Initial Testing Report and Recommendations for Archeological Resources along Proposed R.M. 337, Bandera County, Texas

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INITIAL TESTING REPORT AND RECOMMENDATIONS FOR ARCHEOLOGICAL RESOURCES ALONG PROPOSED R.M. 337, BANDERA COUNTY, TEXAS

Introduction

Ten archeological sites in Bandera County, Texas, will be affected by the completion of R.M. 337, a proposed 10.2-mile extension connecting the existing R.M. 337 (formerly F.M. 1336) with R.M. 187 south of Vanderpool. These sites were discovered in February, 1978, during an archeological reconnaissance of the right-of-way by Frank Weir and Daymond Crawford of the State Department of Highways and Public Transportation and Robert Mallouf and John Clark of the Texas Historical Commission. Between February 22 and March 21, 1978, preliminary sub-surface testing and/or surface collecting of the sites was conducted by Jerry Henderson and Daymond Crawford of the State Department of Highways and Public Transportation to assess the data potential of these cultural resources in order to formulate recommendations for their mitigation. The purpose of this report is to present the findings of these preliminary investigations and the subsequent recommendations that have resulted from them.

R.M. 337, when completed, will be a 20.4-mile route from State Highway 16 in Medina west to R.M. 18 about .1 mile south of Vanderpool. The first 10.2 miles of the highway have been completed. The section of right-of-way under investigation in this report begins at the westward end of the completed portion (10.2
miles west of Medina) and roughly parallels the West Prong of the Medina River westward for about 2 miles. At this point, it continues some 3.5 miles through rough and broken terrain in a westward and northwestward direction until it intersects Mill Creek, a westward-flowing tributary of the Sabinal River. From this point the highway right-of-way roughly parallels Mill Creek in a southwesterly direction for about 2.5 miles where it crosses Evans Creek, continues on some 1.5 miles past Evans Creek to the Sabinal River, crosses the river, and intersects R.M. 187 about 1 mile west of the river and 1 mile south of the town of Vanderpool. This route is reconstructed in Fig. 1 and can be located on the Love Creek, Sabinal Canyon, and Vanderpool Quadrangles, U.S.G.S. 7.5' Series, topographic maps. The sites under discussion are pinpointed along this route in Fig. 1.

The region under study is one of rugged, hilly to mountainous terrain characterized by rocky, shallow soils supporting stands of juniper and oak and a groundcover of grasses, cacti, and scrubs. In many places the limestone bedrock can be seen exposed or eroding from the soil. The uplands are cut by numerous spring-fed creeks and streams - both intermittent and perennial in nature - that drain either westward into the Sabinal River on the western end of the project or eastward into the Medina River on the eastern end of the project. It is along or near these water sources that the ten sites are situated.

Of the ten sites to be affected by the highway construction, three (41BN24, 41BN27, and 41BN33) are herein recommended for
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further excavations; it is felt that the remaining seven do not warrant further investigations, the various reasons for which will be explained as each site is discussed individually.

Sites Recommended for Excavation

Site 41BN24

Site 41BN24 is a burned rock midden situated about 100 ft. west of an intermittent southward-flowing stream, about 500 ft. above the confluence of this stream with the West Prong of the Medina River (Fig. 1). The site is located at N29 46'2", W92 26'0" on the Love Creek Quadrangle, U.S.G.S. 7.5 Series, topographic map. The midden measures about 30 ft. in diameter, and only its southeast portion extends into the highway right-of-way (Fig. 2). Occupational debris surrounding the midden is quite extensive and covers approximately one acre. The site sits atop a gently eastward-sloping terrace and is covered by dense grass. An occasional juniper tree as well as other small scrubs and brush dot the landscape, and the terrain is very rocky (Fig. 3).

The site has been severely damaged by relic hunters and highway grade construction. The destruction caused by relic hunters is concentrated atop the center of the midden and is evident by large potholes within the midden and burned rock scattered around the periphery. Only the edges of the midden appear to have escaped this vandalism. The damage caused by
Figure 2. Contour map of Site 41BN24.
highway grading and bulldozing occurs along the southern and southeastern periphery of the midden and corresponding occupational areas. The entire right-of-way has been cut and graded and the backdirt either removed or piled within the right-of-way. Thus the culture-bearing deposits within the right-of-way have been somewhat disturbed. However, that grading that occurred along the northern boundary of the right-of-way and consequently that which is closest to the heart of the site appears to have extended for only 3 to 4 cm. below the original ground surface; and hence this portion appears to have received the least damage. This section appears along the northern right-of-way fence line in Figs. 2 and 3. Surface artifacts are very numerous within this leveled area and in an adjacent backdirt pile. It is presumed that these artifacts were originally in a sub-surface context within this same area of the site and subsequently exposed during grading activities.

A 1-by-1-m. test pit was situated along this northern right-of-way line, about 1 m. southeast and downslope of what was judged to be the original periphery of the midden (Fig. 2). The matrix, a dark brown humus, was screened through a 1/4-inch mesh. At 4 cm. below the surface of the graded area, a compact concentration of burned rock was encountered which continued to a depth of 18 cm. where it was underlain by a reddish brown sterile clay (Fig. 4). From a road cut some 10 m. to the south, bedrock is exposed immediately below what appears to be this same reddish brown sterile
Figure 4. Test Pit, Site 413N24.
clay zone. From this test pit, it appears that the midden is far more extensive than is indicated on the surface and that in this area of the site it has been covered over with soil deposition since aboriginal occupation. It also appears that the midden was originally placed atop a sterile reddish brown clay zone some 2 to 3 cm. deep. Artifacts recovered from this test pit include 1 biface, 2 scrapers, 1 core, and 5 flint flakes - a number of which showed signs of utilization along the edges.

A surface collection was conducted within the right-of-way; no attempt was made to maintain a controlled collection due to the already disturbed nature of the entire area. It was felt that in light of this disturbance, horizontal distribution would prove meaningless. The surface collection produced 43 bifaces, 14 unifaces, 5 choppers, 2 cores, 52 utilized flakes, and 26 dart point fragments. The dart points include 14 specimens too fragmentary for identification, 4 Pedernales points, 2 Darl points, 1 Uvalde point, 1 Palmillas point, 1 Tortugas point, 1 Ensor point, and 2 miscellaneous untyped specimens. See Figs. 5, 6, and 7 for illustrations of examples of these artifacts.

As can be seen from the dart point types alone, this site probably represents some part of a 5000-year time span. For example, the types Pedernales, Uvalde, and Tortugas alone represent the time span 4000 B.C. to A.D. 1000 (Suhm and Jelks 1962). The remaining artifacts are not time-diagnostic or culture-specific, yet their large numbers and wide variety indicate that the site was heavily used aboriginally.
Figure 5. Dart points from Site 41BN24: a, Pedernales; b, Ensor; c, Uvalde; d, Palmillas; e-f, Darl; g, Tortugas; h-i, Miscellaneous untyped points.
Bifaces from Site 41BN34: a-c, Fine bifaces; d, Heavy biface.
Figure 7. Artifacts from Site 41BN24: a-b, Unifaces; c, Utilized flake; d, Chopper/hand ax.
Site 41BN27

This site is a burned rock midden situated about 60 ft. southwest of an intermittent tributary of Mill Creek, about 1200 ft. north of the confluence of this stream with Mill Creek (Fig. 1). This location is about 6208 ft east of the Sabinal River. The site can be located at N29 44'30", W99 33'7" on the Sabinal Canyon Quadrangle, U.S.G.S. 7.5' Series, topographic map. The midden is approximately 20 to 25 ft., in diameter and is situated in its entirety within the highway right-of-way. The northwest portion of the midden has been covered over by soil deposits since aboriginal times, and hence the extent of the midden in this direction is only estimated. The terrain downslopes to the northeast, toward the intermittent stream; and occupational debris can be seen scattered for about 50 ft. around the midden. An existing pasture road runs south to northeast about 120 ft. south of the site (Fig. 8). The soil is rocky; and groundcover is sparse, consisting mainly of grass, cactus, and scrubs. Juniper and live oak trees are very dense in the area, several of which can be seen growing atop the midden itself (Fig. 9).

The southern and northern boundaries off the right-of-way have been graded, and a cut marking the centerline has been cleared through the site. However, none off these activities have disturbed the midden itself. Aside from one small pothole placed atop the center of the midden, the midden appears to be intact.
Figure 8. Contour map of Site 41BN27.
Figure 9. General view of Site 41BN27, facing west.
and undisturbed. The grading along the northern right-of-way line has disturbed probably the upper 5 to 8 cm. of the deposit and consequently exposed occupational debris in this area.

A 1- by 1-m. test pit (Test Pit 1) was situated 2 m. south-east and slightly downslope of the midden periphery (Fig. 10). The matrix, a dark brown humus, was screened through a 1/4-inch mesh. Limestone bedrock was encountered at 14 cm. below ground surface, and the artifacts recovered from this unit consist of scattered burned rock and flint flakes. A second 1- by 1-m. test pit (Test Pit 2) was situated atop the midden, 4 m. west and 1 m. north of Test Pit 1, and approximately 50 cm. northwest of the apparent pothole (Fig. 11). The matrix, a dark black damp soil, was screened through a 1/4-inch mesh and extended an average of 20 cm. below the surface at which point limestone bedrock was encountered. It appears from this test pit that the midden was originally placed atop bedrock; artifacts recovered from Test Pit 2 consist of burned rock and 2 small flint flakes.

A surface collection was conducted; but because of the extent of grading surrounding the midden, no attempt was made to maintain a controlled collection. (It was assumed that provenience was already lost on all artifacts recovered from the graded area; therefore horizontal distribution would prove meaningless.) The surface collection resulted in the recovery of 13 bifaces, 5 unifaces, 3 choppers, 2 gravers, 80 flint flakes - many of which show signs of utilization along the edges, and 4 dart points. The dart points
Figure 10. Site 41BN27, Test Pit 1.
Figure II. Site 41BN27, Test Pit 2.
include 1 Ensor, 1 Bulverde-like, and 2 untyped specimens. The dart point types indicate that the site was occupied some time between 3000 B.C. and A.D. 1000 (Suhm and Jelks 1962). Examples of the recovered artifacts from Site 41BN27 are illustrated in Fig. 12.

**Recommendations for Sites 41BN24 and 41BN27**

The function of burned rock middens has been the subject of much debate in Central Texas archaeology. Theories abound as to their purpose, but to date no one theory has gained wide acceptance. Hester (1970) proposes the possibility that burned rock middens represent acorn processing stations, while Prewitt (n.d.) suggests that they were used for sotol processing. Greer (1967) calls such features "mescal pits," or earth ovens used for cooking mescal. Another theory put forth by Hester (1970) is that burned rock middens are dump areas within a site where broken and unusable hearthstones were periodically discarded. One thing is certain, and that is that burned rock middens represent a specific cultural adaptation—probably to a hunting and gathering economy (Weir 1976).

There are some aspects of burned rock middens that seem to be uniform wherever the middens are found; for instance, all seem to belong mainly to the Archaic Period and all seem to have accumulated over a considerable period of time (Hester 1970). On the other hand, some aspects of burned rock middens seem to be unique. For instance, their size varies greatly and at least 4 distinct:
Figure 12. Artifacts from Site 41BN27: a, Bulverde dart point; b, Ensor dart point; c-d, Miscellaneous untyped points; e, Biface; f, Graver; g-h, Utilized flakes; i, Heavy biface.
shapes have been recognized (Weir 1976). Their contents also vary. Some contain large numbers of artifacts; others few. Some contain faunal debris and some contain concentrations of land snails; others don't. Weir (1976) sees a relationship between the size of the midden and the artifactual assemblage associated with it. In short, although burned rock middens are widely known throughout Central Texas, their function still remains a mystery (Weir 1976).

The opportunity to establish chronological placement and cultural affiliation of a large burned rock midden site can be seen through extensive excavation of Site 41BN24. If the relatively large numbers and range of projectile point types recovered from the surface are indicative of the potential sub-surface recovery, then this opportunity can be realized through comparison with established projectile point typologies. Furthermore, the diversity of tools already recovered indicates a wide range of subsistence activities associated with the midden, and an analysis of these tools along with those recovered during excavation would yield valuable information regarding the economic base of the site's inhabitants. The artifactual assemblage recovered through excavation can be compared with that from other midden sites to add to the growing body of knowledge regarding the burned rock midden phenomenon and to aid in their proper interpretation.

Hester (1970) suggests that future research of burned rock middens should concentrate on the areas surrounding the rock
accumulations in an attempt to discover the specific function leading to the formation of these middens. It is proposed that this goal be foremost in the excavation scheme at 41BN24. This goal is all the more timely in light of the fact that only a small part of the rock accumulation itself is within the right-of-way, the major portion of the site within the right-of-way consisting of occupational debris surrounding the midden.

With Site 41BN27, the entire midden is within the right-of-way and appears to be almost completely intact and undisturbed. At this site, the above-mentioned goal should be supplemented by an attempt to retrieve maximum data regarding the contents of the midden itself. This excavation scheme should produce data for intra-site as well as inter-site comparisons.

Intra-site activity areas would be more easily detected by exposing broad horizontal surfaces within the sites. Since both sites have shallow soil deposition, it would be possible to open up large horizontal areas to facilitate discovery of features and other data relevent to the living patterns of the aboriginal inhabitants.

Site 41BN33

Site 41BN33 is a sink hole in the limestone bedrock about 700 ft. west of Mill Creek and about 16,000 ft. east of the Sabinal River (Fig. 1). It can be located at N29 45'47", W99 30'30" on the Sabinal Canyon Quadrangle, U.S.G.S. 7.5' Series, topographic map.
The ground surface surrounding the sink slopes downhill to the southeast in the direction of Mill Creek and is severely eroded. To the west and northwest the terrain slopes upward to the foot of a steep hill some 1000 ft. away (Fig. 13). The terrain is very rocky with bedrock exposed in many places. Groundcover consists of cactus, grass, and small scrubs. Live oak trees are the dominant tree type. The opening of the sink is 3.6 m. northeast; to southwest by 2.8 m. northwest to southeast. There is about a 1 m. drop through the opening to the surface of the fill inside the sink which is an as yet undetermined depth. Inside the sink, the surface extends about 4 m. up under the overhang on the north, east, and south sides and about .7 m. on the west and southwest sides. Fill washes in from the southwest and has formed a small "cone" on the surface where it enters the sink (Fig. 14).

A 1-by-1-m. test pit was placed under the lip of the overhang on the east side, with about 1/4 of the pit under the shelter and 3/4 in the open (Fig. 15). This pit was excavated in 10-cm. levels to a depth of 90 cm. below the surface of the sink. Bedrock was not encountered at this level, but excavation was halted because it was felt that enough evidence of cultural occupation was encountered to warrant full-scale excavation. All material from this test unit was screened through a 1/4-inch mesh; a summary of the findings is as follows:

Levels I-III (0-30 cm.): A quantity of burned rock, charcoal, flint flakes, broken glass, and organic debris was encountered to
Figure 13. Contour map of Site 41BN33.
Figure 14. General view of Site 41BN33, facing northeast.
Figure 15. Test Pit, Site 41BN33.
a depth of 14 cm. The organic debris included wood and dead leaves that had not yet decomposed; and these materials, along with the glass fragments, pointed to a recent manifestation at this level. At 14 cm. below surface, a lens of limestone spall material was encountered extending inter-mixed within the matrix to a depth of 24 cm. below the surface. Below this spall lens, the remainder of Level III (24–30 cm.) was sterile except for 2 flint flakes.

Levels IV and V (30–50 cm.): Level IV (30–40 cm.) produced a few flint specimens (one of which is a possible projectile point preform or blank), a few scattered burned rocks and some charcoal. A rodent burrow was encountered running roughly north to south across the unit, and the pieces of charcoal seemed to be associated with this burrow. At 34 to 40 cm. below surface another small spall lens was encountered. Beneath this lens, the matrix consisted of random burned rock and charcoal which became more and more concentrated in the southeast corner until, a distinct concentration of burned rock in the east and southeast, and a gray ash lens in the southwest corner, were encountered at 50 cm. (Fig. 16). Surrounding the ash lens on the floor in the southwest corner were reddish discolorations interpreted as being areas of burned clay where a fire had occurred in situ. A floor plan of the 50-cm. level is shown in Fig. 17. Flint flakes were also recovered at random from this level.

Levels VI–IX (50–90 cm.): Immediately beneath Level V (al; 50 cm.), another small spall lens was encountered that extended
Figure 16. Test Pit, Site 41BN33. Burned rock accumulation can be seen in the east and southeast of the unit, and a gray ash lens is noticeable in the southwest corner at 50 cm. depth.
Figure 17. Floor plan of Test Pit, 50-cm. Level, 41BN33.
for only 2 cm. From this depth until excavation was halted at 90 cm., loose randomly scattered burned rock, charcoal, ash stains, and flint flakes were encountered. A scraper was recovered from Level VI, and several of the random flint flakes showed signs of utilization along the edges. The quantity as well as the size of the burned rocks and pieces of charcoal increased as greater depths were reached. A small cluster of burned rock appeared at 75 cm. below surface along the northern portion of the east wall and appeared to extend eastward into the unexcavated portion of the site. A large quantity of charcoal was recovered from this same area within the unit and appeared to be associated with the burned rock. Fig. 18 is a profile drawing of the north wall of this test unit.

Recommendations for Site 41BN33

Although no time-diagnostic or culture-specific artifacts were recovered from the one test unit, the data potential for this site is great. Cultural use of the sink appears to have been heavy throughout the period represented by the upper 90 cm. of deposit. Furthermore, there appears to be good stratigraphic separation in the form of the spall lenses which can yield relative chronological placement of the materials recovered from each zone. In addition, the abundance of charcoal indicates that radiocarbon dating will also be possible.

The possibility of the aboriginal use of the sink as a burial locale must not be overlooked in the light of such discoveries.
Gray top soil

Dark brown humus with random burned rock and charcoal

Spall lens

Dark brown humus with burned rock and charcoal

Small spall lens

Dark brown humus, ash lens, and burned rock

Small spall lens

Loose dark brown humus intermixed with burned rock, charcoal, ash and flint flakes

Figure 18. Profile of north wall; 0-90 cm, 41BN33 test pit.
in similar karst features in adjacent regions. For example, the Hitzfelder Cave (Givens 1968) 30 miles north of San Antonio produced the remains of at least 30 individuals; and Givens (1968) reports knowledge of several "burial caves" in Central Texas that have to date not been scientifically excavated. Harry J. Shafer of Texas A & M University (personal communication) is currently investigating several sink hole sites on the Edwards Plateau containing burials.

Aside from the possibility of recovering human remains, it is anticipated that paleontological materials may be recovered that could yield valuable environmental and climatic information. Microfauna especially are good environmental indicators and are often recovered from cave and sink hole situations. In addition, sometimes palenological remains are preserved in such karst features.

Accordingly, it is felt that further excavation of Site 41BN33 should proceed with these potentialities in mind in particular, the systematic utilization of water screening and flotation of soil samples; however, the excavation program should be flexible enough so that the work can be modified according to the recovery. It is anticipated from the evidence of one test pit that sufficient data will be recovered to increase the knowledge of local cultural prehistory and hoped that paleo-environmental data will be retrieved as well.
Sites Not Recommended for Excavation

In the interest of expediting approval of this request for further work on the three sites discussed above, discussion of the remaining seven sites will be limited at this time to reasons why they are not recommended for excavation. A complete exposition of these sites will be included in the final report dealing with the mitigation of the entire project.

Site 41BN25

This site is situated on a west bluff of Duncan Creek, approximately 600 ft. west of Site 41BN24 (Fig. 1). It can be located at N 29° 46' 0", W 92° 26' 6" on the Love Creek Quadrangle, U.S.G.S. 7.5' Series, topographic map. The site has been severely damaged by highway construction and cultivation activities. Nothing remains of the original ground surface; there is no vegetation or natural contours to the terrain. The entire area has been cut and leveled by heavy, machinery, and it appears that destruction of this site is complete. Two dart points were found on the surface during the initial reconnaissance by Wier et al. but no additional artifacts were recovered during subsequent surface collecting. It is impossible to determine what once existed at this site, and it is felt that nothing more can be gained from further investigation due to the totally disturbed condition of the site.
Site 41BN26

Site 41BN26 is a lithic scatter on a westward sloping terrace about 300 ft. east of the Sabinal River (Fig. 1), at N29 44' 30", W99 33' 7" on the Vanderpool Quadrangle, U.S.G.S. 7.5' Series, topographic map. The terrain is rocky and covered with dense grass, and what appears to be a small flint outcrop is situated upslope in the eastern area of the site. Vehicular ruts bisect the site running northeast to southwest. A scatter of flint debitage covering an area of about 50 ft. in diameter can be seen within the right-of-way (Fig. 19). Similar flint scatters are quite common all along the terraces of the river and appear to be natural sources of flint. It appears that a fire occurred in this area some time in the past because most of the lithic material is fire-cracked and pocked. This condition of the flint is noticeable for an undetermined distance up and down the river. In addition most of the lithic material is cracked and fractured, apparently from water action, vehicular traffic, and grazing animals. A surface collection was conducted but resulted in the recovery of only what appears to be naturally fractured flint. It is doubtful that any of the flint flakes recovered are the result of cultural manipulation. A 1-by 1-m. test pit was situated among the lithic debris in the center line and excavated to bedrock at 26 cm. The matrix was screened through a 1/4-inch mesh and was totally void of cultural material or lithic debris of any sort. The soil, a black clayey
Figure 19. Contour map of Site 41BN26.
loam appears to be river deposited and the lithic scatter confined to the present-day surface only. At best, this site represents a flint source that was minimally used aboriginally and has no real archeological significance.

Site 41BN28

Site 41BN28 is a burned rock midden about 150 ft. east of an intermittent tributary to Mill Creek and about 1200 ft. north of the confluence of this stream with Mill Creek. This site is just across the creek about 300 ft. to the east of Site 41BN27 (Fig. 1) and can be located at N29.45'8", W99 32'8" on the Sabinal Canyon Quadrangle 7.5' Series, topographic map. The midden averages about 45 ft. in diameter, and only about 2 ft. of its northwest portion extends into the right-of-way. An extant pasture road running roughly east to west bisects the right-of-way and the midden (Fig. 20). The rocky terrain slopes toward the southeast, and the entire area appears to be somewhat deflated as a result of sheetwashing and erosion. Bedrock is exposed in places. Lithic debris surrounds the midden for a distance of about 150 ft. in all directions but appears in heaviest concentrations in the area outside the right-of-way between the midden and the creek. This concentration appears to be the result of sheetwashing since the location is downslope and in an eroded area. The northern and southern boundaries of the right-of-way have been graded, and from the grading activities it is apparent that there is little depth to the soil and that bedrock lies only a few centimeters
Figure 20. Contour map of Site 41BN28.
below the surface. Additional damage to the surface has been caused by county clearing for fencing. An intensive surface collection was made and produced numerous flint artifacts including cores, bifaces, unifaces, utilized flakes, and projectile point fragments. Although these artifacts were scattered throughout the right-of-way, they were found in greater quantities in the southeast portion of the site which is a highly eroded area downslope from the midden. Excavation is not recommended for this site because it is felt that no further data can be gained from that small portion of the site which is in the right-of-way. The main body of the midden and greatest concentrations of artifacts lie outside the right-of-way to the south and east, while those materials within the right-of-way are in a disturbed context. Provenience of artifacts has already been lost in this area due to erosion and grading activities.

**Site 41BN29**

Site 41BN29 is a limited lithic scatter on the west terrace of Evans Creek about a half mile upstream from the confluence of Evans Creek and Mill Creek (Fig. 1). It can be located at N29° 45' 25", W99° 31'50" on the Sabinal Canyon Quadrangle, U.S.G.S. 7.5' Series, topographic map. The lithic debris extends from the creek bank westward for about 300 ft. and north-south for about 150 ft. (Fig. 21). A surface collection produced some possible cores, flakes, biface, and some recent sherds (all probably
Figure 21. Contour map of Site 41BN29.
from one 20th Century stoneware vessel). The site appears to be a good flint source; flint nodules can be seen all along the terrace and bank of the creek. However, of all the flint material collected, only 1 biface is obviously cultural in nature. The remaining flint specimens appear to be naturally fractured flint. At best the site represents a lithic source that was minimally to moderately used aboriginally and a late historic (20th Century) site that is of no archeological significance. It is felt that the paucity of the prehistoric artifacts and the lateness of the historic material are not sufficient grounds for recommending the site for excavation.

Site 41BN30

Site 41BN30 consists of a light lithic scatter and late historic debris on the west bluff of an intermittent tributary to Mill Creek, about 200 ft. north of Mill Creek and about 14,000 ft. east of the Sabinal River (Fig. 1). It can be located at N 29° 45' 45", W 99° 30' 48" on the Sabinal Canyon Quadrangle, U. S. G. S. 7.5' Series, topographic map. Erosion and sheetwashing have occurred along the bluff to the east and downslope to the south (Fig. 22). A surface collection was made and produced 1 projectile point, a few flint flakes, and numerous late historic artifacts (probably post-1930's) including barbed wire, tin cans, broken glass, shotgun shells, and nails. The historic debris is apparently very modern and thus insignificant archeologically. Prehistorically, the site at best represents a small quarry.
Figure 22. Contour map of Site 41BN30.
site. The scarcity of the prehistoric materials and the recent age of the historic materials do not merit excavation of this site.

**Site 41BN31**

Site 41BN31 is an extensive lithic scatter on an upward slope about 350 ft. to the east of an erosional gully. A flat terrace lies about 100 ft. below the site, between the site and the gully. The gully is an intermittent drainage into Mill Creek which flows some 500 ft. to the south of the site (Fig. 1). The site can be located at N29 45' 48", W99 30' 40" on the Sabinal Canyon Quadrangle, U.S.G.S. 7.5' Series, topographic map. The lithic scatter is quite dense and covers an area of about 500 by 500 ft. (Fig. 23). The entire area is almost totally deflated, with very shallow to non-existent soil. Sheetwashing and erosion are very extensive all up and down the slope. A surface collection was made and produced projectile points, bifaces, unifaces, a large chopper, cores, utilized flakes, and flint debris. In addition, burned rocks are very numerous and are scattered at random throughout the site. The quantity and diversity of lithic debris suggests that this site was fairly heavily utilized aboriginally. However, the extent of deflation and erosion is so severe that it is doubtful that any provenience data can be gained from further investigations. Indeed, most of the artifacts recovered were found sitting atop exposed bedrock. Therefore, excavation would be impossible in most places and meaningless in others.
Figure 23. Contour map of Site 41BN31.
Site 41BN32

Site 41BN32 is a light lithic scatter in a cultivated field on the west bluff of Mill Creek about 16,000 ft. east of the Sabinal River (Fig. 1). The field slopes eastward toward the creek, and 3 man-made terraces have been erected to hold the soil in place and prevent erosion (Fig. 24). A surface collection was made and produced some projectile point fragments and flint flakes. The projectile points were found on the edge of the bluff, outside the man-made terrace. A shovel test in the field produced no artifacts but determined that the depth of the soil was 6 in., below which was a zone of red sterile clay. It appears that plowing has disturbed everything above this level; therefore, destruction to this site from cultivation appears total. Hence, it is felt that nothing can be gained from excavating this site.

Summary and Conclusions

It is hereby recommended in accordance with the Memorandum of Understanding between the State Department of Highways and Public Transportation and the Texas Antiquities Committee, dated January 5, 1972, that additional investigations be undertaken at three sites (41BN24, 41BN27, and 41BN33). The field work should be directed toward determining the cultural affiliations and chronological placement of each site's occupants,
Figure 24. Contour map of Site 41BN32.
ascertaining as much as possible of the living strategies and subsistence patterns of each site's occupants, and discerning as much as possible regarding the paleoenvironmental parameters of each site—especially Site 41BN33. Extensive controlled hand excavations are required at all three sites which could be augmented by machine excavations at Sites 41BN24 and 42BN27. Sufficient time and personnel will be allocated to perform these intentions; it is estimated that a minimum of 4 months will be necessary to accomplish these ends.

After careful consideration of the character and potential of each of the remaining seven sites, it is felt that further investigative efforts are unnecessary for these sites. They will, however, be included in a final report of the entire project which will be available within 2 years of the end of field activities.

All cultural materials recovered will become the property of the State of Texas, and their ultimate disposition will be storage at the Texas Archeological Research Laboratory, Balcones Research Center, Austin, Texas. Field notes, photographs, maps, and other records will be stored at the Archeological Laboratory of the State Department of Highways and Public Transportation at Camp Hubbard, Austin, Texas.
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