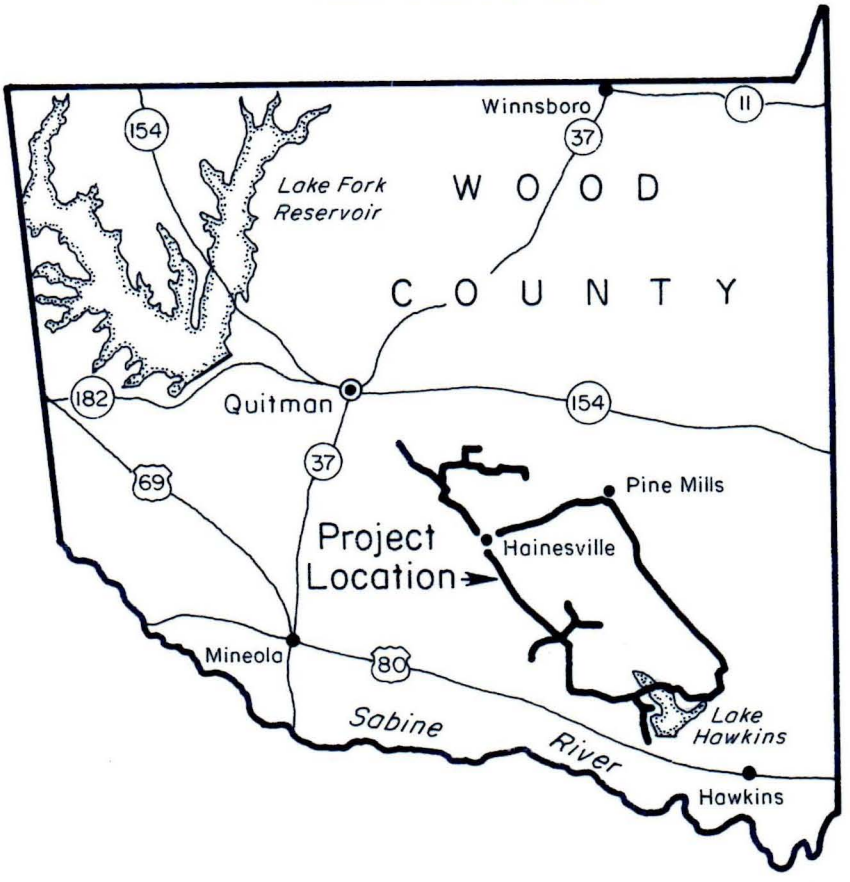
AN ARCHAEOLOGICAL SURVEY OF PROPOSED SYSTEM IMPROVEMENTS FOR THE FOUKE WATER SUPPLY CORPORATION IN SOUTHEAST WOOD COUNTY, TEXAS

Antiquities Permit 3068

By

William E. Moore



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BVRA Project Number 03-05

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ABSTRACT

An archaeological evaluation of a proposed 53 mile (96.4 acres) water line in southeast Wood County, Texas was performed by Brazos Valley Research Associates (BVRA) in February 2003 under Texas Antiquities Permit 3068. This project was reviewed by the Texas Historical Commission (THC), Archeology Division. Federal involvement is through the United States Department of Agriculture, Rural Development. Although the records check at the Texas Archeological Research Laboratory (TARL) at the University of Texas at Austin revealed several archaeological sites had been recorded in the vicinity of the project area, no sites were found in the path of the water line. The vast majority of the water line follows disturbed road rights-of-way. Other reasons for a lack of sites are the presence of clay at or near the surface along much of the construction corridor. A significant portion of the project area is in low areas and along the slopes of hills greater than 20 percent. It is recommended that the Fouke Water Supply Corporation be allowed to proceed with construction with no further archaeological investigations. Copies of this report are on file at TARL; THC; Fouke Water Supply Corporation in Mineola, Texas; and BVRA.

ACKNOWLEDGMENTS

I appreciate the assistance provided by those whose efforts made this project possible. At the Fouke Water Supply Corporation (WSC) in Mineola, Texas I am grateful to the following for their support: Frank Crawley, President; Kathy Cameron, Office Manager; and Ronald Robertson, Manager. At the engineering firm NRS in Longview, Texas, Stanley R. Hayes, P.E. is acknowledged for providing maps and other logistical support. Allegra Azulay, Records File Search Assistant at TARL, is thanked for conducting the archival search. The field crew consisted of James E. Warren (Project Archeologist), Bobby Jemison, and Arthur F. Romine. Ed Baker at the THC served as the reviewer for this project. The figures appearing in this report were prepared by Lili Lyddon of LL Technical Services in North Zulch, Texas.

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INTRODUCTION

BVRA was retained by Fouke Water Supply Corporation (WSC) through NRS Consulting Engineers of Longview, Texas to conduct a Phase I cultural resources survey of a proposed water line that will service the residents of rural Wood County (Figure 1). The majority of the line will be installed along state and county roads; a small segment will be just across the fence line on private property. The length of the water line is approximately 53 miles (96.4 acres) and is divided into four categories: 63,786 feet on county or state rights-of-way; 72,036 feet on county or state rights-of-way (replacing existing line); 64,410 feet of new easement on private property; and 51,218 feet of disturbed easement (replacing existing line on private property). The project area is depicted on six USGS 7.5' topographic maps: Cartwright (1960; photoinspected 1976), Crow (1960; photorevised 1981), Hainesville (1960; photorevised 1981), Mineola (1960; photorevised 1981), Quitman (1960; photorevised 1980), and Shady Grove (1960; photorevised 1981). The project area map was taken from a Wood County Highway Map prepared by the Texas Department of Transportation (Figure 2).

The proposed water line will involve two sizes of pipe: 8" and 12" in diameter. The 8" line will be placed in a 12" wide trench, and the 12" trench will be placed in a 24" wide trench. The trenches will be covered with three feet of earth. The permanent easement will be 15 feet wide with no temporary construction easement.

Overall, Wood County is located in Northeast Texas in the Eastern Planning Region, an area known to contain significant archaeological sites. Because of this archaeological potential, a cultural resource study by professional archaeologists was warranted according to Section 106 of the National Historic Preservation Act. The Federal agency involved in this project is the United States Department of Agriculture, Rural Development office. Since a portion of the project area is within rights-of-way owned by the State of Texas, an antiquities permit was required, and permit 3068 was issued to BVRA by the THC. The project number assigned by BVRA is 03-05. The field survey was conducted on February 26-28, 2003 with William E. Moore assuming the duties and responsibilities of Principal Investigator.

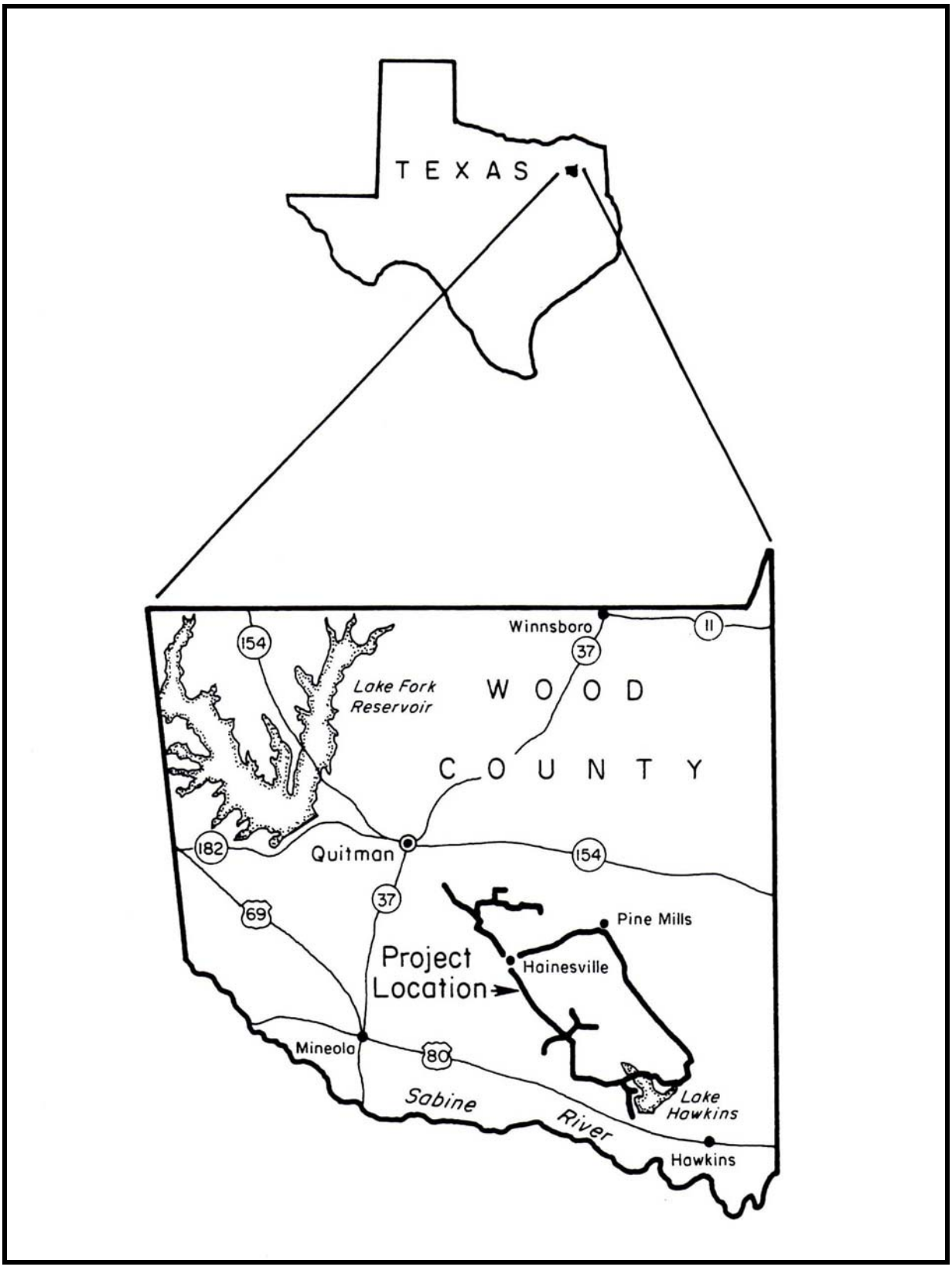


Figure 1. General Location Map

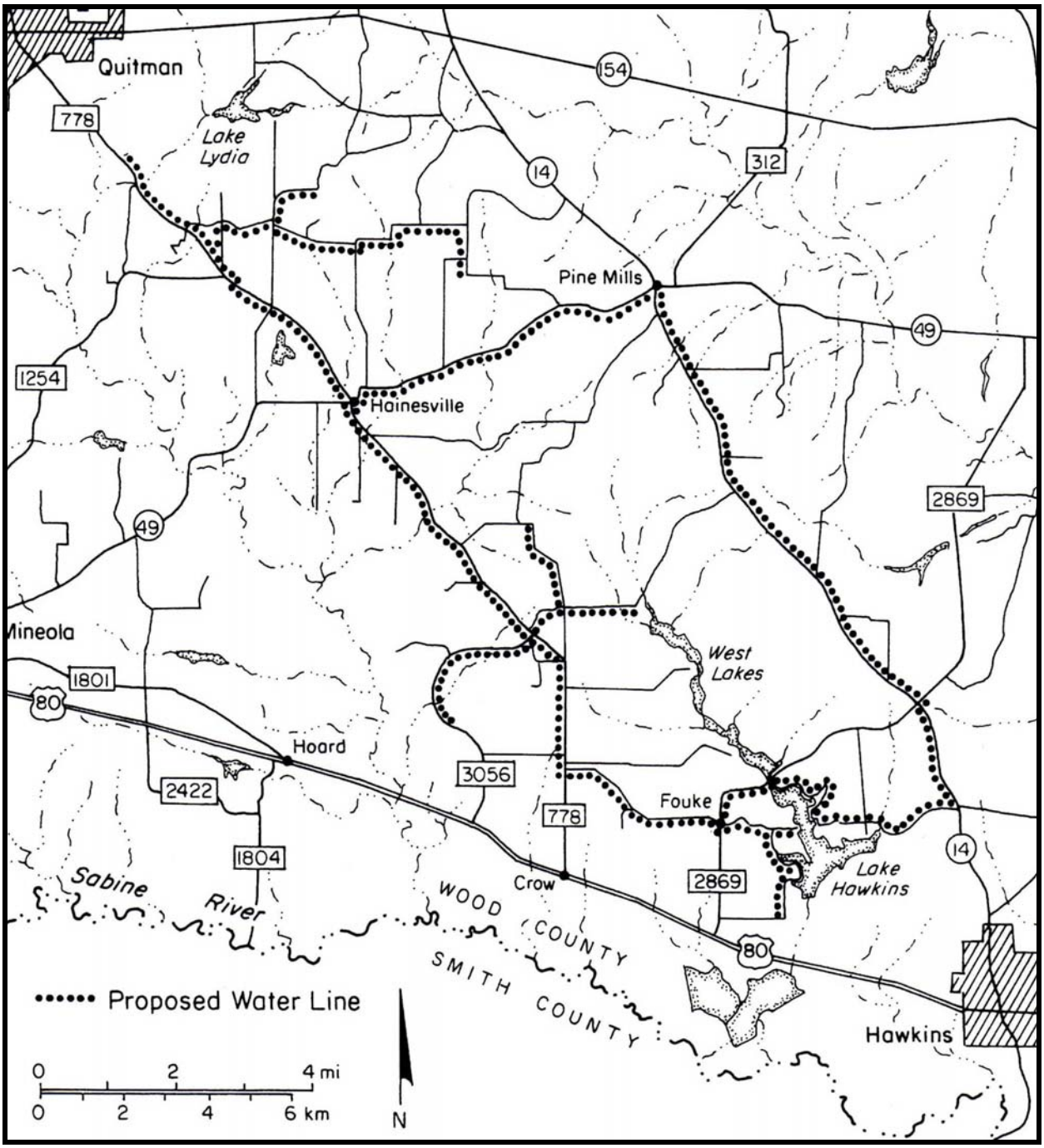


Figure 2. Project Area Map

ARCHAEOLOGICAL BACKGROUND

Wood County is located in Northeast Texas within the Eastern Planning Region as defined by Kenmotsu and Perttula (1993). The following comments are taken from their comprehensive document for this area, and the interested reader is referred to this volume for more detailed information. As of 1993, Wood County had less than .029 recorded sites per kilometer, ranking it second in the area. The county is described as rural with 0.15 - 0.29 people per square kilometer and a population growth of less than 5%. Environmentally, it is situated within the Piney Woods, Mixed Pine-Hardwood Forest area of East Texas. Artificial disturbance in the county consists mainly of lignite mines from the Deep Basin Wilcox formation and reservoirs such as Lake Fork Reservoir. In 1991, the county had a total of 184 recorded archaeological sites, of which 20 were regarded as significant. At the time of this survey, 635 sites were known to exist in the county (TARL site files). Four sites were listed in the National Register of Historic Places. The archaeological chronology for the area includes sites dating from Paleoindian times (9500 B.C. - 7000 B.C.) through the Historic Caddo period that lasted from A.D. 1680 to A.D. 1860.

One of the major problems regarding our understanding of the archaeology of Northeast Texas lies in the lack of data for sites with isolable Paleoindian or Archaic components. "Despite the existence of a potentially rich data base, the body of useful information on these time periods is small" (Kenmotsu and Perttula 1993:70). The authors credit this to the fact that most early materials have been found mixed with later components. When found, they are difficult to interpret because of limited absolute dating; poorly defined artifact chronologies; limited preservation of economic data such as faunal and botanical remains, and the typically low density nature of the cultural remains. No sites with isolable Paleoindian or Archaic components have been reported for Wood County as recently as 1993. Sites attributed to the Hunter-Gatherer period prior to sedentism have been identified in Wood County at 41WD40, 41WD74, 41WD114, and 41WD185). One of the problems with these early sites is that they usually contain only lithic artifacts; rarely, some sites have yielded hardwood nutshells and burned rock concentrations. "The scarcity of remains other than lithic artifacts is due mostly to the relatively great age of these deposits and the poor preservation of organic remains and nondurable features" (Kenmotsu and Perttula 1993:75). The minimum criterion for significance of these sites is the presence of non-artifactual data such as cultural features and faunal and botanical remains and diagnostic projectile points that allow confident chronological assessments. Following the hunter gatherer period (circa 500 B.C.), the emergence of sedentism arrived in Northeast Texas and lasted until A.D. 1000. Sedentism is defined by Kenmotsu and Perttula (1993:97) as "cultural systems where all or part of the population resides at the same location for all or most of the year." Until recently, very little research had been directed toward the emergence of sedentism in Northeast Texas. Factors that are believed to have been causal in terms of this change include population growth, territorial constriction, environmental change, technological innovation, modifications in social organization, and/or changes in subsistence strategies (Kenmotsu and Perttula 1993:97).

During this time a major technological innovation, the emergence of pottery and the bow and arrow, appeared. Sites dating to this period are often referred to as Early Ceramic. Early Ceramic period components in the Sabine River basin include sites 41WD73 and 41WD495.

The next period is referred to as the development of agriculture in Northeast Texas before A.D. 1600. Study questions for this period should focus on the processes that influenced the development of agriculture in Northeast Texas among prehistoric Caddoan populations with agriculture defined here as a maize-based economy as described in Fritz (1990). Major sites of this period include Caddoan archaeological sites, particularly habitation locales with associated burials and burial furniture (usually pottery). More than 4700 prehistoric archaeological sites have been recorded in both the Northeast Texas region and adjoining counties where associations exist with the Caddoan archaeological tradition (Kenmotsu and Perttula 1993:124).

Approximately 80% of the significant sites in this region are prehistoric Caddoan sites that were occupied sometime between A.D. 800 and A.D. 1600. These sites include multiple and single mound centers; cemeteries; habitation sites such as villages, hamlets, and farmsteads; and possible extractive/processing locations. Most of these sites, unfortunately, are on private land and are not protected from vandalism. Between 5 and 9 important Formative-Middle Caddoan sites were known to exist in Wood County as of 1993 (Kenmotsu and Perttula 1993:Figure 2.5.1). The number of important Late Caddoan Period sites as of 1993 for Wood County is, however, greater at 11 (Kenmotsu and Perttula 1993:Figure 2.5.2). In 1993, 39 Caddoan Period archaeological sites with excellent faunal and floral preservation were known to exist. Only three are in Wood County (Kenmotsu and Perttula 1993:Figure 2.5.3).

Cemeteries and burial mounds are common throughout Northeast Texas, and these archeological phenomena are viewed as extremely significant research data sets because of the bioarchaeological, cultural, and sociopolitical information relevant to the development of agriculture encoded in the mortuary practices, associated grave goods, and pathologies/infections preserved in the skeletal remains (Kenmotsu and Perttula 1993:127). In 1993, 22 archaeological sites in Wood County had produced human remains (Kenmotsu and Perttula 1993:Figure 2.5.5); five single mound sites and one multiple mound site are recorded in the county (Kenmotsu and Perttula 1993:Figure 2.5.6).

Fifty-three Critical Resource Zones have been defined in the Northeast Texas region for sites that are relevant to the research on the development of agriculture prior to A.D. 1600. Four of these zones are in Wood County (Kenmotsu and Perttula 1993:Figure 2.5.7). One of these zones is in the north-central portion of the county not far from the current project area.

The final archaeological period is that of European contact with native Indian groups, especially the historic Caddo (circa A.D. 1685 - A.D. 1859). The infusion of material goods and cultural traits brought to the area by the Europeans changed forever the lifeways of the native Caddoan peoples. At least 89-90 Caddoan sites of this period are known in Northeast Texas. In Wood County, five sites have produced historic materials in association with native Indian artifacts (Kenmotsu and Perttula 1993:154). These include a European gunflint (41WD74), glass beads and gun parts (41WD217), glass beads and gun parts (41WD328), glass beads and gun parts (41WD331), and glass beads, gun parts, kettle fragments, and clasp knives (41WD333). No Critical Resource Zones have been identified for Historic Contact Period sites in Wood County. The major historic Indian groups in Wood County in the early 18th Century were probably the Hasinai and Kadohadacho (Kenmotsu and Perttula 1993:Figure 2.6.6).

PREVIOUS INVESTIGATIONS

Numerous large-scale reservoir surveys have been conducted in Northeast Texas. Our knowledge of the prehistory of this area is based largely on the results of these surveys and subsequent testing and excavation of sites found within their boundaries. Reservoir studies that involve portions of Wood County Lake Fork Reservoir to the northwest of the project area and Lake Bob Sandlin to the northeast. Only a small portion of the latter is in Wood County. Two other reservoir projects were planned, but the reservoirs were never constructed. These are Big Sandy Lake to the east of the project area and Mineola Reservoir (Carl Estes Lake) to the west of the project area. The nearest large-scale project to the current project area was a 1500 acre survey along Mill Race Creek. This drainage is crossed by the construction corridor associated with this project. The following is a summary of these studies.

In 1971, an archaeological survey of the proposed Mineola Reservoir was conducted by the Texas Historical Survey Committee and Texas Water Development Board (Malone 1972). The project area is situated in the upper Sabine River Basin in the vicinity of the juncture of Rains, Van Zandt, and Wood counties. Only a small portion of the proposed reservoir area is in Wood County. In all, 91 sites were found during this project; however, the report does not state how many are in Wood County. Of particular importance is the settlement pattern data collected during this study. In the reservoir area, the most obvious and influential factor determining site location is that of drainages. The researchers at this project found that most sites are situated on terraces near the edges of the various branches of the Sabine River. The vast majority of terrace sites were found to be only a few meters from the water source. At the same time, sites are situated on a landform sufficiently elevated to avoid frequent flooding. In areas where soils are heavily eroded sites are rare. Some sites lie within the flood plain proper of the Sabine River being situated on natural levees formed by successive flooding episodes of the river. Sites in the uplands away from the river are much less common, especially on hills containing poor soils such as hematite and sand-cemented uplands. Fifty-five of the 91 sites found had Caddoan occupations, and three also had earthen mounds.

In 1974, archaeologists from Southern Methodist University surveyed the site of the proposed Lake Bob Sandlin in Camp, Franklin, Titus, and Wood counties (Sullivan n.d.). The majority of the project area is in Titus County, and only a small portion is in the northeastern part of Wood County. In all, 106 sites were found during this project and range in age from the Archaic to Historic periods. No sites were found in Wood County. Using information from Lake Monticello and Lake Bob Sandlin excavations, a settlement model was proposed for the late prehistoric period Caddoan manifestation known as the Titus Focus. It was proposed that Caddoan hamlets were located along minor tributaries and that occupation of sites adjacent to Big Cypress Creek was of a more limited nature.

Lake Fork Reservoir is located in Hopkins, Rains, and Wood counties, with the majority of the area being in Wood County. Work at this reservoir site began in 1975 with an intensive survey conducted by Southern Methodist University (Bruseth 1975; Skinner 1975; Bruseth et al. 1977). In all, 130 prehistoric and historic sites were recorded during the survey, and preliminary testing was conducted at half of the sites. Based on this work, a mitigation plan was prepared for the prehistoric archaeological resources of the reservoir and presented to the Sabine River Authority. Sites were selected for investigation for two reasons. Subsistence settlement models presented in the survey report were to be tested by work at the sites, and data representative of presently observable site variability were to be obtained for future researchers (Bruseth et al. 1977:1). The depth of sites in this area range between 60 and 80 cm through sandy soil before encountering Pleistocene clay.

In 1976, the mitigation plan was partially implemented when site X41WD19 was excavated, and sites X41WD16*, X41WD50, X41WD99, and X41WD100 were tested (Bruseth et al. 1980). The mitigation program was completed in the Reservoir during the spring of 1978 with work continuing at sites X41WD39, X41WD64/X41WD69, X41WD83, X41WD87, and X41WD95. In 1979, two additional sites (X41WD108 and X41WD109) were tested.

Sites tested during the various Lake Fork projects were found to be located on sandy rises and slopes, terraces projecting into the Lake Fork Creek flood plain, upland projections into the Burke Creek flood plain, on a terrace surrounded by uplands and a flood plain, on a large knoll in the Caney Creek flood plain, on a terrace that projects into the Caney Creek flood plain, on a combined upland remnant, and an alluvial terrace which projects into the Lake Fork Creek flood plain.

In 1979, Bob D. Skiles, avocational archaeologist, investigated sites along Mill Race Creek during an archaeological survey of Wood County. The only record of this project at TARL is a single page site form that includes four sites designated by field numbers HV 2-5. Later, TARL numbers were matched to the field numbers, and site numbers 41WD328 - 41WD331 now appear on this site form that has not been updated. Not one of these sites is in the project area right-of-way.

In 1980, the Sandy Creek basin, in preparation for the Texas Big Sandy Project, was surveyed by Archaeology, Inc. of Layfaette, Louisiana for the United States Army Corps of Engineers, Fort Worth District (Gibson 1982). Thirteen sites were identified during this study. In 1985, archaeologists from Prewitt and Associates, Inc. conducted archaeological, geological, and historical investigations at the Texas Big Sandy Project in Wood and Upshur counties (Perttula et al. 1986). This project was funded by the Bureau of Reclamation, Southwest Region and cosponsored by the Sabine River Authority and the Texas Water Development Board. When completed, the reservoir would flood about 4800 acres on Big Sandy Creek. The archaeological survey involved 2379 acres, and 12 sites were tested by backhoe trench excavations. These sites were selected because deep, culture-bearing sediments were present. Within the project area, 63 prehistoric, 12 prehistoric/historic, and 56 historic sites were recorded.

The closest major investigation to the current project area was conducted in 1987-1988 when archaeologists from the University of North Texas (Perttula and Gilmore 1988) examined 1500 acres along Mill Race Creek and some of its tributaries. The major focus of this study was to evaluate the location of proto-historic and early historic sites relating to a possible French trading post called *Le Dout* and the Woldert site (41WD333) where large numbers of French guns and glass beads have been found since the 1870s. Although no specific archaeological sites were found in the project area that appear to be French trading posts, a number of 18th century localities were recorded and collections studied. Other sources for information concerning this site include Woldert (1952), (Moody 1969), and newspaper articles in the *Wood County Democrat* (August 6, 1908) and the *Mineola Monitor* (1946). In all, 39 sites and 32 localities were found during the week-long survey. Twenty-one sites in the project area are considered by the researchers to be potentially eligible to the National Register of Historic Places or as State Archeological Landmarks. Not one of these sites is in the project area right-of-way.

The interested reader is referred to the reports mentioned above, especially the Texas Big Sandy Project by Gibson (1982). This document presents a very thorough discussion of earlier work in Wood County and Northeast Texas.

* The "X" in front of the site number indicates it was recorded by Southern Methodist University.

METHODS

Prior to entering the field a records check for previously recorded sites in or near the project area was conducted by Allegra Azulay at TARL, in Austin, Texas, the state repository for site records. Archaeological sites found to be within or near the construction corridor were plotted on project maps for use in the field. These sites appear on the topographic maps as Appendix I to this report. In addition, relevant reports were checked in order to become familiar with the kinds of sites found in the area.

Prior to conducting subsurface testing, the Project Archaeologist drove the entire line with the water supply corporation Manager who pointed out where the line would be installed as well as any known disturbances along the way. This was necessary since the new right-of-way was not staked. Access to private property was arranged by the water supply corporation who had obtained permission from the various landowners prior to the beginning of this survey. During the survey, the field crew took measurements on private property to make sure no subsurface excavation was conducted outside the project area right-of-way. In addition, a "dig test" (a term used by utility companies to refer to the location of buried utility lines) was requested by Fouke WSC so the field crew would be able to dig safely and avoid encountering buried utilities. A check of the topographic maps indicated that no dedicated historic cemeteries would be affected by the planned water line. The project area, as depicted on the six topographic maps, appears in this report as Appendix II.

The field crew drove the entire water line. All high probability areas were surveyed on foot and evaluated for the presence of significant archaeological sites. In addition, road cutbanks were examined for cultural materials. In many cases, the profile of the landform revealing the sandy soil above the red clay was clearly visible.

Much of the construction corridor is situated in low areas containing standing water or on steep slopes greater than 20 percent. Shovel testing was not considered necessary in these areas. In other areas, the water line will be placed in existing borrow ditches that have been disturbed to the point that the topsoil has been removed. The numerous high hills adjacent to creek crossings were often cut away to make room for the road, as much as 30 feet in some instances. In these cases, it was not uncommon for the construction corridor to be within the subsoil. The field survey crew identified 23 areas where soil was present. These areas were shovel tested. These areas, indicated by the approximate location of the 73 shovel tests are depicted on the project area maps (Appendix II).

In a linear project such as this one, previously recorded sites are sometimes located within the right-of-way or in close proximity. Although some archaeological sites are on landforms crossed by the proposed construction corridor, not one of these sites is actually within the right-of-way according to map plottings at TARL. Shovel tests or probes were excavated at every location in the vicinity of a previously recorded site.

The survey standards published by the THC, recommend that 16 shovel tests per mile in undisturbed areas with soil development be excavated. After eliminating disturbed areas, areas with standing water, and slopes greater than twenty percent, 23 areas were determined suitable for subsurface investigation. In all, 73 shovel tests were dug in these areas (Appendix II). When possible, these tests were terminated when Pleistocene clay was encountered. All earth excavated through shovel testing was screened using 1/4" hardware cloth, and a shovel test log (Appendix III) was kept. It should be noted that, in addition to shovel tests, probes were dug with a shovel to identify shallow soils in some areas. In some areas clay was found to be as shallow as 10 cm. These probes were not screened, numbered, or depicted on the field maps.

Floodplain areas were shovel tested in order to ascertain if backhoe trenching would be necessary. Most of the flood plains contain Pleistocene clay at or near the surface. Three flood plain or overflow areas were tested with a backhoe. The trenches were four meters in length, 1 meter in width, and dug to Pleistocene clay. The backhoe trenches are depicted on the topographic maps (Appendix II), and the profiles are illustrated in Appendix IV.

As part of the field notebook, sketch maps depicting shovel test locations were drawn. Profiles of all shovel tests were drawn in the field; and these profiles illustrate the varying depths of soil throughout the project area.

RESULTS AND CONCLUSIONS

Records Check

A check of site records at TARL revealed six individual archaeological sites on landforms crossed by the construction corridor or in close proximity to the project area. These are 41WD30, 41WD80, 41WD241, 41WD338, 41WD410, and 41WD561. Not one of these sites, however, is actually within the project area right-of-way. Also, there is a cluster of at least 10 sites along Mill Race Creek, a major stream in the project area. The site numbers on the TARL maps are difficult to read; however, it is clear that site 41WD333, located in the flood plain, is the closest site to the construction corridor. According to Timothy K. Perttula (personal communication to William E. Moore, April 7, 2003), this potentially significant site (see *Previous Investigations* above) is clearly outside the right-of-way; therefore, no detailed discussion of this site in this section is warranted. All of the sites near the project area are depicted on the topographic maps in Appendix I. Although these sites will not be affected by the proposed construction, brief summaries are presented below.

Site 41WD30 is a prehistoric site recorded by Timothy K. Perttula based on plottings by Bob Skiles. It is approximately 800 meters southwest of Lake Lydia on F.M. 778. Although it is on the same landform that is crossed by the construction corridor, it is plotted on the topographic map as approximately 100 meters from the road. If plotted correctly, this site is outside the project area, and no evidence of this site was found during shovel testing. No site form is on file at TARL. This site is depicted on the Quitman quadrangle.

Site 41WD80 is a historic farmhouse located on State Highway 14 recorded by Jon Gibson in 1980 during a survey by Archaeology, Inc. and determined not to be significant. This site on the opposite side of the road from the construction corridor. It is depicted on the Shady Grove quadrangle.

Site 41WD241 is a prehistoric site recorded by Timothy K. Perttula based on plottings by Bob Skiles. It is approximately 750 meters southwest of Lake Lydia on Farm-to-Market Road 778, and it is on the same landform that is crossed by the construction corridor. No site form is on file at TARL. This site is depicted on the Quitman quadrangle.

Site 41WD338 is an archaeological site recorded by Timothy K. Perttula on the same landform that is crossed by the construction corridor but on the opposite side of the road. It is southeast of Mill Race Creek on a hill overlooking a tributary of Jones Branch. This site is depicted on the Hainesville quadrangle. This site was recorded during the Big Sandy Lake project in the 1980s. There is no site form, and it is not known if this is a prehistoric or historic site.

Site 41WD410 is a prehistoric site recorded by Timothy K. Perttula based on plottings by Bob Skiles. It is approximately 850 meters southwest of Lake Lydia on Farm-to-Market Road 778, and it is on the same landform that is crossed by the construction corridor and the same side of the road. No site form is on file at TARL. This site is depicted on the Quitman quadrangle.

Site 41WD561 is a prehistoric site recorded Timothy K. Perttula in 1987 during a survey by North Texas State University. It is just south of the community of Hainesville on Farm-to-Market Road 778, and it is on a landform overlooking Patton Creek to the southeast and on the opposite side of the road as the construction corridor. The TARL plotting puts this site on the opposite side of the road from the planned water line. According to the site card on file at TARL, this site is located in the front yard of the David T. Lindley residence. Perttula states that the site was not thoroughly tested because of the condition of the yard and gardens. Therefore, he concludes that parts of the site remain undisturbed between the road, garden and house. The depth of cultural deposits are about 20 cm. This site is depicted on the Hainesville quadrangle.

The largest cluster of sites (n=10) is along Mill Race Creek where it crosses Farm-to-Market Road. These sites are 41WD327, 41WD328, 41WD329, 41WD333, 41WD562, 41WD565, 41WD567, 41WD568, 41WD569, and 41WD570. Unfortunately, there is no site form for the potentially significant site 41WD333 and no current forms for some of the other sites on file at TARL. Although the presence of this cluster of sites suggests this stream was a preferred area for prehistoric sites, not one of the sites is within the construction corridor. The closest boundary of the nearest site (41WD333) is depicted on the topographic quadrangle as at least 50 meters distant. These sites are depicted on the Hainesville quadrangle.

Field Survey

As stated above, shovel tests and or probes were excavated on all landforms containing nearby previously recorded sites. These tests confirmed the TARL map plottings that all of these sites are outside the project area, sometimes as much as 200 meters distant. No previously unrecorded archaeological sites were found to exist within the construction corridor as currently planned. Several historic sites were observed, but they were outside the project area as well. Although it is known that Wood County contains numerous significant prehistoric sites, the construction corridor either passed through low probability areas or was disturbed to the point that any intact archaeological sites would not be present today. As mentioned above, many of the high hills had been cut away to allow for a more desirable road grade (Figure 3). This practice removed all of the topsoil over much of the project area with the road (and construction corridor) now within the subsoil.

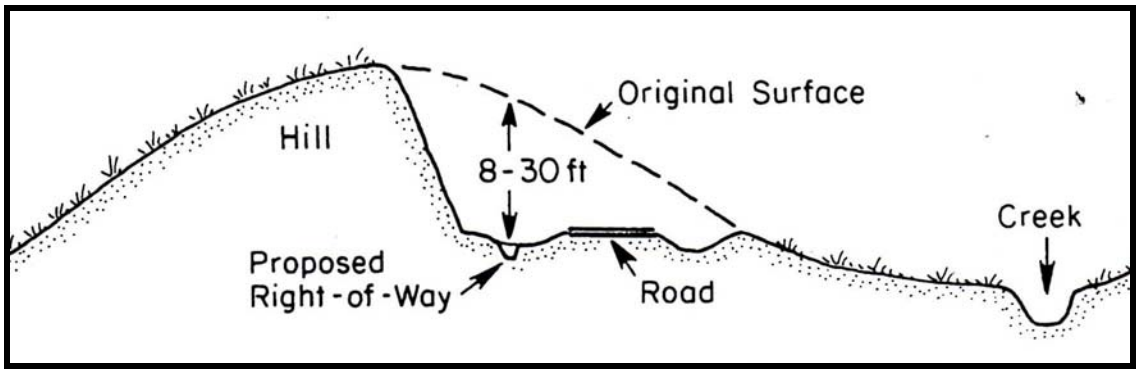


Figure 3. Typical Profile of Road Cut

Previously Recorded Sites:

Site 41WD30 at 200 meters from the construction corridor was determined to be too far from the project area. In this area the water line will be installed in a disturbed borrow ditch.

Site 41WD80 is located in an area that has been cut away for road construction. The current road is located within the subsoil, all of the topsoil having been removed during road construction.

Site 41WD241 is across the highway from the construction corridor. At this location the construction corridor will be installed in a disturbed borrow ditch.

Site 41WD338 is depicted on the topographic quadrangle as across the highway from the construction corridor. Three shovel tests were dug on this landform, and no evidence of a prehistoric site was found. The tests were dug through tan sand until red clay was reached at 40 cm.

Site 41WD410 is depicted on the topographic quadrangle as within the construction corridor. Five shovel tests were excavated in the construction corridor, and no evidence of a prehistoric site was found. The tests were dug through tan clayey sand until clay was encountered between 50 and 60 cm.

Site 41WD561 is depicted on the topographic quadrangle as across the highway from the construction corridor. Two shovel tests were dug on this landform, and no evidence of a prehistoric site was found. The tests were dug through tan fine sandy loam to 80 and 90 cm.

The large cluster of sites along Mill Race Creek where it crosses Farm-to-Market Road 778 are outside of the project area corridor and are located on both sides of the highway. The closest site in this cluster to the proposed right-of-way is 41WD333. This site is depicted on the topographic map as being located in the flood plain of Mill Race Creek on the south side. Three shovel tests were dug in the flood plain within the highway right-of-way. The site is located several hundred meters to the west on private property. Therefore, it is not affected by utilities or proposed construction. No evidence of a prehistoric site was found in the shovel tests. The tests were dug through red clay to 10 cm.

The two closest sites to the project area are 41WD338 and 41WD410. As stated above these sites are well outside the proposed right-of-way. Shovel testing on these landforms did not encounter any evidence of these sites. Shovel tests were excavated in the highway right-of-way between the road and the fence line delineating private property. No utilities were in the path of the proposed right-of-way.

It is evident from the literature search that numerous potentially significant sites are present in Wood County. Unfortunately, many of the sites in the vicinity of the project area lack site forms at TARL making analysis of them in this report impossible. The majority of the project area is located in an upland setting where significant prehistoric sites are less likely to occur. Since most of the proposed water line right-of-way will be in a disturbed borrow ditch, there were few areas worthy of shovel testing. State Highway 14, for example, covers about 10 miles between Pine Mills and the termination of the proposed water line just above the community of Hawkins. This 10 mile segment follows an upland ridge with only one area suitable for shovel testing. Most of the hills in this area were cut away in order to create a less steep road grade. Figure 3 was drawn along this highway. Because researchers did not venture from the "Area of Potential Effect," there was little opportunity for finding intact archaeological sites.

It should be stated here that there is a number of archaeological sites in Wood County plotted on topographic maps at TARL with no additional information. Some of these sites were recorded by an avocational archaeologist who did not complete individual site forms or write a report. Other sites simply lack site forms. When the topographic maps are reviewed as part of the records search prior to the field survey, a completely different picture of the probability for archaeological sites within the project area is presented. Numerous locations within the proposed water line right-of-way appear to be very high probability areas for significant sites. This is based on the landforms as depicted on the maps and the apparent high density of recorded sites in similar settings. However, the field survey revealed a much different picture. Many of the promising landforms have been cut away for road construction leaving relatively few areas suitable for shovel testing and/or backhoe trenching. While this area of Wood County is believed to be a good area for archaeological sites, the route of the water line as currently planned does not pass through any sites.

RECOMMENDATIONS

No archaeological sites were found within the construction corridor as currently planned. It is, therefore, recommended that Fouke WSC be allowed to proceed with construction with no additional archaeological investigations. It is always possible that areas containing cultural resources are missed during any archaeological survey. Should any evidence of an archaeological site be encountered during construction of the proposed water line, work in that area should be halted until the situation can be evaluated by the THC in consultation with BVRA and Fouke WSC.

REFERENCES CITED

Bruseth, James E.

1975 *Archaeological Survey and Testing in the Lake Fork Reservoir.* Interim report submitted to the Sabine River Authority by the Archaeology Research Program, Southern Methodist University.

Bruseth, James E., Joe T. Bagot, Kimball M. Banks, and Mary A. McKinley

1977 *Archaeological Research at Lake Fork Reservoir: Site Inventory and Assessment.* Southern Methodist University, Archaeology Research Program, Research Report 87.

Bruseth, James E., Timothy K. Perttula, and Bob D. Skiles

1980 *Archeological Research at Lake Fork Reservoir: Excavations at the Howle Site and Site Testing.* Southern Methodist University, Archaeological Research Program. Dallas.

Fritz, G. J.

1990 Multiple Pathways to Farming in Precontact Eastern North America. *Journal of World Prehistory* 4:387-435.

Gibson, Jon L.

1982 *Archeological Reconnaissance in the Big Sandy Drainage Basin: An Empirical Approach to Investigating Settlement in East Texas.* Report submitted to the Department of the Army, Corps of Engineers, Fort Worth District, under Contract DACW63-80-C-0041 by Archeology, Inc., Lafayette, Louisiana.

Kenmotsu, Nancy Adele, and Timothy K. Perttula

1993 *Archeology in the Eastern Planning Region, Texas: A Planning Document.* Department of Antiquities Protection, Cultural Resource Management Report 3. Texas Historical Commission. Austin.

Malone, James M.

1972 *Archeological Reconnaissance at Proposed Mineola Reservoir.* Texas Historical Survey Committee, Texas Water Development Board, Archeological Survey Report 10.

Moody, Johnnie (Mrs. A. L.)

1969 Reminiscence of Hainesville. In *Chips of Wood County, Texas*, edited and compiled by Adele W. Vickery, Mineola.

Perttula, Timothy K., and Kathleen K. Gilmore

1988 *Archaeological Survey along Mill Race Creek and Tributaries, Wood County, Texas: 1987-1988.* Institute for Applied Sciences, University of North Texas. Contributions in Archaeology 6. Denton.

Perttula, Timothy K., and Bob D. Skiles
1986 The Mill Race Creek Site (41WD333): A Mid-Eighteenth Century Site in Wood County, Texas. *Texas Archeology* 30(4):3-4.

Perttula, Timothy K., Bob D. Skiles, Michael B. Collins, Margaret C. Trachte, and Fred Valdez, Jr.
1986 *This Everlasting Sand Bed: Cultural Resources Investigations at the Texas Big Sandy Project, Wood and Upshur Counties, Texas.* Prewitt and Associates, Inc., Reports of Investigations Number 52.

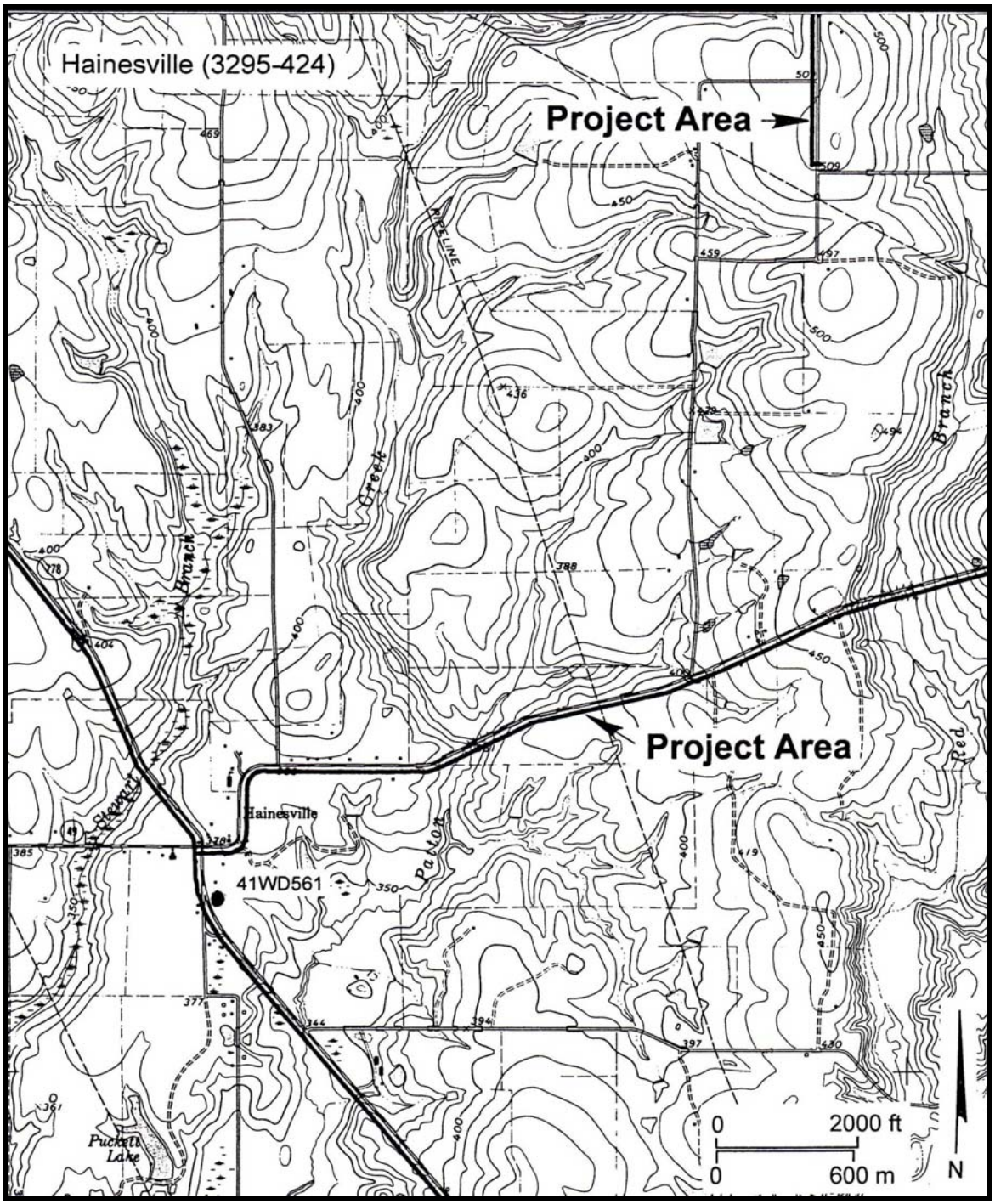
Skinner, S. Alan
1975 *A Preliminary Evaluation of Archaeological Resources at Lake Fork Reservoir, Wood County, Texas.* Report submitted to URS/Forrest and Cotton, Dallas, by the Archaeology Research Program, Southern Methodist University.

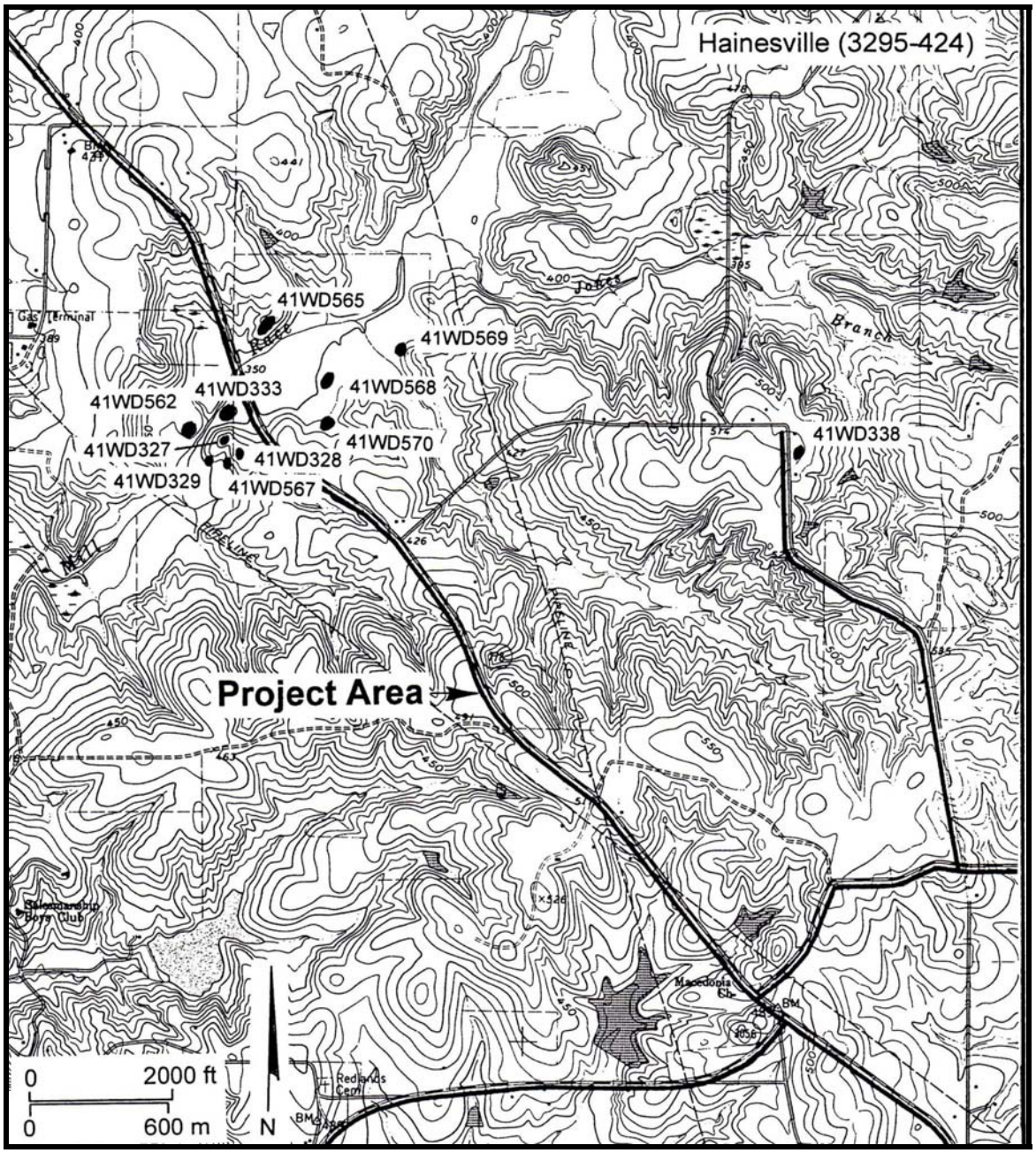
Sullivan, Timothy L.
n.d *Archaeological Investigations at Lake Bob Sandlin, Texas.* Southern Methodist University. Archaeology Research Program, Research Report 99. Department of Anthropology,

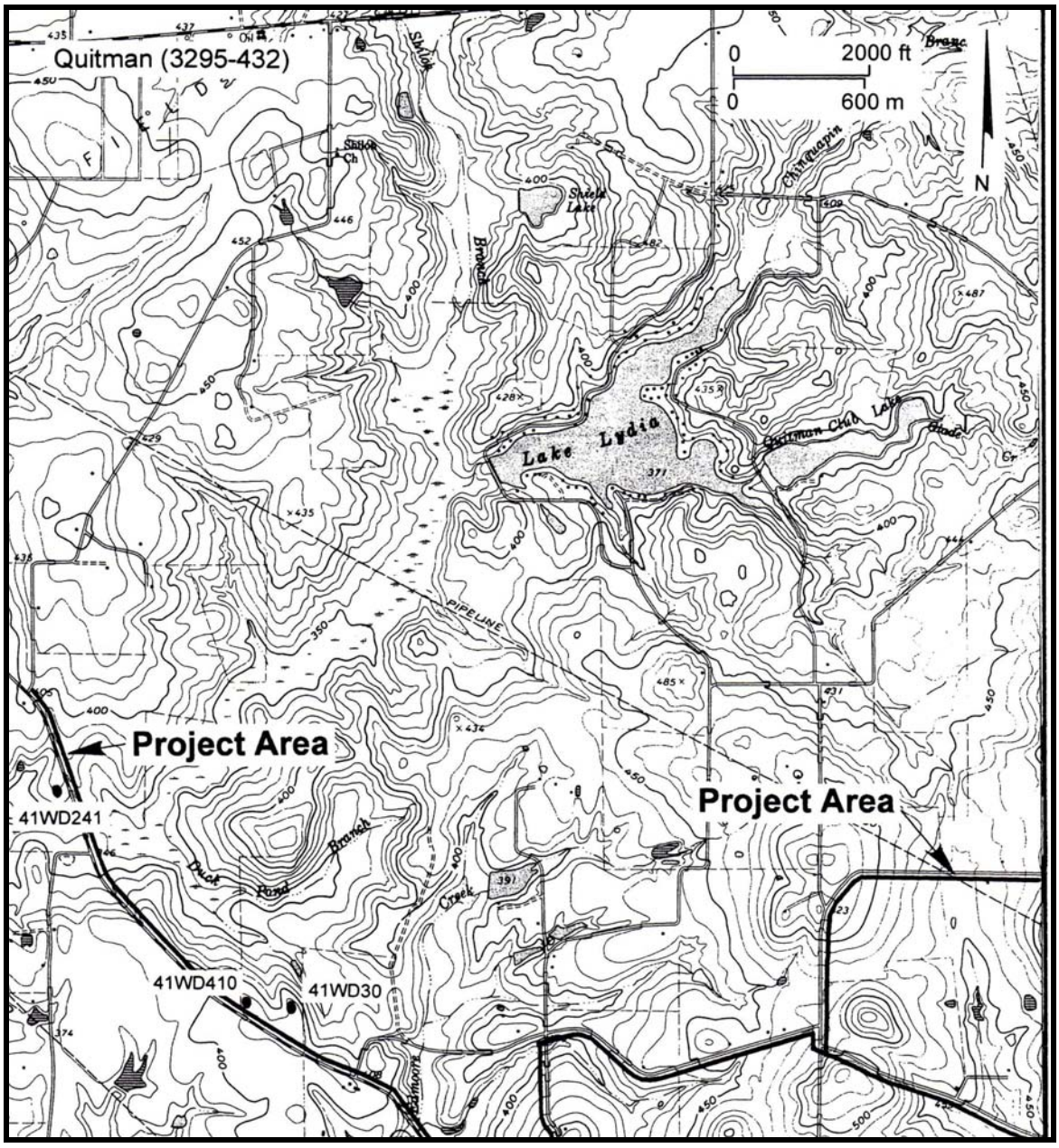
Woldert, Albert
1952 Relics of Possible Indian Battle in Wood County, Texas. In *Southwestern Historical Quarterly* 55:484-489.

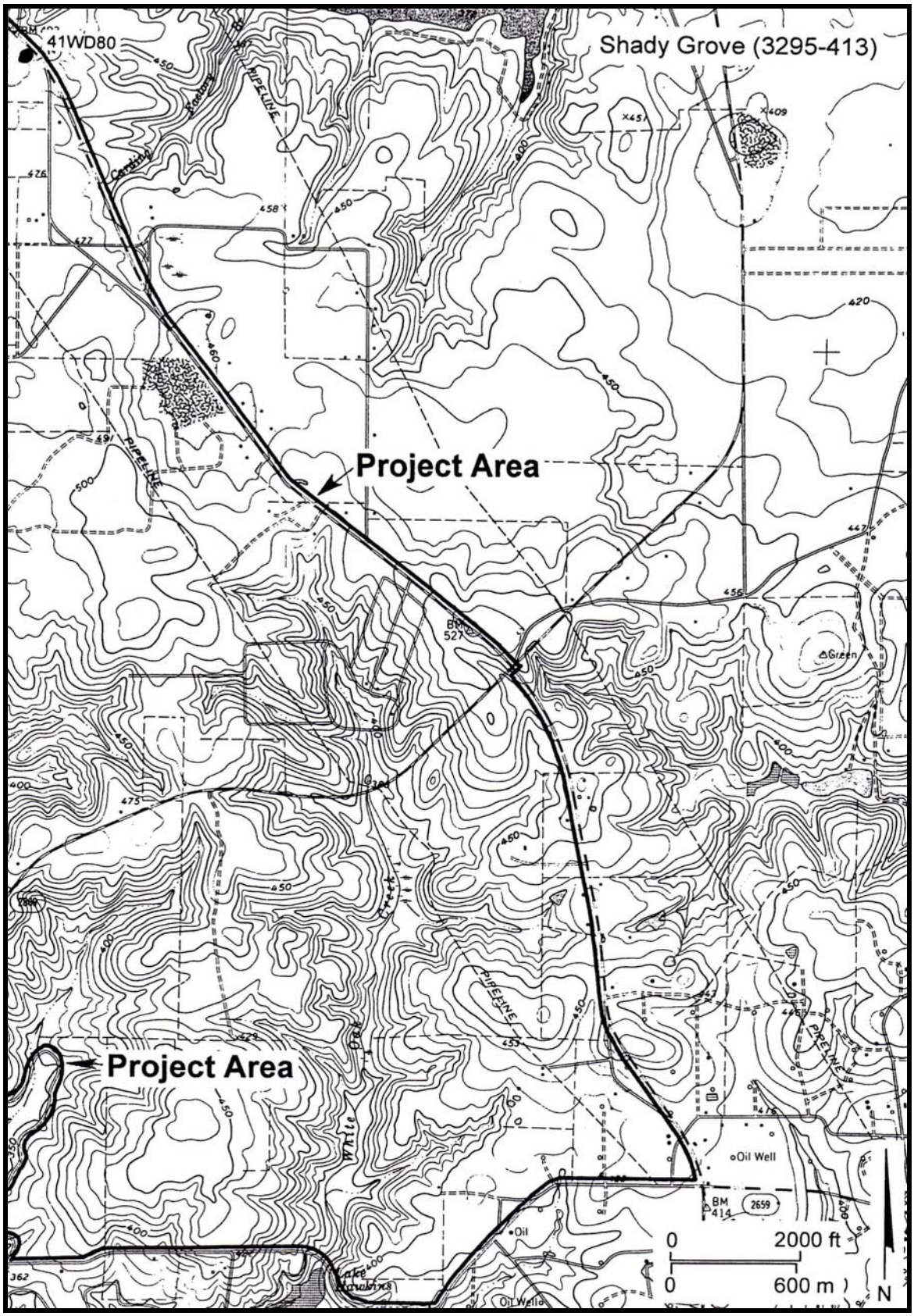
APPENDIX I

ARCHAEOLOGICAL SITES ON TOPOGRAPHIC MAPS


Hainesville (3295-424)
Project Area
Project Area
PIPELINE
Hainesville
41WD561
Patton
Red
Branch
Puckett Lake
0
2000 ft
0
600 m
N

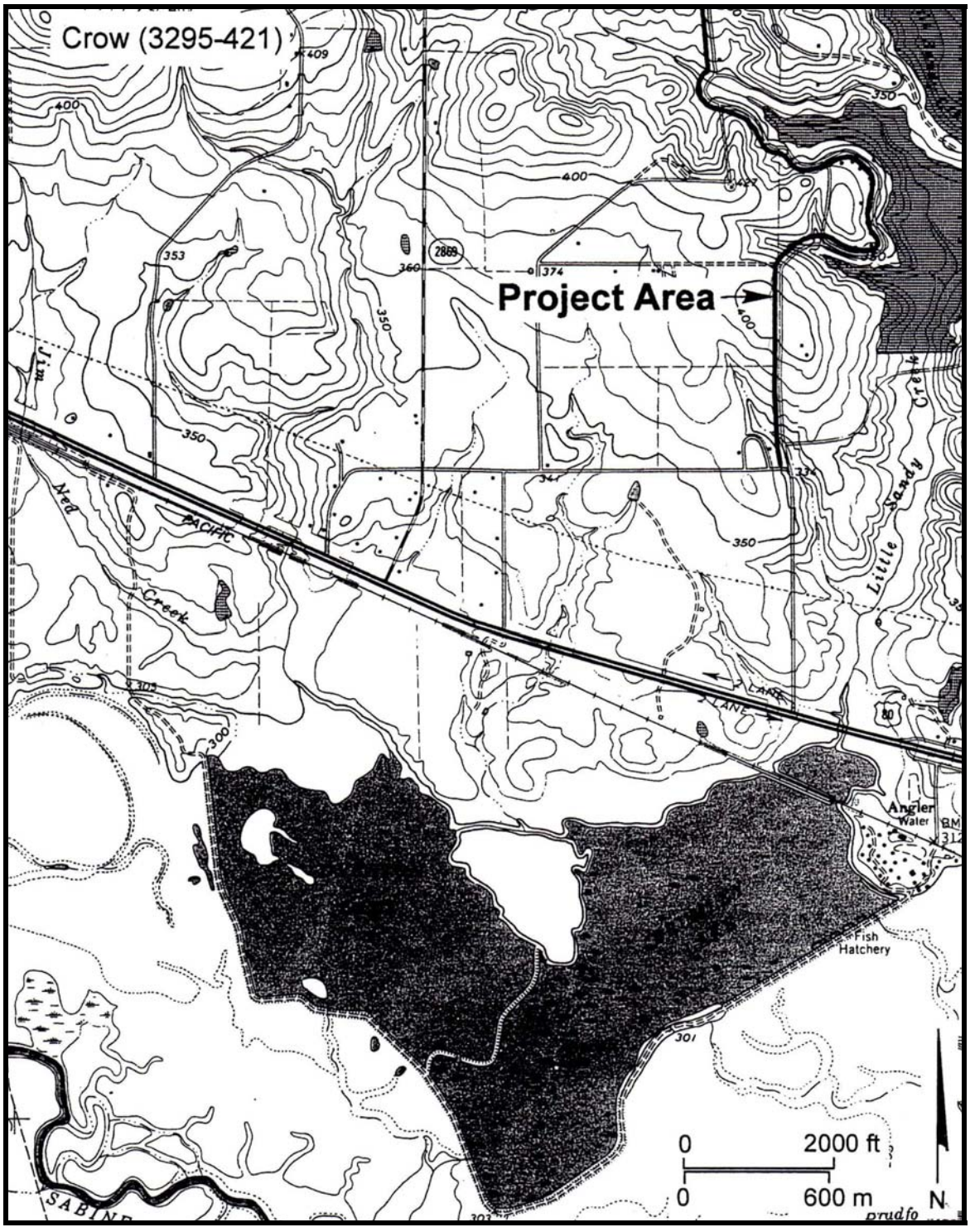

Hainesville (3295-424)
41WD565
41WD569
41WD562
41WD333
41WD568
41WD327
41WD328
41WD570
41WD338
41WD329
41WD567
Project Area
0
2000 ft
0
600 m
N

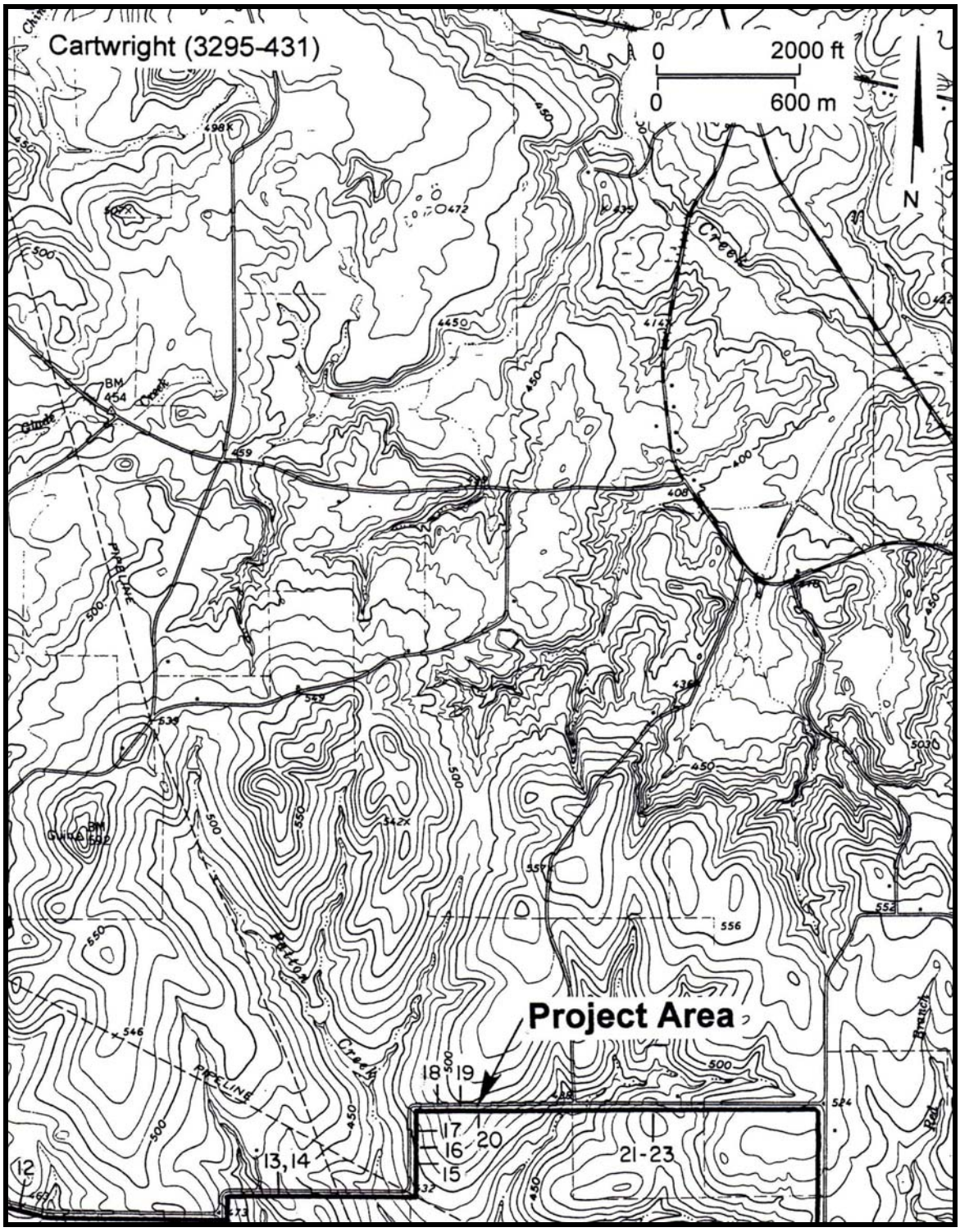

Quitman (3295-432)
0 2000 ft
0 600 m
N
Lake Lydia
Project Area
Project Area
41WD241
41WD410
41WD30
PIPELINE
Duck Pond Branch
Creek

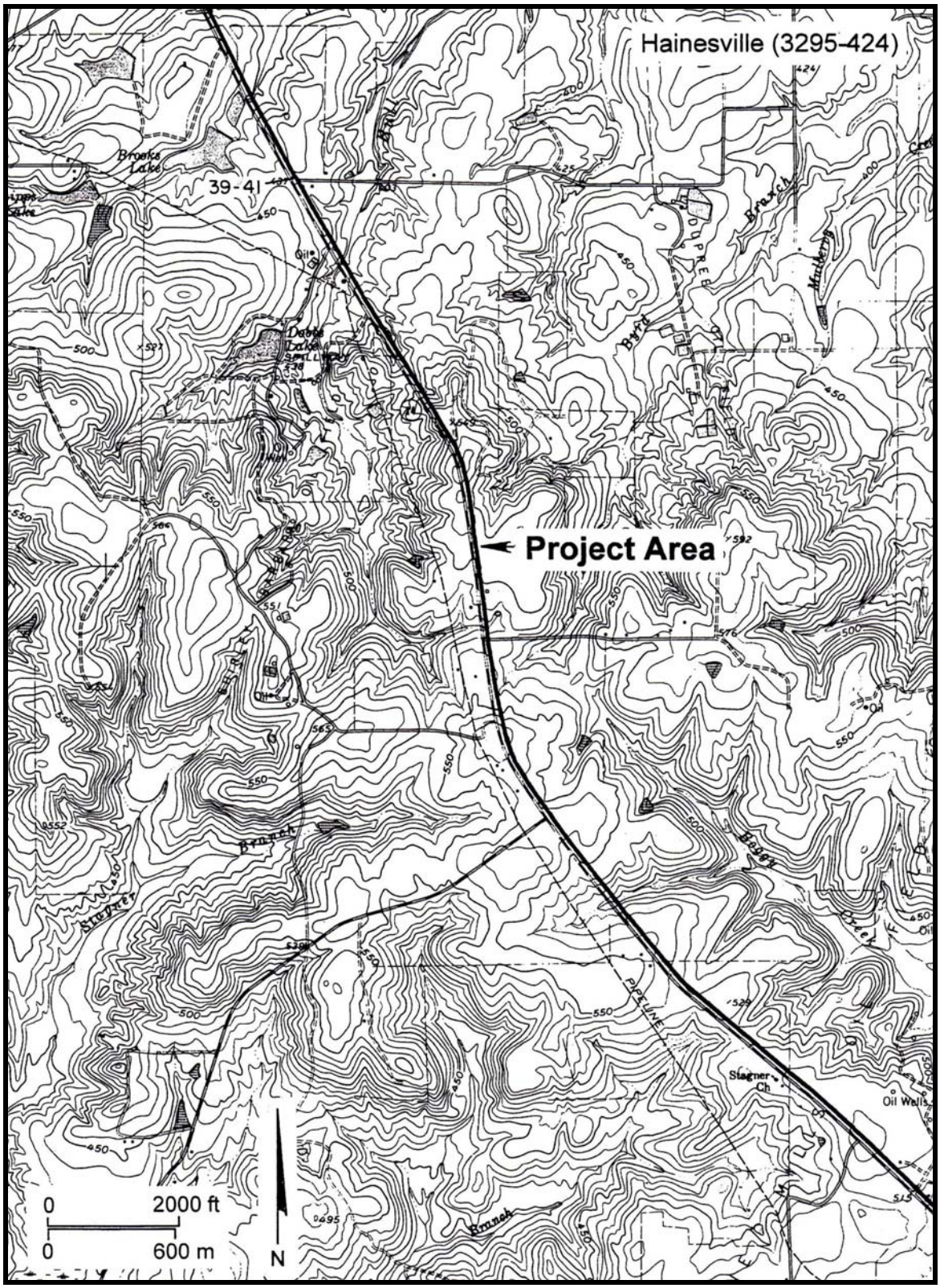

41WD80
Shady Grove (3295-413)
Project Area
Project Area
PIPELINE
PIPELINE
PIPELINE
PIPELINE
White Oak Creek
Oil Well
Oil
Oil Wells
BM 414
2659
0
2000 ft
0
600 m
N

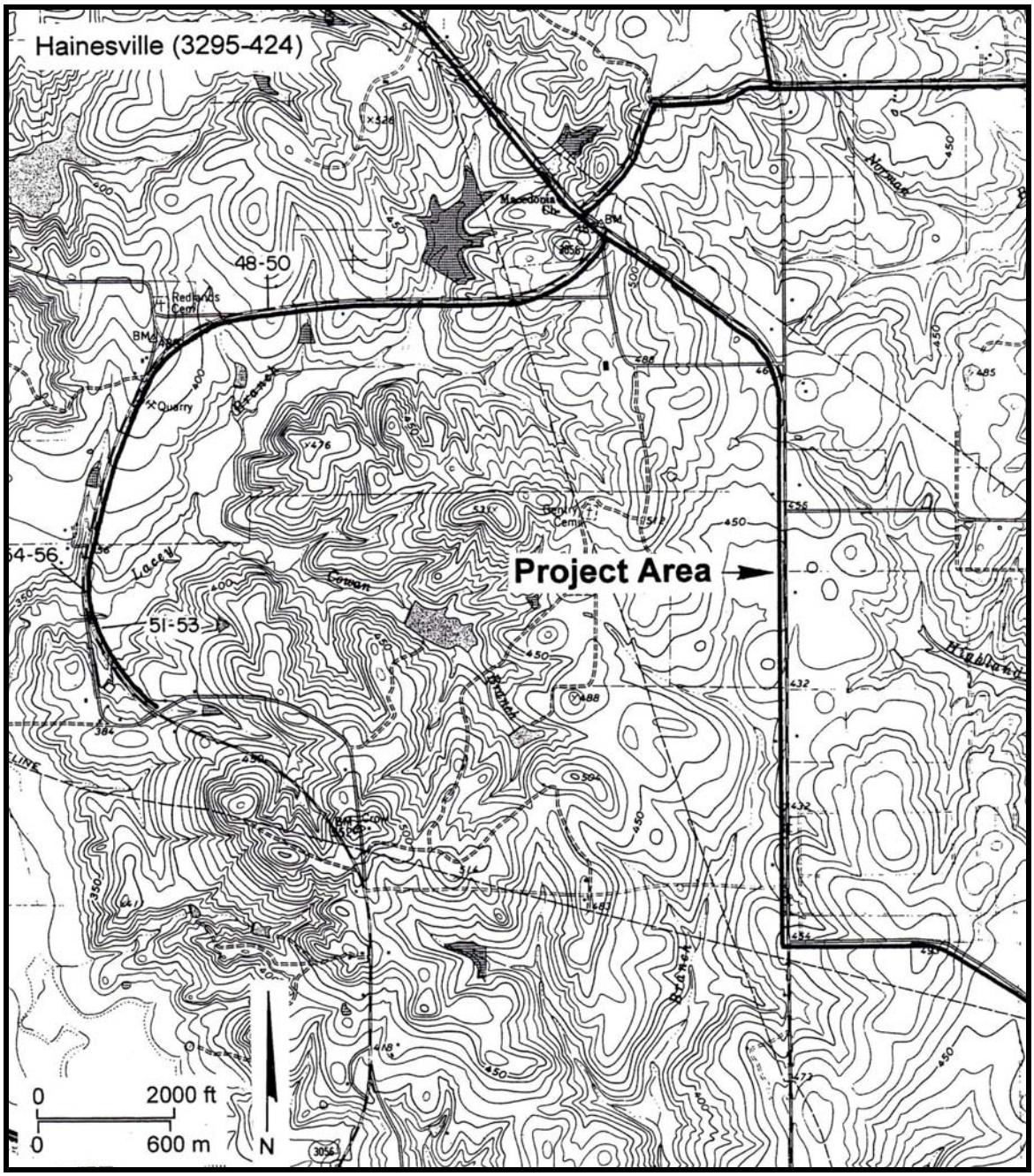
APPENDIX II

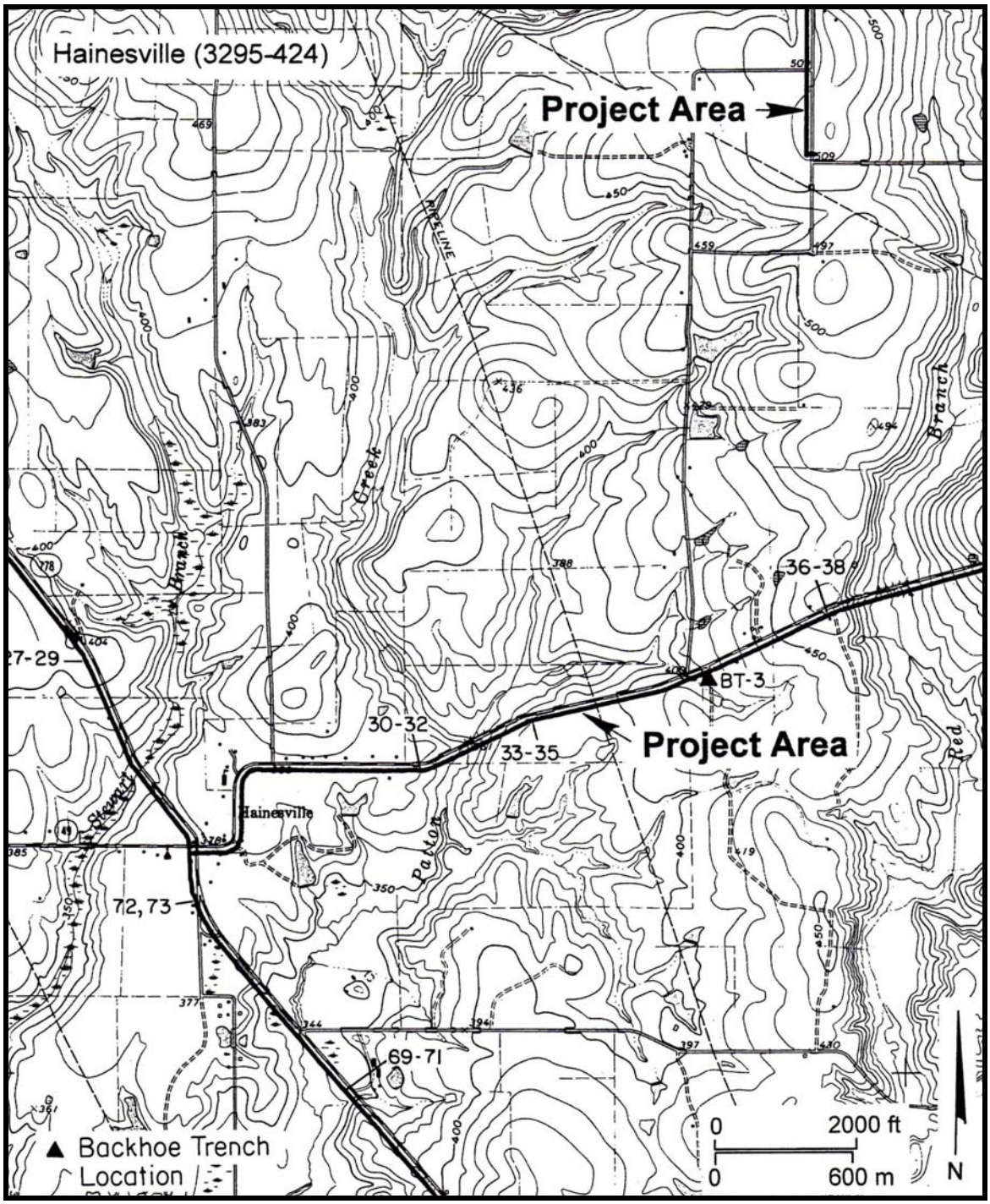
PROJECT AREA AND SHOVEL TESTS ON TOPOGRAPHIC MAPS

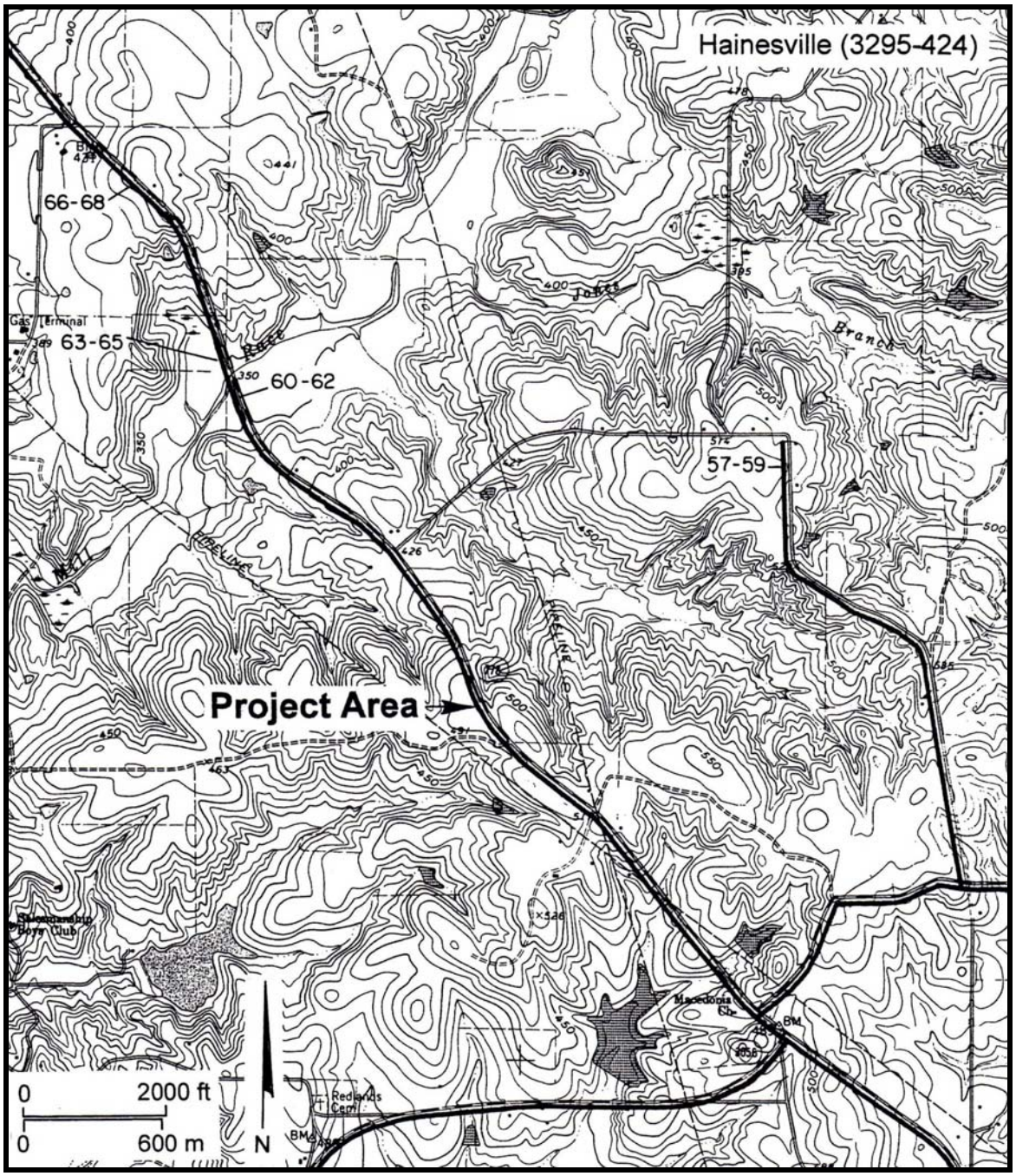

Crow (3295-421)
Project Area
Jim
Ned
Creek
PACIFIC
LANE
Little Sandy Creek
Angler
Water
Fish
Hatchery
0
2000 ft
0
600 m
N

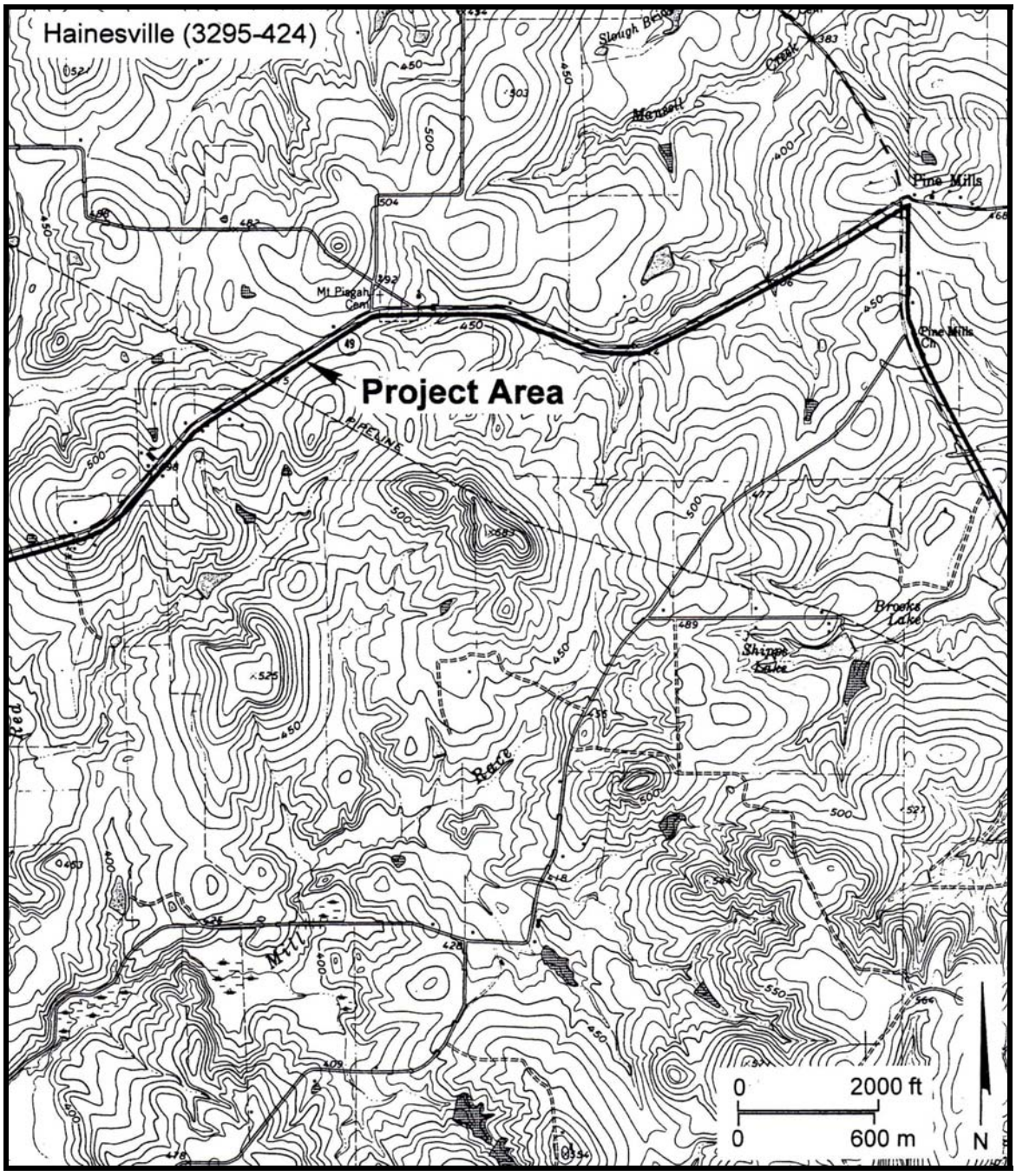

Cartwright (3295-431)
0
2000 ft
0
600 m
N
Project Area
18
19
17
16
15
20
21-23
13,14
12
Creek
PIPELINE
Branch

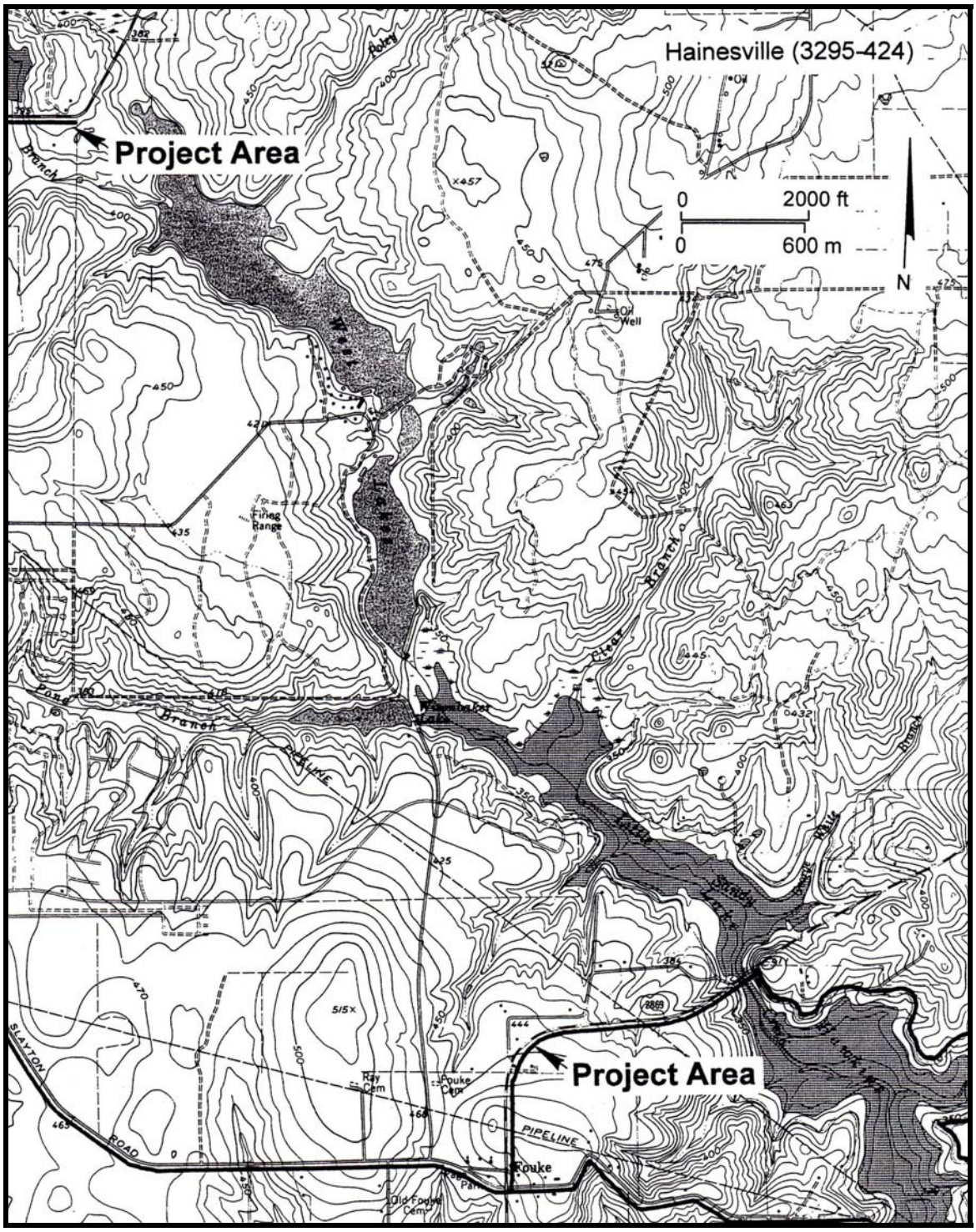

Hainesville (3295-424)
Project Area
39-41
Brooks Lake
Dabbs Lake
Small Lake
Oil Wells
Stagner Ch
PIPELINE
0
2000 ft
0
600 m
N

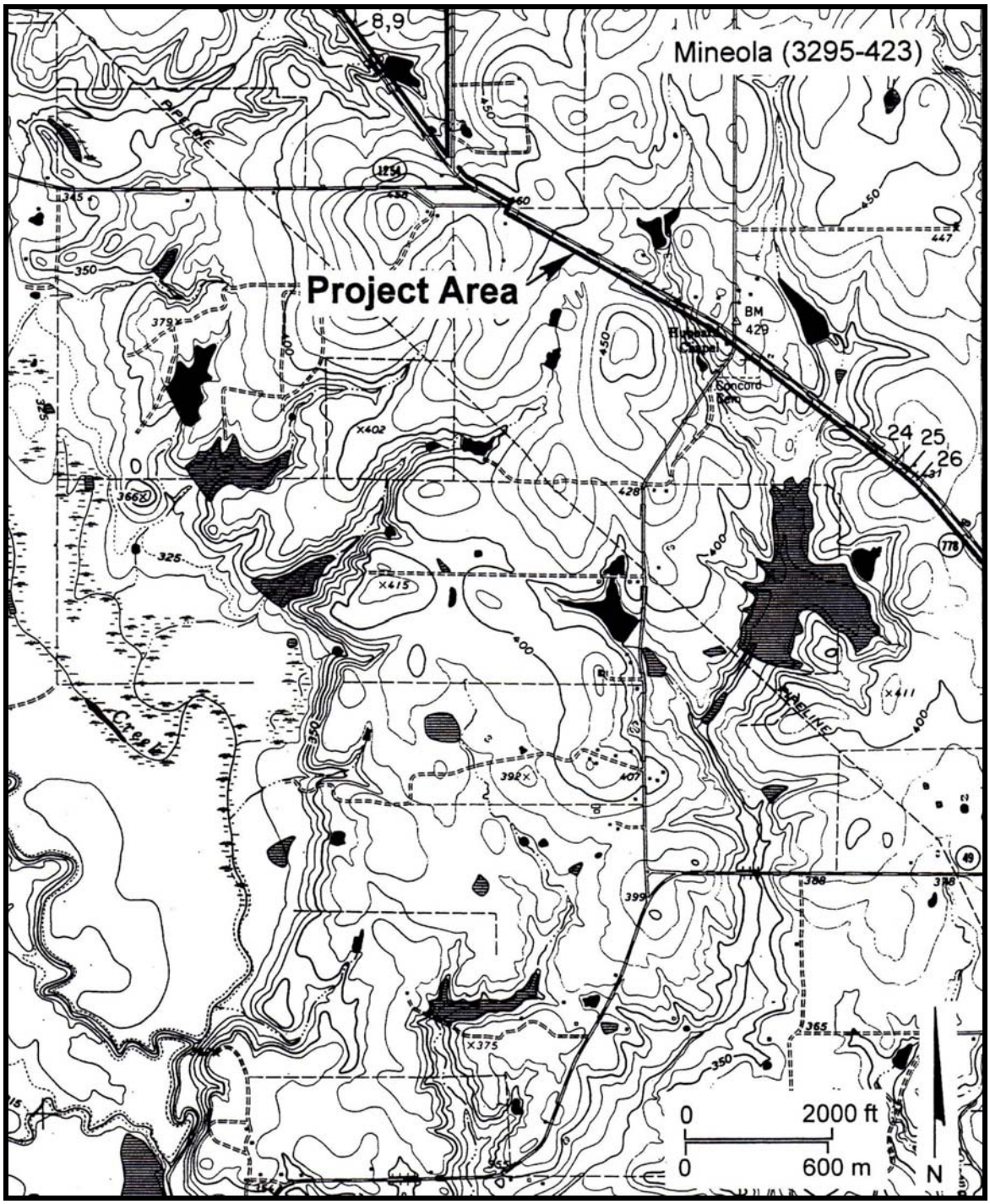

Hainesville (3295-424)
48-50
54-56
51-53
Project Area
Quarry
Redlands Cem
Macedonia Chr
Lacey
Cowan
Norman
Highland
0
2000 ft
0
600 m
N

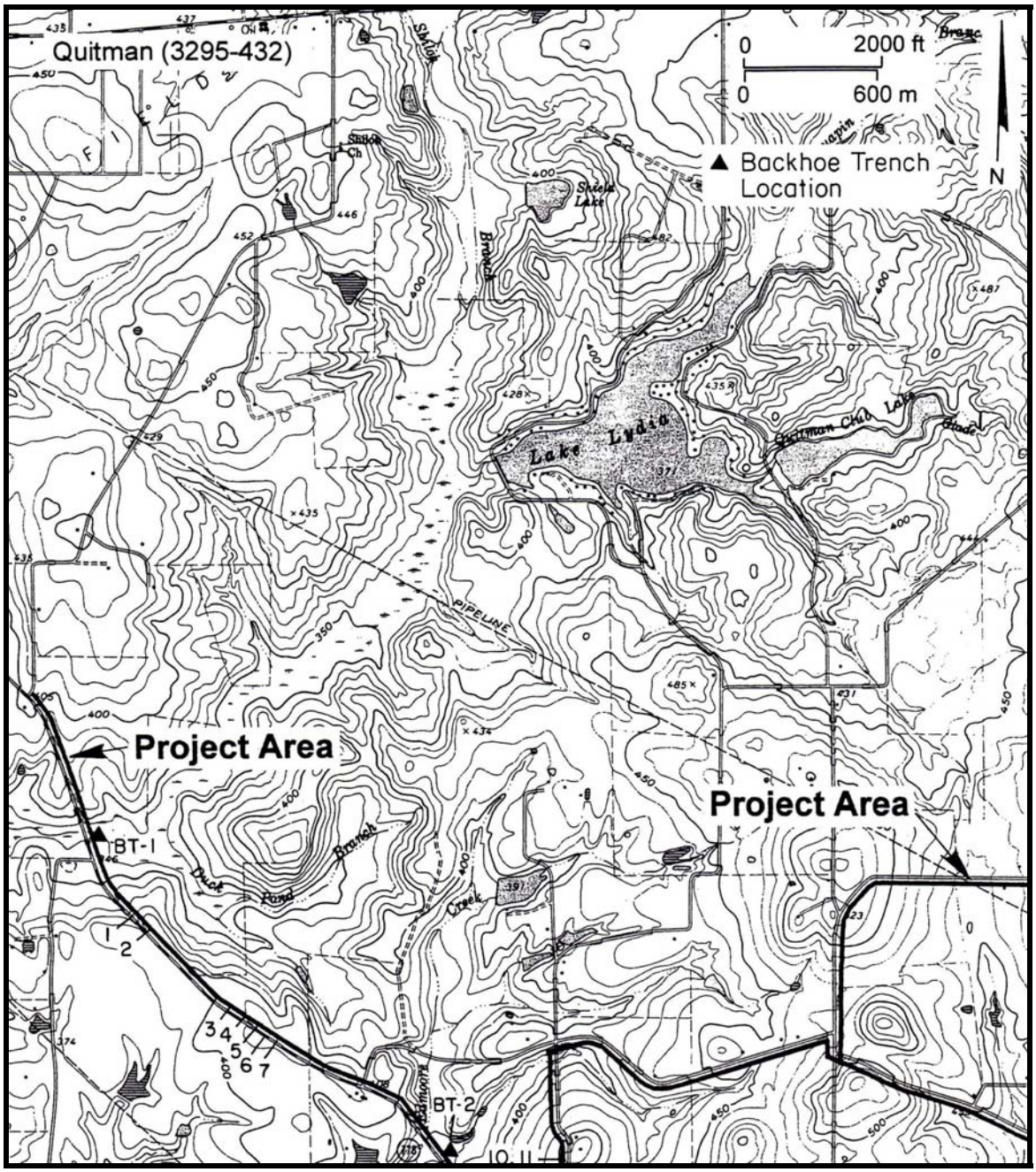

Hainesville (3295-424)
Project Area
Project Area
Pipeline
Branch
Creek
Branch
Creek
Patton
Red
Hainesville
36-38
27-29
BT-3
30-32
33-35
72,73
69-71
▲ Backhoe Trench Location
0
2000 ft
0
600 m
N

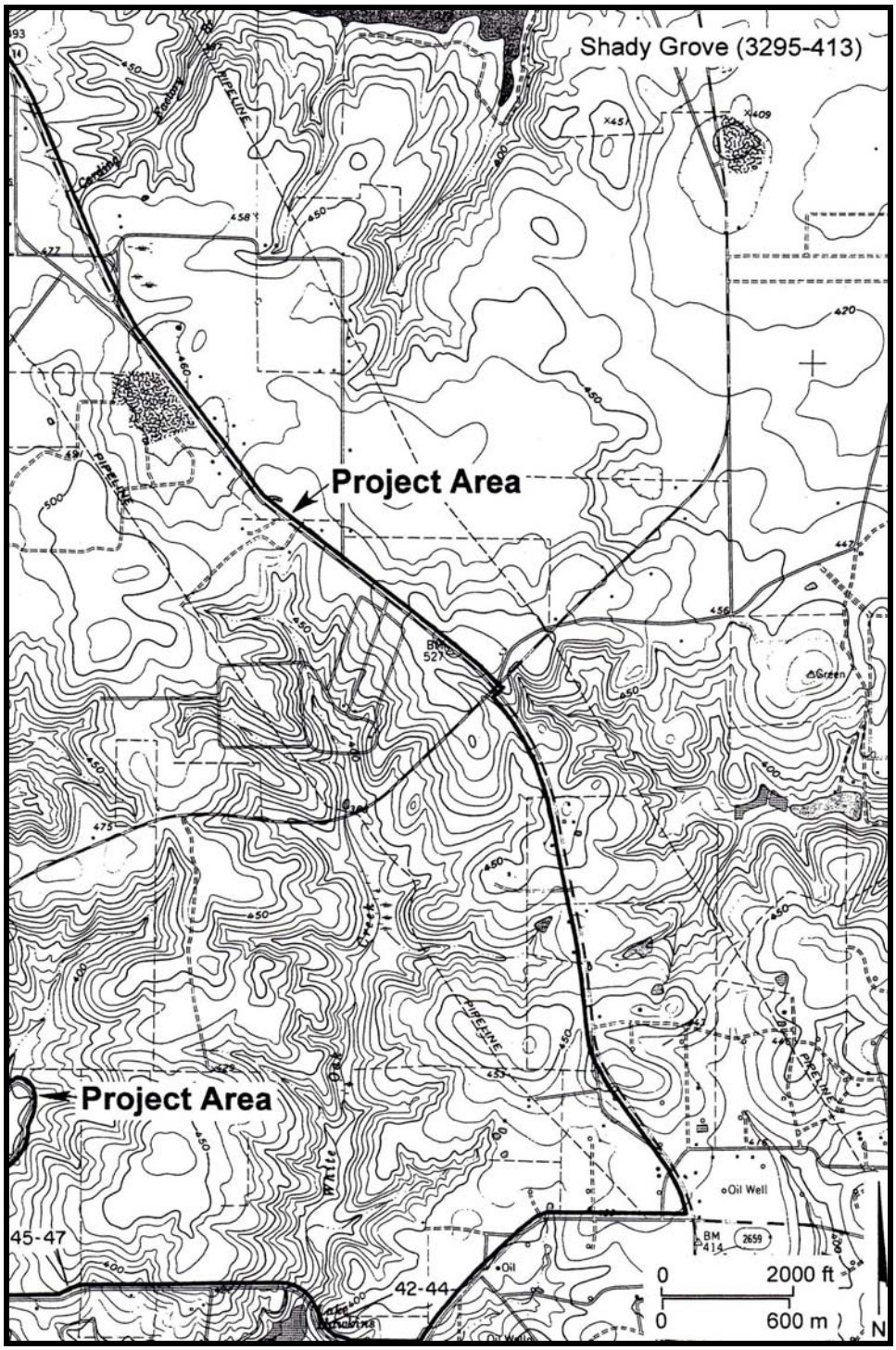

Hainesville (3295-424)
66-68
63-65
60-62
57-59
Project Area
Gas Terminal
Macedonia Sch.
Redlands Cem.
0
2000 ft
0
600 m
N


Hainesville (3295-424)
Project Area
Pine Mills
Brooks Lake
Shipps Lake
Race
Mtl
0
2000 ft
0
600 m
N


Hainesville (3295-424)
Project Area
0
2000 ft
0
600 m
N
Oil Well
Firing Range
Pond Branch
PIPELINE
Clear Lake
Project Area
PIPELINE
SLAYTON ROAD
Rouke
Ray Cem
Rouke Cem
Old Foote Cem


Mineola (3295-423)
Project Area
0
2000 ft
0
600 m
N


Quitman (3295-432)
0 2000 ft
0 600 m
▲ Backhoe Trench Location
N
Lake Lydia
Project Area
Project Area
BT-1
BT-2
PIPELINE
Duck Pond
Branch
Creek


Shady Grove (3295-413)
Project Area
Project Area
PIPELINE
PIPELINE
PIPELINE
PIPELINE
Oil Well
45-47
42-44
0
2000 ft
0
600 m
N

APPENDIX III: SHOVEL TEST LOG

Test	Depth	Description
1	70 cm	yellow fine sandy loam to 40 cm; red sandy clay at 70 cm; dug on slight slope
2	70 cm	red sandy clay to 50 cm; tan sand at 70 cm (disturbed); dug on slight slope
3	70 cm	tan clayey sand to 60 cm; yellow sandy clay to 70 cm
4	70 cm	tan clayey sand to 60 cm; yellow sandy clay to 70 cm
5	80 cm	tan clayey sand to 70 cm; yellow sandy clay to 80 cm
6	70 cm	tan clayey sand to 60 cm; yellow sandy clay to 70 cm
7	60 cm	red clayey sand to 50 cm; yellow clay at 60 cm
8	20 cm	red sandy clay to 10 cm; red clay at 20 cm
9	30 cm	red sandy clay to 25 cm; yellow/red clay at 30 cm
10	80 cm	yellow fine sandy loam to 70 cm; red clay at 80 cm
11	70 cm	disturbed upper soil to 15 cm; yellow fine sandy loam to 60 cm; red clay at 70 cm
12	90 cm	tan fine sandy loam to 80 cm; red sandy clay at 90 cm
13	40 cm	tan fine sandy loam to 40 cm; red clay at 40; dug on hilltop
14	80 cm	tan fine sandy loam to 80 cm; red clay at 80 cm; dug on hilltop
15	70 cm	tan fine sandy loam to 70 cm; red clay at 70 cm
16	70 cm	tan fine sandy loam to 70 cm; red clay at 70 cm
17	50 cm	tan fine sandy loam to 50 cm; red clay at 50 cm
18	80 cm	tan fine sandy loam to 80 cm; red clay at 80 cm

Test	Depth	Description
19	60 cm	tan fine sandy loam to 60 cm; red clay at 60 cm
20	70 cm	tan fine sandy loam to 70 cm; red clay at 70 cm
21	60 cm	red fine sandy loam to 60 cm; reddish-yellow clay at 60 cm
22	40 cm	red fine sandy loam to 40 cm; reddish-yellow clay at 40 cm
23	20 cm	red fine sandy loam to 20 cm; reddish-yellow clay at 20 cm
24	30 cm	tan fine sandy loam to 30 cm; red clay at 30 cm
25	80 cm	tan fine sandy loam to 80 cm; red clay at 80 cm
26	20 cm	tan fine sandy loam to 20 cm; red clay at 20 cm
27	60 cm	tan fine sandy loam to 60 cm; yellow clay at 60 cm
28	60 cm	tan fine sandy loam to 60 cm; yellow clay at 60 cm
29	70 cm	tan fine sandy loam to 70 cm; yellow clay at 70 cm
30	20 cm	tan fine sandy loam to 20 cm; red clay at 20 cm
31	10 cm	tan fine sandy loam to 10 cm; red clay at 10 cm
32	20 cm	tan fine sandy loam to 20 cm; red clay at 20 cm
33	10 cm	yellow sandy clay to 10 cm; dug on hilltop
34	15 cm	yellow sandy clay to 15 cm; dug on hilltop
35	15 cm	yellow sandy clay to 15 cm; dug on hilltop
36	80 cm	tan fine sandy loam to 80 cm; yellow clay at 80 cm; dug on hilltop

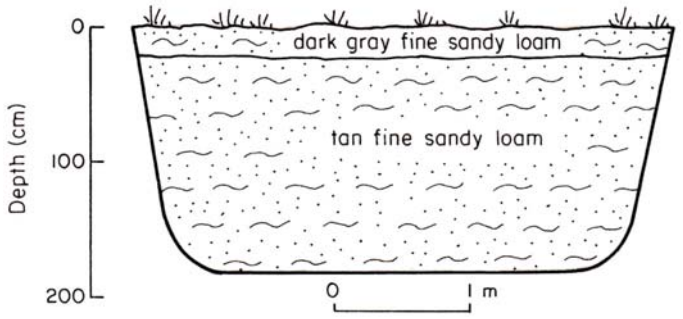
Test	Depth	Description
37	70 cm	tan fine sandy loam to 70 cm; yellow clay at 70 cm; dug on hilltop
38	40 cm	black fill with modern trash; stopped at 40 cm; dug on hilltop
39	50 cm	tan fine sandy loam to 50 cm; yellow clay at 50 cm
40	30 cm	tan fine sandy loam to 30 cm; yellow clay at 30 cm
41	40 cm	tan fine sandy loam to 40 cm; yellow clay at 40 cm
42	80 cm	disturbed by heavy construction
43	80 cm	disturbed by heavy construction
44	70 cm	disturbed by heavy construction
45	70 cm	yellow coarse sand to 90 cm; no clay encountered; dug on hilltop
46	90 cm	yellow coarse sand to 90 cm; no clay encountered; dug on hilltop
47	80 cm	red coarse sand to 80 cm; no clay encountered; dug on hilltop
48	10 cm	red clay with gravels; dug on hilltop
49	10 cm	red clay with gravels; dug on hilltop
50	10 cm	red clay with gravels; dug on hilltop
51	10 cm	red clay at surface; dug in flood plain
52	10 cm	red clay at surface; dug in flood plain
53	10 cm	red clay at surface; dug in flood plain
54	10 cm	red clay at surface; dug in flood plain

Test	Depth	Description
55	10 cm	red clay at surface; dug in flood plain
56	10 cm	red clay at surface; dug in flood plain
57	40 cm	tan sand to 40 cm; red clay at 40 cm
58	40 cm	tan sand to 40 cm; red clay at 40 cm
59	40 cm	tan sand to 40 cm; red clay at 40 cm
60	10 cm	red clay at surface; dug in flood plain
61	10 cm	red clay at surface; dug in flood plain
62	10 cm	red clay at surface; dug in flood plain
63	10 cm	red clay at surface; dug in flood plain
64	10 cm	red clay at surface; dug in flood plain
65	10 cm	red clay at surface; dug in flood plain
66	10 cm	red clay at surface with gravels; dug on hilltop
67	10 cm	red clay at surface; dug on hilltop
68	10 cm	red clay at surface; dug on hilltop
69	10 cm	red clay at surface with gravels; dug in flood plain
70	10 cm	red clay at surface with gravels; dug in flood plain
71	10 cm	red clay at surface with gravels; dug in flood plain
72	90 cm	tan fine sandy loam to 90 cm; no clay encountered
73	80 cm	tan fine sandy loam to 80 cm; no clay encountered

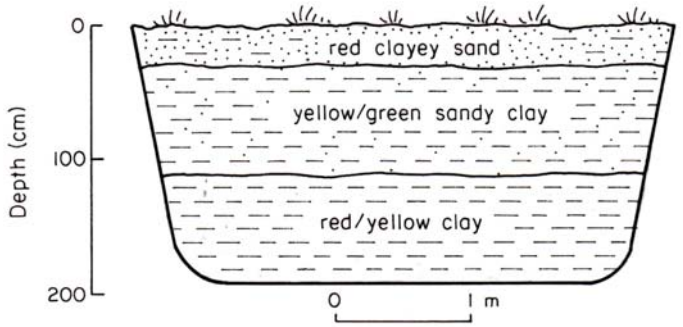
APPENDIX IV

BACKHOE TRENCH PROFILES

Backhoe Trench 1



Backhoe Trench 2



Backhoe Trench 3