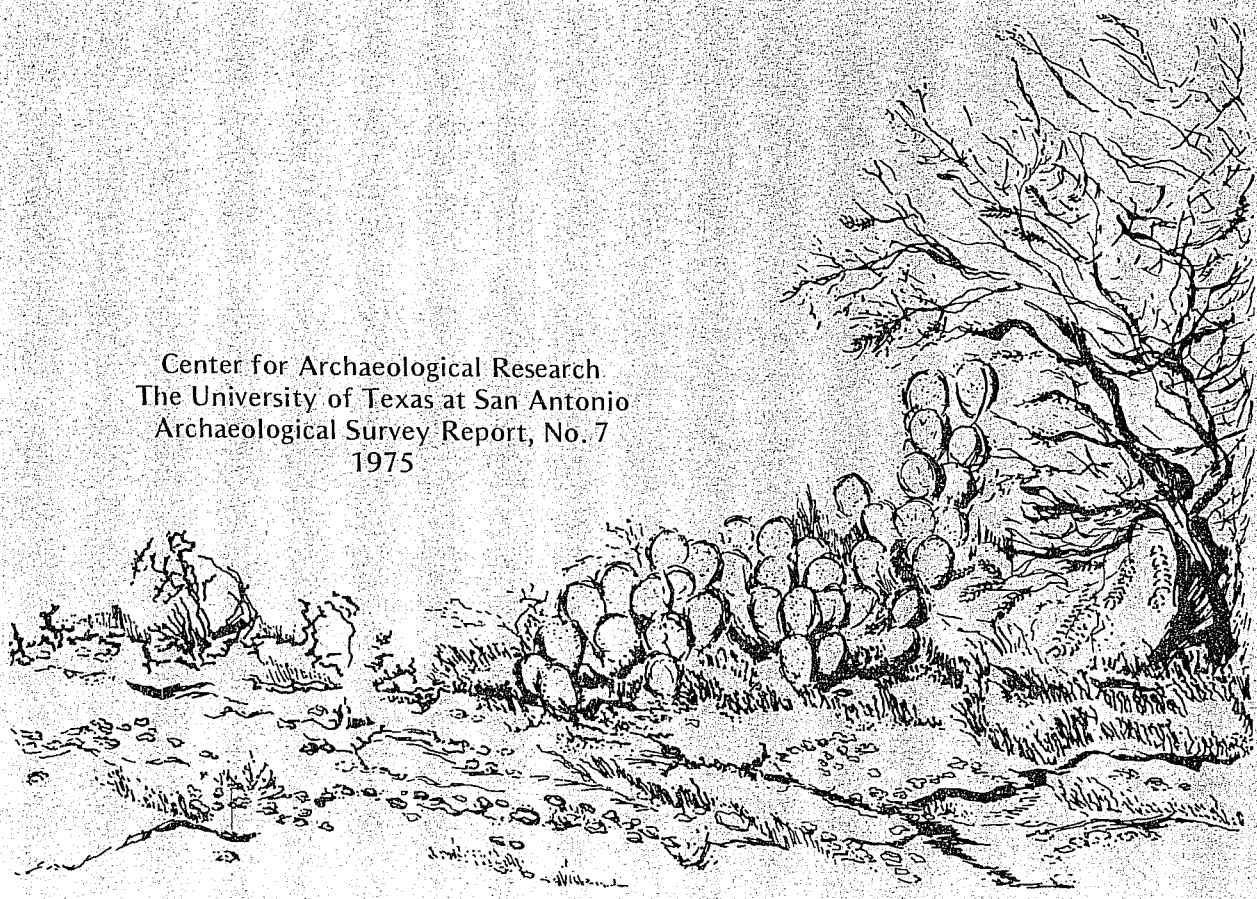
AN ASSESSMENT OF ARCHAEOLOGICAL RESOURCES IN PORTIONS OF STARR COUNTY, TEXAS

Parker Nunley

and

Thomas R. Hester



Center for Archaeological Research
The University of Texas at San Antonio
Archaeological Survey Report, No. 7
1975

THE CENTER FOR ARCHAEOLOGICAL RESEARCH

Division of Social Sciences

The University of Texas at San Antonio

Thomas R. Hester, Director

Archaeological Survey Reports

1. Assessment of Archaeological Resources in Certain Areas of the Allens Creek Watershed, Austin County, Texas. By Feris A. Bass, Jr., September, 1974

2. Assessment of Archaeological Resources in Portions of the Chocolate Creek, Little Chocolate Creek and Lynns Bayou Watershed, Victoria and Calhoun Counties, Texas. By Feris A. Bass, Jr., October, 1974

3. Archaeological Survey of Areas Proposed for Modification in the Salado Creek Watershed, Bexar County, Texas. By Thomas R. Hester, with the collaboration of Feris Bass, Jr., Anne A. Fox, Thomas C. Kelly, Mary F. Chadderdon and Edwin S. Harris, November, 1974

4. An Archaeological Survey of Portions of the Chiltipin-San Fernando Creeks Watershed, Jim Wells County, Texas. By Thomas R. Hester and Feris A. Bass, Jr., November, 1974

5. An Archaeological Survey of the Nichols Creek Channel Modification, Karnes County, Texas. By Anne Adams Fox, December, 1974

6. Archaeological Survey of Portions of the Comal River Watershed, Comal County, Texas. By Thomas R. Hester, Feris A. Bass, Jr. and Thomas C. Kelly, January, 1975

7. An Assessment of Archaeological Resources in Portions of Starr County, Texas. By Parker Nunley and Thomas R. Hester, March, 1975

Regional Studies

1. Archaeological and Historical Resources in the San Antonio-Guadalupe River Basins: A Preliminary Statement. Assembled by Thomas R. Hester, January, 1975

2. An Initial Archaeological and Historical Assessment of Three Proposed Dam Sites in Gonzales and Kendall Counties, Texas. By Thomas R. Hester, Thomas C. Kelly, and Feris A. Bass, Jr., February, 1975

AN ASSESSMENT OF ARCHAEOLOGICAL RESOURCES IN PORTIONS OF STARR COUNTY, TEXAS

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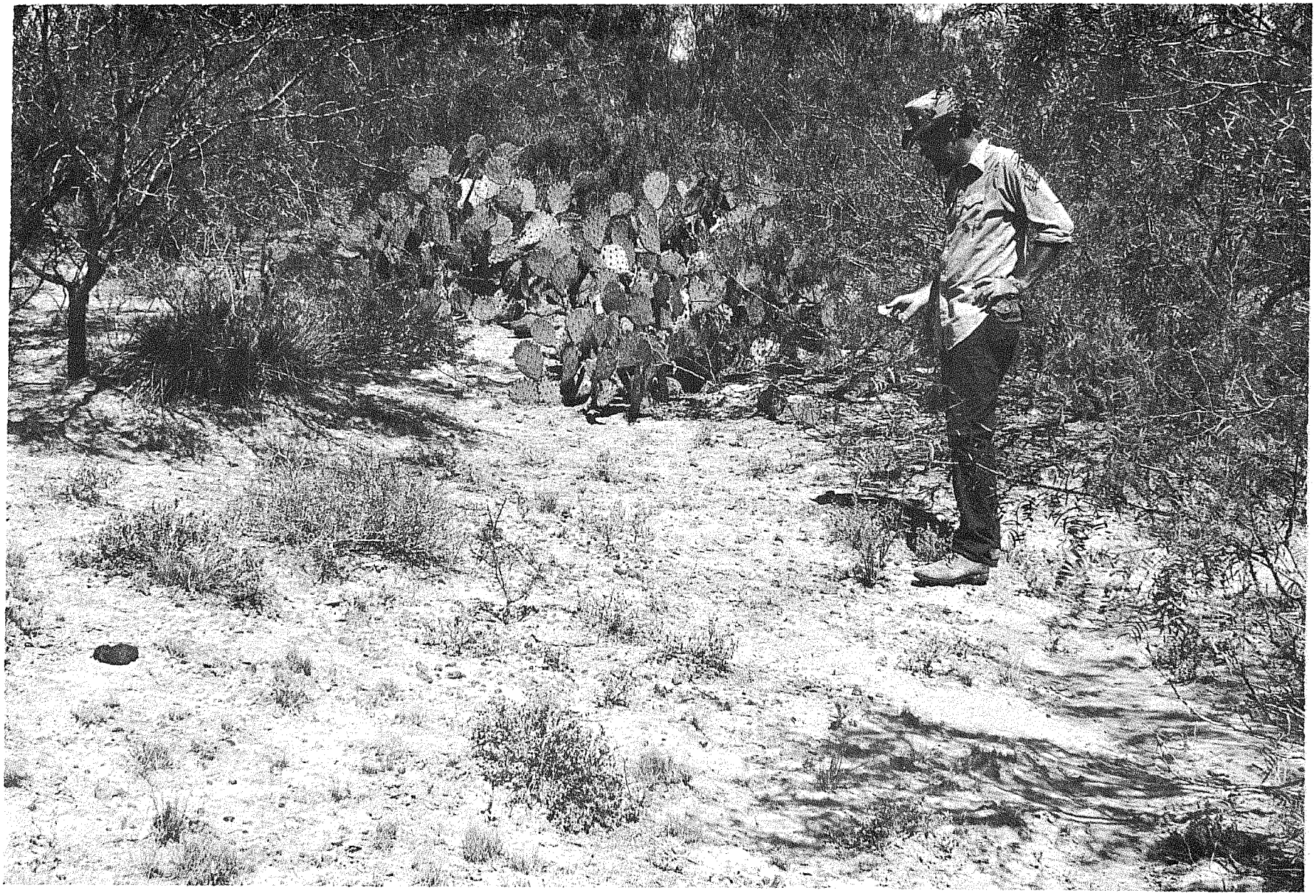

A Typical Prehistoric Site in Starr County

ABSTRACT

Fifty-two archaeological sites in the vicinity of nine projects proposed by the United States Department of Agriculture, Soil Conservation Service, in Starr County, Texas, are described and evaluated. It was determined that no further investigation need be made at 29 of these sites, whereas controlled collections and testing is necessary at 18 sites, and excavation is recommended at an additional five sites.

ACKNOWLEDGEMENTS

The bulk of this study was carried out by the senior author with the assistance of students from Richland College and The University of Texas at San Antonio at the suggestion of Dr. Thomas R. Hester, Director, Center for Archaeological Research, The University of Texas at San Antonio (UTSA).

Silvestre Gonzalez, Starr County Soil Conservation District Conservationist, provided our immediate liaison with the Soil Conservation Service and local landowners. We are indebted to him for the swift and friendly support he gave to our work. We would also like to specifically thank personnel on the staff of the Soil Conservation Service projects planning division, San Marcos, Texas, for their helpfulness and courtesy.

The field work was performed under the direction of the senior author with the assistance of Don White, Jean Henderson, and Lamar Peterman, students at Richland College, Dallas, Texas; Carol E. Nunley, graduate student at Texas Woman's University; and Feris A. Bass, Jr. graduate student at The University of Texas at San Antonio. During the period of August 5 through August 23, 1974, a total of approximately 76 man-days was spent in the field. We appreciate the efforts of the field crew members and acknowledge their major contribution to the contents of this report.

Special thanks are due Chris Blankenship and Don White of Richland College. They served as laboratory assistants, and without them the lab work could not have been completed in the time allowed.

Artifact photography is by Hubert Achor.

Typing assistance was rendered by Carol Naab. Final typing of the report at the UTSA Center for Archaeological Research was done by Kathy McCauley and Bonnie Ernest. Cover design is by Olivia Rodriguez, UTSA Office of Instructional Services.

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INTRODUCTION

This report is the culmination of research undertaken as part of the impact study of the effects of certain environmental modifications proposed by the United States Department of Agriculture, Soil Conservation Service, in Starr County, Texas. This study was initiated through a cooperative agreement between representatives of the Soil Conservation Service and Dr. Thomas R. Hester, Director of the Center for Archaeological Research (Division of Social Sciences, College of Humanities and Social Sciences), The University of Texas at San Antonio, to provide a factual basis upon which to determine the deleterious effect, if any, the proposed modifications (floodwater retarding structures) might have on archeological resources in the area and to propose a reasonable strategy to minimize such effects.

In order to provide the most efficient use of time in the field, the following priorities were established.

Priority I: This priority was assigned to those areas most directly affected by the proposed modifications. These areas include damsites, levees, spillways, conservation pools, etc.

Priority II: This priority was assigned to all those portions of the areas to be modified falling within the 100 year flood pool.

Priority III: This was the priority assigned to those areas adjacent to, or of other relation to the areas to be modified.

The above priorities were used to allocate use of available personnel in the field. It is estimated that approximately 90% of the primary area was actually visited. Of the remaining 10%, most consists of heavily silted floodplains overgrown with dense covers of grass and brush. Although these unvisited areas possibly include a number of sites, it is not likely.

Those sites reported in areas of secondary priority are those located by intensive field investigation as well as those located through the study of topographic maps. Although it is difficult to estimate the percentage of the secondary area actually traversed in the field, a full two-thirds of the total field effort was spent in secondary areas. Much of the time spent in areas of secondary priority was directed toward spots suggested by study of topographic maps.

Field work begun August 6, 1974 and continued daily through August 22, 1974. In spite of unusually wet weather, crews were in the field a total of 15 days during this period. Average crew size was five persons, and in all, approximately 76 man-days were spent searching for sites in the field. Field work was supervised by the senior author. The areas surveyed in the field are indicated in Figure 1 and total approximately 10,000 acres (4048.5 hectares).

In addition to work in the field, the Texas Archeological

Research Laboratory, The University of Texas at Austin, was visited, and a complete and thorough search of their records for data pertinent to the present work was made. Copies of documents directly related to the present research were obtained and maps and artifact lists on file there were checked. The libraries of both Southern Methodist University and The University of Texas at Austin were consulted for documentary information concerning the location and characteristics of sites and prehistoric occupations in the area.

All sites found in the course of the present work have been recorded on standard site survey forms in use by the Center for Archaeological Research of the University of Texas at San Antonio. In addition, a daily journal was maintained and all sites were located on standard U.S.G.S. topographic maps of the 7.5' series furnished by the Soil Conservation Service. Black and white photographs and 35 mm. color slides were made at many sites.

Artifacts were collected at most of the sites visited by field crews. These were placed in brown bags labeled as to site, date, and crew. When applicable, as in the case of a very large site, or a site with a particularly distinguishable feature such as a hearth, attempts were made to control the sampling of materials. This attempt turned out to be futile, however, and was abandoned midway through the field work.

Most artifacts were cleaned and catalogued in the field. Bags of artifacts were brought to Richland College, Dallas, Texas,

where the artifacts were described and analyzed. The artifacts and copies of all documents assembled and compiled in the course of this study will, in time, be stored at the Center for Archaeological Research at UTSA. Duplicates of the records will, in addition, be sent to the Texas Archeological Research Laboratory in Austin.

Relatively few artifacts were either observed or collected during the course of this study. Three major reasons for this lack of cultural material are: (1) many of the sites have been heavily searched and collected by amateurs for many years; (2) throughout the area of the survey much of the surface has been rootplowed and seeded to bufflegrass which has subsequently grown and covered the ground. This treatment tends to obscure artifacts, especially the smaller ones which might have escaped the collectors; and (3) the areas of investigation seem to have been outside the areas of densest occupation.

One tactic employed by some workers in initial field surveys is to locate and record sites in the conventional manner while disturbing the site as little as possible. Although this tactic has definite advantages under ideal circumstances, since it leaves the archeological record relatively undisturbed, it is not a very efficient use of field time and was not employed in the field work portion of the current work.

Since many of the sites visited in the course of the current study are relatively inaccessible and subject to continued damage

by erosion, relic collecting, and other factors, artifacts were collected from the surface of most sites. It was hoped that enough artifactual material could be gathered to permit analysis and thereby add to the resolution of particular problems while suggesting certain new ones.

There was reason to expect, for example, that data from controlled surface collections could lend information concerning settlement patterns and differentiation of various sociocultural units as proposed by Nunley (1971a). Such controlled collecting was attempted during the early stages of the field work, but was soon abandoned as inappropriate and inefficient under the pressing circumstances of time and manpower. Most of the collections were thereby made A.C.P.-- "at the collector's preference". Most of the fieldcrew were instructed to collect all the obvious tools and tool fragments and a sampling of the debris and debitage. This method of sampling, while not yielding collections amenable to comprehensive statistical models (such as cumulative graphs), is able to provide a reliable basis for percentage comparison within classes between sites. Unfortunately, too few artifacts were collected for even this type of comparative analysis.

The physiographic/environmental setting of the Starr County region has recently been outlined in two publications (Soil Conservation Service 1972; Nunley 1971a) whose areas of interest bracket the present report and are not repeated here.

PREVIOUS ARCHAEOLOGICAL RESEARCH IN THE AREA

General Background

Only during the past decade has there been sustained archaeological research in southern Texas. In earlier years, most work had been done along the south Texas coast (Anderson 1932; see a summary in Campbell 1960), with only scattered reports from the interior areas (e.g., Sellards 1940; Weir 1956; Evans 1941). A very general synthesis of the area's prehistory was offered by E. B. Sayles (1935), in which he placed south Texas in his "Coahuiltecan Branch". A more elaborate summary statement on "Southwest Texas" was published by Suhm, Krieger and Jelks (1954: p. 134-143). Most of their information was derived from recently concluded salvage investigations at Falcon Reservoir, and the two cultural units proposed by Suhm, Krieger and Jelks, the Falcon and Meir foci, were related primarily to the Falcon area.

Since 1960, archaeological investigations in southern Texas have intensified and publications dealing with its prehistory have proliferated. Many of the published works have been descriptive in nature, designed to record the varied cultural remains of the region (cf. Hester, White and White, 1969). In addition, there have been reports of regional and reservoir basin surveys (Nunley and Hester 1966; Wakefield 1969; Hester and Bass 1974; Shafer and Baxter 1975), and there have been studies of prehistoric technologies (Hester and Hill 1971; Hester in press). Short syntheses of the past decade's activities have been published (Hester, White and White 1969:p. 158-164;

Hester 1974: 18-19), but a major summary (Hester 1971) has not been published, although it has been widely circulated to scholars working in the area.

All of this research has served to describe archaeological sites and artifacts in the area, to analyze local technologies, to examine aspects of subsistence, and settlement, (cf. Hester and Hill 1973) and to outline those problems needing further research.

One of the major problems of south Texas prehistory remains the lack of a firm chronology. Thus, we can provide here only a bare and quite tentative, framework for ordering the cultural remains.

There is substantial evidence, in the form of such distinctive projectile point styles as *Clovis*, *Folsom*, *Plainview*, *Golondrina*, *Scottsbluff* and others, to indicate the presence of *Paleo-Indian* occupations during the terminal Pleistocene, roughly 9200-6000 B.C. Following the end of the Pleistocene, and continuing for the next several thousand years, we have *Archaic* occupations in the region. It is from this inadequately defined period that the bulk of archaeological remains in south Texas are derived. There are numerous sites and abundant lithic materials, (dart points and other chipped stone implements, ground stone artifacts and lithic waste) attributable to hunting and gathering peoples inhabiting the region between 6000 B.C. and A.D. 1200. Beginning around A.D. 1200 or somewhat later, the regional cultural inventory is modified by the introduction of the bow and arrow (represented by tiny arrow points of various styles), certain new lithic tool forms, and in some areas, bone-tempered ceramics

(Hester and Hill 1971). Radiocarbon evidence reported by Hill and Hester (1973) suggests that this *Late Prehistoric* ("Neo-American") era continued in southern Texas as late as A.D. 1700 without recognizable modification by intruding European culture.

At the time of historic contact, early European explorers report that southern Texas was inhabited by a myriad of small semi-nomadic hunting and gathering groups, apparently the descendents of populations who had lived in the area for millenia. Most of these groups are presumed to have shared a common language, known as "Coahuiltecan", and thus these historic peoples have been identified with that term in the ethnohistoric literature (cf. Ruecking 1955; Newcomb 1961). It has become increasingly evident to present-day ethnohistorians and archaeologists that many differences, both linguistic and cultural, existed among these groups, and that it is meaningless to lump them all under the "Coahuiltecan" label (cf. Nunley 1971b).

The native peoples were soon eliminated through a combination of introduced diseases, missionization, and by the process of assimilation with the growing Spanish populations. In the 18th and 19th centuries, the void created by their disappearance was partially filled by intrusive Plains groups, first by the Lipan Apache, and subsquently by Comanche and smaller, displaced tribes. One example of the extent of Comanche presence in the area is provided by Vigness (1955; see also Faulk 1969) who documents raids by Comanches as far south as Laredo and Matamoros in the 1830's.

Starr County

Although some professional work was done in the vicinity of Falcon Reservoir in the early 1950's (Cason 1952; Hartle and Stephenson 1951; Hughes n.d.; Krieger and Hughes 1950), the bulk of archaeological work in Starr County has been performed by amateur archaeologists and artifact collectors. For the last 50 years, local residents have intensively collected artifacts from the surface of sites along the Arroyo los Olmos and other streams in Starr County. Most of these collections were undocumented at the time they were made, and many have subsequently become scattered or lost. A few collections have been reported (i.e., Newton 1968; Weir 1956), but these reports are sketchy and of limited value here. In addition to these, several sites have been reported by recent professional activity (Weir n.d.) for a grand total of some 80 archaeological sites reported from Starr County previous to the present work.

The vast majority of the previously known sites were concentrated along the Arroyo los Olmos for a distance of some 25 kilometers downstream from the village of El Sauz. The reason for this concentration of sites might have been thought to reflect on the peculiar habits of such collectors as chose to report their collections, except the present work has confirmed that the area in question apparently sustained the heaviest prehistoric populations in Starr County. The reasons for this concentration of occupation in prehistoric times are not now known, but their discovery should certainly be a major goal for future archaeological work in the area.

Generalizations concerning the prehistory of the study area, the proposed Falcon and Meir foci, were alluded to earlier in this section. They are derived from the McKern Taxonomic System (McKern 1939) via the Kriegerian type concept (Krieger 1944, 1956). The inadequacy of these generalizations has been made clear in a recent paper (Nunley 1971b) and will not be repeated here. Let it suffice to say that there are in print no valid general statements concerning the prehistory of Starr County. There is no clear evidence concerning the date of duration of occupation, subsistence, technology, or even settlement pattern. All these are questions which must be resolved by future work.

THE SITES

Site descriptions in this section follow the format below:

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.

Location: Locational data are given to place the site in general geographic and environmental context. Precise description of exact location is here avoided to forestall improper use of such information.

Damsite: Designates which of the following Soil Conservation Service projects affects the site in question (Figure 1):

Damsite 1B - Located across Arroyo los Olmos at a point just west of the village of El Sauz. Proposed emergency spillway elevation: 292.0 ft (89.0 m)

Damsite 2 - Located in uplands of northwest Starr County. Proposed emergency spillway elevation: 350.0 ft (106.7 m)

Damsite 3 - Located in northeast central Starr County. Proposed emergency spillway elevation: 435.5 ft (132.7 m)

Damsite 4b - Located in the uplands of northeast central Starr County. Emergency spillway elevation: 434.0 ft (132.3 m)

This page has been redacted because it contains restricted information.

Damsite 6 - Located on a tributary of Arroyo los Olmos at a point several kilometers downstream from the village of El Sauz. Proposed emergency spillway elevation: 280.0 ft (85.3 m)

Damsite 7 - Located just east of Arroyo los Olmos at a point several kilometers north of Rio Grande City. Proposed emergency spillway elevation: 210.0 ft (64.0 m)

Damsite 8 - Located just southeast of Damsite 7. Proposed emergency spillway elevation: 240.0 ft (73.6 m)

Levee - Centerline is located along Arroyo los Olmos just east of Rio Grande City.

Arroyo Roma R.C.& D. - Located immediately northwest of the village of Roma. Proposed emergency spillway elevation: 242.3 ft (73.9 m)

Elevation: Approximate average elevation above mean sea level as determined by location on U.S.G.S. topographic map.

Description: Specific statements concerning the occupational material at the site, its extent, condition, etc.

Type of Site: Although all the sites here described fall within the area described as the *Lomeria* (Nunley 1971), it has been possible to distinguish two different types of locations: *Gallery* sites are located on terraces or otherwise very close to arroyos and tributaries. *Bower* sites, on the other hand, are located in the hilly areas

overlooking the lower-lying arroyos, tributaries and Gallery-type sites.

Soil: Information here derived from the Soil Survey of Starr County, Texas.

Environmental Characteristics: Information concerning the Range Site and vegetation observed in the field is presented here.

Interpretation: A very brief best guess supported by field observations.

Reported by: Individual or institution of record

Remarks: General statements about the site including estimation of its importance and recommendation for future work.

Partial sentences are frequently used to keep verbiage to a minimum in the following descriptions.

41 SR 56

Location: Level terrace surface west of Arroyo Los Olmos at a point about 100 m north of centerline of damsite 1B.

Damsite: 1B

Elevation: 260+ ft (79.3 m)

Description: Artifactual material eroding from upper, dark brown, sandy midden soil of up to eight centimeters in thickness. Material scattered over about five or six acres (2.0 or 2.4 ha).

Surface Indications: Snail shell concentrations, bifaces, chips, other lithic materials eroding from midden soil.

Type of Site: Gallery, open camp

Soil: Montell Clay, saline

Environmental Characteristics: Saline Clay Range Site; mesquite, *opuntia*, brush.

Interpretation: Site likely represents temporary, seasonal occupation.

Reported by: Frank Weir and revisited by UTSA crew

Remarks: This is quite typical of a large Gallery-type of site. Although sheet erosion has badly damaged the stratigraphic evidence, the presence of some buried materials promises data related to relative dating. It is recommended that controlled surface collections and limited excavations be conducted at this site.

41 SR 65

Location: Approximately 200 m north of U.S. 83 on western terrace of Arroyo los Olmos.

Damsite: 1B

Elevation: 160 ft (48.8 m)

Description: Lithic cultural materials are eroding from the upper 6-8 cm of a badly eroded sandy loam. Exact size of the occupational debris was difficult to determine, but seemed to be about 25 m long and 10 m wide with the long axis paralleling the arroyo.

Type of Site: Gallery, open camp

Soil: Camargo Silty Clay Loam

Environmental Characteristics: Loamy Bottomland Range Site; snail concentrations, mesquite, cactus, scattered clumps of grass.

Interpretation: Site was apparently occupied by groups on a temporary seasonal basis.

Reported by: UTSA Center for Archaeological Research

Remarks: This site is especially interesting, since it represents the southernmost location observed in the present survey. Although badly eroded, the site should be further investigated. Testing and controlled surface collection is recommended.

41 SR 66

Location: Along and both sides of centerline of Damsite 1B east of Arroyo los Olmos, this site forms part of a high, sandy ridge sloping away from the arroyo.

Damsite: 1B

Elevation: 280 ft (85.3 m)

Description: Widely and lightly scattered lithic debris, debitage and tools appear over several hectares of this badly eroded site.

Type of Site: Bower, open camp

Soil: Ramadero Loam-Copita Fine Sandy Loam

Environmental Characteristics: Ramadero Loam Range Site - Gray Sandy Loam Range Site: *opuntia*, mesquite, scattered grass clumps; bare eroded spaces.

Interpretation: Likely represents a temporary hunting or gathering station.

Reported by: UTSA Center for Archaeological Research

Remarks: Site is so badly damaged by sheet and gully erosion no further work is recommended.

41 SR 67

Location: West side of a high ridge overlooking the east bank of Arroyo los Olmos. The dam centerline bisects this site at a point just across the ridgetop from SR 66.

Damsite: 1B

Elevation: 270 ft (82.3 m)

Description: Most of this site has been rootplowed very recently and has thereby been severely damaged. Even so, there remain marginal areas of this large site (approximately 400 m long) which are relatively undisturbed. The cultural occupation seems to be confined to the upper 10 cm of a light brown, sandy soil.

Type of Site: Bower, large open camp

Soil: Montell Clay, saline - Copita Fine Sandy Loam

Environmental Characteristics: Saline Clay - Gray Sandy Loam Range Site; cenizo, mesquite, guajillo.

Interpretation: This site likely served as a base camp.

Reported by: UTSA Center for Archaeological Research

Remarks: This site should be more thoroughly investigated because of its size and the diversity of lithic materials found. These factors, plus the presence of definite stratigraphy in portions of the site make further exploration mandatory. Intensive controlled surface investigation with excavation of appropriate areas is strongly recommended.

41 SR 68

Location: This site is located northwest of SR 67. It is part of a rootplowed and badly eroded, gravelly sand ridge overlooking Arroyo los Olmos.

Damsite: 1B

Elevation: 265 ft (80.8 m)

Description: Relatively large numbers of split cobbles, primary flakes, and other debris lie scattered in an oval shape with the long axis extending about 25 m along the arroyo.

Type of Site: Bower, open quarry

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gravel outcrops within the Copita Sand here exploited for lithic raw material. Gray Sandy Loam Range Site; mesquite, *opuntia*.

Interpretation: Quarry/temporary camp

Reported by: UTSA Center for Archaeological Research

Remarks: Site is small and badly damaged with no known stratigraphic depth. No further work is recommended.

41 SR 69

Location: This site forms the northern end of the same sandy ridge on the eastern side of Arroyo los Olmos that contains site SR 67 and may represent a continuation of the latter.

Damsite: 1B

Elevation: 280 ft (85.3 m)

Description: Lithic debris, debitage and tools and burned rocks are scattered over an area of about 70 x 40 m. Very severe sheet and gully erosion have badly damaged much of the site. In addition, the site has been rootplowed.

Type of Site: Bower, large camp

Soil: Catarina-Copita Fine Sandy Loam

Environmental Characteristics: Saline Clay-Gray Sandy Loam Range Site; ebony, *opuntia*, yucca, catclaw, grass clumps.

Interpretation: Temporary campsite

Reported by: UTSA Center for Archaeological Research

Remarks: Site should be investigated further in conjunction with additional work at SR 67. Additional surface survey and testing recommended.

41 SR 70

Location: East of Arroyo los Olmos on bank of small tributary arroyo at the interface between the sandy uplands and the rather silty terraces, this site lies approximately 30 m north-northwest

of site SR 69.

Damsite: 1B

Elevation: 270 ft (82.3 m)

Description: Although rootplowed, areas of this site show little apparent disturbance. Such undisturbed areas show cultural material eroding from a dark midden zone of up to 4 cm in depth. Great concentrations of snail shells.*

Type of Site: Gallery, open camp

Soil: Ramadero Loam

Environmental Characteristics: Ramadero Range Site; catclaw, *opuntia.*

Interpretation: Temporary camp

Reported by: UTSA Center for Archaeological Research

Remarks: It was difficult to distinguish the rootplowed areas from the undisturbed areas because of the fact that this site was a turning point for the machinery. At places the plows must have been out of the ground, whereas at other places, the plows

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*On, or in the vicinity of, several archaeological sites, the survey team noted the presence of "snail cracking stones", used by paisanos (roadrunners; *Geococcyx sp.*). The paisano will select a suitable cobble to which it carries land snails, and hits the shells against the rock in order to break them open. As a result of the bird's activity, numerous broken snail shells will accumulate around the "cracking stone". At some Starr County sites, these concentrations were a foot or more in diameter. The difference between those snail shells introduced into a site deposit by man and those brought to the area by the paisano is that the latter are very highly fragmented during the "cracking" process, while the former are usually found whole. An example of a "snail cracking stone" is illustrated by J. B. Holdsworth, *Nature Through a Knothole*, p. 202 (Naylor, 1969).

seem to have redeposited whole sections of the site almost intact. Testing of this site is recommended.

41 SR 71

Location: This site is actually a rather poorly defined locale which parallels a shallow swale on the east side of Arroyo los Olmos about 300 m north of SR 70.

Damsite: 1B

Elevation: 265 ft (80.8 m)

Description: Sheet erosion has badly deflated this site. Cultural material in the form of snail and burnt rock concentrations and chipped stone artifacts appear in a characteristically wide scatter over a sandy clay surface where they have been deposited by deflation from previously higher deposits.

Type of Site: Gallery, open camp

Soil: Montell clay, saline

Environmental Characteristics: Saline Clay Range Site: mesquite, cactus, yucca, retama.

Interpretation: Open, probably seasonally occupied campsite

Reported by: UTSA Center for Archaeological Research

Remarks: Materials are so widely scattered and erosional damage is so great that no further work is recommended.

41 SR 72

Location: This site lies along and both sides of a point about 300 m east of the western end of the centerline of Damsite 1B.

Damsite: 1B

Elevation: 285 ft (86.9 m)

Description: Cores, flakes, and processual mid-stages are found interspersed within a gravel outcrop over an area of several hundred square meters.

Type of Site: Bower, open quarry

Soil: Catarina soil

Environmental Characteristics: Saline Clay Range Site: buffalo grass, curly mesquite, *opuntia*, tasajillo.

Interpretation: Quarry/temporary camp

Reported by: UTSA Center for Archaeological Research

Remarks: Site has been considerably damaged by gully erosion, but is typical of small quarry/workshop sites located in the course of this investigation. It might be considered for further work in conjunction with a study of quarries in the area. Further consideration is therefore recommended.

41 SR 73

Location: This site is bisected by a dirt road about 100 m north of Damsite 1B and intergrades with the northeastern extremes

of site SR 72.

Damsite: 1B

Elevation: 275 ft (83.8 m)

Description: Site occupation in the shape of an oval with long axis running NW/SE about 120 m. Gully and sheet erosion have damaged the site considerably. Former surface remnants, platformed by plant roots, display occupational material to a depth of 2 - 3 cm below surface.

Type of Site: Bower, open camp

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gray Sandy Loam Range Site: cenizo, yucca, mesquite, ebony, *opuntia*, guajillo.

Interpretation: Occupation at site was probably seasonal and temporary, and involved relatively large groups. Site SR 72 may be an associated quarry.

Reported by: UTSA Center for Archaeological Research

Remarks: Although this site has been rather heavily damaged by erosion, the possibility of obtaining some stratified data makes further work here potentially important. Testing and further survey are recommended.

41 SR 74

Location: Bones protrude from the eastern wall of Arroyo los Olmos at a point about 4 km upstream from Damsite 1B.

Damsite: 1B

Elevation: Wall of Arroyo los Olmos - 260 ft (79.3 m)

Description: Bones later identified as modern horse remains, were found *in situ* eroding from the lower terrace of Arroyo los Olmos. It was not determined whether the deposit containing the bones is of sufficient age to be of historical interest.

Type of Site: Buried

Soil: Buried terrace

Environmental Characteristics: Not applicable

Interpretation: The geology of the site is not understood. The presence of a few flakes, chunks, and other artifacts within the same deposit as the bones, further complicates the situation.

Reported by: UTSA Center for Archaeological Research

Remarks: This site is typical of many in the arroyo bottoms. Bones of various kinds, usually horse, are commonly found at similar sites in possible association with lithic artifacts. Further work should be done at these sites to determine the exact nature of this apparent relationship. Exploratory excavations and sectioning are recommended.

41 SR 75

Location: This site occupies most of the NE portion of a high hill overlooking Arroyo los Olmos from the west. The hill lies approximately 2.5 km north of the centerline of damsite 1B.

Damsite: 1B

Elevation: 290 ft (88.4 m)

Description: Occupational debris is eroding from an area of 200 - 250 square meters on the northeast portion of the hill. Material is exposed primarily in most severely eroded areas where grass cover is absent. Burnt rock, snail shells, and chipped lithic material are characteristic.

Type of Site: Bower, open camp

Soil: Zapata soils

Environmental Characteristics: Shallow Ridge Range Site: guajillo, cenizo, ebony, wild persimmon, mesquite, yucca, *opuntia*.

Interpretation: This site seems to have been occupied by fairly large groups for relatively long periods, perhaps on a seasonal basis.

Reported by: UTSA Center for Archaeological Research

Remarks: Because of the rather unique and somewhat interesting location of this site in relation to the surrounding environment, and also because of the promise of some stratigraphic data, further work at this site is important. Additional survey and initial testing is recommended.

41 SR 93

Location: This quite extensive site is located about 6 km due north of the western end of Damsite 1B and extends along a terrace of Arroyo los Olmos for about 600 m.

Damsite: 1B

Elevation: 270 ft (82.3 m)

Description: Lithic scatter covers an area of approximately 600 x 50 m parallel to the Arroyo. Small, dry, saline ponds characterize this site.

Type of Site: Gallery, open camp

Soil: Brennan Pine Sandy Loam

Environmental Characteristics: Sandy Loam Range Site: mesquite, cactus, wild persimmon, brush.

Interpretation: Site repeatedly occupied by relatively large groups, probably for extended periods of time. Activities could have conceivably included salt extraction.

Reported by: UTSA Center for Archaeological Research

Remarks: Since this site is one of the most extensive discovered in the course of the present survey, and since it has artifacts that are distinctively different from others found in this survey, further work is needed here. Controlled surface collections and initial testing are recommended.

41 SR 94

Location: Site situated atop high ridge overlooking terraces of Arroyo los Olmos from a point about .5 km east of the arroyo and .5 km south of SR 93.

Damsite: 1B

Elevation: 298 ft (90.8 m)

Description: Severe sheet erosion has stripped away original

upper occupational debris bearing deposits and lowered the artifacts onto a rather hard, erosion-resistant sandy clay floor. Artifacts are scattered over a surface area of approximately 300 x 100 m

Type of Site: Bower, open camp

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gray Sandy Loam Range Site: chapote, yucca, mesquite, ebony, cenizo.

Interpretation: This site is typical of the temporarily occupied, seasonal campsites in this area.

Reported by: UTSA Center for Archaeological Research

Remarks: The site is interesting because it is so typical of the severely eroded, ambiguously defined, open sites characteristic of the area. No further work is recommended.

41 SR 95 (Fig. 2)

Location: East bank of Arroyo los Olmos, about 200 m from present channel on a swale between two stock tanks. Locale lies about halfway between SR 71 and SR 96.

Damsite: 1B

Elevation: 268 ft (81.7 m)

Description: Occupational material is exposed by sheet erosion in upper several centimeters of light brown sandy soil and is deposited on hard sandy clay floor. This site is archetypical for the area except that it seems to have fairly large areas still relatively undisturbed.

Figure 2. *Overview of Site 41 SR 95.* This is a Gallery open campsite in the area of Damsite 1B.

Type of Site: Gallery, open camp

Soil: Montell clay, saline

Environmental Characteristics: Saline Clay Range Site: saladillo, mesquite, tasajillo.

Interpretation: This site may represent repeated seasonal occupation by relatively small groups.

Reported by: UTSA Center for Archaeological Research

Remarks: This is one of the most typical sites of those in the area. In addition, relatively large portions are undisturbed. Therefore, it is recommended that extensive excavations be undertaken at this site.

41 SR 96

Location: Artifacts are exposed here in the bed of Arroyo los Olmos, approximately .5 km SE of SR 93.

Damsite: 1B

Elevation: Bed of Arroyo los Olmos, 270 ft (82.30 m)

Description: Artifacts exposed in area of disconformity between dark gray member containing modern horse and bison and a mottled gray, reworked member, containing mammoth remains.

Type of Site: Buried terrace

Soil: Not applicable

Environmental Characteristics: Not applicable

Interpretation: This site is another example of the anomaly prevailing between bone-bearing deposits in the arroyo bed, and the clustering of artifacts in those same deposits. The association

between these bones and the artifacts is not at all clear.

Reported by: UTSA Center for Archaeological Research

Remarks: This site should be included in an extensive survey of sites in the walls and bed of the Arroyo los Olmos. It is therefore recommended that this site be further explored by means of test excavations.

41 SR 97

Location: This site includes an area of approximately 1.21 ha stretched along the crest and slopes of a ridge paralleling a tributary arroyo of the Arroyo los Olmos about 1 km ENE of the southern end of the centerline of Damsite 7.

Damsite: 7

Elevation: 200 ft (61.0 m)

Description: Lithic artifacts are mingled with gravels throughout an area of about 600 x 200 m. Split cobbles and primary flakes are the dominant artifacts.

Type of Site: Bower, open quarry

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gray Sandy Loam Range Site with heavy gravel outcrop (Reynosa Formation): mesquite, cactus, and grass clumps.

Interpretation: Judging from the kind of lithic material, it is clear this was a quarry area, probably temporarily occupied.

Reported by: UTSA Center for Archaeological Research

Remarks: The site would be interesting as part of a comprehensive study of prehistoric stone quarries in the area. Otherwise, no further work is recommended.

41 SR 98

Location: This site is part of the northern bank of a small tributary about 1.5 km NE of the centerline of Damsite 7.

Damsite: 7

Elevation: 200 ft (61.0 m)

Description: Lithic materials exposed in an area of 100 x 20 m with the long axis parallel to small tributary.

Type of Site: Gallery, open camp

Soil: Loam bordered by Copita Fine Sandy Loam

Environmental Characteristics: Ramadero Range Site; Gray Sandy Loam Range Site; Reynosa Gravels; mesquite and cactus.

Interpretation: This represents another quarry/temporary occupation site.

Reported by: UTSA Center for Archaeological Research

Remarks: This site might be included in a study of prehistoric quarries in the area. If it is not, no further work is recommended here.

41 SR 99

Location: This site is located in the northeastern portion of the proposed reservoir for Damsite 7. It is situated mainly along a

badly eroded side arroyo which empties into the major arroyo of Damsite 7.

Damsite: 7

Elevation: 210 ft (64.0 m)

Description: Site extends one km along a badly eroded arroyo. Great quantities of chipped stone material are found throughout the area. Desert pavement covers much of the immediate area.

Type of Site: Gallery, open camp

Soil: Copita Fine Sandy Loam/Ramadero Loam

Environmental Characteristics: Gray Sandy Loam Range Site-Ramadero Range Site: Reynosa gravels; mesquite, cactus.

Interpretation: This site evidently represents repeated occupations, probably by relatively small groups.

Reported by: UTSA Center for Archaeological Research

Remarks: The heavy concentration of lithic debris and debitage at this site is a little surprising in view of the relative paucity of finished tools. Although the site is badly damaged by erosion, further work is needed here. An intensive controlled surface collection is recommended for this site.

41 SR 100

Location: Near the north end of centerline of Damsite 7 where two roads cross, great quantities of lithic artifacts are exposed in roads and eroded areas.

Damsite: 7

Elevation: 200 ft (61.0 m)

Description: Lithic materials are exposed over an area of about .81 ha. Platformed remnants of a stratigraphically higher soil indicate a depth of 2-3 cm of culture-bearing light brown sand.

Type of Site: Gallery, open camp

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gray Sandy Loam Range Site: mesquite, cactus, retama and willow

Interpretation: This is apparently a site occupied by small, seasonally nomadic groups.

Reported by: UTSA Center for Archaeological Research

Remarks: Several areas of this site offer the promise of stratigraphic data. Testing and intensive surface collections are recommended here.

41 SR 101

Location: Located just west of the central portion of Damsite 7, this site consists of widely scattered, chipped stone artifacts mingled in a deposit of Reynosa Gravels and overlooking a small tributary creek.

Damsite: 7

Elevation: 210 ft (64.0 m)

Description: Occupational materials extend for a distance of about 40 m along the tributary creek. Otherwise, both size and shape of this site are undetermined.

Type of Site: Bower, open quarry

Soil: Reynosa Gravel

Environmental Characteristics: Gray Sandy Loam Range Site.

Interpretation: This was obviously a quarry site.

Reported by: UTSA Center for Archaeological Research

Remarks: The site requires no further work.

41 SR 102

Location: This site is located approximately 170 m upstream from site SR 100.

Damsite: 7

Elevation: 190 ft (57.9 m)

Description: The site is partly buried under a light tan, sandy soil. Size of the site was not determined, but there is a relatively large amount of chipped stone material.

Type of Site: Bower, open camp

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gray Sandy Loam Range Site: thorny bushes, cenizo, mesquite, cactus, Spanish dagger.

Interpretation: Site represents repeated numerous occupations by relatively small groups.

Reported by: UTSA Center for Archaeological Research

Remarks: The location of this site, the possibility of collecting data from undisturbed strata, and the relative abundance of lithic material make the further investigation of this site obligatory. Preliminary excavations are recommended.

41 SR 103

Location: This site is located about 200 m upstream from SR 102.

Damsite: 7

Elevation: 190 ft (57.9 m)

Description: Lithic artifacts are eroding from a light tan sandy soil. Most of the occupational material appears in gullies and other severely eroded areas where it is washing from the upper 2-3 cm of the upper sandy soil.

Type of Site: Bower, open camp

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gray Sandy Loam Range Site: thorny bushes, cenizo, cactus, Spanish dagger, mesquite.

Interpretation: This site is a typical example of a temporarily occupied, seasonal campsite.

Reported by: UTSA Center for Archaeological Research

Remarks: Since the site shows some promise of yielding stratigraphic data, and since it is located in the area of Damsite 7, testing is recommended.

41 SR 104

Location: This site lies 150 m upstream from SR 103 and is in essentially the same environmental position.

Damsite: 7

Elevation: 190 ft (57.9 m)

Description: Occupational materials are buried beneath one to two cm of a light tan sandy soil. These materials are exposed by gully erosion over an area of about 200 m in diameter.

Type of Site: Bower, open camp

Soil: Copita Fine Sandy Loam

Environmental Characteristics: Gray Sandy Loam Range Site: grasses, mesquite, thorny bushes, cenizo, cactus.

Interpretation: This is another temporarily occupied, seasonal campsite.

Reported by: UTSA Center for Archaeological Research

Remarks: This site is similar to several others in this reservoir, and should be tested with them in a program of sampling to determine the relationship of these sites to one another and the ecology of the area.

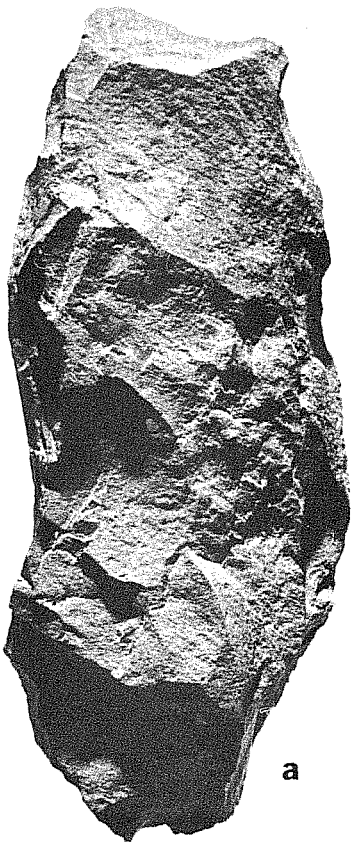
41 SR 105

Location: Located about 0.7 km SSE of the 2+30 turning point of Damsite 7, this site is distinguished by twin arches formed by looping a portion of used automobile tires between the upright ends of cedar posts.

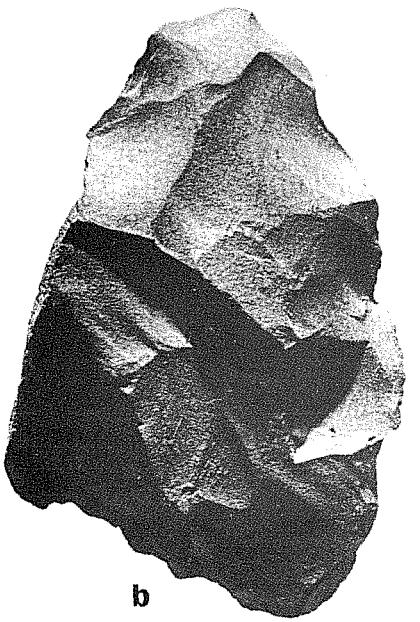
Damsite: Near Damsite 7

Elevation: 200 ft (61.0 m)

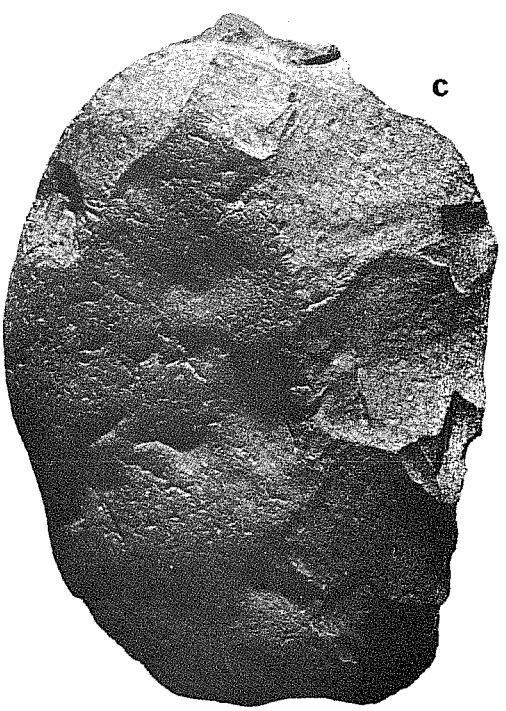
Description: This site lies on edge of uplands overlooking the tributary to be dammed at Damsite 7. Prehistoric lithic material is thinly scattered over the surface of about one acre. Surface is



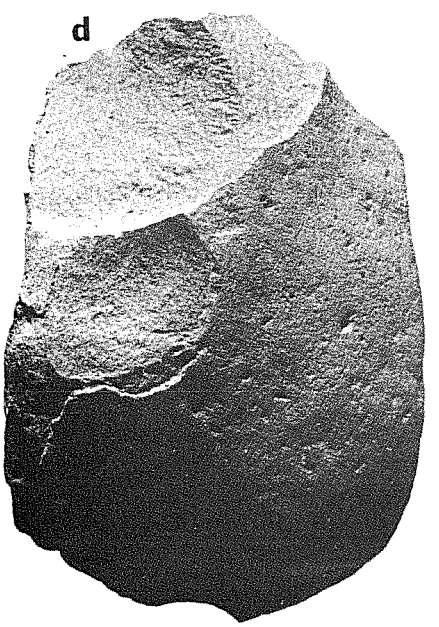
a



b



c



d

cross section with retouch along the thin edge, thus forming a cutting or scraping tool.

25. Uniface, Flake, With Cortex, Prepared Platform, Secondary Flakes, Heavy Retouch, (Fig. 13,d,e),

Varia. All of these specimens have traditionally been classified as scrapers of various kinds, and most probably were used in scraping or cutting tasks.

26. Uniface, Flake, With Cortex, Secondary Flake, Cortex on Dorsal Surface,

Varia. These specimens display varying degrees of retouch. Bulbs of percussion have been totally or partially removed from many.

27. Uniface, Flake, With Cortex, Secondary Flake, Prepared Platform, Light Retouch,

Varia. Four of these pieces are made on blades. The remainder are ordinary flakes with varying degrees of light retouch.

28. Uniface, Flake, With Cortex, Cortex Platform,

Side Edge Retouch. Eight of these specimens are made on blades.

29. Uniface, Flake, With Cortex, Cortex Platform,

Edge Opposite Bulb Retouched.

30. Uniface, Flake, With Cortex, Cortex Platform, (Fig. 13,2,b,c),

Discoidals. Some of these specimens may have functioned as scrapers.

31. Uniface, Flake, With Cortex, Cortex Platform,

Denticulates and Notches. These are similar to the artifacts described in Class 36.

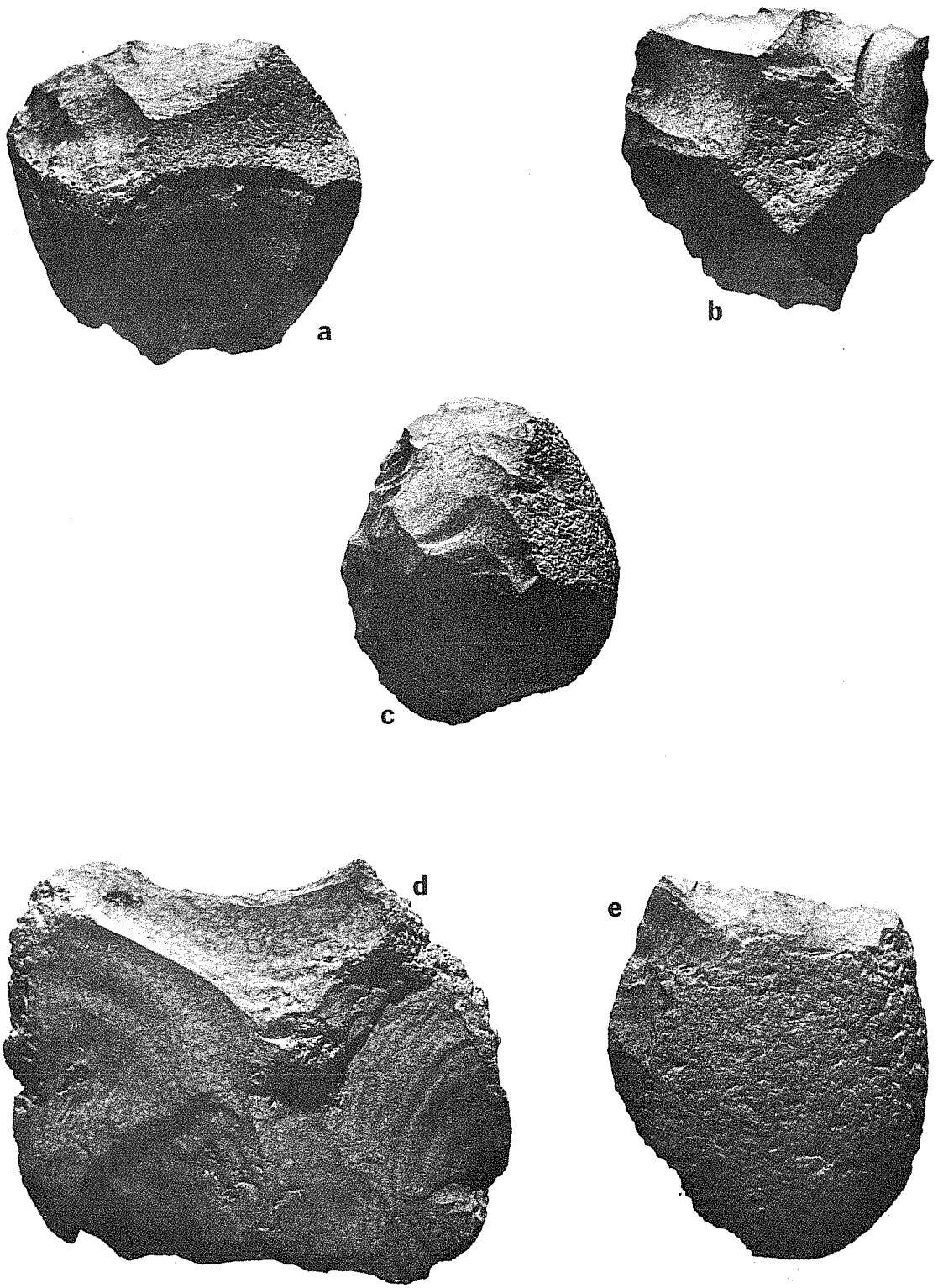


Figure 13. *Unifaces.* a,b, & c, Class 30; d & e, Class 25. (Artifacts are illustrated actual size).

32. Uniface, Flake, With Cortex, Cortex Platform, (Fig.14,c,f,g), *Small Varia.* Scraping and cutting edges are found on these specimens.

33. Uniface, Flake, Without Cortex, *Shaped Varia.* These specimens have been deliberately shaped by various retouch styles. Shapes include Ovate, Discoidal, Subrectangular, etc. No particular shape is prevalent. Most of these pieces would be classed as miscellaneous scrapers and scraper fragments. Three are similar to certain "gouges" from the Falcon area.

34. Uniface, Flake, Without Cortex, Unshaped, (Fig. 14,a), *Varia I.* These pieces are very lightly retouched but in no apparent pattern.

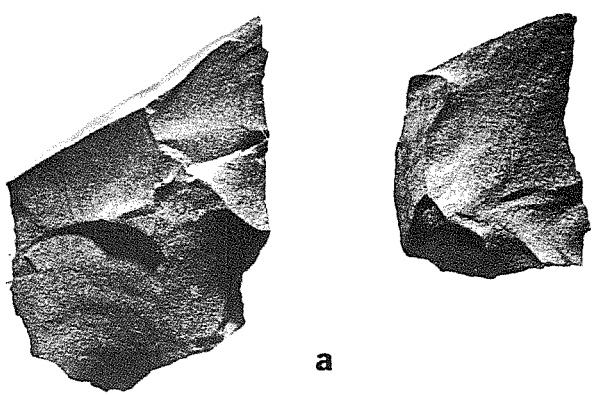
35. Uniface, Flake, Without Cortex, Unshaped, *Varia II.* These specimens all bear edge retouch so slight that it may be the result of either use or accident.

36. Uniface, Flake, Without Cortex, (Fig. 14,c,d), *Notches and Denticulates.* All these pieces are completed tools. Thirteen have notches chipped into one edge, while the remainder have denticulated edges.

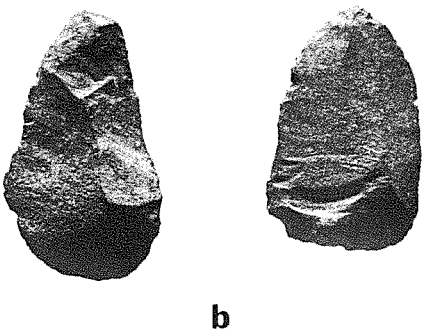
37. Uniface, Flake, Without Cortex, (Fig. 14,b), *End or Edge Retouch.* Six of these are small and scrapers made on "arched" (Concavo-convex) flakes. The remainder are lateral side scrapers made on blades and flakes.

Figure 14. *Unifaces*

a, Class 34; b, Class 37; c, Class 36, notches; d, Class 36, denticulates; e,f, and g, Class 32. (Artifacts are illustrated actual size).



a



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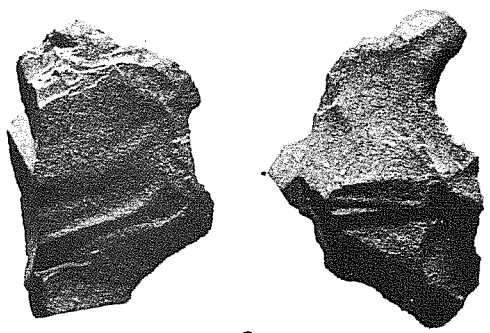

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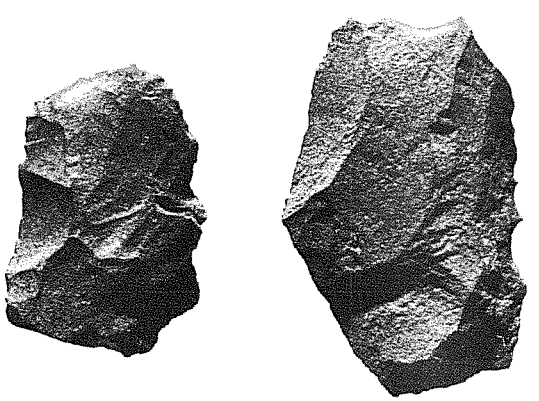

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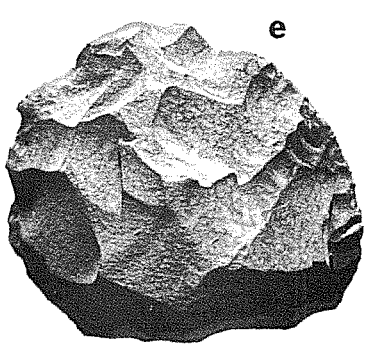
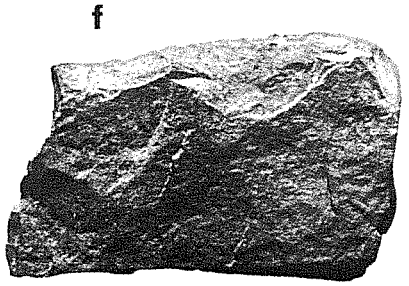


e



f

g

PROVENIENCE TABLE I

BIFACES, UNDER 1.0 CM. THICK

Site Number	Class 1	2	3	4	5	6	7	8	Total
41 SR 65								1	1
66				1				1	2
67		1		1	1	1		6	10
69	1		1					1	3
71	5	1						5	11
73	1		1			1		2	5
75		2	3		1		2	5	13
93	1	2	1			1	3	4	12
97								1	1
98					1	1		1	3
99				1				3	4
100			1			1		2	4
102						1		1	2
105	1	1							2
106								2	2
108		1	1		1		1	4	8
109						1			1
110								1	1
111								1	1
113				1				2	3
115								1	1
116								2	2
118					1			1	2
119						1		2	3
120	1								1
123	1	2		1					4
125	1								1
126	1			1					2
127								2	2
128		1							1
131				1				2	3
132					1				1
Total	13	11	8	7	6	8	6	53	112

PROVENIENCE TABLE II

BIFACES, OVER 1.0 CM. THICK

Site Number	Class													
	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
41 SR 66		1		1						1				3
67		2	2	4	2	2	4	4	1	2	1		1	25
69	1		1	1	2	1				1			1	8
70			1			1	1		1	1				5
71	3	1	1					1				1		7
72	1		1						1	1			1	5
73		1	3	4			1		1	2		1		13
75	2	1	1		5		1		1	1	1		2	15
93		2	2	2	1		1	2	3	1		1	3	18
96						1	1			1			1	4
97	1		1	1	2				1	1	1			8
98													1	1
99	1					1		1					1	4
100	1	1	1	2	3	1			1	2			1	13
102			3	2				2						7
103		1		2										3
104									1				1	2
105		1			1			1		1				4
106		1	1		1									3
108	3	8			3		1	1	2		4	1	1	24
109		1			1									2
110			1			1			1					3
111	1	1		1	1			2	1					7
114						1				1				2
115		1		1								1		3
116		2							1			3		6
117			1		1		1							3
118							1		1			2	1	5
119	1	2		1	2	1	2		2	3	2		5	21
120				1			1							2
121					1									1
123			1		1	2		1	1					6
124			1		1									2

PROVENIENCE TABLE II (cont'd)

Site Number	Class													
	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
41 SR 125	1	2	1		1	1	4			1	1	2	1	15
126	1	1		1	1		2					2		8
127	1	1	1											3
128	1													1
129							1							1
131		2	1			1	1							5
132	1	1	1		1		1			1	2	1	1	10
Total	20	34	26	24	31	14	24	15	20	21	12	15	22	278

PROVENIENCE TABLE III

UNIFACES

Site Number		Class																
		22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	Total
41 SR	65	1	1				1	1			1	1	1			2	2	11
	66						1									1		2
	67	3	2	1	3	2	1	2		1	2		3	1	1	1		23
	68												1		1			2
	69			1		3		2					1	2	6		3	18
	70	2				2	2			1	2					1	1	11
	71					2	3	1			2		1	1	1		1	12
	72		2	1				1	1		1							6
	73	1	2		1	13	5	1				2	3	5	7	2	1	43
	74	1					1											2
	75	1	2	1	1	10	3	2	1	1	1			2	6	3	1	35
	93	2			2	6	2	3				3	2	7	6	5	1	39
	94											1		1				2
	95					1												1
	96	1						1					1		1			4
	97		1	1	1			4		1	1		1	1		1		12
	98			1		2												3
	99	1				2			1	1			2	2	3		1	13
	100		1	2		1	1	1		1			2	2	1			12
	102					1	1							1	2			5
	103														1		2	3
	104					1								1	1			3
	105		1								1		1			1		4
	106							1								1		2
	108	1		1		3	2	1	2				2	4	3		1	20
	109												1					1
	110								1				1	1	2			5
	111	1		1		2												4
	112	1		1														2
	114	1									1					1		3
	115							1	1							1		3
	116	1		1		1			1		2		1		1			8
	117	1				2								3				6

PROVENIENCE TABLE III (cont'd)

Site Number	Class																
	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	Total
41SR 118					2		2	1		1							6
119	1	1	1		2		1	2		2		2	4		1	1	18
120							1				1			1			3
123					1												1
124							1										1
125	1	1			6	1	1	3			1		1			1	16
126		1				1					1						3
127						1						1	1				3
128						1											1
129					1						1			2			4
130		2			3	2	1					2					10
131									1			1					2
132	1		1	2	1		1	1		1		1			1		10
Total	22	17	14	10	70	29	30	15	7	18	11	31	40	46	22	16	398

SUMMARY AND RECOMMENDATIONS

Summary

During August, 1974, personnel of the Center for Archaeological Research at the University of Texas at San Antonio conducted an archaeological survey in the areas to be affected by nine proposed floodwater retarding structures in Starr County, southern Texas. As a result of this survey, a total of 52 archaeological sites was documented.

As we noted earlier, sites are generally found in two distinct topographic locales. *Gallery* sites, of which 27 were found, are situated on stream terraces or in close proximity to a watercourse. *Bower* sites are represented by 23 examples, and are located in the hilly uplands overlooking the gallery sites and the stream channels. Two deeply buried sites, not fitting either category, were also documented.

Of the total number of recorded sites, 36 apparently represent temporary occupations. The nature of these temporary utilizations of site areas is hard to define. Some of the occupations represent repeated short-term visits to preferred campsites, perhaps on a seasonal basis or during the subsistence round; others may have been single episodes devoted to specific hunting and/or gathering functions. Only three sites appear to have been multi-purpose, major occupation localities (base camps). Ten sites can be described as quarries or lithic workshops, and at most of these, there is some evidence of brief occupation. Additionally, there were two enigmatic sites with bone-bearing deposits, and one other site whose function is

completely unknown. It is interesting to observe that the temporary and major occupation sites are rather evenly divided between the Gallery and Bower locales. Quarry sites, however, are primarily in the Bower (upland) areas.

At many of the temporary sites, it is likely that few, if any, diagnostic tools were ever discarded or lost. At larger sites, many of these specimens have apparently been collected by relic hunters. Given the absence of any significant number of diagnostic artifacts and the fact that the region lacks a sound chronology, we have no way at present of determining the age of the vast majority of these sites.* Many of them certainly date from the "Archaic"; no recognizable evidence of late prehistoric ("Neo-American") occupation, represented by arrow points or ceramics, was found. A possible Pleistocene occupation is suggested at site 41 SR 120, a Bower site.

In the past few years, studies of settlement distribution have been made in parts of southern Texas (Newton 1968; Nunley 1971a; Hester, 1971; Shafer and Baxter 1975). The major studies have been in widely separated areas, and the picture that is emerging is one of differing settlement patterns from one area to another. The early, and quite generalized, published statements on the prehistory of

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*Shafer and Baxter (1975) in a recent survey in McMullen and Atascosa Counties, southern Texas, have also remarked on the difficulties of determining the age of their sites since diagnostics had been removed by collectors. The numbers of artifact collectors, and the quantities of artifacts which they have amassed in the southern Texas area, is nothing short of incredible. We feel it is safe to say that in most parts of this region, any attempts to determine site function or temporal placement on the basis of surface collections will be, at the least, terribly biased.

southern Texas have led some archaeologists to think of the regional archaeology as broadly uniform. As the tempo of research increases, it is becoming evident that there is no general settlement distribution scheme which one can apply to the region. Similarly, there are wide areal differences in the lithic tool kits. Rather, it is too be expected that future archaeological studies will reveal many localized settlement patterns and tool kits reflecting aboriginal adaptations to local environments and to the seasonally available water and food resources.

Recommendations

Presented here is a summary of individual recommendations concerning each site contained within the site description portion of this report. The information is summarized in tabular form in which the following data are presented:

Site Number. The number of the site in Starr County is presented without the state and county appendages.

Degree To Be Affected. The number in this column refers to the location of the site with regard to potential damage caused by the proposed modification. The number "1" refers to those sites to be most directly and irrevocably damaged by the proposed work. These sites lie either on or very near the proposed centerline of the various damsites and will be either partially or totally destroyed by construction activities, or they lie in the area of the conservation pool. The number "2" refers to those sites which lie within the 100-year flood pool, while "3" refers to those sites which lie outside the area to be directly 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. The most potentially important sites are given a ranking of "1" whereas the least important are ranked "4".

Intensity. Numbers in this column were obtained by multiplying the degree a site will be affected by its potential importance. The resulting number is an estimate of the order or priority to be given in any subsequent work. The most urgent work would be indicated by relatively low intensity numbers, whereas relatively high intensity numbers would indicate that no further work should be done at that site.

Recommendations. These statements are to be construed as the minimum work recommended at the various sites and not the only work to be done there. Each site will need to be reconsidered as data from it accumulate, and decisions concerning additional work should be made at that time. It will be noted that some recommendations are made for additional work at sites with relatively high intensity numbers. This work should be postponed until work at the sites with low intensity numbers has been completed.

The sites of obvious significance (i.e., those with low intensity numbers) are possible candidates for the National Register of Historic Places. Further work in the project areas may lead to the nomination of these, and possibly other sites to the Register.

Of the total number of archaeological sites listed in Table 4, we believe that 18 warrant further work in the form of test excavation and controlled surface collection, activities which can be termed

"intensive survey". Testing and controlled collection should be undertaken in the coming months, during the period in which the planning for development of the several projects is underway. Intensive survey would permit archaeologists to obtain a more meaningful assessment of these prehistoric resources, and of the impact on them, if any, which might result from reservoir development. The original survey described in the present report had limited objectives and was additionally restricted through time constraints. The survey allowed us to recognize the potential of these 18 sites, but more study is required to properly evaluate them.

In Table 4, five sites are recommended for excavation. Our initial survey has determined that these sites are of particular significance, and that they are probably worthy of nomination to the National Register of Historic Places. However, it may be that some of the 18 sites mentioned above are of similar importance, a fact which could be determined by further field checks. Thus, we are not prepared at this time to offer any firm recommendations (other than a program of test excavation) regarding the five sites proposed for excavation, since further field checks of the sites might lead to modification of such recommendations.

A period of intensive survey should precede any final recommendations regarding adverse impacts of the SCS projects on the archaeological resources of the area. We believe that the results of this intensive survey would also benefit SCS and local planners in their continuing studies on project development.

Such a program of intensive survey would require approximately one month of field work and another one and one-half months of analysis and evaluation. We have prepared a preliminary budgetary estimate of the costs that might be involved in such a program. We believe the field work and analysis would require expenditures along the following lines: salaries of one field archaeologist, one field assistant, and two laboratory assistants; supplies and expenses; travel and per diem; report preparation; staff benefits (at .064% of salaries) and University indirect costs (at 27% of salaries). The total estimated cost would be $6,000.

We do not believe we are presently in a position to provide any viable cost estimates for a full program of mitigation. Certainly, the five sites recommended for excavation in Table 4 might be included in such mitigation activities; it is possible that the findings of the intensive survey would add others to this list.

TABLE IV

SUMMARY OF THE IMPACT OF THE PROPOSED MODIFICATIONS

Site Number	Degree to Be Affected	Potential Importance	Intensity	Recommendations
56	1	3	2	Controlled Collections
65	1	3	3	Testing
66	1	4	4	No Work
67	1	2	2	Excavation
68	2	4	8	No Work
69	2	3	6	Controlled Collections
70	2	3	6	Testing
71	2	4	8	No Work
72	2	4	8	No Work
73	2	3	6	Testing
74	1	3	3	Testing
75	2	3	6	Testing
93	2	1	2	Testing
94	3	4	12	No Work
95	2	1	2	Excavation
96	1	2	2	Testing
97	2	3	6	No Work
98	2	3	6	No Work
99	2	3	6	Controlled Collections
100	1	1	1	Testing

TABLE IV (cont'd)

Site Number	Degree to Be Affected	Potential Importance	Intensity	Recommendations
101	2	4	8	No Work
102	2	1	2	Excavation
103	2	2	4	Testing
104	2	2	4	Testing
105	3	3	9	No Work
106	3	3	9	No Work
107	1	4	4	Controlled Collections
108	3	1	3	Excavation
109	2	3	6	No Work
110	2	3	6	No Work
111	2	3	6	No Work
112	2	4	8	No Work
113	2	4	8	No Work
114	2	3	6	Controlled Collections
115	2	4	8	No Work
116	1	4	4	No Work
117	1	4	4	No Work
118	1	2	2	Excavation
119	2	2	4	Testing
120	2	2	4	No Work
121	2	4	8	No Work
122	2	3	6	No Work

TABLE IV(cont'd)

Site Number	Degree to Be Affected	Potential Importance	Intensity	Recommendations
123	3	3	9	No Work
124	2	4	8	No Work
125	2	2	4	Testing
126	2	2	4	Testing
127	2	3	6	No Work
128	2	3	6	No Work
129	2	3	6	No Work
130	2	3	6	No Work
131	3	4	12	No Work
132	2	3	6	No Work

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BTAPS	Bulletin, Texas Archeological and Paleontological Society (now Texas Archeological Society)
PA	Plains Anthropologist
TJS	Texas Journal of Science

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extensive, and buried under 5-10 cm of alluvium. The site may have been a temporary Gallery open camp.

41 SR 145. This is a Bower open camp site located on a hillslope overlooking the stream valley. The survey team observed an extensive occupational debris in the form of snails (often occurring in clusters or concentrations), burned rocks, flakes of chert and petrified wood, fragmentary bifacial and unifacial tools, and fragments of grinding implements. An intensive surface collection was made of the site. It is at least 100 m in diameter and extends into a rootplowed field.

41 SR 146. The site is on both sides of a narrow arroyo in the west central part of the proposed 100 year flood pool. The area has been rootplowed, exposing a hearth (roughly 40 cm in diameter), a number of flakes, a core, and a piece of bifacially worked quartzite. The dimensions of the site are unknown.

RECOMMENDATIONS

It would appear that site 41 SR 145 is above the conservation pool level, but is within the 100 year flood pool. It is badly eroded and the intensive collection by the recent survey team should be sufficient. Site 41 SR 146 has already been badly disturbed by rootplowing and no further work is recommended. Site 41 SR 144 is very near the proposed dam location and will

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