

Archaeological Monitoring of Subsurface Electrical Lines at Fort McKavett State Historic Site (41MN2), Menard County, Texas



by

Nathan DiVito and Kristi Miller Ulrich

Texas Antiquities Committee Permit No. 5873



Prepared for:
Texas Historical Commission
1511 Colorado Street
Austin, Texas 78701

Prepared by:
Center for Archaeological Research
The University of Texas at San Antonio
One UTSA Circle
San Antonio, Texas 78249
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Principal Investigator

Steve A. Tomka



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The State Agency for Historic Preservation

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Abstract:

On February 7 and 8, 2011, the Center for Archaeological Research (CAR) at the University of Texas at San Antonio, was contracted by the Texas Historical Commission under permit number 5873 to conduct archaeological monitoring of mechanical excavations of two trenches intended to house electrical lines at Fort McKavett State Historic Site. The Fort McKavett State Historic Site is located at the intersection of FR 864 and 1674, twenty-two miles southwest of the City of Menard, situated in southwestern Menard County, Texas. During the course of the project, the Area of Potential Effect (APE) was surveyed prior to excavation. Given the occupation history of Fort McKavett, the project area had the potential to produce significant cultural deposits and features. The mechanical excavation of the trenches was photo documented and the back-dirt inspected. A small number of temporally diagnostic artifacts were collected. No significant historic features were documented or impacted. As a result, the CAR does not recommend that further investigations be conducted in the area of potential effect. However, the CAR does recommend long-term monitoring of future improvement-related activities to continue at the site.

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Chapter 1: Introduction

The Center for Archaeological Research at the University of Texas at San Antonio (CAR-UTSA), was contracted by The Texas Historical Commission to conduct archaeological monitoring during installation of two underground electrical lines at the State Historic Site of Fort McKavett, located twenty-two miles southwest of the City of Menard, at the intersection of FR 864 and 1674, in Menard County, Texas (Figure 1-1). The monitoring was conducted under Texas Antiquities Committee Permit 5873 only in areas to be impacted by subsurface excavations. Due to the occupational history of the fort, monitoring was conducted to determine if any significant cultural deposits or features were to be impacted by the route of the proposed electrical lines.

Area of Potential Effect

The Area of Potential Effect (APE) is located on the grounds of Fort McKavett State Historic Site. The APE of the proposed electrical lines has been determined by the Texas Historical Commission and the proposed lines are intended to connect into existing electrical lines on the site. The first of the two electrical lines begins at the electrical access manhole located to the east of the ruins of the Commanding Officer's Quarters (Figure 1-2). This first line extends between the Site Manager's residence and Officer's Quarters (OQ) #4 for 180 feet, then turns sharply to the north and east of OQ's #4 and OQ #5, where it continues another 120 feet before terminating at the location of the proposed electrical box behind OQ #5.

The second of the two electrical lines begins at an existing electrical box located to the south of OQ #9. It runs south for approximately 10 feet, then turns at a 90 degree angle to the west, continuing for another 120 feet behind OQ #9 and #10 and parallel to the road. It then turns at a 90 degree angle to the north alongside OQ #10 for 70 feet, terminating at the proposed electrical box at the side door of OQ #10.

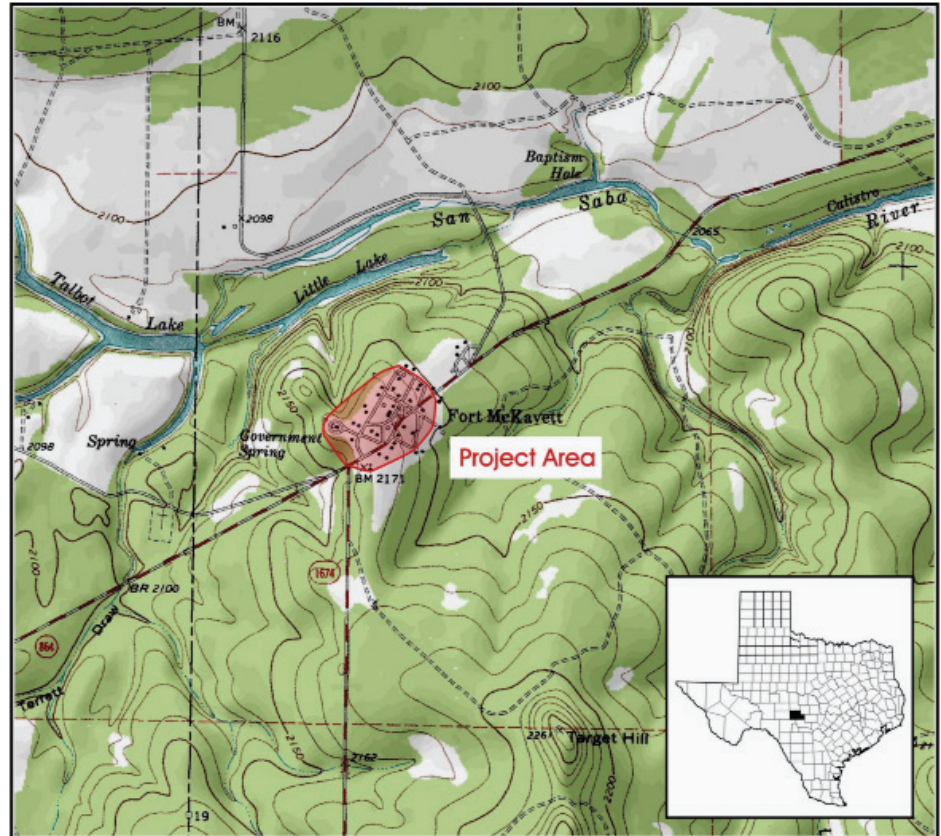


Figure 1-1. Project Area location.

These two underground lines were excavated with a "Ditch Witch" and affected approximately 500 linear feet representing approximately 541.8 cubic feet of rock and soil. Trenches were approximately 6 inches in width, and were projected to penetrate to a depth of 36 inches. However, due to the underlying bedrock, trenches were dug to a depth of only 26 inches. The average depth of soil across the site was approximately 8-10 centimeters. Of the excavated rock and soil, soil comprised 15% and the degraded limestone and bedrock comprised the other 85%.

Scope of Work

Due to the historical significance of Fort McKavett, archaeological monitoring of all subsurface excavations at the site was recommended by the CAR. The mechanical excavation of trenches was to be monitored and photo-documented, and all diagnostic artifacts in the APE were to be collected and analyzed at the CAR.

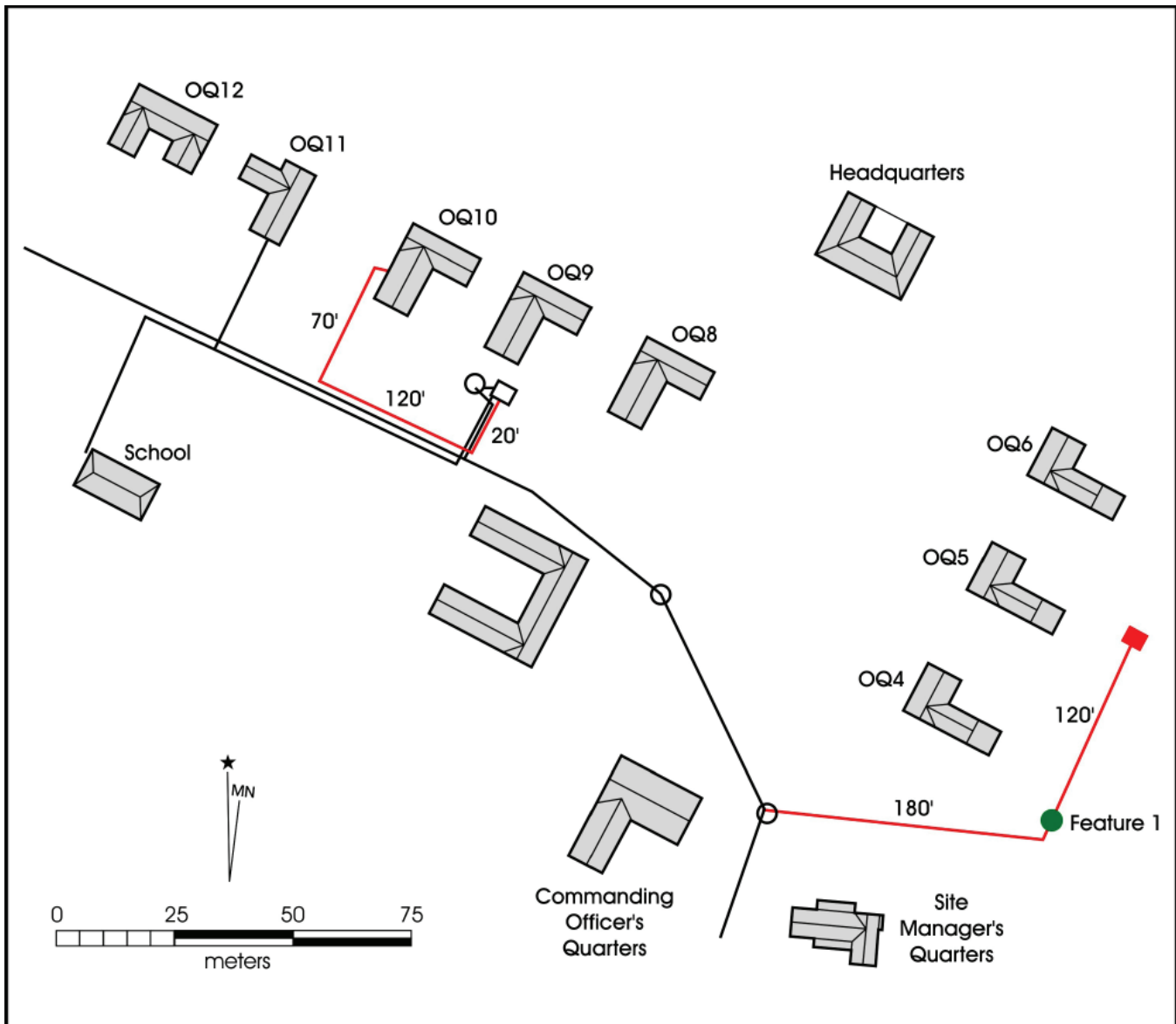


Figure 1-2. Existing electrical lines (black) and proposed electrical lines (red) at Fort McKavett.

Chapter 2: Historical Background and Previous Archeological Investigations

Historical Background

During the mid-1800s, a network of forts was established along the periphery of the Texas frontier (Figure 2-1). Forts defended the west Texas civilian population from any hostilities from nomadic Native American tribes and Mexican raiders coming up across the Rio Grande River (Uglow 2001:1). The forts also provided a staging locality for goods heading west, and protected settlers heading into western territories such as California.

Fort McKavett was originally established as Camp San Saba in March of 1852 by Lt. Colonel Thomas Stanford (Smyrl 2011a). It sits atop a hill at the junction of the San Saba River and a spring-fed creek. The post officially adopted the name of Fort McKavett in 1853 in honor of Captain Henry McKavett who was killed during the Mexican-American War. The fort's function was to protect local settlers, but as settlers became more self-sufficient and as Native American raids began to decrease, a military presence became nonessential. The fort was abandoned in March of 1859 and the land was returned to

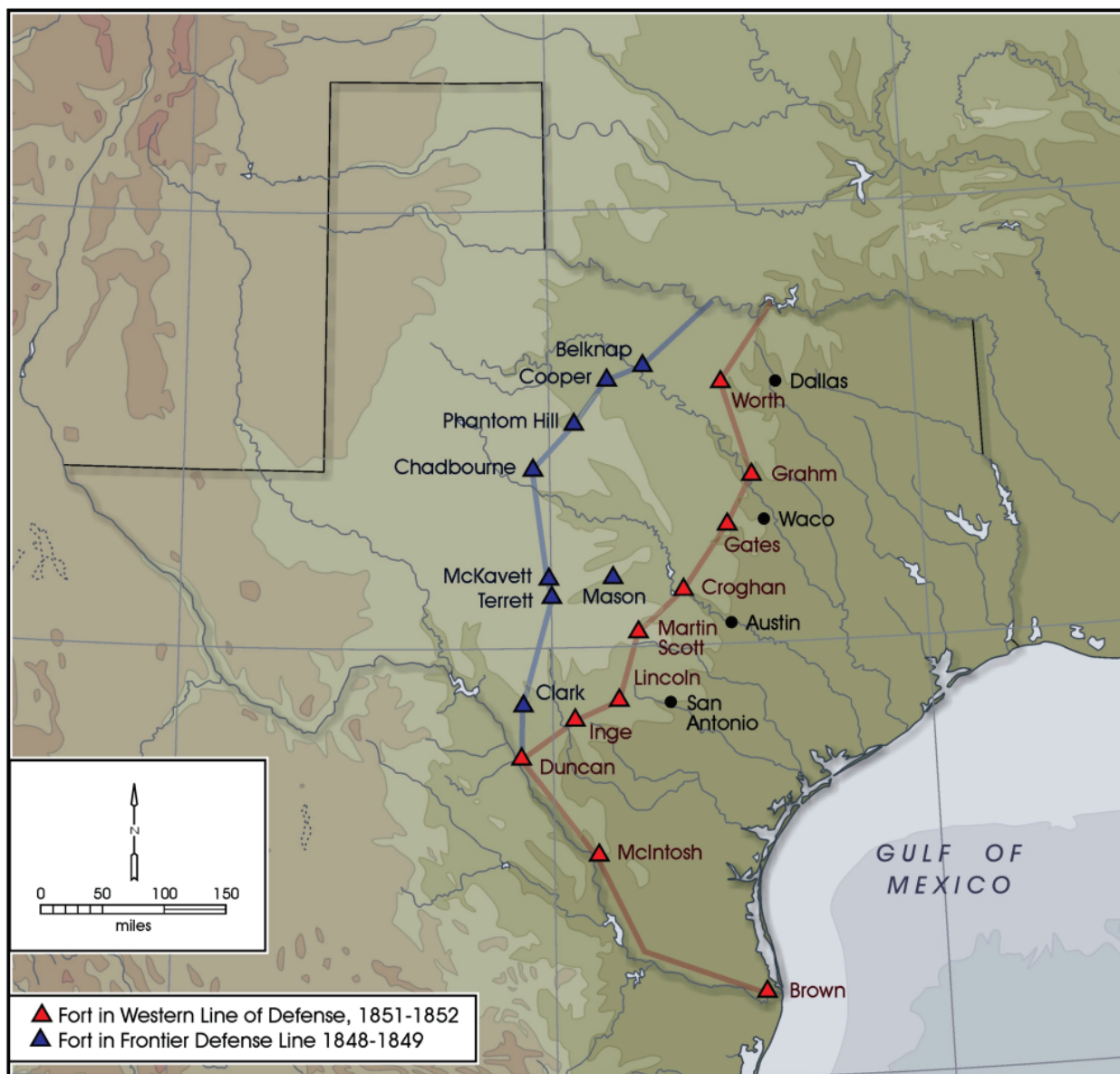


Figure 2-1. Map showing locations of military forts in the mid-nineteenth century.

the original owner. Despite this, some of the civilian families stayed behind and continued to use the surrounding area and abandoned buildings for farming and ranching activities.

The post was reoccupied in the fall of 1861 by the members of Henry McCulloch's Mounted Rifles. The fort served as a base of operations for McCulloch's troops and the Texas State Troops until the end of the Civil War. At that time, it was used as a prisoner of war camp (POW) for union soldiers that had surrendered at the Battle of Adams Hill. It functioned as a POW camp until late in the spring of 1862, whereupon prisoners were transferred to Camp Ford in east Texas (Mobley 2011).

On April 1, 1868, the fort was officially reactivated by the United States Army due to growing hostilities between the local Comanche tribe and settlers in the surrounding area. The fort was in a state of disrepair. The roofs and walls of most buildings had collapsed. A majority of buildings seen at the fort today are a result of the rebuilding program that took place during this time period wherein the bulk of the buildings were set atop existing foundations at the site. The last structure to be built on the site was the schoolhouse in 1878. During this military occupation, Fort McKavett served as a major supply depot, providing food and provisions for other forts and military campaigns, as well as supplies to advance exploration of the surrounding area (Uglow 2001:56). During this time, the fort was also home to soldiers from all four of the Buffalo Soldier regiments.

By the late 1870s and early 1880s, attacks on settlers had greatly decreased, as did the frequency of military campaigns against local tribes. By this time, many of the surrounding Native American tribes had been relocated to reservations in Oklahoma. With the threat of attack diminished and the frontier lines moving increasingly further west, the fort was no longer needed. As a consequence, Fort McKavett was closed indefinitely on June 30, 1883 (Earls and Leffler 1996:7).

In light of more peaceful and stable living conditions, residents and surrounding settlers stayed on to establish more permanent settlements in the area. From these efforts, the town of Fort McKavett was born. By the mid-1890s, the growing town was home to eighty residents and boasted a weekly newspaper, two hotels and saloons. During this time, Fort McKavett was a stomping ground for many outlaws and others deemed as undesirable. Growth continued, and The Fort McKavett Masonic Lodge was built on December 7, 1893. In the early decades of the twentieth century, farmers from east Texas moved to the area in increasing numbers to cultivate cotton. (Earls and Leffler 1996:7-12).

By the late 1920s, the town was on the decline; it would continue to decline during the Great Depression era, throughout the 1930s, and into the 1940s. In the late 1940s, the by now famous two-story commanding officers quarters, burned to the ground. Up until that time, it had been used as a boarding house for Mexican-Americans and other immigrants coming into the area. During the 1950s and 1960s, the population of the town steadily declined even further (Earls and Leffler 1996:9-25).

On May 17, 1968, Fort McKavett was designated a State Historic Site. Restoration of the fort began around this time when the old school and two of the barracks buildings were acquired by Texas Parks and Wildlife (TPWD). The last residents of the town moved out of the original buildings in 1973. Texas Parks and Wildlife continued to acquire and restore buildings at Fort McKavett. By the 1990s, a total of seventeen buildings had been restored onsite (Smyrl 2011b). Fort McKavett is one of the best preserved historic forts in the state of Texas due to its construction; buildings were constructed directly on the underlying bedrock, making them extremely stable. On January 1, 2008, Fort McKavett's ownership and its maintenance as an historic site was transferred from the Texas Parks and Wildlife Department to the Texas Historical Commission. Now known as the Fort McKavett State Historic Site, it is open daily to the public, and is a day-use facility, comprising eighty-two acres (Smyrl 2011b).

Previous Archaeological Investigations

The first archeological investigations were carried out in 1969, shortly after the acquisition of the two barracks buildings and school. Excavations were conducted by Earl Green of Texas Tech University and focused on Barracks 4, the eastern one-third of Barracks 3, and some of the parade ground features (specifically, the flagpole, the guy wire anchors and a nearby subterranean reservoir). The main purpose of these investigations was to search for archaeological and architectural data to help further interpret and restore the site (Earls and Leffler 1996:3).

In 1973, Emerson Pearson of the Texas Archeological Survey conducted an architectural study of the post headquarters building. Pearson also performed excavations of the second bakery and test excavations inside Barracks 1. The goal of the Texas Archeological Survey was to identify and document post-military modifications at the site in order to aid in future restoration attempts (Black and Ing 1980:67).

Texas Parks and Wildlife Department began its own excavations in 1974, conducting annual excavations until 1980. The 1974 season included preliminary clearing and

testing of the quartermaster workshops building. This excavation also involved an unsuccessful search for the location of an early blacksmith shop based upon information gleaned from an 1868 map. The 1975 season included the excavation and stabilization of the bakery storehouse as well as the excavation of Barracks 3. In 1976, the excavation of the quartermaster workshops was completed and the structure was stabilized using techniques learned from the earlier stabilization of the bakery storehouse. Excavation units in

Barracks 1 from the 1973 investigations were backfilled and stabilized. In 1977, the remains of Barracks 2 were excavated and the western one-third of Barracks 3 was investigated (Black and Ing 1980:67). Extensive excavations of the rooms and yard in Officers' Quarters 4 spanned the 1978-1980 field seasons. Excavations of Officers' Quarters buildings resumed in the 1982, 1984 and 1985 field seasons. The last field season at Fort McKavett concluded at the end of the summer of 1990 (Earls and Leffler 1996:3).

Chapter 3: Archeological Field and Laboratory Methods

Monitoring Methods

Due to the high probability of military occupation era artifacts, monitoring was recommended within the bounds of the APE. Information was recorded in daily field notes listing the length, width and depth of the trenches as well as types of materials noted. Both trenches were photo-documented and their locations recorded with a Trimble Geo X/T Unit. The location of any unique artifacts in the APE was also recorded with the Trimble Geo X/T. Photographs were taken throughout all on-going work at the site. During the course of the project, no significant features or undisturbed cultural deposits from the military period were documented. Diagnostic artifacts collected consisted of cut nails, glass and ceramics. All other non-diagnostic materials encountered were noted, but not collected or analyzed.

Laboratory Methods

All cultural materials and records obtained and generated during the project were prepared in accordance with federal regulation 36 CFR Part 79, and THC requirements for State Held-in-Trust collections. Additionally, materials were prepared in accordance with the current guidelines of the

CAR. Artifacts processed in the CAR laboratory were washed, air-dried, and stored in 4 mil zip locking, archival-quality bags. Materials needing extra support were double-bagged. Acid-free tags were placed in all artifact bags. Each laser-printed generated tag contained provenience information with a corresponding lot number. All glass and ceramic artifacts were labeled by first applying a clear undercoat of acryloid. The site and catalogue number were written on this undercoat using archival safe ink. Finally, an acryloid topcoat was applied to permanently seal the label.

Artifacts have been separated by class. All field notes, forms and photographs, were placed into labeled, archival safe folders. Digital photographs were printed on acid-free paper, labeled with archival appropriate materials, and placed into archival-quality sleeves. All field forms were completed in pencil. Any soiled forms were placed in plastic, archival quality page protectors. Ink-jet produced maps (illustrations, etc.), were also placed in archival quality page protectors to prevent against accidental smearing due to moisture. All collected materials and project related documentation is temporarily housed at the CAR. All artifacts recovered during the project and all project related documentation will be permanently stored at the THC's curational facility.

Chapter 4: Results and Recommendations

Two trenches were excavated to house the proposed electrical lines. Trenches were designated numerically as Trench 1 and Trench 2 (Figure 4-1). Trench 1 begins at the electrical access manhole located to the east of the ruins of the Commanding Officer's Quarters (Figure 4-2a). It extends east between the Site Manager's Quarters and Officer's Quarters (OQ) #4 for

180 feet, then turns sharply north behind OQ's #4 and #5 (Figure 4-2b). The trench continues another 120 feet before terminating at the proposed electrical box behind OQ #5.

Trench 2 (see Figure 4-1) begins at an existing electrical box behind OQ #9 and runs south for approximately 10 feet

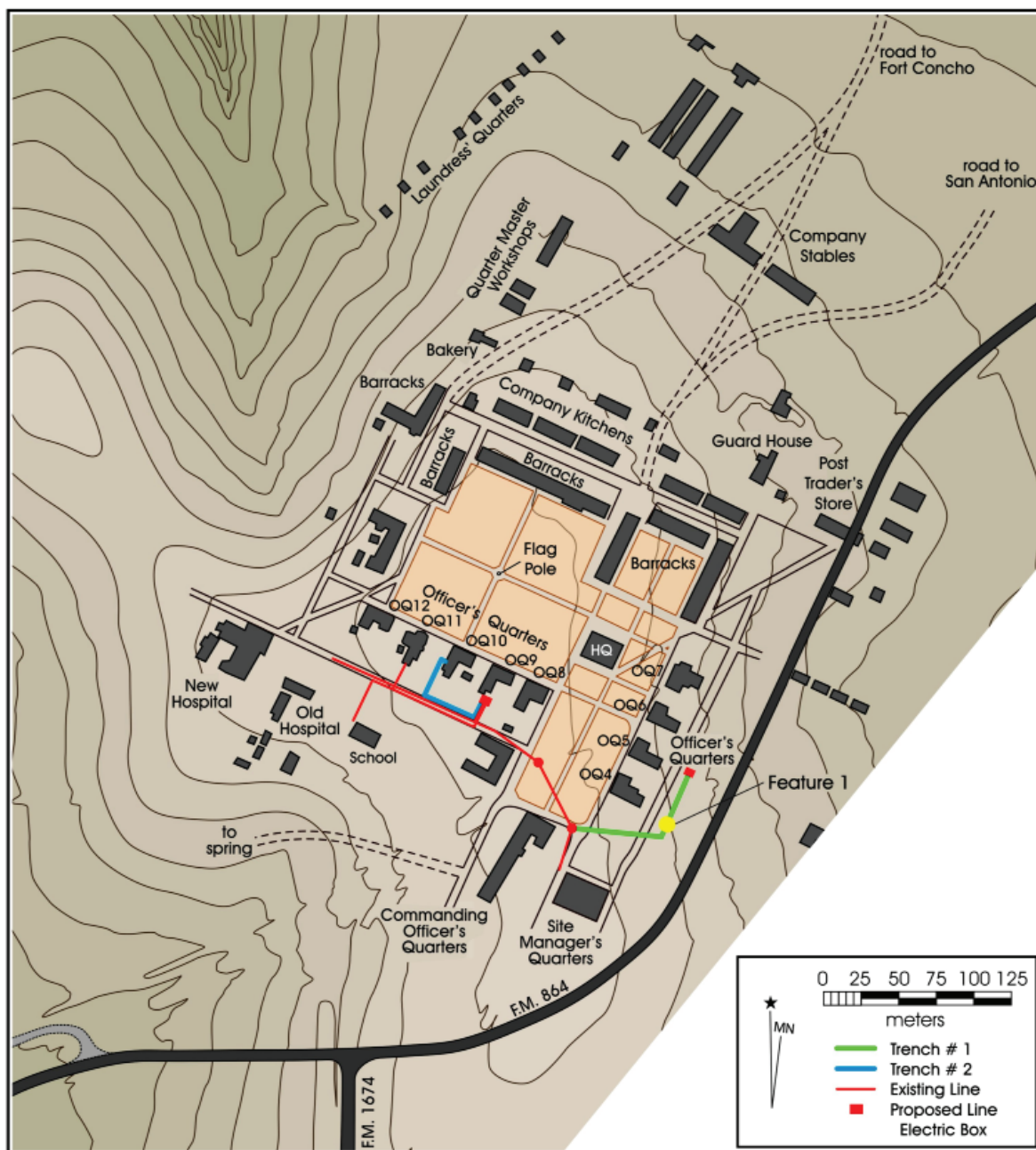


Figure 4-1. Location of trenches excavated during the project.

and turns at a 90 degree angle, continuing for another 120 feet running behind OQ #9 and #10, parallel to the road (Figure 4-3a). It then turns at a 90 degree angle and heads north along the side of OQ #10 for 70 feet, where it terminates at the side door of OQ #10 at the proposed electrical box (Figure 4-3b).

The discussion of Trench 1 will be divided into arbitrary east-west and north-south segments. The discussion of Trench 2 will be delineated by references to artifacts, divided into two categories: surface collected artifacts, and artifacts collected from the electrical box area near OQ #10.

Trench 1

Of the two trenches excavated, Trench 1 yielded the most cultural material. Soil in the trench varied, averaging approximately 5-10 centimeters in thickness above the limestone bedrock. Surface artifacts from the east-west portion of the trench included a single cut-nail and purpled bottle glass (Table 4-1). Artifacts from the back-dirt of this portion included a single cut-nail, a shard of brown bottle glass with embossed lettering, and a metal window latch.

Metal artifacts from the surface of the north-south portion of the trench included cut nails, wire nails, unidentified metal and a modern bottle cap. Ceramics from the surface of the trench included a hand painted white earthenware sherd with floral design as well as a piece of undecorated semi-porcelain with a partial makers mark. Glass from the surface of the trench included: aqua bottle glass, embossed clear bottle glass, olive green bottle glass, a few fragments of purpled bottle glass—one piece with embossed lettering; a fragment of clear, painted bottle glass, a milk glass Mason jar lid liner, and an edge modified piece of purpled glass. A large chert biface fragment was found on the surface of the trench. Artifacts from the back-dirt of the north-south portion of the trench included: a horseshoe, a muleshoe, a few cut nails, a pocket watch bail; flat window glass, clear bottle glass, purpled milk glass, a brown bottle glass base; a sherd of undecorated stoneware, a sherd of transfer flow blue white earthenware; and a shell decoration made of plastic (Table 4-1).



Figure 4-2. Photos of: a). Trench 1, east to west portion; b). Trench 1, north to south portion.

Feature 1

The east-west running portion of Trench 1 had a series of six concrete post-holes that were set three on each side, forming a square. This grouping of post-holes was designated as Feature 1 (Figure 4-4). Close examination showed that the concrete used in the construction of the post-holes was composed of Portland cement and sand. It is surmised, based on both the layout and construction materials, that these post-holes were part of a support for a windmill. Since Portland cement was not widely available until the late 1800s, it is likely that this feature dates to the later part of the civilian occupation of the site. The date range for this feature



Figure 4-3. Photos of: a). Trench 2, east to west portion; b). Trench 2, north to south portion terminating at side door of OQ# 10.

is estimated to be between 1920s-1968, with the later decade being the more likely. Because one post-hole was directly in the path of the trench, it was mechanically removed (Figure 4-4). However, the other five post-holes that make up the feature were located outside the path of excavation, and therefore, remain intact. Feature 1 was mapped using a GPS unit and photo-documented.

Trench 2

Trench 2 yielded significantly fewer artifacts than Trench 1 (Table 4-1). The main concentration of artifacts was located

in a small area adjacent to the side door of OQ #10. Surface artifacts from the trench included a single cut nail, a piece of embossed purple bottle glass, and an embossed milk glass bowl fragment. All other artifacts came from the proposed electrical box area near the side door of OQ # 10. This area was unique in that it had soil down to the bottom of the trench. The soil in the rest of the trench was shallow and between 8 to 10cm. Glass recovered from this area featured a heavy patina. It is likely that artifacts from this area date to the civilian occupation of the fort when the old buildings were utilized as trash dumps. Artifacts from this area included: cut nails, a cast iron fragment, a bobby pin, two aqua bottle bases, an aqua drinking glass fragment, a ribbed aqua glass fragment; a piece of undecorated white earthenware, a piece of undecorated semi-porcelain, two porcelain plate bases—one gilded, the other undecorated; and, lastly, a bovine foot bone (Table 4-1).

Diagnostic Artifacts

The most common artifact observed across the site was cut nails (Figure 4-5a-d). Cut nails were used to construct the majority of the buildings at the site. Cut nails were machine made, sheared from a steel plate while a second machine formed the nail head. Cut nails are easily distinguished by their square head, parallel sides and a tapered end. Cut nails were invented in the mid-1700s but did not become popular in construction until the 1820s. They continued to be used through the 1800s to 1910, at which point, wire nails were invented and eventually replaced cut nails. Wire nails were cheaper to produce and thus replaced the cut nail in construction, despite the fact that cut nails had four times the holding power of wire nails (Allen 2011).

Another common artifact observed at the site was purpled bottle glass (Figure 4-5e-h). Starting in the 1860s and until 1914, manganese was used as a cheap way to produce clear glass. When glass containing manganese is exposed to the sun's ultra-violet rays, this colorless substance takes on a rich, purple hue. The intensity of color is determined by both the amount of manganese and the amount of ultra-violet rays to which the glass has been exposed. The production of glass containing manganese ceased in 1914 when the United States lost Germany as its main supplier of manganese, due to frictions encountered during World War I (Kendrick 1966:57). The purpled glass observed at the site is likely from the military and early civilian occupation periods.

Table 4-1. Artifacts Collected from Trenches 1 and 2

			Container/Vessel Glass								Ceramics							Metal								
		Bone	Aqua	Brown	Clear	Olive	Purpled	Milk	Flat	Edge-Modified	Undecorated Porcelain	Decorated Porcelain	Undecorated Semi-Porcelain	Hand Painted Earthenware	Flow Blue Earthenware	Undecorated White Earthenware	Stoneware	Cut Nails	Wire Nails	Container	Fasteners	Tack Metal	Other Metal Objects	Personal Items	Plastic	Total
Provenience	Lot																									
Trench 1-Surface-East West	1						2											1								3
Trench 1-Backdirt- East West	2			1														1			1					3
Trench 1-Surface-North South	3		1		2	2	3	1		1			1	1				3	2	1			1			19
Trench 1-Backdirt-North South	4			1	1			1	1						1		1	2				2		1	1	12
Trench 2-OQ #10 Side Door	5	1	4								1	1	1			1		3					1	1		14
Trench 2-Surface	6						1	1										1								3
Total		1	5	2	3	2	6	3	1	1	1	1	2	1	1	1	1	11	2	1	1	2	2	2	1	54



Figure 4-4. Photo of concrete post-hole feature.

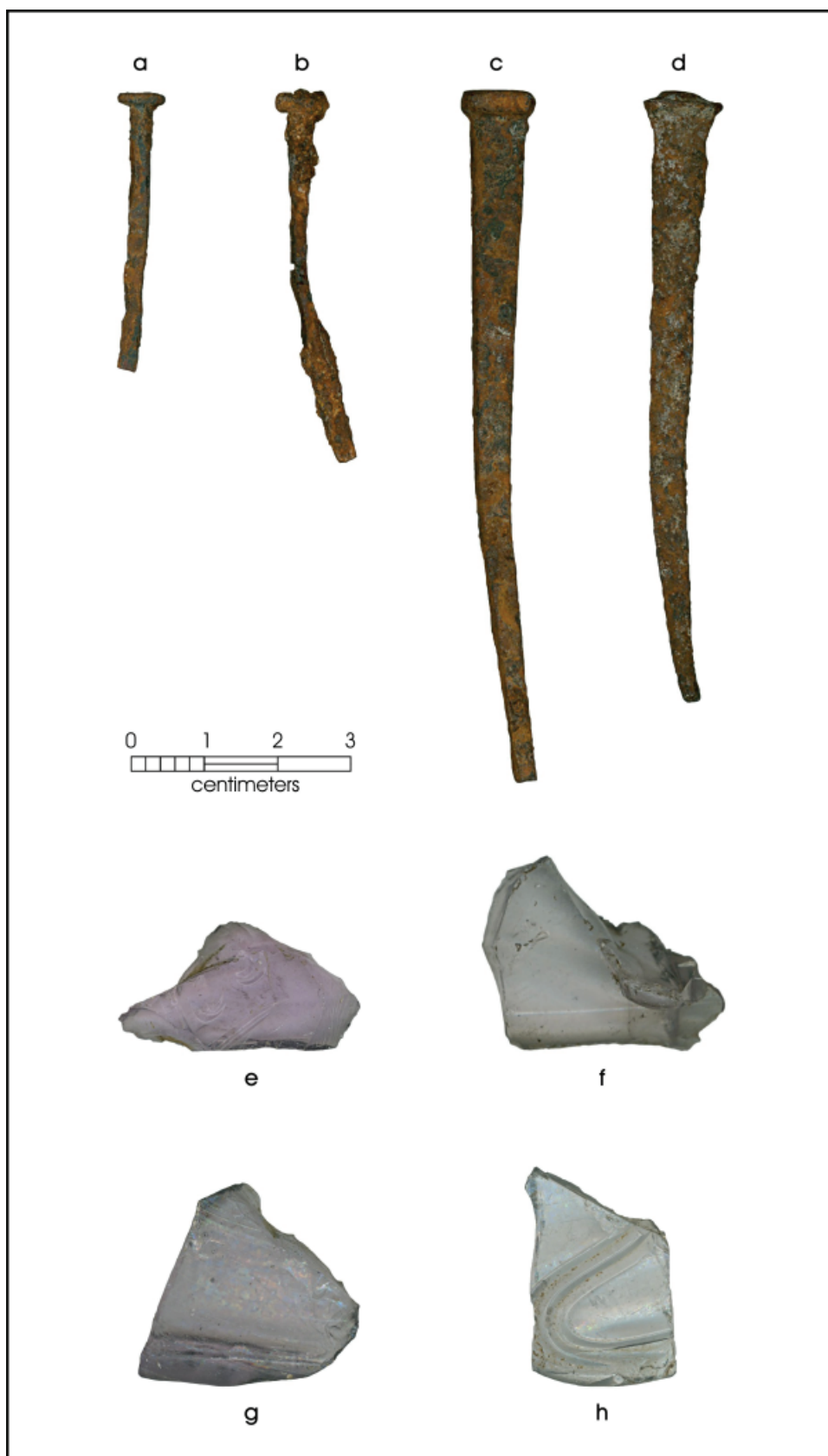


Figure 4-5. Cut nails and purple glass.

A single sherd of flow blue transferware ceramic was recovered from Trench 1 (Figure 4-6a and Table 4-1). Flow blue ceramics originated in England as a way to mimic the look of Chinese porcelain, and became popular in the United States from the 1840s to the early 1900s. Flow blue is produced using cobalt oxide which is set underneath the glaze via a transfer pattern. The cobalt oxide flows and blurs during the firing process, hence the ceramic type name. In the 1820s, lime and ammonia were added to increase the flowing effect. These two elements were originally used to hide imperfections and flaws in the ceramic (Snyder 2011). Due to the small size of the fragment, an exact date could not be determined, but it is most likely from the military or early civilian occupation, pre-dating 1900.

A small body fragment of a “Dr. J Hostetter’s Stomach Bitters” bottle (Figure 4-6b) was recovered from Trench 1 near the side of OQ # 4. This drink was invented by Dr. Hostetter in 1853 and became popular with troops during the Civil War. It remained a popular tonic for both troops and civilians until 1906 when the alcohol content decreased from 47% (Hunt 1995). This bottle is similar to a fragmented bottle recovered during the 1974 excavation of the quartermaster workshops. Excavators dated their finding to 1872 (Black and Ing 1980:205, 327:Figure 68). Unfortunately, due to the small size and the company’s long period of production, an exact date for the fragment found during the current project excavation cannot be determined. It likely dates to between 1860 and 1900.

Summary and Recommendations

On February 7 and 8, 2011, CAR monitored the installation of subsurface electrical lines at Fort McKavett State Historic Site for the Texas Historical Commission. Due to multiple historic military occupations at the site, the potential for features and/or cultural deposits in the proposed APE was high.

During the monitoring, one surface feature, Feature 1, was recorded. It consisted of six round concrete post holes which were arranged three on each side in a square. The post-holes appeared to form the footing for a modern windmill, corral or cistern built with Portland cement. This feature had relatively low research value and was likely associated with the civilian occupation of the site. It was photo-documented and its position mapped. Some diagnostic artifacts were collected from the surface of the electrical trenches and also from trench back-dirt. Artifacts ranged in date from the late 1800s to the mid 1900s.

Due to the shallow soils across the site, the majority of the artifacts were located either on the surface or just below the surface, in a disturbed context. The only exception is at the termination point of Trench 2 at the side door of OQ #10. Soil in this area was much deeper (at 26 cm, the terminal depth) than the soil across the rest of the site. This portion of the trench also contained artifacts ranging in date from the late 1800s to the early 1900s. Diagnostic artifacts recovered from the site indicate that the shallow soils have contributed to severe mixing of the cultural materials in the areas examined. Furthermore, the electrical trenching associated with this project did not have an impact on any intact cultural deposits at this site. The single historic feature appears to date to the civilian occupation of the fort, and has little research potential. As such, the CAR recommended cultural resources clearance for this project.

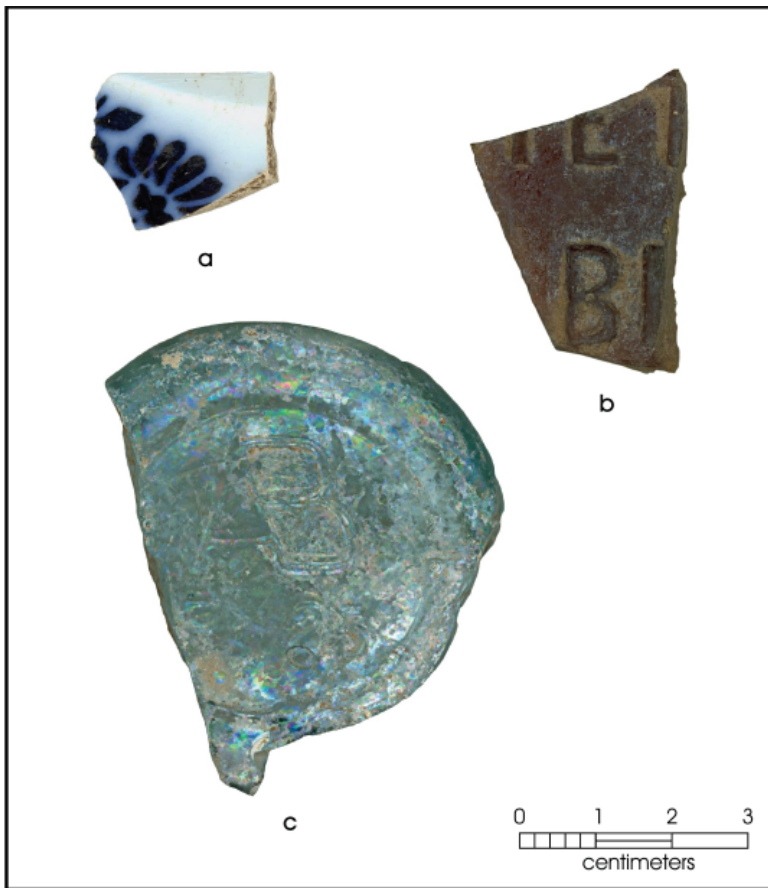


Figure 4-6. Ceramic and glass artifacts: a) Flow blue transfer ceramic; b) Dr. J. Hostettler's Stomach Bitters bottle glass fragment; c) Diagnostic aqua bottle base.

A diagnostic aqua bottle base (Figure 4-6c) was recovered from Trench 2 in the deeper soils by OQ #10. The maker's mark on the base is a connected "AB," with the letter "P" and the number "25" below it. Bottles with the "AB" and "AB Co." maker's marks are thought to have been made by the American Bottling Company and usually date from 1905 to 1916. (Lindsay, Lockhart, Schulz, Serr, Whitten 2007: 50, 55) The lettering underneath is noteworthy considering there is not a mention in the literature to the lettering of this exact kind. This bottle likely contained soda or beer and dates from the early 1900s civilian occupation of the fort.

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