THE MILTON MINE

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Historic Structures Report
Organ Pipe Cactus N.M.
ARIZONA

June 2, 1969

THE MILTON MINE

Historic Structures Report Parts I & II
Organ Pipe Cactus National Monument
ARIZONA

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Office of Archeology & Historic Preservation
June 2, 1969

National Park Service
U. S. Department of the Interior

HISTORIC STRUCTURES REPORT

PARTS 1 and II

MILTON MINE

Organ Pipe Cactus National Monument, Arizona

A P P R O V A L S H E E T

RECOMMENDED

_____ Date _____

Superintendent

/S/ Ernest Allen Connally

_____ Date 8-20-67

Chief, Office of Archeology
& Historic Preservation

A P P R O V E D

James M Eden

Date OCT 14 1959

Acting Regional Director, Southwest Region

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PREFACE

This Historic Structures Report, Parts I and II, of the Milton Mine, Organ Pipe Cactus National Monument, has been prepared pursuant to Historical Resource Study Proposal, ORPI-H-1, approved February 15, 1968, and as a part of the 1969 fiscal year History Division research program. Because of the limited material available on the history of the structures, their simple and uncomplicated nature, and the extent of the remains, this report combines Parts I and II. The Milton Mine structures report is only a part of the Study Proposal which includes also the Victoria Mine, the Blankenship Ranch, the Gachado Sub-ranch, and the Pozo Nuevo Line Camp. The Victoria Mine will be treated separately, and the latter three items, all a part of the Blankenship ranching operations in Organ Pipe Cactus National Monument, will be grouped together for a third separate report of this Study Proposal.

Source material has been fugitive with respect to the Milton Mine. There is little that can be stated about its discovery and development. It was never a major mining operation but is perhaps typical of hundreds of claims taken out and worked briefly and sporadically in the Sonora Desert region of

the Southwest. It was always an open cut operation of a limited scale, with the highest grade ore handpicked and trucked to the smelter at Ajo or Douglas.

HISTORIC STRUCTURES REPORT

PART I

ADMINISTRATIVE DATA SECTION

FOR THE

MILTON MINE COMPLEX

ORGAN PIPE CACTUS NATIONAL MONUMENT

ARIZONA

Prepared by the
Monument Staff

Approved by
Matt H. Ryan
Superintendent
April 1969

United States Department of the Interior
National Park Service

Milton Mine Complex

A. We propose to use this structure as a surface mining theme by retaining the tipple structure, explosive locker, and leaching vat. Access will be via an existing spur road five miles off the Puerto Blanco Drive.

B. This proposed site is justified as an example of surface mining that complements and contrasts the deep shafts mine and techniques of the Victoria as recommended in the Historic Sites and Structures Report.

C. After rehabilitation, normal maintenance will be handled through the B & U account.

D. Validity of existing mining claims (1966) will have to be determined before work can start.

E. Of the three extant features, the tipple and the explosive locker will be stabilized and the leaching vat will remain as it is. The area will be cleaned up and the spur road leading from the Senita Basin will be graded.

F. The cost for this project is estimated to be (excluding road grading) $946.00.

MILTON MINE

Organ Pipe Cactus National Monument
Arizona

HISTORIC STRUCTURES REPORT, PARTS I AND II

HISTORICAL DATA SECTION

by

Roy E. Appleman

March 20, 1969

DIVISION OF HISTORY

OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

National Park Service Department of the Interior

THE MILTON MINE

(Copper)

The structures at the Milton Mine are three in number, and if the open pit or trench of the mine itself and a nearby shaft be counted, there are five. They are as follows:

1. A crescent-shaped cut or trench in the copper ore body about 250-300 feet long, of irregular width, and about 30 feet deep at the deepest part. This cut runs in a crescent through a low ridge from a wash on one side to another shallow wash on the other side of the ridge.

2. Dump ramp, platform, and tipple of timbers about 50 feet from the open trench of the ore body.

3. A blasting box where powder, dynamite, and caps were stored. This is dug into the rock and is some distance from the ore pit.

4. Ore leaching vat, concrete construction.

5. There is an open shaft that was started on the ridge beyond the open mine cut. Another shaft was started but penetrated into the rock only a few feet.

The several structures will receive more detailed discussion in a later section of the report.

MINING LAWS APPLICABLE TO ORGAN PIPE

President Franklin D. Roosevelt issued Presidential Proclamation #2332 on April 13, 1937, under authority of the Antiquities Act of June 8, 1906 (34 Stat. 225), establishing the Organ Pipe Cactus National Monument. The area was taken from the national domain, and under the terms of the Antiquities Act mining was prohibited within the national monument.

A movement began almost at once among mining interests in Arizona and the Southwest to change the laws applicable to the national monument so that prospecting and mineral development would be allowed. Senator Hayden of Arizona became the focal point of this movement in the political field, and he introduced Senate bill 4083 on June 3, 1940, in the 76th Congress to accomplish this purpose. It sought to authorize mining within the Organ Pipe Cactus National Monument. Representative Murdock introduced a similar bill, H.R. 9997, the next day in the House of Representatives. It is not necessary here to trace the fortunes of these companion bills in the Congress except to say that they did not become law that year. One feature of the two bills was that they proposed changing the name of the area from a "National Monument" to "National Recreation Area."

In the 77th Congress, Senator Hayden introduced Senate bill 260 on January 24, 1941, and Representative Murdock introduced H.R. 2675 in the House. These were the same in all essential respects as the bills introduced by the two legislators in the previous Congress. Senate bill 260 passed the Senate on May 23, 1941, and it passed the House of Representatives in lieu of H.R. 2675 on October 15, 1941. The President signed the bills into law on October 27, 1941. The change in name had been dropped from the bills as enacted, but the features relative to mining within the Organ Pipe Cactus National Monument remained intact.

The Act of October 27, 1941 (55 Stat. 745), To Permit Mining Within the Organ Pipe National Monument in Arizona, stated the following:

> That within the Organ Pipe Cactus National Monument in Arizona all mineral deposits of the classes and kinds now subject to location, entry, and patent under the mining laws of the United States shall be, exclusive of the land containing them, subject to disposal under such laws, with right of occupation and use of so much of the surface of the land as may be required for all purposes reasonably incident to the mining or removal of the minerals and under such general regulations as may be prescribed by the Secretary of the Interior.[1]

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1. 16 U.S.C. sec. 450z.

Since October 27, 1941, therefore, the land within Organ Pipe Cactus National Monument has been open to mining, and such activity has taken place, and may take place at any time in the future, whenever conditions make it profitable or seem to make it so.

HISTORICAL SKETCH OF MILTON MINE

A later section of this study will give a summary of the known activities of Jeff Milton, for whom the mine is named, in the Organ Pipe Cactus country. Here an attempt will be made to tell what it has been possible to learn about the mine without engaging in a detailed search of local newspapers, especially the Ajo News, and of the records of the Bureau of Land Management for mining claims. Most of the information presented here was obtained from the files of Organ Pipe Cactus National Monument, unless otherwise indicated.

From early days it was known that a rich deposit of copper ore lay on the surface at Ajo, Arizona, and there was some mining there in early days, but it did not reach the great dimensions of today until after John Campbell Greenway acquired ownership of the deposits, built a railroad line from Ajo to join the Southern Pacific at Gila Bend, and opened expanded mining operations in 1915. Prospecting had taken place all over

the Sonora Desert region, however, including the Organ Pipe Cactus area and the land southward across the international boundary into Mexico from the days following the Civil War. There had been some mineral exploration before then, of course, going back to the days of the Spanish regime in the Southwest. But no great mines had been discovered south of Ajo within the United States, although there was indication of silver and copper almost everywhere.

Jeff Milton had taken part in these explorations from 1887 onward in varying degree and at different times. He became a good friend of Colonel Greenway at Ajo about 1916 or earlier, and he had made many entries of mining claims in Arizona over a period of perhaps 40 years or longer after 1887. The most promising of his claims appear to have been in Mexico, and he missed several opportunities for wealth there in mineral claims.

It appears that one of the many mineral claims he staked out himself or with others was a copper claim in 1911 at what is now called the Milton Mine in Organ Pipe Cactus National Monument. The earliest record of this claim seems to be that known as the Monodnoc Claims, seven in number, entered by

Jeff D. Milton, W.S. Sturgis, and George W. Webb on January 3, 1911.[2] On December 24, 1914, the same group of three men relocated and designated the claims as Cimerone Nos. 1, 2, 3, 4, and 5.[3]

I have seen no evidence that this mine was actually worked before 1917. In 1917 and 1918 Mr. W.F. Schoonmaker produced enough ore from the Milton Mine to make up 10 carloads. This ore was hauled by mule or horse teams to Ajo, where it was loaded into railroad cars. Presumably it was shipped to Douglas, Arizona for smelting, but the evidence is inconclusive on this point.[4]

The Ajo Copper News on February 3, 1917, carried an item which stated that the Milton Mine had several thousand dollars

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2. Memorandum, Superintendent Monte E. Fitch, Jr. to Regional Director, Region Three, National Park Service, October 31, 1961; Memorandum, Assistant Chief Ranger Richard H. Begeman and Park Ranger Jimmy D. Taylor to Superintendent Foy L. Young, Organ Pipe Cactus National Monument, February 25, 1967. Superintendent Young transmitted a copy of this report to the Director, National Park Service, on March 1, 1967. The Begemen and Taylor memorandum was a resume of mining and mining prospects in the National Monument. It will be cited henceforth as Begemen and Taylor Report.

3. Superintendent Fitch's memorandum, October 31, 1961, cites Book QQ, 518-521; Book RR, 32-33; and Book VV, 538-543 for recording of these several claims in 1911 and 1914.

4. Fitch memo, October 31, 1961; Begemen and Taylor Report.

worth of rich copper ore in sight on the surface, and that the assay of the ore ran from 4% to 60% copper. The first carload shipped (apparently in 1917) averaged 9% copper. The ore prospect was described as being 3,000 feet long, 25 feet deep, and the ore bed had been exposed at that time for a distance of 300 feet. The ore had to be hauled a distance of 32 miles from the mine to Ajo. There is some reference to hauling the ore from Ajo to Douglas by 10-mile teams, where it is said to have been smelted.[5] But further study of this point is required. One must question this statement because then the railroad connected Ajo with the Southern Pacific at Gila Bend. Kirk Bryant in his The Papago Country says that Colonel Greenway had completed in February 1916 the Tucson, Cornelia and Gila Bend Railroad from Ajo to Gila Bend, and immediately thereafter started constructing the reduction plant of the New Cornelia Copper Company.[6]

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5. Research Note supplied the writer by Bill Hoy, Organ Pipe Cactus National Monument staff, December 1968. The reduction plant at Ajo may not have been completed and in operation at this time.

6. Kirk Bryant, The Papago Country: A Geographic, Geologic, and Hydrologic Reconnaissance with A Guide to Desert Watering Places, U.S. Geological Survey, Water Supply Paper 499, Washington, D.C., Government Printing Office, 1925, 357. Bryant did the field work for this study in 1917.

In his map of the area now incorporated within the Organ Pipe Cactus National Monument, field notes and survey prepared in 1917, Bryant did not list or locate a Milton, Sturgis, and Webb mine. The only reference to Milton's name in his detailed maps was in "Milton, Levy, and Martinez Camp." This carried a mining symbol, and in his text was described as being reached by following the road from Ajo by way of Bates Wells toward Sonoyta 16.9 miles, and then turning west on a trail for 8 miles.[7] A comparison of Bryant's maps with the 1963 U.S. Geological Survey Lukeville Quadrangle shows that Bryant's "Milton, Levy, and Martinez Camp" is now known as the Martinez Mine, situated at the northern tip of the Sonoyta Mountains, about 3 miles nearly due west of the National Monument headquarters and Visitor Center.

On March 4, 1920, W.F. Schoonmaker enlarged and relocated as Cimerone Claims #1-23 all the claims formerly filed by Milton, Sturgis, and Webb.[8]

The Ajo News on July 18, 1929, carried a story about the Milton Mine which made reference to its having been sold to

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7. Bryant, 343 and 425. Bryant's Map is identified as "Relief Map of the Central Part of the Papago Country, Arizona," surveyed 1917, scaled = 62500.

8. Fitch memo, October 31, 1961; Begemen and Taylor Report.

Schoonmaker at some date after 1917.[9] Just when the ownership changed is not known to this writer, but it must have been some time between 1917 and 1920.

When the Department of the Interior was called upon by the Senate and House committees to report on Senator Hayden's Senate bill in 1940 to permit mining in the Organ Pipe Cactus National Monument, Secretary Harold L. Ickes in a report to the Honorable Alva B. Adams, Chairman of the Senate Committee on Public Lands and Surveys, stated:

> Geologists of this Department have made a careful study of the monument and they report that no mineralization was found that resembles in any respect the type of copper deposit found at Ajo. The area now within the monument has been prospected since the Spanish era of southwestern occupation. No important mines have been produced within the area and no mines are being operated therein today."[10]

It would appear from these Departmental reports that the Milton Mine was not active in 1940 and 1941.

By 1946 the Milton Mine had been taken over by the Associated Mining and Milling Company. The next year Paul Gatlin

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9. Foy Research Note to writer, December 1968.

10. Report of Department of the Interior to the Senate Committee on Public Lands and Surveys, August 10, 1940. Reports on Senate bill 260 and H.R. 2675 in the 77th Congress, dated April 14, 1941, and signed by Acting Secretary A.J. Wirtz, carried identical language to the August 10, 1940, report.

entered claims on the mine and related claims.[11] In February 1947 Superintendent William R. Supernaugh of Organ Pipe Cactus National Monument wrote that Paul Gatlin of 620 North 7th Avenue, Tucson, Arizona, had filed on the old Milton Mine and intended to operate it. At the time there was a lot of ore piled on the surface. It was said to assay about 4% copper, a rather low grade for the conditions prevailing for mining and transporting it to a smelter. Gatlin expected to ship about 2-3 railroad carloads a day from Ajo. He proposed to use 20-ton trucks in getting the ore from the mine to Ajo, and for this purpose he asked Superintendent Supernaugh to approve a new alignment for a road from the mine through the national monument.[12]

By 1953 mine ownership had changed again. Charles Anderson worked the mine in 1953-1954, but the extent of ore shipment at that time is unknown to the writer.[13] In 1960 the next active working of the mine seems to have taken place. By then a trio of men, Henry Jarvis, Jack Worsham, and a certain

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11. Begemen and Taylor Report.

12. Memorandum, Superintendent William R. Supernaugh, Organ Pipe Cactus NM, to Regional Director, Region Three, NPS, February 1, 1947.

13. Ibid; Memorandum, Superintendent Monte E. Fitch to Regional Director, Region Three, May 10, 1960.

Burke, were engaged in operating the mine. This seems to have consisted chiefly in picking over about 400 tons of loose ore, high-grading as it were, hauling it out in pick-up trucks to Ajo, where they accumulated a carload. Reportedly the money received for the ore barely paid shipping charges.[14] This carload of ore was hauled from the Milton Mine during the third week of June, 1960.[15] Jarvis had about 150 tons of high-grade ore stockpiled at the mine at the end of May.

Jarvis was a graduate mining engineer of the Colorado School of Mines. He built a leaching vat and planned to ship only concentrate. At the time he held 14 claims in the Organ Pipe Cactus National Monument area, two for gold, silver, and copper; one for gold; two for silver; eight for copper; and one for Columbite and Ferberite.[16]

In 1960 Jarvis still held ownership of the Milton Mine, but now he called the six claims he owned in its vicinity by

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14. Hoy Research Note to writer, December 1968; Fitch memo, May 10, 1960, supra.

15. Memorandum, Superintendent Monte E. Fitch to Regional Director, Region Three, NPS, June 27, 1960.

16. Fitch memo, May 10, 1960.

the name of"#3 Gringos." He was at the mine site in July of that year, actively engaged in improving the property and mining facilities with two co-workers, Jack Worsham and Samuel Hocker. He had levelled a piece of ground near the mine and planned to build a small house there. Informed by Supervisory Park Ranger Francis H. Ugolini on July 12 that this activity violated park regulations concerning mining in the national monument, Jarvis agreed to halt work on the house site.[17]

In addition to working on the house site at this time, Jarvis and his two helpers were engaged in constructing a small copper-leaching tank 14 by 12 feet and 2½ feet deep. The tank was open at the top and built of concrete. It had a capacity of 25 tons of copper ore. The leaching process called for adding water and diluted sulphuric acid to the ore. Jarvis intended to construct a precipitate tank below the leaching tank and connected to it, apparently by gravity flow pipe. He stated his intention to build two or three more of these leaching tanks in the future.

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17. Memorandum, Supervisory Park Ranger Francis H. Ugolini to the Chief Ranger, Organ Pipe Cactus National Monument, July 12, 1960.

18. Ibid.

Jarvis apparently built the precipitate tank, for what appears to be one shows in a 1961 photograph that is included in this report, but it is not present at the mine site today. The mine structures ruins that are present at the Milton Mine today date from the Jarvis ownership and improvement of 1960. The record is silent on the amount of ore taken out and shipped by Jarvis at this time, and it is not apparent that he ever derived any copper precipitate from his leaching tank. It would appear that he did not. The leaching vat today has a bed of highly selected copper ore in it that presumably was put there preparatory to starting the leaching process.

The story of ownership and operation of the Milton Mine comes to an end for the present with the claiming of the mine by C.A. Withers and Jim Gabouda in 1966. They renamed the mine and their adjacent mining claims the "Copper Giant."[19] They have not worked the mine, however, and it remains for the future to justify the optimistic name they have given to it.

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19. Begemen and Taylor Report.

JEFF MILTON

According to the Ajo News, Jeff Milton discovered the copper ore body where the open cut mine was developed that today bears his name. The date of Milton's discovery of the mine site is not given, but it would have been in 1911 or earlier.[20] In 1911 the Monodnoc Claims in the names of Milton, Sturgis, and Webb were filed for the mine site. The Sturgis mentioned in the claim was a Colonel W.S. Sturgis, a prominent citizen of Tucson. He started out as Milton's partner. The Ajo News said that Milton found the mine site while hunting Chinese as an agent of the United States Immigration Service stationed along the Mexican border.

Milton entered on this job in 1904. His main duty was to patrol the border to prevent the illegal entry of Chinese into the United States from Mexico. But Milton had been familiar with the Sonora Desert and the Organ Pipe Cactus country long before he entered on the duties of an Immigration Service agent.

I have not been able to establish Milton's earliest connection with the Milton Mine site, or when he may have discovered

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20. Hoy Research note to writer, December 1968.

it. Nor is it clear why his name has remained attached to the mine for more than half a century. The best guess for the continuing use of his name is the reputation of the man himself and his early and long identification with the region.

In view of this probability, it would seem in order to sketch briefly Milton's connection with the Organ Pipe Cactus country and the reasons that make it seem appropriate to continue use of his name for the mine. Further, there is good reason to perpetuate his name in the general history of the Organ Pipe and Sonora Desert country.

Jeff Davis Milton was born at Sylvania, Florida on November 7, 1861, and died at Tucson, Arizona on May 7, 1947. His family moved to Texas and there he joined the Texas Rangers when he was not yet 19 years old. He served in Company B of the Border Battalion. It was stationed in the Big Bend and the Davis Mountains country of West Texas at this time. Milton learned the Southwest frontier at an early age. He spent almost all the rest of his life there. After several years in the Rangers, Milton found his way into the United States Customs Service at El Paso on March 11, 1887, with duties assigned in Arizona. His job was to patrol the Mexican border, by himself, from Nogales west to the Gulf of California. It was in this

job that he first came to the Organ Pipe and Sonora Desert country. In 1887 he was first at Sonoita and at Quitobaquito, and along the Camino del Diablo westward toward the Colorado River and the Gulf of California. From this time on for the remaining 60 years of his life he was never away from this desert country for very long. He learned to love the desert and the Papago Indians who lived there. He came to know the country as did very few white men of his time.[21]

When Milton first arrived in the Organ Pipe Cactus country in the vicinity of Sonoita, Mexico, Cipriano Ortego was the most important white person in the region. He had established a Mexican hacienda at Santo Domingo, about 8 miles west of Sonoita in the Sonoita River valley. He dominated the mixed Spanish-Mexican and Papago Indian population of the region. Sonoita, a small Mexican village in the Sonoita oasis, was only

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21. J. Evetts Haley, Jeff Milton: A Good Man With a Gun, University of Oklahoma Press, 1948, Norman, Oklahoma. This book is very uneven, and in many parts it is chaotic. It is a poor example of historical writing. Many episodes of Milton's life are left hanging without any definition of events and clear facts of their occurrence. The book seems to be mainly a vehicle of telling stories about the man, many of them poorly supported by evidence, and frequently inconclusive. Yet it is the best thing available on the man's life, and if used with caution it can supply a certain amount of information. Unless otherwise noted, the summary of Milton's association with the Arizona desert is based on this work. Hereafter it will be cited as Haley. See pages 156-157 for Milton's arrival at Sonoita and Quitobaquito.

two miles south of the border. From the dawn of white history in the Sonora Desert, which began when Father Kino arrived there in 1698, until recently, this community has been the principal if not the only permanent white settlement in this desert country along the United States-Mexican border all the way to the Gulf of California.

Milton's job with the Customs Service seems to have ended by 1890. In that year he tried but failed to get the job of Tax Assessor for Pima County, Arizona. He finally obtained a job as fireman on the Southern Pacific Railroad, and later worked in the Pullman Department on the run to Mexico City. In the next few years he moved from one job to another, including Chief of Police at El Paso during the period of John Wesley Hardin, John Selman, and George Scarborough in that tough border town; Deputy United States Marshal in Texas; a special ranger for the State of Texas; and a guard for Wells Fargo. In the latter capacity in 1895 he rode the Southern Pacific Railroad Wells Fargo car from El Paso west to Guaymas, Mexico. In the Wells Fargo job he was badly shot up in a hold-up of the Wells Fargo car at Fairbanks, Arizona in 1900. His left arm was almost shot away, and after his recovery it was several inches shorter than the other arm, and of limited use.

During all these years on the Texas, New Mexico, and Arizona border, Milton had prospected for minerals as he went about his duties. For months and years he traveled mostly alone in this wild country, and he kept his eyes open for mineral signs. Most of his better claims were staked in Mexico, and some eventually turned out well, but not for him. He never seemed to have the faculty of making and keeping money. But over the years he entered scores of mining claims in the United States and Mexico. After he was badly hurt in the Fairbanks hold-up, Milton did a lot more prospecting in the next few years.

In April 1904 Milton started on a job that was to last 32 years. He obtained an appointment as an agent for the United States Immigration Service, in the Department of Labor and Commerce. It seems that President Theodore Roosevelt was prevailed upon to make the appointment. He is known to have had a strong sentiment for assisting outstanding representatives of the western frontiersman and law officer type. Milton was of this type, and he needed help. His main task in the new assignment was to patrol the border from Nogales westward to prevent the smuggling of Chinese from Mexico into the United States.[22]

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22. Haley, 340-341.

One of the two most used routes for bringing in Chinese across the border was northward in Mexico to Sonoita, just south across the border from present-day Organ Pipe Cactus National Monument. Milton arrived at Sonoita early in the course of his new duties. But it was an old familiar place to him. He had been there first in 1887, and many times since then. In 1907, according to Haley, Milton established his headquarters for his border patrol work at Quitobaquito Springs, now within the national monument, and about 14 miles west of Sonoita.[23]

In the years that followed, Milton moved his station or headquarters frequently among a number of places along the border, including such places as Sonoita, Mexico; the Ventana Ranch eastward; Hereford, Arizona; Ajo, Arizona; Fairbanks, Arizona; Indian Oasis (Sells), Arizona; and elsewhere. He admired the Papago Indians and lived among them for long periods of time during his work along the border. Throughout all these years he was in and out of Sonoita and Quitobaquito often. He roamed about in the country that is now within Organ Pipe Cactus National Monument year after year since it

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23. Ibid, 345.

was just north of the border at one of the most frequented entry routes of Chinese coming into the United States from Mexico. He mentioned the Big Ajo Mountains as a favorite place to find a certain food flavoring he liked. His reputation as a fearless man, skillful with guns, and at home in the desert and among the Mexican-Indian population there became widely known in the Southwest.

When William T. Hornaday planned an exploration trip into the Sonora Desert and the Pinacate Peak country of Mexico in 1907, his Arizona associates chose Jeff Milton to act as guide. Milton was given a month's leave of absence from his Immigration Service position. Hornaday and his group of scientists and explorers left Tucson and proceeded to Sonoita, Mexico, which was to be the jump-off place. Hornaday's party arrived at Sonoita on November 8, 1907, and found Jeff Milton waiting for them there. He occupied one end of a Mexican adobe house. Hornaday described him at the time as a man of "large size, commanding person, cheerful disposition and restless energy," and "a man of many adventures."[24] Hornaday said Milton told him in response to a question that he had been "hit" (shot) five or six times.

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24. William T. Hornaday, Camp-Fires on Desert and Lava, Charles Scribner's Sons, 1908, 87-99. This is a fascinating book and

Milton knew and had business arrangements with M.G. Levy of Ajo and Quitobaquito. He knew Colonel John Campbell Greenway, who developed the Ajo copper deposits into one of the biggest mining ventures in the Southwest, and for a period engaged with him in some mining ventures, all of which seem to have aborted for Milton. There seems to be no question that Milton prospected widely in the Organ Pipe Cactus country and elsewhere in Arizona and Mexico. But nowhere in Haley's book on Milton could this writer find a single word about the claim that was developed into what is now known as the Milton Mine.

On June 30, 1919, Milton married Mildred Tait of Tucson. With his wife he continued to live at various places along the border in the desert and carried on his work as U.S. Inspector for the Immigration Service until 1932. It is said that Zane Grey fashioned one of his characters in the novel Desert Gold after Jeff Milton. It would not be surprising in the least if indeed he did so.

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gives good, scientific descriptions of the country and its flora and fauna. It includes the best description of Sonoyta, as it was then spelled, this writer has seen. It also has an excellent account of the origin and course of the Sonoita River, which accounted for the existence of the "Sonoyta Oasis" as Hornaday termed it. The book has a number of 1907 vintage photographs of places of interest, including Sonoita and Santa Domingo.

Milton was at Quitobaquito, in the future national monument area, as late as 1930 on border patrol, and he may have been there subsequently.[25] He was then 68 years old and had been in the desert about 43 years. After 1932 Milton spent most of his remaining life in Tombstone and Tucson, Arizona, with frequent trips into the adjacent desert country. He is buried at Tucson.

The Milton Mine in Organ Pipe Cactus National Monument is a place name that will help to perpetuate the memory of a genuine frontiersman, lawman, and one who knew and loved the desert. He was one of the earliest white men to know the Organ Pipe Cactus country intimately. It is fitting that his name should be perpetuated there.

PRESENT CONDITION OF MILTON MINE

The physical features and structures present at the Milton Mine today may be listed as follows:

1. Open cut of mine.

2. Tipple or loading platform for dumping ore into trucks from the mine.

3. Concrete leaching vat.

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25. Haley, 400.

4. Powder or dynamite storage box for blasting equipment.

5. Open shaft.

6. Open shaft barely started.

All the above features are in close proximity to each other. They make a compact group that can be readily and quickly visited. The mining operation they represent is about as simple and uncomplicated a one as could be well imagined. Since the mine has been used within the last decade, as indicated in earlier sections of this report, there is little deterioration of structures except for the timbers of the tipple or loading chute where the copper ore was dumped into trucks drawn up below it. The Historic Architecture Data Section of the report will describe and illustrate these present conditions more precisely. A quick description, however, will be included here as I saw them in October 1968.

1. Open Cut of Mine. Great piles of loose copper ore rock lay all about the crescent-shaped trench where the ore has been blasted loose preliminary to gathering up and loading it into trucks for transportation to a smelter. The ore generally has a rich blue-green color, and seems to evidence a rather rich copper content.

2. Tipple and Timbers at Loading Platform. Some of the timbers are missing and others have fallen loose. This was a rather simple structure and would not be difficult or expensive to restore. It is the only feature at the Milton Mine that will require some rehabilitation and restoration work. Pictures show the present condition.

3. Concrete Leaching Vat. This leaching vat, 14' x 12' x 2½', has copper ore in it to a depth of about one foot. Apparently it was being made ready for the leaching process. Nearby is a large pile of tin cans, which it seems were added to the ore, water, and sulphuric acid in the vat, to assist in precipitating the copper oxide from the ore. The precipitate was to be drawn off subsequently as a concentrated liquid into a lower vat. A 1961 photograph shows what would appear to be a precipitate vat or tank. It is not clear that the leaching and precipitating process was ever actually used at the Milton Mine. The process was a relatively new one, and here it seems to have been intended as an experiment to determine if the costly transportation charges of hauling the ore in trucks long distances over poor and, for some miles near the mine, almost none-existent roads could be eliminated, and the mine thereby made profitable.

4. Blasting Equipment Box. This sunken timber box is about 4 feet square and about 20 inches deep. The lid to it, also of heavy timber plank, lay on the ground adjacent to the box. We placed it on top of the empty box. Earth and stone had been piled around the base and sides of the box to protect it. It appears that blasting equipment was kept there for use in dynamiting the ore loose in the mine. It is at a reasonably safe distance from the mine cut, and is below or beyond the leaching vat.

5. Open Shaft. This open shaft is vertical or nearly so into the ore body on the uphill side of the ore trench, and apparently was a test hole to determine the depth of the ore body. There is no sign that it was ever used for active mining. It should have a protecting cover of heavy iron grill placed over it.

6. Near the open shaft mentioned above there is another shaft that was started but carried to a depth of only a few feet.

SUMMARY AND RECOMMENDATIONS

The structures and the mine itself are primitive and simple. They will require a minimum of expense and work to maintain as an interesting exhibit of mining in the Organ Pipe Cactus area and in the Sonora Desert. Only the timbers of the tipple and loading stand require restoration in part. A heavy iron grill screen should be placed over the open shaft near the mine for safety reasons. A few signs and an explanatory marker at the site can identify the several features and structures and explain the mining operation. Park literature can tell the story in more elaborate detail.

1. JEFF MILTON IN 1907. This picture was taken in 1907 in the Sonora Desert while Milton was serving as a guide for the William T. Hornaday exploration party. Milton was on a month's leave of absence from his duties as a border agent for the United States Immigration Service. The picture is reproduced in color in William T. Hornaday, Camp-Fires on Desert and Lava, Charles Scribner's Sons, New York, 1908, opposite page 100, from which this view was copied.

2. JEFF MILTON AND RATTLESNAKE. This picture was taken in 1907 near Quitobaquito while Milton was serving as a guide for the William T. Hornaday exploration party in the Sonora Desert. The picture is copied from the one in William T. Hornaday, Camp-Fires on Desert and Lava, Charles Scribner's Sons, New York, 1908, opposite page 124.

3. GENERAL VIEW OF THE MILTON MINE. This view of the Milton Mine was taken in 1961. The open cut of the mine is beyond the tipple and loading platform in the right center of the picture, and is in the form of a crescent that arcs around the tipple. It cuts through a low ridge. The concrete leaching vat is at the left center. The long rectangular vat below the leaching vat and at the left margin of the picture apparently is a precipitating vat where the copper concentrate liquid drained off from the leaching vat. The blasting box is out of sight at the left. The piles of tin cans can be seen near the two vats. These were used in helping to obtain the precipitate. Photo from files of Organ Pipe Cactus National Monument.

4. CLOSEUP OF MILTON MINE OPEN CUT. The mine is an open cut that curves in a shallow arc through a low ridge. The ore is a blue-green color of copper oxide. The trench is open about 300 feet. The loading platform edge can be seen at the upper left. This picture was taken in 1961. Photo from files of Organ Pipe Cactus National Monument.

5. ANOTHER VIEW OF MILTON MINE. This is another view taken in 1961 of the copper ore bed in the open cut Milton Mine. Photo from the files of Organ Pipe Cactus National Monument.

6. MILTON MINE. This is another view of the open cut mine. This picture was taken by William E. Brown of the Southwest Regional Office in April 1967. National Park Service photo.

7. MILTON MINE LOADING PLATFORM. This picture was taken by William E. Brown of the Southwest Regional Office in April 1967. The open cut mine is at the right and out of the picture, although just barely so. National Park Service photo.

8. MILTON MINE LEACHING VAT. Henry Jarvis built this concrete leaching vat in 1960 for the purpose of experimenting with a chemical process of leaching the copper content out of the ore, precipitating it as a concentrated liquid, and transporting the concentrate to market, thus overcoming the greatest single obstacle of operating at a financial gain. The great cost of trucking the ore out a long distance to a smelter, over non-existent roads for a part of the distance, made production costs prohibitive. William E. Brown of the Southwest Regional Office took this picture in April 1967. National Park Service photo.

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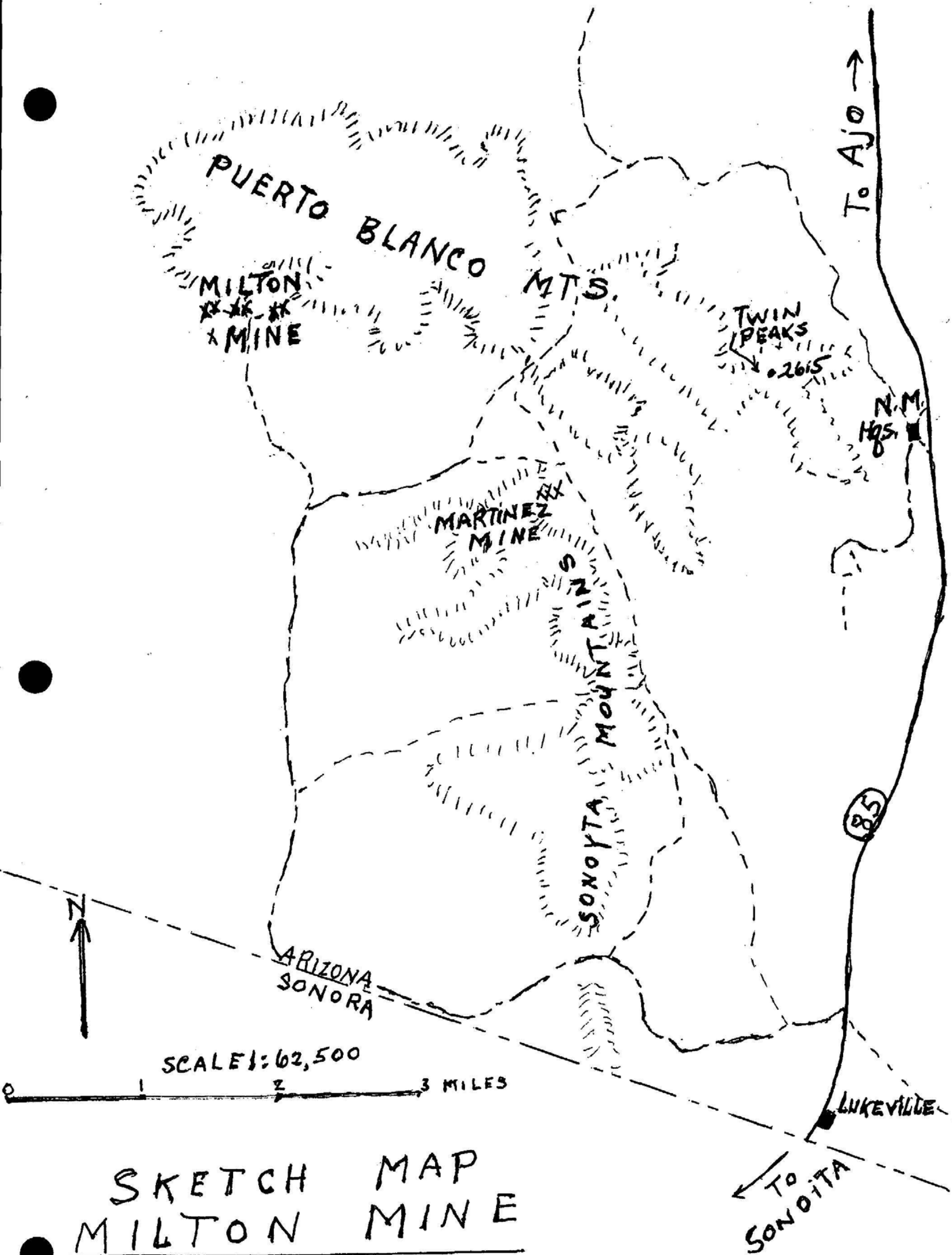


SKETCH MAP MILTON MINE

ORGAN PIPE CACTUS
NATIONAL MONUMENT
ARIZONA

HISTORIC STRUCTURES REPORT

PARTS I AND II

ARCHITECTURAL DATA SECTION

MILTON MINE
Organ Pipe Cactus National Monument
Arizona

Prepared by
Russell Jones
April 25, 1969

for

UNITED STATES DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE
Office of Archeology and Historic Preservation
Washington, D. C.

The present structures at the Milton Mine are three in number:

1. Tipple: A platform at the elevated end of an earth ramp to facilitate loading of ore from mine to trucks. It is constructed entirely of miscellaneous rough dimension lumber generally available at mining operations. There are no similar structures of this type in the area for comparison, but it is undoubtely a standard feature in small open cut mining.

2. Leaching Vat: An open rectangular concrete tank measuring approximately 13-1/2 feet by 15-1/2 feet, by 2-1/2 feet deep. The walls vary in thickness from 4-1/2 to 8 inches. The bottom thickness was not checked. The interior surfaces have been covered with asphalt or tar.

3. Explosives Locker: A small retangular pit (25" wide, 56" long and 24" deep), lined with 2 inch thick timbers and closed with a wood cover of 2 x 8 timbers. Lockers of this type were generally employed for the storage of explosives in small operations. In case of accidental ignition, the general force of the blast would be directed upward rather than horizontally thus causing less destruction.

These items are the only remaining examples of this equipment within the park for the interpretation of small scale copper mining operations in southern Arizona.

The existing condition of the structures are shown by the record drawings and photographs following this section.

DETAILED DESCRIPTION OF STRUCTURES:

1. Tipple: The three principle uprights supporting the platform at the outboard end are 6 x 6, approximately 20 feet long, the platform elevation is 14 feet above the present grade. Anchor post for the bracing and support of the platform joist are 6 x 6 and vary in length. All posts appear to be reasonably sound but should be checked for rot. The bracing members are principally 2 x 10's and 2 x 12's, well weathered but sound. The joist supporting the platform deck are in bad condition. Of the existing four, only one remains intact, the other three are broken. It is possible that originally there may have been a total of six joist with two now missing. All that remains of the deck are three 2 x 12 planks of varying lengths. The guard railing constructed of 1 x 4 and 1 x 6 uprights and braces, with a 2 x 4 rail seems to be complete. All connections are loose and require refastening.

2. Leaching Vat: This feature shows no deterioration except normal damage occuring during its period of use and would require no stabilization or restoration other than removal of modern debris and natural growth.

3. Explosive Locke: The structure appears delapidated but is practically complete. The wood is deeply weathered and all connections require refastening. The pit should be cleared of modern debris and the intruding growth removed.

DESCRIPTION OF PROPOSED RESTORATIONS

1. Tipple: (See restoration drawing)

a. Inspect all posts to verify condition. Replace those found to be unsafe, or in bad condition.

b. Inspect bracing for decay, replace all unsound members. Renail all connections.

c. From a safety standpoint it is recommended that two additional joist be installed and the three broken joist replaced. Renail all connections.

d. Nail the existing deck planks to all joist. Install additional deck boards of random length and spacing.

e. Renail all guard rail connections.

f. In replacing exisitng members use old, weathered timbers where possible. Use the original member as a model for all replacements. If old timbers are unavailable, rough lumber may be substituted, however it shall be exposed to desert atmosphere for a period of time necessary to give the lumber coloration to match that of the existing member. Artifical means of coloring may be used to expidite the work.

g. Nails for refastening existing connections and nailing of new members shall be the same type and size as the original nails used for the same purpose.

h. All new and existing wood shall be given a preservative and water repellent treatment in accordance with the manufacturers instructions for the material use.

i. The ground under, and for two feet outside of the structure shall be given treatment for termites and other wood pest.

j. Remove modern debris in the vicinity of the structure.

2. Leaching Vat: No restoration will be required for this structure other than removal of modern debris and desert vegetation around the vat. (No restoration drawing included)

3. Explosive Locker: (See restoration drawing)

a. Inspect wood pit lining and replace deteriorated boards.

b. Remove blow sand from pit, bringing to original depth.

c. Inspect wood cover for rot. Replace any badly deteriorated boards using original as model.

d. Renail all loose connections of the lining and cover.

e. Give all new and existing wood a pereservative and water repellent treatment.

f. The ground within and for two feet outside of the structure shall be given treatment for termites and other wood pest.

g. For replacement lumber, see paragraph "f" under Tipple.

h. For nails see paragraph "g" under Tipple.

Form 10-411
(July 1965)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

DISTRIBUTION OF COPIES	
NO.	TO

PROJECT CONSTRUCTION PROPOSAL

1. STATEMENT OF MANAGEMENT'S REQUIREMENTS, PROPOSED WORK, AND ITS RELATIONSHIP TO OTHER FACETS OF THE PARK PROGRAM. *(Provide detail data for "Management Information" on Form 10-411a, Supplemental Sheet and attach.)*

Structures comprising the Milton Mine include a Tipple, Leaching Vat and Explosive Locker, all of which will be used in interpreting surface mining in the Arizona-Mexican border area.

The Tipple and Explosive Lock is constructed of wood and will require repair and refastening, the replacement of certain missing as well as existing parts and the application of preservative treatment.

The Leaching Vat, constructed of concrete will require no stabilization of restoration.

2. ADVANCE REQUIREMENTS DATA

LAND STATUS Government owned - National Park Service	MASTER PLAN NO. 2016-E-NMOPC	APPROVAL DATE 6/3/57
PCP NUMBERS OF PREVIOUSLY COMPLETE PORTIONS None	INTERRELATED & DEPENDENT PROJECT PCP NUMBERS	
INTERPRETIVE PROSPECTUS APPROVAL DATA		DATE
WATER RIGHT NEEDS & STATUS None		
RESEARCH NEEDS & STATUS None		
OTHER		

3. RECOMMENDED BY SUPERINTENDENT *(Signature & Date)*	4. APPROVED BY REGIONAL DIRECTOR *(Signature & Date)*

5. LOCATION WITHIN AREA OR TERMINI
Milton Mine Site

6. BLDG. OR RT.# AND SEC.
No Building Nos. Assigned.

7. REGION
Southwest

8. PARK
Organ Pipe Cactus National Monument

9. PROJECT
Stablization & Restoration
Milton Mine Structures

Pima *(County)*

Arizona *(State)*

10. PCP INDEX NO.
M-39

CLASS [ ] (A) – Estimate based on working Drawings
CLASS [ ] (B) – Estimate based on preliminary plans
CLASS [X] (C) – Estimate based on similar facilities in other parks

P.S. & S. by
BPR [ ] NPS [ ]

ESTIMATE

ITEM	QUANTITY	COST
Tipple: Stabilization & Restoration	Lump Sum	$ 675.00
Explosive Locker: Stablization & Restoration	Lump Sum	75.00
Area: Gen. Clean-Up	Lump Sum	200.00

ESTIMATE TOTALS	
RESEARCH	
Construction.....	950.00
Plans, Surveys, and Supervision.....	200.00
Contingencies	130.00
CONSTRUCTION SUB TOTAL	
INTERPRETIVE SUB TOTAL (100%)	
GRAND TOTAL	$1,280.00

RESEARCH ESTIMATE APPROVED:

_____ _____
(Asst. Director, Resource Studies) *(Date)*

CONSTRUCTION ESTIMATE APPROVED:

_____ _____
(Design Office Chief) *(Date)*

INTERPRETIVE ESTIMATE APPROVED:

_____ _____
(Asst. Regional Director, Operations) *(Date)*

GSA DC 66-28 27

ILLUSTRATION NO. A1

General view of Tipple showing condition of Platform joist.

ILLUSTRATION NO. A2

General View of Leaching Vat.

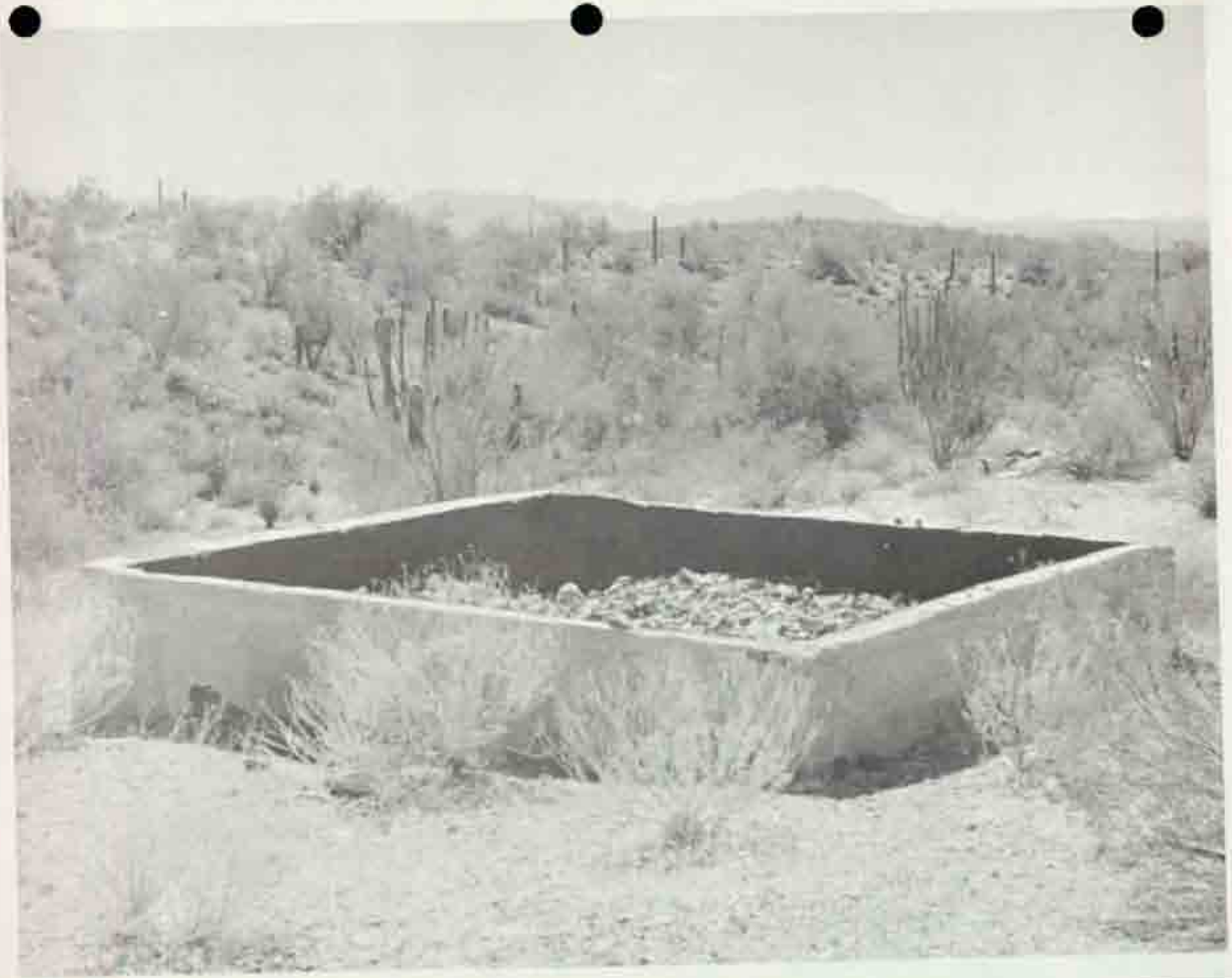
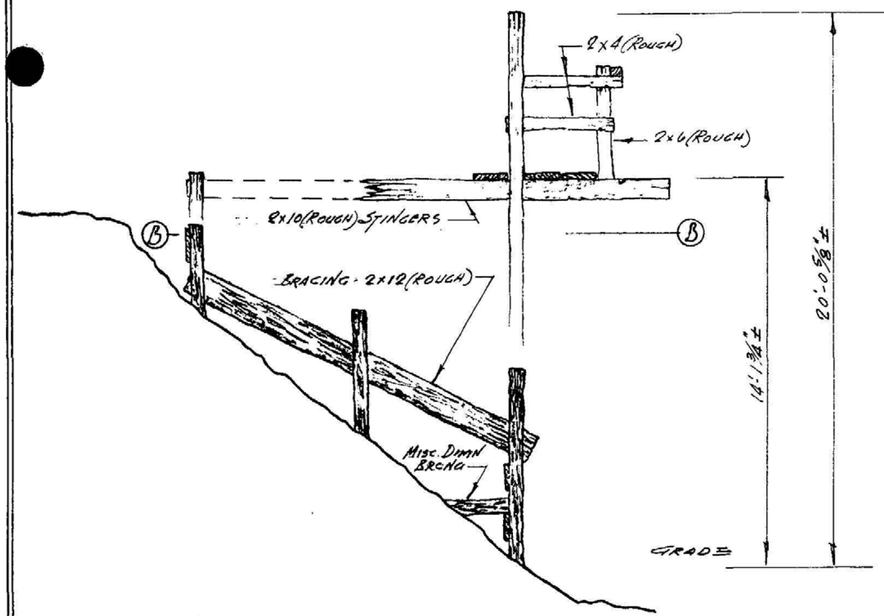


ILLUSTRATION NO. A3

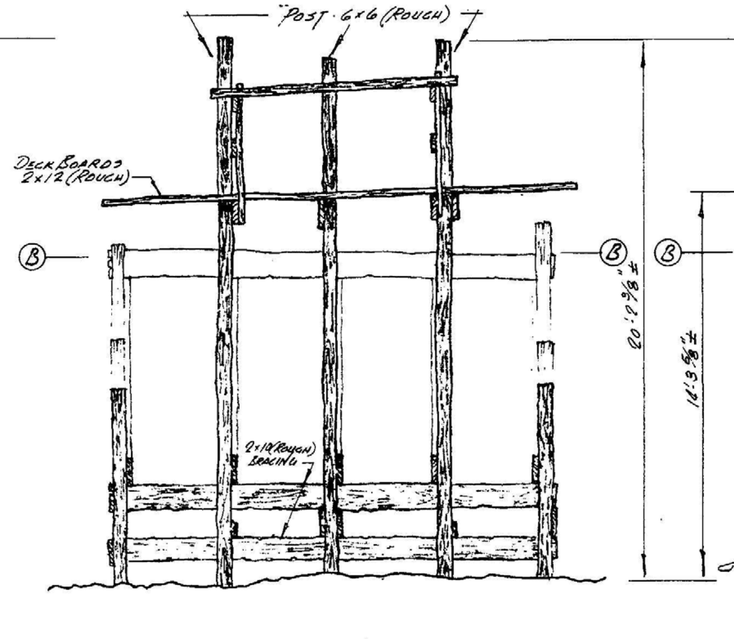
Explosive Locker.

ILLUSTRATION NO. A4

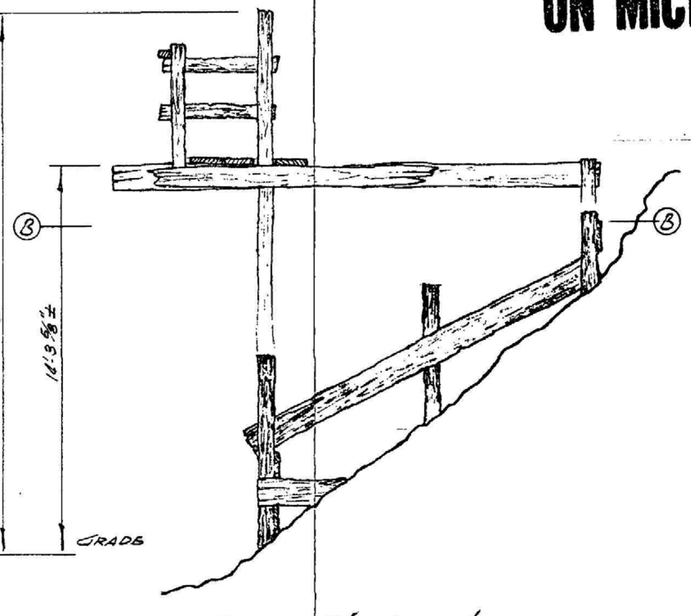
Close-up View of Explosive Locker Cover.



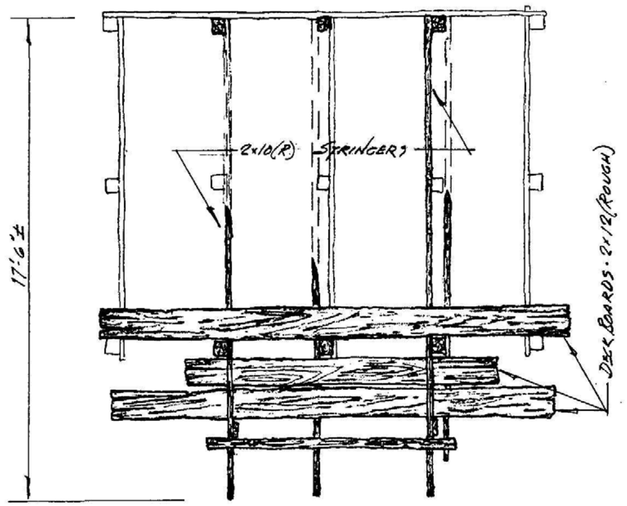
• WEST ELEVATION •



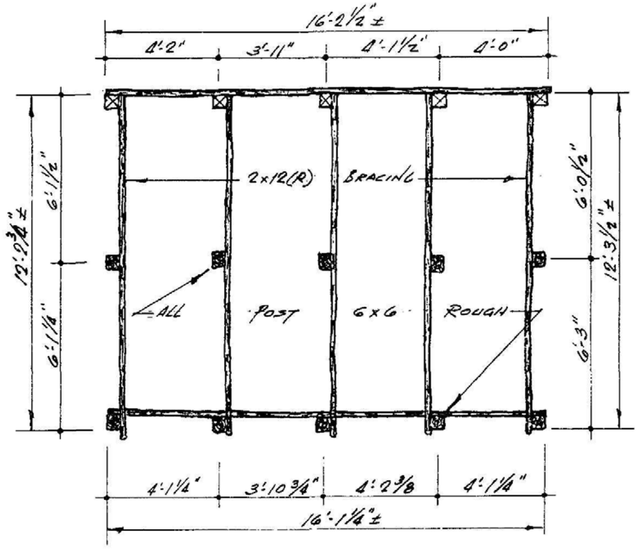
• SOUTH (FRONT) ELEVATION •



• EAST ELEVATION •



• PLAN AT PLATFORM •



• PLAN AT LEVEL • B •

BASIC DATA • FIELD MEASUREMENTS BY R. BOGEMAN & R. JONES • 11-68 •

1 0 1 2 3 4 5 6

• SCALE • 3/8" = 1'-0" •

ORIENTATION

PREPARED

DESIGNED

DRAWN

CHECKED

SYMBOL	DESCRIPTION OF REVISION	DATE	SURNAME

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
DIVISION OF HISTORIC ARCHITECTURE

REGION: SOUTHWEST

PCP/M-59

DRAWING NO.: 157

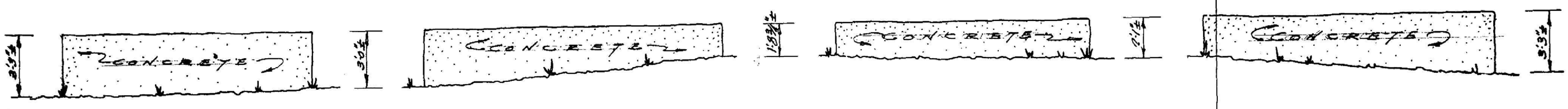
• RESTORATION OF MILTON MINE STRUCTURES •
TITLE OF DRAWING
• MILTON MINE •
LOCATION WITHIN PARK
• ORGAN PIPE CACT. U.S. NATL. MON. •
NAME OF PARK

DATE: 5.9.69

SHEET TITLE: • TIPPLE • EXIST CONDITIONS •

SHEET 1 OF 2

ON MICROFILM

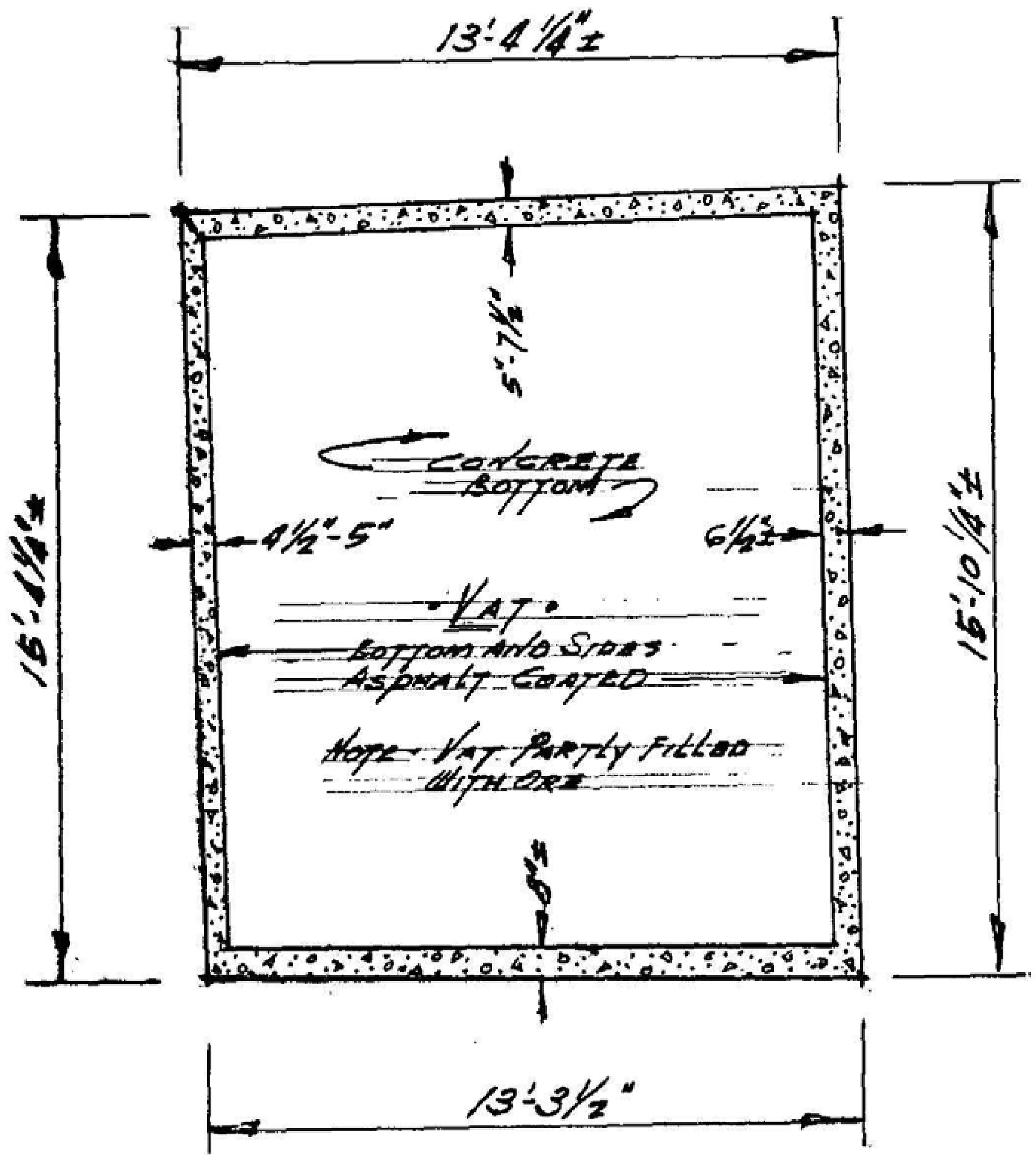


· SOUTH · ELEV ·

· EAST · ELEV ·

· NORTH · ELEV ·

· WEST · ELEV ·



· PLAN ·

· NOTE ·
· NO STABILIZATION OR RESTORATION WORK REQD. ON THIS STRUCTURE ·

· SCALE · 3/8" = 1'-0"

ORIENTATION

PREPARED

DESIGNED

DRAWN

CHECKED

SYMBOL	DESCRIPTION OF REVISION	DATE	SURNAME

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
DIVISION OF HISTORIC ARCHITECTURE

TITLE OF DRAWING: · RESTORATION OF MILTON MINE STRUCTURES ·

LOCATION WITHIN PARK: · MILTON MINE ·

NAME OF PARK: · [illegible] NAT'L MON ·

REGION: [illegible]

PCP M-29

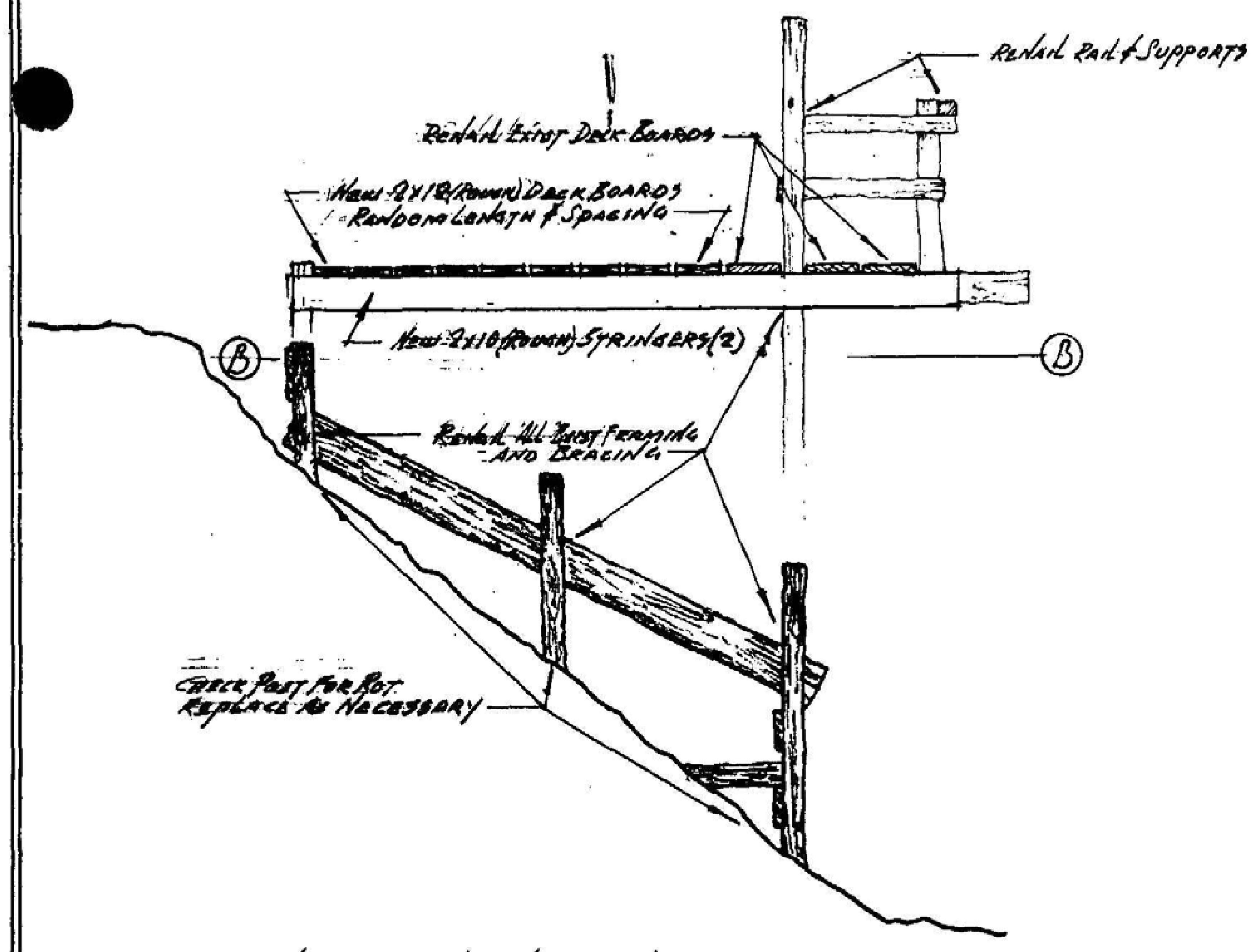
DRAWING NO. 157 / 94001

DATE 5-9-69

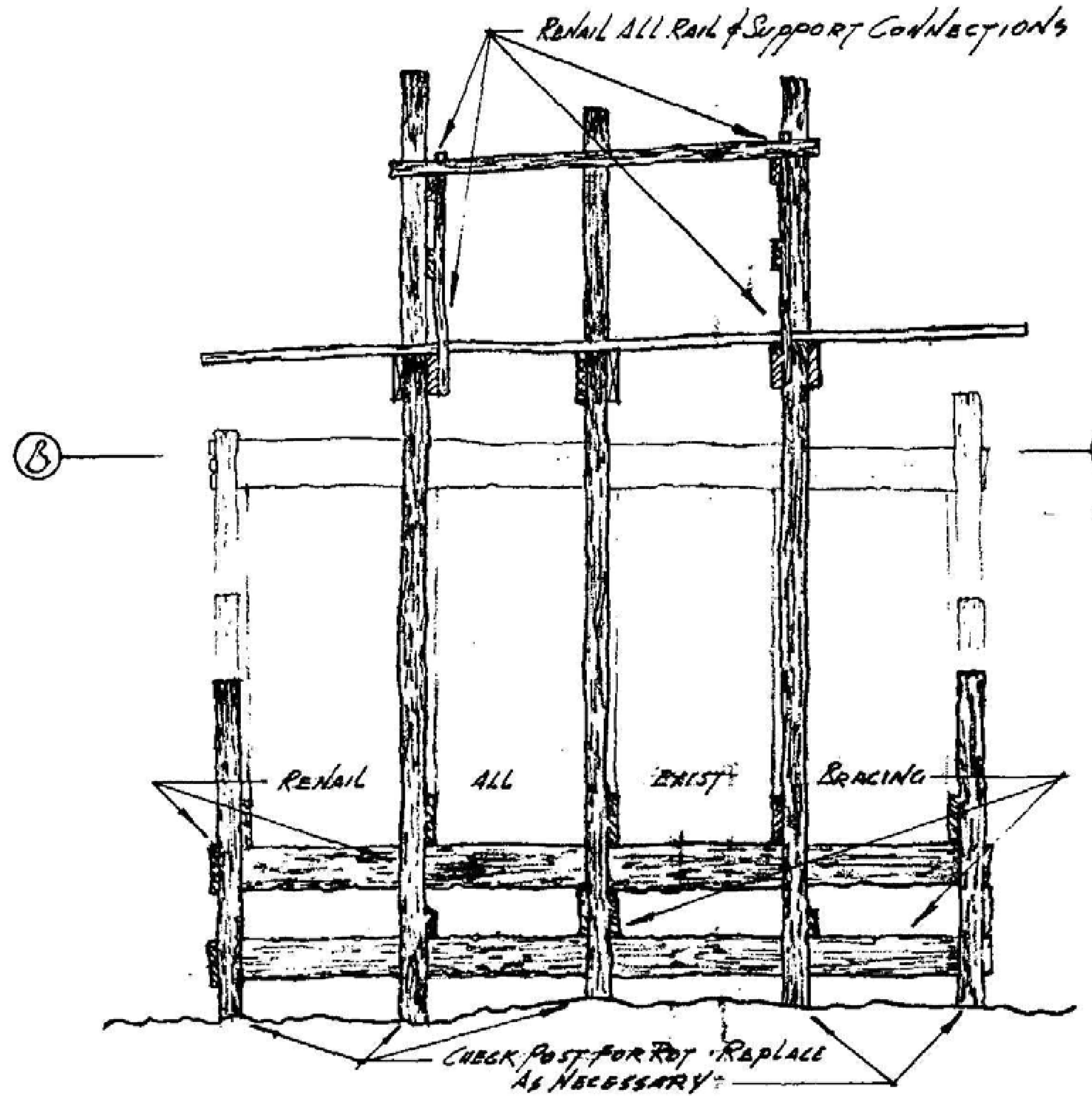
SHEET TITLE: LEACHING VAT · EXISTING CONDITIONS ·

SHEET 1 OF 1

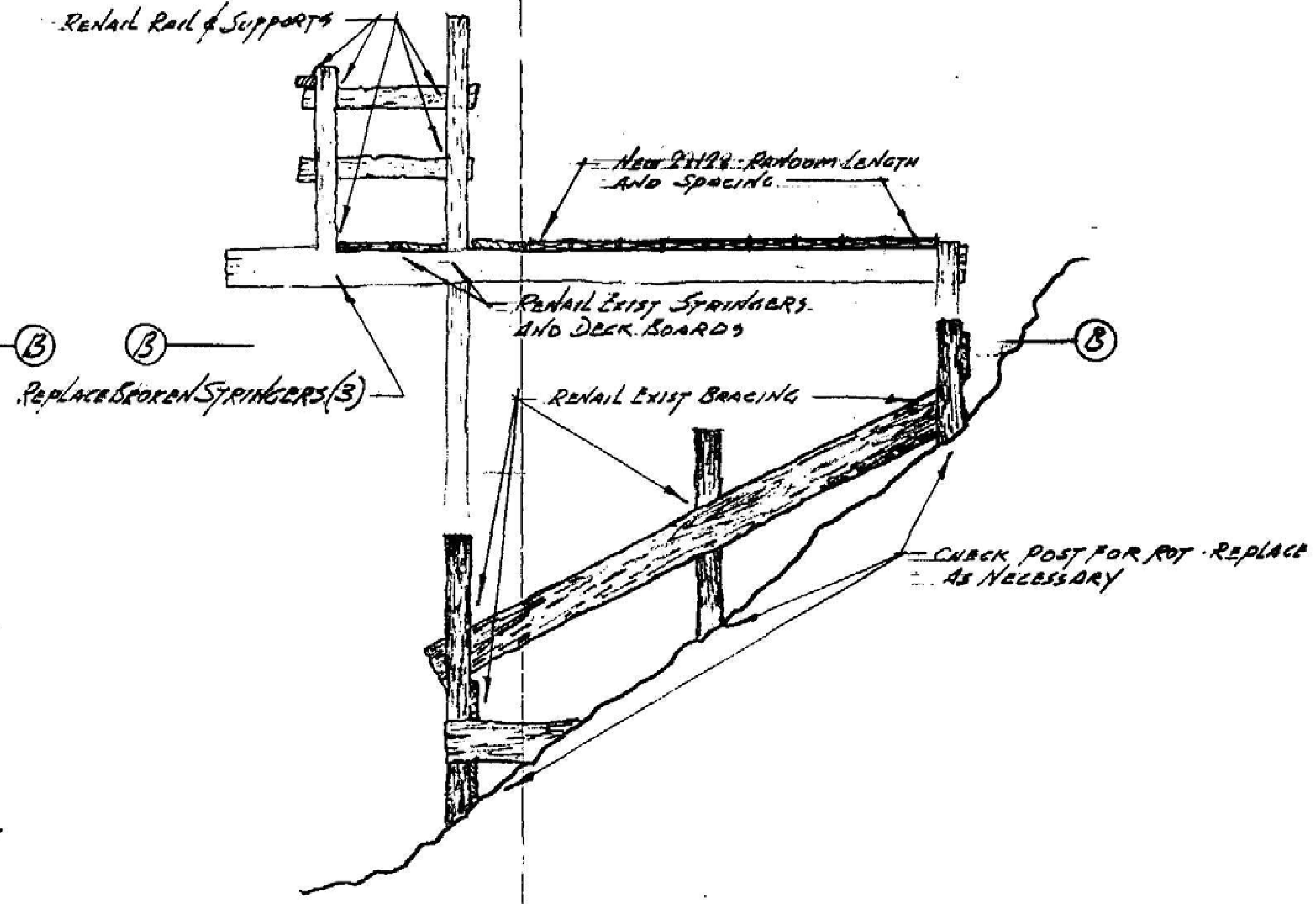
BASIC DATA: FIELD MEASUREMENTS BY R. BEGEMAN & R. JONES · 11-68 ·



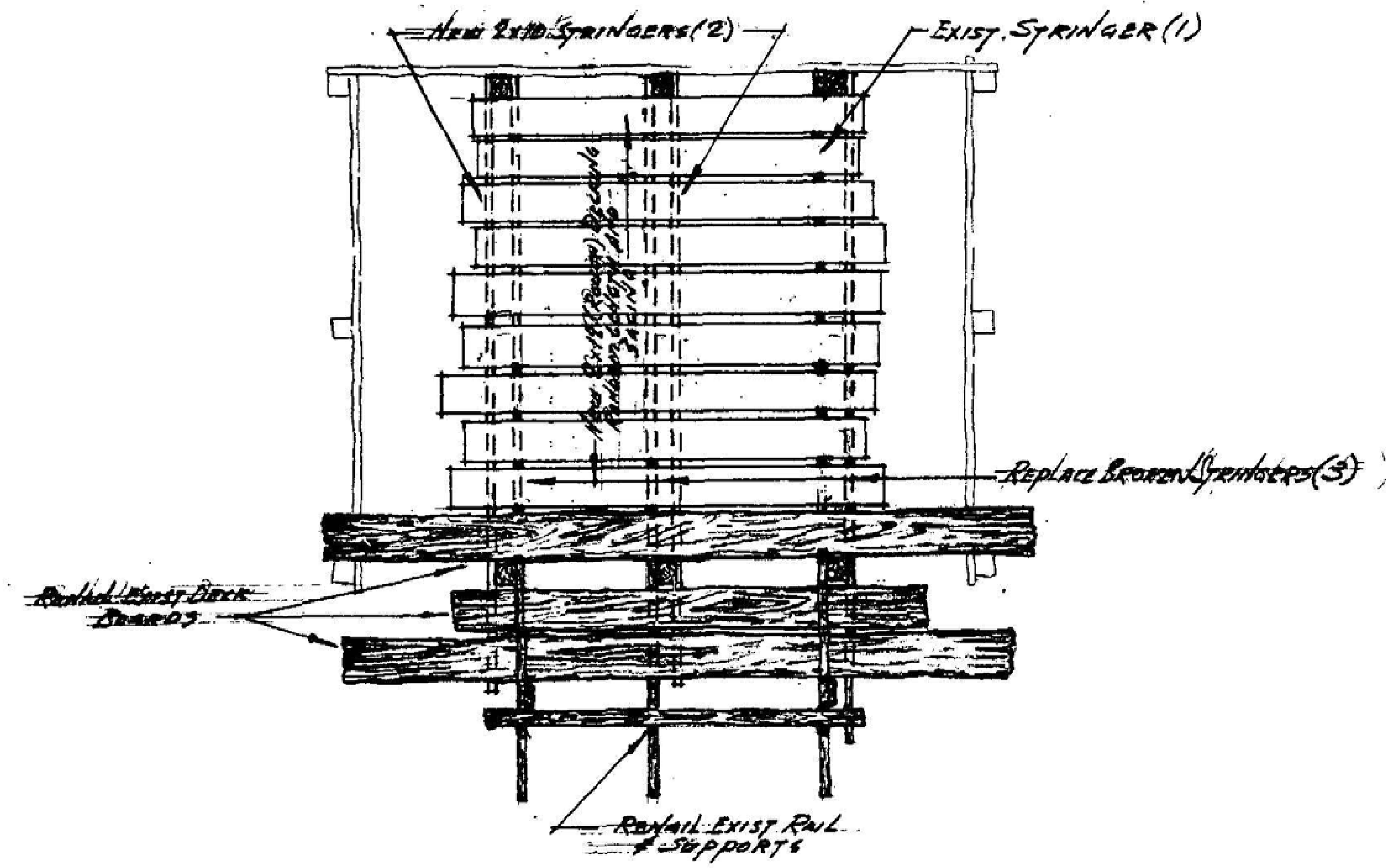
· WEST ELEVATION ·



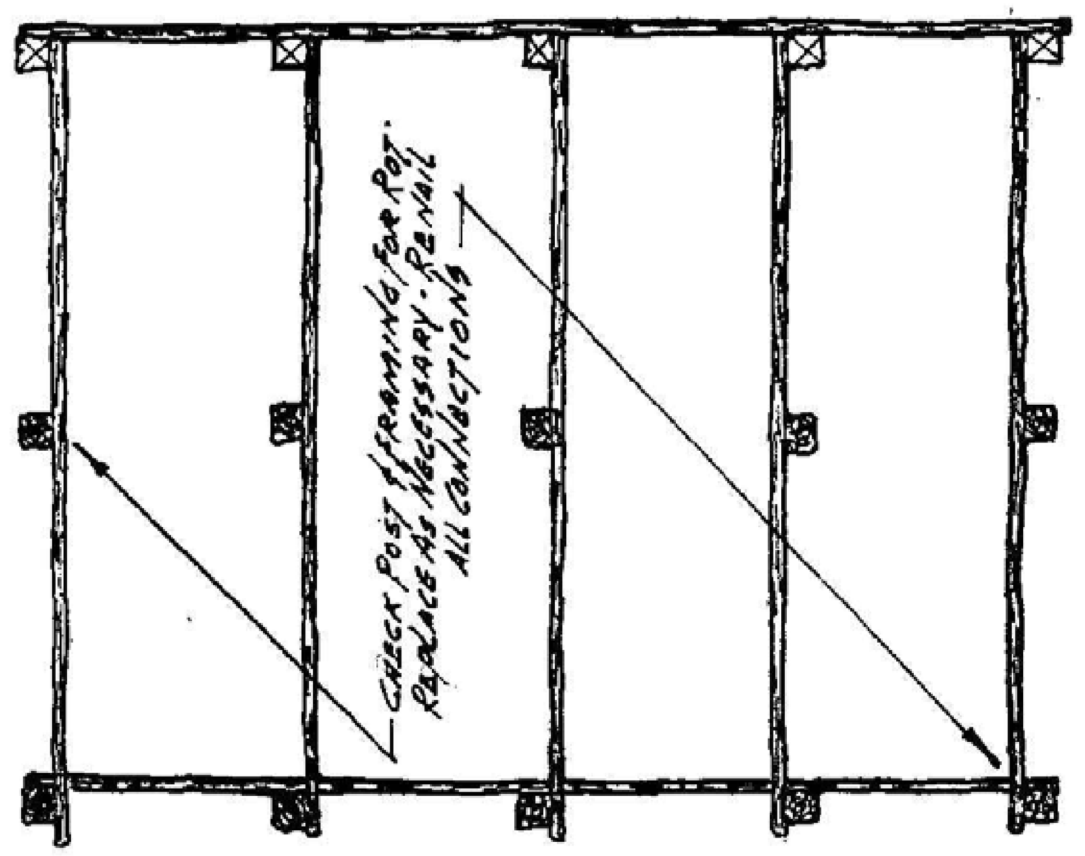
SOUTH (FRONT) ELEVATION



· EAST ELEVATION ·



· PLAN AT PLATFORM ·



· PLAN AT LEVEL · B ·

SPECIFICATION AND RESTORATION NOTES

1. Inspect all post bracing and deck planking for rot. Replace as necessary. Replacement lumber shall be old weathered timbers where available. If old lumber is unavailable, new rough lumber may be substituted. New lumber shall be exposed to desert atmosphere for such period of time as necessary to give coloration to match that of the existing member. Artifical means of coloring may be used to expidite the work. Original members shall be used as a model for all replacements.
2. Renail all existing connections.
3. Nails shall be the same type and size as the original nails used for the same purpose.
4. Apply preservative and water repellent treatment to all new and existing wood.
5. Ground under the structure and for two feet outside the perimeter of the structure shall be given treatment for termites and other wood pest.
6. Remove modern debris from the site.

ORIENTATION

PREPARED

DESIGNED

DRAWN

CHECKED

SYMBOL	DESCRIPTION OF REVISION	DATE	SURNAME

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
DIVISION OF HISTORIC ARCHITECTURE

REGION: Southwest

PCP M-39

· Restoration Of Milton Mine Structures ·
TITLE OF DRAWING
· Milton Mine ·
LOCATION WITHIN PARK
· Organ Pipe Cactus Natl. Mon. ·
NAME OF PARK

DRAWING NO. 157 / 94000

DATE 5·9·69

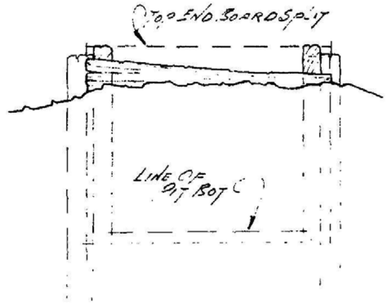
SHEET TITLE · Tipple · Plans & Elevs · Restoration ·

SHEET 2 OF 2

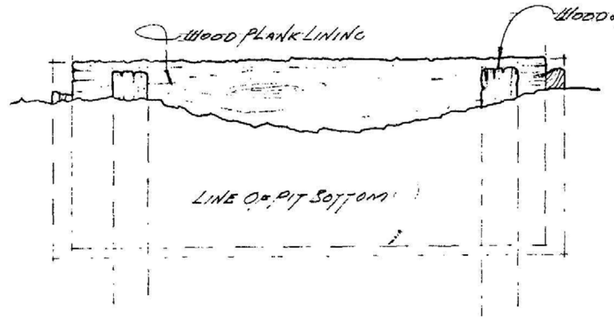
1 0 1 2 3 4 5 6

· SCALE · 3/8" = 1'-0" ·

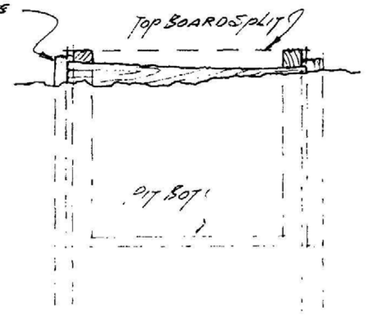
BASIC DATA · Field Measurements By R. Bozeman & R. Jones · 11-68 ·



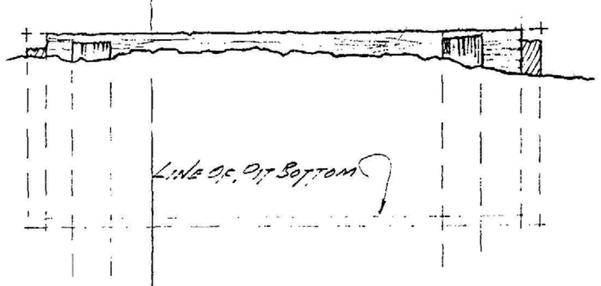
• SOUTH • ELEVATION •



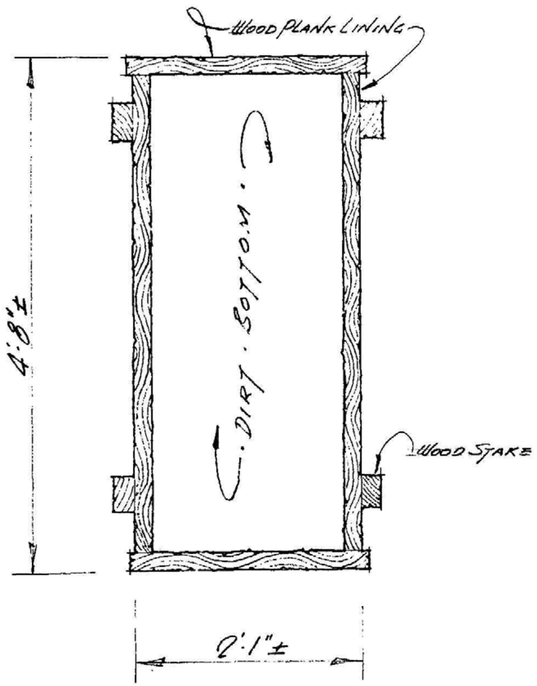
• EAST • ELEVATION •



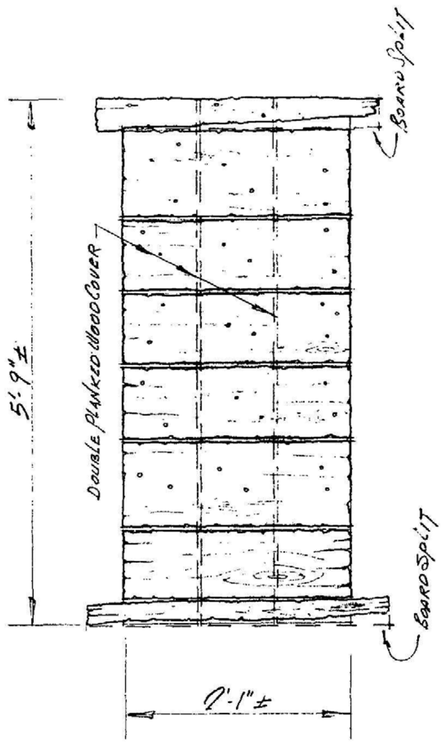
• NORTH • ELEVATION •



• WEST • ELEVATION •



• PLAN •



COVER • PLAN •

SCALE • 1½" = 1'-0"

BASIC DATA • FIELD MEASUREMENTS BY R.BEGEMAN & R.JONES • 11-68 •

ON MICROFILM

ORIENTATION

PREPARED	R Jones
DESIGNED	R Jones
DRAWN	
CHECKED	

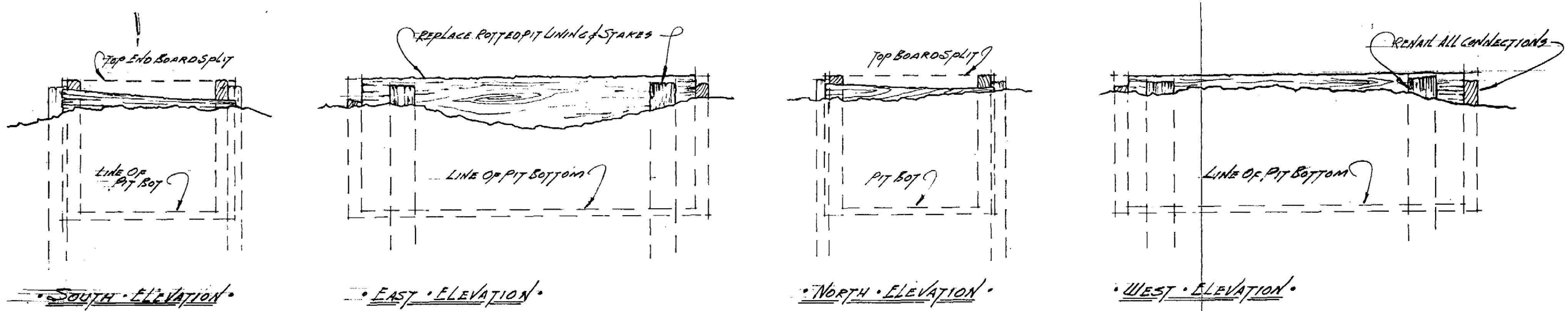
SYMBOL	DESCRIPTION OF REVISION	DATE	SURNAME

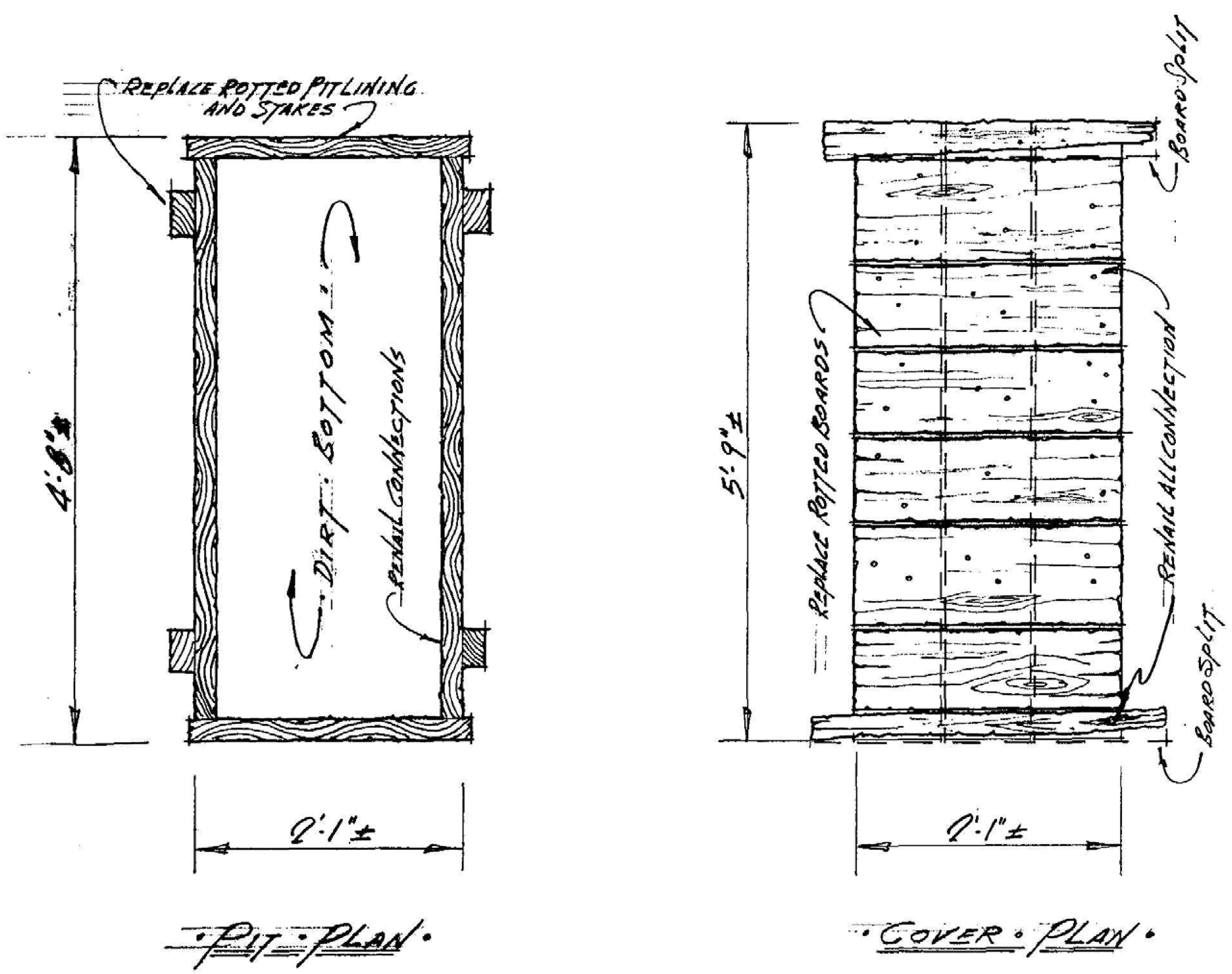
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
DIVISION OF HISTORIC ARCHITECTURE

REGION: SOUTHWEST
PCE: M-39
DRAWING NO.: 157
94002
DATE: 5-9-69
SHEET 1 OF 1

TITLE OF DRAWING: • RESTORATION OF MILTON MINE STRUCTURES •
LOCATION WITHIN PARK: • MILTON MINE •
NAME OF PARK: • ORGAN PIPE CACTUS NAT'L MON •

SHEET TITLE: • EXPLOSIVE LOCKER • EXISTING CONDITIONS •





SPECIFICATION AND RESTORATION NOTES

1. Inspect pit lining and cover for rot. Replace deteriorated boards as necessary. Replacement lumber shall be old weathered timbers if available. If old timbers are not available, new rough lumber may be substituted. New lumber shall be exposed to desert atmosphere for a period of time necessary to produce coloration matching that of the existing member. Artificial coloration may be used in lieu of natural weathering to expedite the work.
2. Renail all connections.
3. Nails used in renailing shall be the same type and size as the original nails used for the same purpose.
4. Apply preservative and water repellent treatment to all new and existing wood. Application shall be accordance with the manufactures instructions for the material used.
5. The dirt bottom of the locker and the ground for two feet outside of the locker shall be treated for termites and other wood pest.
6. Remove modern debris from the site.

12 6 0 1 2 3
9 3

SCALE • 1½" = 1'-0"

ORIENTATION

ON MICROFILM

PREPARED
DESIGNED
DRAWN
CHECKED

SYMBOL	DESCRIPTION OF REVISION	DATE	SURNAME

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION
DIVISION OF HISTORIC ARCHITECTURE

REGION Southwest
PCP M-39

• Restoration Of Milton Mine Structures •
TITLE OF DRAWING
• Milton Mine •
LOCATION WITHIN PARK
• Organ Pipe Cactus Natl. Mon. •
NAME OF PARK

DRAWING NO. 157 / 94002
DATE 5-9-69

SHEET TITLE • Explosive Locker Restoration •
SHEET 2 OF 2

BASIC DATA • Field Measurements By R. Biggeman & R. Jones • 11-68 •

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