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John W. Clark Jr.

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Research Design for Mitigation of Archaeological Resources Archaeological Site 41PS109 Shafter Historic Mining District Presidio County, Texas

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RESEARCH DESIGN FOR MITIGATION
OF ARCHAEOLOGICAL RESOURCES
ARCHAEOLOGICAL SITE 41PS109
SHAFTER HISTORIC MINING DISTRICT
PRESIDIO COUNTY, TEXAS

US HIGHWAY 67: FROM CIBOLO CREEK IN SHAFTER,
SOUTH TO OCHOA ROAD

By

John W. Clark, Jr.

Texas
State Department of Highways and Public Transportation
Highway Design Division
February 1985

INTRODUCTION

The Shafter Historic Mining District is located along the floor and flanks of the low canyon of Cibolo Creek adjacent to and crossed by US 67, approximately 20 miles north of Presidio in Presidio County, Texas (Fig 1) From the US 67 bridge, the creek flows to the southeast to a vertical cut made by the creek in the mountain massif. From there it flows due west to another steep rock bank and turns south.

Southwest of the US 67 bridge are two adobe structures and a group of ruins associated with the National Guard camp established in 1916 to protect the area from border raids. The most heavily occupied structures are located east of US 67 in the loop formed by the creek flowing southeast and then west. Among these structures are some of obviously modern construction. South of the westward flowing portion of Cibolo Creek and east of the southward flowing portion are occupied stone and adobe structures and a substantial number of ruins including the smelter facilities. There are 45 historic structures in excellent condition, most occupied by Mexican-American families.

In all areas of the site, especially the south end, there are ruins of stone and adobe buildings. The ruins range from stone alignments around the former National Guard tents to ruined stone and adobe houses and even major abandoned structures such as the smelter and the hospital.

US Highway 67 from Marfa south to the town of Presidio was constructed to very low standards between 1930 and 1940. Because of increased tourist travel into the interior of Mexico following the completion of the highway between Ojinaga and Chihuahua City in 1973, there has been a substantial increase in traffic volume on US 67. Planning by the State Department of Highways and Public Transportation (SDHPT) for staged reconstruction of US 67 from Marfa to Presidio began in the early 1970s. The purpose of this reconstruction is to allow US 67 to handle increased traffic and to provide a safer and more efficient highway.

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The first stage of this reconstruction, 15.15 miles from Marfa to Perdiz Flat, was completed in July 1977.. The second stage, from Perdiz Flat 17.1 miles to Bunton Flat, was completed in May 1979. Construction began on a third 7.7 mile segment from Bunton Flat to Shafter in 1982. The proposed segment of roadway under consideration here, 5.5 miles from Shafter to Ochoa Road, is the fourth stage in the reconstruction.

At the present time, portions of US 67 consist of a 22 ft.-wide pavement. This roadway contains many horizontal and vertical curves which seriously impair sight distances. Improvements include flattening vertical curves, realigning horizontal curves, and adding passing lanes where feasible. That portion of the reconstruction project in Shafter involves increasing the pavement width to 24 ft. and the addition of 6 ft.-wide shoulders. No additional right-of-way will be acquired for the proposed improvements within the Shafter Historic Mining District.

HISTORICAL SUMMARY

The town of Shafter in Presidio County, Texas, was founded in 1881 by a mining company which consisted of William B. Shafter, W. S. Noyes, Lt. John L. Bullis, and John W. Spencer, and was called the Presidio Mining Company. Through the early 1900s, the mines increased production and capacity, yielding silver, lead, and a small amount of gold. The vast majority of the maximum of 300 mine workers were Mexicans and Mexican-Americans. The company provided a club house, hospital, boarding house, and houses for the miners. Labor problems plagued the endeavor and a depression hit the town in 1931 when the price of silver dropped. The mines were closed, leaving some 300 families out of work. The mines opened briefly under the New Deal, but were closed again in 1942 due to labor problems, lowering of the grade of silver recovered, depletion of the silver reserves, and some flooding in the mines. The mines were again re-opened in 1981-1982 and considerable earth-altering activities are taking place at the present time.

In August of 1975 a National Register of Historic Places Inventory--Nomination Form was submitted by the Texas Historic Commission to the Keeper of the Register, designating the town of Shafter, Presidio County, Texas, as the Shafter Historic Mining District.

The Shafter Historic Mining District was subsequently included in the National Register of Historic Places. The Shafter mines themselves were not included within the Historic District because of their distance from the town. An on-site historical-archaeological survey of the proposed highway project was conducted by a member of the SDHPT professional cultural resources staff on May 25, 1976, under the auspices of *Procedures for the Protection of Historic and Cultural Properties* (36 CFR, Part 800).

Archaeological testing and mapping of areas within the highway right-of-way in Shafter were conducted on August 19 and 20, 1981, under the direction of John W. Clark, Jr., of the SDHPT professional cultural resources staff. Work performed included a detailed pedestrian survey

of the right-of-way, mapping of features encountered, detailed mapping of two structures, and archaeological testing of the structure containing intact deposits.

The object of the testing operations was to determine whether those features lying within the right-of-way meet the criteria for inclusion within the National Register of Historic Places, to determine the nature of the deposits and features, and to determine the cultural context and archaeological/historical significance, if any, of those sites investigated. Testing operations were carried out under the auspices of *Procedures for the Protection of Historic and Cultural Properties* (36 CFR, Part 800), procedures prescribed and endorsed by the Federal Highway Administration.

Report of findings was made to the office of the State Historic Preservation Officer by letters of September 2 and 12, 1981. Three cultural areas within existing or new right-of-way were tested. These areas include (1) a small early twentieth century dump designated Site 41PS344, (2) Site 41PS109 comprising two small associated historic structures, and (3) a relatively recent concrete slab.

Site 41PS344 lies to the southwest and outside of the Shafter Historic Mining District, while Site 41PS109 and the concrete slab are located within the boundaries of the Historic District (Fig. 1). The small dump and the concrete slab proved to be of no archaeological or historical significance and do not meet the criteria for inclusion within the National Register of Historic Places. Site 41PS109 consists of a structure built of masonry rubble and an associated dugout excavated into limestone bedrock. This site was believed to meet the criteria of eligibility for inclusion within the National Register.

On September 16, 1981, a letter was sent to the office of the State Historic Preservation Officer transmitting a copy of the National Register of Historic Places Inventory--Nomination Form completed for Site 41PS109 and requesting a determination of eligibility for inclusion within the National Register. On May 21, 1982, the Federal Highway Administration

was informed by the Acting Keeper of the Register that Site **41PS109** had been determined eligible.

RESULTS OF TESTING OPERATIONS

Archaeological testing operations and mapping were conducted in the US 67 highway right-of-way at the community of Shafter, Presidio County, Texas, on the 19th and 20th of August, 1981. This work was accomplished in connection with the widening of the highway within the existing right-of-way in the Shafter Historic Mining District and the straightening of a curve immediately to the southwest of the Historic District requiring the acquisition of new right-of-way. Three locations within the existing or new right-of-way were determined to contain evidence of cultural remains. These are (1) a small early twentieth century dump which has been designated as Site 41PS344, (2) Site 41PS109 which comprises two small associated historic structures, and (3) a relatively recent concrete slab (Fig. 1).

In an area immediately to the southwest of the Historic District, where new right-of-way will be acquired to straighten out an existing curve, a small scattered dump was observed lying on the west side of the present highway. This site has been recorded at the Texas Archeological Research Laboratory of the Balcones Research Center, The University of Texas at Austin, and has been designated Site 41PS344. The dump site covers an area of approximately 0.25 acre with cultural material lying scattered on the exposed bedrock. Observed cultural debris included tin cans, condensed milk cans, a ceramic door knob, a variety of broken bottles, and American and European ceramics, as well as a small number of complete bottles.

A collection was made of those items which could provide information about the date of this dump, including bottle fragments with makers' marks, ceramic fragments with makers' marks, decorated ceramic fragments, and bottle necks with mold seams. Bottle manufacturers' marks included such common marks as Owen's Illinois and Hazel-Atlas, and the less common mark of the Cartel Vidriera de Monterrey established in 1912. There were a small number of pre-World War I bottle sherds and several post-1914 bottles. It can be assumed that the date for the dump is circa 1915.

Since the dump is lying on exposed bedrock, there is no stratigraphic sequence to be determined.

Site 41PS109 is located within the Shafter Historic Mining District, lying within the existing highway right-of-way to the west of the existing roadway. It is comprised of two features: (1) a masonry structure consisting of a single room and constructed of roughly coursed, double wall rubble masonry with rubble fill and mud mortar, and (2) a dugout excavated into the bedrock (Fig. 2).

The masonry structure measures approximately 3.5 by 4.2 meters (exterior dimensions with 60 cm-thick walls). Stones comprising the walls are limestone and sandstone. Oriented north-northeast to south-southwest, the ruin contains a deposit consisting of collapsed wall rubble.

A test pit was placed in the interior southwest corner of the ruin in order to determine the depth of the fill and to locate the floor of the structure (Fig. 3). This fill was excavated in small increments by trowel in the hope of distinguishing any natural levels. It was found that the undifferentiated deposit lay on a natural, leveled bedrock floor and that the interior walls of the structure had been plastered with mud and whitewashed. The depth of the collapsed wall rubble was found to be 80 cm. The remains of a sheet-metal, wood-burning stove were recovered from this test pit (Fig. 4). This stove was affixed to the bedrock by means of spikes. Figure 5 shows profiles of the west and south walls of the test unit in the limestone masonry structure. Artifacts recovered from these deposits were originally included within the mud mortar. These consisted of glass and ceramic fragments.

To the north of the masonry structure is a dugout excavated into an outcrop of highly jointed, thinly bedded limestone (Fig. 2). The natural joint fracture planes in the limestone were used in the construction of this feature. The remains measure 3.5 by 4.5 meters (interior measurements). The deepest part of the dugout measures 65 cm, while the opposite end is at ground level. The floor of this feature is of leveled, natural limestone bedrock.

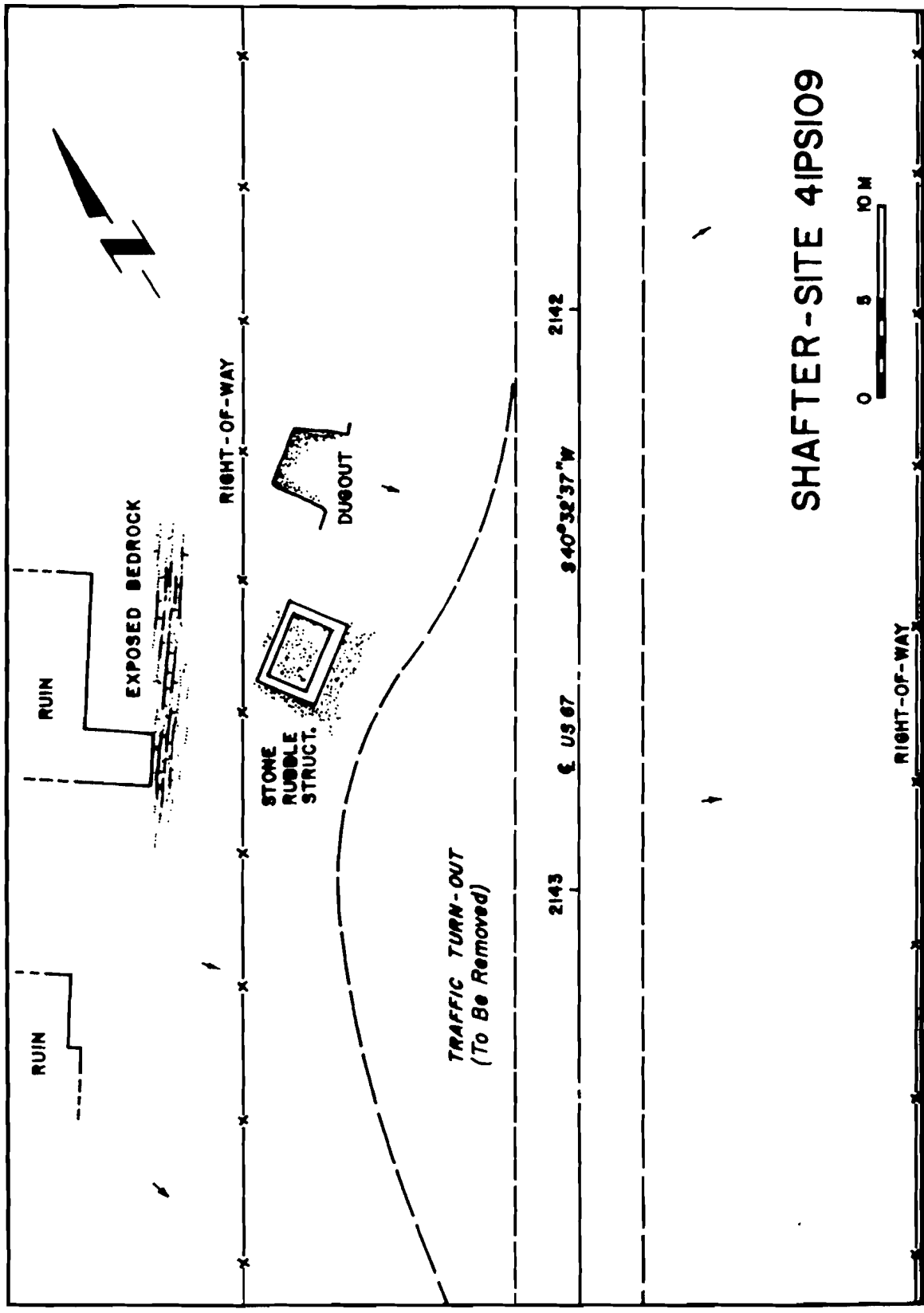


FIGURE 2. Site 4IPS109.

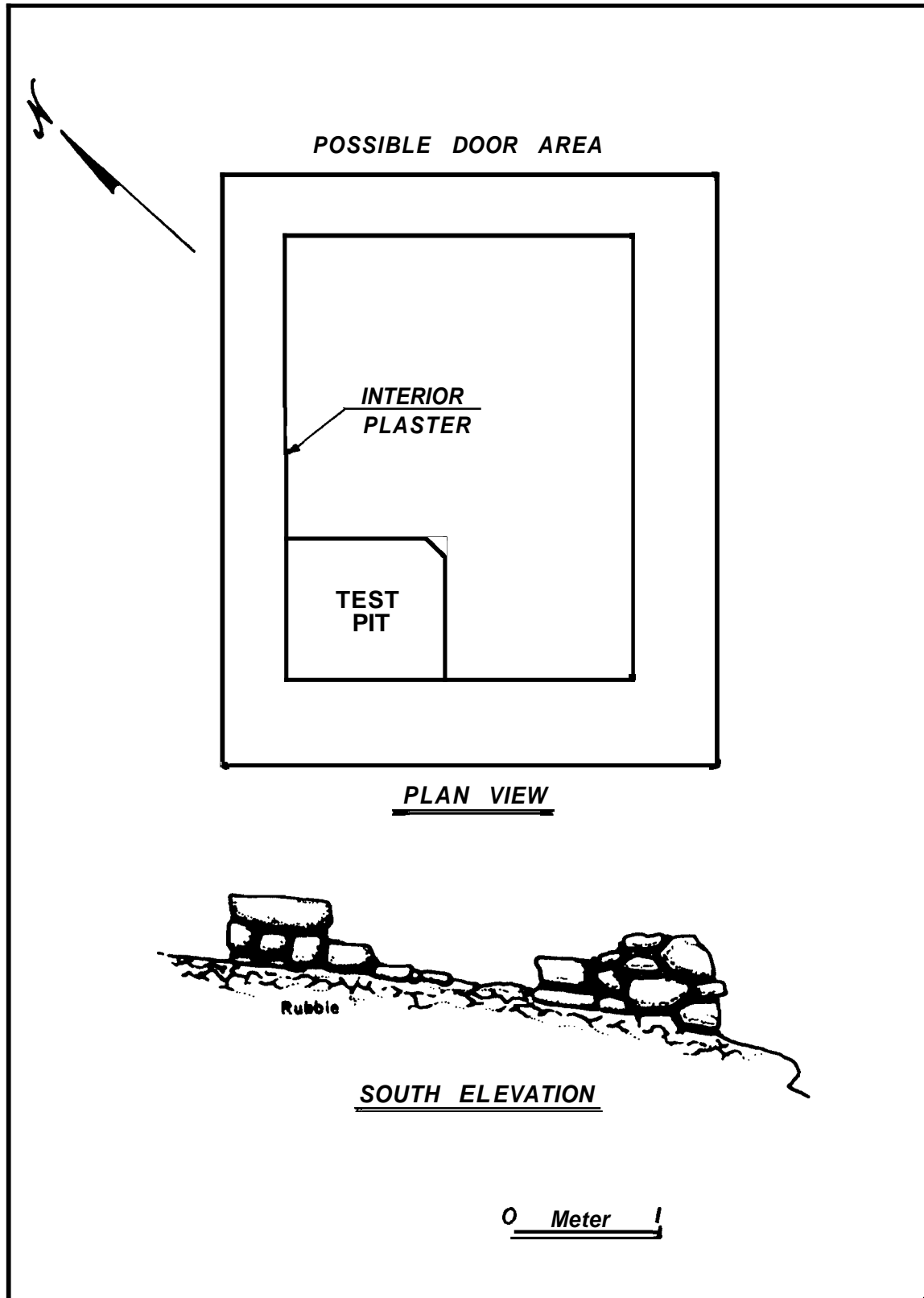


FIGURE 3. Limestone masonry building at Site 41PS109.

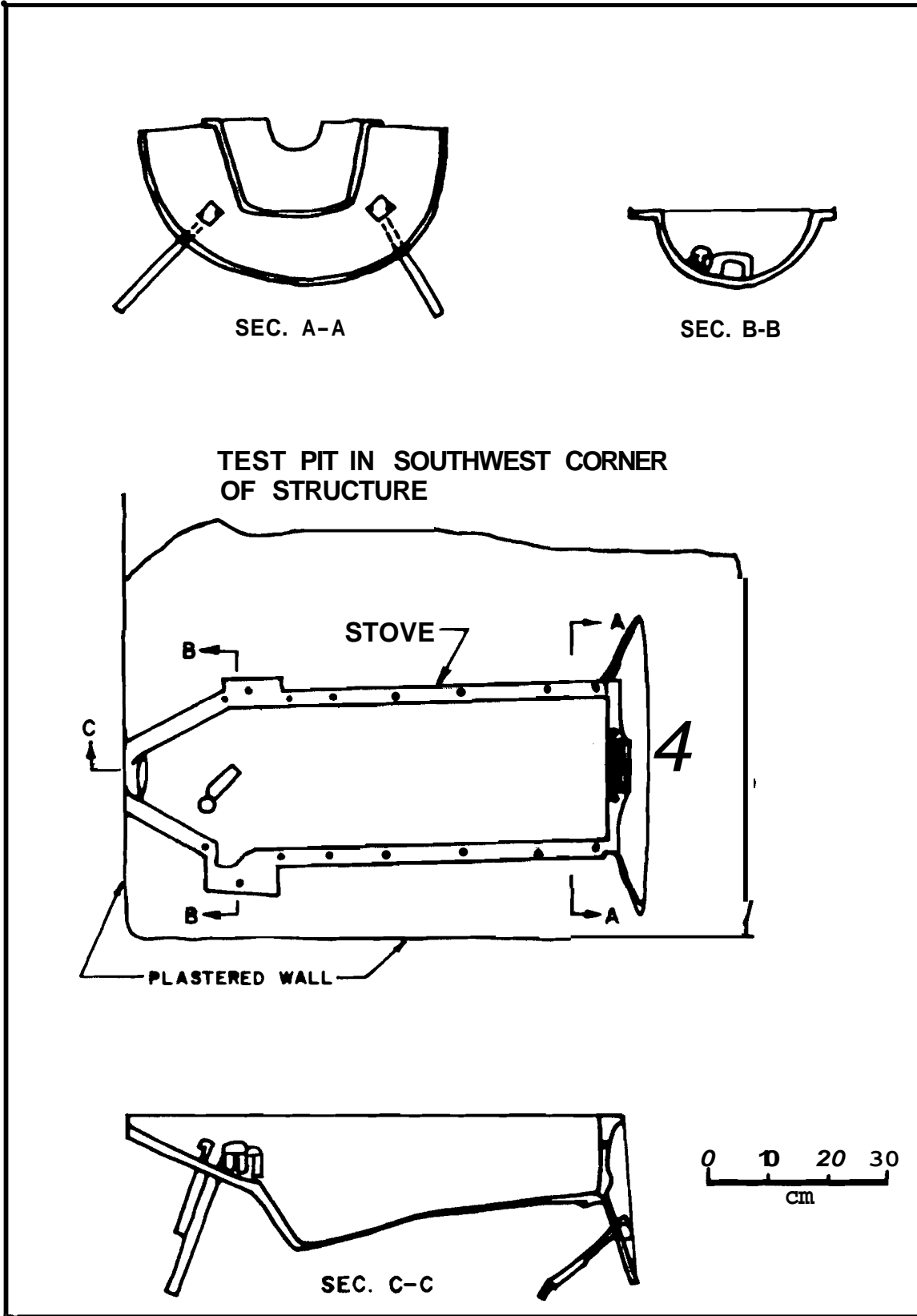


FIGURE 4. Plan view of test pit showing stove in place.

TEST PIT PROFILES

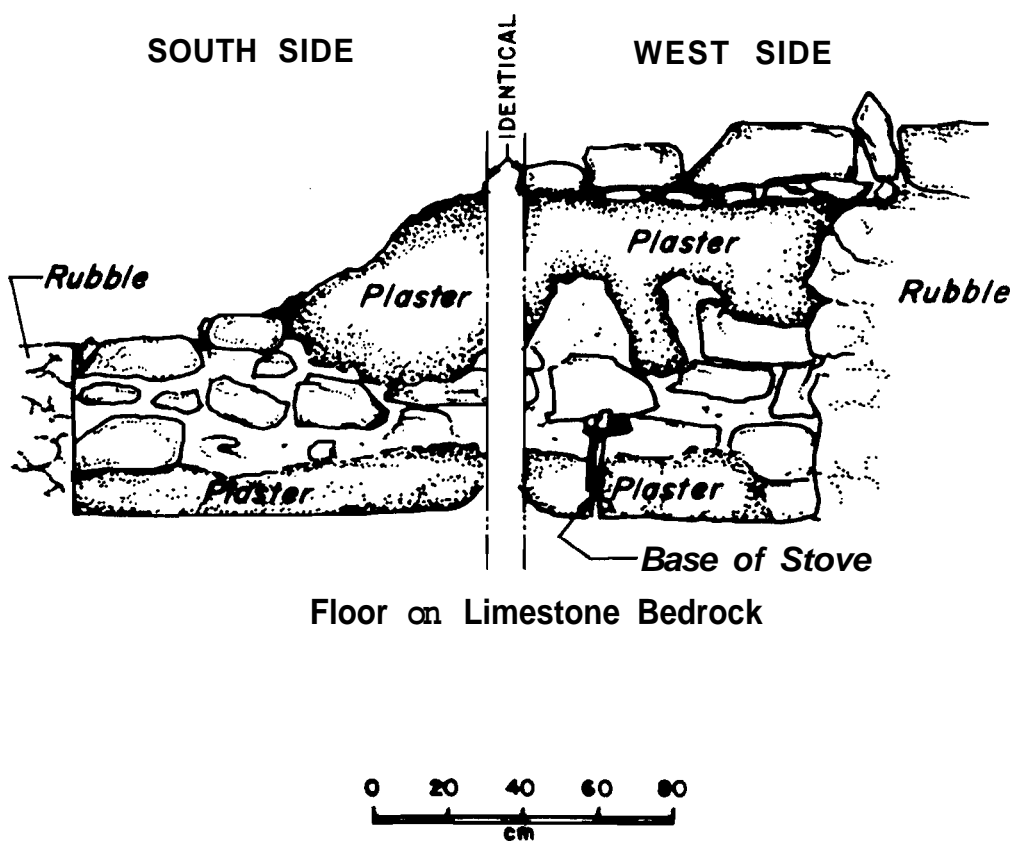


FIGURE 5. Profiles of west and south walls of test pit in the limestone masonry building at Site 41PS109.

Within the structure, a scatter of limestone rubble and a small amount of wind-deposited sand was observed. The limestone rubble originated from the friable, jointed limestone bedrock walls of the dugout broken down by the processes of natural weathering and frost action. This deposit is not considered to have cultural significance. No artifacts were observed within the structure. It is assumed that this dugout was at one time covered by a superstructure of some type, possibly a frame storage shed. There is no evidence remaining of this superstructure and no indication of its use, although such structures may have been used for storage of equipment or possibly even explosives.

Site 41PS109 is limited on the west by the right-of-way fence, on the north and south by a break in the bedrock slope, and on the east by the original road cut. The site lies approximately 0.25 mile from Site 41PS344 (Fig. 1) and there is no direct physical connection between them. They are separated by a steep arroyo and intervening mountain spur.

The third location investigated is near the north end of the Historic District and to the east of the existing highway (Fig. 1). The cultural feature here consists of two circular concrete slabs. One of the slabs lies within the existing right-of-way and the other is adjacent to it but outside of the right-of-way. The slabs are approximately 5 meters in diameter and are presumed to have formed the foundations for structures of some type. However, no other evidence of these structures remains. No other cultural remains were observed at this location. This feature has not been recorded as an archaeological site and has not been issued a site number.

Site 41PS344 is believed to represent a small early twentieth century dump for domestic refuse, probably dating from circa 1915. Domestic refuse was discarded there by Mexican and Mexican-American mine workers and their families. The refuse was discarded in an area where bedrock is exposed on the surface. The refuse has been subject to influences

producing disturbance of the cultural remains such as wind, water, and scavenging animals. There is no stratified sequence of deposits, only a surface scatter of disturbed material. No further work is recommended at this site which lies outside of the Shafter Historic Mining District.

Site 41PS109 represents a small roughly coursed, double wall masonry structure with rubble fill and mud mortar. The size might suggest that this was not a residence. However, the use to which this structure was put still remains a question to be answered. The sheet-metal stove was affixed to the bedrock floor with spikes, indicating that it was uncovered in *situ* and served to provide a source of heat for the structure rather than, say, simply having been put there for storage and abandoned. The associated dugout was probably used as the foundation for a storage structure of some type.

The rubble fill and mud mortar which formed the walls of the masonry building incorporated domestic refuse such as broken glass and ceramic fragments. Since the mud used for mortar may have been brought to the site from another location, these items do not provide clues as to the structure's function. The masonry ruin and associated dugout are thought to date from *circa* 1900 and may reveal significant archaeological data on the Mexican and Mexican-American mine laborers of this early Texas mining district. Site 41PS109 relates directly to the early phase of the activities at the Shafter Historic District. It is the only structure to have undergone archaeological testing in the Historic District and provides us with an idea of the potential of structures of this type.

Further work is recommended for Site 41PS109. It is recommended that this work be oriented toward revealing floor features, defining the entrance area, and clearing rubble from the exterior walls to provide data sufficient to make elevation drawings of all walls. It is hoped that additional work will provide data illuminating the function of this structure. It is suggested that all deposits outside of but in

the area of the masonry structure and the dugout be excavated to bed-rock, as well as a complete excavation of those deposits within the masonry structure.

The remaining location investigated in this testing operation contains the concrete slabs, one lying within the highway right-of-way and one located outside of it. These slabs are believed to date from the period of 1920 to 1930 and probably served as the foundations for structures of some sort. No associated cultural material was observed and there is no other extant evidence regarding the nature of these structures. No further investigation is recommended at this locality, and the features have not been given an archaeological site number.

OBJECTIVES AND METHODS OF MITIGATION

The various objectives of mitigation are numerous because of the nature of the resources to be mitigated. When dealing with an historic site, one has a much wider range of cultural and historical data available than one would have with a prehistoric site. Therefore, the objectives are somewhat different than one would propose for a prehistoric site. The resources considered here consist of a small portion of the Shafter Historic Mining District comprising two associated structures. Full excavation and documentation of these structures have been recommended.

Among the objectives of mitigation of Site 41PS109 are the following:

1. To attempt to determine the function of the structures through excavation and the examination of early twentieth century photographs of Shafter in the Smithers Collection at the Harry Ransom Center, The University of Texas at Austin.
2. To provide an historical background of the community of Shafter.
3. To discuss the architecture and construction of features at the site.
4. To define patterns of artifact type frequencies for the site which can be used for comparison with other sites.
5. To discuss the market system utilized by the site occupants with regard to artifact sources--local, national, and international.
6. To examine certain artifact categories with regard to their expression of relative wealth or status.

In order to achieve these objectives, all archaeological deposits associated with Site 41PS109 will be excavated. Artifacts will be analyzed with regard to their manufacturing source and functional type similar to those defined by South (1977a, 1977b). Use will be made of the Smithers Collection at The University of Texas at Austin to aid in discovering the function(s) of the site. The historical background will be generated using published and nonpublished sources.

All features will be exposed, photographed, and drawn in order to record architectural forms for comparison and discussion. The measurement system utilized will be the metric system in order to conform with methods used in the initial testing operations at the site. The ruins which compose Site 41PS109 are of value for the information they can provide rather than having intrinsic value as structures. The goals of this mitigation effort will be to develop information on the level of integration of the builders and/or occupants of the structures into the local, national, and international markets; to discern material manifestations of ethnicity and social status; to determine horizontal patterning of artifacts; to establish the functional patterning of the same artifacts as a manifestation of culture; and to develop a local history.

The period of occupation of Site 41PS109 falls within the Contemporary Study Unit (1880 to 1981) of the Southwest Texas region as defined in *Resource Protection Planning Process for Texas* (Brown *et al.* 1982). These structures are a contributing component to the Shafter Historic Mining District and are probably contemporary with the principal period of occupation of the town. As an historical archaeological site, Site 41PS109 has the potential to reveal data on the adaptation of Mexican and Mexican-American workers to the Anglo-American work scene. No sites of this type of the late nineteenth or early twentieth centuries have been excavated in west Texas. The degree of dependence on Mexican culture and adaptation to the Anglo work scene by these laborers are matters of interest.

PERSONNEL, DURATION, CURATION, REPORTING

The project director in charge of the field work and report writing will be John W. Clark, Jr., archaeologist for the State Department of Highways and Public Transportation (SDHPT), Highway Design Division, Environmental Section. Clark is a member of the Society of Professional Archaeologists (SOPA) and is qualified in field research and historical archaeology, with extensive experience in a wide variety of historic sites, both as director of the excavation and as author of the final report. Other field workers will be provided by the District 24 office of the SDHPT. A crew of four workers is anticipated.

The exact duration of the project will be dependent on several factors, including crew size, weather, and unforeseen events or discoveries. It is estimated that the excavation and recording will take one week of field investigation, with an additional week spent in archival research.

All cultural material recovered will be the property of the State of Texas. The SDHPT will serve as a temporary repository for all recovered materials as well as all maps, photographs, field notes, and other written documentation generated through survey and testing until final disposition of these materials in a proper curational facility is determined. The report will be written in the most expeditious manner possible and will be printed in sufficient quantity to satisfy all requirements. As a part of the reporting procedures, the media will be notified of the project, and it is expected that the public will be aware of the project through newspaper and television coverage.

CONSIDERATION OF POSSIBLE EFFECTS OF THE UNDERTAKING
WHICH CANNOT BE NEGATED BY DATA RECOVERY

It has been suggested that reconstruction of US Highway 67 in the Shafter Historic Mining District may produce possible effects upon ruins within the Historic District but lying outside of the highway right-of-way, effects which will not be mitigated by the investigations and excavations at Site 41PS109. These potential effects include construction methods such as blasting and contouring of slopes, possible impacts of easier traveler access to other ruins in the vicinity, and visual and auditory impacts to the Historic District.

In order to minimize any possible impact to adjacent ruins in the Historic District, specifications for the construction contract will state that no blasting will be allowed without the prior authorization of the project engineer. Every attempt will be made to accomplish the required modifications within the project area without resort to blasting. If unusually hard bedrock deposits are encountered, only very small charges will be authorized so as to minimize any impact to the adjacent ruins. These ruins have already been subject to considerable indirect effects from blasting and drilling activities carried out by the mining company and it is believed that effects from the highway construction activities will be negligible.

As in any highway construction project, the use of heavy equipment will be necessary. However, the use of this equipment will be limited to those areas within the present right-of-way, with no construction easements being required. Impacts from these activities should be negligible outside the right-of-way.

At the present time, there is a traffic turn-out with a trash barrel adjacent to Site 41PS109 (Fig. 2). Concern has been expressed over the fact that the reconstruction activities will provide easier access to ruins outside of the right-of-way and may lead to an increase in vandalism. Although the placement of this turn-out was felt to provide

motorists with a safe place from which to view the Historic District, the location of the turn-out will be changed so that it will no longer provide easy access to the historic ruins. In this way, protection of adjacent ruins should be increased by the reconstruction project.

There will be negligible visual or auditory impact from this project. The project itself is not anticipated to increase traffic volume within the Historic District. The increase in traffic volume has been documented and is due to other factors such as increase in tourist travel into Mexico due to the completion of highway projects within Mexico. The present reconstruction project will simply bring existing US 67 up to modern standards and provide greater safety for the public. The existence of a highway at this locality is, of course, an integral part of the history of the Historic Mining District. Adequate transportation was a prerequisite for the existence of mining and smelting operations and bringing this roadway up to modern safety standards will in no way compromise the Historic District.

In summary, it is believed that those direct and indirect effects arising from the reconstruction of US 67 and not mitigated by data recovery at Site 41PS109 will be negligible. In one case, the effect will be to provide greater protection to the ruins, as access will be decreased due to the removal of the existing traffic turn-out. Every precaution will be taken to minimize effects from construction activities, and the auditory and visual effects will in no way compromise the District.

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