholes, a thin scattering of chipped stone and thermally altered stone is exposed on the surface of this portion of the site.

INTERPRETATIONS

Reviewing the evidence recovered during surface sampling and limited testing procedures carried out at Starr County archaeological sites, minimal discussion can be presented concerning chronology, subsistence, technology and settlement pattern of the prehistoric populations of the Los Olmos drainage.

Chronological affiliation of all 16 sites studied is difficult for two reasons: the small number of artifacts found which are comparable to styles of a sound regional chronology; and the small amount of stratigraphic information obtained during limited testing procedures. Although most of the 16 sites were probably occupied sometime during the Archaic period, as represented by stemmed and unstemmed thin bifaces (dart points), it is possible that buried terrace sites 41 SR 74 and 41 SR 96 may date as late as the Historic period. Small stemmed and unstemmed thin bifaces (arrow points) and aboriginal ceramics recovered from sites 41 SR 93, 41 SR 102, 41 SR 125 and 41 SR 126 probably are representative of Late Prehistoric occupations of areas which had also been utilized during the Archaic period. Occasional Historic ceramic, glass and metal refuse represents late nineteenth and twentieth century use of the Los Olmos drainage by Mexican and American populations.

The prehistoric material culture inventory from the Starr County sites is comparable to inventories from other sites in this part of southern Texas and can be interpreted as being representative of the hunting and gathering subsistence of small groups or bands. Flaking debris (flakes and chips) produced during the manufacture of tools from abundantly available siliceous gravels is the most common form of archaeological evidence. Also common are fragments of thermally altered gravels which may have been used as hearthstones. A variety of hunting and food preparation activities are probably represented by chipped and ground stone, as well as by thermally altered stone.

Prehistoric settlement pattern data can be interpreted from the intra-site and inter-site distribution of material cultural evidence recovered from the surfaces of 14 Starr County sites. Data recovered during controlled surface sampling of six horizontally extensive sites are presented in Table 1. Cores, flakes and chips, and possible trimmed flake and bifacial tool forms (evidence of both initial and final stages of lithic tool production) occurred in all

TABLE 1. HORIZONTAL DISTRIBUTION OF LITHIC ARTIFACTS FROM CONTROLLED SURFACE COLLECTIONS

		Collection Areas							
		Area A		Area B		Area C		Totals	
		#	%	#	%	#	%		
CHIPPED STONE	<u>41 SR 73</u>								
	Cores	9	(20.9)	6	(18.8)	1	(7.7)	16	
	Core-Bifaces	1	(2.3)	0		0		1	
	Flakes and Chips	30	(69.8)	25	(78.1)	10	(76.9)	65	
	Trimmed Flakes and Chips	0		0		0		0	
	Bifaces	3	(7.0)	1	(3.1)	2	(15.4)	6	
	Totals	43	(100.0)	32	(100.0)	13	(100.0)	88	
	<u>41 SR 93</u>								
	Cores	3	(7.3)	2	(3.4)	2	(10.5)	7	
	Core-Bifaces	1	(2.4)	0		0		1	
CHIPPED STONE	Flakes and Chips	35	(85.4)	53	(91.4)	14	(73.7)	102	
	Trimmed Flakes and Chips	0		0		3	(15.8)	3	
	Bifaces	2	(4.9)	3	(5.2)	0		5	
	Totals	41	(100.0)	58	(100.0)	19	(100.0)	118	
	FLAKES AND CHIPS	<u>41 SR 93</u>							
		Flakes							
		Primary	1	(2.9)	0		0		1
		Secondary	11	(31.4)	13	(24.6)	4	(28.6)	28
		Interior	10	(28.6)	21	(39.6)	2	(14.3)	33
		(Lipped)*	6	(17.1)	7	(13.2)	1	(7.1)	14
Chips									
Corticate		0		0		0		0	
Partially Decorticate		6	(17.1)	6	(11.3)	3	(21.4)	15	
Decorticate		7	(20.0)	13	(24.5)	5	(35.7)	25	
Totals	35	(100.0)	53	(100.0)	14	(100.0)	102		
CHIPPED STONE			Lower Slopes		Upper Slopes		Totals		
			#	%	#	%			
	<u>41 SR 67, 41 SR 100,</u> <u>41 SR 102, 41 SR 103</u>								
	Cores	11	(8.2)			8	(4.8)	19	
	Core-Bifaces	1	(0.8)			1	(0.6)	2	
	Flakes and Chips	96	(71.6)			130	(77.4)	226	
	Trimmed Flakes and Chips	7	(5.2)			4	(2.4)	11	
	Bifaces	19	(14.2)			25	(14.8)	44	
	Totals	134	(100.0)			168	(100.0)	302	

*Numbers of Lipped Flakes have already been included in totals of Secondary

collection areas. Sampling was made by large collection areas, and it is likely that sheet erosion and other disturbances have scattered cultural material, obscuring surface evidence of specific or isolated activity areas. However, the general distribution of chipped stone suggests that both initial and final stages of lithic tool production were carried out in various areas of each site. Thermally altered stone also was found to occur generally over each of these six large sites or occupation areas.

Table 2 presents the distribution of chipped stone collected from the surfaces of eight sites located in damsite areas 1B and 2, situated in the northern part of the Los Olmos drainage, and of six sites located in damsite areas 6, 7 and 8, situated in major tributary valleys of the southern part of the drainage. Trimmed flake and bifacial tools, as well as interior flakes, lipped flakes and decorticate chips occurred at slightly higher frequencies at sites in damsite areas 6, 7 and 8. Although it is possible that sampling bias is responsible for this variation, sites in the southern part of the Los Olmos drainage are more extensive and may have been occupied more frequently, for longer time spans, or for different subsistence activities than sites in the northern part of the drainage.

Table 3 presents the distribution of chipped stone at seven "Gallery" sites and seven "Bower" sites. Little difference in general site function is indicated, and it appears that similar tool-making activities were carried out at both types of sites.

The homogeneity observable in the intra-site and inter-site distributions of chipped stone is similar to that noted during archaeological investigations of other parts of south Texas (Lynn, Fox and O'Malley 1977). Although it is possible that more variation in site function and settlement pattern may well be discovered during continued research, the widespread occurrence of similar kinds and amounts of occupational evidence may well represent a subsistence technology and settlement pattern of widespread exploitation by small hunting and gathering groups. A long history of recurrent occupation by small groups with a relatively common or traditional subsistence technology, combined with extensive sheet erosion and other disturbances, could account for the apparently mixed nature of archaeological evidence at Starr County sites.

TABLE 2. HORIZONTAL DISTRIBUTION OF LITHIC ARTIFACTS FROM NORTHERN AND SOUTHERN DAMSITE AREAS

		Collection Areas				
		Damsites 1B and 2*		Damsites 6, 7 and 8**		
		#	%	#	%	Totals
CHIPPED STONE	Cores	47	(8.2)	26	(6.7)	73
	Core-Bifaces	7	(1.2)	3	(0.8)	10
	Flakes and Chips	462	(80.4)	292	(75.5)	754
	Trimmed Flakes and Chips	14	(2.4)	12	(3.1)	26
	Bifaces	45	(7.8)	54	(13.9)	99
	Totals	575	(100.0)	387	(100.0)	962
FLAKES AND CHIPS	Flakes					
	Primary	7	(1.5)	3	(1.0)	10
	Secondary	185	(40.0)	88	(30.1)	273
	Interior	102	(22.1)	78	(26.7)	180
	(Lipped)***	33	(7.1)	25	(8.6)	58
	Chips					
	Corticate	4	(0.9)	0		4
	Partially Decorticate	77	(16.7)	57	(19.5)	134
	Decorticate	87	(18.8)	66	(22.7)	153
	Totals	462	(100.0)	292	(100.0)	754

*Damsites 1B and 2: 41 SR 67, 41 SR 70, 41 SR 73, 41 SR 75, 41 SR 93, 41 SR 95, 41 SR 124 and 41 SR 126 (8 sites).

**Damsites 6, 7 and 8: 41 SR 100, 41 SR 102, 41 SR 103, 41 SR 118, 41 SR 119 and 41 SR 144 (6 sites).

***Numbers of Lipped Flakes have already been included in totals for Secondary and Interior Flakes and should not be counted twice.

TABLE 3. HORIZONTAL DISTRIBUTION OF LITHIC ARTIFACTS FROM "GALLERY" AND "BOWER" SITES

		Collection Areas				
		"Gallery" Sites*		"Bower" Sites**		
		#	%	#	%	Totals
CHIPPED STONE	Cores	32	(7.8)	41	(7.4)	73
	Core-Bifaces	6	(1.5)	4	(0.7)	10
	Flakes and Chips	328	(80.0)	426	(77.2)	754
	Trimmed Flakes and Chips	10	(2.4)	16	(2.9)	26
	Bifaces	34	(8.3)	65	(11.8)	99
	Totals	410	(100.0)	552	(100.0)	962
FLAKES AND CHIPS	Flakes					
	Primary	4	(1.2)	6	(1.4)	10
	Secondary	118	(36.0)	155	(36.4)	273
	Interior	70	(21.4)	110	(25.8)	180
	(Lipped)***	21	(6.4)	37	(8.7)	58
	Chips					
	Corticate	3	(0.9)	1	(0.2)	4
	Partially Decorticate	69	(21.0)	65	(15.3)	134
	Decorticate	64	(19.5)	89	(20.9)	153
Totals	328	(100.0)	426	(100.0)	754	

*"Gallery" Sites: 41 SR 70, 41 SR 93, 41 SR 95, 41 SR 118, 41 SR 119, 41 SR 126 and 41 SR 144.

**"Bower" Sites: 41 SR 67, 41 SR 73, 41 SR 75, 41 SR 100, 41 SR 102, 41 SR 103 and 41 SR 125.

***Numbers of Lipped Flakes have already been included in totals for Secondary and Interior Flakes and should not be counted twice.

SUMMARY AND RECOMMENDATIONS

Summary

During November 1977, personnel of the Center for Archaeological Research at The University of Texas at San Antonio conducted an intensive survey and testing of 16 prehistoric archaeological sites recorded within the Olmos Creek drainage in Starr County, Texas. The sites are located in five separate project areas, where floodwater retarding structures have been proposed for construction by the Soil Conservation Service. Intensive survey and limited testing activities were focused on the retrieval of data for use in determining archaeological potential. Supplementary to information recovered in 1974 during a reconnaissance reported by Nunley and Hester (1975), intensive survey and limited testing data can be applied to the ongoing investigation and evaluation of the 16 archaeological sites studied.

In general, 14 open sites were found to be disturbed to varying degrees by erosion and/or rootplowing. Two buried terrace sites may be less disturbed. Limited testing revealed that restricted areas of deposits at only four other sites contain cultural material to depths greater than 60 cm below the ground surface. The remaining 10 sites were found to be shallow and badly disturbed.

The chronological affiliation of all 16 sites is difficult to ascertain, although most sites were probably occupied during the Archaic period and some were occupied during the Late Prehistoric period. Cultural material recovered is comparable to inventories reported from other sites in the region, and interpreted as representative of the hunting and gathering subsistence of small groups or bands.

Intra-site distribution of material cultural evidence indicates that similar tool-making and other activities were carried out in each major area of each site. Although sheet erosion may have obscured evidence of specific or isolated activity areas, it is possible that controlled surface collection might identify activity areas at some of the more horizontally extensive sites.

Study of the inter-site distribution of material cultural evidence reveals more variation in relative frequencies of occurrence of chipped stone categories between sites in the northern and southern portions of the Los Olmos Creek drainage than between "Gallery"-type and "Bower"-type sites.

Recommendations

Applying data recovered during 1977 intensive survey and limited testing activities to that recovered during the 1974 survey, 16 sites for which testing or excavation has been recommended by Nunley and Hester (1975) can be reevaluated. Table 4 presents a summary of individual recommendations for each of the 16 sites. This data is presented following the format used by Nunley and Hester (1975:95-101):

Site Number: The number of the site in Starr County is presented according to the Smithsonian trinomial system.

TABLE 4. SUMMARY OF SITE RECOMMENDATIONS

Site No.	Damsite No.	Degree to be Affected	Potential Importance	Intensity	Recommendations
41 SR 67	1B	1	4	4	no work
41 SR 70	1B	2	4	8	no work
41 SR 73	1B	2	4	8	no work
41 SR 74	1B	1	3	3	no work
41 SR 75	1B	2	1	2	testing for strati-graphic information to determine National Register eligibility
41 SR 93	1B	2	2	4	no work
41 SR 95	1B	2	3	6	no work
41 SR 96	1B	1	3	3	no work
41 SR 100	7	1	3	3	controlled collections in conjunction with 41 SR 102 to determine National Register eligibility
41 SR 102	7	2	1	2	testing of upper slope and upland areas to determine National Register eligibility
41 SR 103	7	2	1	2	testing of upper slope area to determine National Register eligibility
41 SR 118	8	1	3	3	testing of hearth areas to determine National Register eligibility
41 SR 119	8	2	4	8	no work
41 SR 125	2	2	4	8	no work
41 SR 126	2	2	1	2	testing for strati-graphic information to determine National Register eligibility
41 SR 144	6	1	4	4	no work

Damsite: Designates which of the five Soil Conservation Service projects would affect the site in question.

Degree to be Affected: This number refers to the location of the site with regard to potential damage caused by proposed modification. The number "1" refers to sites situated either on or very near the proposed centerline of the various damsites, or within the area of the conservation pool. The number "2" refers to those sites which are located within the 100-year flood pool. Elevated portions of a few horizontally extensive sites actually lie outside the area to be affected by any of the proposed modifications.

Potential Importance: Numbers in this column reflect the degree of scientific, historic or prehistoric importance of the site in relation to its assessed potential. Sites with the greatest potential for data recovery are given a ranking of "1" whereas the least important are ranked "4."

Intensity: Numbers in this column are obtained by multiplying the degree the site will be affected by its potential importance. Priority should be given to subsequent archaeological investigation at sites with relatively low intensity numbers, whereas high intensity numbers indicate that no further work needs to be undertaken at that site.

Recommendations: These statements concern the minimum work recommended at the 16 sites. These statements differ from recommendations made by Nunley and Hester (1975:99-101) for two principal reasons: (1) intensive survey and limited testing activities accomplished some work recommended as a result of the 1974 reconnaissance; and (2) additional data recovered during the 1977 investigations can be applied to the reevaluation of the potential importance of some sites.

Of the 16 sites studied, 10 do not merit further investigation (see Table 4). Six sites are recommended for further study, either in the form of intensive testing or controlled surface collection. The objective of such study would be to determine National Register eligibility. Sites which are recommended for testing include: 41 SR 75, 41 SR 102, 41 SR 103, 41 SR 118, and 41 SR 126. Site 41 SR 100 is recommended for controlled surface collection.

The intensive testing recommended for the sites noted above would enable archaeologists to evaluate the nature of buried deposits at these localities and to assess the potential of such deposits for providing information on culture sequence, dating of cultural remains through radiocarbon analysis, and associations of lithic materials (e.g., tool kits and materials linked to specific cultural horizons). Controlled surface collection at 41 SR 100 should recover information about site function and might identify activity areas within each site. The controlled collection at 41 SR 100 would constitute mitigation of adverse impact on the site, as no further work would be necessary after the collecting program. The testing at the other five sites would allow determination of adverse impact on potential National Register sites and would thus permit the preparation, if needed, of carefully designed mitigation programs. Some of the sites which merit further work are located near each other. Such physical proximity should make further work logistically and economically efficient.

ERRATA

Page 48. Third paragraph, line 8: "50-60 meters" should be
"50-60 centimeters"

At site 41 SR 100, a detailed contour map should be made of the site with a plane table and alidade. On this map, all diagnostic artifacts should be plotted, along with concentrations of cultural materials (those concentrations apparently caused by gullying should be so identified). Surface concentrations of cultural materials which appear least disturbed should be mapped and totally collected. In this regard, it might be best to search for such concentrations which include hearths and which might have conceivably served as loci for some sort of sustained activity.

The intensive testing at the other five sites should involve mapping and both hand-testing and the use of a backhoe. The survey team's experience showed that the sites are so extensive that a program composed solely of hand testing would be extremely time consuming and might not yield sufficient evaluative information. We suggest that narrow backhoe trenches be cut at various points in the sites, serving to identify areas which contain buried deposits. From the inspection of backhoe profiles, the field team could isolate those areas which hold the most promise and open up hand-excavated units adjacent to the backhoe trenches. This approach has been used with great success in the Nueces River Project in Live Oak and McMullen Counties, southern Texas (Grant D. Hall, personal communication). Such controlled use of a backhoe, supplemented by careful excavation, would permit a much better evaluation of the National Register potential of the five sites.

It is always difficult to estimate the number of field days which might be spent at a given site, especially in an intensive testing phase at sites in a region where so little is known about the subsurface deposits. However, we offer the following suggestions as to the number of days that might be spent at each site by a four-person field team: 41 SR 100 (mapping and controlled collection; 4 days); 41 SR 75 (10 days should be allotted because of the potential depth of this site); 41 SR 102 and 103 (12 days; the sites are located adjacent to one another and have about 50-60 meters of deposit); 41 SR 118 (5 days; much of the site is badly disturbed and intensive testing can be confined to areas where hearths and other features are preserved); 41 SR 126 (12 days; this site is much larger than originally recorded by Nunley and Hester, and the extent of buried deposits must be ascertained). In summary, a field effort entailing 43 days, utilizing a 4-person crew (i.e., 172 man-days), appears to be a feasible estimate for the recommended intensive testing program.

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