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## Test Excavations along F. M. 765, McCulloch County, Texas

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Test Excavations Along F.M. 765

McCulloch County, Texas

by

Ann M. Irwin

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ENVIRONMENTAL AFFAIRS DIVISION  
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State Department of Highways and Public Transportation

## INTRODUCTION

Four archaeological sites in McCulloch County, Texas will be affected by the construction of a fifteen mile section of F.M. 765 from Fife, Texas to its intersection with U.S. 377 north of Mercury, Texas (Figure 1). These four sites were discovered in April 1973, by Daymond Crawford of the State Department of Highways and Public Transportation during a routine archaeological reconnaissance of the proposed right-of-way. Two sites, 41 MK 10 and 41 MK 27, are located along the banks of Bluff Creek, some four and one-half kilometers upstream from its confluence with the Colorado River. Bluff Creek makes two large meanders between the sites and the Colorado River, and the straight distance to the River is approximately 1700 meters. The other two sites, 41 MK 8 and 41 MK 9, are located adjacent to Corn Creek approximately three kilometers from its confluence with the Colorado River.

Preliminary sub-surface testing and/or surface collecting, mapping, and evaluation of these sites was conducted by personnel of the State Department of Highways and Public Transportation under the direction of Ann M. Irwin, assisted by Colleen Lamb, Charles Schulze, and Judy Van Cleve. The discovery and preliminary test excavations at these sites were made in accordance with Procedures for the Protection of Historic and Cultural Properties (36 C.F.R., Part 800).

### Geography

The right-of-way for F.M. 765 lies in the northern part of McCulloch County and parallels the Colorado River. The proposed right-of-way intersects a number of tributary streams flowing north into the Colorado River including Cow Creek, Bluff Creek, Cedar Creek, and Corn Creek. This area lies on the northern margin of the Edwards Plateau, a southern extremity

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of the Great Plains physiographic province (Johnson, 1931). This portion of McCulloch County, located within a few miles of the geographic center of Texas, consists of an undulating, eroded and more or less dissected landscape (Johnson, 1931). The topography is steep in areas of scarps and along rough breaks associated with the major drainageways (Bynum and Coker, 1974).

#### Geology and Soils

McCulloch County is located on the northwest flank of a broad structural dome known as the Llano uplift. Rocks of the Precambrian, Cambrian, Ordovician, Pennsylvanian, Permian, and Cretaceous systems are present within the county (Bynum and Coker, 1974).

The general soil map for McCulloch County shows Tarrant-Kavett soil association in the vicinity of both Bluff Creek and Corn Creek in the areas where the archaeological sites are located. These soils are very shallow to shallow, well-drained, moderately slowly permeable clayey soils over limestone (Bynum and Coker, 1974).

#### Climate, Flora, and Fauna

In his discussion of the biotic provinces of Texas, Blair treats the Edwards Plateau as a distinct biotic province, one which he terms the Balconian. This area is characterized by an inter-mixture of faunal elements characteristic of other, major provinces (Blair, 1950). Rainfall decreases from east to west across the Edwards Plateau, ranging from dry subhumid to semi-arid. "The most characteristic plant association of the Balconian is a scrub forest of Mexican cedar (*Juniperus mexicana*), Texas Oak (*Quercus texana*), stunted live oak (*Quercus virginiana*) and various other less numerous species" (Blair, 1950, p. 113).

### Archaeological Background

LeRoy Johnson (1962) summarized what was then and is still the generally accepted broad outline for central Texas archaeology (as well as other parts of the state). These developmental stages are 1) the Paleo-Indian Stage, 2) the Archaic Stage, 3) the Neo-American Stage, and 4) the Historic Stage. Because of the nature of the materials observed and recovered during initial testing in McCulloch County, we are concerned most directly with the Archaic Stage.

Various attempts have been made in the past to order the archaeological remains in central Texas. J. Charles Kelley utilized the Midwestern Taxonomic System to organize archaeological materials into related groups he termed the Edwards Plateau Aspect (Kelley, 1947, 1959).

In 1962 Johnson, Suhm, and Tunnell divided the archaic of the Edwards Plateau Aspect into four periods, Early, Middle, Late, and Transitional (Johnson, and others, 1962). Later Johnson (1967) attempted to correlate prehistoric materials and present a periodization which relied less upon type names as fossil indicators and concentrated upon the descriptive morphology and gross size of the specimens. Johnson distinguished five periods, I through V, of which periods III and IV differ from the periods established earlier by Johnson, Suhm, and Tunnell (1962), segregating the period markers in a somewhat different way.

Frank Weir (1976) presented a classificatory system whose goal was to contribute to our understanding of the people and events represented by the archaeological record. He divides the archaic stage in central Texas, The Central Texas Archaic, into five phases, (Weir, 1976, p. 14):

- 1) The San Geronimo Phase (8000 - 4500 B.P.)
- 2) The Clear Fork Phase (5000 - 4000 B.P.)
- 3) The Round Rock Phase (4200 - 2600 B.P.)
- 4) The San Marcos Phase (2800 - 1800 B.P.)
- 5) The Twin Sisters Phase (2000 - 700 B.P.)

It is suggested that rather than only representing a constellation of traits, these phases reflect aspects of population dynamics, changes within the subsistence strategies, changes in the communication system, and the socio-political organization of the peoples whose archaeological remains constitute the Central Texas Archaic, a period lasting for more than 7000 years.

Previous work in McCulloch County is limited. Pearce conducted investigations within the county during the 1920's. However, much of this information is available only through his personal papers on file with the Texas Archaeological Research Laboratory of the University of Texas. Most recently a survey and test excavations were carried out by the Texas Archaeological Survey under the direction of Elton Prewitt in the Salt Gap area west of Brady, Texas. Numerous sites were located and several ring middens tested (personal communication).



## SITES INVESTIGATED

### 41 MK 8

The site designated 41 MK 8 is located to the east of Corn Creek on a broad terrace some 25 meters above the creek bottom. It is located on the Mercury 15' U.S.G.S. topographic map at (locational data removed). Scattered live oak and mesquite, as well as smaller persimmon and agrita bushes are present. The site includes a small burned rock midden (Figure 2 and 3) rising nearly one meter above the surrounding ground surface (Figure 4). There is a significant surface scatter around this midden, particularly to the east (Figure 2). Two projectile points, one complete and one basal section, were recovered from the surface. The first of these is a Montell point (Figure 5h) which would suggest a San Marcos Phase affiliation and an age of 2800-1800 B.P. (Weir, 1976). The other projectile point fragment (Figure 5g) is the basal (or possibly the stem) section of a concave base point. In morphology it resembles an Angostura point, although the reduction flaking is not typical of the average Angostura specimen. No oblique parallel flakes characteristic of the typical Angostura type are present.

The base is concave but the basal margins are not ground, as they are in Angostura points. If it is an Angostura point temporal mixing on the surface would be indicated.

The midden itself presents an obvious feature with several oak trees growing on it. It is roughly circular in shape, being approximately eleven meters in diameter and nearly one meter high. On the southern edge of the flat top there is a depression that may represent a pit or hearth, although the typical dark ashey fill is not present.

During this initial investigation the midden was mapped, the surrounding surface examined and the location of artifacts and flakes noted by flags.

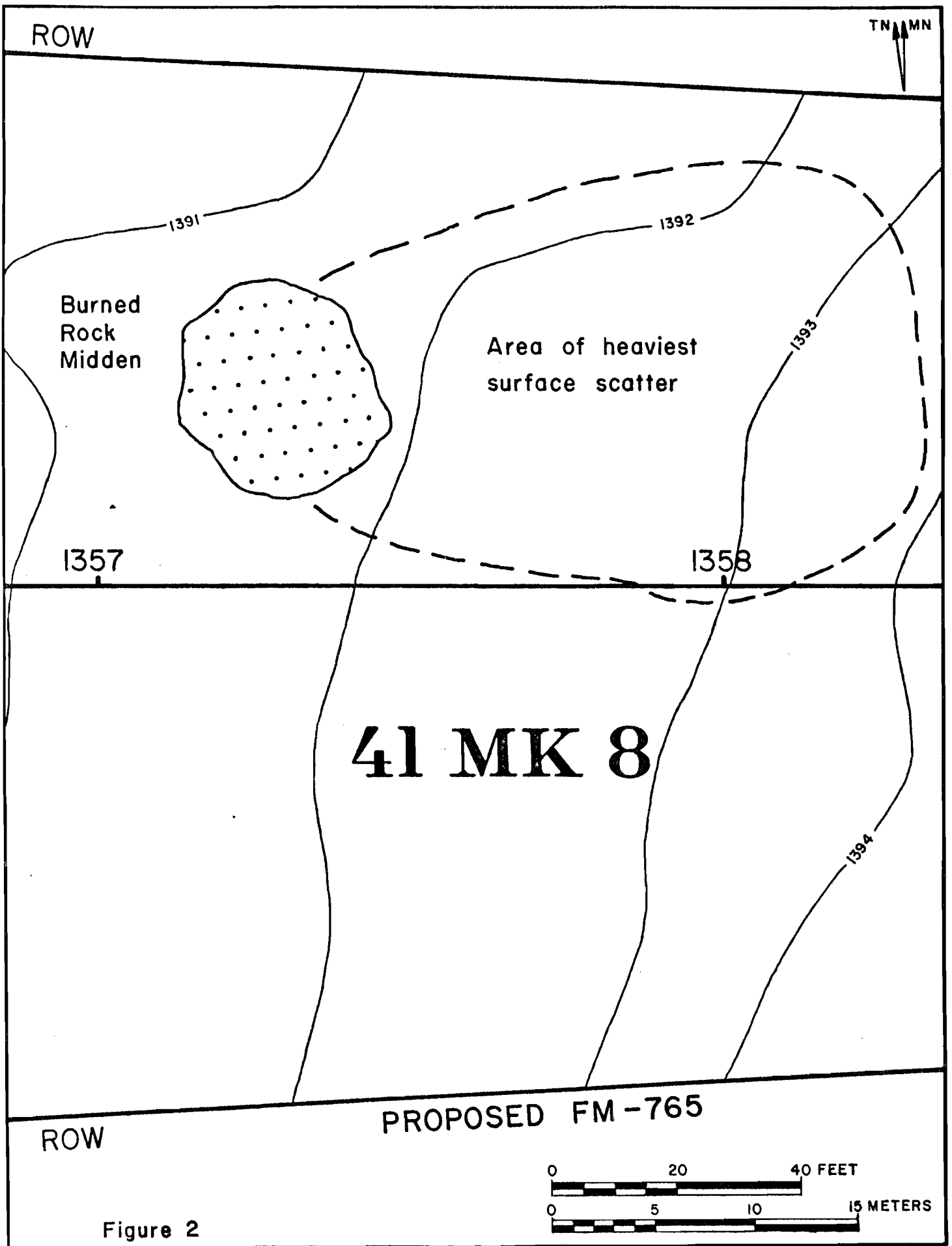


Figure 2



Figure 3. View of burned rock midden at 41 MK 8, looking east.

# Burned Rock Midden - 41 MK 8

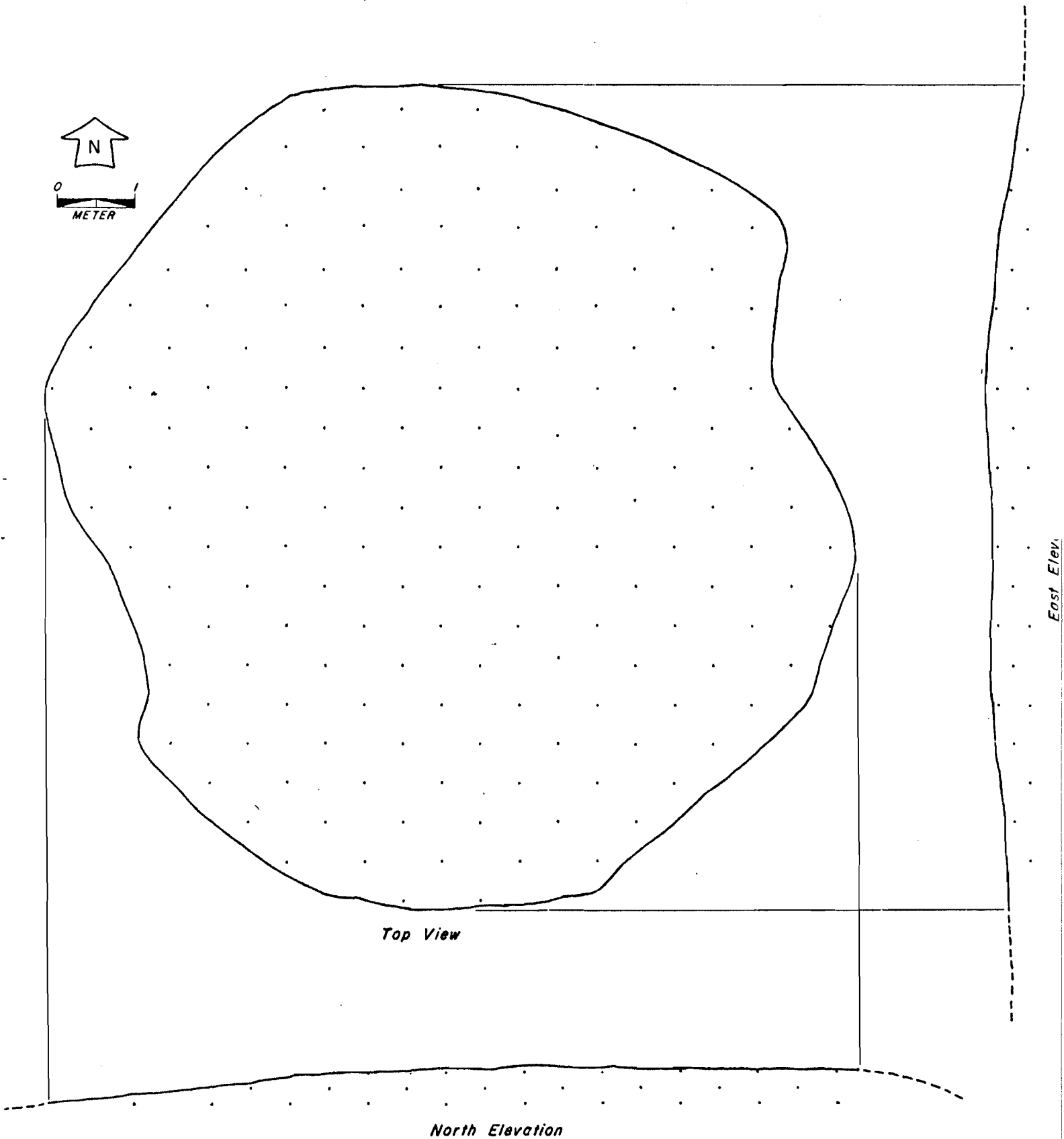


Figure 4

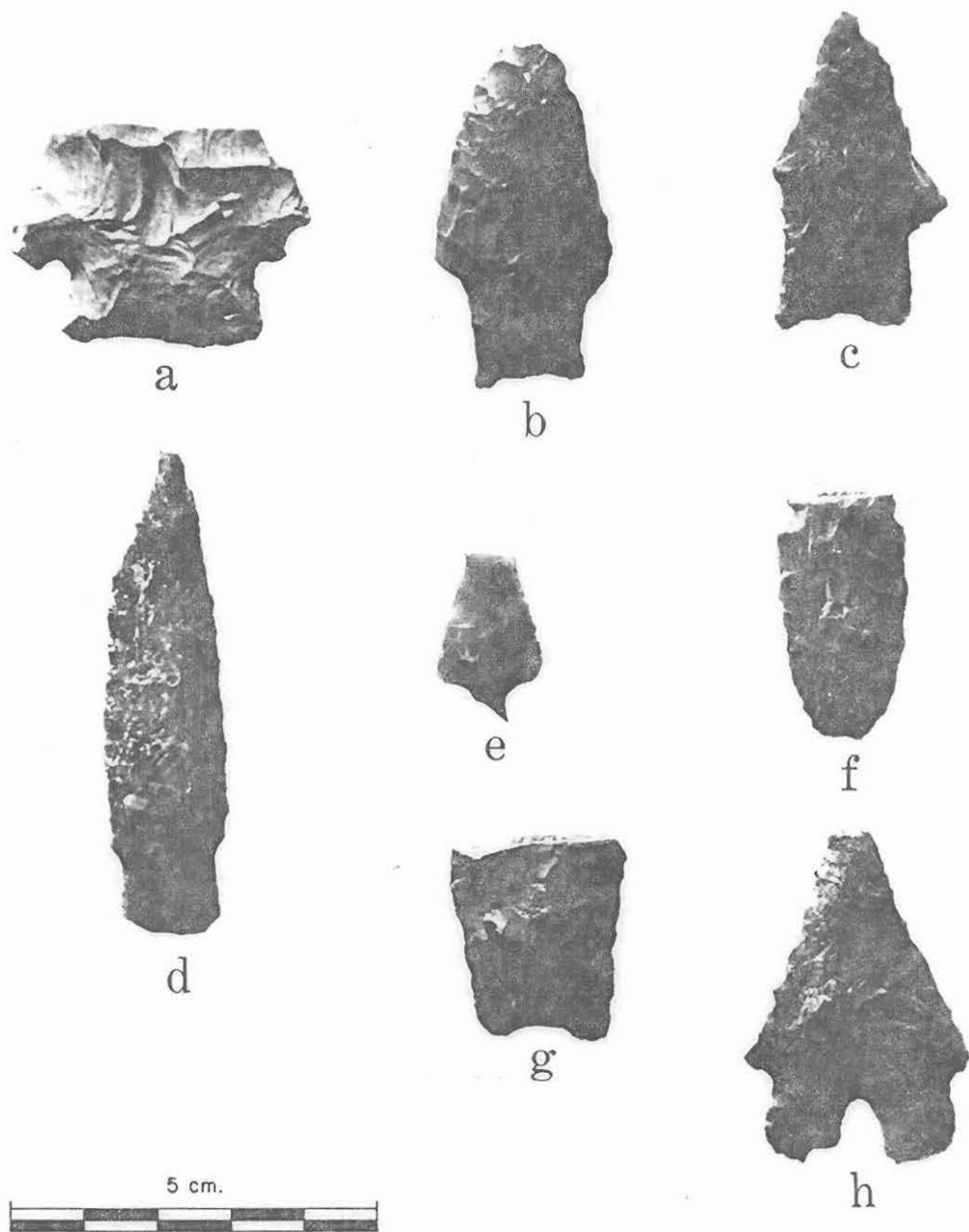


Figure 5. Projectile points: a) Castroville; b & d) Darl;  
c) Fairland; e) Arrow Point; f) Wells Base;  
g) Concave Base; h) Montell

However, because this site would obviously require additional work, no excavations were undertaken. It is proposed that the midden be cut by two trenches placed at right angles to one another, and crossing in the center. Initially these trenches would be 2 meters by 12 meters and they will quarter the midden. Particular attention will be paid to whether or not hearths or pits, or any structural features are present. If artifact density or other factors require it, these trenches will be widened to four meters. In addition, a series of from four to six 4 by 4 meter units will be placed to the east of the midden in an attempt to delineate any associated activity areas. On other sides of the midden 1 by 1 meter units will be excavated and these will be enlarged to 4 by 4 meters if necessary. The primary focus will be on determining the nature or type of this midden, especially if it is a ring midden, the determining of the cultural and temporal context, and the delineation of any associated camp or activity areas.

It is estimated that with a crew of three or four trained archaeological workers and from four to six local laborers, this work should take not less than four and not more than eight weeks, depending upon the amount and nature of material recovered.

This site is located on a terrace to the west of Corn Creek. The site lies some 18-20 meters above the creek itself and is located on the Mercury 15' U.S.G.S. topographic map at (locational data removed). To the west of the site area the topography rises another 40 meters to a limestone ridge or bluff. A pasture road lies adjacent to the site and is intersected by the right-of-way, which runs from the west across the site, and across Corn Creek. At the point where the right-of-way crosses the pasture road a widespread surface scatter of chert flakes, artifacts and burned rock is observed. The soil cover here is fairly shallow. Two concentrations of burned rock were observed and tested, and an additional test unit was excavated between them (Figure 6). Because of the shallow nature of the site no backhoe testing was undertaken. The test units were excavated by hand and all matrix screened. In addition to the numerous scrapers, flakes, bifaces and cores observed on the surface, four projectile points were recovered (Figure 5 b, c, e, and f). These points may represent several different episodes of occupation at the site. Two of them, the Darl (Figure 5b) and the Fairland (Figure 5c) are characteristic of the Twin Sisters Phase of the Central Texas Archaic, some 200-700 B.P. (Weir, 1976). The Wells base represents the Clear Fork Phase, some 5000-4000 B.P. (Weir, 1976) and the small arrow point falls within a much later period, the Neo-American stage.

Although burned rock and chert was scattered over a wide area, two concentrations which appeared to be midden received special attention. The first is a small midden some 10-11 meters in diameter. Test Unit 1 was excavated into this midden after the covering vegetation of persimmon and agarita bushes was removed (Figure 7). This midden was not particularly rich in lithic remains. Level 1 (0-20 cm) contained burned rock, three

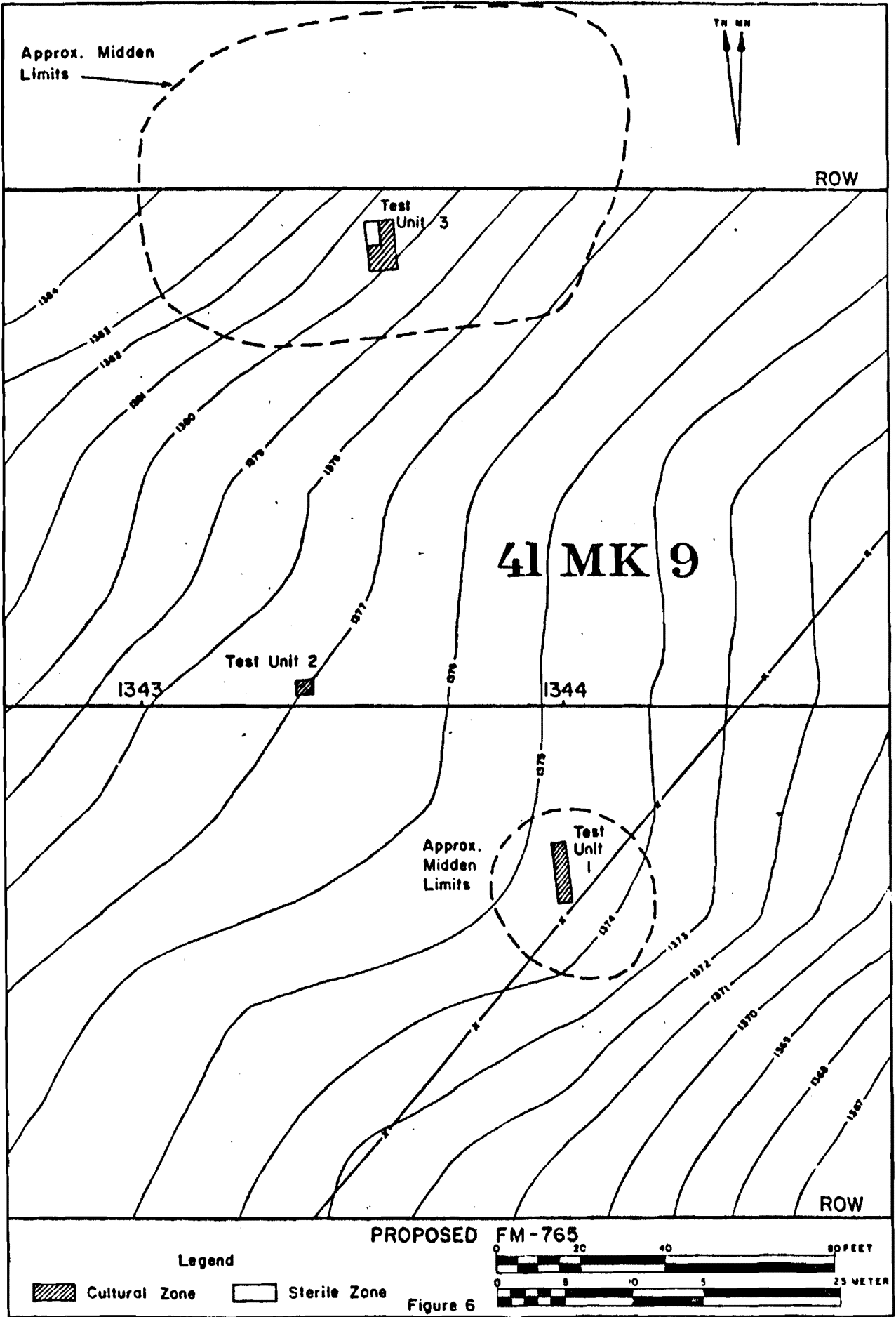


Figure 6



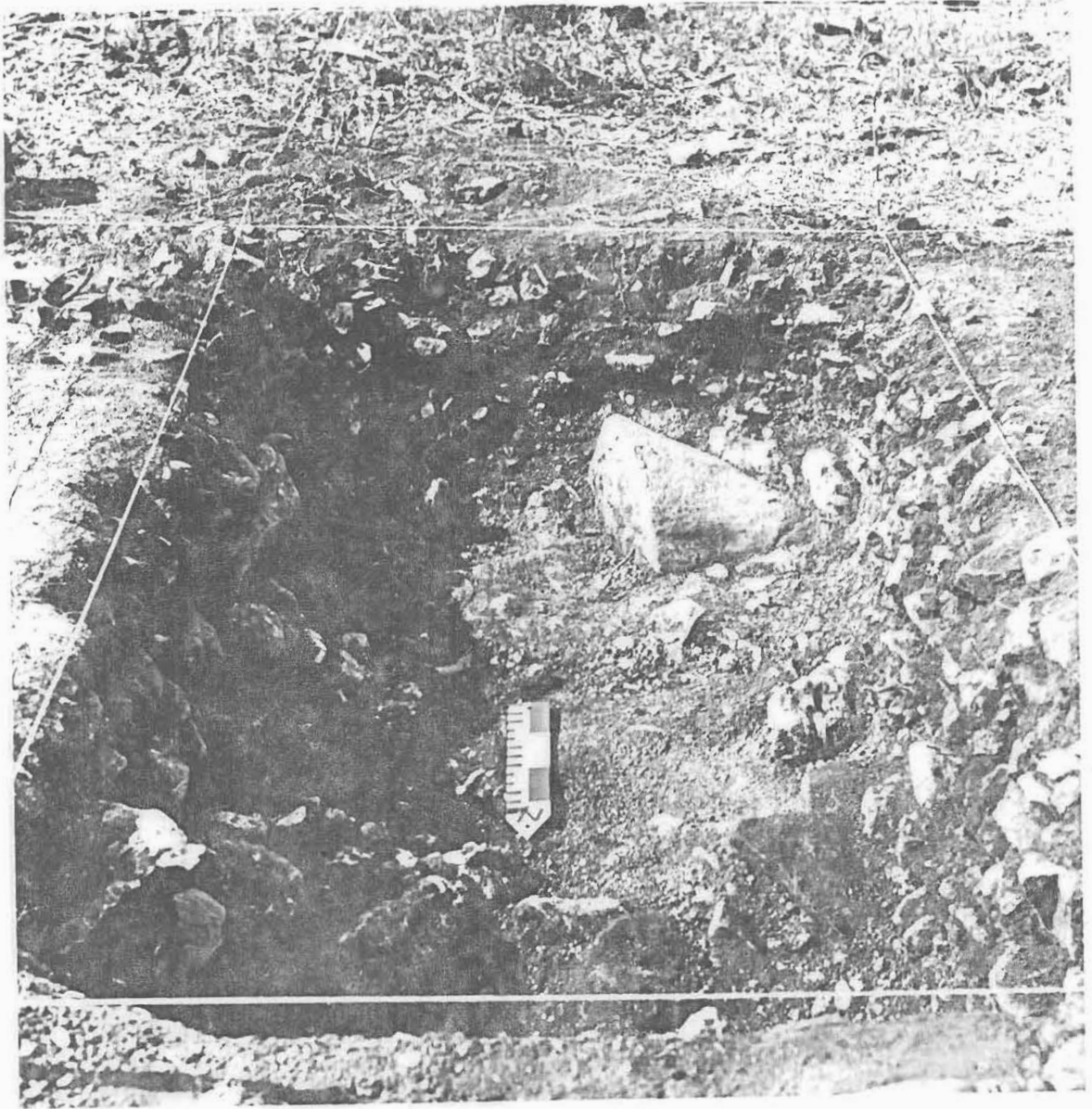


Figure 7. Small midden, Test Unit 1, 41 MK 9

decortication flakes, seven interior flakes, two pieces of red ochre, three fossils (crinoid and shells) and six very small fragments of mussel shell. Level 2 (20-40 cm) contained one projectile point. This point resembles a poorly made Darl (Figure 5d) with a slender triangular blade. The specimen has slight shoulders, with one shoulder being more pronounced than the other. The stem is straight to slightly flaring and the base is straight to slightly convex. In addition to the projectile point, level 2 had eleven decortication flakes, four interior flakes and one piece of red ochre. Bedrock was encountered between 43 and 46 cm below the surface and no artifacts were recovered from level 3.

Test Unit 2 was placed to the northwest of Test Unit 1. Bedrock and weathered bedrock was encountered 22 cm below the surface. Four pieces of yellow ochre, nine pieces of red ochre, three sections of crinoid stem, four bivalve fossils, nine interior flakes, one decortication flake, and three small pieces of shell were recovered.

North of Test Unit 2 is another shallow burned rock midden some 30-35 meters in diameter. Approximately half of this midden lies within the right-of-way. Test Unit 3 was excavated into this midden (Figure 8). The most apparent difference between this larger midden and the one located at Test Unit 1 is the large amount of shell in the larger midden. The surface of this Test Unit had shells, burned rock, a scraper, a core, five interior flakes and six decortication flakes. Level 1 (0-10 cm) had shell, a number of fossil shells, and one decortication flake. Level 2 (10-20 cm) had a great deal of mussel shell, nine fossil shells, the distal portion of an biface, two scrapers, five decortication flakes, and twenty-nine interior flakes. Level 3 (20-30 cm) was distinguished by a concentration of mussel shell including two stacks of four each where the shells were lying directly



Figure 8. Large midden, Test Unit 3, 41 MK 9

on top of each other with the ventral surface down. This concentration of shells was about seven centimeters deep with only a few shells appearing elsewhere in this portion of the unit. Dr. Raymond W. Neck identified some of the species present (personal communication). These are illustrated in Figure 9. Two of these shells (9a and b) appeared to have perforations at the tops, but these are probably the result of root action or some other natural process. In addition to this shell concentration, Level 3 contained fourteen fossil shells, two crinoid stems, charcoal, 364 interior flakes, one core, 75 decortication flakes, seven pieces of red ochre, the medial section of a thin biface or large dart point, and a small biface fragment which may be part of an unidentified shouldered dart point.

Level 4 (30 cm - bedrock) had one shell, a possible crinoid stem bead, 38 interior flakes, five decortication flakes, and one piece of charcoal. Bedrock was reached at approximately 38 centimeters below the surface.

Further work is indicated by the nature of the material recovered and observed during initial testing operations at this site. It is proposed to investigate both the smaller midden at Test Unit 1, and the larger midden at Test Unit 3. The smaller midden can be bisected by two trenches in a cross pattern. These trenches will be 2 meters wide by 12 meters long. This procedure should reveal any structure within the midden, although none is expected, and provide an adequate sample of materials contained within it. These trenches will also extend beyond the midden margin slightly.

The larger midden lies partly within the right-of-way. A series of 2 meter by 4 meter units would be excavated adjacent to the right-of-way. Five such units would provide a series of cuts across the approximate center of the midden from edge to edge. Two additional 2 meter by 4 meter units

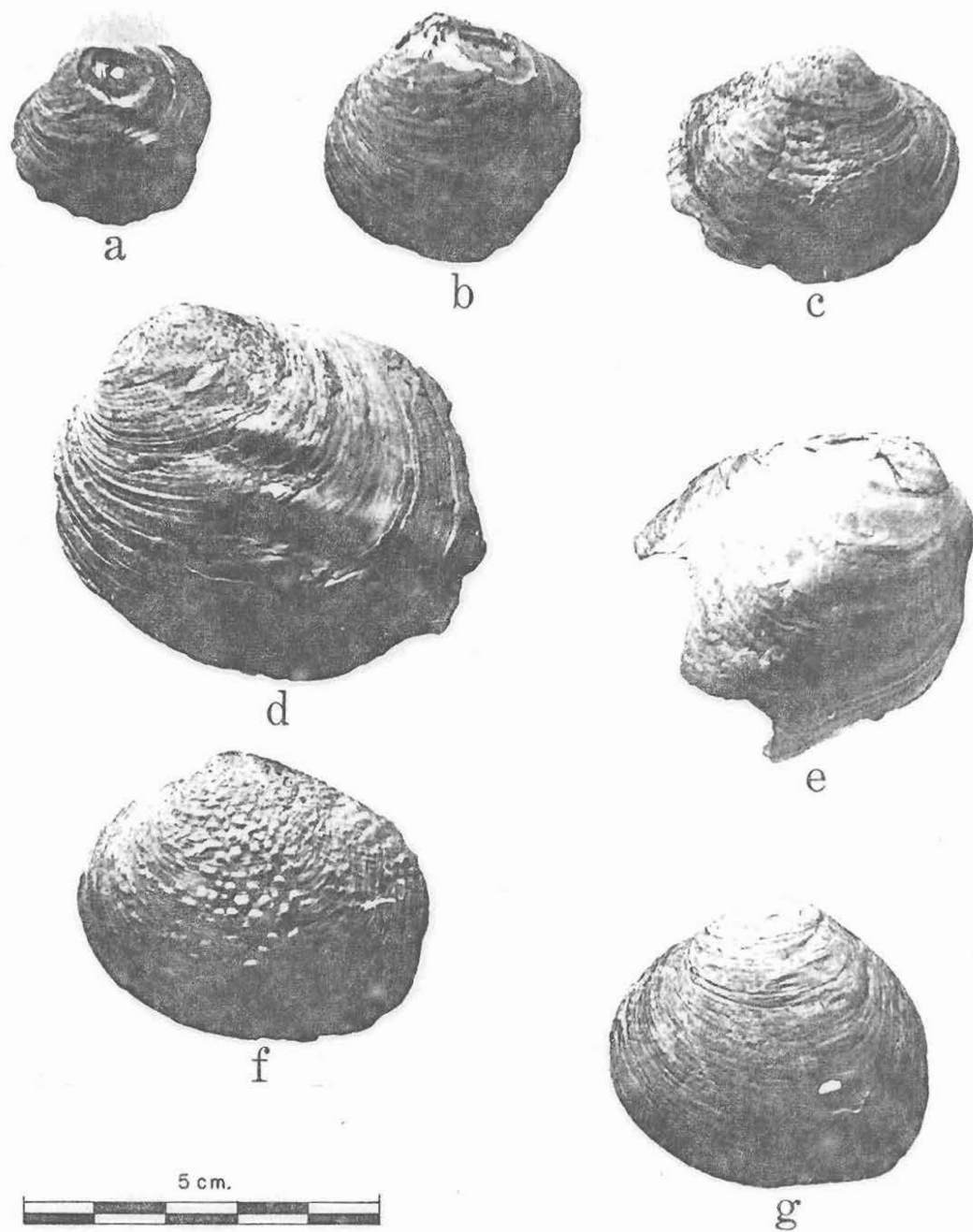


Figure 9. Mussel Shells: a & b) Perforated shells; c) Lampsilis;  
 d) Amblema plicata; e) Obovaria; f) Quadrula quadrula;  
 g) Truncilla

encompassing the area of Test Unit 3 would section the south side of the midden.

The proposed excavation strategy is aimed at revealing the chronological context and cultural content of each of these middens. It is further proposed to examine the difference between the two middens. It is hoped to understand why one contains large quantities of mussel shell and lithic material and the other is relatively barren of such materials. This difference appears to be quite striking on the basis of our initial tests. In addition, backhoe tests would be carried out in the area where surface scatter is found and controlled surface collections made. It is estimated that with a crew of three or four trained archaeological workers and from four to six laborers this work can be accomplished within six to eight weeks, depending upon the nature and amount of material recovered.

## SITES INVESTIGATED

### 41 MK 10

The site is located adjacent to Bluff Creek, some four and one-half kilometers up the creek from its confluence with the Colorado River. Bluff Creek is meandering in this area and the straight line distance to the Colorado River is only some 1700 meters. The site is located on the Whon 7-1/2' U.S.G.S. topographic map at (locational data removed). Bluff Creek is, at present, an intermittent stream with occasional deep pools that may contain water most or all of the year. On the east side of the creek the valley slopes gently uphill to the east for some 150 meters at which point the bluff rises sharply to 448 meters above sea level at the top. Scattered mesquite and live oak trees, along with occasional cactus are found along the creek banks and the stream valley. The highway right-of-way crosses Bluff Creek, which is oriented in a north-south direction, at right angles and continues across the valley and up the bluff to the east.

In order to facilitate investigation, a grid was laid out within the right-of-way using station 924+00 as the 50N-50E point. The north-south line was shot in with a transit using true north. Elevations and secondary datum points were established using a bench mark cut in a rock located 172 feet to the south of station 925+25. The elevation at this bench mark is 1404.76 feet above sea level, or 428.17 meters above sea level.

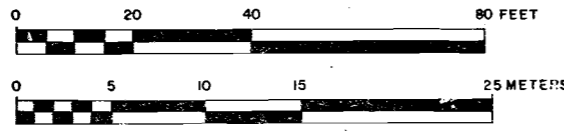
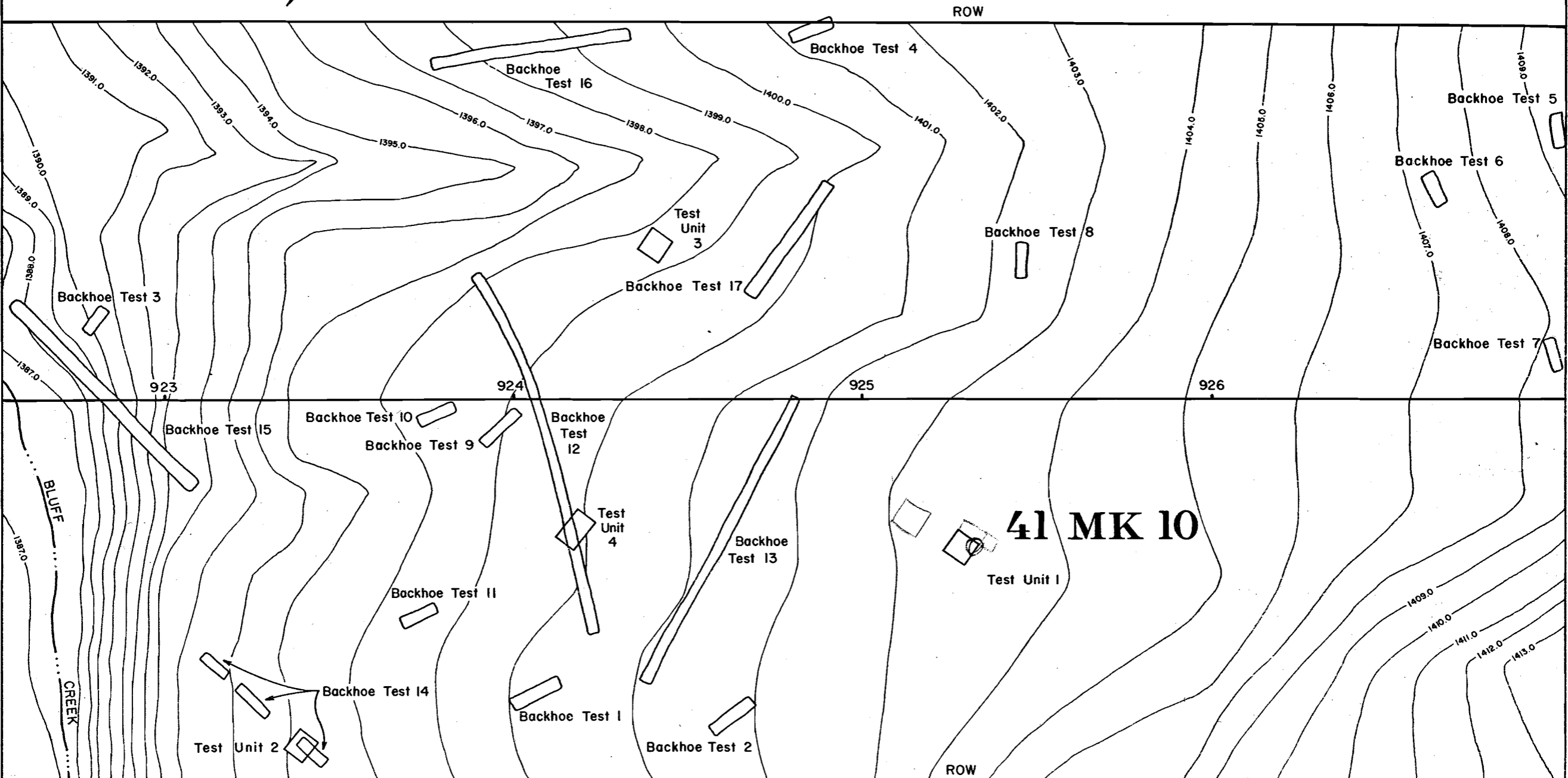
Observation of material on the surface indicated that most of the site described on the survey form was east of the right-of-way. Along the south-eastern margin of the right-of-way and adjacent to it is a small erosional cut or tributary gully which is cutting into a series of small hearths or midden areas. Areas of burned rock were observed along with small pieces of shell and considerable amounts of chert including a number of cores,

bifaces, scrapers, flakes, and the proximal portion of a broken dart point. This artifact scatter is found both on the eastern and western side of the erosional gully and the site seems to have been bisected by it. It is possible that this surface scatter of cultural material represents a deflated or lowered ground surface with the resulting mixture of levels. We were not able to determine whether cultural components have been mixed in this way.

There is a small area along the eastern side of the right-of-way that may represent a minimally disturbed portion of this site. Small hearths can be seen on the surface, although there is much less associated artifactual material. These hearths were tested by hand in Test Unit 1 (Figure 10). Two small hearths, one relatively intact and one disturbed, were encountered in this test unit (Figure 11). The distal tip of a dart point was observed on the surface, as were small pieces of burned rock, shell, and chert flakes. Level 1 (0-5 cm) revealed fragments of badly broken mussel shell, burned rock, charcoal, four interior flakes, four pieces of small angular chert waste, and one bone fragment. Level 2 (5-10 cm) had more broken mussel shell, burned rock, charcoal, six interior flakes, one primary decortication flake, and one piece of angular chert waste.

The area adjacent to the creek and within the right-of-way was thoroughly tested by backhoe and by manual excavation (Figure 10). Material encountered during the backhoe testing was scattered and appeared to be disturbed. Most of the backhoe tests were sterile. No material was encountered below 50 centimeters. Initial backhoe tests were deep, in some cases over two and one-half meters. However, when nothing was recovered from the lower levels, testing was limited to the upper one meter. With the exception of the small hearths in Test Unit 1, the area within the right-of-way yielded only occasional isolated artifacts and scattered pieces of burned rock. Examination





PROPOSED FM-765

Figure 10



Figure 11. Hearths, Test Unit 1, 41 MK 10

of the slope of Bluff Creek, the potential occupation area lying within the right-of-way, and evidence from the backhoe tests and the manually excavated test units suggests that the matrix is basically a colluvium derived from the bluff of the creek. In some areas the colluvium grades into overlying alluvium and in other areas the boundary between them is more distinct. Bluff Creek has cut into its east bank at this locality and a significant layer of poorly sorted gravel seems to have been inset into the alluvium and colluvium. These gravels may be of fairly recent origin. Aboriginal occupation within the main area of the right-of-way seems to have been disturbed by colluvial action, and much if not most of the material observed may have been displaced by slope wash. In addition, large-scale clearing of mesquite and live oak scrub in order to preserve pasture land has taken place on this property. This process of "chaining" or clearing the vegetation with large chains between tractors destroys archaeological context.

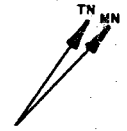
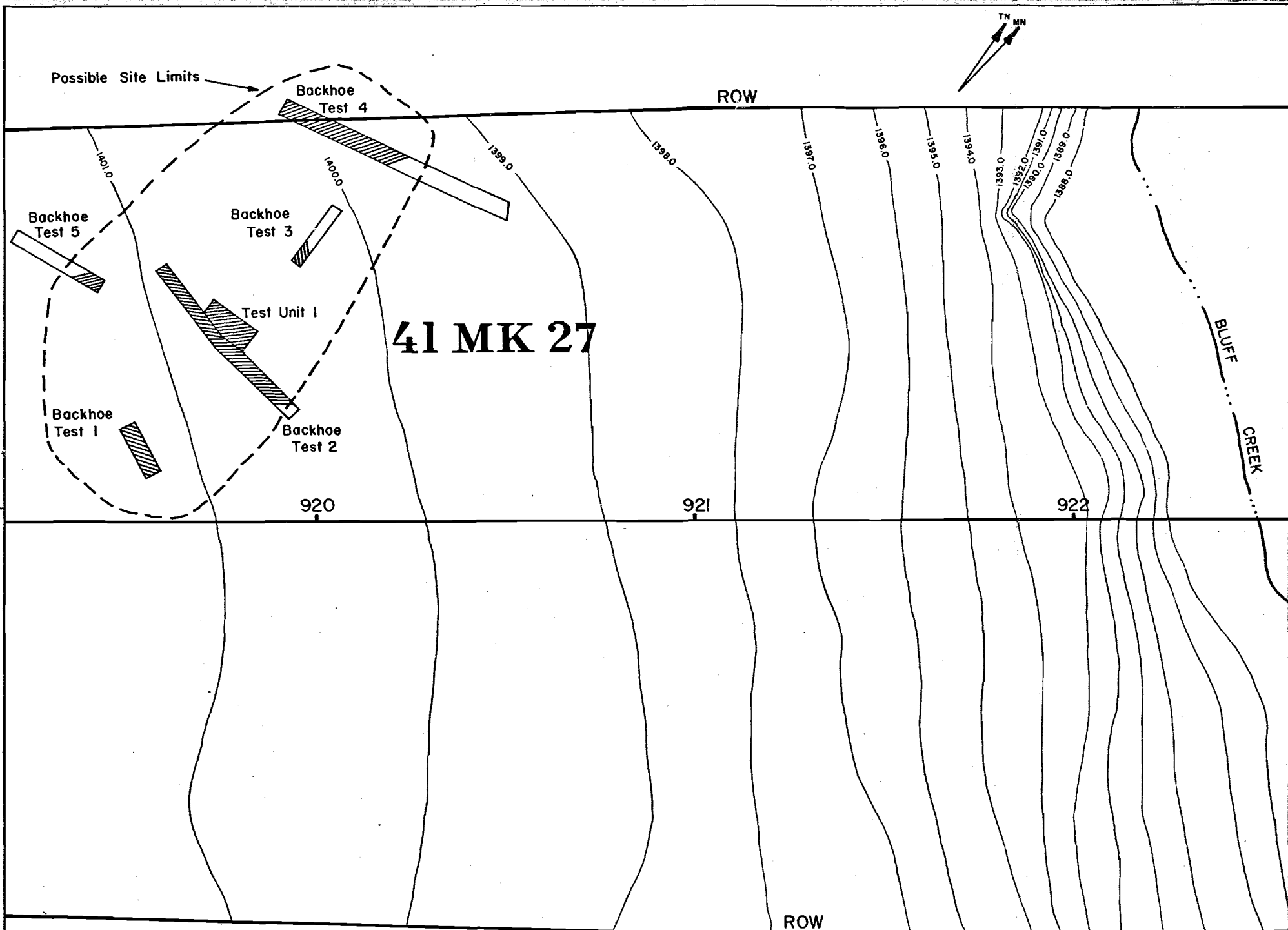
The only diagnostic artifact recovered was the proximal portion of a dart point (Figure 5a) found on the eroded surface outside the right-of-way. It is corner-notched with the distal portion, above the shoulders, missing. This specimen would appear to conform to the Castroville type (Suhm and Jelks, 1962, p. 173) of the Central Texas Archaic, which would place it in Weir's San Marcos Phase of Weir (Weir 1976, p. 55) at about 2800-1800 years before the present. It must be remembered, however, that this dart point was found on the surface and its exact association with the other materials in a possibly deflated site remains uncertain, while its association with the scattered material recovered from within the right-of-way is unknown at this time.

It is recommended that no further testing or excavation be done at this locality with the exception of further work in the area of Test Unit 1, where the small hearths were recovered in place. It is proposed that two additional 4 by 4 meter units be excavated adjacent to Test Unit 1 and adjacent to the

margin of the right-of-way. This particular area does not seem to have suffered the same deflation and disturbance as other areas observed. The initial investigations suggest that this portion of the site is not especially rich in lithic remains, particularly diagnostic artifacts. If this continues to be the case, further work here should be limited to no longer than one week with a small excavation crew of three or four persons.

#### 41 MK 27

On the west side of Bluff Creek, directly across the creek from 41 MK 10, and located between highway stations 919 and 920+00, is a site which has been designated 41 MK 27. It is located on the Whon 7-1/2' U.S.G.S. topographic map at (locational data removed). On this side of the creek the valley floor slopes gently upwards to the west until it reaches the bluff itself which rises above the valley floor to the west. It should be noted here that chert occurs naturally in the region and small chert gravels and cobbles can be found at the bottom and along the sides of the bluffs. The initial observation of chert and burned rock on the surface just west of station 920+00 led to testing by backhoe. Backhoe test 1 (Figure 12) established the presence of archaeological materials some 20 centimeters below the surface. Significant amounts of chert flakes and a concentrated lens of mussel shell were encountered. A second backhoe test, #2, produced more chert and mussel shell. Backhoe tests 3, 4, and 5 each encountered the same level of mussel shell and chert debris, although in each of these cases the test trench extended beyond the limits of the cultural material. It is felt that these backhoe tests begin to define the limits of this site, which lies beneath some 20 centimeters of much less productive deposit. It is felt that the material recovered from the surface must have been transported to the surface in an animal borrow, probably by an armadillo. One Test Unit was excavated by hand (Figure 12).



Legend

- Cultural Zone
- Sterile Zone

PROPOSED FM-765

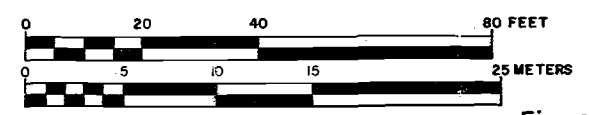


Figure 12

This Test Unit is adjacent to Backhoe Test #2. The backhoe trench uncovered the shell lens and numerous chert flakes. Level 1 of the Test Unit (0-20 cm) contained small burned rocks, a few mussel-shell fragments, a chert chopper or core, one section of crinoid stem, one interior flake, two angular chert fragments, and one piece of animal bone. Level 2 (20-40 cm) had many mussel shell fragments, burned rocks, one graver worked on a flake, one small core, 127 interior flakes, 19 decortication flakes, and 18 pieces of angular chert waste. Level 3 (40-50 cm) and burned rock, quantities of mussel shell, 125 interior flakes, 26 decortication flakes, and eight pieces of angular chert waste. Level 4 (50-60 cm) had large burned rocks which represent a slightly scattered hearth and a portion of a possible second hearth (Figure 13), as well as larger pieces of mussel shell and complete shells. Dr. Raymond W. Neck identified four of the genera present (personal communication), examples of which are shown in Figure 14. Note the differential in size represented by specimens of Tritogonia and Amblema.

Because of the quantities of lithic debris and mussel shell, and the discovery of hearth features in place, further work is warranted at this site. The estimated limits of the site are indicated in Figure 12. It is suggested that between four and six 4 by 4 meter units be excavated within this area and additional testing by backhoe be done in adjacent areas. If additional machine tests indicate no further extension of the site, and the initial 4 by 4 meter units do not contain a significant amount of tools, then recovery here can reasonably be limited to the four initial 4 by 4 meter units. If, however, this site is rich in diagnostic tools, then at least two additional units should be excavated. Proposed excavation strategy would be aimed at delimiting the size and shape of the camp, recognizing occupational features and activity areas wherever possible, and recovering sufficient cultural remains to place the site temporally and

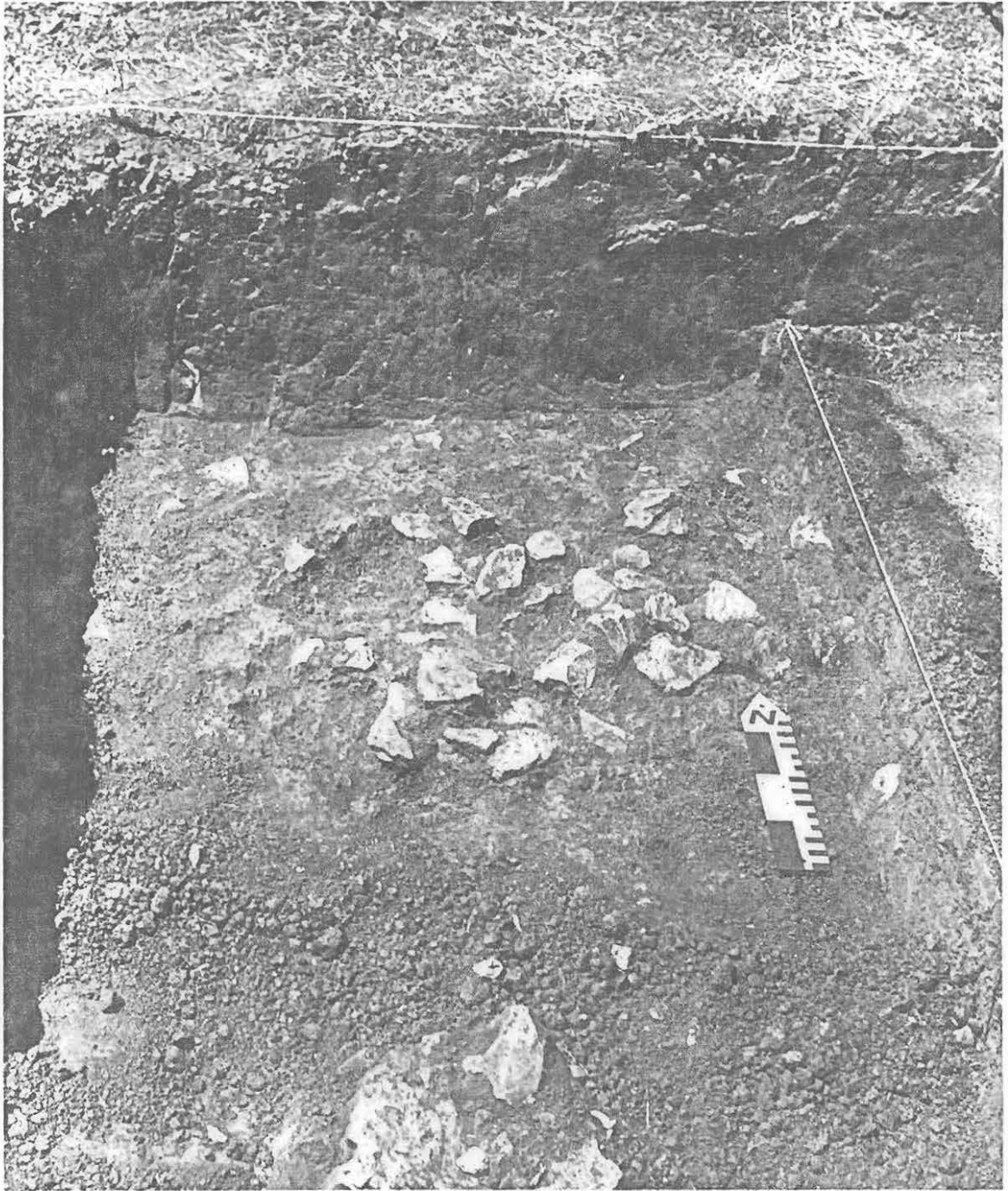


Figure 13. Hearths, Test Unit 1, 41 MK 27

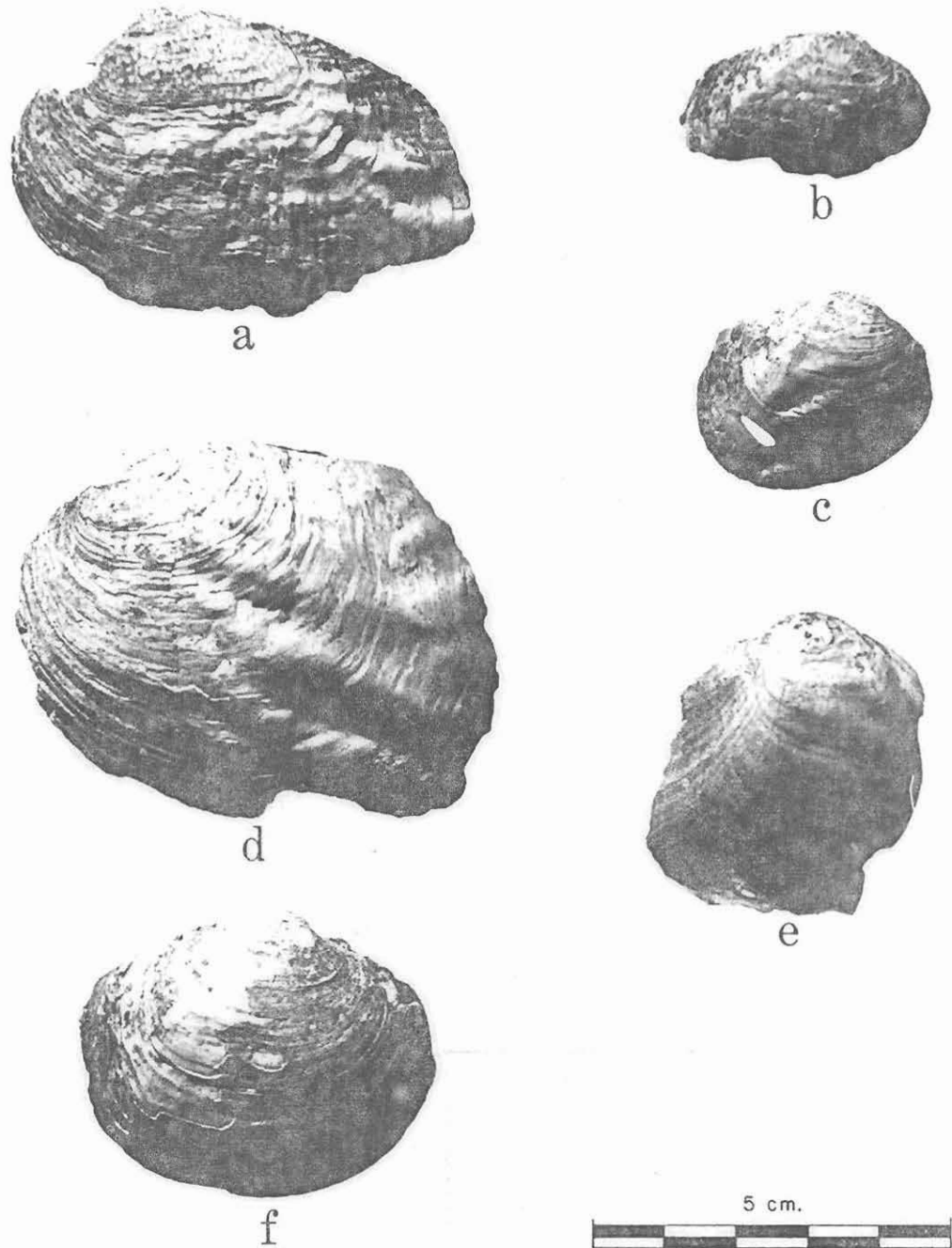


Figure 14. Mussel Shells: a & b) Tritogonia; c & d) Amblema;  
e) Obovaria; f) Quadrula or unknown



culturally within the archaeological continuum of central Texas. With the same size crew as mentioned above, this work should be completed from within four to six weeks, depending upon the nature, amount, and complexity of materials recovered.

## SUMMARY

Four archaeological sites, 41 MK 8, 41 MK 9, 41 MK 10, and 41 MK 27, have been located in McCulloch County, Texas within the right-of-way of F.M. 765. Two of these sites, MK 8 and MK 9 are located adjacent to Corn Creek, while the other two, MK 10 and MK 27 are located adjacent to Bluff Creek. Further work is recommended for each of these sites. At 41 MK 8 a burned rock midden will be excavated in order to determine if pits, hearths, or structural features are present. The surrounding area will be investigated for evidence of associated camp or activity areas.

At 41 MK 9 two middens, a large and a small one, both dissimilar to the midden at 41 MK 8, will be excavated. It is hoped that the apparent difference between them will be explained and their cultural and temporal position determined. At 41 MK 10 only a small area will receive further work. This area contains hearths that may be associated with a site lying outside of the right-of-way. At 41 MK 27 a series of small hearths and associated mussel shell lenses will be excavated in order to place them culturally and temporally. Additional backhoe tests will also be made.

Utilizing a crew of three or four trained archaeological workers and from four to six laborers the estimated time to complete this work should fall between three months and six months. The former time would apply if recovery at all four sites should prove to be minimal and the latter would apply if the sites should prove to be unexpectedly rich in information and material remains. Should these sites prove to be average, the work should be completed in between four and five months.

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, all cultural materials are the property

of the State of Texas and their ultimate disposition will be determined by the Texas State Historical Commission. Field notes, photographs and other records are stored at the Archaeological Laboratory of the Texas State Department of Highways and Public Transportation at Camp Hubbard, Austin, Texas.

A final report of investigations will be available within two years of the end of field investigations.

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