Volume 1991 Article 18

1991

Archaeological Investigations at Site 41BX66 Along Loop 1604, Bexar County, Texas

A. Joachim McGraw

Barbara J. Hickman

Frank A. Weir

Archaeological Investigations at Site 41BX66 Along Loop 1604, Bexar County, Texas

Archaeological Investigations at Site 41BX66 Along Loop 1604, Bexar County, Texas

by
A. Joachim McGraw
John W. Clark

compiled by
Barbara J. Hickman

Frank A. Weir
Principal Investigator

Texas State Department
of Highways and Public Transportation
Highway Design Division
Austin, Texas

March, 1991

Abstract

Archaeologists from the State Department of Highways and Public Transportation conducted surface collection and test excavations at Site 41BX66 in 1988 and 1989. The site, located along Loop 1604 in northern Bexar County, contained a surface scatter of lithic artifacts and fire-cracked rock. Expansion of the Loop 1604 right-of-way impacted the site area, necessitating a testing program. The results of that subsurface testing indicate that the site area of 41BX66 within the highway right-of-way (ROW) was not eligible to the National Register of Historic Places and no further work was recommended.

Table of Contents

List of Figures

List of Tables

Introduction

Site 41BX66 (Figure 1) is located in the north central portion of Bexar County on an upland terrace of Elm Waterhole Creek. Artifacts and features at the site suggest that 41BX66 served as a prehistoric open camp. Much of the site is contained within the right-of-way of Loop 1604. Development of the highway during the last twenty years has impacted much of the site area inside the transportation corridor.

Since 1971, several archaeologists have investigated the site, beginning with William B. Fawcett who originally identified the scatter of lithics and burned rock. Archaeologists from the State Department of Highways and Public Transportatlon (SDHPT) subsequently conducted test excavations at 41BX66 from 1988 to 1989 during expansion of the roadway. This document is a compilation of testing results.

This Page Redacted Per THC Policy

Environment

The site is situated in the Balcones fault zone of the Edwards Plateau physiographic region, which includes much of northern Bexar County. Blair (1950:112) refers to the area as the Balconian biotic province. The southern portion of Bexar County is divided at the Balcones fault into the Rio Grande Plain and the Blackland Belt (Taylor et al. 1966:119). These two regions are designated by Blair (1950:100, 102) as the Texan and Tamaulipan biotic provinces respectively. A case may be made, however, that 41BX66 falls into an ecotone affected by all three biota.

The Balcones fault zone is characterized by dissected uplands cut by drainages. Elm Waterhole Creek (also known as Long Creek) forms part of the Upper Salado Watershed. Outcrops of Cretaceous limestone, broken by extensive faulting, are visible throughout the area. Edwards limestone is present north and east of the site. Fluvial Quaternary deposits have accumulated along the creek. Del Rio clay and Buda limestone occur in the site area as well. The index fossil of the Del Rio formation, Ilymatogyra arietina, appears in all the excavated profiles, and exposures of Del Rio material outcrop immediately to the south of the testing. Buda limestone was revealed at the floor of most of the test units and trenches.

The soils at 41BX66 are typified by the Tarrant-Brackett association, including shallow soils deposited over limestone along slopes. Gravel content is high (Taylor et al. 1966:4). The surface topography at 41BX66 is dominated by Crawford and Bexar stony soils, with Patrick soils in the drainage. Both the Crawford series and the Patrick series are relatively minor types in the Tarrant-Brackett association.

Crawford and Bexar stony soils occur on 0 to 5% slopes in the county. Typically the soils range from a gravelly clay to a cherty clay loam, with up to 40% of the surface layer comprised of chert and limestone fragments. The surface layer averages 8 to 9 in. (20.3-22.8 cm) deep (Taylor et al. 1966: 13).

The Patrick series soils are also shallow and sloping (1-3%) clay loams. Generally these soils are found in the northern part of the county as drainage terraces. At 41BX66, Patrick soils form a narrow strip along the west branch of Elm Waterhole Creek (Taylor et al. 1966: Map 23). The surface level is usually about 12 in. (30.4 cm) deep, while the subsurface level has a depth of another 5 in. (12.7 cm). Patrick soils have a tendency to erode due to runoff (Taylor et al. 1966:27).

Moving further east of the drainage at the site, the soil becomes a Lewisville silty clay slope soil found in narrow areas separating stream terraces from uplands. The dark, grayish brown soil of the upper member is usually about 20 in. (50 cm) thick, while the subsoil below it is a limey, brown clay approximately 17 in. (43 cm) in thickness. The structure is angular and blocky with concentrations of lime carbonate (Taylor et al 1966:25). It is also identifiable as a vertisol, as it possess a high shrink/swell potential.

Site 41BX66 lay at the edge of the Blackland Prairie and Edwards Plateau vegetational zones as defined by Gould (1969:11-12). Only a few native plant species remained in the corridor due to earlier right-of-way clearing and grubbing. Among the plants observed were shortgrasses, yucca, prickly pear cactus, agarita, elm, mesquite, acacia, and a variety of forbs.

Archaeological Background

Bexar County has had many prehistoric and historic sites recorded throughout the area, particularly in the last twenty years with population growth and the rise of state and federally mandated contract archaeology; over 800 sites area now known for Bexar. A regional synthesis of occupation is beyond the scope of this report. Instead, a brief discussion of sites located near 41BX66 is offered in an attempt to understand chronology and settlement patterns in the Upper Salado Watershed.

Prehistoric occupation in south-central Texas spans a sequence from the end of the Pleistocene to the historic era with the arrival of Europeans. Extensive research in the region has codified the chronology into four major periods (Katz et al 1987:14-19):

Paleo-Indian Period	9200-6500 BC
Archaic Period	6500 BC-AD 750
Early	6500-2600 BC
Middle-Late	2600 BC-AD 750
Late Prehistoric Period	AD 750-1800

The break between the Archaic and Late Prehistoric Periods is distinguished by a major technological shift in hunting from use of the atlatl to development of the bow and arrow. Ceramics were introduced slightly later as subsistence changes occurred. Divisions within the Archaic are not as clear and may relate to subsistence and other environmental factors.

Two major archaeological excavations have taken place in the Salado Creek Watershed at 41BX228 on Panther Springs Creek and 41BX300 on Elm Waterhole Creek just upstream from 41BX66. Site 41BX300 served as a secondary quarry and burned rock midden occupied from circa 4600 BP to perhaps 200 BP (Katz et al 1987:175). To the southwest of 41BX66, in the Walker Ranch

vicinity, 41BX228 was investigated, and excavation results showed an occupation at the multicomponent site lasting for more than 5000 years as an open camp and burned rock midden (Black and McGraw 1985:330).

Closer to 41BX66, Site 41BX68 was also recorded in 1971 by Fawcett as a secondary quarry and lithic workshop (Brown et al 1977; McGraw and Valdez 1978). Located west of Bulverde Road on Loop 1604, subsurface testing at 41BX68 revealed a dense concentration of lithic debris in a very shallow cultural deposit (McGraw and Valdez 1978:40). No further work was recommended, due to the lack of diagnostic artifacts and datable features.

Testing Results

Site 41LX66 was first recorded in March, 1971 by William B. Fawcett, Jr. Fawcett located the site .25 mile (.40 km) east of Bulverde Road on the north side of Farm Road 1604 (Figure 2). The main creek drainage and a tributary discharged to the southeast roughly 100 yards (91.4 m) from 41BX66, with a large bridge spanning the creek. Half of the site area appeared to extend north of the fenceline out of the right-of-way. Construction had first occurred at F.M. 1604 five years before, and Fawcett saw the site in its earliest years of construction.

Fawcett identified 41BX66 as an Archaic period temporary campsite with a scattering of lithic debris and what he called firepits on the second terrace of a small knoll. The total site area was recorded as 50 **ft.** (15.2 m) in diameter. He noted a concentration of fire-cracked rock approximately 5 to 6 **ft.** (1.5 to 1.8 m) in diameter with abundant tools in association. Tools observed in and near the feature included a graver, a thin biface, 10 secondary and tertiary chert flakes, one 3-in. blade, and two retouched flakes. These artifacts were not available for later inspection.

According to the site form, there was "more topsoil than most areas," but the topsoil was still somewhat eroded away to the red clay layer. Fawcett estimated brown topsoil depth at 2 to 12 in. (5 to 30 cm) deep, overlaying a sterile red clay level; he recommended extensive testing at 41BX66.

Testing at 41BX66 took place on a number of occasions in 1988 and 1989, after increasing development of the loop system necessitated site evaluation. F.M. 1604 had become Loop 1604 by this time. A. Joachim McGraw of the SDHPT conducted the initial test excavations on June 16-17, 1988. The objective of

limited testing was to determine the depth and extent of cultural deposition within the loop 1604 expansion project corridor.

Unfortunately, confusion related to Fawcett's site map resulted in McGraw testing mainly outside of the original site boundary (Figure 3).

McGraw utilized backhoe trenches and hand-dug test units to assess the site's subsurface dimensions. A total of five trenches and three test units were opened across the highway right-of-way; the units consisted of a 1x1 m square, a 2x1 m test unit, and a 50x50 cm square shovel test. The units were placed in the vicinity of observed surface scatters of lithic debris and eroded, burned rock clusters.

Shovel Test 1 was dug to a depth of 40 cm. No cultural materials were identified in the fill, which consisted of a dark, clayey soil with large limestone rocks at about 25-30 cm below surface. Limestone outcropping was encountered at about 40 cm.

Test Unit B, a 1x1 m unit, also contained no artifacts. Total depth of the unit was 25 cm, with deteriorating limestone and caliche appearing at 10 cm; the limestone fragments were common between 20 and 25 cm. Few pieces of burned rock were present.

Test Unit C was a 2x2 m unit laid out to expose a surface feature. Only a 1x2 m portion of the unit was actually excavated, however, to determine the extent of the cultural materials. The feature proved to be intact, with evidence that it extended northward beyond the test unit. The unit was refilled at that point without further work in order to excavate the feature properly at a later date.

Backhoe Trench 1 was located about 10 m east of Elm Waterhole Creek on the terrace edge. It was 50 cm deep and 1x5 m across. Black, clayey soil

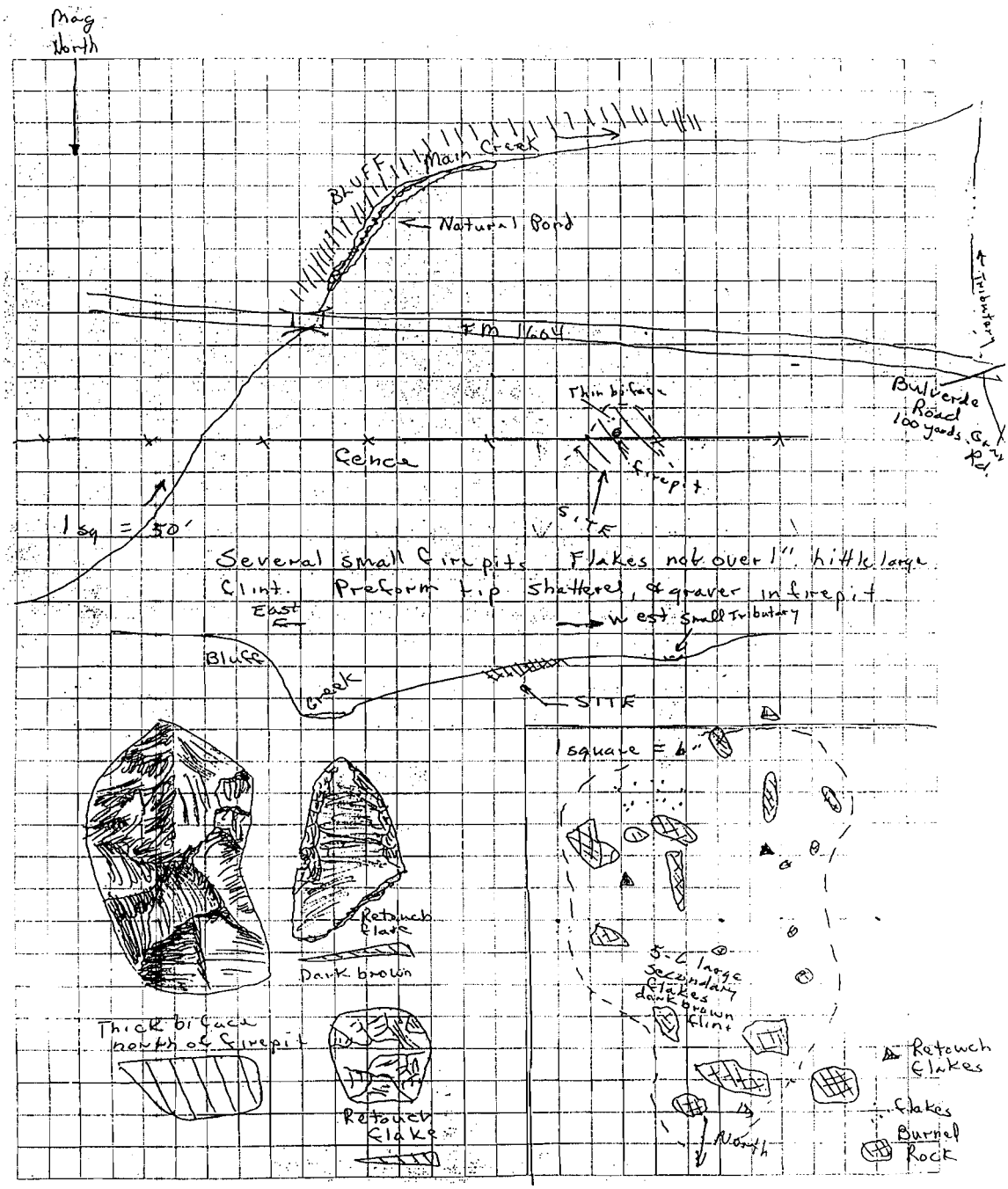

FIGURE 2. The 1971 Map of 41BX66 Drawn by Fawcett.

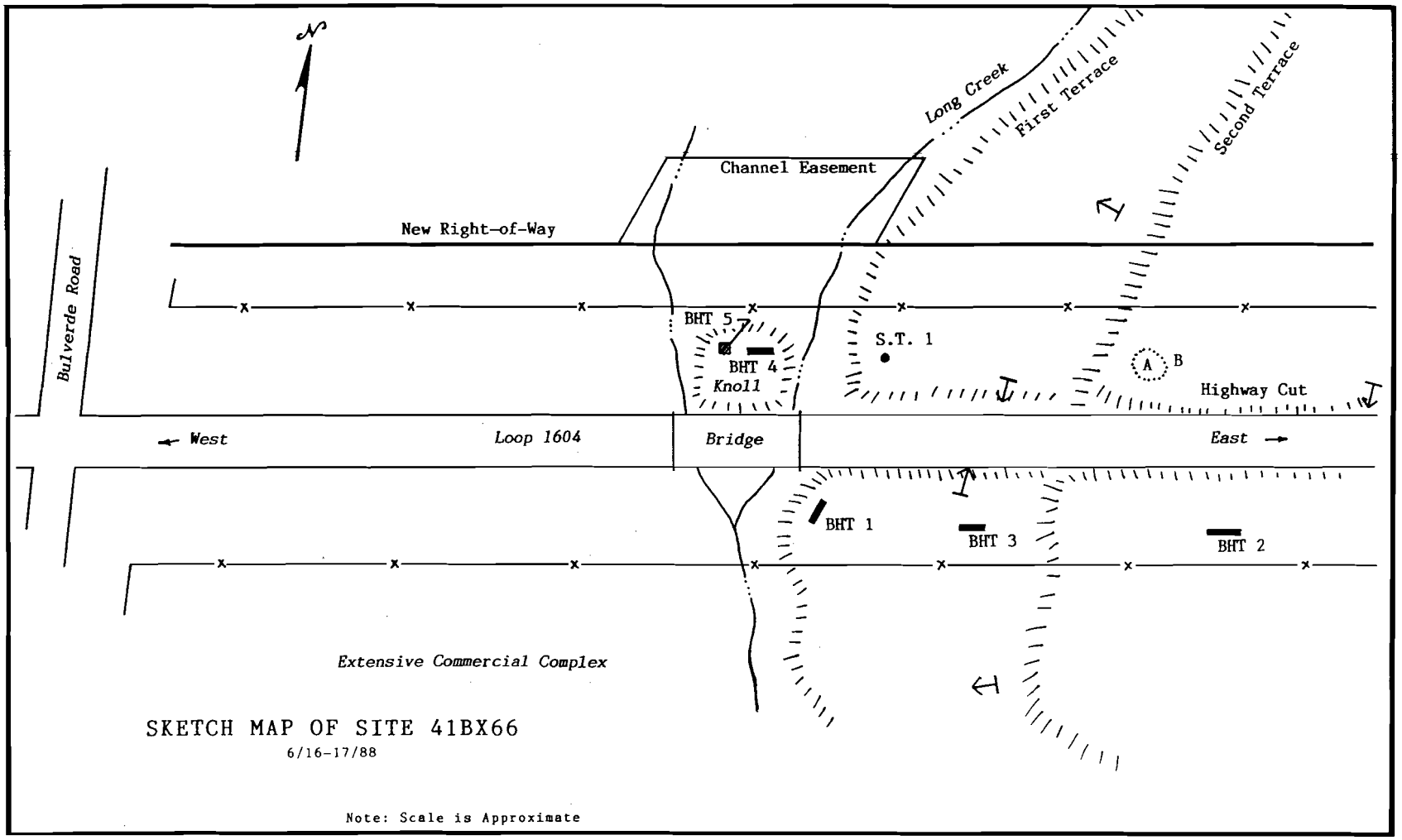

FIGURE 3. The 1988 Interpretation of 41BX66 Site Boundaries during Test Excavations.

measured as deep as 25 to 35 cm. Large limestone cobbles were found in the fill, with deteriorating bedrock below. No artifacts or features were observed in the trench.

Backhoe Trench 2, 1x5 m in size, was dug down to about 90 cm. Light soils were seen as far as 30 to 45 cm, with a red subsoil visible to about 90 cm. The red subsoil was mixed with large rocks, and below 90 cm it was too rocky to excavate further. A burned limestone concentration was unearthed on one side of the trench, about 30–40 cm below the surface and just above the big rocks.

Backhoe Trench 3 was placed about 150 m east of the stream channel. The trench dimensions were 1x7 m, with maximum depth to 160 cm. No cultural materials were recovered. Less than 15 cm of the fill was light reddish soil, with large limestone rocks below.

Backhoe Trench 4, situated approximately 50 m west of the Elm Waterhole Creek channel, was excavated to a depth of 50 cm. The upper level was reddish soil to about 17 cm, with large limestone rocky fill below the soil. No cultural materials were observed in the 1x7 m trench.

Backhoe Trench 5 was dug about 20 m west of BHT 4; the 1x8 m trench appeared to be similar to BHT 4 as it showed 15–20 cm of reddish soil in the upper level. A burned rock cluster, roughly 1 m wide, did emerge from a trench wall just below the surface; the burned rock concentration extended out from the trench to the fence adjacent to BHT 5. The trench's depth reached 130 cm. A light scatter of burned rock, flakes, and debris was present in the general area west of the drainage channel in an eroded, disturbed context.

The three burned rock concentrations (Item A) visible above ground averaged 3 to 4 m in diameter. McGraw found a recognizable scatter of burned

limestone and a light to moderate density of lithic materials resembling Fawcett's descriptions of the surface appearance of 41BX66 in 1971. Due to the confusion caused by the reversed north arrow in Fawcett's map, however, these features were not located in the same place. Fawcett's burned rock exposures were on the knoll between the branches of the creek, while McGraw examined concentrations well east of Elm Creek. McGraw significantly enlarged the site size trying to relocate Fawcett's features by including the southern portion of the roadway.

McGraw also collected artifacts from the surface, and he divided the site into Areas A, B, and C. Area B lay south of the roadbed and east of the drainage channel, while Areas A and C were both on the north side of the road, separated by the eastern creek fork. Area C covered the knoll between the creek forks. A triangular bifacial tip fragment was found in Area A, and Area B yielded one utilized flake. Area C provided a thin biface base fragment and a preform.

McGraw recommended additional testing for 41BX66 based on the evidence of both the surface manifestations and the shallow but intact subsurface deposits. The original site size estimates probably identified only the location of eroding surface features, resulting in a diameter of 50 ft. (15.2 m). McGraw enlarged the site area to approximately 75 m south and west of the drainage and almost 300 m east and north. He noted a consistent pattern of two levels of cultural deposition at 0–15 cm and 30–40 cm below the surface. Soil deposition above the caliche or gravel/cobble matrix was less than 70 cm deep in most test units. He suggested that any additional cultural features would be identified in a broad horizontal rather than vertical context.

The testing continued during the week of December 19, 1988 when John Clark of

the SDHPT uncovered the buried, burned rock concentration (Figure 4) which McGraw had heft backfilled under plastic sheeting. Clark exposed the buried feature in McGraw's Backhoe Trench 2. The location of BHT 2, marked by laths, seemed to suggest more substantial cultural deposition than the rest of the site. After recording the concentration, Clark excavated two 1x1 m test units north and south of the feature to determine the extent of the burned rock. A third 1x1 m test unit near the southern right-of-way boundary was dug to ascertain if an undisturbed cultural level was buried between the previous ROW and the newly expanded ROW.

On January 10-12, 1989 Clark returned to 41BX66 to test on the south side of the highway once again. Test Units 4 through 8 were dug by hand, and a maintainer was used to excavate three long trenches (Figure 5). The trenches and test units were all situated in the southern ROW along the prior corridor fenceline. The test units clustered around the location of McGraw's Backhoe Trenches 1 and 2, well away from the 1971 site boundaries. Test Units 3-8 were excavated in 10 cm levels, and the fill was screened through .25 in. (6 mm) mesh. The disturbed upper level of 0 to 20 cm above the feature in TU 1 and TU 2 wasdiscarded unscreened. All of the units were profiled (Figure 6). The maintainer trenches were excavated with the blade at a fairly steep angle in order to achieve a wall profile and a narrow surface area. Wall profiles of the trenches (Figure 7) were drawn at regular intervals to provide a clear understanding of the natural and cultural deposition at the site.

Profiles were drawn at each test unit, maintainer cut, and backhoe trench of one wall only. All the units contained a zone at least 3-5 cm in thickness of dark brown clay with a high root concentration. Test Units 1, 2,

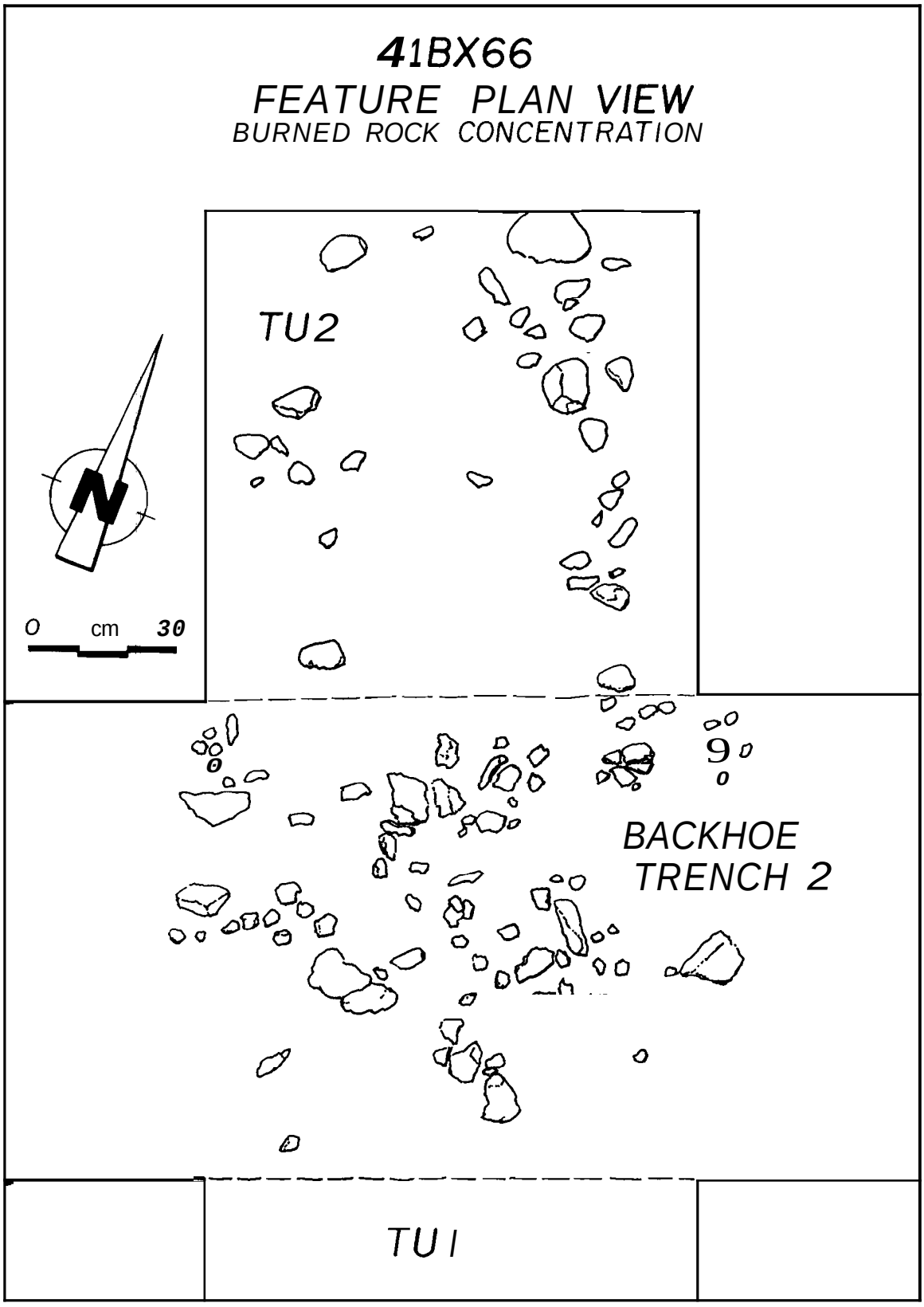

FIGURE 4. 41BX66 Feature Plan View of a Burned Rock Concentration.

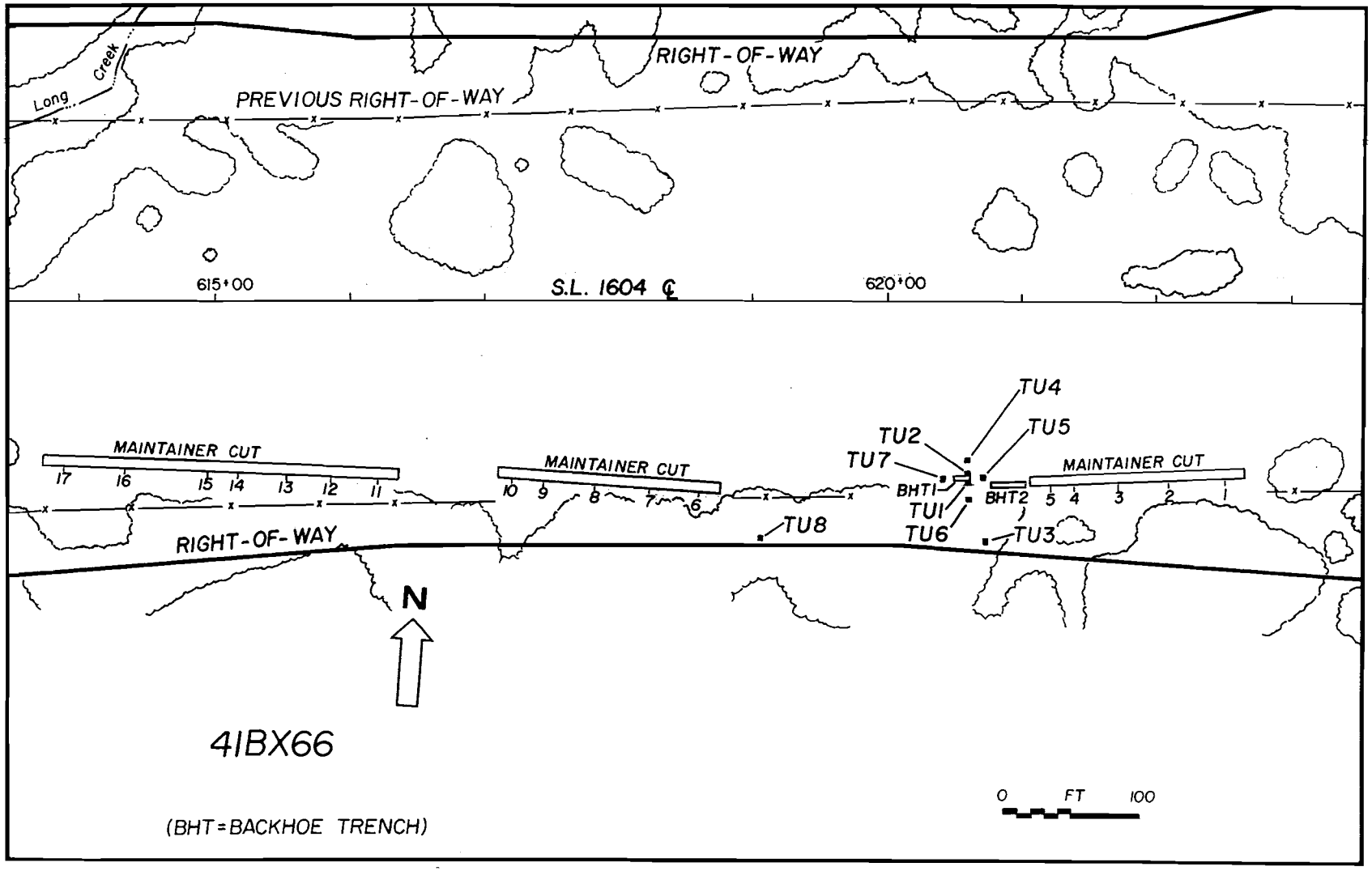

FIGURE 5. Site Map of 1989 Testing by Clark at 41BX66.

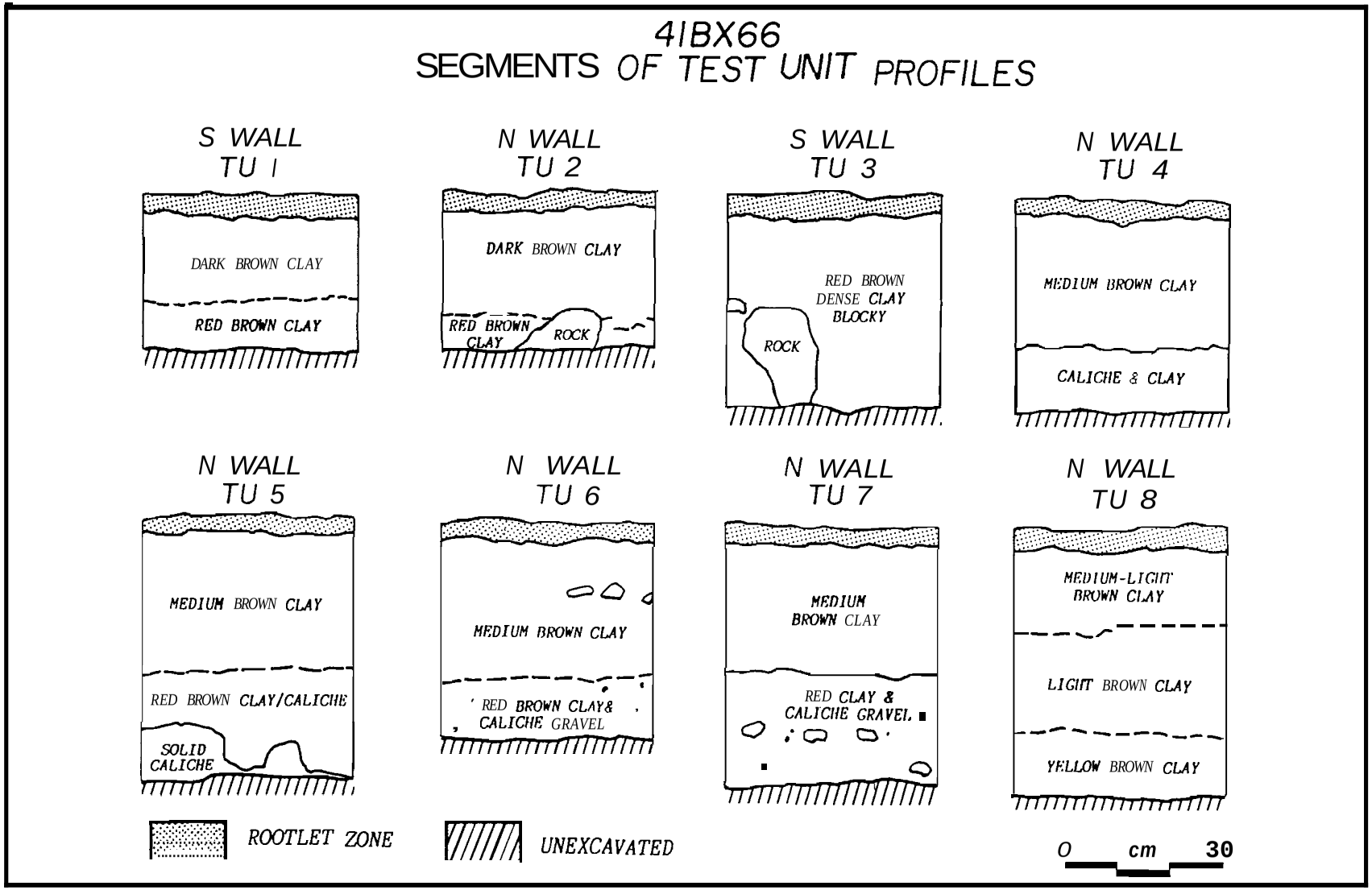

FIGURE 6. Test Unit Profiles at **41BX66.**

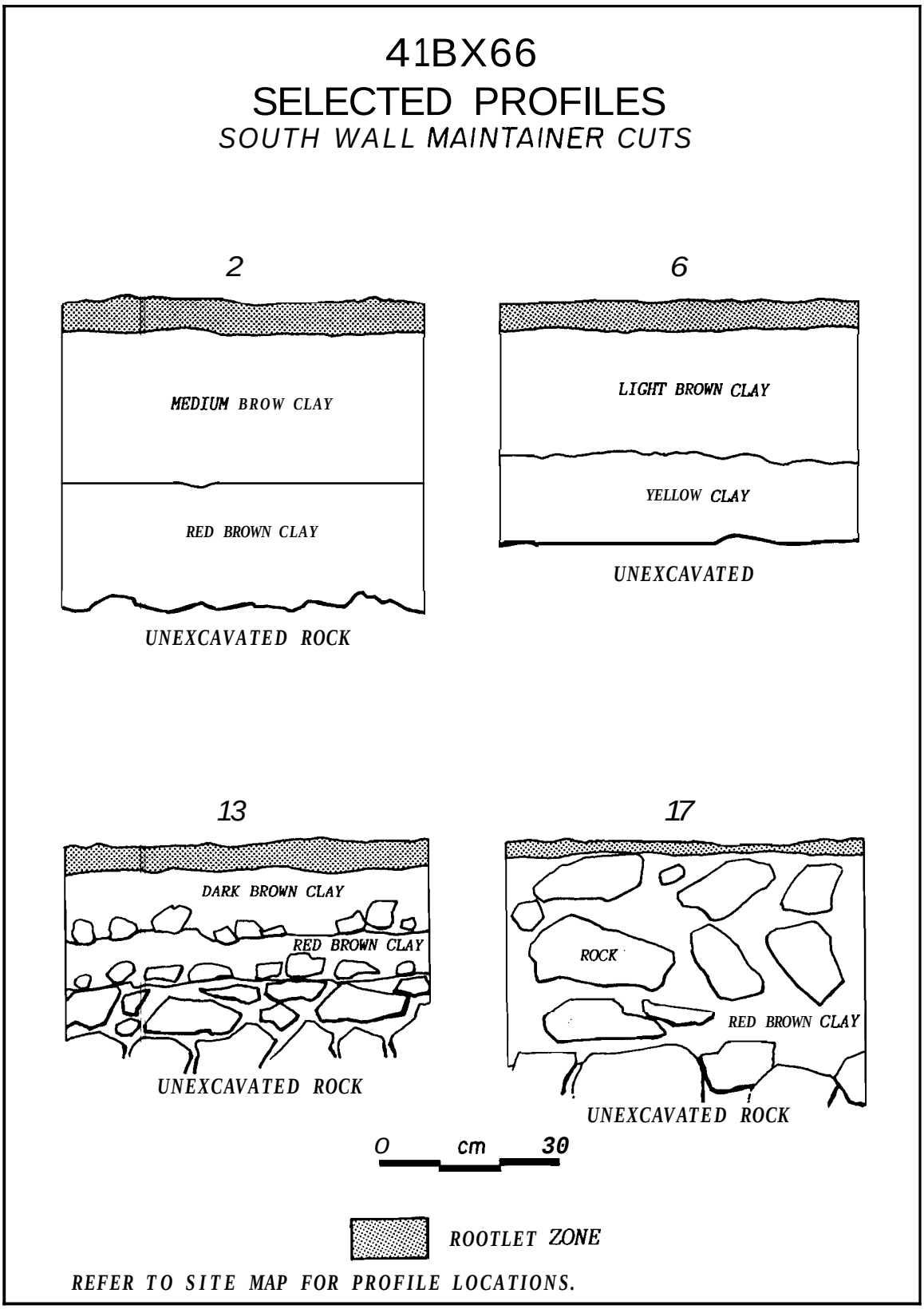

FIGURE 7. Selected South Wall Profiles from Maintainer Cuts at 41BX66.

and 4–7 showed a zone of medium to dark brown dense clay underneath the rootlet zone. The distinctive clay zone contained most of the few artifacts present. The zone ranged in thickness from about 3 cm up to approximately 20 cm. Below the dark clay was a layer of reddish brown clay stippled with small caliche or calcium carbonate flecks and some gravel. Some of the cultural material was found in the red-brown clay because of the nature of vertisol clays. Under the reddish brown clay zone, which was 7 cm to 12 cm thick, came caliche and limestone bedrock. The profile of McGraw's Backhoe Trench 2 exhibited a profile similar to TUs 1, 2, and 4–7, and the trench was excavated well into the caliche zone.

Test Unit 3 and Test Unit 8 revealed a different sequence of strata. Test Unit 3 contained a dark reddish brown, dense, blocky clay from the surface to a depth of 40 cm, where large cobbles of unmodified limestone were apparent. No cultural materials were retrieved from TU 3. The wall profile in TU 8 consisted of the usual rootlets over a zone of medium to light brown clay 18 cm thick; this clay layer in turn overlay a 20 cm thick zone of light brown clay. The lower 12 cm of TU 8 extended down into a yellow brown clay of the Del Rio Late Cretaceous formation.

Along the maintainer cuts, 17 segmental profiles were made, moving from east to west across the site. Beginning at the easternmost profile, the south wall displayed at the upper level a rootlet zone above a 30 cm thick medium brown clay layer. Beneath the brown clay lay a reddish clay level approximately 17 cm in thickness, covering limestone bedrock. Localities 2 and 3 were similar stratigraphically to Locality 1; Localities 4 and 5 resembled the previous wall profiles but appeared compressed into a total depth of 25 cm above the bedrock. Localities 6 through 10 seemed similar, as these profiles

showed a thin rootlet zone overlaying a 20 cm thick zone of light brown clay over yellow clay.

Locality 11 consisted of a rootlet layer, followed by a dark brown clay measuring 15 cm thick. Below, a reddish brown clay band spanning 10 cm in thickness covered the bedrock. Locality 12 was deeper overall than the other profiles, descending to a depth of 50 cm; it contained the same zones as Locality 11 except for the addition of rocks within the dark brown clay layer. In Localities 13 and 14, an increased number of rocks appeared within the clay zones. Localities 15–17 exhibited a thin rootlet zone above 30 cm of very rocky reddish brown clay overlaying limestone bedrock.

During excavation of the test units, all modified lithic material and snail shell$ found were collected in labeled bags. Records include unit level notes, profiles of all excavated units, photographs, a bag log, and a daily journal. No radiocarbon samples or other special collections were taken due to the poor preservation of charcoal and the vertisol deposits. A sample of the burned rocks from the feature was collected, however.

Two burned rock concentrations were observed on the site. The first was exposed on the surface, located at edge of the backslope cut for Loop 1604. The feature, deflated by erosion, lay on Del Rio clay. An ant hill occupied a portion of the area in which the rocks were found. Clark believed that the feature was too disturbed to record, given the scattered nature of the rocks, the erosion, and the lack of any datable materials such as charcoal or artifacts.

A second burned rock concentration was identified in a backhoe trench (Figure 4) begun by McGraw in 1988. A burned rock feature was uncovered in BHT 2 at a depth of 25 cm below the present ground surface, atop the reddish

brown clay deposition. The red-brown clay contained a number of unburned rocks, particularly toward the north of the feature. Virtually all of the feature was contained within a 1 square meter in McGraw's backhoe trench. The concentration, roughly 80 cm in diameter, consisted of a single layer of fire-cracked and unmodified rocks without any associated artifacts or charcoal. No oxidation of the soil surrounding the feature was apparent. Test Unit 1 was placed south of the feature, and TU 2 was situated north of the feature. While no burned rock was found in association with the concentration in TU 1, TU 2 yielded a very small number of burned rocks and some unburned rocks exfoliating from the deteriorating limestone bedrock. The areas immediately east and west of the feature were excavated by the backhoe in 1988 and contained no rocks.

The excavation of 28 ten cm levels produced only 16 flakes and one dart point distal tip fragment. The tip fragment was too small to identify; it was found in TU 4, level 2. Test Units 1, 3, 6, and 8 were sterile of cultural material, despite careful screening of the fill. The following table describes the artifact inventory from Clark's testing:

TABLE 1. Provenience of Debitage.

Test Unit	Level	Number of Flakes
2	3	1
4	2	1
	3	1
5	1	2
	2	
	5	1
7	1-2	4
	3	4
	5	1
		= 16 total

While screening the fill, a moderately large number of snail shells were found, including small, immature specimens suggestive of a natural population. Species collected include 322 Mesodon thyroidus (Say), 70 Polygyra texasiana (Moricand), 201 Rabdotus dealbatus (Say), two Praticolella campi (Clapp and Ferris), and three Succinea grosvenori (Lea). All of these specimens are adapted to a relatively xerophytic grassland ecosystem.

More testing was initiated in April, 1989 when it became apparent that Fawcett's original site location needed further examination. Jerry Henderson and Al McGraw of the SDHPT visited the site on April 3, 1989 and dug shovel tests on the low knoll between the forked drainages of Elm Waterhole Creek. McGraw returned to inspect surface features across the new right-of-way in the same location on April 9, 1989.

Henderson collected two large secondary flakes on the surface, with one possibly utilized. In her Shovel Test 2, near BHT 5, a large biface blank fragment, a graver, a small, narrow biface fragment resembling a point preform, one secondary flake, one tertiary flake, one tested cobble, and one chunk were identified in the fill. McGraw dug Shovel Test 1, a 50x50 cm unit approximately 3 m south of a survey stake (Figure 8). He recovered a tested cobble, a secondary flake, and one piece of shatter from ST 1.

When McGraw returned on April 9, he cleared a 2x2 m unit around a burned rock featura exposed on the surface (Figure 9) about 1 m north of the existing ROW fence. In the northeast corner of the 2x2 m square, a 50x50 cm unit was excavated ta the exfoliating limestone bedrock at 23 cm below ground surface. A surface collection of the 2x2 m unit yielded one small nodule of hematite, two core fragments, 8 pieces of shatter, seven tertiary flakes, two secondary

flakes, one utilized flake, and one notch. The 50x50 cm unit in the Level 0-23 cm contained two utilized flakes, seven chunks/shatter, six tertiary flakes, and two chips.

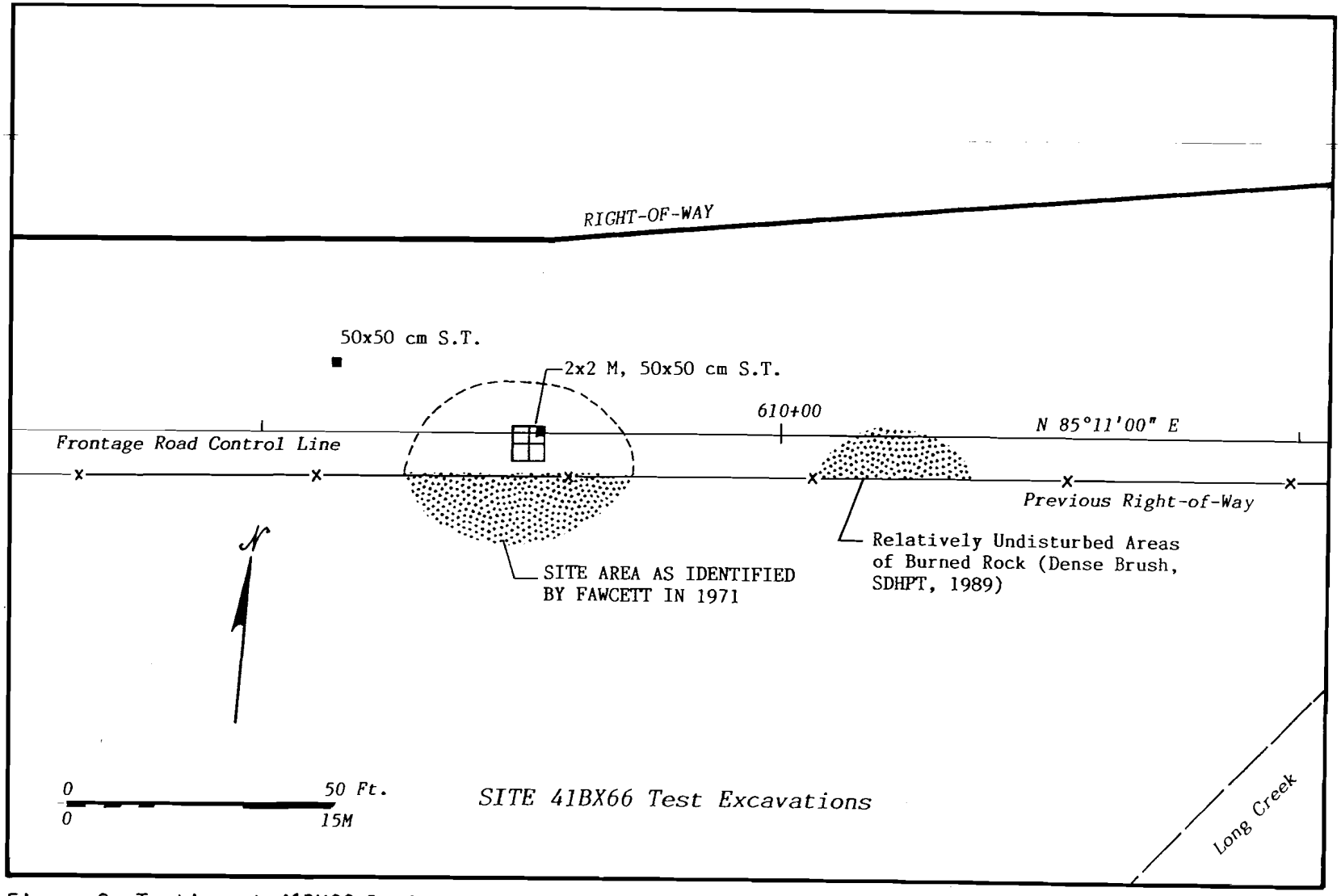

Figure 8. Testing at 41BX66 During April, 1989.

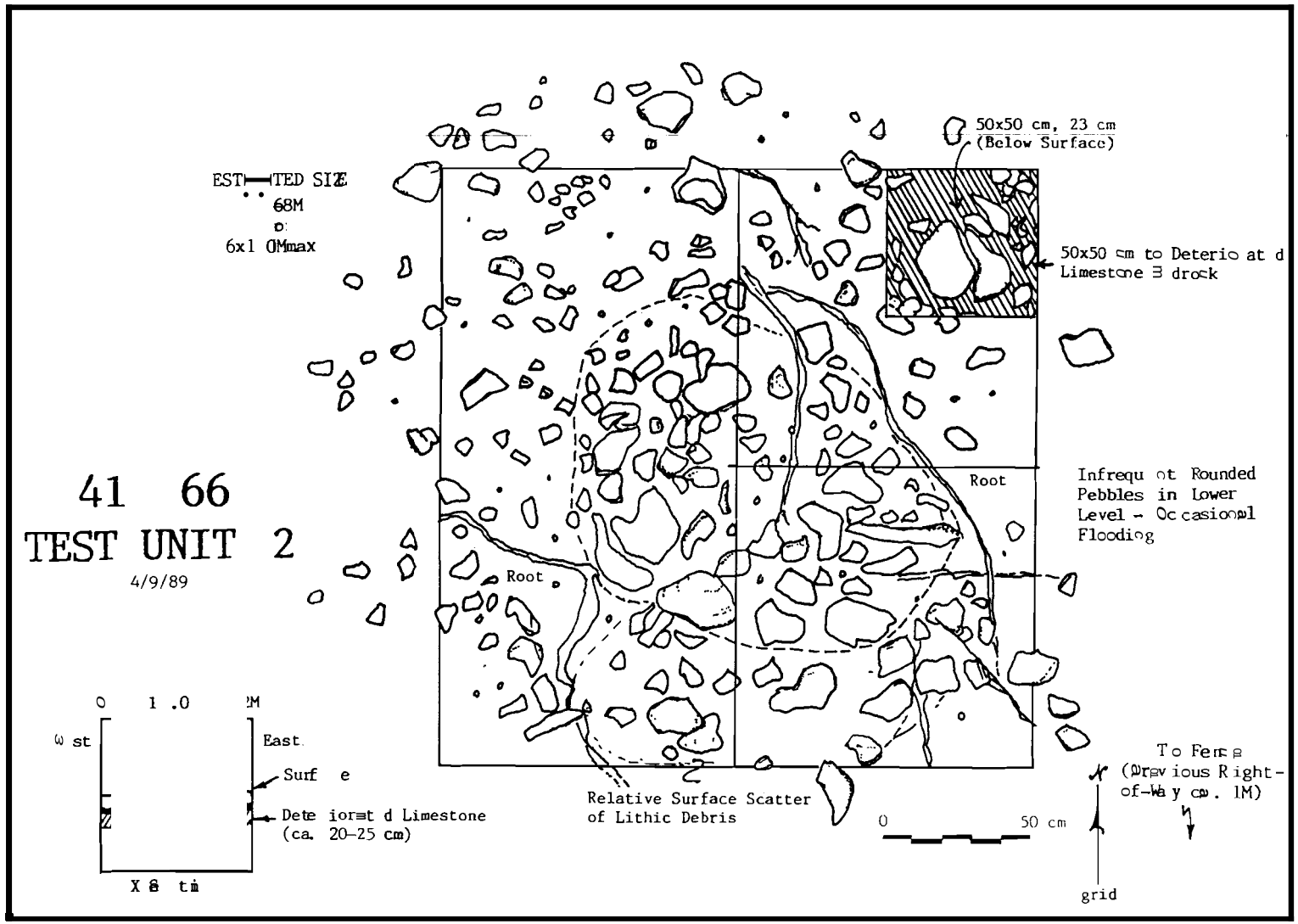

Figure 9. Plan Map of Brushed Feature Near Test Unit 2.

Conclusions

Ann M. Irwin, Frank A. Weir, and A, Joachim McGraw of the SDHPT met with Nancy Kenmotsu of the Texas Historical Commission on April 10, 1989. A determination was made that 41BX66 did not meet Criterion D of 36CFR800 for eligibility to the National Register of Historic Places. Relatively extensive machine testing and hand-dug test units revealed the presence of eroded fire-cracked rock concentrations spread over a large site area both north and south of Loop 1604 within the right-of-way.

The site deposition of cultural materials was shallow, with bedrock outcrops making deeper deposits across the site area unlikely. Most of the site had been disturbed before testing began. The feature inside the trees examined by McGraw remained as the only intact portion of the site. The burned rock features were all that was left of a badly disturbed site.

The site was not eligible because whatever information provided by the features had no context after disturbance. The testing performed at 41BX66 demonstrated that the site had suffered severe disturbance by clearing, erosion, and earlier highway construction. The site offered little depth, few features, no diagnostic artifacts, no radiocarbon samples, and no artifacts outside of lithic materials. Site 410x66 lacked the potential to increase archaeological knowledge of settlement and subsistence in northern Bexar County.

References Cited

Black, Stephen L. and A. Joachim McGraw
1985 The Panther Springs Creek Site: Cultural Change and Continuity Within the Upper Salado Creek Watershed, South-Central Texas. Center for Archaeological Research, University of Texas at San Antonio Archaeological Survey Report No. 100. San Antonio. 6

Blair, W. Frank
1950 The Biotic Provinces of Texas, Texas Journal of Science 1(2): 93-116. 3

Brown, David, Paul Lukowski, Thomas R. Hester, and Jack D. Eaton
1977 Archaeological Assessment of Two Sites in the Vicinity of Floodwater Retarding Structure No.11, Salado Creek Watershed, Bexar County, Texas. Center for Archaeological Research, University of Texas at San Antonio Archaeological Survey Report No. 35. San Antonio. 6

Gould, F. W.
1969 Texas Plants: A Checklist and Ecological Summary. Texas A&M University Experiment Station MP-585, College Station. 4

Katz, Paul R.
1987 Archaeological Mitigation at 41BX300, Salado Creek Watershed, South-Central Texas. Center for Archaeological Research, University of Texas at San Antonio Survey Report No. 130. San Antonio. 5

McGraw, A. Joachim and Fred Valdez, Jr.
1978 41BX68: A prehistoric Quarry-Workshop in Northern Bexar County, Texas. Center for Archaeological Research, University of Texas at San Antonio Archaeological Survey Report No. 56. San Antonio. 6

Taylor, F. **B.,** R. B. Hailey, D. L. Richmond
1966 Soil Survey Bexar County, Texas. United States Department of Agriculture, Soil Conservation Service Series 1962, No. 12. Government Printing Office, Washington, D.C. 3