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Center for Archaeological Research

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Archaeological Monitoring of a Sidewalk
Construction Project in Landa Park,
New Braunfels, Comal County, Texas

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Principal Investigators

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Abstract

In February 1996, the Center for Archaeological Research of The University of Texas at San Antonio conducted monitoring for the construction of a handicap ramp in Landa Park, New Braunfels, Comal County, Texas. The work—required by the Texas Historic Commission—was performed under contract with the city of New Braunfels Parks and Recreation Department. The excavation of the footings for the handicap ramp covered an area roughly 2 x 5 m and was less than 70 cm in depth. Over 2,600 prehistoric artifacts were uncovered including bone, fire-cracked rock, mussel shell, numerous platform and nonplatform flakes, cores, unifaces, several bifaces, and diagnostic projectile points. The diagnostic artifacts included Gower, Uvalde, Frio, Ellis, and Marcos projectile points as well as a Clear Fork biface and two Guadalupe bifaces. These diagnostics indicate at least three temporal assignments ranging from the Early Archaic to the Late Transitional Archaic periods. The artifacts were found in good archaeological and geological contexts despite the fact that the project area was in the midst of a heavily developed recreation area. The site has been assigned trinomial 41CM221.

Contents

Abstract	i
List of Figures	iii
List of Tables	iii
Acknowledgments	iv
Introduction	1
Project Setting	3
Methods	3
Fieldwork	3
Artifact Classification	3
Results	4
Geology, by C. Britt Bousman	4
Monitoring and Controlled Collection	4
Summary	7
References Cited	8

Figures

1. Project location	1
2. Landa Park, with project location indicated	2
3. Diagnostic artifacts	6

Tables

1. Geological Profile South Wall Description	4
2. Artifacts by Provenience	5

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Introduction

In February 1996, the Center for Archaeological Research (CAR) of The University of Texas at San Antonio conducted archaeological investigations in Landa Park, Comal County, Texas, for the city of New Braunfels (Figure 1). The Texas

Historical Commission did not require a Texas Antiquities Committee permit. CAR was responsible for monitoring excavations necessary for the construction of a handicap ramp in the immediate area of the boathouse in Landa Park (Figure 2). This report describes the results of those monitoring operations.

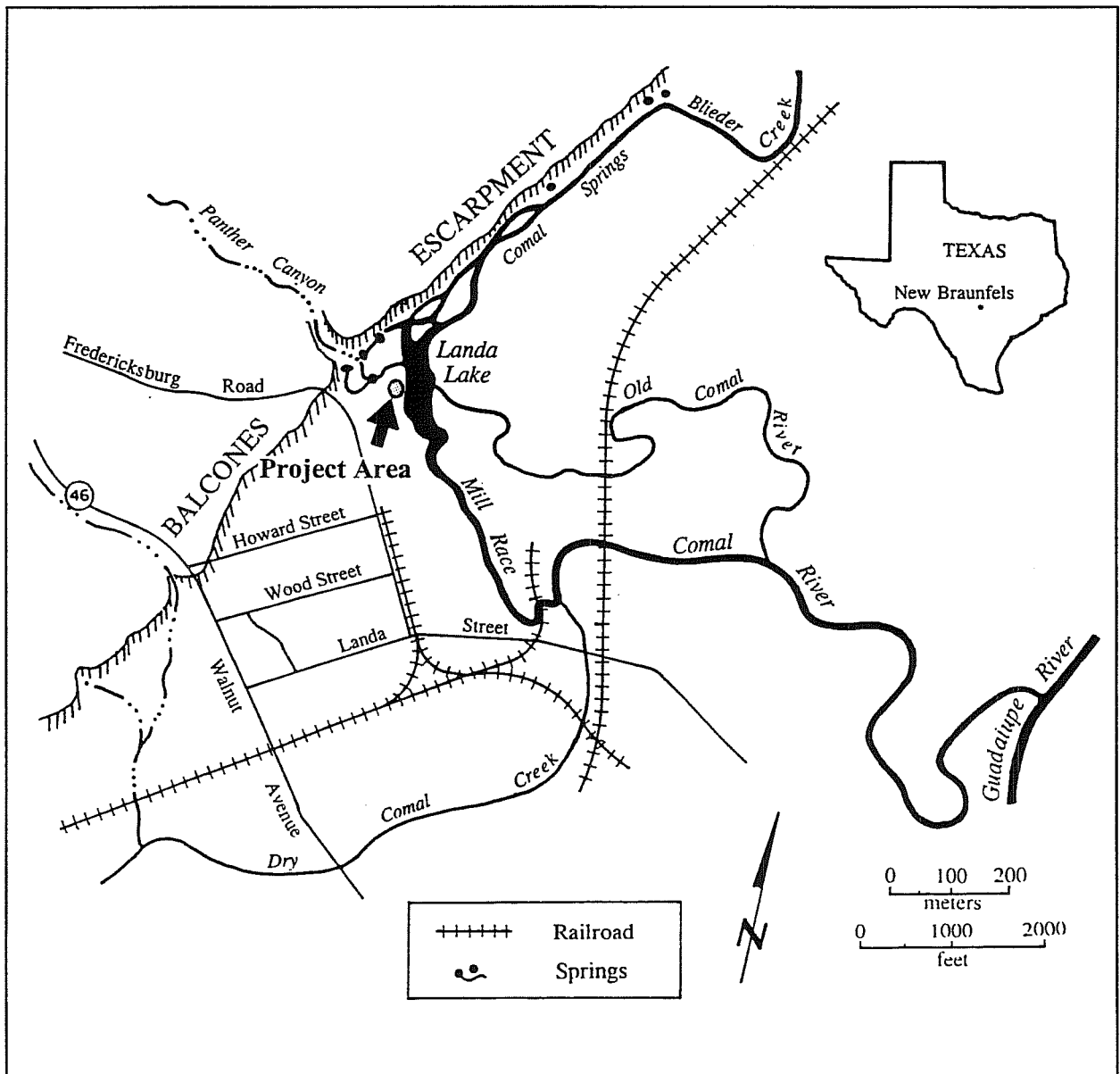


Figure 1. Project location.

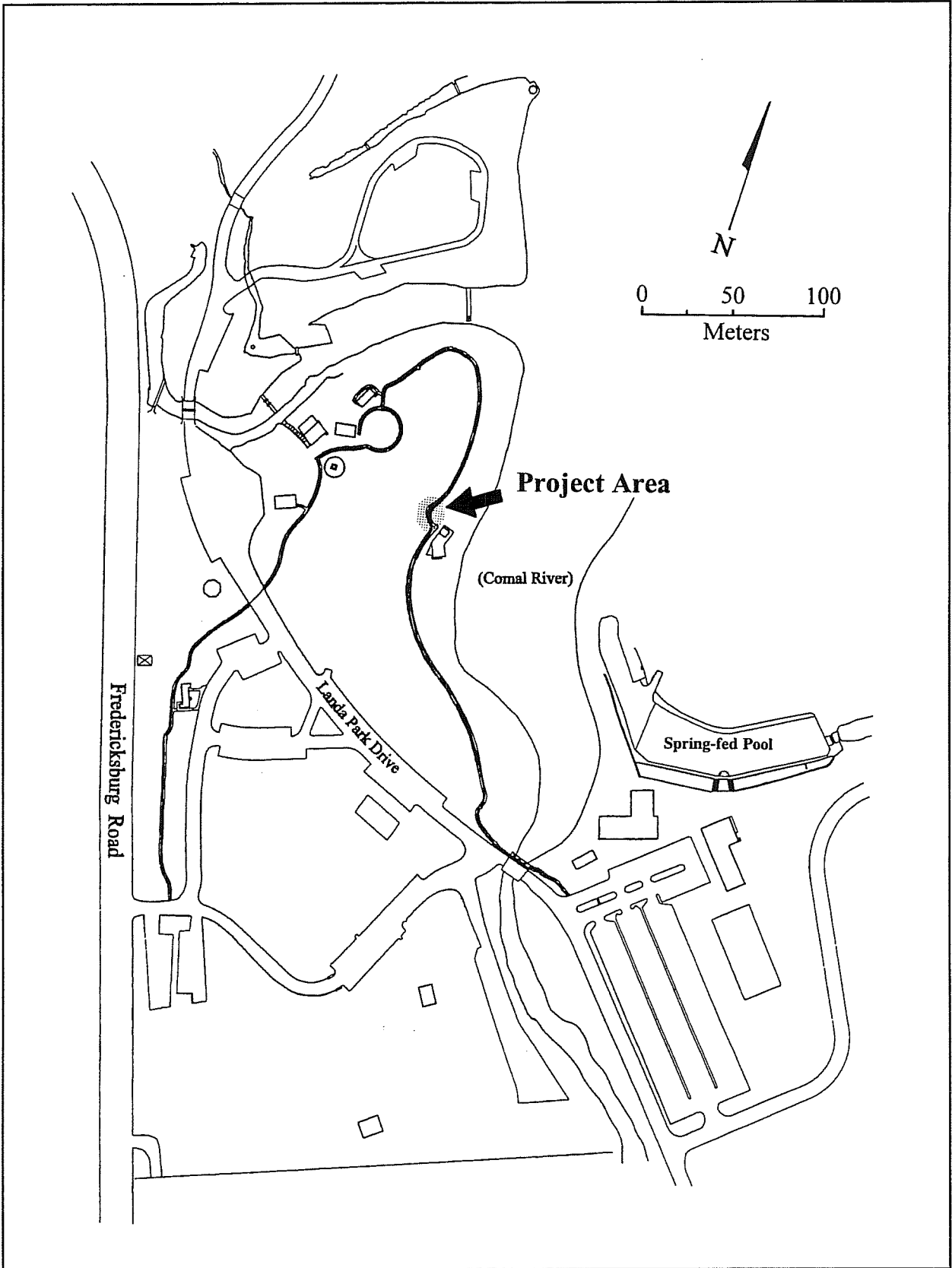


Figure 2. Landa Park, with project location indicated.

Project Setting

The project area lies on the slope of a terrace, just west of Landa Lake and approximately 100 m east of the Balcones Escarpment. The lake appears to be the source of the Comal River, but is actually artificial, formed by the construction of a dam in the 1850s. The dam effectively pooled the flow from numerous springs in the immediate vicinity (Bailey and Bousman 1989:7). The springs themselves result from ground water outflowing through the Lower Cretaceous limestones of the Edwards Plateau and rising along fissures in the Balcones fault zone (Brune 1981:129).

The Balcones Escarpment marks the transition between the Edwards Plateau and the Blackland Prairie, as well as the convergence of numerous plant and animal species (Diamond et al. 1987). Ferdinand Roemer, one of the earliest chroniclers of the region, noted palmetto, red cedar, cypress, elm, mesquite, and oak trees (Roemer 1935). This is consistent with later accounts (Brune 1981; Haas 1968), particularly Bailey's. The latter describes the vegetation as a combination of southern Blackland Prairie and Mesquite-Chaparral Savanna (Bailey 1986:4).

The rich environment described above created an abundant and varied resource base as well as a predictable source of water for both prehistoric and historic peoples. Early historic accounts remark on the numbers of native peoples and the suitability of the area for colonization (Brune 1981; Roemer 1935). The archaeological record further strengthens these accounts. Excavations conducted by The University of Texas in 1936 by J. E. Pearce, A. T. Jackson, and A. M. Woolsey revealed a number of prehistoric burials less than 300 m from the project area (Pearce et al. 1936). Buried and surface deposits of burned rocks, mussel shell, and lithic artifacts occur with frequency throughout Landa Park and the immediate vicinity (Bailey 1986; Smith 1985). In addition, investigations at other spring sites along the Balcones Escarpment have revealed lithic and faunal material consistent with some of the earliest

human activity in North America (Ricklis et al. 1991; Shiner 1983; Takac et al. 1992).

Methods

Fieldwork

The proposed construction called for making a cut approximately 2 m wide, 45 cm deep, and 5 m long. Originally the excavation was to be conducted by hand with personnel provided by the city; however, the construction crew conducted the excavation with a Bobcat mechanical scraper.

Two CAR archaeologists monitored the cut, which was made using a Bobcat with a bladed bucket. One person monitored the cutting while the other sifted the backdirt with the assistance of park personnel. When possible, artifacts were collected and sorted according to distinguished layers (see discussions below). After the monitoring was concluded, the construction crew apparently returned without notifying the archaeologists and excavated the cut at least an additional five meters in length and to an approximately depth of 70 cm. The greatest depth occurred at the point where the terrace began sloping to the shoreline. Artifacts for this second unmonitored excavation were not available for analysis.

Artifact Classification

All projectile points were compared to the typological definitions and temporal assignments in Turner and Hester (1993). The Guadalupe tools were identified and classified using Brown (1985). The adzes were identified based on wear patterns following Semenov (1970:122–130). Nondiagnostic artifacts were classified as platform or nonplatform flakes, shatter, core, uniface, biface, heat-damaged chert, fire-cracked rock, mussel shell, and bone (Whitaker 1994).

Results

Geology

C. Britt Bousman

A single profile was described on the south wall of the excavation (Table 1). The deposits and topographic situation indicate that an eroded and possibly disturbed surface soil (Zones 1 and 2) sits on a Cambrian B-horizon that developed on a gravel deposit. The gravel zones (Zones 3 and 4) are in situ stream deposits and contain abundant archaeological materials. These zones have been altered by pedogenic processes to form B-horizons. Zones 3 and 4 appear to have been deposited as channel gravels and overlying overbank alluvium, then later altered by pedogenesis and bioturbation. It is not evident that the gravels were deposited by the Comal River rather than a side tributary, but this is a likely possibility. Bedrock was not observed and the thickness of these alluvial deposits is unknown;

however, abundant archaeological materials were observed throughout the intact alluvial deposits and these artifacts appear to be in good stratigraphic context. The depth of the archaeological materials is unknown. Approximately 10 m to the north along the bank of Landa Lake, at the same and slightly higher elevation as the described profile, is an indurated petrocalcrete gravel deposit. This deposit is much older than the alluvial sediments that contain prehistoric artifacts and it appears that a cut-and-fill sequence is marked by these two sedimentary units.

Monitoring and Controlled Collection

A total of 2,629 artifacts was recovered and classified according to depth and artifact type (Table 2). The artifacts tended to cluster at three depths and were assigned to levels based on provenience. The three levels were defined as 1) general scrapings: 0–13 cm, surface and Zone 1

Table 1. Geological Profile South Wall Description

Zone	Depth (cm)	Description
1	0–13	Grayish brown (10YR 5/2) clay loam with limestone granules; fine subangular blocky structure; few large limestone clasts; abundant roots and rootlets; few artifacts; clear, smooth, and sloping boundary that follows the surface slope; possibly fill or disturbed soil.
2	13–34	Very dark gray (10YR 3/1) loamy clay, with common limestone granules and small snail shell fragments; very abundant chert artifacts; rare bone; few roots and rootlets; moderate subangular blocky structure; few limestone pebbles, some burned; clear, smooth and sloping lower boundary; A-horizon.
3	34–48	Reddish brown (5YR 5/4) loamy clay; abundant fine-medium limestone stream-worn gravels; abundant snail shells and fragments; abundant chert artifacts; 3–5 cm diameter limestone pebbles; gradual smooth-sloping lower boundary that cross cuts gravel lenses; B1-horizon.
4	48–67+	Strong brown (7.5YR 5/6) clay; abundant snail shell and chert artifacts; limestone gravels slightly smaller than previous zone; lower boundary not observable; B2-horizon.

Table 2. Artifacts by Provenience

Artifact Type	General Scrapings		Upper Level		Lower Level		Total	
	n	%	n	%	n	%	n	%
platform flake	186	49.9	412	52.7	892	60.2	1490	56.5
nonplatform flake	73	19.6	161	20.6	237	16.0	471	17.9
shatter	1	0.3	15	1.9	42	2.8	58	2.2
cores	4	1.1	8	1.0	39	2.6	51	1.9
unifaces	0	0.0	3	0.4	16	1.1	19	0.7
bifaces	8	2.1	24	3.1	73	4.9	105	4.0
projectile points	2	0.5	1	0.1	5	0.3	8	0.3
heat-damaged chert	40	10.7	98	12.5	138	9.3	276	10.5
fire-cracked rock	40	10.7	35	4.5	18	1.2	93	3.5
mussel shell	17	4.6	14	1.8	14	0.9	45	1.7
bone	1	0.3	9	1.2	6	0.4	16	0.6
other	1	0.3	2	0.3	1	0.1	4	0.2
Total	373		782		1481		2636	

sediments; 2) upper level: 13–34 cm, Zone 2; and 3) lower level: 34–67+ cm, Zones 3 and 4. The levels were characterized by abundant concentrations of artifacts occurring in horizontal lenses at the depths given above. The upper and lower levels appeared to be in good geological and archaeological contexts. However, because the sediments were excavated with a Bobcat, the stratigraphic assignment of artifacts in the general scrapings level is tentative at best; this level may contain material from the other two.

Lithic material, particularly flakes, comprises the vast majority of the artifact collection. Platform flakes constitute 56.5 percent of all material collected, and nonplatform flakes make up 17.9 percent. The amount of shatter from all levels comprises just 2.2 percent. The relatively high frequency of bifaces (4.0 percent) compared to cores (1.9 percent), unifaces (0.7 percent), projectile points (0.3 percent), and other artifacts (0.2 percent) suggests an emphasis on lithic

reduction and tool production. The third-highest frequency is heat-damaged chert (10.5 percent), which was probably not related to the manufacturing process of stone tools. The low frequencies of fire-cracked rock (3.5 percent), mussel shell (1.7 percent), and bone (0.6 percent) relative to chert material tends to negate the idea of this site being the focus of food preparation, although these frequencies are not unusual for campsites in Central Texas. In terms of counts, the lower level had roughly twice as much cultural material as the upper level, and the upper level had roughly twice that of the general scrapings level. When viewed as percentages, the artifact frequencies between the three levels tend to be very close, within 10 percent (see Table 2). However, more fire-cracked rock and mussel shell were found in the general scrapings and upper levels than in the lower level.

The lower level also has higher frequencies in virtually every chert artifact type except non-

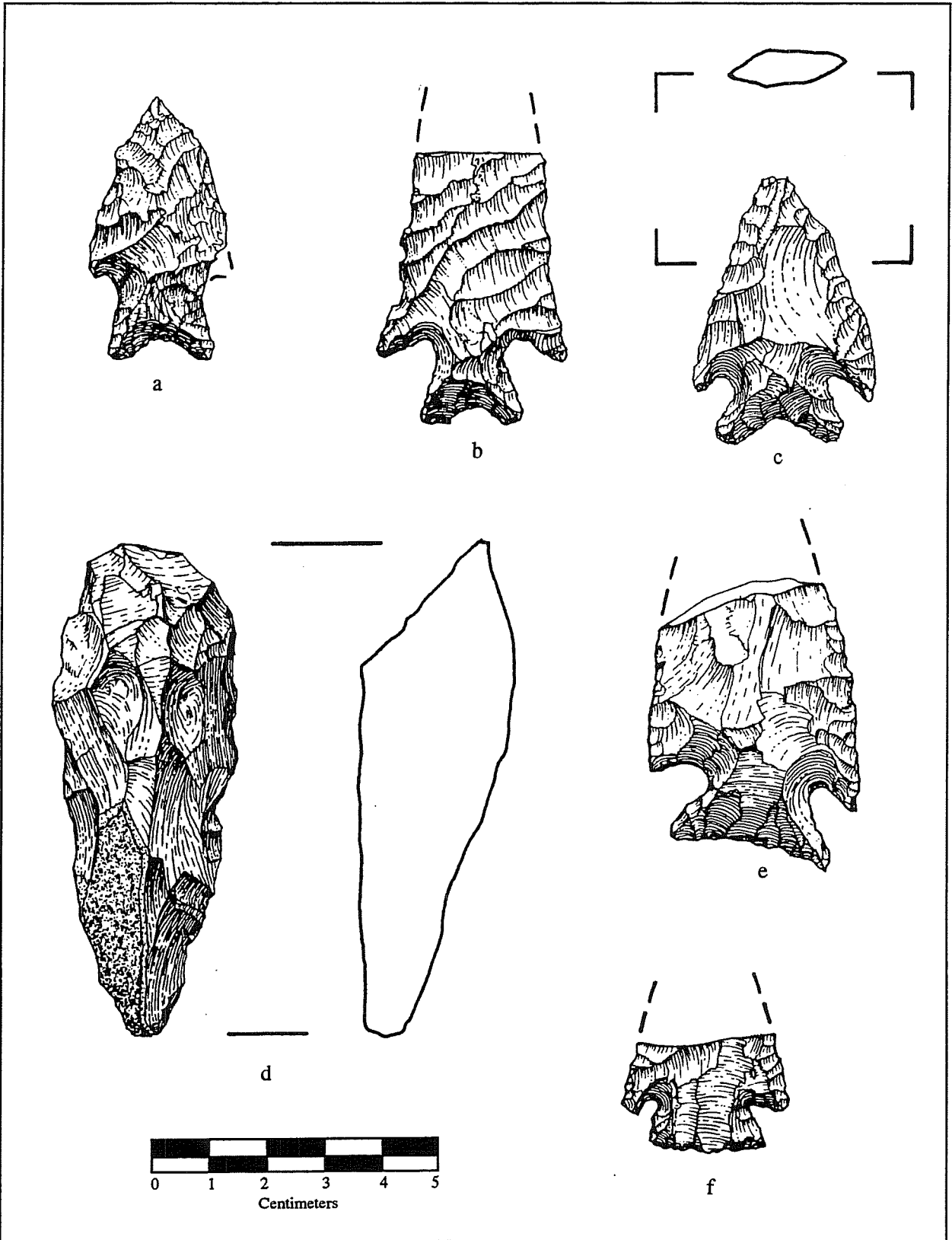


Figure 3. *Diagnostic artifacts.* a- Gower point; b- Uvalde point; c- Frio point; d- Guadalupe biface; e- Marcos point; f- Ellis point.

platform flakes, projectile points, and heat-damaged chert. This information suggests a gradual shift in both the frequency and type of activity at the site through time.

Based on the diagnostic artifacts, the three levels have been tentatively assigned to chronological periods. The lower level was assigned to the Early Archaic based on the recovery of one Gower and one Uvalde projectile point (Figure 3a and b), one Guadalupe biface, and two adze bifaces (one is a Clear Fork biface) (Turner and Hester 1993). The upper level was assigned the Middle to Late Archaic based on one Frio projectile point and one Guadalupe biface (Figure 3c and d) (Turner and Hester 1993). Finally, the general scrapings level was assigned the Late to Transitional Archaic period based on the recovery of one Ellis and one Marcos projectile point (Figure 3e and f) (Turner and Hester 1993).

Summary

This monitoring and collecting operation provided evidence for the existence of intact prehistoric cultural deposits in Landa Park. While previous investigations support the above statement, this particular project emphasized two points. First, extremely dense concentrations of cultural materials occur in intact geologic contexts, even in heavily developed areas of the park. Furthermore, this site has multiple occupations spanning thousands of years from the Early Archaic to Late Archaic periods. In light of these facts, 41CM221 is clearly significant and is recommended for nomination to the National Register of Historic Places.

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