INTENSIVE CULTURAL RESOURCES SURVEY OF A 150-ACRE TRACT AT LOOP 1604 AND IH 37, BEXAR COUNTY, TEXAS

Prepared for

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SWCA Project Number 21566-AUS
SWCA Cultural Resources Report No. 11-534

November 2011

ABSTRACT

On behalf of Big Red Dog Engineering and Consulting, SWCA Environmental Consultants (SWCA) conducted an intensive cultural resources survey of a 150-acre tract at Loop 1604 and Interstate Highway (IH) 37, located in Bexar County, about 15 miles southeast of downtown San Antonio, Texas. The project area is 150 acres in size, and bounded on the east by the San Antonio River, on the north by agricultural land, on the west by several commercial businesses, and on the south by Loop 1604. The Area of Potential Effects (APE) is therefore defined as the entire 150-acre tract. The land will be developed into a commercial site by the oil field services company Halliburton. The depth of impact for the project is currently unknown, but is anticipated to range from 2 to 6 feet.

Cultural resource investigations were conducted to satisfy the requirements of the San Antonio Historic Preservation Office per the City of San Antonio Historic Preservation and Design Section of the Unified Development Code (Article 6 35-630 to 35-634). These investigations included a background archival review and an intensive pedestrian survey with subsurface investigations designed to identify any potentially significant prehistoric or historic cultural resources which may be affected by the project.

The background review revealed that one archaeological survey has been previously conducted within portions of the project area, and that one previously recorded site (41BX1307) is located within the project area. Site 41BX1307 is prehistoric lithic scatter that was originally recorded in 1999 and no further work was recommended for the site. In addition, four archaeological sites (41BX226, 41BX1239, 41BX1240, and 41BX1308) are located within 1 mile of the project area. Finally, seven previously conducted archaeological surveys are located within 1 mile of the project area.

Prior disturbances within the 150-acre project area include vegetation clearing, two-track road and fence construction, and the operation of an approximately 15-acre gravel quarry pit. An unnamed tributary of the San Antonio River flows through a small portion of the project area near its center. The project area occupies Pleistocene-age terrace deposits overlooking the San Antonio River to the east.

SWCA's investigations consisted of an intensive pedestrian survey with subsurface investigations within the project area. A total of 53 shovel tests was excavated in settings that were assessed as having potential for buried cultural resources. This survey exceeded the Texas Historical Commission's survey standards, which require a minimum of one shovel test per 3 acres, or 50 for a project of this size. One previously recorded site (41BX1307) and one newly documented site (41BX1898) were visited during the course of this investigation. These sites were found to consist of predominately surficial prehistoric lithic scatters that have been moderately to severely impacted as a result of modern landscape modifications. Both sites are recommended as not eligible for designation as a State Archaeological Landmark. Overall, SWCA's intensive archaeological survey determined that no significant cultural resources will be affected by any construction activities within the project area. SWCA recommends no further archaeological investigations.

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Introduction

On behalf of Big Red Dog Engineering and Consulting, SWCA Environmental Consultants (SWCA) conducted an intensive cultural resources survey of a 150-acre tract at Interstate Highway (IH) 37 and Loop 1604, located in southeastern Bexar County, about 15 miles southeast of downtown San Antonio, Texas (Figure 1). The land will be developed into a commercial site by the oil field services company Halliburton.

Cultural resource investigations were conducted to satisfy the requirements of the San Antonio Historic Preservation Office (HPO) per the City of San Antonio Historic Preservation and Design Section of the Unified Development Code (Article 6 35-630 to 35-634). These investigations included a background archival review and an intensive pedestrian survey with subsurface investigations. The purpose of the work was to locate and identify all prehistoric and historic archaeological sites in the project area, establish vertical and horizontal site boundaries as appropriate with regard to the project area, and evaluate the significance and eligibility of any site recorded within the property. SWCA archaeologists Christian T. Hartnett and John D. Lowe conducted the fieldwork on October 31 and November 1, 2011.

Definition of Study Area

Situated in southeast Bexar County, Texas, the project area is located at the intersection of IH 37 and Loop 1604. The project area consists of an irregularly-shaped 150-acre parcel that is bordered to the east by the San Antonio River, to the north by agricultural land, to the west by commercial properties, and to the south by Loop 1604 (Figure 2). The Area of Potential Effects (APE) is therefore defined as the entire 150-acre tract. The depth of impact for the project is currently unknown, but is anticipated to range from 2 to 6 feet.

The 150-acre parcel is a mix of former ranch land and heavily wooded areas. A pipeline corridor bisects the property from north to south. On the eastern boundary are the remains of an open pit quarry. An unnamed tributary of the San Antonio River cuts eastward through the property. The drainage is moderately incised and the area surrounding it is heavily wooded.

Environmental Setting

The underlying geology of the project area is mapped as 10 percent Fluviatile terrace deposits (Qt), four percent Leona Formation (Qle), 13 percent Carrizo Sand (Ec), and 73 percent Wilcox Group (Ewi) (Fisher 1983). Pleistocene-age Fluviatile terrace deposits (Qt) are late Pleistocene in age and are comprised of gravel, sand, and silt. These low terrace deposits are generally above flood level along entrenched streams (Fisher 1983). Leona Formation (Qle) is early Pleistocene-age fine calcarious silt and coarse gravel deposits. They are typically found on the first wide terraces of rivers below the level of Uvalde Gravels (Fisher 1983). Carrizo Sand (Ec) is mid-Eocene in age and comprised of medium to very coarse grained sand (Fisher 1983). The Wilcox Group (Ewi) is also mid-Eocene in age and comprised mostly of mudstone, sandstone, and lignite deposits (Fisher 1983).

There are 12 soil types mapped within the project area, of these, four soils comprise 73 percent of the surface area (Duval loamy fine sand, 1 to 5 percent slopes [DmC]; Hockley loamy fine sand, 3 to 5 percent slopes [HkC2]; Leming loamy fine sand, 0 to 3 percent slopes [LfB]; and Pits and Quarries [Pt]).

Duval loamy fine sand, 1 to 5 percent slopes (DmC) comprises 22 percent of the project

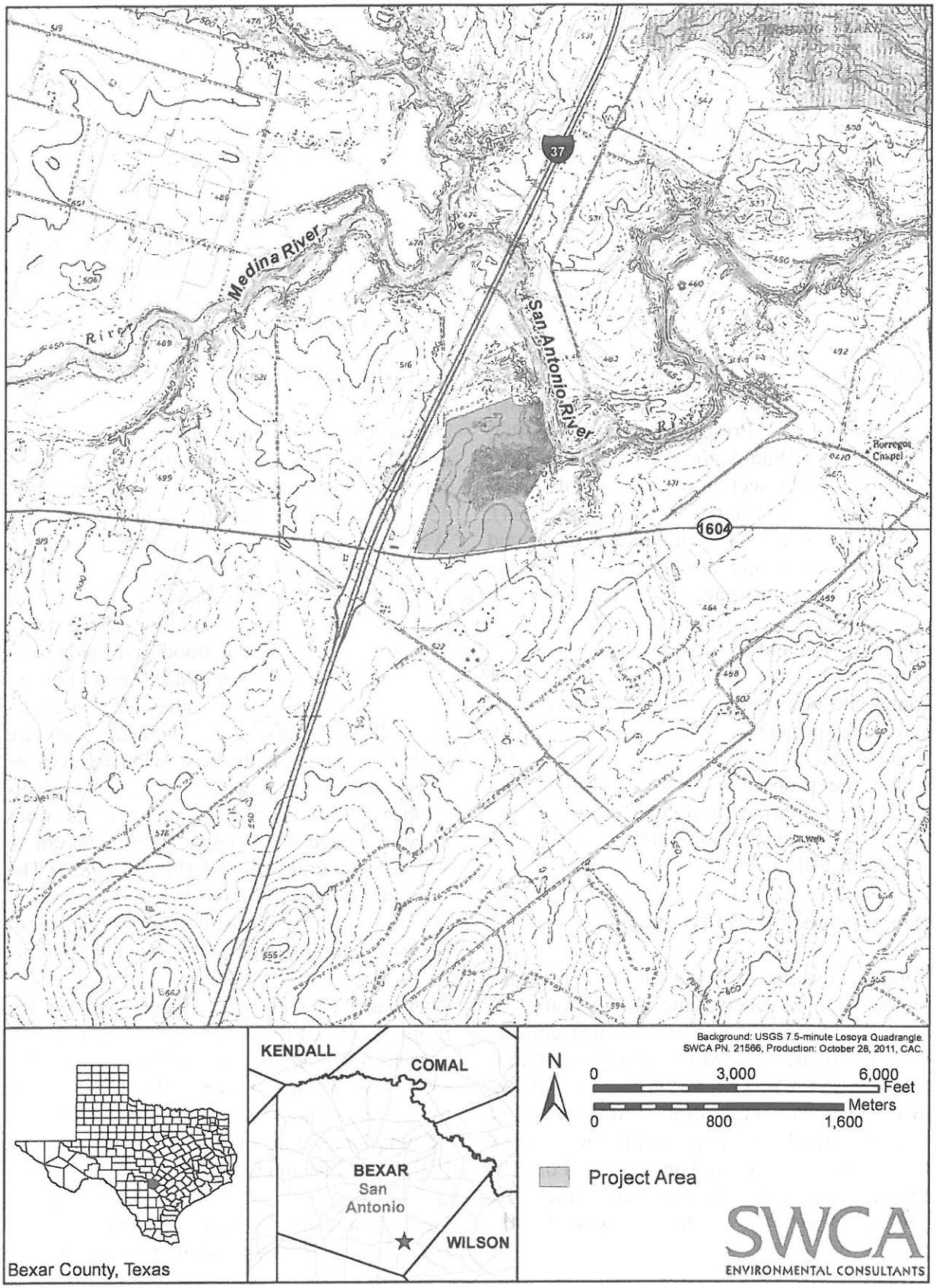

Figure 1. General location map.

Figure 2. Project location map.

area. It is found on small rounded hills or low intermittent ridges in the southern part of Bexar County. The surface layer is a loose and winnowed reddish brown fine sandy loam to a depth of 16 inches. The subsoil, to a depth of 44 inches, is a yellowish red porous sandy clay loam that is easily fragmented (Taylor et al. 1991:15).

Hockley loamy fine sand, 3 to 5 percent slopes (HkC2) comprises 26 percent of the project area. It is found within larger areas of Hockley soils, typically on long narrow slopes which parallel larger drainages. This unit has been heavily eroded by wind and water forming gullies 8–15 feet wide. The surface layer is a loamy fine sand that, when not eroded, extends to a depth of 20 inches. The subsurface layer is 24 inches thick. At the top, it is a yellowish brown sandy clay loam with yellow, red, and yellowish red mottles. At the bottom, it is yellowish red sandy clay loam with fainter yellow, red, and yellowish red mottles (Taylor et al. 1991:17–18).

Leming loamy fine sand, 0 to 3 percent slopes (LfB) comprises 14 percent of the project area. It is usually found on narrow low terraces along large drainage ways and small streams in the southeastern part of Bexar County. The surface layer is a light brownish gray loamy fine sand to a depth of 22 inches. The subsurface layer is 20 inches thick. It is a loamy fine sand that is grayish brown with distinct yellowish brown and gray mottles at the top and light brownish gray with fewer distinct yellowish brown, strong brown, and gray mottles at the bottom (Taylor et al. 1991:24).

Pits and Quarries (Pt) comprise 11 percent of the project area. This unit is made up of gravel, clay, and sand pits as well as limestone, chalk, and other rock quarries (Taylor et al. 1991:27).

The remainder of the project area is comprised of eight other units, including Crocket fine sandy loam, 0 to 1 percent slopes (CfB); Duval fine sandy loam, 3 to 5 percent slopes (DnC); Eufaula fine sandy loam, 0 to 5 percent slopes (EuC); Frio clay loam (Fr); Gullied land (Gu); Karnes loam, 3 to 5 percent slopes (KaC); Leming loam fine sand, 0 to 3 percent slopes (LfB); and Patrick soils, 3 to 5 percent slopes (PaC) (Taylor et al. 1991).

Cultural History

The proposed project area falls within Central Texas Archeological Region (Perttula 2004). Although the archaeological regions are not absolute, they do generally reflect recognized biotic communities and physiographic areas in Texas (Perttula 2004:6). The Central Texas Region, as its name implies, is in the center of Texas and covers the Edwards Plateau and portions of the Blackland prairie east of the Edwards Plateau. The following synopses provide basic culture histories of the Central Texas region.

The archaeological record of the Central Texas region is known from decades of investigations of stratified open air sites and rockshelters throughout the Edwards Plateau, its highly dissected eastern and southern margins, and the adjoining margins of physiographic regions to the east and south (see Collins [2004] for review). Traditionally, the Central Texas archaeological area has included the Balcones Canyonlands and Blackland Prairie—that is, north of San Antonio (e.g., Prewitt 1981; Suhm 1960). These two areas are on the periphery of the Central Texas archaeological area, and their archaeological records and projectile point style sequences contain elements that suggest influences from and varying degrees of contact over time with other areas such as the Lower Pecos and Gulf Coastal Plain (Collins 2004; Johnson and Goode 1994). For more-complete bibliographies con-

cerning archaeological work done in the region, see Black (1989), Collins (1995), and Johnson and Goode (1994).

Paleoindian Period

Surficial and deeply buried sites, rockshelter sites, and isolated artifacts represent Paleoindian (11,500–8,800 B.P.) occupations of the Central Texas region (Collins 2004:116). The period is often described as having been characterized by small but highly mobile bands of foragers who were specialized hunters of Pleistocene megafauna. But Paleoindians probably used a much wider array of resources (Meltzer and Bever 1995:59), including small fauna and plant foods. Faunal remains from Kincaid Rockshelter and the Wilson-Leonard site (41WM235) support this view (Bousman 1998; Collins 1998; Collins et al. 1989). Longstanding ideas about Paleoindian technologies also are being challenged.

Collins (2004) divides the Paleoindian period into early and late subperiods. Two projectile point styles, Clovis and Folsom, are included in the early subperiod. Clovis chipped stone artifact assemblages, including the diagnostic fluted lanceolate Clovis point, were produced by bifacial, flake, and prismatic-blade techniques on high-quality and oftentimes exotic lithic materials (Collins 1990). Along with chipped stone artifacts, Clovis assemblages include engraved stones, bone and ivory points, stone bolas, and ochre (Collins 2004:116; Collins et al. 1992). Clovis points are found evenly distributed along the eastern edge of the Edwards Plateau, where the presence of springs and outcrops of chert-bearing limestone are common (Meltzer and Bever 1995:58). Sites within the area yielding Clovis points and Clovis-age materials include Kincaid Rockshelter (Collins et al. 1989), Pavo Real (Henderson and Goode 1991), and San Macros Springs (Takac 1991). A probable Clovis polyhedral blade core and blade fragment was found at the Greenbelt site in San Antonio (Houk et al. 1997). Analyses of Clovis artifacts and site types suggest that Clovis peoples were well-adapted, generalized hunter-gatherers with the technology to hunt larger game but not solely rely on it.

In contrast, Folsom tool kits—consisting of fluted Folsom points, thin unfluted (Midland) points, large thin bifaces, and end scrapers—are more indicative of specialized hunting, particularly of bison (Collins 2004:117). Folsom points have been recovered from Kincaid Rockshelter (Collins et al. 1989) and Pavo Real (Henderson and Goode 1991).

Postdating Clovis and Folsom points in the archaeological record are a series of dart point styles (primarily unfluted lanceolate darts) for which the temporal, technological, or cultural significance is unclear. Often, the Plainview type name is assigned these dart points, but Collins (2004:117) has noted that many of these points typed as Plainview do not resemble Plainview type-site points in thinness and flaking technology. Nonetheless, it has become clear that the artifact and feature assemblages of the later Paleoindian subperiod appear to be Archaic-like in nature and in many ways may represent a transition between the early Paleoindian and succeeding Archaic periods (Collins 2004:118).

Archaic Period

The Archaic period for Central Texas dates from ca. 8,800 to 1,300–1,200 B.P. (Collins 2004:119–121) and generally is believed to represent a shift toward hunting and gathering of a wider array of animal and plant resources and a decrease in group mobility (Willey and Phillips 1958:107–108). In the eastern and southwestern United States and on the Great Plains, development of horticultural-based, semisedentary to sedentary societies succeeds the Archaic period. In these areas, the Archaic truly represents a developmental stage of

adaptation as Willey and Phillips (1958) define it. For Central Texas, this notion of the Archaic is somewhat problematic. An increasing amount of evidence suggests that Archaic-like adaptations were in place before the Archaic (see Collins 2004:118, 1998; Collins et al. 1989) and that these practices continued into the succeeding Late Prehistoric period (Collins 1995:385; Prewitt 1981:74). In a real sense, the Archaic period of Central Texas region is not a developmental stage, but an arbitrary chronological construct and projectile point style sequence. Establishment of this sequence is based on several decades of archaeological investigations at stratified Archaic sites along the eastern and southern margins of the Edwards Plateau. Collins (1995, 2004) and Johnson and Goode (1994) have divided this sequence into three parts—early, middle, and late—based on perceived (though not fully agreed upon by all scholars) technological, environmental, and adaptive changes.

The use of rock and earth ovens (and the formation of burned rock middens) for processing and cooking plant foods suggests that this technology was part of a generalized foraging strategy. The amount of energy involved in collecting plants, constructing hot rock cooking appliances, and gathering fuel ranks most plant foods relatively low based on the resulting caloric return (Dering 1999). This suggests that plant foods were part of a broad-based diet (Kibler and Scott 2000:134) or part of a generalized foraging strategy, an idea Prewitt (1981) put forth earlier. At times during the Late Archaic, this generalized foraging strategy appears to have been marked by shifts to a specialized economy focused on bison hunting (Kibler and Scott 2000:125–137). Castroville, Montell, and Marcos dart points are elements of tool kits often associated with bison hunting (Collins 1968). Archaeological evidence of this association is seen at Bonfire Shelter in Val Verde County (Dibble and Lorrain 1968), Jonas Terrace (Johnson 1995), Oblate Rockshelter (Johnson et al. 1962:116), John Ischy (Sorrow 1969), and Panther Springs Creek (Black and McGraw 1985).

Late Prehistoric Period

Introduction of the bow and arrow and, later, ceramics into Central Texas marked the Late Prehistoric period. Population densities dropped considerably from their Late Archaic peak (Prewitt 1985:217). Subsistence strategies did not differ greatly from the preceding period, although bison again became an important economic resource during the late part of the Late Prehistoric period (Prewitt 1981:74). Use of rock and earth ovens for plant food processing and the subsequent development of burned rock middens continued throughout the Late Prehistoric period (Black et al. 1997; Kleinbach et al. 1995:795). Horticulture came into play very late in the region but was of minor importance to overall subsistence strategies (Collins 2004:122).

In Central Texas, the Late Prehistoric period generally is associated with the Austin and Toyah phases (Jelks 1962; Prewitt 1981:82–84). Austin and Toyah phase horizon markers, Scallorn-Edwards and Perdiz arrow points, respectively, are distributed across most of the state. Violence and conflict often marked introduction of Scallorn and Edwards arrow points into Central Texas—many excavated burials contain these point tips in contexts indicating they were the cause of death (Prewitt 1981:83). Subsistence strategies and technologies (other than arrow points) did not change much from the preceding Late Archaic period. Prewitt's (1981) use of the term "Neoarchaic" recognizes this continuity. In fact, Johnson and Goode (1994:39–40) and Collins (2004:122) state that the break between the Austin and Toyah phases could easily and appropriately represent the break between the Late Archaic and the Late Prehistoric.

HISTORIC PERIOD

The Historic period in central Texas theoretically begins with the arrival of Alvar Nuñez Cabeza de Vaca and the survivors of the Narváez expedition along the Texas coast in 1528 (Krieger 2002). European incursions, however, into south-central Texas were initially rare, and the first Europeans did not settle in this region until around A.D. 1700. Spanish incursions into the region from the late seventeenth century on left valuable information on native groups and tribes. Several scholars, including Hester (1989) and Newcomb (2002), have provided historical accounts of Native Americans and their interactions with the Spanish, the Republic of Mexico, the Texas Republic, and the United States throughout the region.

The San Antonio area was first explored in 1691 by the Governor of the Spanish Province of Texas, Domingo Terán de los Ríos, and Father Damián Massenet. The pair traveled to San Pedro Springs where they encountered a hunter-gather tribe named Payaya. In their village named Yanaguana, the Payaya lived in simple huts made of brushwood and grass. The river and village were renamed after San Antonio de Padua by Terán and Massenet (Johnston 1947). Further Spanish exploration was conducted in 1709 by Father Antonio de San Buenaventura y Olivares. Father Olivares was the first to express interest in setting up a mission in the San Antonio area (Fehrenbach 2008; Johnston 1947).

SPANISH MISSIONS

After a series of missions had been established in what would become eastern Texas, the Spanish government in the New World decided to begin settlement in 1718 at a bend in the San Antonio River. Mission San Antonio de Valero was founded on May 1, 1718 and followed four days later by the nearby San Antonio de Béxar Presidio and the civil settlement, Villa de Béxar. The location was a convenient stopping point on the Camino Real, the newly established highway founded in 1691 by the previously mentioned Domingo Terán de Los Ríos and Father Damián Massenet to connect Mexico to the East Texas missions. However, in 1719 war between France and Spain resulted in the withdrawal of the Spanish from the east Texas missions, who reestablished their mission communities near the settlement along the San Antonio River.

Establishment of the mission system in the first half of the eighteenth century to its ultimate demise around 1800 brought the peaceful movement of some indigenous groups into mission life, but others were forced or moved in to escape the increasing hostilities of southward-moving Apaches and Comanches. Many of the Payaya and Juanca lived at Mission San Antonio de Valero, but so many died there that their numbers declined rapidly (Campbell 1988:106, 121–123). By the end of the mission period, European expansion, disease, and intrusions by other Native American peoples had decimated many Native American groups. The small numbers of surviving Payaya and Juanca were acculturated into mission life. The last references to the Juanca and Payaya were recorded in 1754 and 1789, respectively, in the waning days of the mission (Campbell 1988:98, 123). By that time, intrusive groups such as the Tonkawa, Apache, and Comanche had moved into the region to fill the void. Outside of the missions, few sites attributable to these groups have been investigated. To complicate matters, many aboriginal ways of life endured even after contact with the Spanish. For example, manufacture of stone tools continued even for many groups settling in the missions (Fox 1979).

San Antonio became the capital of Spanish Texas in 1773. By 1778, the settlement had a population of 2,060 including those Indians living in the missions. However, conditions within the settlement were often described as poor, resulting from its location at the edge of Spanish-controlled Texas. The population was comprised of a mix of Europeans, mestizos, and a few slaves. By 1795, all the missions in San Antonio were secularized and Mission San Antonio de Valero, later called the Alamo, was converted to a military barracks (Fehrenbach 1978).

Spanish Texas Rebellions

Around the beginning of the nineteenth century New Spain and Spanish Texas was a turbulent time of numerous insurrections and conflicts (Campbell 2003). These conflicts, in part, arose over internal political struggles between the *peninsulares* (natives of Spain) and the *criollos* (those of Spanish blood born in America) (Campbell 2003:89).

One of these revolutions occurred in San Antonio on January 21, 1811 when retired militia captain Juan Bautista de las Casas and some co-conspirators captured Governor Salcedo (Campbell 2003:90; Richardson et al. 1981:41). Las Casas proclaimed himself leader of the revolutionary government and then set about arresting royalists and confiscating their property (Campbell 2003:90). This revolution lasted 39 days when a royalist counter-revolutionary force led by Juan Manuel Zambrano overthrew Las Casas and returned control of San Antonio over to Governor Salcedo (Campbell 2003:91). Las Casas was arrested and sent to Mexico for trial. In Monclova, he was found guilty of treason and executed. His head was sent back to San Antonio to be displayed on Military Plaza (Caldwell 2008; Ramsdell 1968).

The residents of San Antonio supported Mexican independence in 1813 but the town was recaptured by Royalist forces in the battles of Alazán Creek and Medina. During this period of unrest, conditions in Texas worsened. Inadequate provisions and neglected agricultural fields along with the fear of political and military upheavals forced many settlers to abandon their homes and move elsewhere (Fehrenbach 2008; Heusinger 1951).

Other concerns at this time for New Spain and Spanish Texas were the 'filibusters' or Anglo-American intruders with political designs (e.g., Philip Nolan in 1801, Louis Aury in 1816, and James Long in 1821) (Campbell 2003; Richardson et al. 1981). The filibuster incursion with the most notoriety was the Gutiérrez-Magee expedition in 1812 (Campbell 2003; Richardson et al. 1981). José Bernardo Gutiérrez de Lara and Augustus William Magee led an expedition into Texas from Louisiana in order to forcibly take control of Texas. From August of 1812 to April of 1813, the Gutiérrez-Magee expedition traveled westward across Texas capturing Nacogdoches, Trinidad de Salcedo, and La Bahía. On March 28, 1813 near the juncture of Salado Creek and the San Antonio River, the Battle of Salado was fought between Spanish royalists and the republican army of the Gutiérrez-Magee expedition (Campbell 2003:91–92; Richardson et al. 1981:42). The republican army defeated the Spanish royalist army and Gutiérrez entered San Antonio on April 1, 1813. Governor Salcedo and about a dozen officers surrendered (Campbell 2003:91–92; Richardson et al. 1981:42).

On April 6, 1813 in San Antonio, Gutiérrez proclaimed a declaration of independence, forming the first Republic of Texas with Gutiérrez as "President Protector of the State of Texas" (Campbell 2003:93). However, for a variety of reasons Gutiérrez's reign was short,

lasting about three months when General José Álvarez de Toledo y Dubois deposed him (Campbell 2003:93; McGraw et al. 1998; Richardson et al. 1981; Thonhoff 2005).

New Spain responded to the rebellion by sending General Joaquín de Arredondo and his army to San Antonio in order to crush the rebels. Arredondo and his army left Laredo in early August and marched to San Antonio along the Laredo Road. Toledo and the republican army intercepted the Spanish army south of the Medina River in order to spare San Antonio from the impending conflict (Schwarz and Thonhoff 1985). Thus, on August 18, 1813, the two armies met and fought the Battle of the Medina, which is sometimes referred to as the bloodiest battle ever fought on Texas soil (Campbell 2003:93; Thonhoff 2005). General Arredondo's forces consisted of 1,830 soldiers while Toledo's republican army contained 1,400 Anglos, Tejanos, Indians, and former royalists (Campbell 2003; Thonhoff 2005).

The devastating defeat of the republican army at the Battle of the Medina ended the Gutiérrez-Magee expedition and Texas' first republic (Thonhoff 2005). This battle is notable in that it was one of the largest in North America prior to the Civil War, which had consequences that affected the demography and economic development of the region for years after the conflict (McGraw et al. 1998:285). Historic maps and archival records place the location of this battle near the Bexar-Atascosa County line, about 5–6 miles south of the Medina River, roughly midway between State Highway (SH) 16 and IH 37 (McGraw et al. 1998:161).

Although rebellion and revolt had been suppressed, the feelings of discontent between the upper and lower classes and the dissatisfaction with Old Spain remained (Richardson et al. 1981). Sensing the inevitable, Viceroy Juan O'Donojú signed the Treaty of Córdoba that recognized the Plan of Iguala and Spanish Texas became Mexican Texas (Campbell 2003:97; Richardson et al. 1981:52).

Texas Settlement and Independence

After Mexico gained independence from Spain, the newly formed country used a policy of land grants to attract settlers into the area, including Anglos from the United States, to help settle the sparsely populated northern regions of Mexico. During the 1820s, Empresario (or colonization agent) Green DeWitt obtained grants from the Mexican government to settle 400 families along the Guadalupe, San Marcos, and Lavaca rivers (Baumgartner and Vollentine 2005; Campbell 2003; Richardson et al. 1981). For protection from Indian raids, the Mexican government sent a 6-pound cannon to Gonzales in 1831 (Baumgartner and Vollentine 2005). Subsequently, the attendance by delegates of DeWitt's Colony at the conventions discussing a separation in statehood from Coahuila in 1832 and 1833 and the Consultation of 1835 were viewed as disloyalty and the Mexican government sent forces to retrieve the cannon (Baumgartner and Vollentine 2005; Campbell 2003; Richardson et al. 1981).

On October 2, 1835, Lieutenant Francisco Castañeda and 100 dragoons converged with about 150 Texians about a mile east of present day Cost, Texas (Baumgartner and Vollentine 2005; Campbell 2003; Richardson et al. 1981). This conflict was brief, resulting in one shot from the Gonzales "come and take it" cannon, but it did signal the beginning of the Texas Revolution (Baumgartner and Vollentine 2005; Campbell 2003; Hardin 1994; Metz 2001; Richardson et al. 1981).

Emboldened by their success at Gonzales, the Texian volunteers headed for San Antonio. In

response, General Martín Perfecto de Cós, along with 650 men, fortified the plaza of San Antonio de Béxar west of the San Antonio River and the Alamo to the east. Commanding Officer, Edward Burleson and most of the other officers voted to end the siege and the battle finally began on December 5, 1835. By the morning of December 9, 1835, Cós surrendered San Antonio to Burleson and the Texian troops (Barr 2008; House 1949).

On February 23, 1836, nearly 150 Texian volunteers took refuge from the approaching Mexican Army in the Alamo Mission in San Antonio under orders from Colonel William B. Travis (Hatch 1999). The Battle of the Alamo between the Texian Revolutionary Army and the Mexican Army lasted 13 days and ended in complete annihilation of the Alamo defenders and a victory for the Mexican General Antonio Lopez de Santa Anna (Hardin 1994; Huffines 1999). Santa Anna won the battle at the Alamo but victory and independence was won by the Texians two weeks later in the Battle of San Jacinto (Hatch 1999; Huffines 1999).

Republic of Texas Era

After the events that transpired during the War of Texas Independence, San Antonio and central Texas continued to grow. Population estimates drawn from tax rolls suggest that the population in Texas from 1836–1846 increased by 269 percent (Campbell 2003:159). It was during this time that the phrase Gone to Texas became legendary and the initials G.T.T. were chalked on doors across the southern United States (Campbell 2003:159; Handbook of Texas Online 2005).

Among those to move into central Texas were German immigrants who came in to the area as a result of the Society for the Protection of German Immigrants in Texas. This society, founded in 1845 by Prince Carl of Solms-Braunfels, brought a massive influx of German immigrants into central Texas (Fox et al. 1997:2).

United States Period (1845–1900)

After Texas entered the Union in 1845, San Antonio's already diverse population grew dramatically. Germans settled in San Antonio in the 1850s introducing the Bier Halle (Butterfield 1968:21) to the area. The rapid increase in population had been a direct result of the influx of German-speaking settlers. Until 1877, German-speaking people outnumbered both Hispanics and Anglos. Culture and architecture from each immigrant community has seeped into San Antonio and merged together, forming a rich cultural community. This diverse culture is evident in downtown San Antonio with historic missions and Victorian mansions built next to modern offices and homes (Butterfield 1968; Fehrenbach 2008).

On March 2, 1861 Texas seceded from the Union and soon after the Civil War began. San Antonio became a Confederate storage area as well as a location where military units could be organized; however, the city kept its distance from most of the actual fighting (Fehrenbach 2008). After the Civil War, San Antonio continued to grow larger, spurred on by the arrival of the railroad in 1877 (Fehrenbach 2008; House 1949). Industries such as cattle, distribution, ranching, mercantile, gas, oil, and military centers in San Antonio prospered. The city served as the distribution point for the Mexico-United States border as well as the rest of the southwest. At the turn of the twentieth century, San Antonio was the largest city in Texas with a population of more than 53,000. Much of the city's growth after the Civil War was a result of an influx of southerners fleeing the decimated, reconstruction-era south. An additional population increase came after 1910, when large numbers of Mex-

icans began moving into Texas to escape the Mexican Revolution (Fehrenbach 1978).

Modernization increased dramatically between the 1880s and the 1890s, compared to the rest of the United States. Civic government, utilities, electric lights and street railways, street paving and maintenance, water supply, telephones, hospitals, and a city power plant were all built or planned around this time (Butterfield 1968; Fehrenbach 2008).

Modern Period (1900–1950)

In 1921, a disastrous flood engulfed Houston and St. Mary's Street with approximately 2.7 m of water. The Olmos Dam was built in response to this event to prevent further flooding. Sections of the San Antonio River were straightened and widened in areas to control the water flow. Another recommendation was to construct an underground channel in downtown San Antonio and to cover portions of the river with concrete. This last idea upset some people, but a compromise was eventually agreed upon to create a Riverwalk with shops and restaurants along the water channel. Construction of this Riverwalk was completed in 1941 (House 1949; Long 2008).

As the United States entered World War II, San Antonio became an important military center and other city activities and construction ceased for nearly five years (Heusinger 1951). Although Fort Sam Houston was established in 1876, and Kelly, Randolph, and Brooks Air Force bases were established prior to 1930, all area military facilities experienced growth during World War II. Lackland Air Force Base was created from a portion of Kelly in 1942. With the exception of Kelly, all remain active military training centers.

Tourism is one of San Antonio's most important industries drawing tens of thousands of visitors every year. More recent features include theme parks, zoos, museums, gardens, parks, and sporting attractions. The Riverwalk, also known as the Paseo del Rio, consists of over 2.5 miles of shops and is probably one of San Antonio's most visited attractions. The missions in San Antonio are another huge tourist attraction. San Antonio Missions National Historical Park includes The Alamo (1718), Mission Concepción (1731), Mission San José (1720), Mission San Juan Capistrano (1731), and Mission San Francisco de la Espada (1741) (Fehrenbach 2008). Visitors also enjoy other architecturally important historic structures like San Fernando Cathedral (1758), the Spanish Governor's Palace (1749), the Quadrangle at Fort Sam Houston (1878), and the Bexar County Courthouse (1891) (Fehrenbach 2008).

Methods

Background Review

SWCA conducted a thorough background cultural resources and environmental literature search of the project area. An SWCA archaeologist reviewed the Losoya (2998-123), Texas, U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle maps at the Texas Archeological Research Laboratory (TARL) and searched the Texas Historical Commission's (THC) Texas Archeological Sites Atlas (Atlas) online database. As a part of the review, an SWCA archaeologist reviewed the Texas Department of Transportation (TxDOT) Historic Overlay Maps, a mapping/geographic information system (GIS) with historic maps and resource information covering most portions of the state (Foster et al. 2006).

In addition to identifying recorded archaeological sites, the review included information on the following types of cultural resources: National Register of Historic Places properties, SALs, Official Texas Historical Markers, Registered Texas Historic Landmarks, cemeteries,

and local neighborhood surveys. The archaeologist also examined the *Soil Survey of Bexar County, Texas* (Taylor et al. 1991) and the *Geologic Atlas of Texas, San Antonio Sheet* (Fisher 1983). Stoner System map sheet 1007 and aerial photographs were also reviewed to assist in identifying any historic resources or disturbances.

Field Methods

SWCA's investigations consisted of an intensive pedestrian survey with subsurface investigations within the project area. Archaeologists examined the ground surface and erosion profiles and exposures for cultural resources. Subsurface investigations involved shovel testing in settings with the potential to contain buried cultural materials. For projects of more than 100 acres, the THC's survey standards require a minimum of three subsurface investigations per acre, thus requiring a minimum of 50 shovel tests, dependent on variables such as disturbances and soils. The shovel tests were approximately 30 cm in diameter and excavated to culturally sterile deposits, bedrock, or impassible basal clay, whichever came first. The matrix from each shovel test was screened through ¼-inch mesh, and the location of each excavation was plotted using a hand-held global positioning system (GPS) receiver. Each shovel test was recorded on a standardized form to document the excavations.

Any new or previously documented sites encountered, both prehistoric and historic, were documented on appropriate forms and plotted on USGS 7.5-minute topographic maps and appropriate project maps for planning purposes. Sub-meter GPS will be utilized to produce site maps.

SWCA performed a non-collection survey. Artifacts encountered were tabulated, analyzed, and documented in the field, but not collected.

Results

Background Review

The background review determined that one archaeological survey has been previously conducted within portions of the project area which resulted in the documentation of one previously recorded site (41BX1307). Within a 1-mile search radius there are four additional previously recorded archaeological sites (41BX226, 41BX1239, 41BX1240, and 41BX1308). In addition, seven previously conducted archaeological surveys are located within 1 mile of the project area (Figure 3).

An archaeological survey was conducted within the project area in 1999 by PBS&J as part of the San Martin pipeline project, which resulted in the documentation of site 41BX1307 (see below). The survey, while not listed in the Atlas database, is recorded within the site form of site 41BX1307. According to this site form, an approximately 0.75-mile-long swath was surveyed from the northeastern corner of the project area to the southern boundary (Atlas 2011).

Four of seven of the surveys within 1 mile of the project area are associated with the construction of the Dos Rios Wastewater Treatment Plant located 0.9 miles to the northwest. The earliest survey was conducted in 1977 on behalf of the U.S. Environmental Protection Agency (EPA). This survey was conducted approximately 0.6 miles to the northwest of the project area. Another EPA survey was conducted in 1982 in area surrounding the 1977 survey. A survey for the San Antonio Water System (SAWS) was conducted by Hicks and Company in 2003 (TAC Permit Number 3097) 0.8 miles northwest on the northern bank of the Median River. The final

IMAGE RESTRICTED

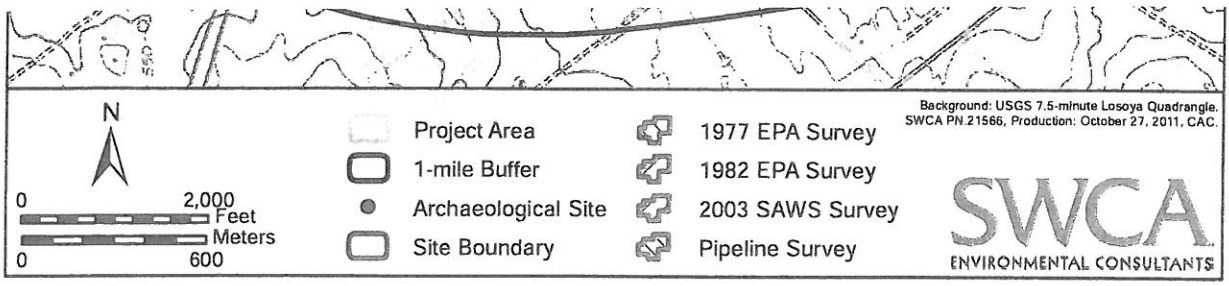

Figure 3. Previous investigations map.

survey associated with the wastewater plant was conducted 0.6 miles to the west, no date or further information is available on this survey. None of the above described surveys documented any archaeological sites within 1 mile of the survey area.

At the intersection of IH 37 and the San Antonio River archaeologists from the Center for Ecological Archaeology (CEA) at Texas A&M University (TAMU) conducted a survey of the bridge crossing. As part of this survey sites 41BX1239 and 41BX1240 were documented in the TxDOT right-of-way (ROW) (see below).

Previously Recorded Archaeological Sites

As noted above, site 41BX1307 is the only previously recorded archaeological site within the project area, recorded during the 1999 PBS&J San Martin Pipeline survey (Atlas 2011). The site is described as a shallowly buried lithic scatter. One positive shovel test produced one tertiary flake at approximately 30 cm below surface (cmbs). A light surficial scatter of debitage was noted extending approximately 250 m southwest from the western bank of the San Antonio River. Based on the overall paucity of artifacts noted, no further work was recommended for the site.

Four additional archaeological sites (41BX226, 41BX1239, 41BX1240, and 41BX1308) are recorded within a 1-mile radius of the project area. Site 41BX226 does not have a site form on file with the Atlas database. Only locational information is provided (see Figure 3).

Site 41BX1239 is located 0.7 miles north of the project area at the southeastern ROW quadrant of the IH 37 bridge across the San Antonio River. The site consists of the remains of a Mammoth skeleton that was first identified in 1997 by the CEA at TAMU. Based upon possible evidence for human butchering the skeleton was classified as an archaeological site and was recommended as eligible for inclusion in the NRHP. The site was subsequently excavated by SWCA in 2007. Analysis and study of the remains are currently in progress by SWCA (Lawrence et al. 2007).

During the same survey which documented site 41BX1239, site 41BX1240 was recorded 0.6 miles northeast of the project area. CEA recorded the site as an open prehistoric occupation on the San Antonio River terraces, though the nature of the archaeological deposits was poorly understood. Accordingly, no formal recommendations were made regarding its significance or eligibility at that time (Lawrence et al. 2007).

Site 41BX1308 is located 0.95 miles northwest of the project area. It was recorded in 1999 as part of the above mentioned San Martin Pipeline survey. The site is comprised of four historic-age burials dating to 1897, 1911, 1922, and 1960. Based on the presence of human burials, the site was recommended for avoidance.

Historic Map and Aerial Review

Historic maps dating from 1845 to 1958 from the TxDOT Historic Overlay were consulted (Foster et al. 2006). Based on this review, there are no historic-age structures, features, or roads mapped within the project area. Historic maps from 1845 and 1887 show a road passing to the south of the project area and labeled as the Rockport to Castroville Road. Based on the scale and accuracy of these maps, it is not possible to determine if the road passed along the southern boundary of the project area, where Loop 1604 is now located, or if it was further to the south.

In addition to historic maps, historic aerials dating from 1938–2010 were inspected to identify past disturbances and discern how the project area developed over the twentieth century. The earliest aerials from 1938 and 1953 show the project area and surroundings as rural agricultural land. Field systems are generally similar to those present today and IH 37 and Loop 1604 have yet to be constructed.

Starting in 1966, the central portion of the project area undergoes significant alteration with the operation of a sand and gravel quarry and the construction of IH 37 and Loop 1604 (Figure 4). The quarry caused significant disturbance to the central portion of the project area and remains visible on aerials through 1985. Following the mid-1980s, the quarry appears to no longer be in operation, and the project area returns to a mostly agricultural setting (Figure 5). The modern commercial infill, present today on the project area's western boundary, first appears in the mid-1990s.

Field Survey

On October 31 and November 1, 2011, two SWCA archaeologists conducted an intensive pedestrian and subsurface survey of the 150-acre tract at IH 37 and Loop 1604. SWCA excavated a total of 53 shovel tests within the project area (Figure 6, Table 1). The depth of these investigations ranged from 5–60 cmbs. Based on surface geology and landscape position, soils within the shovel tests generally were Pleistocene in age and comprised of brown to very dark grayish brown sandy loam (Fisher 1983, Taylor et al. 1991). Shovel tests terminated at depths ranging from 5–60 cmbs due to the undulating presence of the dense clayey substratum. Two archaeological sites were encountered during the course of the investigation, the previously recorded site 41BX1308 and the newly recorded site 41BX1898.

Vegetation within the project area varies. In open pasture areas there is a mix of grasses, wildflowers, and cactus. Along the drainage and surrounding the quarry area is a mix of dense mesquite and immature live oak. Given the dichotomy of dense vegetated and open pasture areas, surface visibility ranched from 50–100 percent.

Prior disturbances within the 150-acre project area include vegetation clearing, pipeline construction, two-track road and fence construction, and the operation of a large quarry. The project area occupies the upper Pleistocene-age terrace adjacent to the San Antonio River. An unnamed tributary of the river flows eastward through a small portion of the project area near its center. The tributary is erosional in nature and large debris and modern trash attest to occasional high energy flooding, although the drainage was dry at the time of survey.

The above mentioned quarry area is located on the central portion of the 150-acre tract, and extends to the eastern boundary of the project area. It occupies an area of 300 × 200 m (15 acres) and is 5 m deep (Figure 7). Based on historic aerial imagery, the quarry was operational from the mid-1960s through the 1970s. In addition to the obvious disturbance directly related to the quarry pit, the surrounding ground surface has also been heavily impacted by mechanical clearing, displaying irregular topography.

Site 41BX1307

Site 41BX1307 is a lithic scatter in the northeastern corner of the project area. It is located 1.2 km northeast of the intersection of IH 37 and Loop 1604 and 235 m west of the San Antonio River. The site is situated in open former pasture land with a mix of grasses, wildflowers, and cactus which allowed for 60–70 percent surface visibility.

Figure 4. Project area on 1966 aerial.

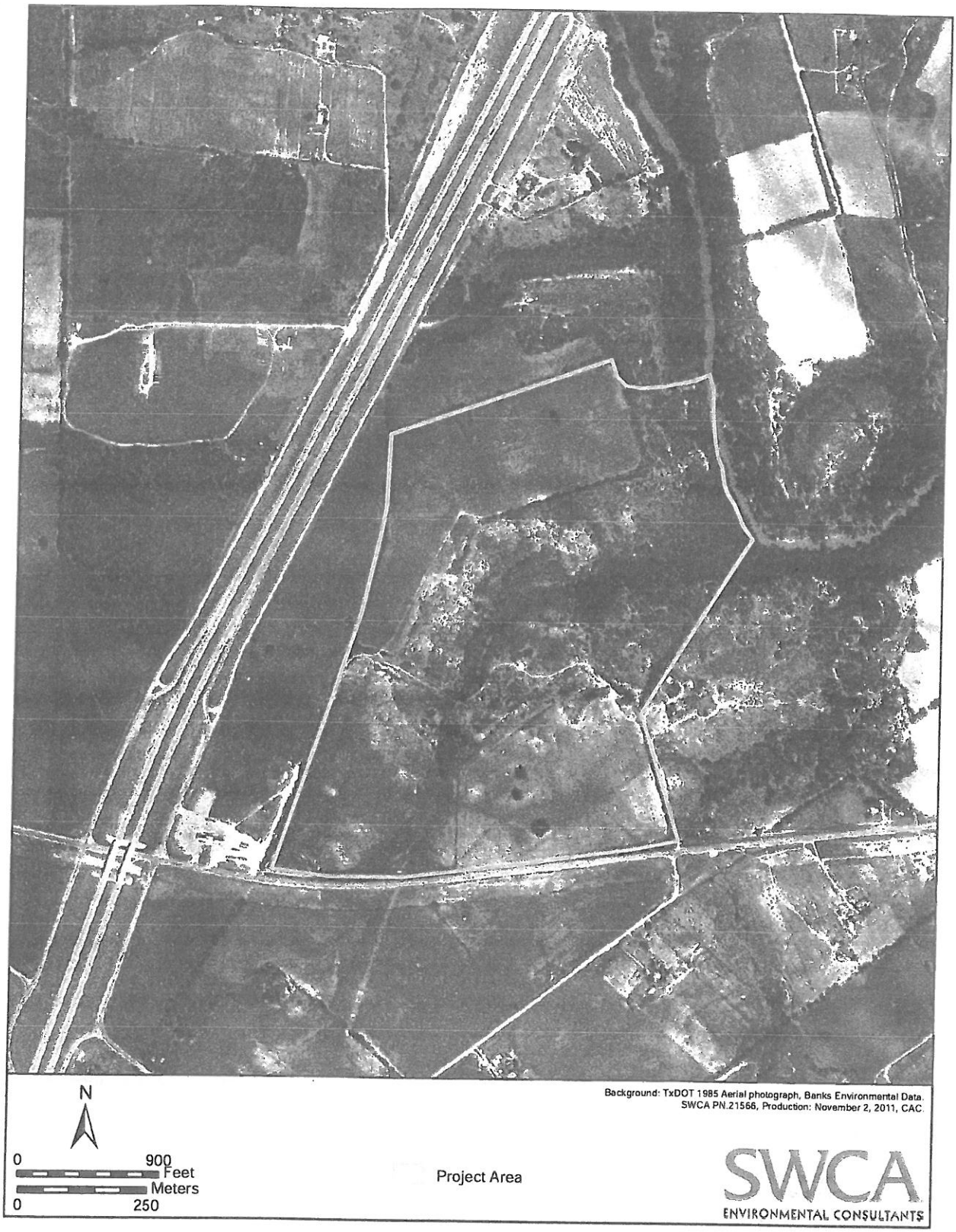

Figure 5. Project area on 1985 aerial.

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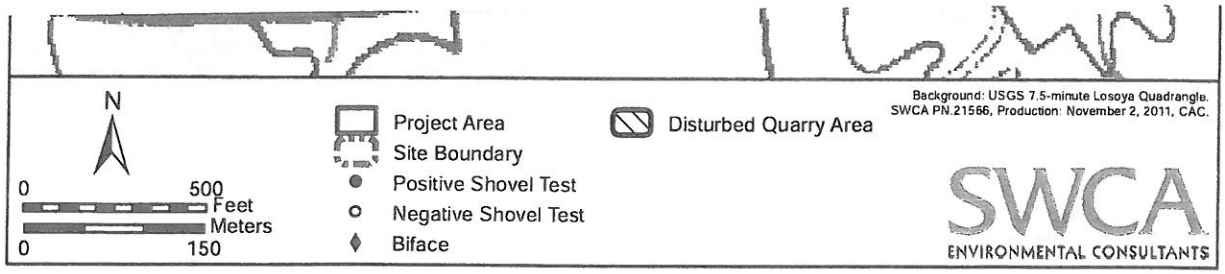

Figure 6. Survey results map.

Table 1. Shovel Test Data

ST ID	Pos/ Neg	Depth (cmbs)	Munsell	Soil Texture Description	Inclusions	Comments
J01	Neg	0–40	10YR5/3	sandy loam	gravels	meadow, SW corner of property; short grasses, forbs, occasional mesquite; very few sandstone gravels
	Neg	40–55	10YR6/3	sandy loam	gravels	very few small sandstone gravels; terminated at strong brown basal clay
J02	Neg	0–10	10YR4/6	sandy clay		top of rise, by mesquite; very compact; terminated at basal clay
J03	Neg	0–30	10YR5/3	sandy loam		same rise, fine sand, more forbs, some burrows
	Neg	30–40	10YR6/3	sandy clay loam		terminated at basal clay
J04	Neg	0–25	10YR5/3	sandy loam		downslope; thin, lighter-color lens above clay; terminated at basal clay
J05	Neg	0–20	10YR5/3	sandy loam	gravels	~15m N of small Uvalde Gravel outcrop; area is disturbed; 1-2 chert gravels
	Neg	20–30	10YR4/4	sandy clay loam		friable, compact, fine sandy loam, no gravels; terminated at basal clay
J06	Neg	0–20	10YR5/3	sandy loam	gravels	area is disturbed; 1-2 chert gravels
	Neg	20–30	10YR4/4	sandy clay loam		friable, compact, fine sandy loam, no gravels; terminated at basal clay
J07	Neg	0–5	10YR4/6	clay		eroded, slightly upslope; some small surface gravels; terminated at basal clay
J08	Neg	0–5	10YR4/6	gravelly clay	gravels	upland, lots of small surface gravels; no topsoil; terminated at basal clay
J09	Neg	0–20	10YR4/4	sandy clay loam		sideslope; matrix may be slopewash; terminated at basal clay
J10	Neg	0–5	10YR4/6	clay		sideslope; near site 41BX1307; no topsoil; terminated at basal clay
J11	Neg	0–15	10YR4/4	clay loam		2 flakes on surface; compact, friable matrix, no gravels or cultural material; terminated at basal clay
J12	Neg	0–20	10YR4/4	sandy clay loam		top of landform; disturbed; sparse vegetation; terminated at basal clay
J13	Neg	0–25	10YR4/4	sandy clay loam	gravels	sideslope bench; by fire ant clearing with 5 flakes & 1 shatter; 6 small chert gravels in test but no cultural material; terminated at basal clay
J14	Neg	0–20	10YR4/4	sandy clay loam	gravels	same landform; very compact and blocky; 2 gravels
	Neg	20–30	10YR4/3	clay loam		friable, compact, semi-moist; terminated at basal clay
J15	Neg	0–10	10YR4/4	sandy clay loam		slight slope; very compact and dry
	Neg	10–30	10YR4/3	sandy clay loam		friable, compact, semi-moist; terminated at basal clay
J16	Pos	0–40	10YR5/3	sandy loam	gravels	near top of landform, north slope; **flake fragment, thermal spall 0–15 cm**; few sandstone gravels; moisture increases with depth
	Neg	40–50	10YR4/3	sandy clay loam		moist, no gravels; terminated at basal clay
J17	Neg	0–25	10YR4/4	sandy clay loam		upland; very gentle slope; flake on surface; terminated at basal clay
J18	Neg	0–5	10YR4/6	clay		eroded; terminated at basal clay
J19	Neg	0–25	10YR4/4	sandy clay loam		lower bench on upland; compact; terminated at basal clay
J20	Neg	0–30	10YR4/4	sandy clay loam	gravels	edge of quarried area; surface gravels, 3 gravels in matrix, also 8–10 rabdotus; terminated at basal clay
J21	Neg	0–25	10YR4/4	sandy clay loam		upslope; 1 small cobble; terminated at basal clay
J22	Neg	0–5	10YR4/6	clay		top of landform by 2 large live oaks; heavily disturbed; terminated at basal clay
J23	Neg	0–15	10YR4/6	clay loam	gravels	same stable upland; calcareous, 4 sandstone gravels; terminated at basal clay
J24	Neg	0–5	10YR4/4	clay		terminated at basal clay
J25	Neg	0–5	10YR4/4	clay		SE corner of property; terminated at basal clay
J26	Neg	0–5	10YR4/4	clay		near very light density lithic scatter; terminated at basal clay
C1	Neg	0–60	10YR5/3	sandy loam	gravels	
C2	Neg	0–40	10YR5/3	sandy loam	gravels	
C3	Neg	0–40	10YR5/3	sandy loam	gravels	
C4	Neg	0–10	10YR5/3	sandy loam		
C5	Neg	0–30	10YR5/3	sandy loam		
C6	Neg	0–50	10YR5/3	sandy loam		
C7	Neg	0–10	10YR5/3	sandy loam		very compact soils
C8	Neg	0–30	10YR5/3	sandy loam		
C9	Neg	0–15	10YR5/3	sandy loam		
C10	Neg	0–30	10YR5/3	sandy loam		
C11	Neg	0–50	10YR5/3	sandy loam		
C12	Neg	0–50	10YR5/3	sandy loam		
C13	Neg	0–30	10YR5/3	sandy loam		
C14	Neg	0–30	10YR5/3	sandy loam		

Table 1. Shovel Test Data

ST ID	Pos/ Neg	Depth (cmbs)	Munsell	Soil Texture Description	Inclusions	Comments
C15	Neg	0–40	10YR5/3	sandy clay loam		Calcium carbonate nodules near surface
C16	Neg	0–30	10YR4/4	sandy clay loam		
C17	Neg	0–30	10YR4/5	sandy clay loam		very compact soils
C18	Neg	0–30	10YR4/6	sandy clay loam		very compact soils
C19	Neg	0–30	10YR4/7	sandy clay loam		very compact soils
C20	Neg	0–40	10YR4/8	sandy clay loam		very compact soils
C21	Neg	0–15	10YR4/9	sandy clay loam		very compact soils
C22	Neg	0–15	10YR4/10	sandy clay loam		very compact soils
C23	Neg	0–15	10YR4/11	sandy clay loam		very compact soils
C24	Neg	0–15	10YR4/12	sandy clay loam	gravels	very compact soils
C25	Neg	0–15	10YR4/13	sandy clay loam	gravels	very compact soils
C26	Neg	0–60	10YR4/14	sandy clay loam	gravels	very compact soils
C27	Neg	0–50	10YR4/15	sandy clay loam	gravels	very compact soils

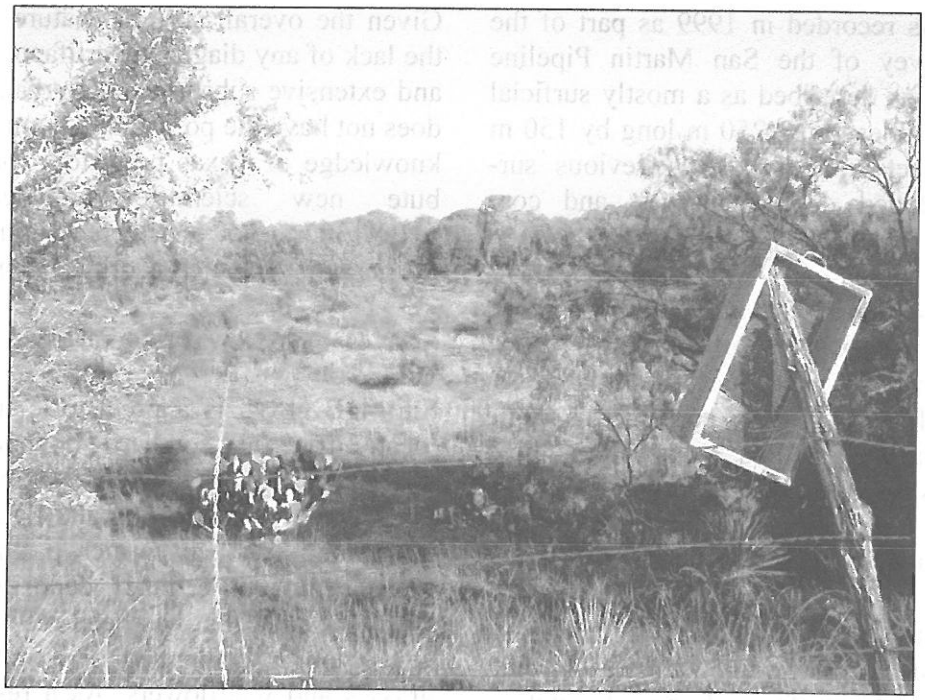

Figure 7. Quarry area, facing north.

The site was recorded in 1999 as part of the PBS&J survey of the San Martin Pipeline project. It was described as a mostly surficial lithic scatter measuring 250 m long by 150 m wide. Artifacts noted by the previous surveyors included debitage, cores, and core fragments.

A total of 14 shovel tests (C12 to C18 and J10 to J16) was excavated on the Pleistocene-age terrace within the vicinity of site 41BX1308. Only one shovel test (J16) contained a single tertiary flake at 15 cmbs. Soils within these shovel tests consisted of a dark grayish brown sandy clay loam underlain by the dense and compact clayey substratum.

Approximately 40–50 fragments of brownish-gray chert debitage were noted diffusely scattered across the surface of the site, with a moderate concentration of material along the eastern boundary. All stages of reduction (primary through tertiary) were noted, and several of the flakes were heavily patinated. In addition, a single late-stage biface fragment was encountered on the southeastern end of the site (Figure 8). Based on the surface distribution of artifacts encountered by the current investigation, the site extends beyond the boundaries mapped by PBS&J in 1999. As a result, SWCA expanded the site to measure 200 m north-south and 400 m east-west. Recent vegetation clearing within the project area has caused extensive subsurface disturbance to the site, as evidenced by the irregular topography.

SUMMARY

Overall, site 41BX1307 is a prehistoric lithic scatter located on a Pleistocene-age terrace overlooking the San Antonio River. The site is comprised of a mostly diffuse and surficial scatter of primary through tertiary stage debitage and a single biface fragment.

Given the overall surficial nature of the site, the lack of any diagnostic artifacts or features, and extensive subsurface disturbance, the site does not have the potential to contribute to our knowledge of Texas prehistory, or to contribute new scientific knowledge. Site 41BX1307 is not considered significant. No further archaeological work is recommended.

SITE 41BX1898

Site 41BX1898 is a prehistoric lithic scatter located on the southern boundary of the project area, approximately 715 m east of the intersection of Loop 1604 and IH 37. The site is situated in open former pasture land on Pleistocene-age terrace deposits. Located within an area that has been recently cleared, vegetation is comprised of a mix of native grasses and wildflowers. As a result, surface visibility ranged from 80–100 percent.

A total of four negative shovel tests was excavated in the vicinity of site 41BX1898 (C19, C27, J17, and J26). Soils within these four shovel tests consisted of a very compact dark grayish brown clay loam underlain by dense and compact basal clays. Given the overall surficial nature of the deposits, a thorough pedestrian survey of the area was conducted. Approximately 10–15 fragments of brownish-gray tertiary stage chert debitage were noted diffusely scattered across the surface with no definable artifact concentrations. In addition, no diagnostic artifacts or features were observed.

Based on the surface distribution of artifacts and the negative results of subsurface investigations, the site was determined to extend 200 m east-west and 50 m north-south. Similar to site 41BX1307, site 1898 has also been heavily disturbed as a result of recent land clearing activities, leaving the surface topography with a hummocky appearance.

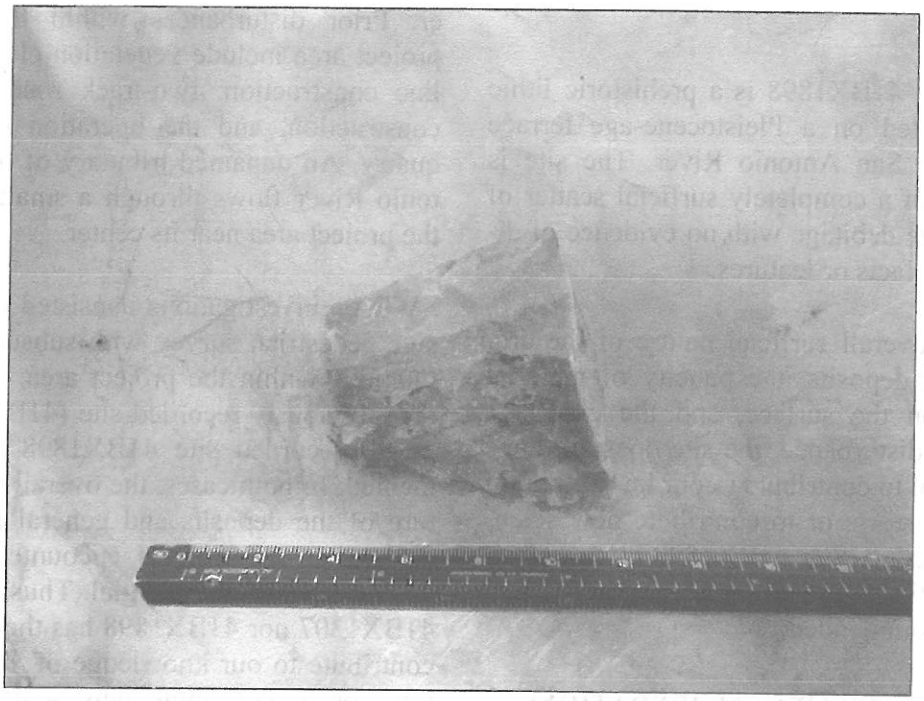

Figure 8. Biface fragment from site 41BX1307.

Summary

Overall, site 41BX1898 is a prehistoric lithic scatter located on a Pleistocene-age terrace west of the San Antonio River. The site is comprised of a completely surficial scatter of tertiary stage debitage with no evidence of diagnostic artifacts or features.

Given the overall surficial nature of the archaeological deposits, the paucity of material observed on the surface, and the extensive subsurface disturbance, the site does not have the potential to contribute to our knowledge of Texas prehistory, or to contribute new scientific knowledge. Site 41BX1898 is not considered significant and no further archaeological work is recommended.

Summary and Recommendations

SWCA conducted an intensive archaeological survey of a 150-acre tract at the intersection of IH 37 and Loop 1604 project area located in southeastern Bexar County, Texas. The APE is defined as the entire 150-acre tract. Cultural resource investigations were conducted to satisfy the requirements of the San Antonio HPO per the City of San Antonio Historic Preservation and Design Section of the Unified Development Code (Article 6 35-630 to 35-634).

The background review determined that one archaeological survey has been previously conducted within a portion of the project area and one previously recorded site (41BX1308) is located within the project area. Four additional previously recorded sites (41BX226, 41BX1239, 41BX1240, and 41BX1308) are located within 1 mile of the project area. A review of the historic maps and aerials found no evidence of any historic-age structures, features, or roads within the project area.

The project area stretches across Pleistocene-age terraces adjacent to the San Antonio River. Prior disturbances within the 150-acre project area include vegetation clearing, pipeline construction, two-track road and fence construction, and the operation of a gravel quarry. An unnamed tributary of the San Antonio River flows through a small portion of the project area near its center.

SWCA's investigations consisted of an intensive pedestrian survey with subsurface investigations within the project area. As a result, one previously recorded site (41BX1307) and newly recorded site 41BX1898 were documented. In both cases, the overall surficial nature of the deposits and general paucity and diffuseness of artifacts encountered restricts the sites' research potential. Thus, neither site 41BX1307 nor 41BX1898 has the potential to contribute to our knowledge of Texas prehistory, or to contribute new scientific knowledge. Sites 41BX1307 and 41BX1898 are not considered significant.

The THC's survey standards require a minimum of one shovel test per 3 acres, or 50 shovel tests for a project of this size. A total of 53 shovel tests was conducted, exceeding the minimum survey standards. Overall, SWCA's intensive archaeological survey determined that no significant cultural resources will be affected by any construction activities within the project area. SWCA recommends no further archaeological investigations

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