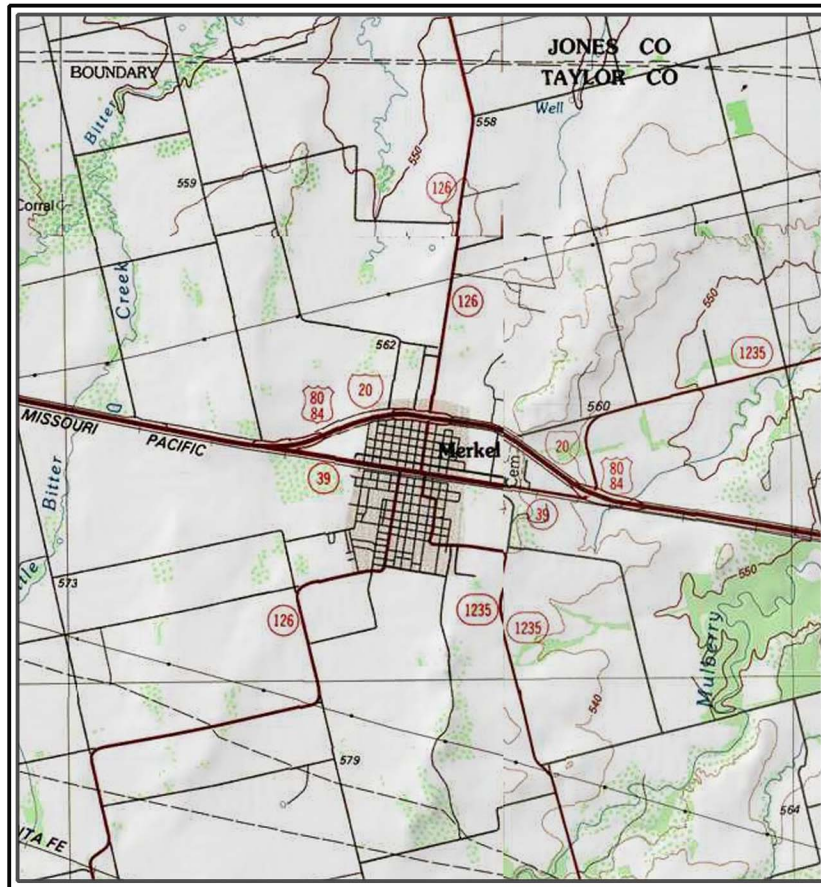


**AN ARCHAEOLOGICAL SURVEY FOR THE  
CITY OF MERKEL WATER ADDITIONS PROJECT  
IN TAYLOR COUNTY TEXAS  
ANTIQUITIES PERMIT 4661**



*By*  
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**Brazos Valley Research Associates  
Contract Report 183**

AN ARCHAEOLOGICAL SURVEY FOR THE  
CITY OF MERKEL WATER ADDITIONS PROJECT  
IN TAYLOR COUNTY TEXAS

BVRA Project Number 07-19

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## **ABSTRACT**

Brazos Valley Research Associates (BVRA) conducted an archaeological survey of three areas in Taylor County, Texas on September 6, 2007 for the City of Merkel under antiquities permit 4661. The areas investigated by BVRA were the crossing of Bull Wagon Creek by Interstate Highway 20, the site of a proposed pump station, and an existing pump station where a single pump will be installed. Prehistoric site 41TA79 has been recorded in the vicinity of the crossing of Bull Wagon Creek by the interstate, and prehistoric site 41TA254 has been recorded in the vicinity of the existing pump station. No evidence of these sites was found within the Area of Potential Effect (APE) for this project. It is, therefore, recommended that construction of the water line and pump station and improvements to the existing pump station be allowed to proceed as planned without further consultation from the Texas Historical Commission. No artifacts were collected. The size of the project is 0.53 acre.

## **ACKNOWLEDGMENTS**

BVRA is grateful to those individuals who assisted in this project. At the City of Merkel, Donnie Edwards (City Manager) provided landowner permission for access to the city easement and accompanied the Principal Investigator to make sure the proper areas were investigated. Project area maps were provided by the engineering firm Jacob & Martin, Ltd. by Kelly Rosenbaum and Kirt Harle. Special thanks to landowners Jack Moore and Massey Cleber who shared their knowledge of Indian sites in the area and to Brandon S. Young of Blanton & Associates for discussing their previous work near the proposed pump station. Edward P. Baxter prepared the cover, and Lili Lyddon prepared the figures. Nora Rogers edited the manuscript.

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## INTRODUCTION

The City of Merkel has made an application for federal financial assistance to Rural Development for the construction of Water Distribution System and Wastewater Treatment and Collection System improvements. This project begins at the old Merkel pump station site in Abilene, Texas and ends at several points in the distribution system in downtown Merkel. Figure 1 depicts the project area in relation to Taylor County and the State of Texas. The project area is depicted on two USGS 7.5' topographic maps. They are Abilene West (3299-234) and Merkel East (3299-233). Figure 2 depicts the project area on these topographic maps.

The 12-inch water line will be placed in a trench 36 inches wide and four feet deep. According to the Texas Historical Commission (THC), the only area along United States Interstate Highway 20 requiring survey is the north side of the interstate at the crossing at Bull Wagon Creek. In addition to the water line, a pump station will be constructed on the east bank of the creek, also adjacent to Interstate 20. The footprint for the new pump station will be 100 feet x 120 feet. Within this area, a ground storage tank 38 feet in diameter and a metal building will be constructed. The footprint for the metal building will be 25 feet x 34 feet. The building pad for the ground storage tank and metal building will penetrate the subsurface to a depth of 12 inches to 24 inches. To the east, there is an existing pump station owned and operated by the City of Abilene. This facility is enclosed with a chain link fence and locked gate. The only improvement for this area is the addition of a single pump, which will be placed adjacent to the existing pump station within the fenced area.

When possible, the water line will be placed on private property within an easement purchased by the City of Merkel, but some segments will be placed in existing highway rights-of-way. No water line will be routed through a cemetery, marked graves, or burial plots. When necessary, the water line will be routed through the highway right-of-way if adjacent to a cemetery or on the side of the highway opposite a cemetery.

An archaeological survey was requested in a letter from the State Historic Preservation Officer to Kelly Rosenbaum of the engineering firm Jacob and Martin, Ltd. dated July 11, 2007. A review of the Texas Archeological Sites Atlas revealed the presence of one previously recorded site (41TA79) within the path of the proposed water line. This site is plotted on both sides of Bull Wagon Creek where United States Interstate Highway 20 crosses it. Another site (41TA254) is in the vicinity of the existing pump station south of Indian Creek. The City of Merkel retained BVRA to investigate the creek crossing for evidence of previously recorded site 41TA79 within the APE and to visit the existing pump station for evidence of previously recorded site 41TA254.

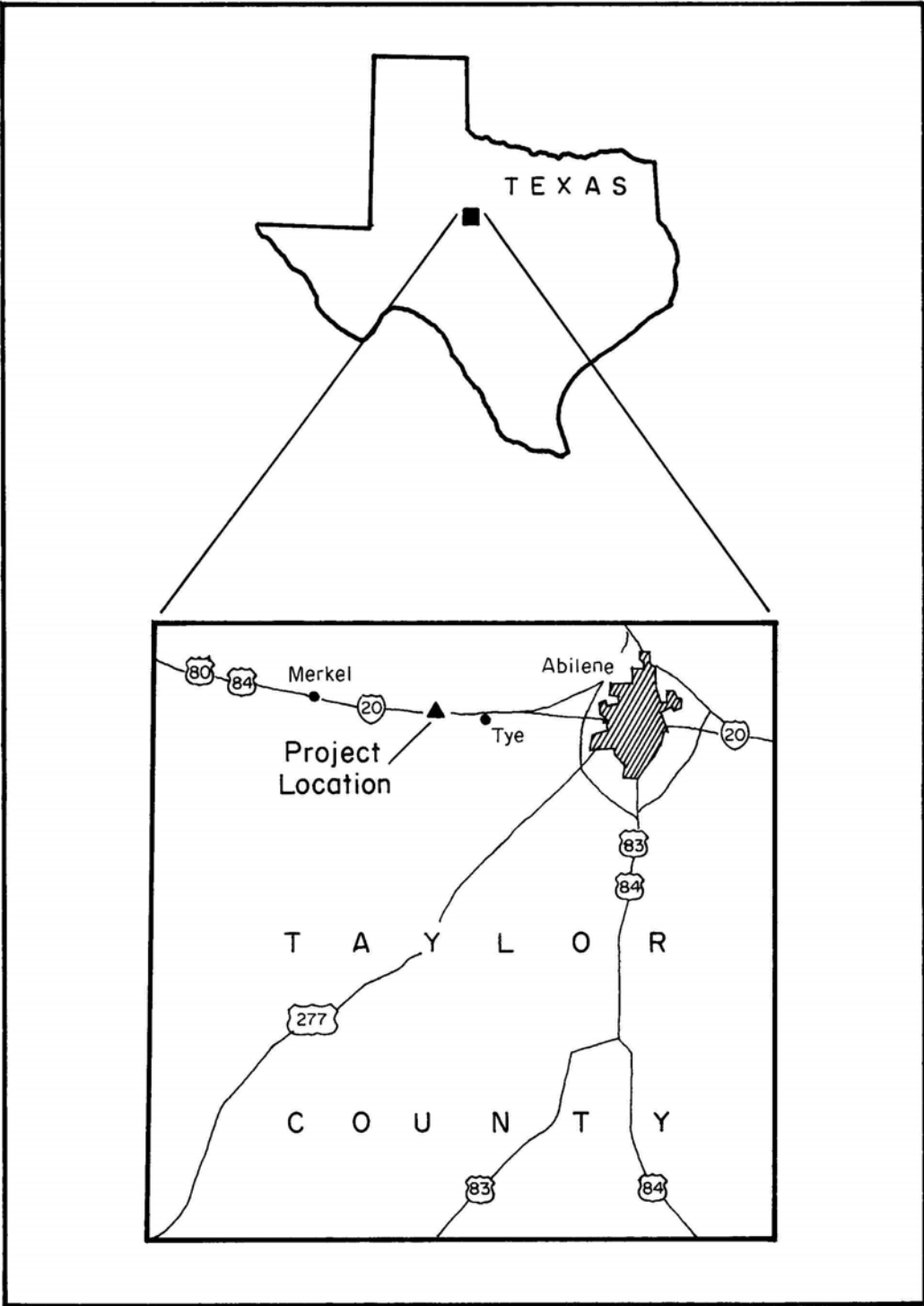


Figure 1. General Location

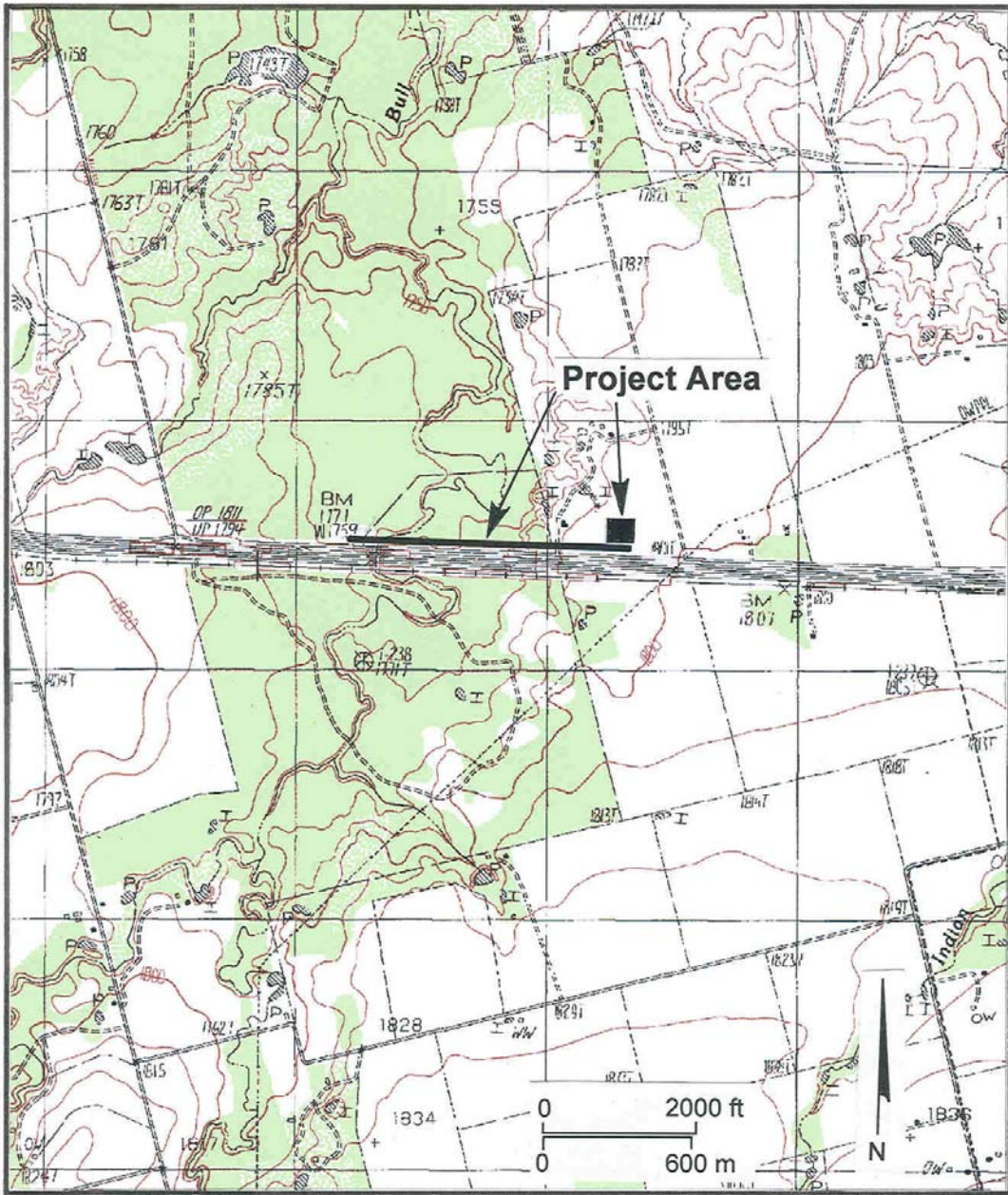


Figure 2. Project Area on Topographic Map



## ENVIRONMENTAL SETTING

Taylor County is located in west-central Texas. The following discussion was taken from the published soil survey for Taylor County (Conner 1976) and *The Handbook of Texas* (Webb 1952). About 75% of the acreage of Taylor County lies in the Central Rolling Red Plains Resource Area, and about 25% is in the Edwards Plateau Resource Area. The Central Rolling Red Plains area consists of smooth plains that are dissected by numerous streams and creeks. Soils in this area formed in outwash sediment and Permian sandstone, clay, and shale. The streams and creeks have narrow, alluvial soils that were deposited by water. The most conspicuous feature of the surface terrain in the area is the Edwards Plateau, which rises 200 to 700 feet above the general level of the Central Rolling Red Plains. The plateau extends from east to west across the central part of Taylor County and is outlined in most areas by steep escarpments. The Edwards Plateau also serves as a divide between the Clear Fork of the Brazos River and the Colorado River. Plateau soils are mostly shallow or moderately deep over limestone or marl. Near the project area is the Callahan Divide, which is the topographic boundary line between the Brazos and Colorado River basins. To the east of the project area is Cedar Gap, a natural passage way through the divide. The headwaters of the Clear Fork of the Brazos River and tributaries of the Colorado River are found in the county. Native timber consists of live oak, post oak, mesquite, and cedar. Coal, oil, sandstone, and limestone are present.

Relevant to the project area is Bull Wagon Creek, a major north-south running stream that crosses United States Interstate Highway 20 about three miles east of the town of Merkel. This stream has several tributaries and flows through or near four soil types. According to Donnie Edwards, City Manager for the City of Merkel, this stream rarely contains water except following heavy rains. The soils in the project area are Colorado soils, frequently flooded (Cr); Rowena clay loam, 0 to 1 percent slopes (RoA); Sagerton clay loam, 1 to 3 percent slopes (SaB); Vernon clay, 1 to 3 percent slopes (VeB); and Weymoujth clay loam, 1 to 3 percent slopes (WeB). They are discussed below and depicted in Figure 3.

Colorado soils frequently flooded (Cr) are nearly level soils on smooth benches above creek channels. Areas are narrow and long in shape and extend for several miles. Slopes are 0 to 1 percent. They flood one or more times a year in a ten-year period. The A horizon of soils of the Colorado Series ranges from 4 to 10 inches in thickness and is a clay loam. The C horizon is a clay loam and sandy loam and extends to 60 inches. This discussion was taken from the soil survey for Taylor County (Conner 1976:7).

Rowena clay loam, 0 to 1 percent slopes (RoA) is a nearly level soil on broad uplands. Areas are irregular in shape and range from 100 to 500 acres. A typical profile is a clay loam from 0 to 6 inches. From 6 to 14 inches is clay, which continues to 64 inches. This discussion was taken from the soil survey for Taylor County (Conner 1976:18).

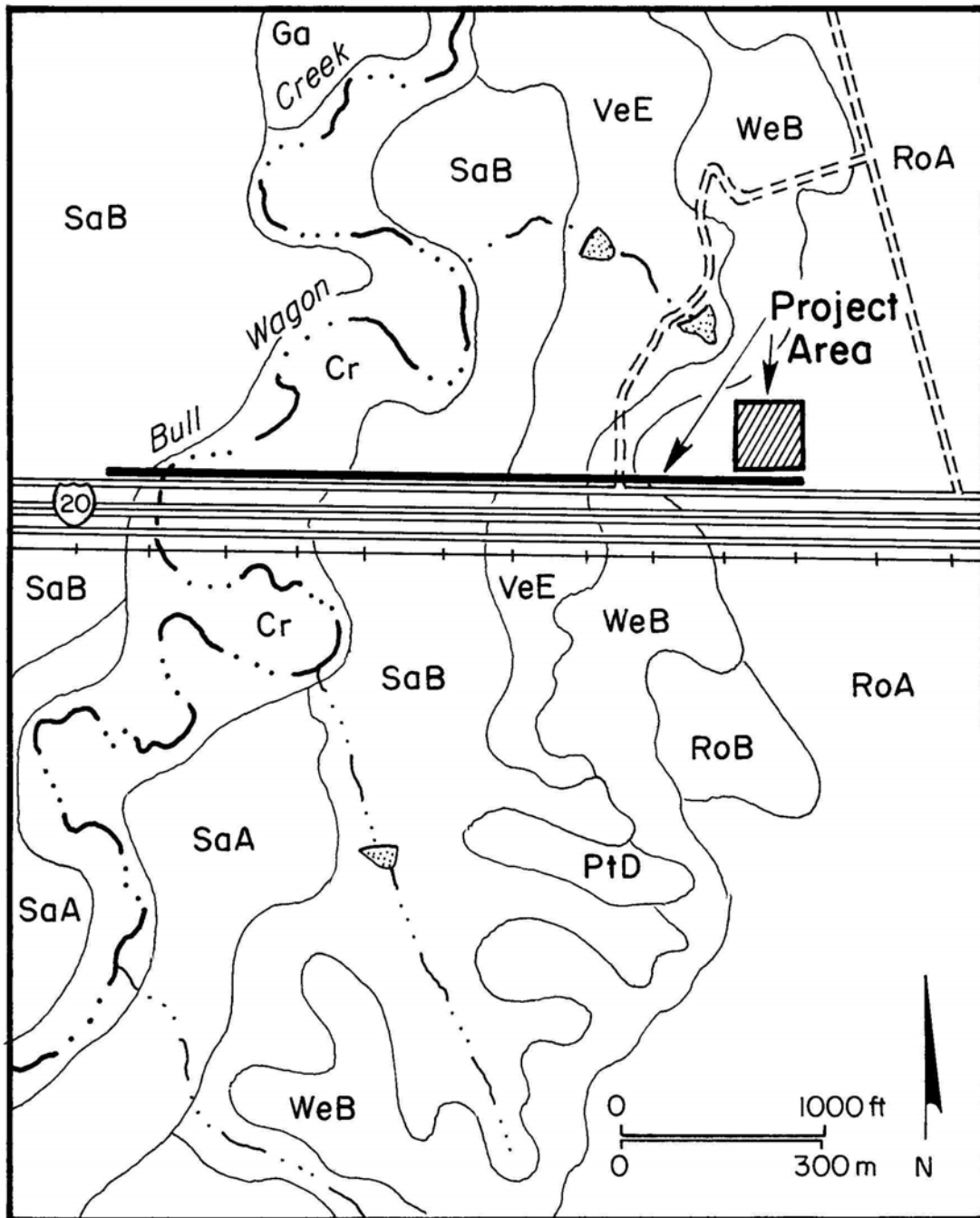


Figure 3. Project Area Soils

Sagerton clay loam, 1 to 3 percent slopes (SaB) is a gently sloping soil on convex uplands. Areas are irregular in shape and range from 75 to 200 acres in size. This soil has a surface layer of reddish-brown clay loam about 11 inches thick. The next layer is firm clay loam about 31 inches thick. The underlying soil, which extends to a depth of about 80 inches, is a firm clay loam that contains about 17 percent soft masses of calcium carbonate. This discussion was taken from the soil survey for Taylor County (Conner 1976:19).

Vernon clay, 3 to 12 percent slopes (VeE) is a gently sloping to strongly sloping soil on uplands, knolls, and ridges. Areas are irregular in shape and range from 20 to 200 acres. Slopes are complex and average about 10 percent. A typical profile is clay from 0 to 6 inches, silty clay from 6 to 30 inches, shale and shale fragments from 30 to 60 inches. This discussion was taken from the soil survey for Taylor County (Conner 1976:27).

Weymouth clay loam, 1 to 3 percent slopes is a gently sloping soil on convex upland ridges and knobs. Areas are irregular in shape and range from 10 to 50 acres in size. A typical profile is a reddish-brown silty clay loam from 0 to 6 inches. From 6 to 14 inches is a clay loam that is dark reddish-brown in color. From 14 to 23 inches is a reddish-brown clay loam. From 23 to 36 inches is clay loam with 20 to 25 percent concentrations of calcium carbonate. From 36 to 42 inches is clayey shale. This discussion was taken from the soil survey for Taylor County (Conner 1976:27-28).

## ARCHAEOLOGICAL BACKGROUND

The project area is located in a region referred to by Biesart et al. (1985) as the Lower Plains Cultural Geographical Region, by Powell and Creel (1989) as part of the North Central Texas Archeological Region, and by Brown et al. (1982) as on the border between the two. According to Krieger (1946), the cultural patterns in this region tend to mirror those found to the east more than those identified farther west in the high plains of the *Llano Estacado*. Since no defined culture sequence has been established for the Lower Plains cultural unit, researchers are forced to borrow the sequences defined in nearby regions such as Central Texas or North Central Texas.

Cultural chronologies for the North Central Texas area have been presented by Brown (1987), Krieger (1946), Prikryl (1987), and Skinner and Gallagher (1974). Chronologies for Central Texas have been prepared by Prewitt (1981, 1985) and Carlson et al. (1986). Although there is some difference in the terminology used by these researchers, they all agree that the last 10,000 to 12,000 years of prehistory and history for the area can be divided into four major temporal periods. These are Paleo-Indian (12,000 Before Present [B.P.] to 8000 B.P.), Archaic (8000 B.P. to 1250 B.P.), Late Prehistoric (1250 B.P. to 300 B.P.), and Historic (300 B.P. to Present).

Even though few sites in the three counties have been subjected to more than survey level investigation, it is apparent that the area was occupied from circa 11,500 B.P. through the Historic Indian and Anglo-American periods (Powell and Creel 1989:10). Possibly the oldest remains in the area have been found at the Gibson site (41TA1) in Taylor County. This is a deeply stratified site along Elm Creek containing artifacts dating to the Paleo-Indian period (Leighton 1936; Ray 1940, 1941, 1945; Sayles 1935). Another early site is McLean (41TA29), a stratified site with archaeological remains dating from Paleo-Indian through the Historic period (Bryan and Ray 1938; Ray 1930, 1935).

The majority of known prehistoric sites in the area date to the Archaic period. They usually consist of burned rock middens, hearths, or lithic scatters near intermittent and permanent streams. In some cases, sites have been found beneath alluvial sediments that underlie the modern surface. Other sites in the area are lithic workshops, quarry sites, and isolated burials in rock crevices or beneath cairns.

Powell and Creel (1989:10) state that comparatively “few sites with Historic Indian remains are recorded in the region, although many might exist.” It is their opinion that most of the known Historic Indian sites are individual burials probable attributable to Apache, Comanche, or Kiowa Indians. Two known Historic Indian sites in the area are 41TA29 (iron arrow point) (Sayles 1935) and 41TA111 where a burial was found in a rock crevice with glass beads (Sayles 1935).

A review of Sayles’ Texas survey revealed the presence of additional burials in the area. These are remains beneath a stone covered pit at 41TA32, a possible cairn burial at 41TA45, and burials in campsites at 41TA61, 41TA80, and 41TA81.

A major study for the area is a survey conducted at Camp Barkeley by Texas A&M University (Thoms 2000). In all, 1050 acres were examined, and three lithic scatters (41TA162, 41TA228, and 41TA229) were recorded. It was learned that the Callahan Divide is best known archaeologically as a major source area for Edwards chert. The upper mesa area was found to contain hundreds of concentrations of lithic debitage that resulted from reduction of tabular and nodular chert that erode from the limestone bedrock and alluvium below it (Thoms 2000:iii). Projectile points found on the mesa top indicate that the area has been utilized for at least 9000 years.

The Historic period is represented by a wide variety of sites. Fort Phantom Hill was established in 1851 about 15 miles north of present-day Abilene to protect the advancing American frontier. In 1858, the ruins of the abandoned fort were used as a way station on the Butterfield Trail Overland Mail Route (Richardson et al. 1988:169; Conklin and Conklin 1947). This trail extended southwest from Fort Phantom Hill about two miles northwest of what is now Dyess Air Force Base. Fort Griffin was established in 1867 to the northeast of Abilene and was active during the Indian Wars of 1871 to 1874 (Rister 1969). Anglo-American settlement in the Abilene area was not well established until the late 1870s (Fox 1983). With the beginning of permanent settlement, towns were created, and the Indians were forced to move. Many historic sites in rural areas are reminders of ranching activities in an area where cattle were the major industry.

## METHODS

### Pre-Field Tasks

Prior to entering the field, the Archeological Sites Atlas was checked for the presence of previously recorded archaeological sites and surveys in the project area and vicinity. In addition, a thorough review of the existing literature for Taylor County was conducted. After discussing the project with the THC, it was decided that the investigation would focus on the high probability areas within the APE associated with Bull Wagon Creek and a field check of the area near the existing pump station.

### Field Survey

The reason for our visit to the crossing of Bull Wagon Creek is the plotting of a previously recorded prehistoric site in the area. According to the Atlas, 41TA79 is very large site that occupies land on both sides of the creek and both sides of the Interstate. It was recorded in 1929 by E. B. Sayles, an early archaeologist from Abilene who traveled about the state locating sites and making collections for the Gila Pueblo Archaeological Foundation in Arizona. Unfortunately, he did not have the luxury of plotting sites on USGS topographic quadrangles. Therefore, his sites were depicted on sketch maps drawn in the field. Later, workers at the Texas Archeological Research Laboratory (TARL) attempted to plot his sites on Texas Highway maps and USGS topographic maps when they became widely available. Unfortunately, many of these map plottings are not very accurate.

The Principal Investigator visited the project area with Donnie Edwards, City Manager for the City of Merkel. The first area to be examined was the site of the proposed pump station to the east of Bull Wagon Creek (Figure 3). This site and part of the route of the proposed water line is on land owned by Jack Moore. At the time of our visit, the pump station site and the segment of proposed water line on his property was in pasture that had been recently plowed for a fall planting of wheat, which normally occurs in September. This area was investigated by a 100% Pedestrian Survey. Since ground surface visibility was 100%, shovel tests were not necessary. A few rocks were observed, but no cobbles large enough for tool manufacture. One shovel probe was excavated in the center of the pump station footprint, and several probes were excavated along the route of the proposed water line. These probes encountered silty or loamy clay overlying firm clay at a depth of about 50 cm. According to the soil survey, this area is in Rowena clay loam, 0 to 1 percent slopes (RoA). This area is not viewed by BVRA as a high probability area for the presence of an archaeological site because of its distance from the creek and lack of natural resources. See Appendix I (Figure 1) for a view of this area.

Next, we entered a lower area that took us to the east bank of Bull Wagon Creek. This section of proposed water line was very thickly vegetated with Mesquite (*Prosopis* sp.), Prickly Pear cactus (*Opuntia* sp.), Broomweed (*Gutierrezia texana*), and various native grasses. Walking a straight line was impossible, so we maneuvered throughout the thick brush, examined exposed areas, and dug several shovel probes. The soil in this area was reddish in color and contained firm clay at or near the surface. From east to west this section of the project area is in Weymouth clay loam, 1 to 3 percent slopes (WeB); Vernon clay, 3 to 12 percent slopes (VeE); and Sagerton clay loam, 1 to 3 percent slopes (SaB). The creek is within Colorado soils, frequently flooded (Cr). This area is not viewed by BVRA as a high probability area for the presence of an archaeological site because of its lower elevation and shallow soils. A higher landform was visible a short distance to the north, and this appears to be a better location for a prehistoric site. This area is owned by Massey Cleber.

Next, we investigated the west side of Buffalo Wagon Creek. This is the high side of the creek and is viewed by BVRA as the most likely area for a prehistoric site. The entire area investigated was in pasture that had been recently plowed for a fall planting of wheat, which normally occurs in September. This area was investigated by a 100% Pedestrian Survey and several shovel probes. Since ground surface visibility was 100%, shovel tests were not necessary. The probes revealed silty or loamy clay with the soil turning to firm clay at about 50 cm. According to the soil survey, this section of the project area is in Sagerton clay loam, 1 to 3 percent slopes (SaB). We walked approximately 300 meters from the edge of the hill overlooking the creek to the west and saw few rocks, none large enough for tool manufacture. See Appendix I (Figure 2) for a view of this area. At the time of our visit, Bull Wagon Creek contained standing water that was brackish, and that portion of the creek where it is crossed by the Interstate was choked with cattails and algae. See Appendix I (Figure 3) for a view of the creek. This land is owned by Jack Moore is owned by Massey Cleber.

The final area visited was the existing pump station. It is situated on a pad that has been disturbed through construction of this facility. A prehistoric site (41TA254) had been recorded by archaeologists from Blanton and Associates (Ringstaff 2004; Young and Willis 2006) on this landform during a survey along the highway. Site 41TA254 is described on the site form as a lithic procurement area located on a low rise on the east-bound access road of Interstate 20 about 480 meters south of Indian Creek. No cultural features were identified, and the site is described as a surface scatter on a gravel-covered hill. Artifacts observed included tested cobbles, cores, biface fragments, and debitage. According to the recorders, this site has little to no research potential, and no further investigations were recommended. Since the site form states that 41TA254 extends an unknown distance to the south, BVRA examined the ground surface in the vicinity of the pump station. Ground surface visibility in the area investigated was virtually 100%. No formal tools or debitage were observed. See Appendix I (Figure 4) for a view of the pump station. It is owned by the City of Abilene.

## RESULTS AND CONCLUSIONS

The site records at TARL and the Archeological Sites Atlas indicated the presence of a previously recorded archaeological site (41TA79) along Bull Wagon Creek and a lithic procurement area (41TA254) to the north of an existing pump station where a single pump is to be installed. No evidence of either of these sites was found during this survey.

It is hypothesized that site 41TA79 may have been incorrectly plotted, or the area where Sayles found artifacts is outside the APE. An absence of raw materials suitable for stone tool manufacture and the fact that Bull Wagon Creek is viewed by the locals as a “wet weather” creek may be sufficient reasons for an absence of an archaeological site in this area. One of the landowners, Jack Moore, has collected Indian artifacts in the past and has lived on the property for 50 years. He claims to have found a few arrowheads in the general area, but he has never found anything within the APE. According to the landowner, no artifacts have been found on the west side of the creek within the APE, but he has heard of a site on the hill just to the north of the low area on the east side of the creek. This hill is well outside the APE and is the same hill that was visible from the low area.

Site 41TA254 is most likely restricted to the “low rise” north of the existing station where artifacts were found by Blanton & Associates since nothing was seen in the area near the existing pump station.



## **RECOMMENDATIONS**

It is recommended that the City of Merkel be allowed to proceed with the construction of their water line as planned without further consultation with the THC. If an archaeological site or features not discussed in this report is found during construction of the water line all work must cease until the find is further assessed. If the APE changes to include the construction of water line in areas not examined during this project or reviewed by the THC, further survey may be required. This project was conducted following the Minimum Survey Standards defined by the Texas Historical Commission, Archeology Division.

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APENDIX I  
PROJECT AREA PHOTOGRAPHS



Figure 1. Proposed Plant Site (Looking West)



Figure 2. West Bank of Bull Wagon Creek (Looking East)





Figure 3. Bull Wagon Creek (Looking North)





Figure 4. Existing Pump Station (looking south)