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Test Excavations at Sites 41LK284 and 41LK294, FM 1042 at the Nueces River, Live Oak County, Texas

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Live Oak County, Texas

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TEST EXCAVATIONS AT SITES 41LK284 AND
41LK294, FM 1042 AT THE NUECES RIVER,
LIVE OAK COUNTY, TEXAS

BY
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ABSTRACT

The planned extension of FM 1042 in Live Oak County includes a crossing at the Nueces River. Phase II archaeological testing of two sites (41LK284 and 41LK294) on the north and south terraces of the Nueces River was undertaken by TxDOT archaeologists, prior to construction, to determine eligibility for inclusion in the National Register of Historic Places (in accordance with 36 CFR Part 800) and State Landmark status. Portions of both sites are located within the right-of-way. Surveys conducted in 1988 and 1992 recorded a light scatter of mussel shell and chert flakes on the surface of both sites. Cultural debris found in the roadcut was reported at depths of up to 1 m at 41LK284 and up to .5 m at 41LK294. A possible Matamoros point fragment and an end-scraper were also recovered from the surface of 41LK294, suggesting a Late Prehistoric occupation. Results of testing indicate that the portions of both sites within the right-of-way are disturbed and do not meet the criteria for designation as a State Archaeological Landmark or for listing on the National Register of Historic Places.

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INTRODUCTION

Due to the planned conversion of FM 1042 from a County road into a state facility, and the construction of a new bridge over the Nueces River in west-central Live Oak County, Texas, an archaeological survey of the new right-of-way was conducted in 1988 and 1992. Two open campsites, 41LK284 and 41LK294, were recorded on the south and north terrace, respectively, of the Nueces River, partially within the proposed right-of-way. Significance testing was initiated before road realignment but after bridge construction. Initial surveys indicated that the sites had potential depth to them, as seen in the profiles of the roadcuts. The alignment, at its farthest extent, will require approximately 50 feet of right-of-way across each site. This does not include the 50 feet of existing county road and right-of-way. Phase II archaeological testing was conducted during the weeks of May 24-June 4, 1993, in order to determine cultural context, and the horizontal and vertical boundaries of the sites within the right-of-way.

Site 41LK284, on the south (right) terrace approximately 100 meters from the Nueces River, contains a prehistoric cultural zone of an undetermined time period. No diagnostic material was recovered from this site, which has been heavily disturbed by pipeline construction. Pipeline installation included an overburden of dirt piled on top of the construction area which runs through 41LK284 at the proposed right-of-way. The overburden was procured from a nearby dry lake bed and consisted of black gumbo clay. Backhoe trenches and test unit profiles confirmed disturbances within the right-of-way. No features were observed.

Some disturbance also occurred at 41LK294 where cultivation and the construction of a stock tank, windmill, and an unimproved road have impacted the northern end of the site. The site is approximately 300 meters from the Nueces River, on its north (left) terrace. Artifacts found on the surface of this site (a possible Matamoros point fragment and an end-scraper made of petrified wood) indicate a possible Late Prehistoric component.

ENVIRONMENTAL SETTING

Sites 41LK284 and 41LK294 are located on the south and north banks, respectively, of the Nueces River in Live Oak County, in south-central Texas (Fig. 1). The sites are a short distance south of Choke Canyon Reservoir. As a result of the construction of the dam at Choke Canyon, recent archaeological and environmental investigations have revealed much about the area. The natural setting of this region has been detailed in Lynn, Fox, and O'Malley (1977), Thoms, Montgomery, and Portnoy (1981), Hall, Black, and Graves (1982), and Hall, Hester, and Black (1986), among others. A brief description will be given here to avoid repetition.

The project area is 9.65 km upstream from the Nueces-Frio River confluence, and 10.8 km west of the town of Three Rivers where the Atascosa River joins the Nueces and Frio. The general trend of these rivers, and all major rivers on the Texas coastal plain, is southeasterly. As they approach the project area, the Nueces River, and to a lesser extent, the Frio River, head northeastward against the prevailing regional pattern. This divergence is caused by a line of low-lying hills trending northeast to southwest down the middle of the coastal plain, roughly parallel to the shore of the Gulf. These hills are referred to as the Oakville-Bordas Escarpment and are composed of tuffaceous clays, volcanic conglomerates, sandstone, tuff, and volcanic ash (Sellards, Adkins, and Plummer 1966) that form the line of low-lying hills. These hills change the southeasterly flow of the rivers into a northeasterly one, converging into a single channel. At the escarpment, the Nueces River collects drainage from 17,000 square miles of southwestern Texas before it returns to the regional pattern and continues 90 miles southeast to Nueces Bay on the Gulf Coast (Hall, Black, Graves 1982). For Native Americans, the lithic deposits exposed in the escarpment provided ready access to lithic resources such as sandstone, siltstone, and silicified wood.

The project area is located on the Rio Grande Plain (Inglis 1964), a subdivision of the West Gulf Coastal Plain physiographic province. The region is generally level to gently rolling with occasional scattered lines of hills (Highley 1986). Soils in this area belong in the Sinton-Aransas-Odem association, which are deep, nearly level, moderate to very slowly permeable, well to poorly drained bottomland soils that have loamy to clayey surface layers and subsoils (Dept. of Agriculture 1973). Soil types in the project area consist of gravel, sand, silt, and clay, most deposited alluvially (Groat 1976).

The climate of the region is described as semiarid or subtropical, with rain averaging 23 inches a year. The area is subject to the effects of hurricanes from August through October, when rainfall rates of from 25 to 35 inches in a five-day period have been recorded (Grozier et al. 1968). Russel (1945) describes the region as an area of mesothermal steppe climate, with the dry season occurring in winter. Brief, mild winters follow the long hot summers, while most rainfall occurs in late spring (May) and early fall (September; Carr 1967). Winds blow from the southeast during most of the year, with short-term bursts of cold air blowing in from the north marking "northers" during the winter. Temperatures average 74°F through the year with extremes of 20°F in winter to 105°F in the summer (Hall, Black, Graves 1982).

Both site 41LK284 and 41LK294 fall within Blair's Tamaulipan Biotic Province. This region is typified by a semiarid and megathermal climate (Thorntwaite 1948). The area is generally a mesquite and desert-grass savanna characterized by uplands dominated by mesquite and other thorn brush, native grasses, and prickly pear, and by river and tributary floodplains which often are covered with mesquite. Prickly pear tunas played an important role in the seasonal movements of Historic Native Americans. Oak, ash, elm, hackberry, and pecan grow in riparian zones (Lynn, Fox, and O'Malley 1977:6). At least 61 species of mammals inhabit

this province, including badger, bobcat, coyote, white-tailed deer, cottontail rabbit, jackrabbit, squirrels, raccoon, opossum, javelina, and skunk. Antelope, bear, and bison, no longer indigenous to the area, were also available to prehistoric man (Hester 1975:17-18, 1980:36). Wild turkey, dove, bobwhite, quail, hawk, duck, crane, and owl are also present, as well as a variety of turtles, snakes, lizards, and fish, especially several species of catfish, drum, and gar. An assortment of freshwater mussel can be found in the nearby river.

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PREVIOUS ARCHAEOLOGICAL RESEARCH

Since the 1960's, archaeological investigations and reports in southern interior Texas have increased at a rapid pace. In particular, several large scale surveys were conducted in the Choke Canyon area, north of sites 41LK284 and 41LK294. These studies were conducted in the mid-to late-1970's by The University of Texas at San Antonio and other agencies sub-contracted by them, prior to the construction of the Choke Canyon reservoir. Results from these surveys led to the testing and excavations of particular sites, which were later reported in several volumes (Lynn, Fox, and O'Malley 1977; Jurgens 1980; and see Hall, Black, and Graves 1982:2 for a more detailed listing).

According to Hall, Black, and Graves (1982:466-468) quarry/workshop sites at Choke Canyon are not very differentiated from other types of sites, possibly due to the abundance of lithic materials in all areas. Several sites in the uplands were noted to have hearth features and high concentrations of artifacts, suggesting generalized, base-camp activities. Similar patterns were found by Shafer and Baxter (1975:68-74) in McMullen and Atascosa Counties; they theorized that during times of relatively high rainfall, upland drainages would temporarily fill, allowing encampments away from the main streams and springs. Although a large number of Archaic sites were found in Choke Canyon, compared to a few Paleoindian sites, McGraw (1991) suggests that Paleoindian sites are more common in the area surrounding Choke Canyon.

Extensive investigations have been conducted at 41LK28, the Loma Sandia site (Taylor and Highley n.d.), which was sponsored by The Texas Department of Transportation (TxDOT). This site held substantial cultural deposits, including an Archaic cemetery with evidence of elaborate burial rites. In addition, TxDOT also tested 41LK269, an open campsite on the Nueces River, east of George West (Goode 1986). Wormser (1991) tested a similar site along Ramirena Creek (41LK288); and a number of sites were examined in northeast Live Oak County, including several city blocks in the town of Oakville (Patterson 1987).

Mining activity, especially uranium mining, and public works projects, such as the county airport, a regional park, and flood control projects, have prompted several archaeological surveys and tests (Creel et al. 1979; Robinson 1983; Snavely 1984; Warren 1983, 1985; Mallouf 1975, 1977; Prewitt and Scott 1977; Pliska 1980).

Chronology

Comprehensive studies, such as the Choke Canyon Series by UTSA, have led to the establishment of a chronological framework for the region, based on the Suhm, Krieger, and Jelks (1954) categories of Paleoindian, Archaic and Neoamerican. Hester (1980) has provided a chronological overview for south Texas in which he postulates four major time periods: Paleoindian, Archaic, Late Prehistoric and Historic.

Paleoindian: (ca. 9200-6000 B.C.) Several sites in Live Oak County have been attributed to this time period, though most of these sites in south Texas are surface finds (Hester 1974; House 1974; Creel et al. 1979). Diagnostic projectile points for this period include Clovis, Folsom, Scottsbluff, and Angostura. These were used to hunt the big game, such as bison, present at this time, although plant foods were also used for subsistence.

Archaic: (ca. 6000 B.C.-A.D. 1200) This time period is divided into three stages; the Early, Middle, and Late Archaic. All three represent periods of hunting and gathering lifeways, perhaps with more emphasis on smaller game, riverine resources such as mussels, and plant gathering than in the previous Paleoindian period. Triangular-shaped dart points, used in conjunction with atlatls, or spearthrowers, are common during this time. Many of the sites recorded in the Choke Canyon surveys dated to the Archaic period.

Late Prehistoric: (ca. A.D. 1200-1600) A hunting and gathering lifestyle continued into the Late Prehistoric Period, with bow and arrow technology replacing the dart point technology of the Archaic. Scalloped arrowheads, such as those found at 41LK109, are relatively common. Evidence of bison hunting is present, as is interaction with sedentary and semi-sedentary groups to the east and west (Wormser 1992). Bone-tempered ceramics and other pottery is introduced, and some of the historically known Indian groups can be identified archaeologically.

Historic: (ca. A.D. 1600) This period is marked by contact with the Spaniards. Ethnohistoric studies by Campbell and Campbell (1981) have revealed much about the Historic Native Americans of this time period in the project area; the names of the groups, their seasonal patterns and the territories they occupied have been traced through historic documents such as Nunez Cabeza de Vaca's (1542, 1555) notes on his journeys through south Texas.

TESTING PROCEDURES

41LK284

Testing was initiated at 41LK284 in May of 1993. The recently staked right-of-way for FM 1042 was used as a baseline for the compilation of a site map and for the formation of a testing grid (Fig. 2). Five 1x1m test units were excavated with shovels and trowels. Matrix was screened through 114-in. hardware cloth and all artifacts encountered were collected. The units were excavated in levels 10 cm deep as measured from the ground surface. At the end of each level, the bottom of the unit was scraped with a trowel in order to reveal possible stains or features. Standardized level forms were filled out. At the completion of a unit, a profile of one wall was drawn. The depth of the test units averaged 42 cm (Fig. 3).

In addition to the test units, five trenches were excavated using a Gradall. Trench dimensions averaged 5 m long, 1.75 m deep, and 0.6 m wide; trenching operations were monitored by staff archaeologists and profile sketches of trench walls were drawn upon completion of their excavation. Trenches and test units concentrated on the segment of the site that occurs within the right-of-way. Test Units 1 and 5 were placed on the north end of the site, on the west and east edges, respectively. Test Units 2, 3, and 4 were placed on the far western edge of the right-of-way, south of Unit 1.

No features or stains were observed in the test units or in the trenching of 41LK284. A total of 160 person-hours was spent at the site.

41LK294

Similar testing procedures were followed at 41LK294 as at 41LK284, although only three test units and three backhoe trenches were excavated, due to the limited space within the right-of-way (Fig. 4). The 1x1m test units were placed in a north-south line following the western boundary of the right-of-way. Test Unit 2 was located 21 meters south of Test Unit 1, and Unit 3 was nine meters south of 2. These were dug to sterile soil, approximately 40 cm below ground surface (Fig. 3). No diagnostics were recovered during excavation, though one biface fragment was recovered from Test Unit 2, Level 1 (Fig. 5-E). Trenches were placed adjacent to the test units, but numbered in reverse order (i.e., Trench 1 was next to Test Unit 3, Trench 3 was next to Test Unit 1). Trenches measured 5 m long, approximately 1.75 m deep, and 0.6 m wide. No features or cultural staining were found. Approximately 109 person-hours were spent investigating this site.

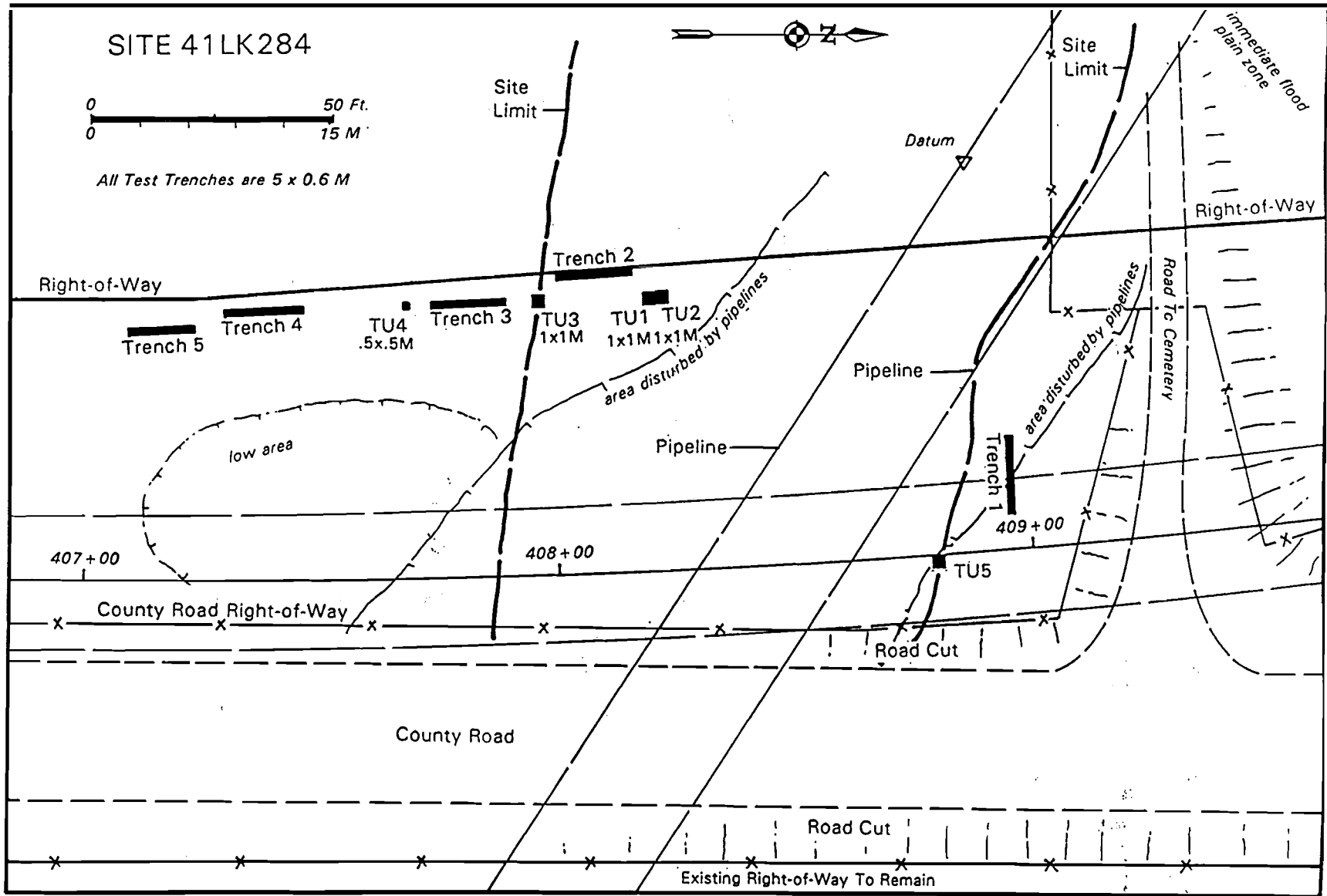


FIGURE 2. Test units, trenches, and disturbances at 41LK284.

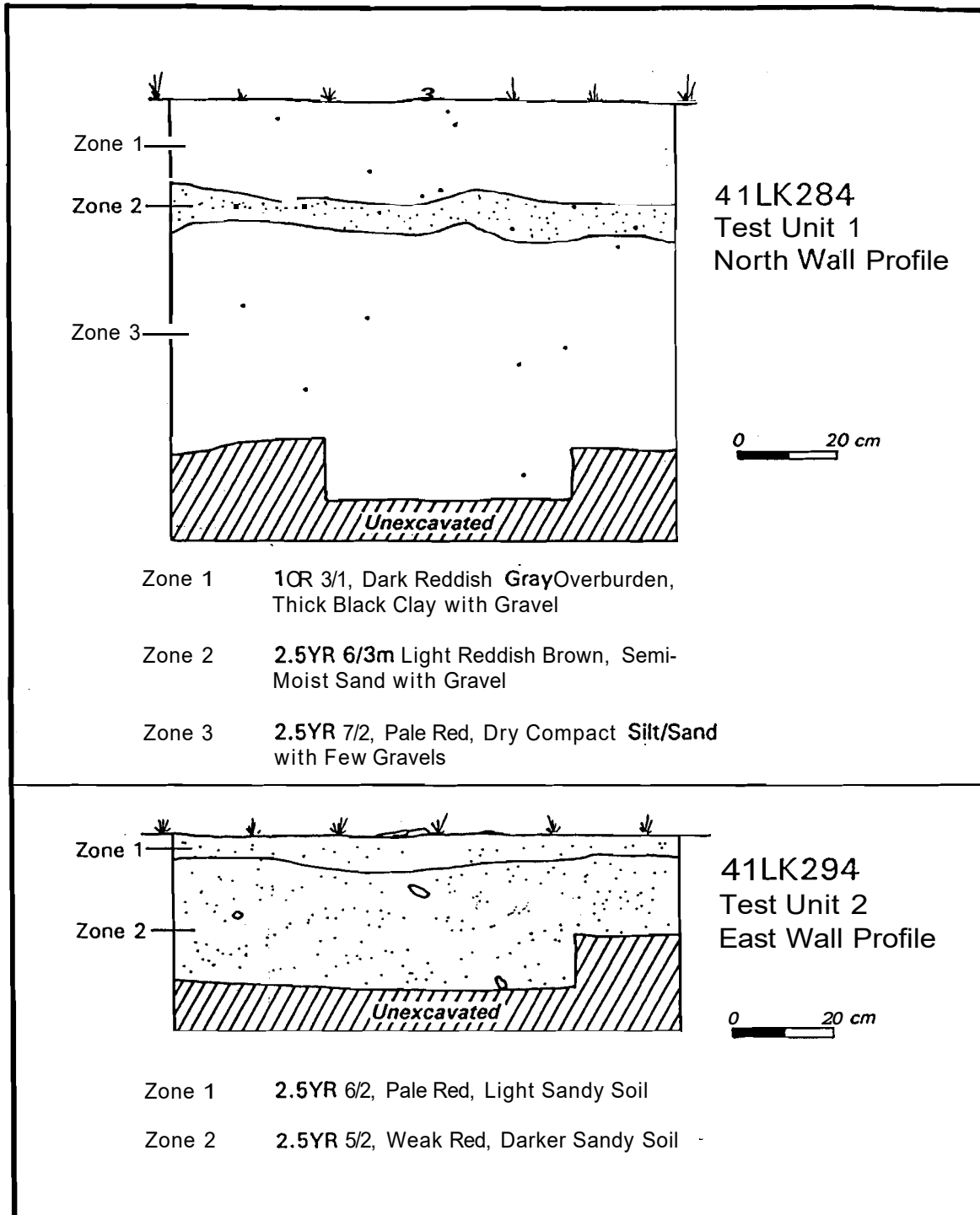


FIGURE 3. Stratigraphic profiles at 41LK284.

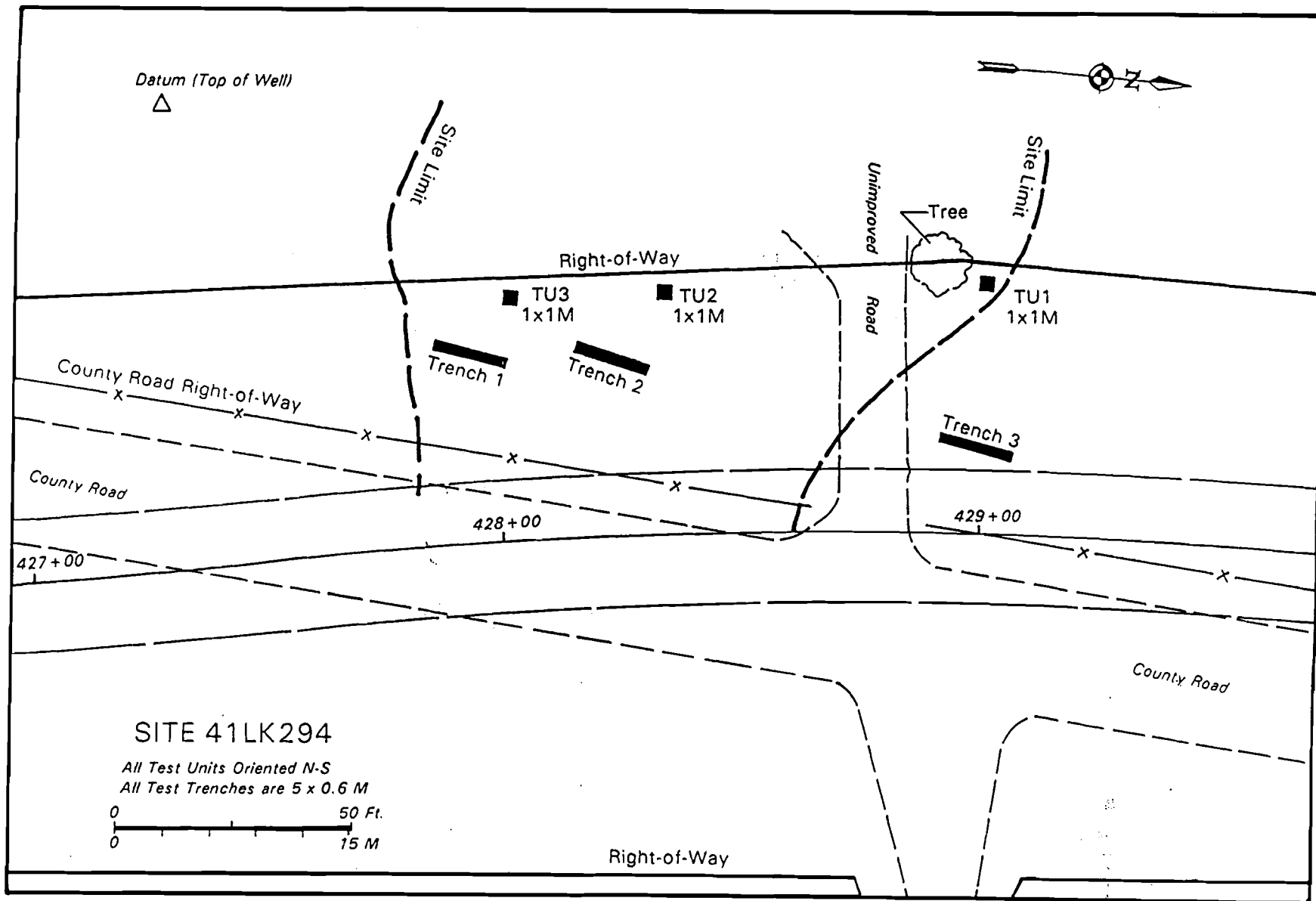
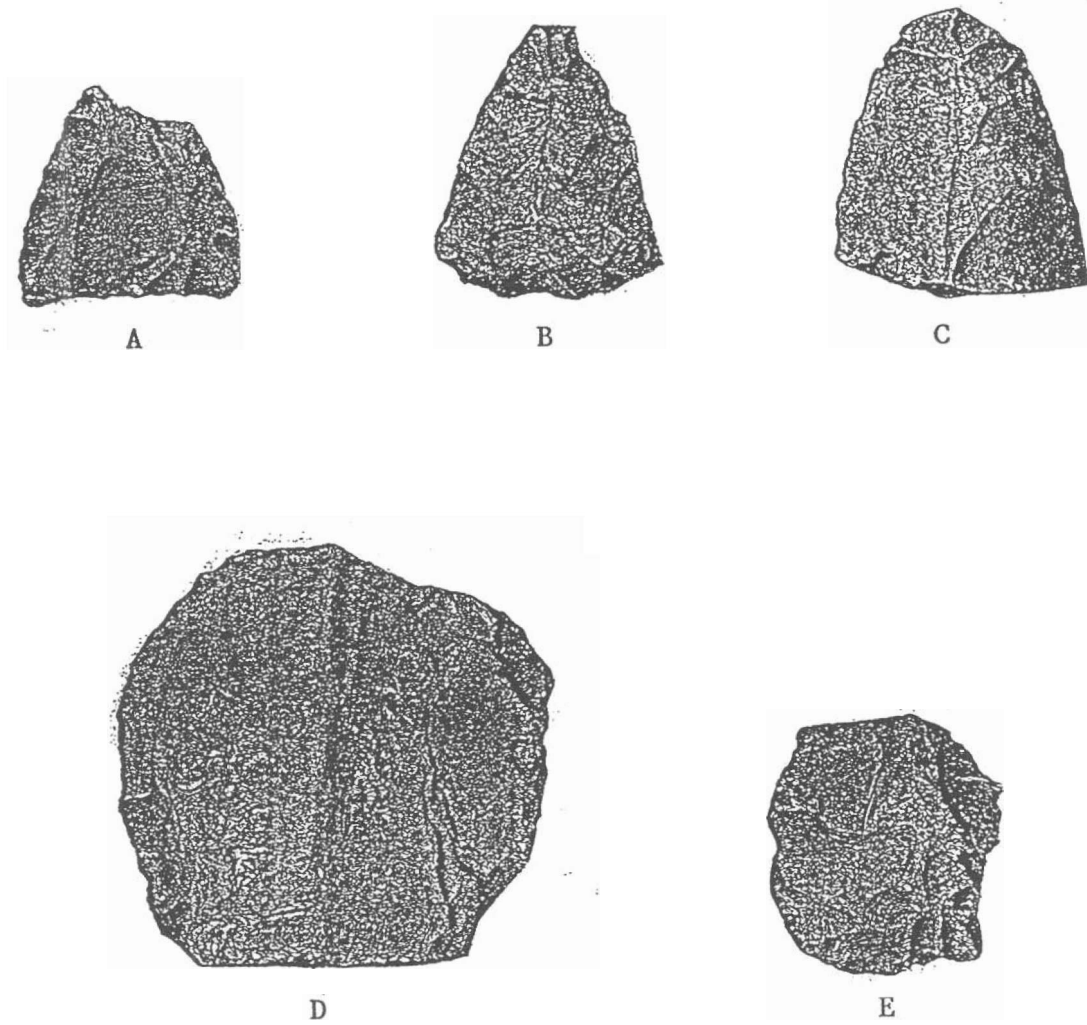


FIGURE 4. Test units and trenches at 41LK294.



0 mm 20

FIGURE 5. Artifacts recovered from 41LK294.

MATERIALS RECOVERED

The artifacts recovered from sites 41LK284 and 41LK294 fell into three categories; mussel shell, prehistoric lithics and historic materials. Mussel shell was not tabulated due to the fragmentary nature of the material. The prehistoric lithics (debitage) were then divided into flakes and modified flakes, tools, tested cobbles, and chips\chunks\shatter.

Lithic debitage, mostly in the form of small reduction flakes, was the most predominant artifact recovered at 41LK284 (73 of the 80 artifacts were debitage (Table 1)). The flake count totaled 53, and all are of local chert, with only 3 of them (5%) being patinated (Table 2), though none of these appears to be heavily patinated. Approximately 28% of the total number of flakes are categorized as flake chips under 1 cm in diameter, and 11% of the total flake count exhibits burning. Tertiary flakes, most of which were recovered in Levels 2 and 3 (Table 3) in the northern part of the site, made up the largest percentage of total flakes with approximately 71%. Secondary flakes had the next highest count with 19% of the total flakes and the final 10% of the count was composed of primary flakes. Other debitage included 1 modified flake, 1 tested cobble and several pieces of chunks and shatter.

Several fragments of historic material were also recovered; these included pieces of wire, glass, fence staples, plastic, and a .22 caliber long cartridge shell (Table 4). Because of the mixture of Historic materials in the same level that contains the highest amount of flakes, it is believed that modern disturbance has disrupted the cultural integrity of this site.

At 41LK294, no historic artifacts were recovered. Of the 140 pieces of debitage, 102 (or 72%) were flakes; of these, 3 (2.9%) were primary flakes, 24 (23.5%) were secondary, and 75 (73.5%) were tertiary (Table 5). Only two flakes showed any patination, and 38 were burned. A large portion (45%) of the flakes were less than 1 cm in size (Table 6).

Only one tool (Fig. 5,E) was recovered during excavation at 41LK294; a biface fragment was found in Test Unit 2, Level 1 (Table 7). No diagnostic materials were recovered during the excavation phase. Since most of the artifacts were recovered near the surface of the site, it is probable that the site is either deflated or a shallow, Late Prehistoric deposit. Most evidence suggests the latter. In either case, excavations show most of the site (80%) is located outside of the right-of-way.

41LK284

TABLE 1. Breakdown of debitage at 41LK284.

Description	Total	Flake %	Debitage %
Primary Flake	5	9.6%	6.8%
Secondary Flake	10	19.2%	13.7%
Tertiary Flake	37	71.2%	50.7%
Total Flake	52	--	--
Modified Flake	1	--	1.4%
Chip/Chunk/Shatter	19	--	26.0%
Tested Cobble	1	--	1.4%
Total Debitage	73	--	--

TABLE 2. Flake size and appearance.

Description	Total
Flakes	53*
<1 CM	15
1-2 CM	24
2+ CM	13
Burned Flakes	16
Patinated Flakes	3

*Includes Modified Flakes

41LK284

TABLE 3. Flakes and tools by level.

Unit	Level	Primary Flakes	Secondary Flakes	Tertiary Flakes	Tools
TU-1	1	-	-	-	-
	2	1	-	-	-
	3	-	1	10	-
	4	1	1	-	-
	5	-	-	1	-
	6	-	-	3	-
	7	-	2	-	-
	8	-	-	1	-
TU-2	1	No Recovery			
	2	1	2	5	-
TU-3	1	-	-	-	-
	2	-	-	1	-
	3	-	-	-	-
TU-4	1	-	-	-	-
	2	-	-	-	-
	3	-	-	-	-
	4	-	-	-	-
TU-5	1	2	1	1	-
	2	-	-	10	-
	3	-	3	5	-

TABLE 4. Historic artifacts.

Unit	Level	Description	Count
TU-1	1	-	-
	2	-	-
	3	-	-
	4	-	-
	5	-	-
	6	-	-
	7	-	-
	8	-	-
TU-2	1	-	-
	2	Small metal fragment	1
TU-3	1	-	-
	2	Selenium Bleached Glass Fragment	1
	3	-	-
TU-4	1	-	-
	2	-	-
	3	-	-
	4	-	-
TU-5	1	Fence Staple, .22 Cartridge	1
	2	Metal wire, Plastic	2
	3	-	1
		-	-

41LK294

TABLE 5. Breakdown of debitage at 41LK294.

Description	Total	Flake %	Debitage %
Primary Flake	3	2.9%	2.1%
Secondary Flake	24	23.5%	17.1%
Tertiary Flake	75	73.5%	53.6%
Total Flakes	102	--	--
Modified Flake	4	--	2.9%
Chip/Chunk/Shatter	34	--	24.3%
Tested Cobble	--	--	--
Total Debitage	140	--	--

TABLE 6. Flake size and appearance.

Description	Total
Flakes	106*
<1 CM	48
1-2 CM	38
2+ CM	19
Burned Flakes	38
Patinated Flakes	2

*Includes Modified Flakes

41LK294

TABLE 7. Flakes and tools by level.

Unit	Level	Primary Flakes	Secondary Flakes	Tertiary Flakes	Tools
TU-1	1	1	3	9	-
	2	-	1	4	-
	3	2	-	11	-
	4	-	-	4	-
	5	-	1	1	-
TU-2	1	-	5	5	1
	2	-	6	29	-
	3	-	5	6	-
	4	-	3	2	-
TU-3	1	-	-	2	-
	2	-	-	5	-

SUMMARY AND CONCLUSIONS

Phase II archaeological testing was conducted by the TxDOT at two prehistoric campsites' (41LK284 and 41LK294) on a terrace of the Nueces River. This project was undertaken to determine each sites eligibilty for inclusion as a State Archaeological Landmark or for listing on the National Register of Historic Places.

Both sites were located during surveys in 1988 and 1992 prior to enlarging FM1042; the sites were reported to contain chert flakes, mussel shell, and some burned rock. One diagnostic basal fragment of a possible Matamoros point was recovered on the surface at 41LK294, suggesting a Late Prehistoric occupation. Roadcuts showed cultural material to a depth of 1m in some areas at 41LK284 and .5m at 41LK294.

Five test units were opened at 41LK284, with an additional five trenches excavated to determine the nature of the prehistoric cultural deposits at the site and to decide if further data recovery operations would be necessary. Testing revealed that the site had been heavily disturbed by cultivation and pipeline construction and what remained of the site was a broad lithic scatter in 30-40 cm of soil with associated mussel shell in small quantities. No features or diagnostic artifacts were observed at this site, thus making temporal placement difficult.

Since the right-of-way included just a small portion of site 41LK294, only three test units and three trenches were excavated. Information revealed from this testing indicates most of the site is out of the right-of-way, and the portion that is within it consists of a broad, thin lithic scatter in 20-30 cm of sandy soil. As at 41LK284, some mussel shell was recovered, but once again in such small quantities that no other information was available. One biface fragment was found in Unit 2, Level 1, but no diagnostic artifacts were recovered during testing, and no features were observed.

Only a small percentage of both 41LK284 and LK294 are located in the project right-of-way, and although the areas of the sites within the right-of-way contain artifacts, additional excavations will not reveal any more information on the site or on the prehistory of the region. The portions of 41LK284 and 294 that are within the right-of-way are not considered worthy of designation as State Archaeological Landmarks nor do they meet the criteria for nomination to the National Register of Historic Places.

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