

PARK UNIT SHELVES

DEVA


historic resource study
a history of mining, vol. II of II
part 1 of 2
march 1981

NATIONAL PARK SERVICE
WATER RESOURCES DIVISION
FORT COLLINS, COLORADO
RESOURCE ROOM PROPERTY

DEATH VALLEY



NATIONAL MONUMENT / CALIFORNIA — NEVADA



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HISTORIC RESOURCE STUDY
A HISTORY OF MINING
IN
DEATH VALLEY NATIONAL MONUMENT

VOLUME II
Part 1 of 2

by
John A. Latschar

NATIONAL PARK SERVICE
WATER RESOURCES DIVISION
FORT COLLINS, COLORADO
RESOURCE ROOM PROPERTY

Historic Preservation Branch
Pacific Northwest/Western Team
Denver Service Center
National Park Service
United States Department of the Interior
Denver, Colorado

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IV. Inventory of Historic Resources--The East Side

A. The Bullfrog Hills

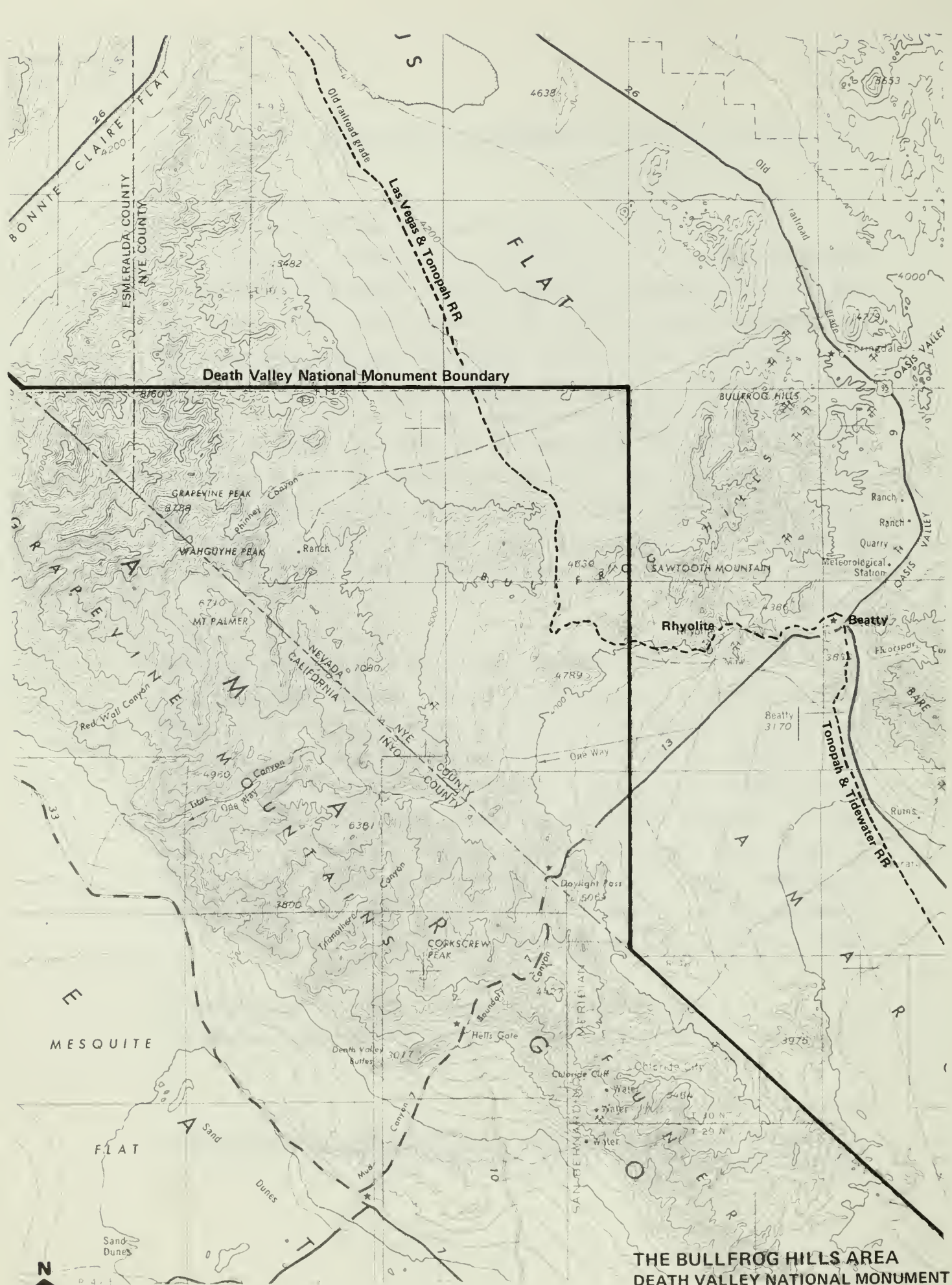
1. Introduction

In 1900 the state of Nevada was entering its third decade of depression. The incomparable Comstock Lode, which had stimulated the migration of 60,000 people into the Nevada territory, had financed a major portion of the northern effort during the Civil War, had made Nevada into a state, and had spawned numerous smaller mining booms between the 1805s and the 1870s, had died out by 1880. Since then, no new strikes of importance had been found, the population of the state had fallen to 40,000, and the economy was suffering the effects of twenty years of decline. Some cynics even suggested that Nevada should revert to territorial status. Such was the fate of a state whose entire economy was built around the boom and bust cycle of a mining frontier.¹

In 1900, however, the cycle was reversed. Silver was discovered at Tonopah that year, and massive high-grade gold deposits were located at Goldfield two years later. The great boom days returned to Nevada, and prospectors, spurred by dreams of untold riches, once again blanketed the mountains and deserts of Nevada. No more discoveries were made which rivaled the riches of Tonopah and Goldfield, but numerous smaller camps were established which bloomed briefly on the desert, dreaming of becoming another Virginia City. Rhyolite, the metropolis of the Bullfrog district, was one of these camps.

Gold was first discovered in the Bullfrog district in the summer of 1904. The initial finds were high-grade surface ore

1. Russel R. Elliott, Nevada's Twentieth-Century Mining Boom: Tonopah, Goldfield, Ely, (1966), pp. vii-viii, 1-2.



Death Valley National Monument Boundary

assayed at \$700 per ton--just the kind of stuff to start a boom. Shorty Harris, one of the discoverers, later described the reaction of Goldfield when he and his partner, Ed Cross, brought in their samples:

I've seen many gold rushes in my time that were hummers, but nothing like that stampede. Men were leaving town in a steady stream with buckboards, buggies, wagons and burros. It looked like the whole population of Goldfield was trying to move at once. Timekeepers and clerks, waiters and cooks--they all got the fever and milled around wild-eyed, trying to find a way to the new "strike". . .

A lot of fellows loaded their stuff on two-wheeled carts--grub, tools and cooking utensils, and away they went across the desert, two or three pulling the cart and everything in it rattling. Men even hiked the seventy-five miles pushing wheelbarrows.

When Ed and I got back to our claim a week later, more than a thousand men were camped around it, and more were coming every day. A few had tents, but most of them were in open camps.

That was the start of Bullfrog and from then on things moved so fast that it made us old timers dizzy.²

Although Shorty Harris was guilty of much romanticizing in his later interviews, events did indeed move fast. Towns sprang up overnight in competing locations. Amargosa was laid out on September 30th and had sold 35 lots within three weeks. Beatty, to the southeast, was located on October 20th, and the towns of Bullfrog, Bonanza and Rhyolite were started by competing townsite companies in November--all within a few miles of each other. Amargosa reported 1,000 lots sold before the town was two months old, some for as high as \$200 each, and by November the town boasted three stores, four saloons, two feed lots, restaurants,

2. Shorty Harris, "Half a Century Chasing Rainbows," Touring Topics, October 1930, pp. 18-20. Rhyolite Herald, 29 March 1907.

boarding houses, lodging houses, a post office and 35-40 other tent buildings. Prices, of course, were in proportion to the boom atmosphere and the costs of freighting 70 miles from Goldfield. Lumber for building was scarce and sold for \$100 per 1,000 board feet, while hay for prospectors' burros and teamsters' mules went for \$100 a ton.

The boom continued through the spring of 1905. Thirty teams a day left Goldfield for the Bullfrog district in January, and one traveler counted fifty-two outfits arriving in the district during one day in March. Confusion reigned supreme, especially for prospectors who left town for a few days in March, to find upon their return that the entire town of Amargosa had picked up and moved a few miles south to the town of Bullfrog. Bonanza's citizens had the same experience, as their town was moved to Rhyolite. Mining claims changed hands furiously, for ground near a publicized claim was worth \$500 to \$2,000, even if a pick had yet to strike the earth. By May, Rhyolite counted twenty saloons, a sure sign of wealth.³

By late spring, the dust had settled a little, at least to the point where one could leave home overnight and expect the town to be in the same location when returning. Rhyolite and Bullfrog, located only three-fourths of a mile apart, had become established as the leading towns of the district, with Beatty, four miles to the east, running a poor third, and Gold Center barely surviving. Four daily stages connected the district with the outside world, post offices were running at Beatty, Bullfrog and

3. Inyo Independent, 30 September, 21 October, 18 November, 23 December 1904; 27 January, 5 May 1905. Inyo Register, 20 October 1904; 16 March, 30 March 1905. Rhyolite Herald, 5 May 1905.

Buy Lots IN Bullfrog

**The Coming Metropolis of the Greatest Gold Camp
the World Has Ever Seen**

BULLFROG'S ADVANTAGES

It is situated in the center of the value-producing area of the Bullfrog district, with mines almost within its corporate borders, and strikes reported daily from the north, east, south and west.

Its topography is well suited for city building.

It will have in 30 days an abundant supply of pure spring water for domestic and fire purposes.

It has an up-to-date newspaper and job printing plant.

It has a long-distance telephone.

It has good eating houses and a modern three-story hotel is nearing completion. This will be run by one of the most popular caterers in the country.

It has a bank, backed by some of the strongest capitalists in the country and capitalized for \$250,000, full paid.

It has a postoffice.

Its business houses keep everything usually kept in a mining camp of the age of Bullfrog.

Get in on the ground floor and make some money.

Town lots are sure to go up.

Address

Bullfrog Townsite, Water and Ice Co.

Dr. L. E. BENSON, Resident Agent, BULLFROG, NEVADA

Rhyolite, lots in Rhyolite which sold for \$100 in February were selling for \$4,400, and wheel and faro games were going twenty-four hours a day. "It reminds one of the old times," remarked one prospector. In addition, Rhyolite, Bullfrog and Beatty each had a bank, and each had a weekly newspaper. The Bullfrog Miner printed its first issue on March 31st, the Beatty Bullfrog Miner on April 8th, and the Rhyolite Herald on May 5th.

The boom kept pace through June. 3000 people were estimated to be in the district, the telephone line was completed to Bullfrog and Rhyolite, and the telegraph office opened. Over 300 messages were sent over the wires on the first day of operation, mostly to Goldfield brokers and stock dealers. By the first anniversary of the district in August, both Bullfrog and Rhyolite had their own piped-in water systems, Rhyolite had yet another bank, and the two towns had a population of 2,500, with another 700 at Beatty and 40 in the tent city of Gold Center. The Rhyolite Herald listed 85 incorporated companies working in the district.⁴

The pandemonium subsided somewhat in 1906, as the rush phase of the boom slowly turned into the more controlled phase of development. 165 mining companies were reported working in the district, and all had hopes of developing another mother lode with just a few more feet of digging. Rhyolite gradually won the battle with Bullfrog and by spring had emerged as the metropolis of the southern desert, when Bullfrog's store, saloons and newspaper moved up the hill to Rhyolite. Not one, but three railroads announced plans to construct lines into the district.

4. Rhyolite Herald, 5 May, 2 June, 18 August 1905. Bullfrog Miner, 9 June 1905. Walter N. Frickstad, A Century of Nevada Post Offices, (1958), pp. 4, 24. S.H. Ball, A Geologic Reconnaissance in Southwestern Nevada and Eastern California, USGS Bulletin #308, (1907), p. 25.

Bullfrog, Nevada, November 1905. Courtesy, Nevada Historical Society



Rhyolite, Nevada, November 1905. Courtesy, Nevada Historical Society



Then, the first hint of disaster struck, with the earthquake and fire of San Francisco. Feverish developments slowed momentarily, as miners, owners, and promoters waited to see what effect the destruction of the west coast's financial center would have upon their fortunes. The boom spirit was still too prevalent, however, for the effect to be prolonged, and with the promise of financial aid (if needed) from mining promoter Charles Schwab, the bustle returned to camp. By the end of 1906, Rhyolite seemed assured of its self-proclaimed title of Queen of the Desert, when the Las Vegas and Tonopah Railroad completed its tracks into town. With the advent of cheaper rail freightage rates, the camp was certain to add to its monthly payroll of \$100,000, and to continue its development.⁵

The year of 1907 was another good one. Fifty cars of freight per day were arriving over the Las Vegas & Tonopah in February. The town had grown to a population of 3,300, and lots at the heart of Rhyolite were selling for \$10,000. A school census was taken which showed 250 children of school age, so a wooden schoolhouse was built, as was a concrete and steel jail for older folks. The Rhyolite Stock Exchange was incorporated and opened on March 25th, to ease the effects of feverish stock trading on the over-worked telegraph wires to Goldfield and San Francisco. In June, the Bullfrog-Goldfield Railroad came into town, opening rail connections with the north, and in September electric power was brought into town over the poles of the Nevada-California Power Company. The power was hooked into the already-wired homes, stores and offices of Rhyolite, as well as into the machinery of the big Montgomery-Shoshone mill, which soon began operations.

5. Bullfrog Miner, 23 March 1906. Rhyolite Herald, 27 April 1906. Mining World, 5 May 1906, p. 564. David F. Myrick, Railroads of Nevada and Eastern California, Vol. II, (1963), p. 478.

Home of Taylor & Griffiths, Rhyolite Brokers

Mining was the name of the game. For those who were not lucky enough to own their own mines, stock dealing was the next best thing. The firm of Taylor & Griffiths, one of Rhyolite's leading brokerage houses, was the site of much dealing, speculation and stock promoting. Photo from Rhyolite Herald, 15 June 1906.



HOME OF TAYLOR & GRIFFITHS, RHYOLITE BROKERS.

Prospecting in Death Valley was not a venture to be taken lightly. This victim, who was never identified, was found in the valley in 1907. Prospectors who found him estimated that he had been dead for two days. Photo courtesy of Death Valley National Monument Library, Neg #1138.



Another newspaper, the Rhyolite Daily Bulletin, appeared to compete with the district's three weekly papers. Production figures for the district went over \$100,000 for the first time during the month of September, and the arrival of the Tonopah and Tidewater Railroad the next month augured even more prosperity.⁶

Even the panic of 1907, which some would call a depression, did little to dampen the spirits of Bullfroggers. Newspapers noted, almost with wonder, that the panic seemed to affect the Bullfrog district much less than it did other mining camps in Nevada and California. The local banks were forced to issue script for a few months, due to the shortage of cash, but the local merchants gladly accepted it--even advertised for it--and the panic was put down to the manipulations of greedy eastern financiers. Despite the panic, property values sky-rocketed during 1907, and the year-end tax rolls reflected the prosperity of the young town, which was assessed taxes on almost two million dollars worth of real and personal property.⁷

1908 followed suit. The year opened with the big Montgomery-Shoshone mill treating 200 tons of ore per day, and with the promise of more mills to open soon, thus increasing the district's production and prosperity. To house all this money, the grand three-story, \$60,000 John S. Cook Bank Building was completed in January. By February, all the banks were back on a

6. Inyo Register, 7 Feb 1907. Bullfrog Miner, 8 February, 29 March 1907. Rhyolite Herald, Pictorial Supplement, March 1909. Rhyolite Daily Bulletin, 23 September, 16 October 1907. Myrick, Railroads of Nevada, II, 517, 556. Harold O. Weight, Rhyolite: The Ghost City of Golden Dreams, (1953), pp. 18-26.

7. Rhyolite Daily Bulletin, 19 October 1907. Bullfrog Miner, 7 December 1907. Nye County Recorder's Office, 1907 Assessment Rolls, Nye County, Rhyolite.

cash basis, and reported that they had needed only half the amount of script which had been printed for use during the Panic. Production soared as new mills and mines went into operation, reaching an estimated \$170,850 in the month of April. By September, the Bullfrog district ranked as the third largest producer in the state of Nevada, trailing only Goldfield and Tonopah. The Las Vegas and Tonopah Railroad finished its magnificent passenger station in June, which immediately became one of the showcases of the southern Nevada region. By the end of the year, the Rhyolite Herald estimated the total production for 1908 as close to \$1,000,000.

Construction continued apace, as the three-story concrete and stone Overbury building was completed in December at a cost of \$50,000. Now at its height, Rhyolite fairly bustled with activity. The newspapers enthusiastically claimed a population of 12,000, although a more probable estimate would be 8,000. The town now had an opera house, a new \$20,000 concrete and steel, two-story school building, hotels, ladies' clubs, and even a swimming pool. The large concrete and stone buildings which dominated the main streets were flanked by hundreds of wooden stores, offices and residences, although a few late-arrivals still lived in tents on the outskirts of town. The Western Federation of Miners' local union, with its healthy membership, union hall and hospital, threatened to surpass the local at Tonopah. Rhyolite even had a manufacturing base of two foundaries and machine shops, and the Porter Brothers, leading merchants, had built their original tent store into a imposing building complete with freight elevators and a stock worth \$100,000. Dance halls and brothels, ever a sign of prosperity in a mining camp, spilled over from their assigned districts on several occasions, drawing the attention of the town



Rhyolite near its height in February 1908. The Overbury building, and the John S. Cook Bank building, to its right, dominate the city. The tracks of the Bullfrog and Goldfield Railroad may be seen in the lower right and lower left corners. The lumber yard of the Tonopah Lumber Company is in the lower right, next to the city jail. The school house is not yet built. Various mines can be seen in the background, and the former city of Bullfrog is at the extreme left background.

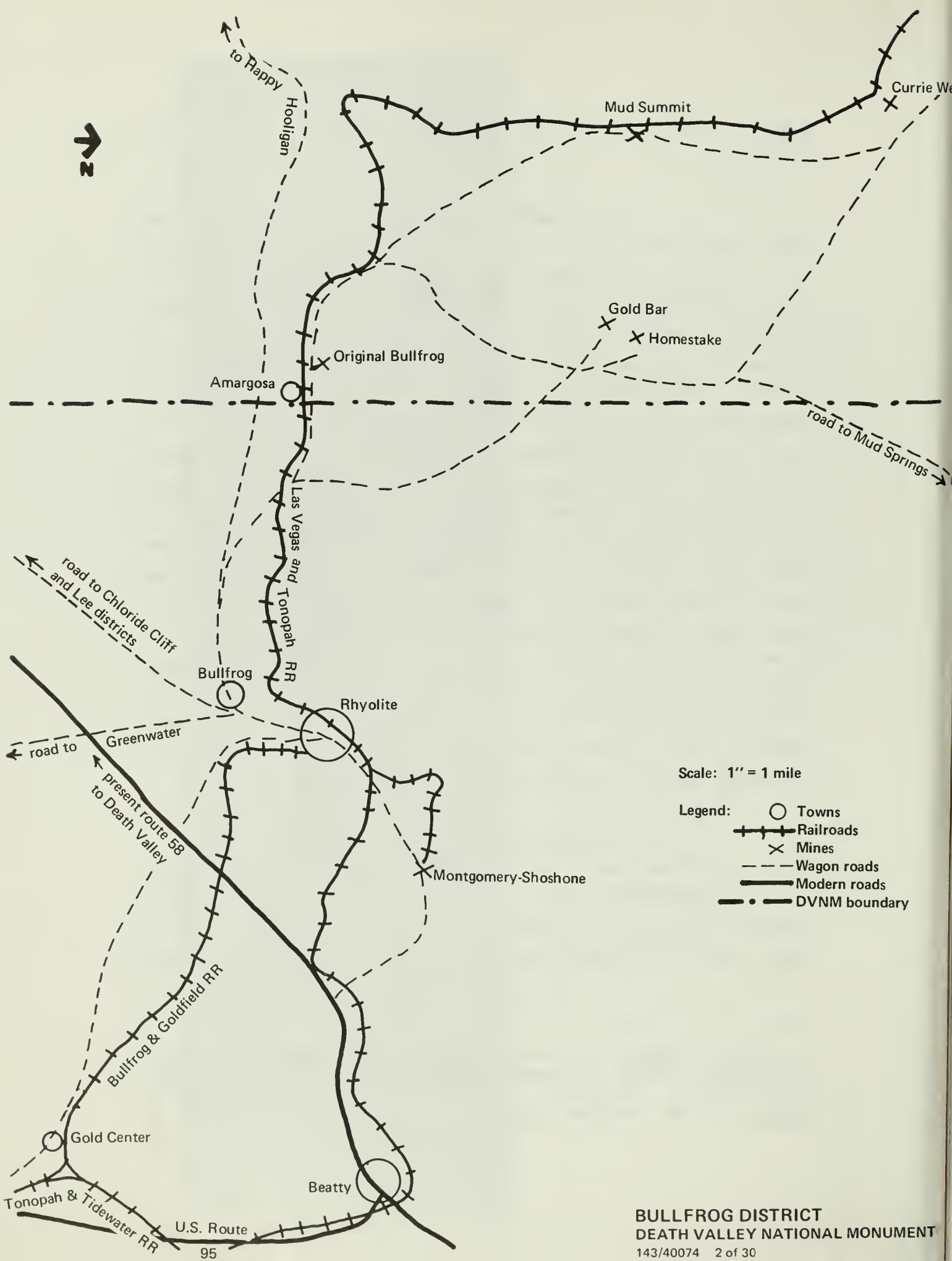
Photo courtesy of Nevada Historical Society.

council. Rhyolite and the Bullfrog district, it seemed, had arrived.⁸

In the meantime, the Rhyolite and Bullfrog boom were having much the same effect upon the surrounding Death Valley country as Goldfield and Tonopah had had upon the entire state. Spurred by the Bullfrog boom and dreams of wealth, prospectors swarmed out of Rhyolite into the hills and deserts of southeastern Nevada and southwestern California. Backed by flush Rhyolite merchants and promoters, these men examined the countryside as it has never been examined before or since. For a while, the results seemed almost too good to be true, for strikes and mining camps blossomed out of the wilderness almost everywhere one could see. On the east side of Death Valley, the entire South Bullfrog district grew up around the Keene Wonder mine, while farther to the south arose the boom camps of Lee, Echo, Schwab, Greenwater, Gold Valley and Ibex. Farther to the west, across the Death Valley sink, prospectors out of Rhyolite found and established the mines and camps of Emigrant Springs, Skidoo, Harrisburg and Ubehebe. All these camps looked upon Rhyolite as the metropolis of the desert, and Rhyolite merchants, teamsters and outfitters, located at the railhead, profited immensely from being situated at the distribution center for the region.

As usual, however, the gold fever which swept the country contained more fever than gold. Some of the smaller camps died almost as soon as they were born, leaving little more than a ripple on the surface of time. Some, like Greenwater, spent all their energy on booming, and when the dust had settled, nothing

8. Mining World, 4 Jan 1908, p. 41. Bullfrog Miner, 29 February, 2 May, 3 October 1908. Rhyolite Herald, 30 December 1908; Pictorial Supplement, March 1909. Myrick, Railroads of Nevada, II, 484. Weight, Rhyolite, pp. 18, 33, 35.



Scale: 1" = 1 mile

- Legend:
- Towns
 - +— Railroads
 - × Mines
 - - - Wagon roads
 - Modern roads
 - · - · - DVNM boundary

**BULLFROG DISTRICT
DEATH VALLEY NATIONAL MONUMENT**

was left to be seen. Most lasted a year or two, or even three. But with the exception of Skidoo and the Keane Wonder, all the smaller camps died before Rhyolite, and the fate of the offspring presaged the fate of the parent.

On the surface, Rhyolite seemed as robust as ever in early 1909, and the citizens of the town even started a movement to split the county in two, making Rhyolite the county seat of the southern portion. Such ambitions, however, were hopeless, for the cracks were already appearing in the facade. Although the boom spirit had carried the Bullfrog district through the San Francisco disaster and the panic of 1907 without appearing to harm the camp, underlying problems were beginning to surface. Investor confidence was weakened by the financial difficulties, a fatal blow to any mining camp. Two of the three Rhyolite banks had closed by the end of 1909, and shady dealings involving two of the district's most promising mines further shook investor confidence. The Montgomery-Shoshone mill continued to mill its low-grade ore throughout 1909, but there is nothing romantic about low-grade ore. A brief new boom at Pioneer, to the north, seemed to arrest the process of decline for a short time, but a disastrous fire roared through that camp before it was even built, and it never recovered.

The process of decay is harder to document than that of boom, since the local newspapers would never dare print any discouraging news, but the evidence was there. The Rhyolite Daily Bulletin was the first newspaper to close, printing its last issue in May of 1909, and the Bullfrog Miner followed suit in September. The December tax rolls told the real story. When the time came to ante up for county taxes, owners of 156 properties--or 28 percent of the total tax base--elected to quietly leave town and let their properties be confiscated by the county treasurer, rather

than spending more money in a losing cause. As the Mining World summed up, "Mining operations in the Bullfrog district were rather dull last year."⁹

The camp plodded through 1910, struggling to keep alive, and hoping that some prospector would make the strike which would bring back the days of prosperity. Their hopes were doomed, however, and when tax time rolled around again, 168 taxable properties (44 percent) were left to the care of the county treasurer, as their owners had departed. The First National Bank closed its doors that year, the last bank to leave Rhyolite.

The trend accelerated in 1911, when the Montgomery-Shoshone, the only mine to make any significant production in the district, finally shut down in May. The 1911 tax rolls again showed owners of 118 properties (43 percent) leaving town rather than pay taxes, and the Mining World sounded the death knoll. "The Bullfrog district is almost deserted, save by a few lessees, who at intervals make a small production. . . . The Montgomery-Shoshone, after demonstrating that ore averaging \$6 a ton could be profitably milled, has closed down, having exhausted its pay ore."¹⁰

The Bullfrog district, too, was exhausted. The town and camp did not die with a bang, and hardly with a whimper.

9. Bullfrog Miner, 9 & 30 January, 27 February, 8 & 22 May 1909. Rhyolite Herald, 14 August 1909. Melvin Owen Warns, The Nevada "Sixteen" National Banks and Their Mining Camps, (1974), p. 87. Nye County Recorder's Office, 1909 Assessment Roll, Rhyolite. Mining World, 22 January 1910, p. 193.

10. Rhyolite Herald, 25 March 1911. Warns, Nevada's "Sixteen" National Banks, p. 87. Nye County Recorder's Office, 1910 Assessment Roll, Rhyolite; 1911 Assessment Roll, Rhyolite. Mining World, 27 January 1912, p. 228.

Companies who had money left in their treasuries held on to properties, hoping for a comeback, and several dozen intrepid souls stayed on in Rhyolite, eeking out existence by leasing mines and extracting occasional small shipments of ore. The great days, however, were definitely gone forever. The Rhyolite Herald finally gave up and closed down in June of 1912, and the town slowly died.

Periodic efforts were made to reorganize and rework the mines on a small scale, which kept Rhyolite from becoming a complete ghost town for several years, but none were successful. In 1914, the Las Vegas & Tonopah discontinued service to the town, above the protests of the few remaining citizens. In 1916, the Nevada-California power company cut off electricity to Rhyolite, and began to salvage its poles and wire. The Inyo Register described the once thriving town in December of that year: "Rhyolite, once a camp claiming several thousand population, is practically a deserted village . . . the movable buildings have been moved away from time to time, and the process is still going on. At present it is contributing to the upbuilding of the camp of Carrara . . ." By 1920, although a few companies and individuals still held on to their Rhyolite properties, hoping against hope for a revival, the camp was completely deserted."¹¹

And so Rhyolite was slowly dismantled to serve the needs of new boom camps, and the cycle was completed. Although small-scale efforts were made to revive the camp from time to time--including one during the fall of 1978--the good days were gone. Today, the crumbling remains of its once imposing

11. Rhyolite Herald, 22 June 1912. Inyo Register, 30 July 1914; 7 December 1916. Nye County Recorder's Office, 1920 Assessment Roll, Rhyolite.

RHYOLITE, 1978

John S. Cook Bank building



Rhyolite jail

Photos by John Latschar





Golden street, Rhyolite, looking south from John S. Cook Bank building. Facade of Porter Brothers store on left, ruins of Overbury building on right.

Rhyolite's pride, the \$20,000 school building. Completed after the bloom had left the Bullfrog rose, the building was never used to capacity.

Photos by John Latschar.



structures, together with its picturesque location, make it one of the west's most popular ghost towns. Ironically, Beatty, 4 miles to the west, which played little sister to Rhyolite throughout the boom years, was saved from decline by the construction of Nevada Highway 95, and today that little town of several hundred thrives on the trade of tourist, military personnel and truckers traveling between Las Vegas and Reno.

All was not in vain, however. The Bullfrog district produced \$1,687,792 worth of ore in the four short years between 1907 and 1910, doing its part, along with the other small camps and the bonanzas of Goldfield and Tonopah, in pulling Nevada out of its two-decade slump. Without the stimulus of this early twentieth-century mining boom, of which Rhyolite and the Bullfrog district were a distinct part, Nevada would not have had the new economic base with which to survive the great depression, and to emerge as a prosperous mineral, tourist and military state of today.¹²

Just as important, without the boom and bust days of Rhyolite and the surrounding territory, we would not have the opportunity today to study, appreciate and preserve the memories of these early twentieth-century mining camps. And, thanks to the Bullfrog boom, Death Valley National Monument is rich with such a heritage of bygone days.

12. B.F. Couch and J.A. Carpenter, "Nevada's Metal and Mineral Production, 1859-1940," University of Nevada Bulletin #37 (1943), pp. 111-112.

2. Original Bullfrog Mine

a. History

In the late summer of 1904, two wandering prospectors happened to meet at the Keane Wonder Mine, on the east slope of Death Valley. Ed Cross, the first, was an occasional prospector who had participated in mining rushes from time to time. Cross, however, was an "amateur" prospector, since he had a home and farm in Long Pine, California, to which he would return between forays. Attracted by the Goldfield boom, Cross was on his way towards that region, and had stopped off at the Keane Wonder to look over the country surrounding that recent discovery.

The other prospector, Frank "Shorty" Harris, was a veteran desert rat. Shorty bragged that he had attended every mining rush in the country since the 1880s, including those of Leadville, Coeur d'Alene, Tombstone, Butte, British Columbia, and others. Like most prospectors, Shorty had, as yet, nothing to show for his efforts. He had already been through the initial Tonopah and Goldfield booms, but had gotten there too late to locate any close-in ground. Now, like Cross, Shorty Harris was determined to give the Goldfield territory another look, and the two men teamed up.

Like countless other prospectors who were scurrying around the deserts, Cross and Harris dreamed of finding another bonanza like those of Goldfield and Tonopah. As the two men trugged across the Amagosa Valley, that dream loomed large before them, for they were about to make the discovery which would initiate the great Bullfrog boom, and which would change forever the history and territory of southwest Nevada.

Accounts of the next few days vary wildly, as romantic tales of big discoveries are wont to do. Both Cross and

Harris repeated their versions in later years many times over, and it is difficult to find any two versions which agree. Apparently Shorty persuaded Ed to make a detour on the way to Goldfield, in order to examine some rock outcroppings which he had noticed on an earlier trip. There, on the east side of the Amargosa Valley, the discovery was made. Both men knew at first glance that they had found something big, but how big would have to be determined by the Goldfield assayer's report. Quickly locating a claim, staking the ground, and naming the mine the Bullfrog, for the distinctive mottled green ore, the two men set out north for Goldfield, to record their claim, have their samples assayed, and to celebrate.

The rock samples indicated that the mine had ore worth over \$700 to the ton--truly bonanza stuff. News of the discovery soon spread through Goldfield, and by morning the rush to the newly named Bullfrog District was on. In the meantime, Ed Cross went north to Tonopah to record the claim there in addition to Goldfield, since no one knew whether the mine was located in Esmeralda or Nye county. By the time Ed got back, Shorty was half-way through a six day drunk, sometime during which he sold his share of the Bullfrog mine. Cross later claimed several times that Shorty got no more for his share than \$500 and a mule, although Shorty once claimed to have received \$1,000, and thirty years later said he got \$25,000. At any rate, Shorty Harris was out of the picture. Like most old-time prospectors, he had spent most of his life looking for a gold mine, and had sold it for a pittance when he found it.

Ed Cross was more business-like, as he reported to his wife. After several deals fell through, Ed sold his share to a group of mining promoters for cash and a share of the stock in a company formed to exploit the mine. Ed later claimed to have received \$125,000 for his share of the mine, but that figure is

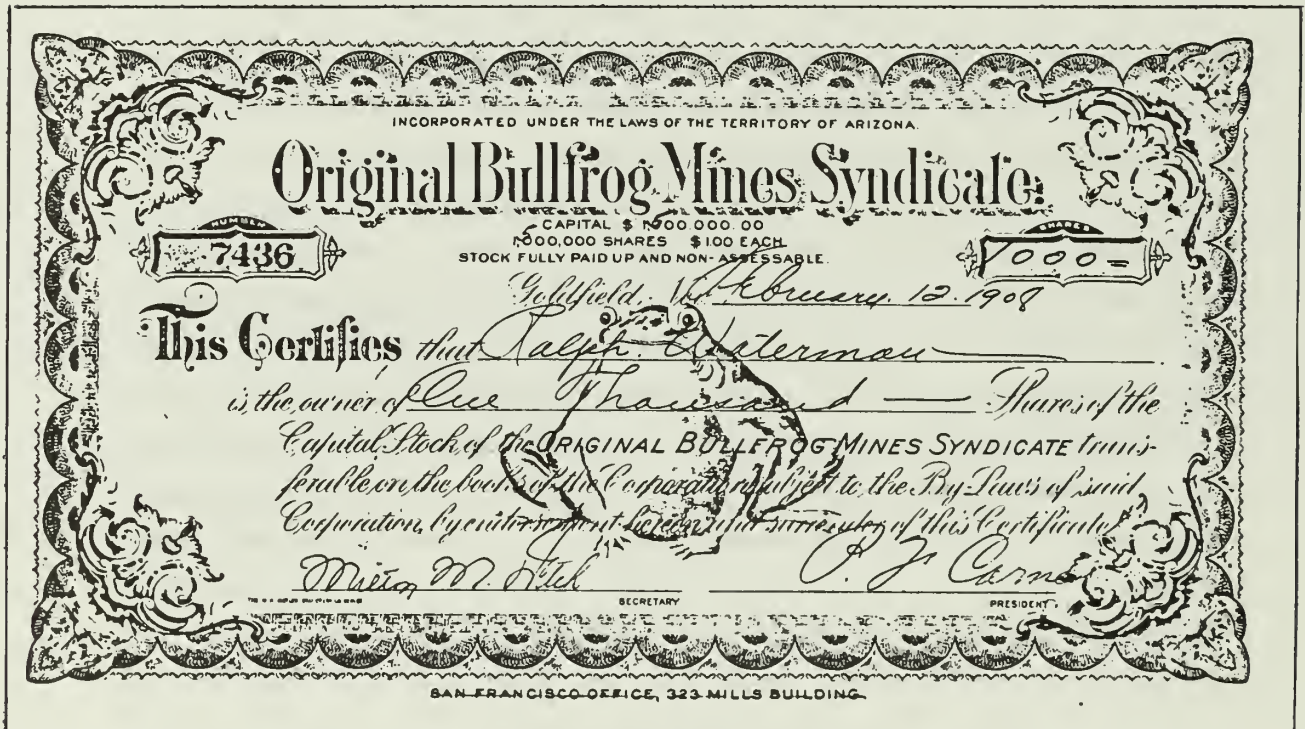
probably inflated. But whatever the exact amounts, both Cross and Harris had sold out--one for drink and the other for stock certificates. Which would prove to be the better deal was yet to be seen. It is certain, however, that neither of the two prospectors who started the great Bullfrog boom made much profit from their discovery--but that is nothing new in the history of mining.¹³

By early fall, the Bullfrog boom was in full bloom. Tents, towns and prospectors surrounded the area of the Bullfrog Mine, as prospectors and promoters rushed to get in on the ground floor. In short succession, mine after mine was discovered in the vicinity, and the Bullfrog District became the talk of the west coast. In the meantime, the Original Bullfrog Mines Syndicate, organized to operate the original discoveries, was incorporated by the Goldfield promoters dealing with Ed Cross, and actual mining was started. The company advertised a capital stock of 1,000,000 shares, with a par value of \$1 each, but they did not say how much actual cash was placed in the treasury to finance the development efforts. As events proved, it wasn't enough. Ed Cross was given a seat on the board of directors of the company, as befitted the owner of one sixth of the mine.

Initial development through the fall and winter of 1904 were promising. The company reported ore assaying as high as \$818 to the ton, and began sacking high-grade ore for shipment to Goldfield smelters. On March 23, 1905, the Original Bullfrog Mine made the first big shipment out of the new district. Ore estimated to be worth \$10,000 was escorted through Rhyolite by

13. Rhyolite Herald, Pictorial Supplement, March, 1909. Lucien M. Lewis, "He was in on the Bullfrog Jackpot," Desert Magazine, December 1946, pp. 20-21. Tom G. Murry, "Letters From a Death Valley Prospector," Desert Magazine, June 1963, pp. 8-11. Carson City Land Office, Mineral Survey #2294.

Certificate for 1,000 shares in the Original Bullfrog Mines Syndicate. Courtesy Dr. Richard Lingenfelter.



five armed guards and the Rhyolite band. The Original Bullfrog Mine, symbol of the entire Bullfrog district, was now a shipper and a producer. More good strikes were made in the shafts and tunnels through May and June; sixteen men were employed at the mine; a 15 horsepower gasoline hoist was ordered to enable deeper sinking; and the mine superintendent expressed the hope that shipments of high-grade ore would pay for all development costs, thus saving a strain upon the company's treasury. By August of 1905, the superintendent estimated that the company had between \$750,000 and \$1,500,000 worth of ore in sight in the mine.¹⁴

The Original Bullfrog Mine continued to reflect the optimism of the entire district throughout the fall and winter of 1905. As shafts and tunnels went deeper, ore veins continued to show profitable values in gold, even though no rich shoots were found, such as the early surface discoveries. The Bullfrog District became so famous on a national level, that the United States Geologic Survey decided that it was worth examining. Frederick L. Ransome, an eminent western mining expert, made a study of the district's geologic formations and mines during the fall of 1905. Since Ransome was the first detached, outside observer of the district, his conclusions are of interest. The district, he wrote, was predominantly a low-grade proposition, and would have trouble making a profit, due to problems of transportation and water supply. After the first publicized shipments, such as that from the Original Bullfrog Mine, none of the mines planned to make further shipments, due to excessive costs, until the railroads arrived. In essence, he concluded, the Bullfrog District was not the bonanza it

14. Inyo Independent, 25 Nov 1904. Mining & Scientific Press, 26 November 1904, p. 362. Engineering and Mining Journal, 23 March 1905, p. 594. Rhyolite Herald, 26 May, 23 & 30 June, 14 & 21 July 1905.

The Original Bullfrog Mine in the summer of 1905. The short-lived tent city of Amargosa may be seen in the distance.

Photo from Sunset Magazine, August 1905, p. 321, courtesy Nevada Historical Society.



TOP OF THE ORIGINAL BULFROG MINE, AMARGOSA IN THE DISTANCE

Original Bullfrog Mine, November 1905. Photo courtesy of Nevada Historical Society.



liked to believe it was, but the mines could be made to pay on a large-scale basis, given careful and economical management. Nor was Ransome more impressed with the Original Bullfrog Mine than with others. "Some bunches of rich ore have been found," he wrote, "but the mass as a whole is of very low grade."¹⁵

Happily for the Bullfroggers, however, Ransome's report was not printed for another two years, and the district hummed along merrily in the meantime. The Original Bullfrog Company continued to get encouraging results from its development works, and applied for a U.S. patent to their claims in January of 1906. A distinguished mine superintendent was hired away from the famous Gilpin County district of Colorado in the late spring, and the company installed a gas hoist and gallows frame on its property, in order to facilitate deeper mining. Even the brief financial panic brought about by the San Francisco earthquake and fire failed to slow development work, and William Ress celebrated his first anniversary as proprietor of the Original Bullfrog boarding house in May.

After examining the mine and its future prospects, Samuel Newell, the new superintendent from Colorado, decided that he would be there long enough to settle down, and set home for a bride. Mrs. Newell arrived in August and moved out to the mine site to live with her husband. Unfortunately, the summer climate of the Nevada desert did not agree with her, and she died in late September of "desert fever."¹⁶

15. Frederick L. Ransome, Preliminary Account of Goldfield, Bullfrog and Other Mining Districts in Southern Nevada, USGS Bulletin #303, (1907), pp. 41, 53.

16. Bullfrog Miner, 12 Jan, 9 & 23 March, 3 August, 28 September 1906. Mining World, 27 January 1906, p. 158. Rhyolite Herald, 9 March, 20 April, 18 May 1906.

Original Bullfrog Mine near its peak, June 1906. The new large gallows fram, with its bucket hoist, dominates the picture. Photo courtesy Nevada Historical Society.



The tragic loss of his two-month bride failed to diminish the energy of superintendent Newell. With the arrival of cooler weather in October, development was increased at the mine. The main shaft was now 250 feet deep, the mine was employing two shifts, of miners, and landlord Ress was feeding 30 miners, most from the Original Bullfrog. By November the shaft was down to 300 feet, and although no rich ore had been found since the shaft had left the surface, the newspapers reported "encouraging values," a vague description at best. By the end of the year, improvements on the property included the main shaft, two working shafts, and a long crosscut tunnel. Physical property included the gasoline hoist, gallows frame, a small orehouse, ore cars and miscellaneous tools.

In the meanwhile, another development had taken place. On October 26th, Ed Cross had taken a lease from the company to work a 200 by 300 foot tract of the Original Bullfrog claim. Leasing at this stage of the mine's development could only mean that the company directors no longer felt that it was financially feasible to maintain a monopoly on development rights to its own property--a sure indication that things were not looking good. Cross, in a typical lease, was given one year to work the property and take out ore, while paying the company a royalty on any profits he was able to make. Cross had good luck initially, and by the end of 1906 was employing twelve men on his lease and had built an office.¹⁷

As 1907 began, the Original Bullfrog Mine had already seen its best days. Even though the railroad had now

17. Rhyolite Herald, 26 October, 14 December 1906. Bullfrog Miner, 26 October, 16 & 23 November, 7, 14 & 28 December 1906. Nye County Recorder's Office, 1906 Assessment Roll, Rhyolite.

arrived, making possible the shipment of lower grade ore, the mine was not able to gain a profitable status. Development work continued throughout the year, by both the company itself and by Ed Cross on its lease, but time was running out. The initial treasury fund was almost depleted, and the advent of bigger and more promising mines in the district discouraged stock sales. Shares in the Original Bullfrog Mines Syndicate, which had sold for 25¢ in November of 1906, had fallen to 7½¢ by July of 1907. Desperately, the company continued, hoping to find that elusive high-grade vein which would make the mine a boomer once more, but hopes were doomed.

Ed Cross, despite his limited success on his lease, saw the handwriting on the wall, and decided not to renew the lease when it expired. Finally, the Panic of 1907 dealt the death-blow to the Original Bullfrog mine. With the treasury stock depleted, and with several of the leading owners facing extreme financial difficulties brought on by the panic, there were no more funds for development work in the mine. On August 26th, the mine was closed and the employees laid off. The company's president issued a statement claiming that the closure had nothing to do with the financial crisis, but no one held their breath while waiting for the mine to reopen. For the rest of the year, the mine was not worked, and when tax time rolled around in December, the company let its property go on the delinquent roll, rather than pay \$46.20 in taxes. Shares of Original Bullfrog stock were now selling for 3¢ each.¹⁸

In the spring of 1908, the mine was reactivated, but on a small scale. No longer did the superintendent

18. Rhyolite Herald, 4 January 1907. Bullfrog Miner, 30 November 1906, 27 July, 31 August, 14 December 1907. Nye County Recorder's Office, 1907 Assessment Roll, Rhyolite.

announce grand plans for future development works, or the building of mills. Rather, the mine limped along on a very small scale, attempting to extract enough ore to cover operating costs. Leasing arrangements were sought, in order to bring more money into the treasury, and several individuals were lured by the magic of the Bullfrog name. Superintendent Newell managed to make several shipments of ore, but in small quantities--total April production, for example, reached the grand sum of \$350, while lease-holders managed to ship \$790 worth of ore in May.

Even these low figures did not reflect profits. One shipper, who had ore worth \$160 a ton from a Bullfrog lease, paid over \$20 to the railroad for shipping charges and over \$37 to the Goldfield smelter for reduction charges, leaving him with a profit of \$103 for his labor, before he paid the Original Bullfrog Company its royalty. By now it was clearly evident, as Ransome had pointed out several years before, that the Original Bullfrog Mine was a very low grade proposition, which could not be profitably exploited under present conditions. By the end of 1908, both stockholders and the company had come to agree with that assessment. Stock sales had slumped to 1¢ per share, and the company again could not find the money to pay its \$34.65 in county taxes. Still, hoping against hope, several lease-holders hung on.¹⁹

In March of 1909, the Rhyolite Herald, in its grand pictorial supplement, gave a long history of the discovery and developments of the Original Bullfrog mine, sadly concluding that "The work has not proceeded . . . to the point of placing the

19. Bullfrog Miner, 2 May, 18 April, 11 July 1908. Rhyolite Daily Bulletin, 11 April 1908. Rhyolite Herald, 3 June, 4 November 1908. F.L. Ransome, et al, Geology and Ore Deposits of the Bullfrog District, Nevada, USGS Bulletin #407 (1910), p. 122. Nye County Recorder's Office, 1908 Assessment Rolls, Rhyolite.

property in the regular producing list." This was as far as a Rhyolite newspaper was willing to go towards admitting that the mine was dead. The Nye county treasurer, however, was willing to go farther, and in August of 1909 seized the movable property of the company in consideration for two years of unpaid taxes. Still, some hardy and hopeful individuals were willing to risk a few months' labor in the hope of finding the elusive green ore, and the property was working sporadically on a leasing basis.

By 1910, when it was becoming apparent that the entire Bullfrog District was dying, the Rhyolite Herald indulged in that favorite speculation of what-might-have-been. After discussing the early glory days of the district and the Original Bullfrog Mine, when high-grade ore was being shipped under armed guard, the Herald lamented: "If that kind of stuff, which ran up into the many hundreds of dollars per ton, had stayed in the Original instead of pinching out, the story of Bullfrog would be another tale than what it is." True, but

Although the boom days were now definitely over, hope still persisted, as it can only do in a mining camp. In 1912, the success of a neighboring mine provoked rumors that the Original Bullfrog would be reorganized and reopened, but nothing happened. Small time operators continued to work the ground in 1913 and 1914, through leases. The patented claims of the mine lay on the delinquent list of the county tax roll, for want of anyone to pay back taxes and reclaim the land. In 1917 a group of promoters incorporated the Re-Organized Original Bullfrog Mines Syndicate, but again nothing came of that effort.²⁰

20. Rhyolite Herald, Pictorial Supplement, March 1909, 2 October 1909; 4 June 1910, 20 & 27 April 1912. Mining World, 27 June 1914, p. 1219. Nye County Recorder's Office, 1909-1917 Assessment Rolls, Rhyolite. Nevada Secretary of State, Articles of Incorporation, Vol 32, p. 74. Nye County Deed Book, Vol. 22, pp. 537-66.

Nothing is harder to kill than the mystique of a name, especially a name such as the Original Bullfrog, with its intimate connections with the glorious boom and bust of the Bullfrog district. Time and again, throughout the following years, miners, prospectors, promoters and even movie stars were attracted by the prevailing mystique of the Original Bullfrog Mine. Surely, they thought, there must be something there, if this was the mine which started the whole thing. Their efforts were met with various degrees of middling success.

In the late 1920's the New Original Bullfrog Mines Company was organized and fitful shipments were made for several years before the enterprise folded. In 1930, Roy Pomeroy, a Hollywood executive, put together an organization with the backing of contemporary movie stars, and bought the Original Bullfrog as well as several other mines in the district. The Nye County treasurer, however, was soon listing all those properties once again on the delinquent tax roll.

In 1937 the Original Bullfrog, along with other mines, was purchased by the Burm-Ball Mining Company, which operated for several years, extracting small-scale shipments, before leasing them to other operators. These lease-holders operated intermittently through the 1940s and into the 1950s, but without any significant success. In 1955, one E.J. Kinsinger bought the mine, and like the Burm-Ball, continued to pay taxes on it, without deriving much benefit. In 1961, Kingsinger sold the mine to the H.H. Heislars, an old-time couple who moved back to Rhyolite and settled into the old Las Vegas and Tonopah passenger station. The Heislars in turn sold out to the Nevada Minerals Exploration

Company in 1974, and the claims were again sold in 1976, to Boyce Cook and Lenard Cruson.²¹

So lived and died the Original Bullfrog mine. Considering its history, which saw only insignificant production and small-scale mining efforts, the mine itself would hardly be worth remembering. It was, however, much more than just a mine--it was and is the symbol of the entire Bullfrog mining district, and all that that entails. The Original Bullfrog Mine was the spark which lit the Bullfrog boom, and that boom was in turn responsible for several other booms, the building of two towns, Rhyolite and Beatty, and the transformation of the entire history and economy of a large portion of the southwestern Nevada region.

And what of the two lonely prospectors who made the discovery? Shorty Harris went on, as most old-time prospectors did, to hunt again for gold in the desert. Amazingly, Shorty found gold a second time, at Harrisburg, on the western rim of Death Valley. Again, however, Shorty was unable to capitalize upon his discovery, and he died in 1934, alone on the desert, still looking for gold, and with little but his burro and his blanket to his name. Ed Cross, after giving up on his lease at the Original Bullfrog, returned to his home and farm in California and died at his daughter's house in 1958.²²

21. Mining Journal, 15 May 1926, p. 37; 30 July 1927, p. 30; 30 September 1940, p. 28; 20 March 1941, p. 22. Leslie C. Mott, Mining Activities and Sales Opportunities in the State of Nevada, Los Angeles County Chamber of Commerce, Domestic Trade Report #66, (1937), p. 26. Victor E. Kral, "Mineral Resources of Nye County, Nevada," University of Nevada Bulletin, #45 (January 1951), p. 35. Nye County Recorder's Office, 1926-1978 Assessment Rolls, Rhyolite and Beatty.

22. Murray, "Letters From a Death Valley Prospector," p. 8.

b. Present Status, Evaluation and Recommendations

Due to the close proximity of the Original Bullfrog Mine to the workings of the Bullfrog West Extension Mine, the physical remnants of the two mines have been confused more often than not by recent studies. Since the mines were owned and operated, in recent years, by identical parties, the discussion of the historic structures, together with conclusions and recommendations, will be found at the end of the West Extension section.

3. Miscellaneous Bullfrogs and Tadpoles

One of the first rules of the mining game is that one must get in on the "ground floor" in order to make money. If possible, an experienced prospector will hurry to the scene of the latest strike, locate ground as close as possible to it, and form a company with a similar sounding name. Between 1905 and 1910, this game was played to perfection by various and sundry miners and promoters in the Bullfrog District, as ninety companies were incorporated with the magic word "Bullfrog" somewhere on their letterheads. A few of these companies were in the vicinity of the Original Bullfrog, most--but not all--were within the boundaries of the Bullfrog District, and all hoped to lure stockholders' funds by advertising their proximity to the big strike. Some of the companies even went so far as to try mining.

A goodly number of these miscellaneous Bullfrog companies located ground within the present boundaries of Death Valley National Monument. Some, like the Bullfrog Winner Mining Company, the Bullfrog Western Mining Company, the United Bullfrog Mining Company, the Bullfrog Plutos Mining and Milling Company, the Bullfrog Gold Note Mining Company, and the Bullfrog Jumper Company, never did more than locate their claims, incorporate a company, sell stock to gullible investors, and never sank a pick into the ground.²³

Other "close-in" companies were more interested in actually mining. Among these were a group of assorted Bullfrog mines which surrounded the Original Bullfrog on all sides, much like ants around a pool of honey. These companies, all of which were located and incorporated soon after the beginning of the

23. Nevada Secretary of State, Articles of Incorporation, 1905-1910.

Bullfrog rush, all sank shafts as close as possible to the Original Bullfrog claims, hoping that the peculiarities of geologic formations would cause the rich green ore found by Harris and Cross to dip and angle into their properties.

Of the seven companies which surrounded the Original Bullfrog ground, six were utter failures, and one--the Bullfrog West Extension--got lucky, for the unpredictable Original Bullfrog ledge penetrated its property. Although this seems like a high rate of failure, it was about the norm for the risking business of mining. The Bullfrog West Extension was the earliest of the mines which sprung up around the Original Bullfrog, thus emphasizing another mining dictum that the "firstest gets the mostest." As an example of an unusual success, its story will be told later. The other six mines were not so fortunate, and the following are the brief tales of some ill-fated companies which attempted to cash in on the Bullfrog bonanza.

a. Bullfrog Extension Mining Company

On August 25th and 26th 1904, a group of prospectors located two claims, the Delaware #2 and the Last Chance, on the north and east sides of the Original Bullfrog. Together with the Bullfrog Extension #1 and #2, on the southeast of the Original Bullfrog, these four locations were incorporated in February of 1905 as the Bullfrog Extension Mining Company. The incorporation was the usual one, with 1,000,000 shares of stock offered to the public at a par value of \$1 each, and it was backed by San Francisco financiers. In May the company had enough money in its treasury to begin mining, and by June a six-man crew had sunk an inclined shaft 75 feet into the ground. Development continued through the summer and fall, and in November the company was the proud owner of a 25-horsepower gasoline hoist, a frame office building for the mine superintendent, and a 141-foot



← Goldfield: 65 miles

North Bullfrog claim of Bullfrog Apex M.C., which conflicts with boundaries of West Ext. and Bullfrog Ext. boundaries, and covers ground claimed by Bullfrog Fraction

Original Bullfrog Extension M.C.:
Hillside
Hillside No. 1 claims

Bullfrog Fraction claim:
unlocated ground between Original Bullfrog and West Extension

Bullfrog West Extension M.C.:
Delaware
Ethel
Jumbo claims

Amarogosa Townsite Company:
Amarogosa
Tadpole claims

Mammoth claim of Big Bullfrog M.C.

Rhyolite: 2 1/2 miles

Original Bullfrog M.C.:
Bullfrog
Bullfrog No. 2 claims

Bullfrog Extension M.C.:
Bullfrog Ext. No. 2
Bullfrog Ext. No. 1
Last Chance
Delaware No. 2 claims

← Happy Hooligan Mining Company
6 miles west

Bullfrog Red Mountain M.C.

Pearl
Valentine
Angeline
Senator claims

Scale: 5/8" = 1,000 feet

Legend: — Mining company boundaries
--- Claim boundaries

Source: "Map of Bullfrog Mining District, Nye County, Nevada," Bradford, Strange & Colliers, U.S. Deputy Mineral Surveyors, Bullfrog, Nevada, 1905.
"New Official Map of the Bullfrog Mining District, Nye County, Nevada," Geo. E. Sherer & W.B. Milliken, U.S. Deputy Mineral Surveyors, Bullfrog, Nevada, 1905.

shaft. By January of 1906, the company felt confident enough to advertise that it had a "magnificent quartz" ledge on its property which was "conservatively estimated" to be worth \$500,000.

The promising developments at the Bullfrog Extension were halted by the San Francisco earthquake and fire in mid-April of 1906, and the mine was idle from then until June. Even though stock in the company was selling at its all-time high of 13¢ per share in late June, work was again halted for unknown reasons, and was not resumed until late October. By the end of 1906, although the company was still delving for ore, no significant discoveries had been made. Still, the company readily paid its county taxes of \$24.86, assessed on personal property consisting of a 25-horsepower gas hoist, a twelve by sixteen-foot frame engine house, and a small office building, one ore car, and miscellaneous tools.²⁴

Developments continued during the first part of 1907, as the company vainly attempted to find traces of the Bullfrog ore on its property. For a few months prospects looked good, as described in the Bullfrog Miner on March 29th. The Bullfrog Extension, it reported, was "sinking at the rate of two shifts a day on a practically sure thing." Stockholders shared the optimism of the company and the newspaper, as the price of Bullfrog Extension stock was still holding at 12¢ per share in April. The panic of 1907, however, which hit the Bullfrog district in the fall, had a decided effect upon the fortunes of the company. The stock, after

24. Carson City Land Office, Plat of the Bullfrog Extension Mining Company. Nevada Secretary of State, Articles of Incorporation, Foreign, #8½-1905. Rhyolite Herald, 2 June, 13 October, 17 November 1905; 1 June, 14 September, 26 October, 14 & 28 December 1906. Bullfrog Miner, 12 January, 4 May, 1 June 1906. Nye County Recorder's Office, 1906 Assessment Roll, Rhyolite. Handbook on Nevada Mines, pub. by Goldfield News, (1906), p. 12.

dropping from 12¢ to 5¢ in one month, had completely disappeared from the trading board by October. For a mining concern heavily dependent upon stock sales for operating cash, this was a disastrous blow.

The company rallied, however, and on November 1st announced an assessment of 2¢ per share of stock, payable to the secretary by December. Stockholders were thus faced with the choice of paying 2¢ a share more into the company treasury in an attempt at saving a mine whose stock was then worthless, or of forfeiting their shares to the company. (Assessment was illegal in Nevada, due to many past abuses, but the Bullfrog Extension was incorporated in Arizona, a more permissive state.) The assessment was partially successful, for the company was able to raise enough cash to pay its 1907 taxes--although they were paid late--but not enough was collected to pay for any future development works. The mine lay idle throughout 1908, and the company was forced to call for another assessment of 1¢ per share in December of that year. This time so few stockholders responded that the company was not able to pay its taxes, and the property of the Bullfrog Extension Mining Company entered the county's delinquent tax rolls.²⁵

In 1909, one last attempt was made to revive the fortunes of the Bullfrog Extension. This time the owners had no hope of raising enough cash to operate on their own, so in June of that year they advertised in the hope of attracting lessees. It would seem strange that the Bullfrog Extension would still be attempting to develop a mine in 1909, since the Original

25. Rhyolite Herald, 4 January, 22 February, 1 November 1907; 2 December 1908. Bullfrog Miner, 29 March, 26 April, 4 May 1907. Nye County Recorder's Office, 1907 and 1908 Assessment Rolls, Rhyolite.

Bullfrog--the catalyst of the district--had already died. The neighboring West Extension property, however, was uncovering good ore, so the Bullfrog Extension changed its emphasis, and advertised its potential as a neighbor of the West Extension, rather than as a neighbor of the Original Bullfrog.

The advertisements were successful, and the property was leased in October. The new promoters then advanced a scheme which was absolutely fantastic, even for the Bullfrog district. The lessees incorporated not one, but three separate leasing companies, each of which had a lease on a different section of the Bullfrog Extension ground. The promoters then placed a long and confusing advertisement in the Rhyolite Herald, attempting to explain their scheme. Potential stockholders were invited to invest in each of the three companies, which jointly held a three-year lease to the Extension property. Although the leasing companies were incorporated separately, they would then develop the Extension mine on a combined basis. As an extra added bonus, the purchasers of the first 50,000 shares of stock in each of these companies would receive, "free of cost," an equal number of shares in the Bullfrog Extension Mining Company--a promotional gimmick of no real risk, since Bullfrog Extension stock had been worthless for two years by this time.

The leasing scheme, as fantastic as it was, enabled the company to raise enough cash to hire a miner to do the annual assessment work on the Bullfrog Extension property, and to pay the 1909 county taxes of \$18.00. Too few investors, however, could be fooled all the time, and the leasing companies folded before doing any work. The property was idle throughout 1910, although the company still retained enough cash to pay for the annual assessment work and the \$18.00 in county taxes. By September of 1911, the company had finally given up hope, and the gas hoist and

gallows frame were dismantled from the Bullfrog Extension property and shipped to Rawhide, for installation on a promising mine in that district. It was a very typical fate for mining equipment, buildings, tools, and anything else of value in a dying mine.²⁶

b. Big Bullfrog Mining Company

Located in the south of the Original Bullfrog, this mine had its inception in August of 1904, when "old man" Beatty, a local small-time dry rancher for whom the town of Beatty was named, located the Mammoth claim. Beatty soon sold out to a group of San Francisco financiers, who incorporated the Big Bullfrog Mining Company in 1905. The company owned just the one claim, but nevertheless formed the usual organization, with 1,000,000 shares of stock, par value \$1. Developments commenced, and by the end of 1905 the company boasted of a 16-horsepower hoisting engine, and a 2-horsepower blower engine for the ventilation of its 120-foot shaft. The company was described as "exhibiting good ore" in a Rhyolite newspaper, whatever that meant.

Developments continued on an optimistic level in early 1906, as the company succeeded in finding some ore which assayed as high as \$180 per ton. Stockholders, on the basis of this discovery, offered to sell their stock for 14¢ a share, but no one was willing to buy. In March the company announced that it had uncovered a body of milling grade ore worth \$14 a ton. Excitement mounted, since \$14 ore was enough to make the Big Bullfrog a paying proposition, provided that great care and

26. Rhyolite Herald, 9 June, 2 October, 11 & 25 December 1909; 17 December 1910; 2 September 1911. Nye County Recorder's Office, 1909-1910 Assessment Rolls, Rhyolite.

economy was taken, and that the ore deposits proved to be massive enough to warrant a large-scale operation.

In April, however, the San Francisco disaster drastically undercut the fortunes of the Big Bullfrog Company. The superintendent halted work at the mine when he learned of the calamity, and did not resume operations until the middle of September. The company then reported that "satisfactory progress" was being made through October and November, but no more ore bodies were found. At the end of 1906 the company held assets of one 16-horsepower engine, an engine house and gallows frame, several ore cars, and mining tools, for which it paid \$29.32 to the county in taxes.²⁷

The Big Bullfrog Company opened 1907 with a flair of development work, sinking its shaft to the 250-foot level, and opening up two ledges, with "fair values exposed." By March, however, the flair had definitely fizzled, for as the Bullfrog Miner wrote, the mine had "no material values." "Last week work was suspended for unknown reasons," continued the paper, as if the absence of any paying ore was not reason enough to close the mine. Stock in the mine slowly settled to 1¢ a share, and then disappeared from the trading board altogether, as it became evident that the mine would never again reopen. The Big Bullfrog had breathed its last, and with the exception of annual assessment work

27. Rhyolite Herald, 13 October, 8 December 1905; 5 & 26 January, 2 March, 27 April, 14 September, 26 October, 16 November 1906; Pictorial Supplement, March 1909. Bullfrog Miner, 30 March 1906. P. LaMontagne, Nevada, the New Gold State: An Up-to-Date Description of the Mining Interests of Tonopah, Goldfield, Bullfrog, Diamondfield, Goldreef, etc., (1905), p. 47. Nye County Recorder's Office, 1906 Assessment Roll, Rhyolite.

The Big Bullfrog Mine in November of 1905. Note the gallows frame, the ore bucket, and the engine house. The dumps of the Original Bullfrog Mine may be seen between the legs of the gallows frame, and a few tent buildings of Amargosa are just to the right.

Photo courtesy of Nevada Historical Society.



done in January of 1908, no further word was heard from another failed venture.²⁸

c. Bullfrog Fraction

In December of 1904, Len P. McGarry, mining promoter, stock dealer, and president of the Bullfrog West Extension Mining Company, noticed that the ground claimed by his company did not coincide with the boundaries of the Original Bullfrog. Between the Bullfrog claim of the Original Bullfrog company and the Delaware and Ethel claims of the West Extension, there lay a parcel of land, 1.7 acres in all, which was unclaimed. McGarry immediately located and recorded this ground as the Bullfrog Fraction claim. Then, interestingly enough, he sold it to outside mining promoters instead of selling or deeding it to his own company. Although this would seem to be a clear conflict of interests, such moves were not that unusual in the cut-throat business of mining.

Fractional claims are the bane of miners, and the delight of lawyers, and this one was no exception. Hardly had the new owners started to work, when their claim was disputed by the owners of the Bullfrog Apex Mining Company, owners of the North Bullfrog claim, whose boundaries conflicted with those of the Fraction, as well as those of the West Extension and the Bullfrog Extension. When the Apex company filed for a patent to the North Bullfrog claim in May of 1906, both the West Extension and the Bullfrog Extension filed adverse actions against the granting of the patent. Then, when high grade ore was found on the Fraction claim in June, matters got even more serious. For a while, the big

28. Rhyolite Herald, 4 January 1907; 4 January 1908. Bullfrog Miner, 29 March, 4 May 1907.

companies tried to settle the matter by furiously working the ground in question, with the Bullfrog Fraction caught hopelessly in the middle. Then, in July, the West Extension and Bullfrog Extension both filed suit in court against the Bullfrog Apex Company, and a long legal battle ensued. The Rhyolite Herald correctly surmised that the struggle would be lengthy and costly for all concerned. "If they fight it out someone is bound to lose, while all will be put to great expense," wrote the editor. "Think it over, gentlemen, think it over."

The gentlemen involved, however, had already thought it over as much as they wished, and during the remainder of 1905 and for most of 1906, the case wound its way slowly through the Nevada court system. In the meantime, the owners of the Bullfrog Fraction, surrounded by litigants which desired their ground, continued to develop their claim, and continued to find good ore leads. As their claims grew more valuable, and as the court battles grew more involved and more expensive, it became clear to them that they could no longer protect their claim by themselves. Accordingly, in November of 1906, they gave up and sold the Bullfrog Fraction to the West Extension Company. That company in turn incorporated the West Extension Annex Company to develop the Bullfrog Fraction claim, and began to operate the two mines as one.

The Bullfrog Fraction thus disappeared as a separate mine, and became part of the West Extension holdings--where it would originally have been had the president of the West Extension, Len P. McGarry, seen fit to benefit his company rather than his pocketbook two years previous. As a bonus to the West Extension, and as a great aid in its fight against

the Apex, the Bullfrog Fraction was granted a patent (which had been applied for by the previous owners) in March of 1907.²⁹

d. Bullfrog Apex Mining and Milling Company

The Bullfrog Apex Mining and Milling Company was incorporated on August 4, 1905 by a group of promoters headed by J.J. Fagan and E.L. Andrews. The incorporation was a rather typical one, listing capital stock of 1,000,000 shares, par value \$1 each. The company listed itself as the owner of 15 claims, only one of which was ever worked--the North Bullfrog. There was only one problem with the North Bullfrog claim: it intruded into the boundaries of the Delaware claim of the West Extension Company, the Delaware #2 claim of the Bullfrog Extension Company, and completely covered the small parcel of ground known as the Bullfrog Fraction.

As events were to prove, the organizers of the Apex Company knew about these conflicting boundaries when the North Bullfrog claim was filed, but they forged ahead anyway, hoping to capitalize upon a few technical mistakes committed by the other companies. Work on the Apex ground started in the fall of 1905, and soon all the competing companies were sinking shafts within a stone's throw of one another. The original Bullfrog shaft was the focal point, with the Apex Company sinking only forty feet away from it, the Bullfrog Extension working on the east, the Bullfrog Fraction on the west, and the West Extension to the west of the Bullfrog Fraction.

29. Carson City Land Office, Plat of the Bullfrog Fraction, Survey #2496. Rhyolite Herald, 4 May, 16 & 23 June, 4 August 1905; 27 July, 31 August, 3 October, 2 November 1906. Nye County Recorder's Office, Deed Books, Vol 13, p. 395.



No. 413

INCORPORATED UNDER THE LAWS OF THE STATE OF SOUTH DAKOTA

Shares

The Bullfrog Apex Mining and Milling Company



CAPITAL STOCK ONE MILLION SHARES (1,000,000).
FULL PAID AND NON-ASSESSABLE.
PAR VALUE ONE DOLLAR (\$1.00).

THIS IS TO CERTIFY that



*_____ is the owner of
_____ Shares of the Capital Stock of
The Bullfrog Apex Mining and Milling Company
full paid and non-assessable, transferable only by entry on the Books
of the Company on surrender of this Certificate properly assigned.*

*In Witness Whereof, the President and Secretary have hereunto subscribed
their names and caused their respective seals to be hereto affixed at
this _____ day of _____ 1900.*

Secretary

President

\$1.00

“Nothing to It!”

That's what a miner says
when he Gets Values.



Bullfrog Apex Mining and Milling Company

Is developing a fine body of quartz ore in the North Bullfrog, which adjoins the Original Bullfrog for 1200 feet on the north, the ore being the characteristic blue and green ore that has made the Original famous. We are working on the same identical ledge and getting the same identical ore and values as the Original. There is no question about these statements! The ground runs within 40 feet of the Original shaft. We also own three other claims adjoining the Original, we being the original locator of this ground. Also 7 claims next to Happy Hooligan. Total, 180 acres. * * * * *

ALL WE ASK IS AN INVESTIGATION!

Let us show you the ground.
We need money for development work.

STOCK IS A SNAP AT 10 CTS!

Rhyolite Realty and Investment Co.

RHYOLITE, NEVADA

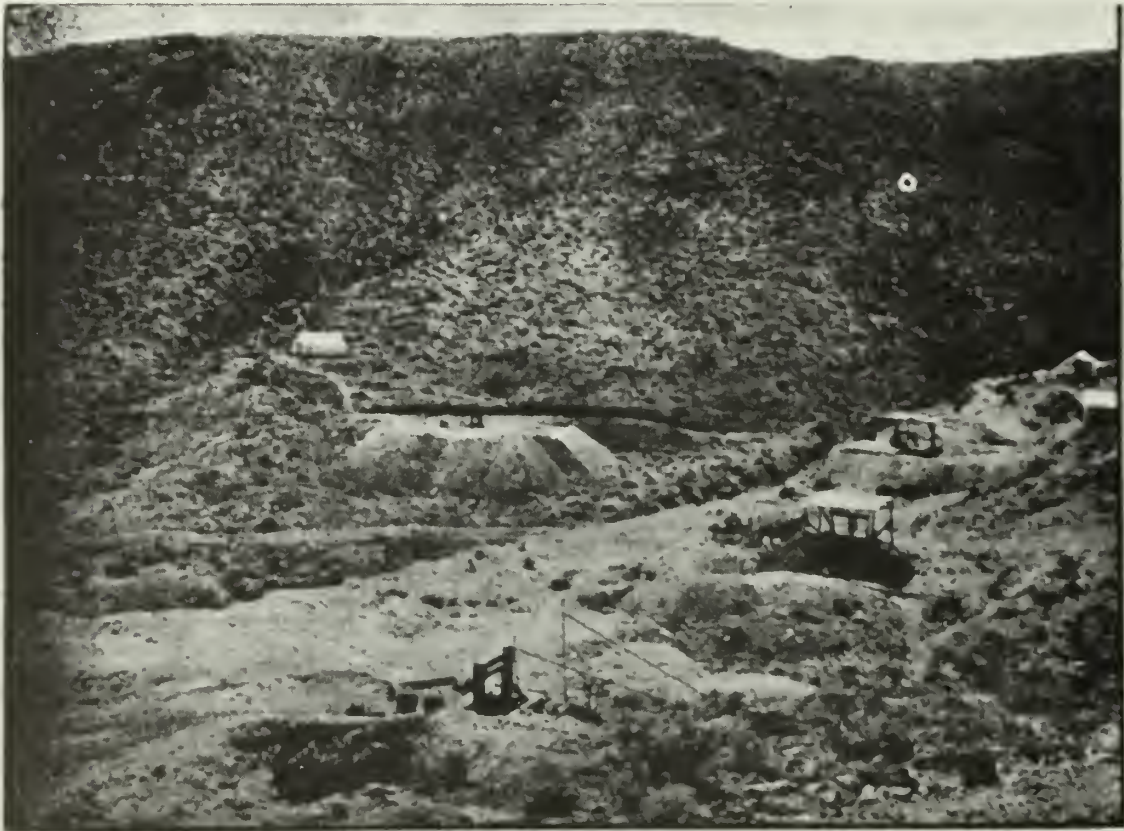
The development race between these companies continued through the early part of 1906. The Apex encountered encouraging ore values, stock sales were adequate at 11¢ per share, and the promoters were confident enough of the mine's prospects that they decided to apply for a patent. That, however, was the move which spelled the end of the mine. When the Apex filed its papers for patent, the local newspapers, as required by law, published the legal description of the claim boundaries. When these were published, the West Extension Company immediately realized that the Bullfrog Apex was attempting to patent land which the West Extension had a prior location to, and it filed an adverse action against the Apex application, and then filed for its own patent.³⁰

While the patent applications and adverse suits were slowly winding their way through the jurisdiction of the U.S. Land Office at Carson City, both companies continued to sink development shafts and tunnels, trying to find the elusive ore bodies, and determine if there was anything underneath the ground worth fighting for. When the Apex Company uncovered a vein of gold assaying \$251 to the ton, the question was settled, and the legal battle intensified. The Bullfrog Extension had by now realized that the Apex patent also infringed upon its ground, and filed a second adverse suite against it. At about this time, the struggle was elevated from the Land Office to the civil court system of Nevada.

Law suits, then as now, took time, and in the meanwhile all the companies involved continued to develop their mines.

30. Nevada Secretary of State, Articles of Incorporation, Foreign, #28½-1905. Rhyolite Herald, 17 November, 15 December 1905; 4 May 1906. Bullfrog Miner, 6 April, 4 May 1906. Handbook on Nevada Mines, p. 10.

Photo from the Rhyolite Herald of July 27, 1906, showing the location of the ground in dispute between the Bullfrog Apex, the West Extension, the Bullfrog Extension, and the Bullfrog Fraction. The shaft and windlass at the bottom of the picture are on the property of the Original Bullfrog; immediately above it can be seen the circular dump of the Apex; the right-center workings are on the Bullfrog Fraction; and the right-top workings belong to the West Extension. The ground in dispute between the Apex and the Bullfrog Extension is off to the right, out of the picture.



Cut Showing Disputed Ground Near Original Bullfrog

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At the very least, the company which lost the suit hoped to extract the best ore from the ground before the case was ever heard, thus minimizing its losses. By October, the Bullfrog Apex realized that the West Extension was winning this particular race to get the contested ground, and managed to obtain a writ of claim and delivery, stopping the West Extension from shipping high grade ore from the mine until the suit was settled.

When the first hearing of the case took place, in the local Rhyolite court on October 9th, the judge soon realized that the case was too complex for him, and transferred it to the district court at Tonopah. The move meant higher legal costs to all parties involved, but it also meant more time to exploit the mines while awaiting results. But by this time the Apex was running into trouble. The great publicity surrounding the court suit was taking its toll upon the company, for the Apex was a relatively unheralded company, compared to the well-known West Extension and the less famous Bullfrog Extension companies. As a result, the stock of the Apex, which had been selling at a high of 11¢ per share in May of 1906, fell completely off the trading board within a few weeks of the announcement of the legal suits. Strapped for money to proceed with either the development of its prospect or the long legal battle, the Apex took its case to the people, in the form of a long newspaper advertisement. The appeal, however, seemed to have little effect, for Bullfrog Apex stock did not reappear on the market.³¹

As 1906 gave way to 1907, conditions remained much the same. The case slowly ascended the court calendar in

31. Bullfrog Miner, 18 May, 5 October 1906. Rhyolite Herald, 1 June, 27 July, 31 August, 19 October, 9 November 1906.

Tonopah, and the West Extension, Bullfrog Extension and Bullfrog Apex companies continued to develop their respective portions of the disputed ground. By this time the West Extension Company had increased its stake in the affair through the purchase of the Bullfrog Fraction ground, which effectively doubled the amount of land at dispute between it and the Apex. On February 8th, the case was finally heard in the district court at Tonopah, and the opposing factions were given another thirty days to file final briefs.

Finally, during the first week of May, the Tonopah court rendered its judgement. The ground known as the Delaware claim of the West Extension, and that known as the Bullfrog Fraction, the court announced, had been located and recorded properly prior to the location of the North Bullfrog claim of the Bullfrog Apex Company. Thus, despite the contentions of the Apex attorneys that the former claims had been allowed to relapse, the court found that such was not the case, and ruled entirely in the favor of the West Extension and Bullfrog Extension companies. The West Extension gleefully placed a full page ad in the Bullfrog Miner, announcing that title to its ground was now uncontested. The Bullfrog Apex was left in the cold--its claim to the North Bullfrog ground was completely invalidated.

Although the Apex Company owned other property, such as seven claims near the Happy Hooligan, six miles to the west of the Original Bullfrog, the company had exhausted its treasury through its hectic development of the North Bullfrog claim, and through the legal costs of the court suit. Now, with no more money to pursue further mining, and with the utter loss of public confidence prohibiting the sale of further stock, the Bullfrog Apex Mining and Milling Company quietly closed its doors and went out of

business. The company had taken a calculated gamble and had lost.³²

e. Original Bullfrog Extension

On April 13, 1905, a group of five hopeful promoters incorporated yet another Bullfrog mine, this one called the Original Bullfrog Extension Mining Company--not to be confused (except perhaps by investors) with the Original Bullfrog or with the Bullfrog Extension. The Original Bullfrog Extension was the owner of two claims called the Hillside and Hillside #1, which were situated directly north of the Delaware claim of the West Extension Company and the Delaware #2 claim of the Bullfrog Extension, respectively.

Despite the close similarity of names, the Original Bullfrog Extension was neither an "original" nor a true extension of the Original Bullfrog. That in itself was no great problem, but when potential investors figured out that the Original Extension was separated from the Original Bullfrog by the claim of the West Extension and the Bullfrog Extension, the company failed to attract much interest, and its stock was never placed on the trading boards. Nevertheless, the company went to work, with the forlorn hope that either the rich Bullfrog ledge would dip entirely through the intermediate properties and enter its ground, or that they would have the great luck of finding a separate ledge upon their own ground. By the end of 1905, pursuing these hopes, the Original Bullfrog Extension had sunk a shaft to a depth of one hundred feet, and had equipped its property with a horse whim for raising the rock.³³

32. Rhyolite Herald, 4 January, 8 February 1907. Bullfrog Miner, 8 February, 22 February, 3 May 1907.

33. Nevada Secretary of State, Articles of Incorporation, Vol 6, p. 35. Rhyolite Herald, 27 October, 3 November 1905. Bullfrog Miner, 12 January 1906.

The company continued its development work through the early part of 1906, but without much luck. Neither the Bullfrog ledge nor any other ledge appeared on its property. Then, in April, the Original Bullfrog Extension temporarily shut down work, while its superintendent traveled to San Francisco to learn the effects of that city's recent disaster upon the company's finances. The mine lay idle throughout the summer, but by September the company had recovered enough to announce that work would soon be started. Soon, however, turned out to be a long time coming, and work did not resume at all that fall. In December, with the property still laying idle, the company gave up the hope of developing the mine on its own, and advertised for a contract to sink fifty feet in the shaft. The advertisement described the company's property as being equipped with a 155-foot deep shaft, a good whim and a blacksmith shop. The company offered to provide the contractors with timbers for the shaft and with tools for mining.

The contract was let, and by March of 1907 had been completed. No ore was found, however, and the Bullfrog Miner was forced to admit that "nothing of importance has thus far developed" at the Original Bullfrog Extension. Nevertheless, the company continued to work through April, before finally giving up hope. Throughout the rest of 1907 and most of 1908 the property was dormant, with only the minimal necessary annual assessment work being done. In 1909, however, even the assessment work was not done, which meant that the Original Bullfrog Extension Company relinquished title to its claims. Another Bullfrog mine had died.³⁴

34. Rhyolite Herald, 9 February, 2 March, 7 September 1906; 4 January, 5 April 1907; 16 December 1908. Bullfrog Miner, 13 & 20 April, 1 June 1906; 29 March 1907.

f. Bullfrog Red Mountain--Rhyolite Bullfrog

The Bullfrog Red Mountain Mining Company had even less of a claim to the magic Bullfrog name than any of the above mines, for its four claims were situated almost a mile southwest of the Original Bullfrog. Undaunted, the company was organized early in 1905, and started to work, reporting that they had found ore worth \$47 per ton. Despite this claim, efforts to develop the mine were not successful. By the time the Red Mountain had organized, approximately seventy-five other companies in the district had already used the Bullfrog name, with a noticeable cheapening of its value in attracting investors. This, along with the remote location of the mine, made it evident to any half-way careful speculator that the Red Mountain outfit had absolutely no hope of cashing in on the Original Bullfrog ledge, and just as remote a chance of finding another ledge of its own. As a result, although the Bullfrog Red Mountain announced the usual incorporation of 1,000,000 shares worth \$1 each, the stock never hit the trading boards.

Before the company had really got work off the ground, the San Francisco disaster cut off operations. The mine was idle through the rest of 1906, even though it did take the public relations step of announcing that Sam Newell, superintendent of the Original Bullfrog, had also been appointed as superintendent of the Red Mountain. Unfortunately, Newell had nothing to supervise, and nothing happened.

Then, in early 1907, the mine was sold to a new group of promoters, and the cycle started all over again. The new owners, led by two men named Voorhees and Taylor, decided to reincorporate and change the mine's name, hoping thus to sever all connections in the investors' minds with the losing predecessor. Since Voorhees and Taylor were two of Rhyolite's leading stock

promoters and brokers, the new company had all the benefit of their experience and connections. From January to April, the Rhyolite newspapers carried weekly descriptions of the reorganized mine, thus keeping it in the public's mind, even though no work was being done. Finally, on April 6th, the new company incorporated itself as the Rhyolite-Bullfrog Mining Company, capitalized as usual for \$1,000,000 and with the grand total of \$1,003 in the treasury.³⁵

With a newly incorporated company and with money in the treasury, the Rhyolite-Bullfrog Company underwent a flurry of development work. Camp buildings were completed in early October, including a boarding house, stables, blacksmith shop and a superintendent's office. Sinking was resumed by three shifts of miners, \$10 ore was reported, and the company cleverly circulated the rumor through the newspapers that it had a good treasury reserve, in an attempt to bolster investor confidence. The papers were full of encouraging news carefully planted by the skillfull stock brokers running the company. During the fall and winter of 1907 reports of \$23 ore, "solid values", "promising" finds, and surface showings "the best in the district" appeared almost weekly. Then, suddenly, with the end of 1907, all work ceased. Despite all the promotional gimmicks, the mine was not attracting investors.

Through the entire years of 1908 and 1909, little work was done at the Rhyolite-Bullfrog, even though the company did display ore samples at the American Mining Congress convention in Goldfield in the fall of 1909--another good promotional

35. Rhyolite Herald, 30 June 1905; 4 January, 5 April 1907. Bullfrog Miner, 25 May 1906; 11 January, 8 March 1907. Handbook of Nevada Mines, p. 16. Nevada Secretary of State, Articles of Incorporation, Vol 11, p. 285.

stunt. That was the company's last gasp, however, and the mine lay idle through 1910 and 1911. Finally, in March of that year, the company's four claims were sold at auction by the Nye County sheriff, under a writ of execution brought by two disgruntled stockholders who wished to recover their ill-spent funds. The two men received title to the mine for their efforts, and even tried a little prospecting work on their own, but the Rhyolite-Bullfrog, nee the Bullfrog Red Mountain, soon died an untroubled death. The venture had proved once again that even the very best of promotional campaigns could not save a mine which had no ore.³⁶

Such were the varied fortunes of those who tried to find success in the shadow of the Original Bullfrog strike. As noted before, the above mines were the more honest of the many which carried the Bullfrog name, for they at least tried to find ore on their grounds. In this sense, they gave their investors a better run for their money than did the promoters who merely took stockholder's funds and ran. In the end, however, all came out equal, for no one made any money, and some merely lost it more quickly than others.

Had things been different--had the Original Bullfrog been another Comstock--these surrounding mines could have made fortunes. That was what the promoters and stockholders had bet upon, but as the twists of fate and geologic formations would have it, the Original Bullfrog itself turned out to be a low-grade proposition, despite the early finds of rich pockets of

36. Bullfrog Miner, 5, 12, 19, & 26 October, 2 November, 21 December 1907. Rhyolite Daily Bulletin, 25 October 1907. Rhyolite Herald, 1, & 8 November, 1907; 4 March, 7 October 1911. Nevada--The Mineral Empire. Souvenir of the American Mining Congress, (1909), #57-58.

gold, and the surrounding mines found no ore at all. The early demise of the Original Bullfrog thus spelled doom for all the neighboring tadpoles, but such is the nature of the mining game. You pay your money and take your chances. The story of these mines is important, though, for they are typical tales which are repeated again and again in all the camps of the western mining frontier.

g. Present Status, Evaluation and Recommendations

Due to the limited nature of the activities which took place on the property of these various mines, comparatively few structures were ever erected. Only a few of the mines had hoists or gallows frames, as most did not pass the windlass or whim methods of raising ore. Likewise, most of the mines never employed enough miners to warrant the construction of boarding houses or similar buildings. And, since all these mines failed before the general exodus of the Bullfrog district took place, the few improvements and structures located at their sites were immediately salvaged for use elsewhere, in the time-honored manner of desert mining, where wood was always a scarce commodity.

As a result, there are no structural remains at any of these mines. The only clues to past activities are the numerous pits, prospect holes, adits, and shafts which dot the landscape around the Original Bullfrog. The limited remains of these limited mining efforts are not of National Register significance.

Interpretive signs, which would point out the location of these mines, and briefly tell the story of their vain attempts to cash in on the Bullfrog bonanza, would be of historical interest and educational value to the visitor. Unfortunately, in the history of man's efforts to extract wealth from the earth, the failures of small-scale mines such as these are far more typical than is the small percentage of mines which actually made money.

Dumps of the Bullfrog Extension Mine, looking southeast from the Original Bullfrog, may be seen in the center and left-center of the picture. These lonely scars are typical of the only clues remaining to tell the story of feverish attempts to cash in on the glory of the Bullfrog bonanza.

1978 photo by John Latschar.



4. Bullfrog West Extension Mine

a. History

While Shorty Harris was drinking in Goldfield in celebration of the discovery of the Original Bullfrog mine, he met an old acquaintance named Len P. McGarry. McGarry had been born in Eureka, Nevada, and had spent his entire life in the mining state, cutting his eye teeth on the rushes to Tonopah and Goldfield. He was the sort whom the local newspapers described as a "young man of promise," but his promises had temporarily run out, and he was looking for new fields of action. Quickly realizing the potential of the Bullfrog strike, McGarry reestablished his friendship with Shorty, and accompanied him back to the scene of the strike. There, on August 26, 1904, McGarry staked out some claims to the immediate west and north of the Original Bullfrog.

For a while, McGarry became sidetracked from mining, as he was one of the first investors and promoters of the Bullfrog townsite. His claims were recorded, but were not worked for over a year. But when the Original Bullfrog Mine started shipping its pockets of high-grade ore in 1905, McGarry regained interest in his claims, and went looking for financial backers. By December his search was successful, and on the 7th of that month the Bullfrog West Extension Mining Company was incorporated, with McGarry as president. Although the incorporation was very typical on paper, with 1,000,000 shares of stock listed at a par value of \$1 each, the company decided to retain the majority of the stock, and sold a mere 125,000 shares, at 12½¢ each, in order to raise the initial development fund. Stock sales were brisk, due to the location of the company next to the Original Bullfrog, and the West Extension was soon ready to begin work.³⁷

37. Carson City Land Office, Plat of the Bullfrog West Extension Mining Company, Survey #2590. Nevada Secretary of State, Articles of Incorporation, Foreign, #6½-1905. Rhyolite Herald, 13 October 1905; 22 March 1907. Bullfrog Miner, 29 March 1907.

To The People of **Bullfrog Dist.**

Occasionally there comes to you an opportunity which it would be next to criminal to neglect. To no one in the world do these opportunities come as they come to you, because no one else in the world knows and appreciates the possibilities of the mineral deposits of Southern Nevada as do those who are most familiar with them. Do you remember when the stock of the Original Bullfrog Mines Syndicate was placed on the market about one year ago? Did you appreciate then the possibilities for money-making that was presented to you when you could have purchased the stock at 10c per share? You probably know that it has since sold as high as 54c per share. Were you one of those who profited by an investment in that stock? If you were presented today with an opportunity for the making of mighty large profits, more attractive in every way, and doubtly as sure of handsome returns as was the Original Bullfrog stock, would you permit that opportunity to slip away from you? Now would you? Do you know that there is just such an investment on the market today? Perhaps you do not, because this is absolutely the first offer of the stock in Bullfrog district and the probabilities are that it will be the last, as the attractiveness of the proposition is such that it is positively certain to sell the entire allotment of stock very quickly. Mr. Investor, we had to begin with just exactly 50,000 shares of the treasury stock of the

BULLFROG WEST EXTENSION MINING CO.,

Which we can offer at the astonishingly low price of 12 1-2c per share

The property of the Bullfrog West Extension company comprises three claims, the Jumbo, Ethel and Delaware No. 1, about 60 acres, adjoining the Original Bullfrog and Bullfrog Extension mines. On the Bullfrog Fraction an enormous body of milling ore has been opened up within 12 feet of the West Extension property. All the rich shipping ore taken from the Original Bullfrog mine has been taken from their shaft and tunnel workings, within 75 feet from the south side line of the Delaware No. 1. This statement we hold out and is one of the representations we rely on in offering stock for sale in the Bullfrog West Extension Co. Another representation we make in offering this stock to the public is the Bullfrog Fraction which runs to a point at the S E corner of the Delaware No. 1, sunk a shaft 50 feet deep and run a drift 25 feet along the south side line of the Delaware No. 1, struck the same rich green ore found in the Original.

The Board of Directors is as follows:

- L. P. McGarry, postmaster and one of the leading merchants of Bullfrog, Nevada.
- Thos. S. Robinson, director of the Jumbo Mining Company.
- Hon. V. T. Hoggatt, father of the Alaska Homestead Bill.
- Judge Frank X. Murphy, pioneer lawyer of Nevada.
- E. A. Montgomery, president of the famous Montgomery-Shoshone mine of Bullfrog.

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Stock may be obtained at the office of

THE G. S. JOHNSON BROKERAGE CO.

Fiscal Agents for the Company, 410 Main St., Goldfield, Nev.

From the very beginning, the West Extension had better chances of intercepting the Bullfrog ledge upon its property than any of the other Bullfrog tadpoles, simply because it was the last to begin active operations. By the first of 1906, most of the mines surrounding the Original Bullfrog were showing signs of failure, and the Original itself had lost the rich ore ledge which had stimulated the first glory days. By process of elimination, this meant that if the Bullfrog ledge went anywhere, it had to go through the West Extension property. The company followed this philosophy, and began sinking its shaft at the likeliest point.

By May of 1906, after only a few months of exploration work, the West Extension seemed to discover the first signs of the Bullfrog ledge, and the local newspapers duely reported the presence of "fine ore" in the company's shaft. Unfortunately, this was the exact time at which the West Extension discovered that the Bullfrog Apex was encroaching upon its ground, and the long and costly legal struggle, described above, began. Nevertheless, the West Extension carried on, and began taking out high-grade ore, worth up to \$200 per ton, to be sacked for future shipment.

Within a few months, the early indications seemed proven, and in July the company's directors decided to withdraw the stock from the trading market, in order to capitalize upon the future profits of the mine themselves. With the mine reporting ledges averaging \$50 per ton, with some rich pockets running as high as \$2,670, the decision seemed fully justified. For another two months the company explored, results continued to be encouraging, and in September the decision was made to shift from exploratory mining to development on a larger scale. A \$5,000 hoisting plant was ordered, consisting of a 25-horsepower Fairbanks-Morse engine, a four-drill capacity air compressor, and accessories. Len P. McGarry, who was acting as superintendent of

the mine, as well as president of the company, increased the work force to ten miners. In answer to inquiries from eager investors, the company announced that it had ample funds to pay for the escalated development plans, thank you, and that none of the company's stock would be offered for sale.

Despite the continuing annoyance of the law suit versus the Bullfrog Apex, which among other things prevented the West Extension from adding to its treasury by shipping the high-grade ore, the company forged ahead. The big new hoisting plant arrived in late October and was soon installed and working. The Bullfrog Fraction claim was purchased and the West Extension Annex company was formed to exploit it. By this time the growing West Extension complex looked so strong to local and state investors that when the company announced that it would sell 150,000 shares of the Annex stock at 15¢ each, over 50,000 shares were purchased in two weeks--despite that fact that 15¢ per share was an exorbitant price for stock in a company that had not yet commenced mining. As 1906 came to an end, the West Extension looked like one of the best properties in the Bullfrog district, even though title to some of its land was still a matter of dispute.³⁸

The mine continued to prosper in early 1907. Another shoot of rich ore, assaying up to \$900 per ton, was opened in January, and more encouraging discoveries were made the following month. The Bullfrog Miner, after describing the latest strike in its February 22d issue, concluded that even though the "West Extension is only a baby as yet," it was "unquestionably" the "finest piece of goods" in the district.

38. Rhyolite Herald, 4 & 18 May, 28 September, 2 & 16 November, 14 December 1906. Bullfrog Miner, 5 & 26 October, 23 & 30 November 1906.

Although the West Extension might be considered a baby, it had already spawned one subsidiary in the West Extension Annex company, and another soon followed. In March, the claims of the Bullfrog Teddy group, which joined those of the West Extension, were purchased, and the Bullfrog Teddy Gold Mining Company was organized. The officers and directors of this company were identical to those of the West Extension, and the promotion of the company soon began. The Teddy, the advertisements read, would be developed to catch the West Extension ledge, just as the West Extension had caught those of the Original Bullfrog, and the public was invited to share in the undoubted success of the venture. Response was again satisfying, with 140,000 shares of Teddy stock sold in March, and by April the price of the stock had risen to 16½¢ per share. Obviously, investors who were frozen out of the West Extension, since it was operating as a closed corporation, were more than anxious to get in on its neighboring prospects. After all, the West Extension had good ore reports, its neighbors probably would also, and all three companies were under the same management. Len McGarry, for example, was the president of the West Extension, the West Extension Annex, and the Bullfrog Teddy, and would also be the superintendent of all three mines. In addition, Bullfrog Teddy and West Extension Annex stock was available for purchase from the office of the L. P. McGarry Brokerage Company of Rhyolite, Nevada.

Things were going so well for McGarry that he even ordered a hoisting plant for the Teddy, before active developments commenced. His luck held. During the next few weeks the West Extension found more ore, some assaying up to \$264 per ton, and the Teddy found a ledge averaging \$26.40. McGarry publicly offered to buy back the stock of the West Extension from anyone who had been lucky enough to purchase it the last fall, but no one seemed willing to sell. When the board of directors of the company held its first annual meeting on March 15th, the directors

were so impressed with McGarry's reports that they voted once again to keep West Extension stock off the trading board. This decision meant that the directors would have to finance development work on their own, but that seemed to be no problem, as the papers reported that \$50,000 was raised in fifty seconds.³⁹

By this time the West Extension properties were becoming famous throughout Nevada, and Len McGarry granted an interview to a reporter from the Reno Journal. The mine, he said, had rock averaging \$20 per ton throughout its workings, more than enough to support a mill upon the site, and had encountered pockets and streaks of free gold, one of which assayed at \$10,000 per ton. By the end of March the hoisting plant for the Teddy had arrived, the two shifts of miners at the West Extension had piled over a hundred tons of high-grade ore on the dump, and McGarry announced that the mine had thousands of tons of milling grade rock in sight. Again, rumors of a proposed milling plant were circulated.

Another strike of \$99 ore was made at the West Extension in April, and the Teddy completed the installation of its hoisting plant and a blacksmith shop. Then, in May, the big news came. The West Extension won its suit against the Bullfrog Apex, and was finally free to develop its mine unmolested, and to ship its high-grade ore, which was sacked and ready on the dump. Strangely enough, however, the company did not ship. Instead, development work went along as usual for another month, and then the mines were suddenly shut down. The company announced the

39. Bullfrog Miner, 11 & 25 January, 22 February, 1, 8 & 15 March 1907. Rhyolite Herald, 25 January, 15 February, 8 March 1907. Nevada Secretary of State, Articles of Incorporation, Foreign, #58 $\frac{1}{2}$ -1907.

official reason for work stoppage as being the need to thoroughly survey the mines, in order to draw up final development and production plans, and to come to a decision regarding the construction of a mill. The shut-down, McGarry assured the papers, was only temporary. Holders of Bullfrog Teddy stock, however, were not fully convinced, and the price of the stock plunged to 3¢ per share.⁴⁰

The mine was idle until the end of August, when the company announced its new plans, based upon the recommendations of several mining engineers who had inspected the ground during the shut-down. Once the decisions were reached, the mines reopened, work resumed and progressed satisfactorily throughout the fall, despite the effects of the panic of 1907. By December the owners announced that they had \$195,000 worth of ore blocked out in the mine, and the directors again contributed more cash to finance the work. Again, rumors circulated through the newspapers concerning the erection of a milling plant for the West Extension. But despite all these indications of success, something was wrong with the finances of the company. The 1907 county property taxes were not paid on time, and for the want of \$46.20 the property was listed on the delinquent list for several months.

In January of 1908, the West Extension executed another suspicious move, when that company bought out the stock of the Bullfrog Teddy. Although this would seem to be a meaningless move on the surface, since the two mines were already operating as one, it made a difference to stockholders of Teddy stock. The merger was quick, and the stockholders were helpless to prevent it, since the major stockholders and directors of the

40. Rhyolite Herald, 22 & 29 March, 19 April 1907. Bullfrog Miner, 29 March, 5 April, 3 May, 22 June, 7 August 1907.

Bullfrog Teddy were one and the same with those of the West Extension. The real effect was that Bullfrog Teddy stock immediately became worthless, and according to the dictates of the directors, holders of it were forced to exchange it for stock in the West Extension at a ration of four to one. Bullfrog Teddy stock had last sold for 6¢ per share on the Rhyolite exchange, so for the stockholders to come out even West Extension stock would have to be worth at least 24¢ per share. But since West Extension stock was untraded, no one knew for sure what it was worth, except the directors of the company. In summary, the dealings of a company which formed a subsidiary, sold stock in it, and then absorbed that company and forced stockholders to exchange their stock for one of unknown value, were suspect.

In order to bolster the confidence of the suspicious stockholders, the West Extension announced at the same time that it was planning to construct a reduction plant at Gold Center, where ample water supplies were available; and that new financial backers had pitched their lot with the West Extension, including John Campion of Leadville, Colorado, and Fred Bonfils, one of the owners of the Denver Post.⁴¹

Hardly had these grand organization and building plans been announced, than another peculiar event took place. During the second week of February, the West Extension granted an eighteen-month lease to a pair of miners, for mining rights on a portion of the Delaware claim--the same claim for ownership of which the company had been willing to fight the Bullfrog Annex. Ordinarily, a company which had ample capital and a promising mine, which the West Extension claimed to have,

41. Bullfrog Miner, 31 August, 7 September 1907; 18 January, 1 February 1908. Rhyolite Herald, 29 November, 20 December 1907. Nye County Recorder's Office, 1907 Assessment Roll, Rhyolite.

would never lease a portion of its property, since the employment of lessees cut down on the potential profit of the mine. Yet the West Extension, which had never looked better, according to the reports it released to the Rhyolite newspapers, was doing just that. No one seemed to question why. The lessees, however, were not about to look a gift horse in the mouth, and immediately incorporated themselves as the West Extension Leasing and Milling Company, and went to work.

By the middle of March, the plans of the company changed once again. This time, the West Extension announced that it had reached an agreement with financiers from Salt Lake City and Chicago relative to the construction of a mill. In return for the West Extension's guarantee to deliver 20 tons of milling ore per day for one year, the financiers announced plans for the construction of a custom reduction mill at Beatty. At the same time, the West Extension also announced that the U.S. Government had approved its patent application for the Delaware, Ethel and Jumbo claims. Following these announcements, development proceeded at the mine, and the company shortly reported the location of another ore body, this one assaying as high as \$800 in spots, with average values throughout of \$40.

The company now had three shifts working its mine continuously, and began to stope the best ore for future milling operations. The mine superintendent reported that he could extract forty tons of milling grade ore per day without untoward effort. The major stockholders and directors of the mines continued to be impressed with its prospects, and once again raised \$50,000 among themselves during the annual meeting on March 28th.

More strikes were reported in April, as the mine continued to find good ore. Assay reports differed from week to week, but it was undeniable that the West Extension had

Advertisement for the leasing company operating on the West Extension property. From the February 1908 issue of Death Valley Magazine.

West Extension Leasing and Milling Company

OFFICERS AND DIRECTORS

<p>PRESIDENT J. A. SMALL Cashier of John S. Cook & Co's Rhyolite Bank.</p>	<p>VICE PRESIDENT E. H. STICKEY Cashier of First National Bank of Rhyolite.</p>
<p>SECRETARY AND TREASURER ERNEST LONG Of John S. Cook's Bank.</p>	
<p>ADDITIONAL DIRECTORS—GEORGE C. KEENAN, cashier Bullfrog Bank and Trust company, C. L. MILWARD, general manager of the Indian Savings Water company and director of the Bullfrog Bank and Trust company.</p>	

This is the title of a company just formed in Rhyolite, made up of the most conservative and substantial business and mining men of the camp, who for three years have known of the West Extension mine, and who after months of negotiations have secured a lease on the Delaware No. 1 claim of the West Extension company, 300x600 feet, covering one-fifth of the entire claim, or four full acres. Within the boundaries of the ground included in this lease, is an open trench disclosing the characteristic green-stained ore that predominates in the big ore shoot of the West Extension mine, and is within 500 feet of the main workings of the West Extension, where the entire force is being concentrated in driving the tunnel toward that portion of the property controlled by the leasing company. Three engineers of world-wide reputation have examined the West Extension mine during the past year, and they all agree that the strike, course dip of this ledge is in and through the ground upon which this lease has been obtained. The west breast of the ore shoot is one-third richer in value than it was 200 feet back therefrom.

The West Extension Leasing and Milling company has obtained an eighteen months' lease dated on the 5th of February on a graded royalty similar to the leases let in the Grubbe Creek district. These royalties are as follows: On all ore averaging under \$20 a ton, 3 per cent to the company; on ores running from \$20 to \$25 per ton, 10 per cent to the company; on ores running from \$25 to \$75 per ton, 15 per cent to the company; all over \$100 per ton and under \$1000, 25 per cent to the company; all ores running over \$1000 per ton, 50 per cent to the company.

This is the most conservative organization of business men that could possibly be gotten together by the Bullfrog district. Their word is as good as their bond, and they have the reputation of doing things. They are thorough business men, and the interest of the stockholders of this leasing company will be their constant care.

This company is incorporated under the laws of Nevada, with a capital stock of 1,900,000 shares, par value \$1 per share, of which one-half or 500,000 shares, have been placed in the treasury. The stock is fully paid and forever non-assessable. The other 500,000 shares are pooled for the period of one year.

The leasing company starts business with a fine equipment, having secured a new 15-horsepower hoist, which is now being placed in position on the ground. There is a 15-foot shaft on the lease, all in milling ore, and work will be started at this point, with two shifts, as soon as the machinery is in position. In the meantime, the ledge is being thoroughly prospected. Anyone familiar with the Bullfrog district, especially with the West Extension company's property, can see that the great ledge of the West Extension runs directly through this lease. The ledge or ore zone disclosed in the West Extension workings has never been less than 40 feet in width, and the assay chart is the most striking exhibit that ever has been made by any mining company in the whole Bullfrog district or for that matter, in all Nevada. The West Extension mine today has a million dollars' worth of ore that will average better than \$20 a ton. To give an idea of the immense ore shoot in this mine which points directly to this lease and within 500 feet of it, it is 80 feet in width, gave average returns of \$31 a ton. In all this great ore shoot there are rich seams that will go into thousands of dollars. While the West Extension has never undertaken to sort this ore, one can see from the dump that if any effort had been made to sort it hundreds of tons could be shipped today that would run \$200 a ton. It has been the policy of the West Extension management to develop their mine thoroughly and no attempt has been made to sort ore for shipment.

The leasing company starts under the most favorable auspices, a new plant of machinery and with a quantity of milling ore to start on. There is no question but that this company will make a success of their lease.

WE HAVE BEEN ENTRUSTED WITH THE SELLING OF 100,000 SHARES OF TREASURY STOCK, WHICH WE OFFER TO OUR CUSTOMERS AT 5 CENTS A SHARE NET. WE ADVISE IN EVERY INSTANCE, THAT RESERVATIONS OF THIS STOCK BE MADE BY TELEGRAPH AND LET YOUR REMITTANCE FOLLOW BY MAIL.

TAYLOR & GRIFFITHS

Rhyolite, Nevada

sufficient ore to support a mill. Work started on the custom mill at Beatty, and the construction superintendent estimated that the 10-stamp complex would be ready to accept ore in ninety days.

Work was "pushed night and day" as April gave way to May. The company announced that the average ore throughout the mine assayed from \$22 to \$30, which would make the West Extension one of the richest mines in the Bullfrog district, were it true. Yet at the same time that the company was making final arrangements for the milling and production of its ore, it also inexplicably let another lease on its property, for the duration of one year.⁴²

As the summer progressed, developments continued. The West Extension worked its ten miners in two shifts during these hot months, and announced plans to raise the payroll to thirty--which was not done. The papers continued to announce good ore finds in the mine, and the lessees also reported good luck, one of them sacking thirty sacks of high-grade ore within the first month of operation. A constant stream of visitors inspected the now-famous mine, and all came away murmuring that they were impressed. But, on June 1st, an event occurred which the West Extension company did not report to the friendly papers, for the summer installment of county taxes on the Bullfrog Teddy property was not paid.

In August, the company announced that it had already had over \$50,000 worth of milling ore stacked on the dump, awaiting the completion of the custom mill at Beatty, and that it had the capacity to deliver up to forty tons of ore to the mill per day.

42. Rhyolite Daily Bulletin, 5 February, 23 & 30 March, 27 April 1908. Bullfrog Miner, 8 February, 7, 14, 21 & 28 March, 4 April, 2 May 1908. Nye County Recorder's Office, Deeds, Vol. 19, p. 373.



Original Bullfrog

Amargosa Desert

West Extension

The West Extension Mine, looking east-southeast towards the Original Bullfrog, shows the close proximity of the two. Photo from the Rhyolite Herald, March 22, 1907

The company also announced an agreement with the Las Vegas & Tonopah Railroad, whereby an 850-foot spur would be built to the mine. In return the West Extension guaranteed to ship thirty tons of ore per day via the railroad at a cost of 60¢ a ton--a substantial reduction of the usual freight rate.

Towards the end of August, however, hitches began to develop in company's plans. The mill promoters announced delays in construction, due to difficulties in obtaining machinery and parts, and the West Extension, with time and money running out, began to negotiate with the Montgomery-Shoshone Mill about the possibilities of getting its ore treated there. In September, with the Beatty custom mill still far from complete, the West Extension finally made its first shipment of ore, twenty-five tons worth an estimated \$2,000, to a smelter at Murry, Utah. After over two years of development and promotion, the West Extension had belatedly entered the list of Bullfrog producers.⁴³

As October went by, the Beatty custom mill still showed no signs of an early completion date. The impatient West Extension directors held more talks with the Montgomery-Shoshone Company, but no agreement was reached. Negotiations were also initiated with the Bonnie Claire Mill, approximately twenty miles north of Rhyolite, but again the results were unsatisfactory. The West Extension therefore decided to attempt to build its own mill, at the mine site, and began preliminary surveys for a water pipeline from Rhyolite to the mine.

Even though a decision to build a mill meant that the West Extension would need more money than ever, the

43. Bullfrog Miner, 9 & 16 May, 13 June, 1 August, 5 September, 3 October 1908. Rhyolite Herald, 5, 19 & 26 August 1908. Nye County Recorder's Office, 1907 Assessment Roll, Rhyolite.

company also decided not to ship any more ore, preferring to wait and run it through its own mill in the future. The company also decided once again to avoid selling West Extension stock to raise money, and the directors met in Utah with their Colorado partners to iron out the details of the financial campaign. The results of that meeting were evidently satisfactory, for after the surveyors reported that water could be piped from Rhyolite to the mine site, the company announced that it would definitely build a mill. During the latter part of November, survey teams inspected the area around the West Extension mine, prior to selecting the best site for the mill.

Several mill machinery companies were invited to submit plans for the mill, and alternate proposals soon came rolling in. Since the mine had sufficient ore on the dumps for several months of mill supply, and more in the mine ready to hoist to the surface, the underground miners were laid off, until final details for the future of the mine and mill could be reached. Towards the end of December, 1908, the company tentatively agreed to mill plans submitted by the Joshua Hendy Company of San Francisco. The plans called for the erection of a 10-stamp mill, with treatment by stamp crushing, followed by plate amalgamation, the "perfect" system of concentration and final treatment by cyanide lixivation. The plant was to be powered by electricity, and the Hendy Company estimated that it would take four months to build. Final contracts for the construction of the mill awaited only the official approval of a meeting of the full board of directors.

Thus, as 1908 ended, the West Extension appeared to be poised on the verge of becoming one of the Bullfrog district's important producers. Still, with all its promise, signs of financial difficulties continued to appear in the organization. In 1908 the Nye county taxes on the West Extension property were again paid late. Taxes on the Teddy property owned by the

company were not paid at all, as the Bullfrog Teddy Mine had been abandoned shortly after the merger of the two companies. Ironically, a United States patent to the abandoned mine was received on January 15, 1909.⁴⁴

During the first months of 1909, the ambiguity surrounding the future of the West Extension did not become any more clear. The directors held their annual meeting on January 30th, and re-elected Len P. McGarry as president of the company. That, however, was the only definite news release to the press. Although the Rhyolite papers felt "certain" that the mill plans were approved, they were also forced to admit that "Little is being said about the mine proper of late, and it is impossible now to estimate with accuracy its ability as a producer." The silence of the company seemed ominous, since it had always been the first to let the papers know whenever something good was to be reported.

In the meantime, the West Extension Mine lay idle, as the directors tried to figure out what to do next. As January gave way to February and March, the directors still failed to reach a decision, and the mine, with its reported \$50,000 worth of ore on the dump, was not touched. Rumors circulated that the Montgomery-Shoshone had taken a lease on the West Extension property, in order to ship its ore to the Shoshone Mill, but nothing happened. During the summer, several independent leasing outfits attempted to secure rights to work the ground, but all were unsuccessful, and the mine still lay idle.

By September of 1909, the West Extension Mine had not been worked for almost a year, and creditors of the

44. Bullfrog Miner, 3 October, 7, 14, 21 & 28 November 1908. Rhyolite Herald, 4 November 1908. Mining World, 17 October 1908, p. 621. Nye County Recorder's Office, 1908 Assessment Roll, Rhyolite. Carson City Land Office, Record of Patent, #88070.

company lost patience. A Goldfield legal firm sued the company to recover \$2,400 in back fees, and a group of Rhyolite merchants were forced to initiate another suit to recover a paltry \$600 in overdue bills. The company, in the meantime, underwent a private reorganization, and G. S. Johnson replaced Len McGarry as president. No reason was given for the change of leaders. Johnson promised payment in full to all creditors, and tried to dampen the unwelcome publicity, but gave no explanations for the recent puzzling lack of action at the mine. Despite Johnson's promises, however, the company's debts were not paid, and the creditors were forced to take the matter to court. The Bullfrog Miner expressed the public's bewilderment at the strange lack of action at the West Extension, for according to the company's reports, it could easily liquidate all debts merely by shipping the ore it said it had ready on the dump. Still, nothing happened.

By the end of 1909, the inevitable result was beginning to become plain for all to see. The last official announcements of the West Extension Company had been full of breathless figures of ore on the dumps, enormous ore deposits in the mine, and plans for a reduction mill. That, however, had been over a year previous, and nothing had been done since. The Mining World assessed the West Extension as a promising property, but "one in which lack of ample capital is holding back work, while absence of milling facilities is keenly felt. Much of the ore on this and other properties is of too low grade to warrant shipping to smelters." The Nye County Treasurer also summed up the situation in his own inimitable way, for when the West Extension failed to pay its 1909 county taxes on time, he immediately placed the property on the delinquent tax list.⁴⁵

45. Bullfrog Miner, 16 & 30 January, 7 August, 11 & 25 September 1909. Rhyolite Herald, 24 March 1909. Rhyolite Daily Bulletin, 30 March 1909. Mining World, 11 December 1909, p. 1159. Nye County Recorder's Office, 1909 Assessment Roll, Rhyolite.

By 1910, the West Extension appeared to be a dead mine, but the local folk refused to let it die in peace. Indeed, the entire Bullfrog District was in a decided decline by now, but the stalwart at heart refused to believe. Admittedly, some of the most promising mines in the district had already gone under, but in the eyes of the faithful the Bullfrog District was not yet finished. The lead article in the January 1st issue of the Rhyolite Herald, entitled "New Years Dawn Full of Promise," symbolized the optimism of the remaining Bullfroggers. With this attitude, it is a small wonder that the papers would not leave the West Extension alone, for it had been one of the latest mines of promise, and to admit that it had failed would be to admit the same for the entire district. As the above article continued, the West Extension, surely, "will be soon put into shape for production."

Accordingly, every straw was seized at. When a mining engineer from the huge Goldfield Consolidated firm, for example, made an inspection of the West Extension property in June and again in November, the paper hopefully printed rumors of the purchase and re-opening of the mine. Likewise, when the West Extension Company reorganized and reincorporated itself in September, the Herald saw certain signs of the imminent resumption of work. But 1910 ended the way it had begun--no work was done on the property for the second straight year, and the company's taxes were again delinquent. To add insult to injury, the private residence of Len P. McGarry, former president of the Bullfrog West Extension Mining Company, the Bullfrog Teddy Mining Company, the West Extension Annex Mining Company and the L. P. McGarry Brokerage house, was also placed on the delinquent list for the non-payment of county taxes.⁴⁶

46. Rhyolite Herald, 1 January, 18 June, 5 November 1910. Nevada Secretary of State, Articles of Incorporation, Foreign, #6½-1905. Nye County Recorder's Office, 1910 Assessment Roll, Rhyolite.

As usual, things got worse before they got better. In April of 1911 the West Extension estate was put under the auctioneer's hammer, to satisfy the claims of its creditors, who had won their suits against the company. As the Rhyolite Herald sadly noted, "The Extension is one of the truly bright prospects of the camp, and it is a matter of deep regret that financially it is on the breakers."

Towards the end of the year, however, prospects revived. The Mayflower Leasing Company, a consortium of promoters who were not yet ready to give up on the Bullfrog district, decided to take a look at the West Extension. The Mayflower Company had already had a limited degree of success in combining the ore output from several mines in the district for reduction at the Eclipse Mill, which it owned, and it soon decided that the West Extension could make a contribution towards this effort. In December, the company executed a long-term lease with the West Extension and announced that it would put two shifts of miners at work to extract ore for its mill. Interestingly enough, the Mayflower spokesman gave the Rhyolite Herald a much lower estimate of the value of the West Extension's ore than the figures received from McGarry et. al. in past years. The leasing company's assays showed that the mine had average values of from \$12 to \$15 per ton, enough to give the company a profit after deducting the foreseen costs of \$7 per ton for mining, freightage and milling. The grateful McGarry, who was still listed as the principal owner of the West Extension, was finally able to pay the 1911 county taxes of \$110.80, from the proceeds of the lease.⁴⁷

47. Rhyolite Herald, 1 April, 7 October, 25 November, 9, 23 & 30 December 1911. Nye County Recorder's Office, 1911 Assessment Roll, Rhyolite.

As 1912 opened, the West Extension was thus literally given a new lease on life. This was made more evident on January 13th, when the Mayflower Company announced that it had gone one step beyond the leasing agreement, and had bought the West Extension property outright. The mine would be opened soon, the announcement continued, the long-awaited railroad spur to the property would be built, and best of all, the Mayflower itself would be reorganized, so that stockholders would have "a chance to get in on the new company." The Rhyolite Herald was estactic. This "is the first ray of sunshine with no clouds hovering near that Rhyolite has seen for many a day. This may prove the starting of a new era for the Bullfrog region, and be the first of a large number of companies to commence operations on a sensible, economical basis, and show to the world that this district can become a steady and profitable producer."

Although everything the Herald hoped for did not come to pass, the Mayflower Company did begin work. By February 10th, the mine and mill were both operating, and within a week the Eclipse Mill was treating twenty-five tons of West Extension ore per day. The new manager of the West Extension Mine estimated that it had enough ore in sight to supply the mill for one year, unless new ore bodies were uncovered. In the meantime, L. P. McGarry, left out in the cold, watched helplessly as the First National Bank of Rhyolite sold 30,000 of his shares in the old West Extension at auction, for repayment of a bad debt of \$3,800.

By March, the reorganization plans of the Mayflower Company were complete, and it announced its incorporation as the Southern Nevada Mining company. The main assets of the new company were the West Extension Mine and the Eclipse Mill, as well as leasing rights on several other mines. The following week, the first cleanup was made at the mill, and the

bullion was shipped to Utah. The company made no public statement concerning the estimated value of the recovered gold.

Another cleanup was made in the latter part of March, although no values were given, and holders of old West Extension stock were advised to exchange it for the new Southern Nevada stock as soon as possible. By the first of April, the mill had consumed the ore from the West Extension dumps, and the mine began extracting ore from the depths for shipment to the mill. A new boarding house was built at the mine, and the mill made another shipment of bullion. The March report of the Southern Nevada stated that 830 tons of West Expansion ore had been reduced, with an extraction rate of 90% of the gold value.

The success continued through May. Bullion shipments were made regularly, and the Las Vegas & Tonopah Railroad announced that the traffic flow warranted all north and south-bound trains stopping at the West Extension, for pickup and discharge of freight, ore and passengers. (The passenger rate from there to Rhyolite was 25¢.) As May passed into June, the Rhyolite Herald reported continued success in both the mine and the mill, and the company reported that enough ore had been blocked out in the mine to supply the mill for another year.

That, however, was one of the last reports printed by the Rhyolite Herald, for the last surviving paper of the Bullfrog district ceased publication on June 22d. Although the Southern Nevada mine and mill were enjoying success, not enough other mines were still operating in the district to support the paper. As a result of the Herald's demise, our day-to-day knowledge of the West Extension comes to an end, and the recorded history of the mine becomes much more sketchy.⁴⁸

48. Rhyolite Herald, 13 January, 10 & 17 February, 2, 9, 23 & 30 March, 6 & 20 April, 25 May, 15 & 22 June 1912.

We do know that the Southern Nevada was still operating the West Extension property at the end of 1912, for the company readily paid its taxes of \$39.38, assessed on personal property consisting of one 15-horsepower Fairbanks-Morse hoisting engine, an engine house, a blacksmith shop, a gallows headframe, and mining tools. Sometime in 1913, however, the mine ran out of ore, as had been predicted, for the 1913 taxes were not paid. Apparently the mine was shut down rather early in 1913, for the tax rolls noted that less than \$100 worth of labor had been performed on the company's claims that year.

But the Southern Nevada was not yet ready to give up. From 1914 to 1920, the company maintained enough faith in the future of the mine to pay taxes each year, even though no work was performed. Then, in 1921, the taxes were marked delinquent, and the property was deeded to the care of the Nye County Treasurer the following year.⁴⁹

The West Extension Mine was dormant through the rest of the decade, until 1929, when its fortunes became intertwined with those of the Original Bullfrog. As noted before, the magic of the Bullfrog name survived the life of the Bullfrog District, and between 1929 and 1978, various individuals, out of hopes of profit or feelings of loyalty to a bygone era, bought, sold, operated and leased the Original Bullfrog, the West Extension and other ghost mines of the district. During the majority of this time, the West Extension and the Original Bullfrog were owned by the same people, and neither enjoyed any significant recovery. Some of its owners merely held title for a period of years, and some, like the Burm-Ball Mining Company, operated the mine or leased it to others. Production was minimal and profits undoubtedly nonexistent, but the owners held on in hope and faith. The West

49. Nye County Recorder's Office, 1911-1922 Assessment Rolls, Rhyolite.

Extension property was last purchased in 1976 by Boyce Cook and Lenard Cruson, the owners of the Original Bullfrog Mine.⁵⁰

In terms of longevity, the West Extension was one of the most successful mines of the Bullfrog District, for it outlived the Original Bullfrog, all the Bullfrog tadpoles, and even the Montgomery-Shoshone Mine, which recorded the largest ore production in the district. In terms of profit, however, the West Extension could hardly be termed a success. The mine never made any money during the McGarry years, and whether or not it did while operated by the Southern Nevada is an unanswered question, due to the failure of latter to publish bullion figures. At best, the West Extension mine can only be considered as a very minimal producer.

But the mine did typify several aspects of early twentieth-century business procedures. It was an early and "close in" location, in the best traditions of mining, and was promoted by one of the Bullfrog District's most skilled stock dealers. Had the mine proved to be a bonanza, which was always the hope of its owners, they would have become relatively rich. Since it did not, they at least lost their own money, and comparatively little of others'. Thus, despite several shady deals, such as those surrounding the sale of Bullfrog Teddy and West Extension Annex stock, the attempt to develop the West Extension Mine seems to have been fairly honest. Finally, like all the other Bullfrog mines, the West Extension was able to extract ore at a profit only when it was operated on a large-scale and tight economic basis. The West Extension proved, if nothing else, that the best promotion and intentions in the world will fail to make a winner out of a low-grade mineral deposit.

50. Nye County Recorder's Office, 1923-1978 Assessment Rolls, Rhyolite.

b. Present Status, Evaluation and Recommendations

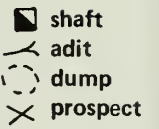
Due to the close proximity of these two mines, the West Extension has rarely been identified as a separate mine from the Original Bullfrog. The confusion is natural, since the pits, shafts, tunnels and dumps of the two mines run into each other on the ground, and especially since the two were owned and operated as one between the 1930s and the present. Given this status, and the fact that their histories are closely connected, there is no compelling reason to treat them separately at this point.

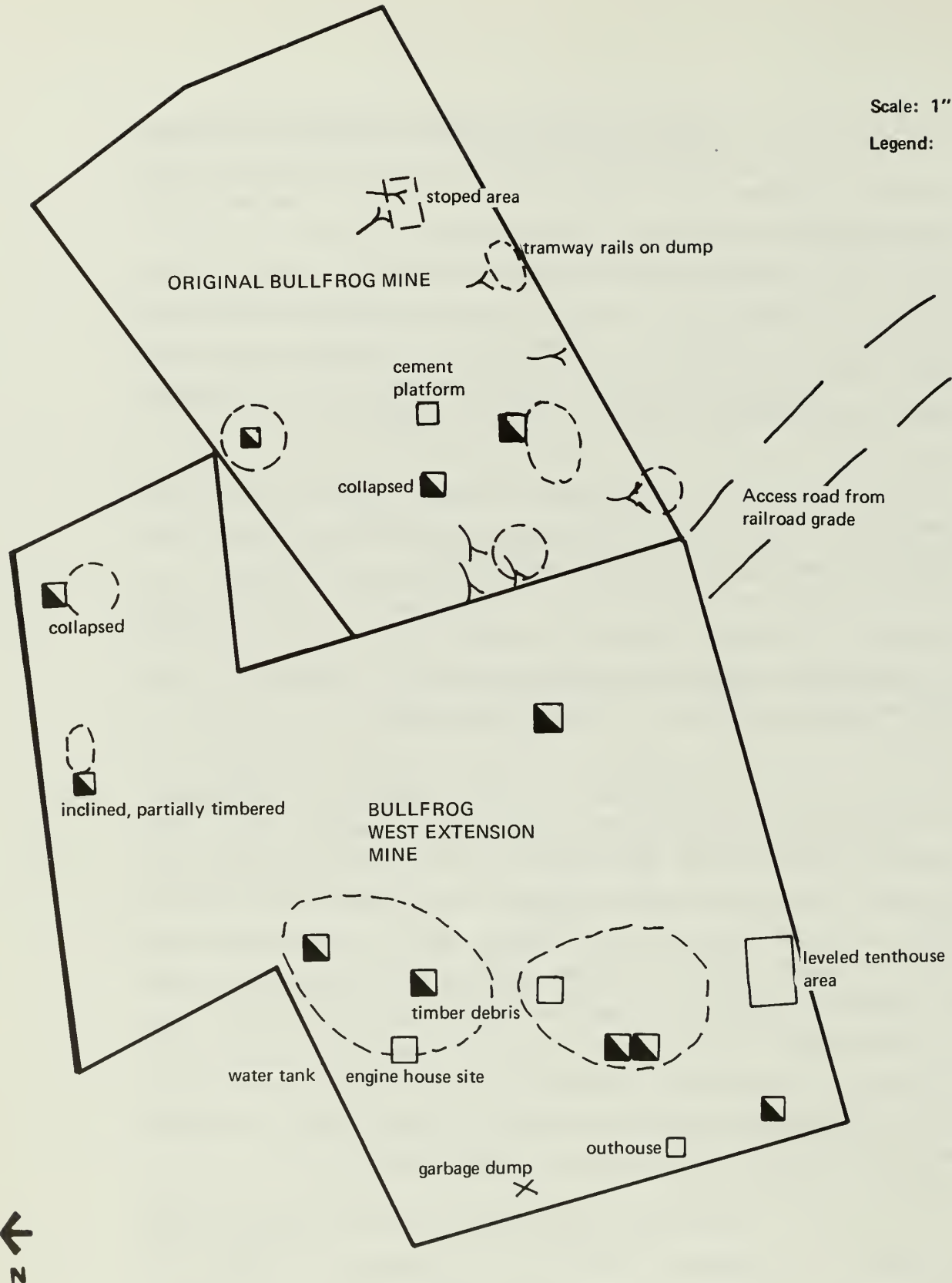
The physical structures remaining on these sites are not impressive. Both mines show evidence of much work, with numerous shafts, dumps, etc., dotting the landscape. In addition, a collapsed headframe, a water tank, a cement engine foundation and timber debris are scattered around the area. All in all, the two sites denote the scene of much past activity, but very little remains with which to interpret that past.

Nevertheless, the Original Bullfrog-West Extension site will be nominated to the National Register, due to the tremendous impact which the discovery of the Original Bullfrog Mine had upon the entire southern Nevada and southeastern California region. The discovery of the Original Bullfrog was the catalyst for one of the most colorful and enthusiastic mining booms in the area, and certainly sparked the greatest mining effort that Death Valley has ever seen. As such, the site of the original mine should be preserved. In addition, the sites of the Original Bullfrog-West Extension mining camp and of the short-lived tent town of Amargosa deserve the attentions of a historical archaeologist.

The interpretive potential of this site cannot be overstated. At present, there are absolutely no signs or indications of where the Original Bullfrog Mine is, or what it meant to the history of this entire desert region. Indeed, on most of the

Scale: 1" = 400'

Legend: 





View from the site of Amargosa, looking northwest towards Bullfrog Mountain. The dumps of the Original Bullfrog cover the small knoll in the center, with the dumps of the West Extension tucked away in the small valley to the left. The grade of the Las Vegas & Tonopah Railroad, not visible in the picture, runs in front of the Original Bullfrog.



Reverse of above view, looking southeast from the West Extension, towards Amargosa site. Large leveled dumps of the West Extension are in the foreground, with two of the Original Bullfrog's dumps visible towards upper left. Collapsed headframe of West Extension is just to the left, foreground, off the photo. Compare this view to the March 1907 photo from the Rhyolite Herald.

1978 photos by John Latschar.



Top: Closer view of the Original Bullfrog dumps, from the Las Vegas & Tonopah Railroad grade, looking northwest.

Bottom: View of West Extension dumps, to left, from same spot. Conical dump of the Original Bullfrog, to the right in this photo, may be matched with same dump seen in left of above.

1978 photos by John Latschar.



roads leading into the Bullfrog District, there are no signs informing visitors that they have entered National Monument boundaries. At the very least, interpretive signs, and something on the order of an outdoor exhibit should be erected at the site, in order to tell the story of the discovery and history of the Original Bullfrog and West Extension mines, and their influence upon the surrounding territory. The interpretive exhibit should also include a brief description of the canvas city of Amargosa, the first in the district, which was platted on National Park Service land, just south of the Original Bullfrog Mine.

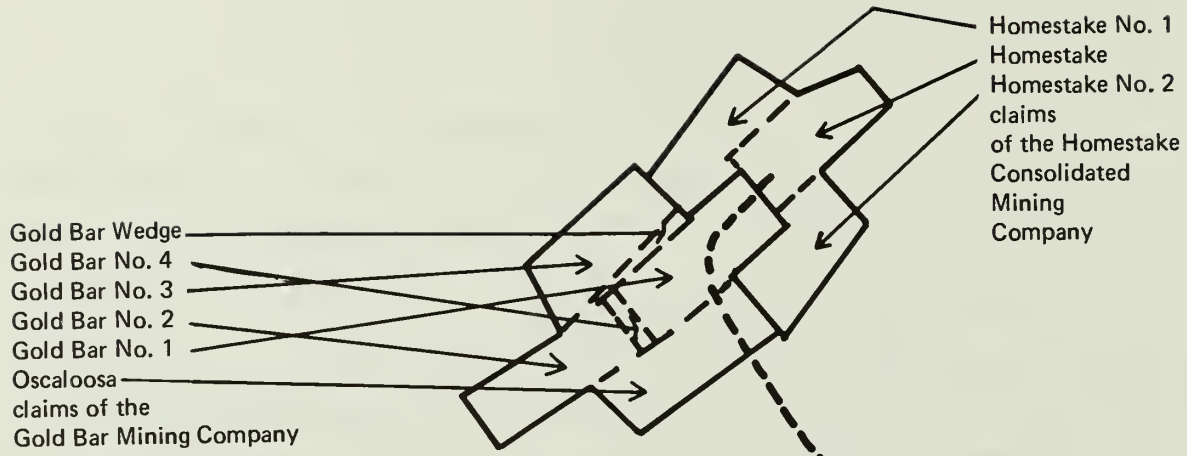
5. Gold Bar Mine

a. History

The early twentieth-century strikes at Tonopah and Goldfield attracted miners from all parts of the United States. Among them were two miners from Cripple Creek, Colorado, named Ben Hazeltine and N. P. Reinhart. Although they arrived in Goldfield too late to capitalize upon that rush, they soon found jobs in local mines. By the time the news of Shorty Harris' and Ed Cross' strike hit Goldfield, Reinhart and Hazeltine were ready for another rush, and they joined the great migration to the new Bullfrog District. Finding that all the close-in ground was already staked out, the two men drifted farther afield, prospecting in the upper Bullfrog Hills. On October 10, 1904, their persistence paid off, for they found and located the Hazeltine claims, approximately four miles northwest of Rhyolite, and two miles north of the Original Bullfrog.

The two men worked the mine by themselves for a short while, and regularly brought in ore samples to be assayed at Rhyolite. The rich results of the assay tests did not go unnoticed, and early in 1905 Reinhart and Hazeltine sold their mine. If the newspaper accounts are reliable, the two men joined that very select group of prospectors who were able to make good on their finds, for the reported sale price was \$117,000 in cash and treasury stock of the purchasing company. The Rhyolite Herald hailed the sale as "the first deal of importance made in the district." The new owners, headed by Goldfield promoters J. P. Loftus and J. R. Davis, soon organized themselves as the Bullfrog Gold Bar Mining Company, and set to work.⁵¹

51. K. R. Casper, "The Bullfrog Bonanza," p. 323. Rhyolite Herald, 26 May 1905. Nevada Secretary of State, Articles of Incorporation, Foreign, #32 $\frac{1}{2}$ -1905.



Scale: 5/8" = 1,000'

- Legend:
- Mine boundaries
 - - - - Claim boundaries
 - Main road
 - - - - Secondary road

Source: "Map of Bullfrog Mining District,
Nye County, Nevada," by
Bradford, Strange & Collier, U.S.
Deputy Mineral Surveyors, Bullfrog
Nevada, 1905.

The Gold Bar Mine immediately caught the attention of the Bullfrog District. By the end of May 1905, after only six weeks of exploratory work, the mine had run into ore ledges averaging \$15 per ton, and had uncovered small rich pockets, one of which assayed at \$1,458 a ton. The company ordered a 25-horsepower hoisting engine to replace its horsedrawn whim, built a wagon road to the mine, and began construction of a shaft house and other auxiliary structures. As the summer progressed, the mine raised its work force to fourteen miners, and continued to uncover evidence of paying ore. Although the small rich pockets were few and far between, the mine reported in July that it had an abundance of good ore worth \$50 a ton. Towards the end of the summer, with the mine well into its development phase, a new boarding house had been completed for the convenience of the miners, and the Herald characterized the Gold Bar as "one of the surest and most dependable properties in the district."

Good news continued to flow via the mine's reports during the fall of 1905. By this time the mine was exploring the ground through three different shafts, one of which was down to the 150-foot level, and all three shafts reported paying ore. Superintendent L. E. Bedford reported that the company had spent almost \$1,400 in development work, at the rate of \$7.50 per foot of work. Further strikes in the Gold Bar caused its stock to jump from 10¢ per share to 35¢ in two weeks. With the continuing success of the Gold Bar Mine, and the opening of the Homestake Mine next door, a group of Rhyolite promoters located ten claims just south of the Gold Bar property, with the intentions of starting another town.

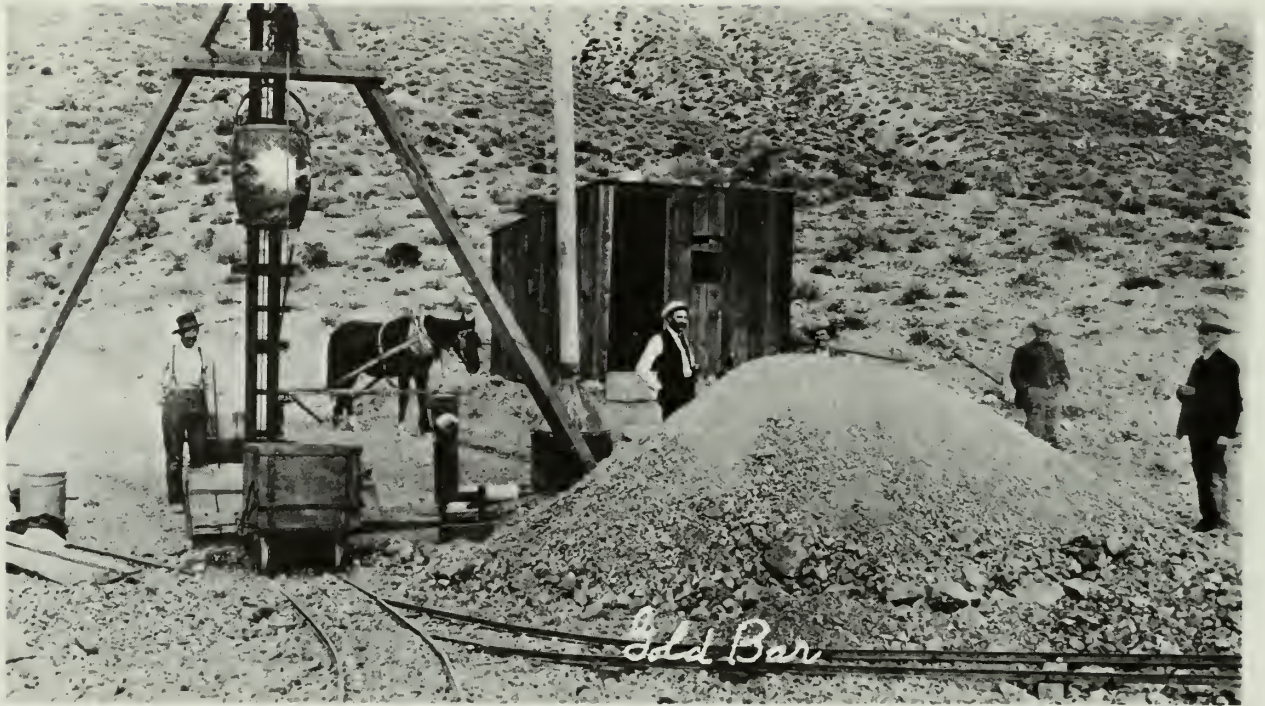
On November 17th, the Rhyolite Herald described the Gold Bar property in some detail. The mine, said the reporter, showed bigger continuous free milling ore deposits



View of the Gold Bar and Homestake mining camp in November of 1905. Miners from the two companies shared living quarters in the fledgling townsite. The very small dump at the top of the picture belongs to the Homestake Mine--the Gold Bar workings are out of the picture to the left. Photo courtesy of Nevada Historical Society.



Another view of the Gold Bar-Homestake complex in late 1905, taken up the hill to the northwest of the previous picture. The dump and hoist in the foreground are the main workings of the Gold Bar Company, and the buildings in the center of the picture are also part of the Gold Bar complex. The two dumps and the structure towards the top of the hill belong to the Homestake Company. Photo courtesy of Nevada Historical Society.



Close-up of the main Gold Bar shaft, in November of 1905. Note the rather crude hoisting frame, which was powered by the rather tired-looking horse in the background. The high-grade ore was stacked next to the shaft, for future sacking, as shown in the picture, while the waste rock was hauled via the ore car to the edge of the dump. Photo courtesy of Nevada Historical Society.

than any other property in the Bullfrog District, with a reported 350,000 tons of ore in sight. The Gold Bar had been the first mine in the district to discard the hand windlass in favor of a horse whim for raising ore. Even that, however, had proved insufficient, and the company had recently ordered a gasoline hoisting plant. The company owned a fifteen by twenty-one foot bunkhouse which slept fourteen miners, a boarding house, and superintendent Bedford was building a bungalow for himself, constructed of lumber and canvas. The company had begun to sack its high-grade ore for shipment, and was discussing plans for the construction of a 40-stamp reduction mill on its property.⁵²

The new hoisting plant for the Gold Bar arrived early in January of 1906, and after delays in obtaining enough timber to construct the gallows frame, development work resumed. By this time the company had completed over one thousand feet of underground work in its shafts, drifts and crosscuts, and all indications pointed to a very large body of ore. Stock in the mine rose to 49¢ per share, and local brokers advised their customers that it was a good buy at that price. The Gold Bar Company agreed, and on February 9th, applied for a patent to its claims.

In early March, the Herald again described the condition and prospects of the mine. The Gold Bar, according to the paper, now had the second largest hoisting plant in the state of Nevada. It consisted of a 28-horsepower Hercules gasoline hoist and a 1-ton ore skip with an automatic dumping capability, which could raise 140 tons of rock per day from a maximum depth of five hundred feet. The gallows frame of the hoist was fifty feet high

52. Rhyolite Herald, 26 May, 16 June, 21 July, 1 September, 13 & 27 October, 17 & 24 November 1905. Engineering and Mining Journal, 6 July 1905, p. 13.

and contained 20,000 board feet of lumber. Interior developments were also impressive. By the end of March the three shifts of miners had made lateral connections between the two main working shafts, while above ground other employees were sacking \$350 ore for shipment. In order to improve communications, a telephone line was being built from Rhyolite to the mine. New strikes were being reported, with some assays running as high as \$450 to the ton. The company continued to contemplate the building of a mill, if transportation problems could be solved, and had purchased water rights in the Grapevine mountains, eight miles to the west. Work started on improvements at that spring, which initially had a flow of three miner's inches an hour, enough to operate a small 10-stamp mill.

In the meantime, investors were eagerly buying stock in the promising mine. Shares of Gold Bar stock which had sold for 40¢ each in January jumped to 60¢ in February, and reached the magic figure of \$1 each by the first of March. Although the Bullfrog Miner expressed mild surprise "at this almost phenomenal advance in the price of the stock of a company that has not yet shipped a pound of ore," the advance continued, and the Gold Bar stock reached the price of \$1.92½ per share on March 30th.⁵³

In April, the fortunes of the mine reached a turning point, as the Gold Bar Company gave Charles M. Schwab, the famous steel millionaire and mining promoter, an option to purchase the property. Descriptions of the deal varied, but Schwab apparently had an option to purchase the mine for \$1,000,000 by May 1st. Schwab sent his engineers out to examine

53. Rhyolite Herald, 5, 19 & 26 January, 2 & 9 February, 2 & 30 March 1906. Bullfrog Miner, 9, 16, 23 & 30 March 1906.

the mine, prior to exercising his option, and the Bullfrog District waited in anticipation. The control of a mine by a man with the assets of Schwab could only mean good things for the entire district.

While Schwab pondered the deal, the Gold Bar continued to report discoveries of valuable ore, and the month of April saw so much promising development take place that the owners of the mine privately expressed the hope that Schwab would let his option expire without buying the mine. The Herald, after digesting the latest company reports, called the Gold Bar "one of the biggest things in the far famed State of Nevada."

But the San Francisco fire and earthquake dampened the mood of unbounded optimism. Schwab requested an extension of twenty days on his option, due to financial difficulties caused by the disaster, and the Gold Bar Company approved his request--which seems to indicate that they were a bit more anxious for Schwab to buy than they had said. A further ten day extension followed the first, and finally Schwab decided not to buy. The newspapers advanced several causes for the decision. Some speculated that Schwab was hurt more than he was willing to tell by the San Francisco disaster. Others felt that Schwab's engineers had not given him a favorable report on the mine, and one paper wrote that the present Gold Bar owners had killed the deal, by insisting upon being given too large a share in the new ownership of the mine.

Nevertheless, the deal fell through, and the owners put on a good face, declaring that they were glad that Schwab had not bought. Developments at the mine continued despite the effects of the San Francisco disaster upon financial circles. Sacking of high-grade ore progressed, the new main working shaft reached a depth of 250 feet, and the company began



View of the Gold Bar workings in June of 1906. The old working shaft, site of the discontinued horse whim, is in the foreground, with the new shaft and hoisting plant to the right. The dumps of the Homestake Mine appear in the top right of the picture. Photo courtesy of Nevada Historical Society.



Close-up of the new hoisting plant of the Gold Bar in June of 1906. The massive gallows frame and ore bin dominate the foreground, with the engine house behind. Photo courtesy of Nevada Historical Society.

the construction of a new boarding house with accommodations for sixty miners. Towards the end of June the Gold Bar made its first shipment, a small one of five sacks of ore, and announced that it had received a government patent for its claims. Stock sales continued to be brisk, despite the financial climate of the times, and the company was reported to have a splendid treasury balance.⁵⁴

On June 29th, the Gold Bar company held its first annual meeting, re-electing J. P. Loftus as president and J. R. Davis as vice-president and general manager. Davis reported that the company had spent \$48,660.55 in the last year on development work and capital improvements, and that the mine had an estimated \$2,347,000 worth of ore in sight. The company had \$28,893.20 in cash in the treasury, and held unsold treasury stock worth \$143,893.20 at the present market value. That market value had declined, though, as an inevitable result of the failure of the Schwab deal, and dropped from a high of \$2.15 per share in May to a low of \$1.02½ in late July, before beginning to recover.

The Gold Bar Company continued operations through the intense heat of the summer. The mine now employed twenty-five men, and its main shaft reached a depth of 330 feet by the end of July. Discounting the small pockets of rich ore which were being sacked for shipment, values throughout the mine ran from \$8 to \$15 per ton. It was becoming apparent that the Gold Bar was a low-grade mine, which would have to operate its own mill in order to make a profit. Work progressed on both the mine and the company's water rights during the fall. No new deposits of

54. Rhyolite Herald, 6, 13 & 27 April, 4, 18 & 25 May, 8 June 1906. Mining World, 16 June 1906, p. 735. Bullfrog Miner, 6 & 27 April, 18 May 1906. Nye County Recorder's Office, Deed Book, Vol. 16, p. 276.

high-grade ore were found, but the company reported good milling values as the shafts reached deeper and deeper. Superintendent Bedford received praise from both the company and the local newspapers for his business-like manner, as the miners sunk their shafts, drifts and tunnels at a rate of 400 feet per month through October and November. By the end of 1906, when the Gold Bar Company paid its county taxes, the improvements listed on its property included the hoisting plant and gallows frame, a small engine house, a blacksmith shop, a boarding house, an office building, three Lenox ore cars, and mining tools and equipment.⁵⁵

In early January of 1907, the Gold Bar announced that it would definitely build a mill on its property, but no further details were released. In order to help finance the construction, the mine began to ship ore to the newly completed Las Vegas & Tonopah Railroad terminus at Rhyolite. Upwards of thirty tons were shipped by the end of February, estimated to be worth \$8,000 to \$9,000. Work on the water rights in the Grapevine Mountains continued, and the company installed a gasoline-powered pump at the spring to help improve the flow of water. By this time, the Gold Bar and the Homestake mines were together employing so many miners that the men briefly considered splitting off from the Bonanza Miners Union of Rhyolite, and forming their own local.

Two more carloads of high-grade ore were shipped via the Las Vegas & Tonopah in March, and the company received a check from the mill for February's shipment. Although the returns from the first shipment were \$7,000, less than had been

55. Rhyolite Herald, 29 June, 6 July, 21 September, 12 October 1906. Bullfrog Miner, 11 & 20 May, 30 November 1906. Nye County Recorder's Office, 1906 Assessment Roll, Rhyolite.

expected, it still represented the best net profit to date of any shipment from the Bullfrog district. The Bullfrog Miner, summarizing the details of over 4,750 feet of development work at the Gold Bar, called the mine "the biggest milling proposition in the state of Nevada today."

When the Rhyolite Stock Exchange opened for its first day of business on March 29th, 1,000 shares of Gold Bar stock were sold for \$1.15 each. In spite of the announced mill plans, and the fact that the Gold Bar had started shipping its high-grade ore, the growing realization that the mine was essentially a low-grade operation had steadily driven down prices from the highs of the previous summer. Stock which had opened the year at \$1.50 per share had dropped to \$1.25 in February and declined further in March.

Despite this decline in stock values, the Gold Bar seemed to have enough money in its treasury, due to shipments of high-grade ore and past stock sales, to press ahead with its mill plans. On June 22, the company announced that it had let a contract to a construction firm for the erection of its mill. The name of the construction firm was the Loftus-Davis Corporation, an ominous sign which went unobserved by the local newspapers. The mill plans called for the crushing of the ore by ten stamps, followed by amalgamation and cyanide treatments. Since the majority of the Gold Bar's ore was free-milling, more sophisticated and costly treatment was not necessary, in the view of the company. Work began for the mill foundations, and the company started laying a pipe line from its spring to the mill site.

Machinery for the mill was ordered, and shipped from the manufacturer in July, and the pipe line was almost complete by the end of August. The annual report of the company

showed a total expenditure of \$119,000 to date, and Loftus and Davis were re-elected to their posts at the head of the company. Later in August, mill machinery began to arrive via the railroad, while grading work at the millsite continued. Despite the physical evidence that the Gold Bar was evolving from a developing to a producing mine, stock prices continued to fall. \$1.15 quotes in late March fell to 80¢ by the middle of May, to 70¢ by the end of July, and to 58¢ on the first of September.⁵⁶

Work on the mill slowly progressed during the last months of 1907. The Nevada-California Power Company informed the Gold Bar that electric lines could not be extended to its property before March of 1908, so the company was in no great hurry to complete its mill. The underground miners were laid off, since the company felt it had enough ore blocked out to support the mill for several months, but work continued on the surface preparation for the mill. By the first of October, the excavation and grading work was completed, and the men began pouring the concrete foundations. These were finished by the first of November, and the framework of the mill building was begun.

Detailed plans for the mill were finally released to the press in early November. Power would be supplied by a 50-horsepower electric motor, assisted by the gravity flow of the ore. The mill would have ten stamps, each weighing 905 pounds, for the crushing of the ore. Each stamp would have a 6-inch drop, at the rate of 100 per minute, giving the mill a crushing capacity of forty to fifty tons per day. From the stamps the ore would pass over 120 square feet of amalgamation plates, then into a Huntington

56. Rhyolite Herald, 4 & 11 January, 1, 8 & 15 February 1907. Bullfrog Miner, 8 & 15 February, 29 March, 22 June, 20 July, 24 & 31 August, 7 September 1907. Mining World, 23 March 1907, p. 402.

mill, and over the plates again. In a surprise move, the company announced that cyanidation had been eliminated from the treatment process--a very unusual omission.

In addition, the Gold Bar began construction of a 50,000 gallon water tank above the millsite. With the ore already developed in the mine, whose main shaft now reached a depth of 600 feet, the company grandly announced that it had "immense reserves of milling ores which will keep the ten-stamp mill busy for years." The Rhyolite Herald also quoted the Gold Bar as stating "that there is enough ore in sight to run a 100-stamp mill at full capacity for two years, in which case there must be close to 400,000 tons blocked out." If the company's figures were true, and the average ore value is placed at a very low estimate of \$7 per ton, then the Gold Bar Mine had almost three million dollars worth of gold waiting to be milled, and could look forward to a long and prosperous career. Investors, however, did not seem to believe the figures released by the Gold Bar Company. Stock in the mine continued to decline, from 42¢ at the end of September, to 38¢ at the end of October, and 30¢ by the end of November.

Delays also began to plague the company. Although the mill building was completed by the first week of December, and the machinery was being installed, work on the power line was interrupted due to a conflict between the Nevada-California Power Company and the Western Federation of Miners. For an unknown reason, the union would not let any of its miners work for the power company, and delays continued until a subcontract was let for the construction of the line. In the meantime, the Gold Bar had resumed underground work, in anticipation of the completion of the mill, and all the mill equipment was in place by December 7th, with the exception of the water pumps, which had not yet arrived. By January 10th, 1908, all these irritating delays had been surmounted, and the Gold Bar mill



was finally ready to begin operations. Investors took heart, and stock in the company closed the year of 1907 with a brief flurry, rising to 37¢ per share.⁵⁷

On January 11, 1908, the Gold Bar Mill began operations, amid much excitement and anxiety. The worries turned out to be justified, as the mill was forced to shut down within a week, due to excessive leaks in the pipe line. After several weeks of delay to replace the broken pipe, the mill started up again during the first week of February, and on February 22d, the first clean-up was made, resulting in \$2,000 worth of gold bullion. The mine announced that this trial run had resulted in a recovery ratio of 86% of the gold content of the ore, and that it planned to treat 35-40 tons of \$15 ore per day. President Loftus also announced that the success of the mill and the ore reserves of the mine practically guaranteed that the company would add thirty more stamps to its mill within six months.

Superintendent Bedford brought in another bar of bullion from the mill on the first of March, this one estimated at a value of \$3,000 to \$4,000. This was the result of two more week's production, which had continued despite reoccurring problems with the pipe line. The pipe delivered from a New Jersey supplier was half rotten, complained the company, and would not stand up under pressure. Despite this problem and others with the intermittent power delivered over the new electric lines, the mill treated an average of forty tons per day in March, with an average gold recovery of \$350-\$400 per day. The mine, in the meantime,

57. Bullfrog Miner, 14 & 28 September, 26 October 1907. Mining World, 21 September 1907, p. 492. Rhyolite Herald, 8 November, 6, 13 & 20 December 1907. Rhyolite Daily Bulletin, 25 & 30 September, 8 & 31 October, 27 November, 16 & 28 December 1907; 10 January 1908.



View of the Gold Bar-Homestake camp site in January of 1908. The recently completed Gold Bar Mill is visible towards the left top, and the very beginnings of foundation work on the Homestake Mill can be seen in the right-top corner. The population of the camp was at its height when this picture was taken, as both the Gold Bar and the Homestake were in periods of production. Note that wooden buildings have replaced the tent houses of earlier years. Photo courtesy of Nevada Historical Society.



Close-up of the Gold Bar Mill and hoist in January of 1908. As usual, the mill was placed as close to the mine as possible in order to reduce costs of transporting ore, and was built on a slope so the force of gravity would help turn the machinery in the 10-stamp mill. Photo courtesy of Nevada Historical Society.

was taking out ore at the rate of forty tons per day, sufficient to keep the mill in steady operation.

Production continued in April. On the 4th of that month, the mine shipped another bar of bullion, estimated at \$4,000-\$5,000 value, and the mill continued to treat approximately forty tons of ore per day, despite annoying leaks in the pipe line. Rumors circulated that the mine would be forced to replace the entire pipe line in order to solve the water problem, at the cost of considerable delays.

Suddenly, on April 25th, the mine and mill were closed. The company announced that the shut-down was only temporary, in order to refurbish the mine and pipe line. In addition to the water problems, assay reports from the mill tailings indicated that the present treatment process allowed \$3.60 per ton of gold to escape with the tailings. Losses of this magnitude obviously could not be tolerated in a low-grade operation. Belatedly, the company seemed to realize that it would have to install the relatively expensive cyanide treatment machinery in order to make a profit. Plans to replace the entire pipe line were also announced, with the New Jersey supplier providing free replacement pipe, and the Gold Bar absorbing the costs of relaying the pipe. 19,000 gallons of water was being pumped at the spring site, but only 9,000 gallons reached the mine. Ominously, the company did not announce a definite date for the beginning of the improvement work. The news hit the Bullfrog District with the force of doom, and Gold Bar stock quickly dropped to 16¢ per share.⁵⁸

58. Bullfrog Miner, 11 & 18 January, 1, 22 & 29 February, 14 & 28 March, 4, 11 & 25 April 1908. Rhyolite Daily Bulletin, 4 March, 18 April 1908.

With the benefit of hindsight, it suddenly became apparent that something was definitely wrong with the Bullfrog Gold Bar Mining Company, and had been wrong for some time. L. E. Bedford, for example, who had been superintendent of the Gold Bar since 1905, had quietly resigned on March 21st, and left for California. He had told reporters at the time that he had been offered a better job, but now they wondered if he had seen something coming and had got out while the going was good. His departure, at the very time when the Gold Bar was finally beginning to produce, looked strange.

On May 6th, all suspicions were confirmed, as bad news hit town. I. K. Farrington & Company, a New York brokerage firm, announced that the recent decline of the Gold Bar stock was solely due to "the throwing over by a western bank of a large block of Gold Bar, with instructions to sell regardless of market price conditions." Evidently, someone on the inside knew that the Gold Bar was about to fail, and intended to unload. Three weeks later, the Rhyolite Herald reported that over 200,000 shares of the company's stock had been sold, as the dumping continued, and the price sank to 6¢. Loftus and Davis, in the meantime, the principal controllers of the Bullfrog Gold Bar, left for a two-month vacation in Europe, announcing that they would take a look at the Gold Bar problems upon their return.

While the pair were abroad, however, their attorneys were not idle. The Nevada Exploitation Company, an aptly named Goldfield concern, filed suit for an attachment on the assets and property of the Gold Bar Company, in order to recover \$36,300 which it had advanced to the Gold Bar to finance the construction of its mill. The owners of the Nevada Exploitation company were Messrs. Loftus and Davis. In essence, Loftus and Davis were thus suing themselves, but if they won, the Gold Bar would become the property of the Nevada Exploitation Company, and

all holders of Gold Bar stock would be left holding the bag. Given the fact that Loftus and Davis were controlling partners in both corporations, one could not expect that the Gold Bar Company would be adequately defended in court.

The Rhyolite newspapers smelled fraud of the worst sort, and started screaming. The Herald managed to obtain copies of the company's reports for April and June of 1908, which gave the directors' side of the story. According to Loftus and Davis, the Gold Bar had decided to borrow the money for mill construction from Nevada Exploitation Company (owned by themselves), rather than sell shares of the company's treasury stock. At the time that decision was made, stock in the Gold Bar had declined from a high of over two dollars per share to 40¢. Since they were sure that the mill would prove to be a large success, they felt that the treasury stock would then rebound to values around \$1 each, so it was in the company's best interests to hold on to its stock.

As soon as the mill opened, however, the mine superintendent suddenly reported that the values of ore in the mine were not at all what he had claimed during past years, and the mill was forced to attempt to reduce very low-grade ore. Finding that the mill was losing money, Loftus and Davis then decided to sell the treasury stock, in order to repay the company's debt to the Nevada Exploitation Company. Failing in that attempt, with the company treasury depleted and the mill losing money each month, Loftus and Davis had reluctantly come to the decision to close down both mine and mill. Just as reluctantly, they had also been forced to sue themselves in order to recover their money. All in all, the two men claimed, the failure of the Gold Bar Mine was the fault of Superintendent Bedford, who had deceived both themselves and the public for over two years concerning the true value of the ore deposits in the mine. It was no wonder that he had left town.

The Herald, however, did not believe a word of it. Bedford had indeed been guilty of deceiving the public, but not of deceiving Loftus and Davis, who obviously were the leaders of the company. Only when Bedford had discovered that Loftus and Davis planned to let him carry all the blame for the company's fraudulent practices had Bedford decided that discretion was the better part of valor, and left town. The Herald could cite too many direct quotes from Loftus and Davis concerning the prospects and values of the Gold Bar to believe that they were innocent. One had only to review the directors' production statements of the last several months to prove that point, for while they were claiming bullion shipments of \$4,000 to \$8,000 per month, the actual figures released in the official company reports were from \$1,500 to \$2,000. It was evident to the Herald that Loftus and Davis had intended to defraud the public from the beginning, by loaning themselves money to build a mill, releasing false claims of mill returns, dumping the company's stock on the market, then recovering their loans by foreclosing on the Gold Bar. Thus they would be left with all the profits of the mill returns and the stock sales and would lose no money at all. The public stockholders, however, would lose every penny which they had invested in the Gold Bar Mine since 1905.

Despite the extreme anger of the local newspapers and of stockholders around the nation, the plans of Loftus and Davis were completed with hardly a hitch. The Nevada Exploitation Company won its suit against the Gold Bar Company, and in December of 1908 the Gold Bar mine and mill were sold to the Nevada Exploitation Company. Holders of Gold Bar stock, which had plunged to 3¢ per share, were left with nothing but waste paper in their hands.

Not content with their coup, Loftus and Davis then proceeded to announce a grand reorganization of the Gold Bar.

They proposed to reincorporate as the New Gold Bar Mining Company, with a capitalization of 1,000,000 shares, par value \$1 each, and offered to sell 600,000 shares in the new company to stockholders of the old, at a special discount rate of 7¢ per share. The money thus raised, they announced, would pay off the debt owed by the Gold Bar to Nevada Exploitation, after which the mine would be free to resume operations. The Rhyolite Herald managed to secure an interview with Loftus and Davis, at which "The merits and demerits of the Gold Bar freeze-out were discussed with considerable animation."

The Herald reporter showed Loftus and Davis a copy of the Gold Bar's official report of the fall of 1907, wherein the company had stated that it had \$1,250,000 worth of ore in its mine. The two men insisted that the best estimates had indicated that there was that much ore in the mine, but as soon as the miners began extracting ore for the mill from the fabulous ore ledges, every single one of them disappeared. Loftus and Davis agreed that the simultaneous failure of every ore body in the mine at the same time was "somewhat extraordinary" but it was "nevertheless true."

The Herald reporter pressed on, citing conflicting reports given to the public via the newspapers and those released at later dates as official company reports. Time and again, Loftus and Davis insisted that there had been no intent to defraud the public. Finally the reporter asked why the company had dumped its treasury stock after it had determined that the mine and mill were a failure and would have to be closed down. "What kind of treatment is that for the public to receive at your hands?" Loftus' reply amply summed up the philosophy of the Gold Bar Company. "I am not the guardian of the public. It is up to the public to decide these things for themselves." When further pressed by the reporter as to the lack of ethics displayed by the

company, Loftus reiterated his feelings in the best tradition of the nineteenth-century robber barons--"The public be damned."

All this damning of the actions of Loftus and Davis, of course, could not bring back the Gold Bar. The therapeutic value of being able to identify and condemn a pair of acknowledged villains, however, seemed to be good for the Bullfrog District, and the papers continued to be full of various and sundry attacks upon the motivations, characters, and ancestry of Loftus and Davis. As the attacks continued, the Rhyolite Daily Bulletin reintroduced a factor that everyone seemed to have forgotten in the recent excitement. After digging through past copies of the Rhyolite newspapers, the Bulletin reminded the public that the contract for the construction of the Gold Bar mill had been awarded by the company to the Loftus-Davis Company of Goldfield, and another piece of the puzzle fell into place. It was no wonder, said the Bulletin, that the Gold Bar Company had been willing to accept a poorly designed and built mill, with rotten water pipes, a lack of cyanide treatment facilities, and other defects.

The full extent of the fraud now became clear for the first time. Not only had a Loftus-Davis controlled company loaned the Gold Bar the money to build its mill, but the mill had then been built by yet another Loftus-Davis company. How much of the almost \$50,000 paid by the Gold Bar to that construction company represented a pure profit? And how did Loftus and Davis have the nerve to sue the Gold Bar to recover the costs of construction, when they had already paid themselves for the actual construction work? The Bulletin's question, of course, went unanswered.

Indeed, Loftus and Davis inexplicably seemed to be unaware of the extreme wave of hatred directed towards them, for they blithely persisted in advertising for investors in their

reorganization efforts. Needless to say, their advertisements fell upon barren ground. No one who had been burned by one of Nevada's most complete swindles was willing to suffer again, and the reorganization plans soon fizzled out. Ironically, at about this time, the United States Geologic Survey published its report on the Bullfrog district. "Although a little rich ore has been found" in the Gold Bar Mine, the report stated, "it is evident that the deposit is to be regarded as a large mass of low-grade material, such as can be worked, if at all, only on a considerable scale and by the most economical methods possible in this district." Economical was one thing which the Gold Bar Company was not.⁵⁹

Although the Gold Bar affair was now finished, it was some time before all the dust settled. Angry stockholders continued to write letters to the Rhyolite newspapers, denouncing the fleecing which they had taken, and Loftus and Davis experimented with several more attempts at reorganization for several months. Neither had any success. More annual reports of the Gold Bar Company were dug out and exposed in the newspapers, including one of June 1906, which stated that the company had over two million dollars of gold ore in sight. Several individuals and companies made feeble efforts towards leasing and reviving the mine, but all failed before they really got started. One thing became abundantly plain--the Gold Bar Mine did not have any paying ore at all. The Nevada Exploitation Company, however, paid its taxes upon the Gold Bar property in December of 1909, in order to protect its investment in the mill and machinery located on the property, but no work was done upon the ground during that year.

59. Rhyolite Herald, 6 & 27 May, 12 August, 2 & 30 September, 23 & 30 December 1908. Bullfrog Miner, 21 March, 27 June, 19 September 1908. Rhyolite Daily Bulletin, 18, 24, 26 & 31 December 1908. Ransome, Geology and Ore Deposits of the Bullfrog District, p. 123.

In June of 1910, by which time the Gold Bar Mine had been idle for over two years, the Nevada Exploitation Company announced that its mill buildings and machinery were for sale, but no one seemed interested in purchasing a poorly designed mill. Finally, in February of 1911, the company succeeded in selling the mill to the Round Mountain Mining Company, for transfer to another Nevada mining district. By this time, Loftus and Davis felt safe to show their faces in the Bullfrog district, when they came to close the deal. The two men still insisted that they had been innocent all along, and that the sole cause behind the Gold Bar's problems had been the deceptions practiced by former Superintendent Bedford upon the company and the public. No one believed them, but the Bullfrog District was probably glad to see the Gold Bar mill, a constant reminder of a past failure, shipped away during April.

By this time the Gold Bar Mine had entered that company of failed mines which people will not let rest in peace. Between 1910 and 1919 the Nevada Exploitation Company continued to hold title to the ground and paid county taxes each year. The company even performed the required \$100 of labor each year on each claim, in order to avoid still higher taxes. But in 1920, Loftus and Davis finally gave up, quit paying taxes, and the Gold Bar joined its Bullfrog contemporaries on the delinquent tax list of the Nye County Treasurer.⁶⁰

The Gold Bar Mine rested on the county delinquent tax list from 1922 until 1942, with the exception of 1937,

60. Rhyolite Daily Bulletin, 6 & 21 January 1909. Rhyolite Herald, 6 January, 25 December 1909; 11 June 1910; 14 January, 4 February, 8 April 1911. Bullfrog Miner, 9 January, 6 & 13 February 1909. Mining World, 3 April 1909, p. 656. Nye County Recorder's Office, 1909-1922 Assessment Rolls, Rhyolite.

when the mine was briefly worked. Then, in 1942, the Gold Bar was purchased from the county (through payment of back taxes) by an individual from California who incorporated himself as the Gold Bar Mining Corporation. Whether for reasons of nostalgia or otherwise, the Gold Bar Mining Corporation still retains title to the mine, dutifully paying county taxes of from \$110 to \$150 each year. No serious mining endeavors, however, were ever carried out.⁶¹

The story of the Bullfrog Gold Bar Mining Company is not a pleasing one. It is, however, one that is all too typical of the mining history of the early twentieth century. What started out as a legitimate effort to exploit a high-grade gold deposit turned into a high-grade fraud when its owners figured out that the Gold Bar was a low-grade mine, and was not the sort from which fortunes are made. Like many mining promoters before and since, Loftus and Davis determined to mine the pockets of stockholders when it became evident that mining the ground would not prove profitable. Given the boom spirit and unbounded optimism of the Bullfrog District, which is most typical of mining camps throughout history, it is not altogether surprising that Loftus and Davis were so successful.

As is obvious by now, the Gold Bar mine was never a large producer of gold. It is impossible to determine how much ore was ever taken out of the ground, since the majority of the available figures are those which were released to the press by the company itself. It is doubtful, however, that the Gold Bar ever contributed a significant amount of gold to the coffers of the country. Two things, though, are abundantly clear: the private

61. Nye County Recorder's Office, 1923-1978 Assessment Rolls, Rhyolite and Beatty.

stockholders of the Gold Bar company never made any money at all, and Loftus and Davis never lost any. How much money those two promoters gained from their various swindles will never be known.

b. Miscellaneous Gold Bars

Like the area around the Original Bullfrog, the ground surrounding the Gold Bar Mine was covered with locations, prospects and mining companies shortly after the initial successes of the Gold Bar Mine were publicized. As usual, most of these companies incorporated the words "Gold Bar" into their titles, staked out ground as close as possible to it, and tried to attract investors. Like the Bullfrog tadpoles, some of these mining companies never actually mined, while a few did. All of them failed.

Chief among these companies who tried to find ore were the Gold Bar Extension, which operated intermittently from June of 1905 to February 1908; the Gold Bar Annex, which existed from February of 1906 to August of 1907; the Original Gold Bar Extension, which ran from April to November of 1906; and the Gold Bar South Extension, with a life-span from April of 1906 to April of 1907. None of these companies ever found any ore, and although a few of them were able to list and sell their stocks for a short period of time, a singular lack of success marks their efforts.

c. Present Status, Evaluation and Recommendations

See the Homestake-King section, where it and the Gold Bar mines will be discussed together.

6. Homestake-King Mine

a. History

Once a prospector was lucky enough to find indications of gold on the surface of the ground, he then faced another difficult decision. Which way would the ore vein run after it disappeared beneath the surface? This was a question of great import, since all mining districts had distinct limits as to how much ground each prospector could locate. Thus, if the discoverer of surface gold guessed wrong, and the vein angled out of his claim and underneath neighboring claims, then the discoverer was out of luck, while his neighbor was in.

This was the problem which faced N.P. Reinhart and Ben Hazeltine when they discovered what became the Gold Bar Mine. Like most prospectors, they had a rudimentary knowledge of geologic formations, and an even greater store of contemporary prospectors' myths and hunches. After studying the land, the two men decided that the vein ran northwest and southeast, and staked their claims. Unfortunately, they had guessed incorrectly.

As usual with the site of a new discovery, the Gold Bar area was soon over-run with eager prospectors looking for "close-in" ground. One of these was a man named John McMullin, and the poor luck which had dogged Reinhart and Hazeltine proved to be his good fortune. McMullin studied the Gold Bar claims, examined the surrounding territory, and decided that the vein ran southwest and northeast, or perpendicular to the prior guess. McMullin therefore staked out his allotted three claims, named them the Homestake after the famous South Dakota gold mine, and started to dig.

McMullin staked his claims sometime in early 1905, and immediately found indications of good ore deposits. Within two months of his discovery eastern financiers had obtained an option on his infant mine. As McMullin continued to dig, and continued to find good ore indications, the deal was soon consumated, and in September of 1905 McMullin sold out for cash, stock and a seat on the board of directors of the Homestake Consolidated Mining Company. The Homestake was the usual corporation of the times, with the exception that it decided not to sell shares on the public market. The company was dominated by semi-retired Dallas businessmen, who were looking for a good investment and who seemed to have ample cash to finance the development of the mine. B.D. Milam, a former Dallas real estate magnate, was elected president of the company and Con O'Donnell was named general manager in charge of development. John McMullin, as promised, proudly took his seat on the board of directors, a prospector who made good.

By the end of September, after only one month of vigorous development and exploration work, the Homestake Company verified the good guess work of McMullin. The company announced that it had penetrated the Gold Bar ledge on its property and further declared its belief that the ledge ran entirely through one of its claims. The Homestake Consolidated Mining Company was in business.⁶²

During the remainder of 1905, the Homestake rapidly went to work. A shaft was begun, just a few feet inside

62. Inyo Independent, 3 March 1905. Rhyolite Herald, 29 September 1905.

the boundary line separating the Homestake from the Gold Bar, and ore valued at \$39 per ton was almost immediately uncovered. The company began to build a bunk house for its miners, and ordered a 15-horsepower hoisting engine for the property. The new hoist arrived promptly on January 5, 1906, and was soon installed and working. The future of the property seemed assured when a saloon was established near the mine, for saloon-keepers in mining camps seemed to have an uncanny ability to judge which mines would furnish long-term business and which would quickly fade away.

Flanked as it was by the Gold Bar Mine, which had completely captured the attention and the headlines of the local newspapers, the Homestake quietly developed its property without the benefit of much publicity. By the end of March, 1906, the exploration shaft had been sunk to a depth of 220 feet, which caused the company to cease sinking until means could be provided to pipe air to the miners far below ground. The Homestake kept the papers informed of its discoveries as time progressed, but the \$35 ore found in that mine could not compete with the more fabulous reports from the Gold Bar Mine, and Homestake news was relegated to the back pages.

Although the Homestake Company had an official policy of not selling shares of its stock on the open market, it had no control, of course, over the sale of shares by its stockholders. Blocks of shares appeared on the local stock markets from time to time, and after a slow start, began to capture the attention of local investors. 100,000 shares were traded in early April at a price of 75¢ each, and as investors realized that the Homestake Consolidated Company meant business, the price rose to 85¢ in May. While this could not compare with the \$1.60 commanded by the Gold Bar, it was a very health price for stock in a company which was still in the early stages of exploration and development. Although the San

Francisco disaster depressed stock values temporarily, they soon recovered.⁶³

In the meantime, another mining company had opened for business in the Gold Bar-Homestake area. Incorporated as the Bullfrog Gold King Mining and Milling Company, it was owned in large by the same people who controlled the Homestake. B.D. Milam was the president of this company, and Con O'Donnell was general manager, mirroring the same positions which they held with the Homestake. F.S. Kelly, the present superintendent of the Homestake mine, was also named as superintendent of the Gold King. The new company owned four claims and two fractional claims adjoining the Gold Bar and the Homestake on the north. Although the two companies held separate incorporations, for all practical purposes they were considered the same mine, and were developed in tandem.

As the summer progressed, the two mines were steadily developed. Good surface values were found on the Gold King, while the Homestake continued to uncover milling grade ore in its shaft, which was now down to 285 feet. Fourteen men were employed at the mines, and a 15-horsepower gas hoist was ordered to facilitate development at the Gold King. By the end of the summer, the hoist had arrived and was installed, and both mines reported continuing good ore values. Nothing sensational, however, was uncovered at either property, and the Homestake-Gold King complex continued to take a back seat in the

63. Rhyolite Herald, 27 October, 17 November, 1 December 1905; 5, 12, & 19 January, 30 March, 20 April 1906. Bullfrog Miner, 6, 13 & 20 April 1906.

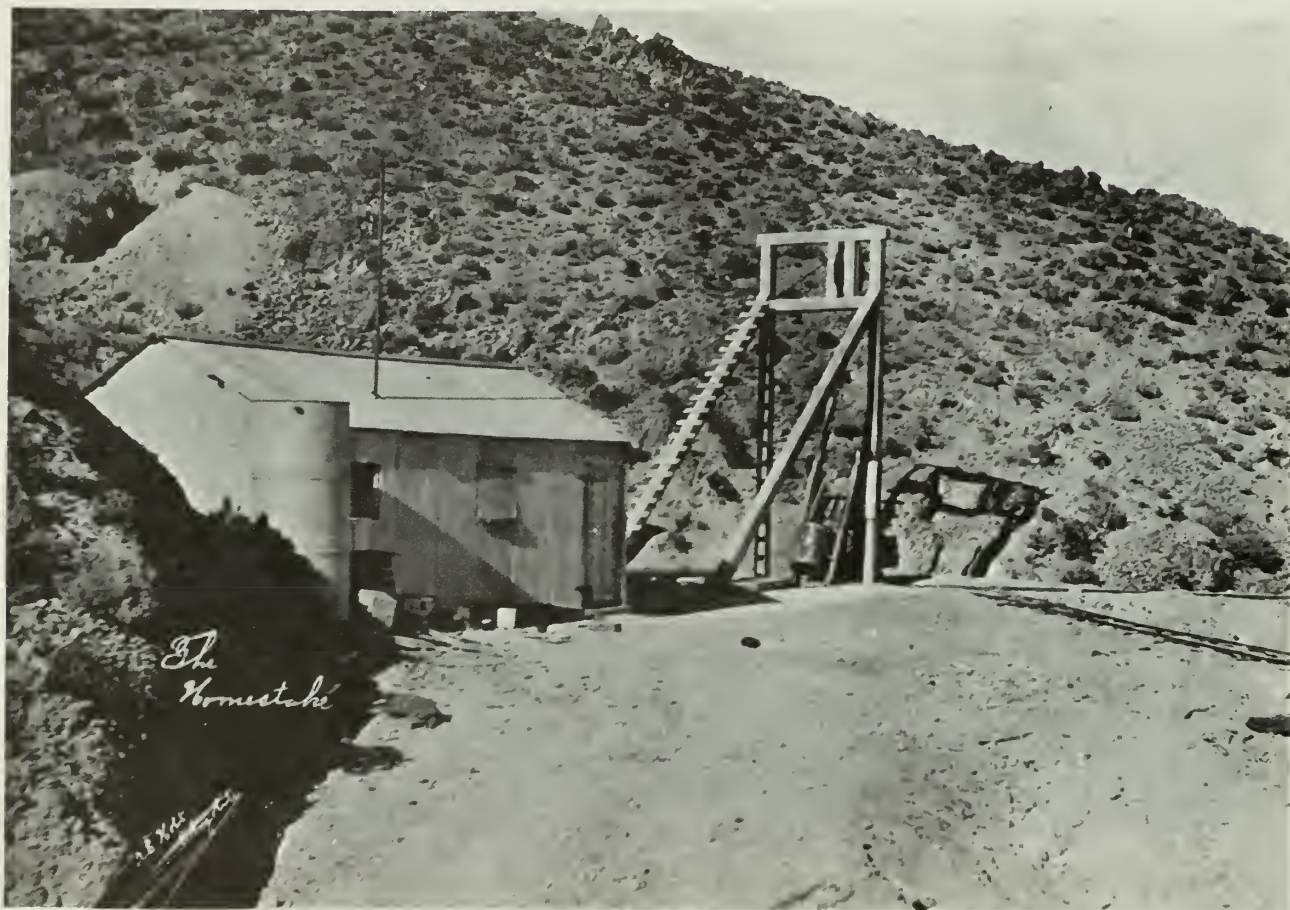
The Gold Bar-Homestake camp in June of 1906. The main working dump of the Homestake can be seen in the top center of the picture. Note that telephone lines have already been connected to the little work camp, and that piles of lumber on the ground indicate that wooden structures will soon take the place of earlier tent homes.

Photo courtesy of Nevada Historical Society.



Main working shaft of the Homestake Mine in June of 1906. The small hoisting frame sits directly above the shaft, and the ore bucket is visible at the surface. The tin building housed the 15-horsepower hoisting engine used in the early days of the mine. A prospect hole is also visible above the engine house.

Photo courtesy Nevada Historical Society.



newspapers to their neighbor the Gold Bar. Private investors showed more confidence in the mines than did the newspapers, and Homestake stock steadily advanced through the summer, until it sold for \$1.15 per share in the middle of August.

By early fall, the Homestake Company was ready to pass from the exploratory stage into the serious development of its mine. Underground probes had indicated the presence of good ore bodies, and with a better idea of which way the ledges twisted and turned the company was able to plan an advanced development campaign. A new working shaft was started close to the division line between the Homestake and the Gold King claims and a 40-horsepower hoist was ordered for placement there. By way of underground connections, the company planned to use this shaft to hoist all the ore found in both mines to the surface. Investors agreed with the rosy future foreseen by the mining companies, and Homestake stock continued to record good sales at \$1.15 per share. Gold King stock also entered the trading board at a price of 35¢.

During November, the realization slowly hit the Bullfrog District that the Homestake and Gold King mines were quietly developing into something big. When the companies announced plans to consolidate their workings even more, and when the Homestake ordered more cable to enable it to sink beyond the 300-foot level the news was printed on the front pages of the newspapers rather than on the back. Although neither company deluged the papers with reports of fabulous ore discoveries as most mining companies were wont to do, stock values continued to rise. Gold King hit a high of 53¢ per share on November 9th, and Homestake rose to \$1.70 the following week.

Then, in December, the management of the Homestake and Gold King mines took the anticipated step and

officially combined their companies. With the overwhelming approval of the stockholders and directors who were gathered in Dallas, the two companies were reorganized as the Homestake-King Consolidated Mining and Milling Company. The merger meant a stock split, and all the old Gold King and Homestake shares were called in, for exchange for the new. Gold King stock was exchanged at the ration of four shares of old to one new, and Homestake stock went on a one-to-one basis, based upon the present market value of the two stocks. The new company announced that its capitilization was for 1,500,000 shares, or half again as many shares as either company had held before. More available shares, of course, meant that each share was worth less, and although the Bullfrog District heartily approved of the merger, Homestake-King stock immediately sold for less than Homestake Consolidated had been selling.

The new company was prepared for such inevitable occurrences, and soon announced its plans for the future. The company had a \$40,000 treasury, enough to finance a considerable amount of development work, and admitted that it was seriously considering the construction of a mill upon its property, should ore values continue to hold with depth. Towards the end of 1906, the company began to sack its high grade ore, worth from \$350 to \$500 per ton, and seemed to be in fine shape. Taxes were paid on improvements to the mines consisting of two gas hoists, one engine house, two gallows frames, mining tools, ore cars, and three lots which the company owned in Rhyolite. But investors seemed wary. Stock prices fell to \$1.25 per share at the end of December, which was not unexpected due to the merger, but sales were slow. Undoubtedly, the troubles which the Gold Bar was experiencing

about this time depressed the Homestake-King sales, since the two companies were mining the same ore lode.⁶⁴

Development activities proceeded through the early months of 1907. In February, with twenty-one men employed in three shifts, the company began construction of another bunk house and a boarding house. Teams of surveyors began a search through the surrounding hills for a water source to supply the future mill. In March the superintendent was forced to halt vertical work when the shaft reached the 400-foot level, which strained the old 15-horsepower engine to its utmost. While the mine awaited its long overdue 40-horsepower engine, the men were put to work in lateral explorations, pushing drifts and crosscuts out from the shaft at the 200, 300 and 400-foot levels. Ore of good milling value was found on all levels.

At the end of March, the company leased the water rights at Mud Springs, approximately five miles north, and began improvements at the springs designed to increase the water flow to a level sufficient enough to support a stamp mill. Although no detailed plans were yet reached, the mine superintendent guessed that the future mill would have forty stamps. The Bullfrog Miner printed a summary of development work at the Homestake-King on March 29th, listing a total of 2,288 feet of underground work completed. Surface improvements consisted of one 40-horsepower hoist (which had just arrived), one 24-horsepower hoist and the old 15-horsepower engine. In addition, the company operated a 10 by 12 compressor, which powered the air drills used in the mine.

64. Bullfrog Miner, 11, 25 May, 13 July, 7 September, 26 October, 9 & 16 November, 7 & 14 December 1906. Rhyolite Herald, 18 May, 1 June, 1 & 17 August, 2 November, 14 & 21 December 1906. Nye County Recorder's Office, 1906 Assessment Roll, Rhyolite. Nevada Secretary of State, Articles of Incorporation, Foreign, #207½-1907.

Then, on April 5th, the Homestake-King committed itself to the construction of a mill, a step which the Bullfrog District had eagerly awaited. The directors voted \$100,000 for mill construction, but did not release any details concerning the reduction plans. The local papers felt assured that nothing less than forty stamps would be considered. Con O'Donnel, general manager of the company, gave the papers an estimate of 40,000 tons of \$25 ore in the mine as well as 90,000 tons of \$15 ore. The Rhyolite Herald thought this estimate of \$2,350,000 of mineral content was too low, and speculated that the mine actually contained \$5,000,000 worth of ore. Given either estimate, the company felt that all the paying ore in the mine could be profitably mined since their experts had predicted mining and mill costs of \$4 per ton. Investors took heart at the announced plans, and Homestake-King stock rose slightly to \$1.20 per share.

Committed to developing its mine on a large scale, the Homestake-King forged ahead. The new 40-horsepower hoist was placed above the main working shaft and sinking resumed, with the intention of doubling the depth to 800 feet. Since the ore discovered on the 400-foot level had been the best yet discovered in the mine, the company hoped for further improvements as greater depths were reached. At the same time, the surveyors reported that Mud Springs could be developed in sufficient quantity to supply the mill with adequate water, and the company negotiated for its purchase. In reply to constant inquiries, the Homestake-King promised that the papers would be given complete mill plans, as soon as water rights were secured.⁶⁵

65. Rhyolite Herald, 8 February, 15 & 29 March, 5 April 1907. Bullfrog Miner, 8, 15 & 29 March, 5 & 26 April, 10 & 24 May 1907.

Work at the Homestake-King complex continued apace through the long hot summer months. The main shaft reached the 500-foot level on July 20th, and continued to show good values with increased depth. During August, the company directors met at Rhyolite to inspect the mine and then retired to San Francisco to discuss details of the proposed mill. On August 24th, they cautiously announced their preliminary plans. The mill would be large, with twenty stamps and a 100-ton daily capacity, but details of the reduction process would have to await the results of ore tests. For this purpose, five tons of ore were shipped to San Francisco for extensive tests, and representatives of several machinery firms were invited to visit the mine in order to draw up and submit bids on the construction work. Meanwhile, the company purchased the water rights at Mud Springs, and put seven men to work on a pipe line.

Ore tests were completed in October, and the company announced that the results indicated that a 96% savings ratio was possible. President Milam returned to Rhyolite to participate in ground-breaking ceremonies as the company began preliminary excavation work on the mill site. Milam told reporters that the mill, with good luck, would be completed by March of 1908, but that final contractual details had not yet been resolved. In the meantime, the miners were shifted from shaft work, and began lateral work on several levels in order to develop quantities of ore for delivery to the mill.

Final plans were announced in November. The Homestake-King signed a contract with the Nevada-California Power Company for the delivery of electric power to the mill site for ten years. The next day, on November 23d, the company announced that the contract for the construction of its mill had been let to the famous Colorado Iron Works of Denver, the winner of the five firms

which bid for the job. The Rhyolite papers differed as to the costs of construction, with one reporting \$150,000 and the other \$200,000 but both gave details of the mill plans.

The ore would first pass through a grizzly and a McCully gyratory crusher, for preliminary crushing, and then would undergo final crushing by twenty-five stamps. From there the pulp would pass over twelve feet of copper plates, then through a Door classifier and to three tube mills for fine grinding. The slime would next be run through two settling tanks, each measuring thirty feet across and six feet deep, while tailings from the tube mills would be rerun over the plates. From the settling tanks, the slime would enter final reduction via two seventeen-foot agitators, the stock slime tanks, a forty-frame Butters filter and the gold storage solution tanks. Finally, the ore would be filtered through the zinc boxes, producing the final bullion. In addition, two twenty-foot by five-foot sand tanks were provided to treat the intermediate sands by leaching, as necessary. As was obvious to all concerned, the Homestake-King mill was the result of much testing and thought, and represented one of the finest stamp mills which money and modern technology could provide--an undoubted contrast to the rather simple mill being built at the Gold Bar.

The mill building itself would be constructed of steel throughout, and Mr. Rothwell of the Colorado Iron Works, who had supervised the construction of mills "in practically all the camps of the United States and in Mexico," would personally supervise all construction details. The design of the mill building would be such that the capacity could be increased beyond the initial twenty-five stamps in the future without impeding the day-to-day operation of the mill. On December 3rd, the Tonopah Lumber Company won the contract to supply lumber for the mill construction, and three days later excavation work began in earnest.

But despite the clear evidence of big plans in store for the Homestake-King, its stock took a beating in the fall of 1907, as a result of the great panic which was sweeping the nation. Prices fell steadily from 97¢ per share in July to 85¢ in September, to 75¢ in October and to 55¢ on December 4th, just a few days before construction work began.⁶⁶

Delays almost immediately began to plague the company. The Homestake-King had contracted with the Gold Bar Company for the water necessary to begin work on the concrete foundations of the mill, but the water problems with the Gold Bar pipe line prevented it from delivering any to the Homestake-King. Nevertheless, the company steadily worked on the excavation and foundation work, with water painfully hauled from Rhyolite and from Currie's Well. Another bunk house was built at the mine to accommodate the additional fifteen men hired to work on the mill. By the end of December, the excavations were almost complete, the mill foundations were well under way, and the Colorado Iron Works notified Mr. Rothwell that the factory was ready to begin shipment of parts and machinery as soon as he was ready for them.

By the middle of January, 1908, the excavation work was complete and the mill foundations were almost finished. Carloads of material began to arrive over the Las Vegas & Tonopah Railroad, and the company had in its employ one 10-mule team used solely in hauling water, and two others for hauling rock and sand for the concrete. President Milam visited Rhyolite in order to

66. Bullfrog Miner, 20 & 27 July, 1, 17 & 24 August, 7 & 21 September, 12 & 19 October, 2 & 23 November 1907. Rhyolite Herald, 25 October, 22 & 29 November, 6 December 1907. Rhyolite Daily Bulletin, 9 & 22 October, 22 & 23 November, 3 & 4 December 1907.

inspect the progress of the work, and informed reporters that the total weight of the machinery to be delivered for the mill was in excess of 700 tons. Milam expected the mill to be operating by the first of May. Towards the end of February, with the foundations practically finished, framing for the mill building began, while operations in the mine continued as it readied itself to deliver a steady supply of ore to the mill.

During March the foundations were finally finished, and a Bulletin reporter wrote that they measured 231 feet from end to end and 103 feet from side to side. By now mill machinery and material was arriving almost daily over the railroad, as well as pipes for the water line. As April passed by, the battery bins were finished and the ore bins were started. The foundations for the settling, sand, and leaching tanks were completed, and the steel frame of the building was put in place. Cyanide tanks were under construction, the twenty-five stamps were installed and the tube mills were put into position. Delays in certain deliveries, such as steel sheeting to cover the building, slowed the pace of construction.

With construction lagging behind schedule at the end of April, the company increased its force to sixty-three men. Final shipments of the delayed materials were soon received, and the building began to take shape above the desert. The seventy-five ton ore bin was finished, and the 350-ton bin to hold the crushed ore was completed. The ore crushers were installed and the 50,000 gallon water tank was erected. Amalgamating tables were finished and work began on the cyanide tanks. The Homestake-King made arrangements to tap the power line of the Gold Bar mill soon after it shut down, in order to save on the cost of building another power line to the site. The company received its shipments of electric motors, consisting of two 30-horsepower, one 20-horsepower and two 10-horsepower.

During May, the company intensified the work schedule in the mine and purchased and installed a six-drill compressor plant to power additional air drills. By the middle of the month the sheet metal skin of the mill was half finished, as was the pipe line, and a week later the Nevada-California Power Company began to install the electric connections between the Gold Bar and the Homestake-King. A slight delay ensued when problems with the water pumps for the pipe line were encountered, but on June 3d the mill was complete, except for a few final finishing touches. Reporters who visited the site were dutifully impressed and glowingly described the mill.

The mill foundations rested on solid rock, and the steel framework was securely fastened to the foundations. Ample windows were provided for light inside the mill, and the company awaited only the arrival of a new pump and the turning on of the power by the Nevada-California Power Company to begin operations. According to the details of the construction contract, the Colorado Iron Works representative would supervise the operation of the mill for sixty days, and the Homestake-King would only take final acceptance of the mill after that period, after the mill had proved to be operating flawlessly.

As construction on the Homestake-King Mill had progressed, stock prices in the company had steadily gone downhill. After a brief flurry in December of 1907, when prices rebounded to 75¢ per share, the sudden closing of the Gold Bar Mill, and all the dirt which that stirred up had a deadening effect upon the fortunes of the Homestake-King. Although there were no murmurings or rumors of fraud connected with the Homestake-King, the public obviously felt that since its mill would run on the same ore ledge which had utterly failed in the Gold Bar Mine, that the same fate would be repeated at the Homestake. Stocks fell to 57¢

per share in January, to 48¢ in February, and all the way to 30¢ each in April, after the Gold Bar Mill had closed. At that point the slide slowed down, and Homestake-King stock hovered around 30¢ per share for several months.⁶⁷

On June 20, 1908, the Homestake-King Mill turned on its machinery for the first time. The preliminary tests went well. No leaks were found in the water lines, and no vibrations were felt in the mill, even when all twenty-five stamps were activated. The company proudly announced that the mill was extremely well-built, and one of the finest of its kind to be seen anywhere. It was automatic, in the terms of the day, so that a force of only twenty men was needed to operate the mill around the clock. Best of all, in the light of the recent Gold Bar disaster, the Homestake-King proudly announced that there were no mortgages or outstanding loans against the company and that the mill was completely paid for. Thus, "there will never be any question about the property being taken over for debt." As a further attempt to boost the sagging investor confidence in the Bullfrog district, the company reiterated that it had "never sold a single share of stock on any exchange. The stock that has been sold on the exchanges did not come from the treasury, but has been offered by private parties."

During the first week of July, after preliminary mill tests were completed, production runs began. Approximately eighty tons of ore were sent through the workings per day, and

67. Bullfrog Miner, 7, 14 & 28 December 1907; 18 & 25 January, 8 & 29 February, 28 March, 18 April, 2, 16 & 30 May, 6 June 1908. Rhyolite Herald, 13 & 27 December 1907; 29 April, 20 & 27 May, 3 June 1908. Rhyolite Daily Bulletin, 28 December 1907; 3 March 1908. Mining World, 4 April 1908, p. 578.)

three shifts of sixty men were at work in the mine and the mill. Towards the end of the month, the mill's capacity had been increased to one hundred tons per day, with the mill extracting 90% on the gold in low-grade ore and 95% in high-grade. On August 22d, the Homestake-King made its first shipment of bullion, weighing 925 ounces. The Rhyolite Herald estimated the shipment to be worth \$17,000 and the Bullfrog Miner guessed \$25,000. Whichever was right, the Homestake-King had entered the rare and proud company of producing mines.

But on September 1st, the mill was suddenly shut down, and the entire Bullfrog District braced itself for a repetition of the Gold Bar story. Rumors flew thick and fast concerning the cause of the shut-down, with the majority holding that the Homestake-King, like the Gold Bar, had no ore in its mine. The company itself compounded the mystery and confusion by remaining silent, giving the newspapers no reason for the closure. This time, however, the district was blessed with a happier ending. Conflicts had arisen between the Homestake-King and the Colorado Iron Works concerning the final payments due on the mill, and the mill had been closed while the directors of the two companies met in the middle of September to iron out a compromise. Late in September an agreement was reached and the mine and mill resumed operations. President Milam, who belatedly realized the consternation which had swept through the district, apologized for the lack of information given out by the company, and promised a policy of full publicity in the future in order to avoid any further misunderstandings.

Through October, November and December of 1908, the mine and mill ran smoothly, producing a steady stream of gold bullion. Exact production figures are hard to determine. The Bullfrog Miner, which seemed to have a habit of exaggerating, gave

The Homestake-King Mill in May 1908, looking south towards Bullfrog Mountain. Note that all the windows have not yet been put into place.

Photo courtesy of Nevada Historical Society.



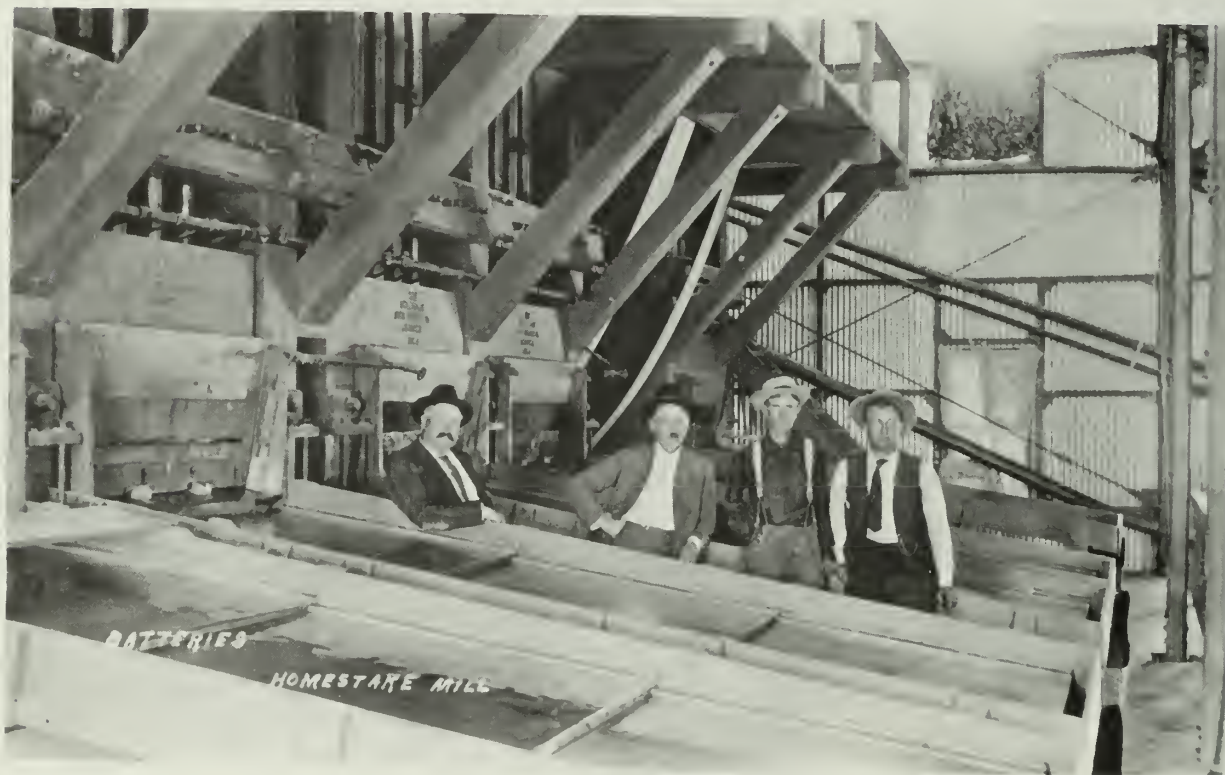
The Homestake-Gold Bar camp in June of 1908. The Gold Bar Mill, now shut down, is at the left, with the almost-completed Homestake-King Mill at the extreme right. Wooden buildings have taken over the camp site from the tent dwellings of previous years.

Photo courtesy Nevada Historical Society.



Interior of the Homestake-King Mill, ca June 1908, just prior to completion of the mill. This view is of the battery room, where the ore exits the twenty-five stamps. The stamps are to the left, with one each attached to each vertical shaft seen in the photo. In the rear, note the steel framework of the building, covered with sheet-metal skin.

Photo courtesy of Nevada Historical Society.



Another view of the interior of the Homestake-King Mill, ca June 1908. The three tube mills, used for fine grinding of the ore, are clearly visible. Note also one of the mill's large tanks to the right, and the structural steelwork of the mill building overhead.

Photo courtesy Nevada Historical Society.



estimates of \$25,000 for October, \$25,000 for November and \$11,000 in December. The more conservative Rhyolite Herald gave estimates for the same months as \$10,000, \$12,000 and \$12,000. The company itself did not release monthly ore figures, but later stated that production for 1908 had amounted to \$45,000 for the months of July through December. The Herald, in the meantime, took the Miner to task for publishing inflated production figures, for such practices could only hurt the district when the truth was revealed.

But whatever the exact figures, it was evident that the Homestake-King mill was a grand success. Following the lay-off of the construction workers, the company employed nineteen men in the mine and eleven in the mill, and reduced its ore at a cost of only \$4 per ton for mining and milling. Since the average ore being run through the mill was worth \$8.50 per ton, the company was making a good profit. The Homestake-King Mill was one of the most economical ones for its time, and had the smallest payroll for the amount of ore being milled in the Bullfrog District. With the mine and mill running smoothly, the predominate question which now affected the future of the company was the extent of its ore reserves. On November 11th, by which time the mill had been running for four months, the mine superintendent reported that the mine had enough proven reserves to supply the mill with eighty tons per day for six more months. Needless to say, the mine was exploring for further ore reserves to lengthen that time, and had every hope that the ore ledges which it was following would continue to contain good milling ore.

Towards the end of November, with the mine and mill running at full force, the Rhyolite Herald ruefully recalled the panic of a few months earlier when the mill had shut down. So many "wiseacres," it said, had been "looking for another such an announcement as was handed out on Gold Bar, to the effect that

there was nothing doing." Nevertheless, investors had been burned too often to want to put their money into another mine at this late date, and Homestake-King stock continued to slide. The panic caused by the short shut-down in September had sent stock plummeting to 20¢ a share, and despite a weak rise in price after the mill resumed operations, the October high was only 26¢. November saw stock in the company fall to 16¢ and by the end of 1908 the mine which had produced \$45,000 saw its stock selling for a dismal 9¢ per share. There was nothing the company could do to reverse the dismaying trend. Stockbrokers were as puzzled as was the company. As one reported, "This property is now on a paying basis, and bullion shipments are regularly made. The stock, which has always gone contrary to expectations, is as low as it ever was, and it is hard to explain the slump." Even the report that the company had received patents to its property from the U.S. government could not halt the slump.⁶⁸

There was nothing the company could do except continue milling its ore and hope for a revival of public confidence. This it did. In the meantime, the steady employment of miners and millmen in the Homestake area brought other concerns to light. An unofficial census was taken in the fall of 1908 which showed eighteen school-age children living at the Homestake-King camp. Since it was considered an extreme hardship to force those children and their mothers to live and attend school in Rhyolite, a movement was initiated to raise funds for a branch school at the Homestake. Dances, picnics and other fund-raising activities were scheduled

68. Bullfrog Miner, 20 June, 22 August, 12 & 19 September, 17 November, 5 & 12 December 1908; 2 January 1909. Rhyolite Herald, 24 June, 8 & 29 July, 5 & 26 August, 2, 23 & 30 September, 14 October, 11 & 25 November, 2, 23 & 30 December 1908; 13 January 1909.

during the last part of 1908 and the early months of 1909 to raise the necessary money. Several buildings were donated by mining companies, parents volunteered efforts, and the movement slowly build momentum.

The mine and mill, meanwhile, continued to operate, and in accordance with its new policy, submitted its annual report for publication in the Rhyolite newspapers. Although the report showed that the mine and mill were both well-equipped and operating efficiently, the company itself was not in the best of financial shape. Its account books, for the period ending on November 1, 1908, showed that the Homestake-King had expended \$297,951.86 to date. Of this amount, \$160,977.50 had been the cost of constructing the mill and pipeline, \$86,032.90 had been expended in developing the mine and in the purchase of machinery and tools for it, and \$38,936.41 had been spent in operating costs for the mine and mill since the mill had opened on July 1st. Since bullion sales from the mill had totaled only \$20,116.65 between July and November 1st, it was clear that the mill was operating at a loss. As the papers pointed out, however, it was normal for a large mill to take a loss during the shakedown period, and bullion sales since November had improved, so there was little cause for worry.

The treasury stock, however, had been heavily depleted. Most of it had been pledged as security for loans to cover construction costs, which had been advanced by major stockholders in the company. As a result, the company was left with an excellent mill and a good mine, but with very little money to operate them until bullion returns improved. Accordingly, the shareholders had authorized a \$200,000 bond issue at the company's general meeting during the first of December. The bonds were given to the company's creditors, most of whom were stockholders, and in return the liens were lifted from the company's treasury

stock. Thus the Homestake-King hoped to be able to finance short-term operating costs from the sale of treasury stock, and to retire the new bonds from the proceeds of bullion returns. The bonds carried a 10 percent interest rate, and were due for repayment on December 8, 1909. The interest was payable semi-annually, with the first installment due June 9, 1909. \$174,227.62 worth of bonds were immediately issued, which cleared the company from all other forms of debt. Unfortunately, between the time the plan was decided upon and the end of the year, the continued fall of stock prices meant that the Homestake-King would not be able to finance as much from the sale of treasury stock as it had originally hoped.

Despite this somewhat gloomy picture of the company's finances which was revealed, the Rhyolite Herald and other papers praised the company for its open and honest policy. It was a good move, said the Herald, which would "re-establish confidence" in the district, if followed by other companies. Investors, however, were not so certain, and Homestake-King stock continued to decline, ending January of 1909 at 8¢ per share.

The mine and mill continued to produce. The Bullfrog Miner estimated January's production at \$16,000, and the Rhyolite Herald at \$15,000, but troubles with malfunctions in the tube mills caused February's and March's figures to drop to an estimated \$13,000 and \$16,000. The mine, in the meantime, failed to find new ore bodies, and time began to run out on the Homestake-King. The best ore found during the month of February assayed at only \$2 per ton, far too low to consider milling. In March, small bunches of rich ore were found in the lower levels of the mine, but not enough to call it a strike, and not enough to supply the mill for more than a few days. Desperately, the company decided to increase its force of miners and to sink below the 500-foot level in its search for additional ore. The mine

superintendent reported that all available miners were being shifted to a search for new ore, with only a minimal force kept in the upper levels to supply the mill from the dwindling quantities of the known ore reserve.

Investors smelled doom, and Homestake-King stock hastened in its fall. Prices fell from 7¢ to 6¢ and then to 5¢ in February, and further to 4¢ in March and 3¢ in April. The stock found buyers at these low prices, but that was a small consolation to the company. Then, on April 19th, the inevitable news came. The Homestake-King mine and mill were closed. The company announced that the shut-down was for an indefinite period, but no one was deceived. Thirty miners and millmen sadly packed their belongings and prepared to move elsewhere, and Homestake-King stock immediately dropped another point, to 2¢ per share. The nine-month life of the Homestake-King mill had ended.⁶⁹

Two days later, the Herald was able to furnish more details. In answer to telegraphic enquiries, President Milam had admitted that the directors of the company had no definite plans for the immediate future. Holders of the bond issue, however, had made no indications that they planned to forfeit on the property if the June interest payment was not made. Since the company had no hopes of raising the cash for that payment, this was good news. The mine superintendent, Milam said, had informed him that the six-month supply of ore reserves, which had been forecast last November, had been accurate. All that ore had now

69. Rhyolite Herald, 30 December 1908; 13, 20 & 27 January, 3 & 17 February, 10 & 24 March 1909. Bullfrog Miner, 2, 23 & 30 January, 13 & 27 February, 27 March, 17 & 24 April 1909. Rhyolite Daily Bulletin, 20 January, 10 March, 4 & 19 April 1909.

been milled and despite feverish explorations on all levels of the mine, no new deposits had been uncovered. Although much of the ground owned by the company was still not completely explored, the company's treasury was exhausted. Thus, unless further means of financial support were found, the Homestake-King would be unable to conduct more development work. In summary, the directors could not promise that the Homestake-King would be reopened, and the chances that it would were rather slim.

The closure of the Homestake-King mine and mill was a heavy blow to the hopes of the Bullfrog District, but the circumstances surrounding it were entirely different from those when the Gold Bar Mill had closed a year earlier. To all intents, the efforts to develop the Homestake-King into a major Bullfrog producer had been businesslike and above-board, and the Rhyolite papers paid the company its due. "Certainly the Homestake people have made a good try," editorialized the Rhyolite Herald; the Bullfrog Miner agreed, calling the company's efforts "frank and honest and conscientious." The final cleanup from the mill, made after operations had ceased, netted the company \$3,200.

But the Homestake-King was not ready to give up. After all, it had one of the best reduction mills in the state, and its mine still had promise. In the short run, while the directors were searching for ways to raise more development funds, the company negotiated with several Pioneer District mines, trying to find companies willing to pay to have their ores milled at the Homestake. The negotiations fell through, however, and as the summer progressed the big mill lay idle. Stock, in the meantime, had fallen to 1¢ per share on May 15th, and finally disappeared altogether from the trading boards by the end of June. When the second installment of the 1908 county taxes fell due on June 1st,

the beleaguered company did not have the cash to pay, and the mine and mill were transferred to the county's delinquent list.⁷⁰

During the late summer and fall of 1909, however, it became apparent that certain minor stockholders in the company were not satisfied with the operations of the Homestake-King. Several threatened to sue, alleging that competent engineers would not have built the big mill, because not enough ore was in sight to support it during a reasonable lifetime, and that the directors had thus backed a questionable proposal. In addition, the issuance of a \$200,000 bond issue when the company had only six months' known ore reserves seemed suspicious.

As the anger and frustrations of certain stockholders began to surface, the Rhyolite Herald took a more cautious tone in its assessment of the management of the Homestake-King. "No end of complications may arise when once the Homestake-King affairs are in court," it wrote, "and those who purchased this alleged gilt-edge stock at par or better will be interested to know if any crooked work was done, and on the other hand the friends of the promoters will be glad to see the affair fully aired in order to efface any suspicion which may be cast upon the good intentions of any officer or director of the company."

On October 2nd, the legal struggle commenced. Julius B. Fensterwald brought suit to recover \$5,000 owed him by the company. Since the trustees of the holders of the \$200,000 bond issued held a first lien against the assets of the property,

70. Rhyolite Herald, 21 April, 5 & 12 May, 31 July 1909. Bullfrog Miner, 24 April, 15 May, 19 June 1909. Rhyolite Daily Bulletin, 11 May 1909. Nye County Recorder's Office, 1908 Assessment Roll, Rhyolite.

Fensterwald sought to have that lien overturned, alleging various vague illegalities. As 1909 ended, the matter wound its way through the court system, without a decision being reached, and the Homestake-King, still without the means to finance further development work, was forced to miss payment on its year-end taxes.

As usual, mining suits such as this took inordinate amounts of time to become resolved. As the case dragged along in early 1910, matters were further compounded when William Kelly, another minor stockholder, also brought suit. Kelly's case was given much attention by the papers, for he had been a former member of the Homestake-King's board of directors, until being removed "by reason of the fact that he was not in accord with the methods and policies of those in control. . . ."

By July of 1910, the Herald had grown more suspicious of the Homestake-King, and suggested that the company might have dealt in fraudulent practices by releasing inflated ore figures to the press in earlier years. At the same time, the Herald also hoped for a quick solution to the court difficulties, so that the mine might be able to resume operations. The paper was so anxious to see life revived in the now-dying Bullfrog District, that it even proposed that the Homestake-King and other dormant companies be re-organized as assessable corporations, so that stockholders might be assessed to pay for exploration and development work. The plea is an indication that hard times had indeed hit the Bullfrog District, for assessment had long been illegal in Nevada, due to widespread abuses of the system during the Comstock boom years.

As 1910 stretched into 1911, the court cases slowly moved towards a decision. In the meantime, the

Homestake-King mine and mill lay idle, although the company employed a watchman on the property to protect the mill building and machinery. At last, during March, Fensterwald's case was heard in Tonopah district court, and the judge rendered a decision wholly in favor of the company. All the financial and legal transactions of the Homestake-King, he ruled, had been entirely legal and above-board, and the trustees of the \$200,000 bond issue held a first lien upon the property. Shortly thereafter, Kelly also lost his case, for similar reasons.

Following the conclusion of the court cases, the property of the Homestake-King was put up for auction by the county sheriff, in order to satisfy the debts of the company to the bondholders. Although this sale meant the end of the Homestake-King Consolidated Mining and Milling Company, and that all stockholders in that incorporation would be left with nothing, it also meant that the new owners of the mine and mill would have a clear and unencumbered title to the property, with no debts hanging over their heads. With that in mind, rumors began to circulate concerning the future of the mine and mill. Most seemed to believe that the trustee of the bonds would buy the property himself, thus nominally keeping the Homestake-King in the hands of its previous owners, most of whom were bondholders. A.S. Dingee, the trustee, fed these rumors by declaring that the Homestake-King was not defunct and that he intended to get the property back into shape for some sort of activity.

Other rumors circulated, claiming that Tonopah and Manhattan mining concerns intended to buy the mill and move it elsewhere, but on December 9th, Dingee bought the property. Shortly afterwards, in company with former president Milam, Dingee visited the district in order to inspect the mine and mill and to discuss the possibilities of resuming work. The two men received

several offers to buy the mill, including one by a Goldfield company which had watched its mill burn to the ground, but Milam and Dingee decided to give it another go. The two announced that they would provide funds for further sinking and development work in the mine. Only when it was proven that the Homestake-King had no more ore in the ground would they consider selling the mill. Happily, with the ownership of the Homestake-King estate settled in court, Dingee was able to pay the county taxes on the property and the Homestake-King once again entered the active tax list of Nye County at the end of 1911.⁷¹

During the early months of 1912, Dingee and Milam made an effort to discover more ore in the mine, but had no luck. The Homestake-King mine and mill were soon back on the sale block. Rumors circulated in the following months that the mill would be sold to mining outfits from Tonopah and Hornsilver, but due to the demise of the Rhyolite Herald in June of 1912, details are scarce. The property appeared on the county tax roll at the end of 1912 as being owned by one S.H. Brady of Tonopah, but the mill was not moved. During succeeding years, it was slowly sold off in pieces, and the remainder began to deteriorate. The 1914 assessment roll lists the mill as having only fifteen stamps, indicating that ten stamps had been sold, and noted that the engine and compressor were in poor shape. By 1918, the mill was simply assessed as an "Old Battery of 15 stamps," and was given a value of a mere \$300, as compared to \$10,000 only five years previously. Sadly, the Homestake-King Mill did not even have the honor of

71. Rhyolite Herald, 31 July, 14 & 28 August, 2 October, 1909; 2 July 1910; 21 January, 25 March, 21 October, 11 & 18 November, 9, 16 & 30 December 1911. Nye County Recorder's Office, 1909-11 Assessment Rolls, Rhyolite; 1911 Delinquent Assessment Roll.

being given a second life at another mining camp, as was the usual fate of such equipment.

Brady and another man named Thorkildsen continued to hold title to the mine and mill until 1921, when the Nye County treasurer seized them for back taxes. At the time of the forfeiture, the mill equipment was still described as an old battery of fifteen stamps. By 1930, however, when the property reappeared on the active tax list, the remnants of the mill had completely disappeared--someone had appropriated the remaining equipment between 1921 and 1930.

The rest of the history of the Homestake-King is by now a familiar story. The property was purchased by Roy J. Pomeroy of Los Angeles in 1930, along with the claims of the Original Bullfrog, the West Extension and several other Bullfrog district mines. Pomeroy incorporated himself as the Rhyolite Consolidated Mining Company, and shortly thereafter sold out to D.M. Findlay of Beatty. Findlay retained title for several years, and operated the property intermittently. A 1935 report, in a minor understatement, concluded that "lack of capital is hindering developments at this property."

In 1937, the mine was described as being worked by fourteen men employed by the General Milling Company of Beatty, which had equipped it with a gas hoist, a compressor and machine drills. During subsequent years, however, the mine was reported to be idle, and Findlay sold it to C.A. Liddell in 1940. Liddell and/or lessees of his worked on the property again for several years, and finally discovered another vein of ore, such as Milam and Dingee had vainly searched for in 1912. Between 1940 and 1942, a quantity of \$35 ore was hoisted from the mine and shipped out for reduction. The company reported that there was

some \$20 ore still in the mine, but that there was no profitable way to handle it, due to excessive transportation and supply costs.

The property was again idle in 1943, and from then until 1960, remained in the hands of Liddell. No work was done during those years, and the mine bounced back and forth between the delinquent and the active tax rolls. In 1960, Mark Leff of Beverly Hills, California, purchased the property and retained title to it until the mid-1970's when the Homestake-King Mine was finally purchased by the National Park Service and made a part of Death Valley National Monument.⁷²

* * *

Total production figures for the Homestake-King mine and mill are hard to determine, due to the lack of adequate records. The Rhyolite Herald reported in 1910 that the combined production of the mine and mill had been \$70,000 during its nine months of operation, but a 1943 study by the University of Nevada reduced that figure to \$54,261. Using either figure, it is obvious that the Homestake-King did not produce enough bullion to pay for the costs of development and of mill construction. At least, in this case, everyone involved lost evenly, for despite the later all allegations of disappointed stockholders, it appears that the Homestake-King mine and mill were operated honestly. That in

72. Nye County Recorder's Office, 1913-1978 Assessment Rolls, Rhyolite, Beatty. Mining World, 27 January 1912, p. 228; 17 February 1912, p. 408. Rhyolite Herald, 18 May, 25 May, 1 June 1912. Mining Journal, 30 January 1929, p. 40; 30 September 1940, p. 28; 30 April 1941, p. 23. M.J. Brown, "Mining Activities and Sales Opportunities in the State of Nevada," Los Angeles Chamber of Commerce, Domestic Trade Report #56 (1935), p. 8. Leslie C. Mott, "Mining Activities and Sales Opportunities in the State of Nevada," Los Angeles Chamber of Commerce, Domestic Trade Report #66, (1937), p. 29. Victor E. Kral, "Mineral Resources of Nye County, Nevada," University of Nevada Bulletin #45 (1951), pp. 36-37.

itself is a unique feature of the mine, as well as a comment upon the times in which it operated.

Nevertheless, the Homestake-King Mill, even taking the lower figures reported in 1943, stands as the fifth largest producer of gold in the entire Bullfrog District, and as the largest producer of those Bullfrog mines which are located within Death Valley National Monument.⁷³

b. Miscellaneous Homestakes

Like most successful mines, the Homestake-King had its contingent of surrounding hopefuls. Outfits such as the Daisy, the Winnebago, the Trinidad and the Bullfrog Winner briefly staked out claims and attempted to find some ore. The most persistent of these companies was the Homestake Extension Mining Company, organized in July of 1906. The Extension found early indications of ore on its property, just northwest of the Homestake, and succeeded in selling a considerable amount of stock at prices up to 18¢ per share. The company promptly put its money into the ground, as good companies should, and managed to create some sizeable development works. In March of 1907, at its height of promise, the Homestake Extension had a 25-horsepower hoisting engine, an air compressor and air drills, a blacksmith shop, a bunk house, a boarding house and an engine house. The company had completed 520 feet of development work, and reported ore values from \$2 to \$56 per ton.

Like so many other small mining companies which operated on a day-to-day basis, the Panic of 1907 destroyed

73. Rhyolite Herald, 2 July 1910. B.F. Couch and J.A. Carpenter, "Nevada's Metal and Mineral Production, 1859-1940," University of Nevada Bulletin #37 (1943), pp. 117-118.

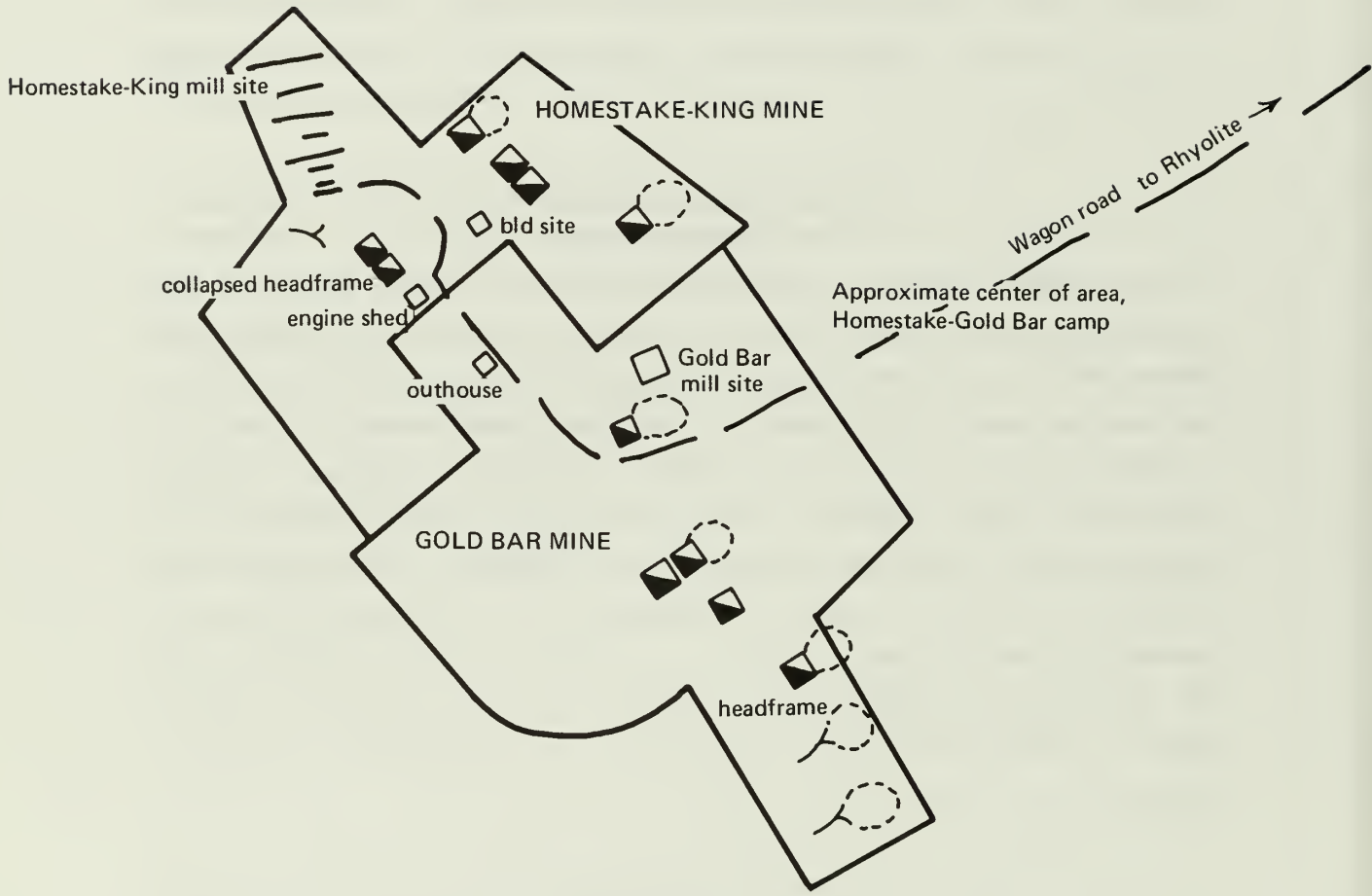
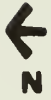
the Homestake Extension. Its principal backers were local stock brokers and small-time mining promoters, just the type who were hurt most by the panic. With its financiers' purse strings suddenly tightened and with the general plunge in stock sales brought on by the panic, the Homestake Extension was cut off at the pass, before it really had a chance to prove whether or not it could become a productive mine. The company retained title to its claims for another two years, but no further work on the mine was possible.⁷⁴

c. Present Status, Evaluation and Recommendations

The Gold Bar-Homestake area will be nominated to the National Register. These two mines and mills are as close in proximity as they were far apart in their histories. The Gold Bar represents that all too frequent type of mining operation wherein the stockholders were taken for all they were worth, while the Homestake-King was one of the most honestly (if not wisely) run mining companies of its time. Thus the happy chance that the two properties are adjacent presents the Monument with the rare opportunity to compare and contrast the best and the worst of early twentieth-century mining history. In addition, the Gold Bar and the Homestake-King mills were the only mills built in the Bullfrog District which fall within the confines of Death Valley National Monument.

The historic structures at this complex run the range from relatively insignificant to downright impressive. The

74. Rhyolite Herald, 20 July, 17 August, 14 September, 12 & 19 October, 2, 9 & 16 November, 28 December 1906; 4 & 11 January, 15 March, 5 April 1907. Bullfrog Miner, 17, 24 & 31 August, 28 September, 2, 9 & 30 November 1906; 4 January, 15 & 29 March, 24 May, 29 June 1907. Rhyolite Daily Bulletin, 21 January 1909. Nye County Recorder's Office, 1907-1912 Assessment Rolls, Rhyolite.



Scale: 1" = 800'

- Legend:
- Shaft
 - └─┘ Adit
 - dump

former site of the Homestake-Gold Bar camp is today marked by little more than piles of rusted cans, broken bottles, and scattered timber debris. Careful examination of the area can result in the detection of several old building sites, but to the casual observer little remains to mark the once thriving camp.

The mine sites are another matter. As usual, prospect holes, dumps and shafts dot the landscape. The Gold Bar property had at least four shafts and two adits. A crude headframe still stands over one of these shafts, but the huge ore bin and headframe of the main working shaft has disappeared. The Gold Bar Mill was long ago carted away, as described above, but the concrete and brick foundations of the mill still mark the site.

The Homestake-King ruins are far more impressive. Situated towards the top of the hill is the large working area where the main hoisting shaft of the Homestake-King was located. Extensive timber ruins of the collapsed headframe mark the spot, and the visitor can easily see the double compartment, timbered shaft under the headframe ruins. Three shafts and an adit are below the main shaft, and several more shafts may be found across the top of the ridge to the north, on the old Gold King property.

The best, however, has been saved for the last. By following the old ore road around the side of the hill from the Homestake-King shaft, one arrives at the top of the Homestake-King Mill site. Although the only remains of the mill are the concrete foundations, the very size of those foundations is utterly impressive. Six parallel rows of foundation walls step down the side of the mill for several hundred feet. Some of the foundation walls are eighty feet from side to side, and rise fifteen feet above the slope of the hill. In addition, several piles of

timber debris and one large collection of used cyanide flasks may be found.

But the concrete foundations of the Homestake-King Mill, situated on the side of the hill looking south towards Bullfrog Mountain, clearly dominate the scene. The mill foundations are visible for miles away from the desert floor, and grow more and more impressive as one nears the site. The sheer size of the ruins, contrasted with the quiet desolation of the desert around it, forces the viewer to attempt to grasp the seemingly illogical fact that this rather isolated and desolate portion of the Nevada desert once teemed with life, activity, and hope.

The Gold Bar-Homestake complex, quite obviously, should be protected, preserved, and interpreted. The protection and preservation efforts should be centered around the mill foundations of the Gold Bar and the Homestake-King. Although both foundation sites seemed stable enough to the untrained eye of an historian, a more expert opinion should be obtained, in order to prevent any future damage to these impressive remains. The interpretation of this area, like that of the rest of the Bullfrog District which falls within the Monument boundaries, is absolutely non-existent at present. At the very least, signs or exhibits which identify the remains should be posted. At best, the vast potential interpretive value of this complex should be utilized. As stated before, this site offers the unique opportunity to compare and contrast two opposite extremes of the mining business as practiced in the early twentieth century.

As a final note, the Monument should immediately make some effort to mark its boundaries. The visitor, especially one with access to a four-wheel drive vehicle, has a choice of almost a dozen routes to take to the Homestake-Gold Bar

area. Few of these roads are marked with National Park Service boundary signs, which would warn the traveler that he has entered a protected domain. Given the proliferation of souvenir and rock hunters found in this area, the marking of the boundaries is the most critical passive measure of protection which could be given to this complex.

View of the Homestake-Gold Bar complex from the south. All traces of the camp buildings have disappeared, and the two prominent mill buildings which once dominated the scene have vanished. The Gold Bar Mill foundations cannot be seen in this view, since they are tucked behind a small ridge. In the center top are the dumps of the Homestake-King, and the mill foundations of that mine are barely visible in the shadows to the right of the picture. Compare this photo to those of 1906-1908, taken from approximately the same spot, which show the camp in various stages of activity.

1978 photo by John Latschar.



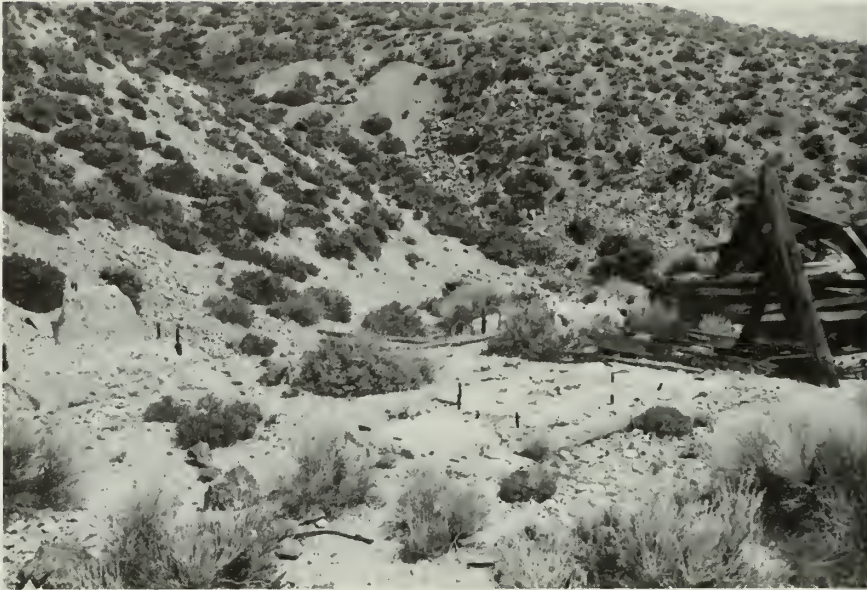


Reverse of the preceding view, looking south from the top of the Homestake-King dump. The dump in the middle of the picture marks the former working shaft of the Gold Bar. The large gallows frame and ore bin were built on top of that dump, and the rather small foundations of the Gold Bar mill can barely be seen to the left, below the dump. The prominent wagon road in the top left of the picture leads south towards Rhyolite.

Bottom: Close-up view of a portion of the Gold Bar Mill foundations.

1978 photos by John Latschar.





The collapsed headframe of the Homestake-King main working shaft. The old engine house, which may be seen in the 1906 photo printed above, sat in the foreground of this picture. Note the concrete and steel foundations, where the hoisting engines were mounted.

Below: View of the Homestake-King Mill foundations, looking down towards the old camp site. Although depth perceptions are not evident in the photo, the mill was built on a decided slope, enabling it to utilize the force of gravity as a power supplement.

1978 photos by John Latschar

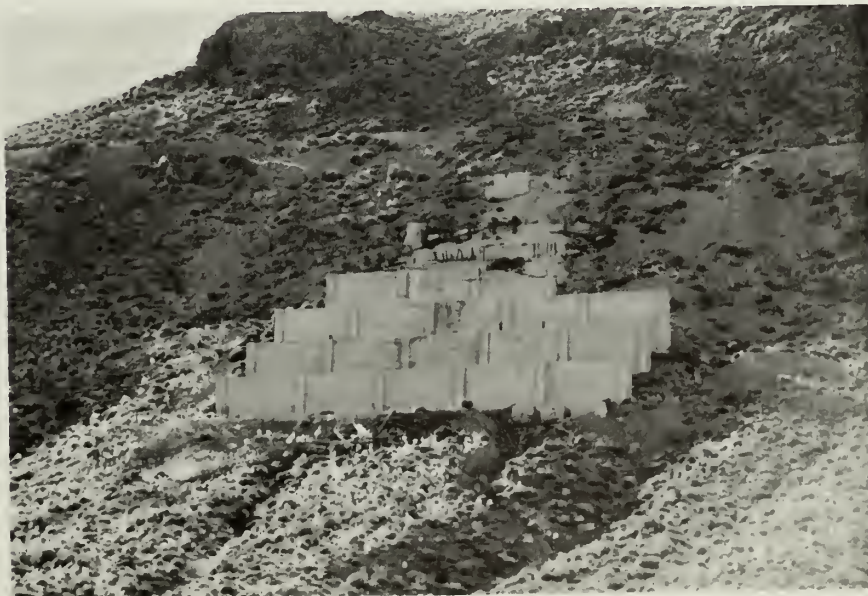




Close-up of one tier of the Homestake-King foundation walls, showing its dimensions. This wall was eighty feet in length, over fifteen feet high, and was several feet thick.

Below: The Homestake-King Mill foundations from below. Although distances are deceiving in photographs, the distance from the bottom wall to the small concrete pedestal at the top is approximately one hundred and fifty feet.

1978 photos by John Latschar.



7. Las Vegas & Tonopah Railroad

a. History

The early twentieth-century mining booms at Tonopah, Goldfield and Rhyolite not only produced major economic and social changes in the life of southern and central Nevada, but also brought about a major restructuring of Nevada's transportation system. As the new camps boomed and prospered, they soon outgrew the capacities of mule teams and freighters to meet their demands, and for the first time railroads were enticed into this region of Nevada. The lure of rich profits from the new camps was the catalyst which brought about the creation of new rail lines, but it was the happy geographic chance that the new camps were situated in a rough north-south line which made a new railroad link through Nevada possible.

Prior to the boom years, Nevada was served by two east-west lines which passed through the state. In the north, the original Central Pacific Railroad, part of the first continental system, served Reno. Now absorbed by the Southern Pacific, this route had been the main railroad link from Nevada to the rest of the country for several decades. In the south, the recently completed San Pedro, Los Angeles and Salt Lake Railroad connected the southern part of the state to the west coast and the Rocky Mountain region. Between Reno in the north and Las Vegas, 435 miles to the south, however, there were no rail links. Thus the fortunate chance that the new boom camps of Tonopah, Goldfield and Rhyolite appeared, in succession, in a north-south line between Carson City and Las Vegas made the possibility of the construction of new railroad line connecting those two areas a distinct possibility, the first time.

Such a railroad would cost a great deal of money, though, and the traffic volumes in the early 1900s simply

did not warrant the construction of a single line. As a result, the north-south line was connected little by little by a group of independent railroads, built from one camp to another. By the time the Bullfrog boom was well underway, this process had already begun. The Tonopah Railroad Company completed its line from the north into Tonopah in July of 1904, which connected that camp with the Southern Pacific, via the Nevada & California Railway and the Virginia and Truckee Railroad. Within another year, as Tonopah and Goldfield were proven to be solid producers, and Rhyolite appeared to be following their examples, various plans were laid to continue the south-bound connections. The Tonopah Railroad became the Tonopah & Goldfield Railroad in late 1905, and shortly thereafter began construction of a line from Tonopah south to Goldfield.⁷⁵

With the completion of a railroad to Tonopah, which was about half way between Carson City and Las Vegas, the northern half of the connection was completed. In the meantime, several plans for the southern half were beginning to take shape, at least on paper. "Borax" Smith had long contemplated a railroad which would connect his various borax mines in southern Nevada and southeastern California with the outside world, for the days of the famous twenty-mule team borax wagons had long since become economically infeasible. When Senator William Clark completed his San Pedro, Los Angeles and Salt Lake Railroad in January of 1905,

75. David F. Myrick, Railroads of Nevada and Eastern California, 2 vols., 1962-1963. Myrick's volumes on Nevada's railroads are indispensable to an understanding of the transportation system of Nevada at the turn of the century, and have been heavily relied upon herein. Unless otherwise noted, material in this section has been drawn from Myrick's work, especially his chapters on the Tonopah and Goldfield, the Bullfrog Goldfield, the Las Vegas & Tonopah, and the Tonopah & Tidewater Railroads. I will take this opportunity to acknowledge my debt to him.

Smith decided to connect his mines with that railroad at Las Vegas. Verbal agreements between Clark and Smith were reached, and Smith soon announced the formation of the Tonopah and Tidewater Railroad.

Clark, however, was also looking at the new gold camps to the north of his railroad, and slowly came to the realization that he wanted to build his own line into the interior. The agreements with Smith were thus broken and Clark announced the formation of a rival company, the Las Vegas and Tonopah Railroad. As the names implied, both these southern roads envisioned extending their lines not only to the Bullfrog district, but beyond to Goldfield and Tonopah, thus tapping the potential of all three mining camps.

Clark was the first to set to business. His engineers conducted a preliminary survey from Las Vegas to Tonopah in early 1905 and completed it late in February. The proposed line would run north towards the Bullfrog District, but would bypass the district itself by running through Beatty instead of Rhyolite. The route via Beatty would be comparatively flat and smooth, and would avoid extensive construction costs which would have been necessary to climb the mountains into Rhyolite. After several months of negotiations with Borax Smith, who was forced to shift his operations from Las Vegas on the San Pedro, Los Angeles and Salt Lake line to Ludow, California, where he would connect with the Santa Fe Railroad, construction on both roads began in the fall of 1905.

At about the same time, a third railroad entered the picture when John Brock, of the Tonopah and Goldfield Railroad, also spotted the potential of the Bullfrog District, and announced the formation of another railroad company. This one

would be a nominal extension of the Tonopah and Goldfield Railroad, and would extend those lines south from Goldfield into the Bullfrog District. It soon became obvious to all parties involved, the first railroad to complete its line would have the greatest chance of success, and a race ensued.

In January of 1906, the first rails were laid on the Las Vegas & Tomopah, north of Las Vegas, and a month later the road had been completed for twenty-four miles. Although Rhyolite was estatic at the prospect of being connected to three railroads, the town's leaders also realized that the prestige and prosperity of the town would be threatened if rail connections were made at Beatty, four miles to the east, rather than at the metropolis itself. Rhyolite did not want to be on a branch line of any railroad, and began to take steps. After several discussions between the town and the company, an agreement was reached. The Las Vegas & Tonopah agreed to extend its line through Rhyolite, rather than bypassing the city, and the town in turn guaranteed to secure property rights and right of ways through the town. Although this change in plans meant heavy additional construction costs--the Las Vegas & Tonopah estimated that it would cost as much to build a sixteen-mile "high line" through Rhyolite and back out of the Bullfrog Hills to the north as it would to build the entire 115 miles from Las Vegas to Beatty--the town convinced the railroad that the extra expense would pay off. If the railroad ran directly through Rhyolite and the Bullfrog Hills, numerous mines would be able to ship directly on the railroad, rather than having to pay freight expenses to have their ores hauled across the hills to Beatty. Since this meant that more mines would be able to ship their ore, and that more low-grade ore could be profitably shipped, the increase in freight profits for the railroad would offset the additional construction costs. Besides that, passenger traffic would be dominated by the railroad which connected directly to



Death Valley National Monument Boundary



Mud Springs

Currie's Well

Scale: 1" = 1 mile

Legend:  Railroad grade
 Wagon roads

Mud Summit Station
Northern end of the
"high line" which
started at Beatty,
four miles east of
Rhyolite

Homestake-King

Gold Bar

Montgomery-Shoshone Spur

Original Bullfrog



Rhyolite

Rhyolite, for who wanted to go to Beatty anyway? Despite the fact that the steep grade from Beatty to Rhyolite would mean that the railroad would be forced to stop each train at Beatty and hook on additional engines to negotiate the pass, the railroad was convinced.

The Rhyolite Board of Trade put the matter to a vote of the citizens, who approved the plan. The town announced that it would provide all necessary right of ways and property rights for the railroad if it in turn guaranteed that the route through Rhyolite would be a through route, and not just a branch line. The Las Vegas & Tonopah concurred, and plans were formalized. Doubling the pleasure of Bullfroggers, the Bullfrog Goldfield Railroad, which had recently incorporated to build south from Goldfield, also announced that its terminus would be in Rhyolite. This road, however, would avoid the hilly route between Beatty and Rhyolite, and would instead build to Beatty, then swing to the south around the hills and hook back to the north, entering Rhyolite from the south.

Construction on the Las Vegas & Tonopah proceeded apace through the early part of 1906. By March, fifty-three miles of track had been laid, and graders were working eighty-four miles north of Las Vegas. To the southeast, "Borax" Smith's Tonopah and Tidewater railroad was inching out of Ludlow, but it appeared that the Las Vegas and Tonopah would win the race to the Bullfrog District. By the middle of June it had finished its grade all the way into Beatty, although the rails were still twenty-nine miles short of that town. The Tonopah and Tidewater had extended its rails seventy-five miles out from Ludlow, but the heat of the summer put a halt to its construction work. In the meantime, the Bullfrog Goldfield had finally started work on its line on May 8th, but initial progress had been slow.

The Las Vegas & Tonopah surveyed and laid out its rail yards at Gold Center, where the trains would be made up, and where northbound trains would pick up extra engines for the climb from Beatty to Rhyolite. Its future grade was surveyed through Rhyolite out to the west around the Bullfrog Hills, then back up to the north towards Mud Summit. This sixteen mile stretch, called the "high line," would constitute the most difficult part of the construction of the entire line between Las Vegas and Goldfield, for after cresting the ridge at Mud Summit, the rest of the sixty-some miles was relatively flat and smooth. The surveying of this line laid to rest recurring rumors that the Las Vegas & Tonopah would stop at Rhyolite and let the Bullfrog Goldfield handle north-bound traffic.

Grading work on the "high line" between Beatty and Rhyolite began during August of 1906, and the rails in the meantime slowly crept up the already completed grade towards Beatty. On October 7, 1906, the first work train pulled into Gold Center on its completed tracks, and two weeks later the railroad was completed as far as Beatty. Clark had won his race, for he entered the Bullfrog District a full six months ahead of his competitors. Beatty, as usual, held a wild and grand Railroad Day Festival, and all Bullfroggers joined in the celebration, for their town was at last connected with the outside world.

In the middle of November, work on the laying of rails between Beatty and Rhyolite commenced, and on December 14, the first Las Vegas and Tonopah train pulled into the east end of Rhyolite. Freight shipments immediately followed the ceremonial first train, and long awaited carloads of lumber, supplies and mine and mill equipment began to arrive. The completion of the railroad freed the Bullfrog District from the exorbitant freight rates necessitated by long mule-team hauls over the desert, and a

veritable building boom got underway, as Rhyolite began to change from a tent city to a more permanent town. Within a week of the arrival of the first train, over one hundred cars stood on the yard tracks in Rhyolite, and more were coming in each day. As soon as the confusion was somewhat cleared, the Las Vegas & Tonopah extended its track through town, before putting a halt to the laying of rails. Further construction, it announced, would await the completion of grading work in the vicinity of Goldfield.

In March of 1907, the first regular Pullman service between Los Angeles and Rhyolite was inaugurated, with daily trains. Grading work around Goldfield progressed, and the town of Rhyolite breathed a sigh of relief as it became evident that it would indeed be on the main line of the railroad, and not be left dangling at the end of a branch line. Then, in April, the Bullfrog Goldfield Railroad finally finished its line into Beatty. Although the event was not met with nearly the degree of enthusiasm which had heralded the arrival of the Las Vegas & Tonopah, it actually had much more significance, for the north-south rail line through Nevada was now complete. True, it was necessary for passengers to change trains five times between Carson City and Las Vegas, but for the first time it was possible to make the trip in relative comfort and speed.

By the end of May 1907, grading of the Las Vegas & Tonopah line to Goldfield was almost complete, and work began again on the laying of the tracks. During June the railroad slowly extended itself out of Rhyolite, around the Bullfrog Hills, and to the north towards Goldfield. By the middle of August, the rails were completed through the entire Bullfrog District and were extended as far north as Bonnie Claire, a third of the way between Rhyolite and Goldfield. Construction continued despite the financial problems brought about by the Panic of 1907, and on October 26,

the ceremonial final spike was driven at Goldfield, marking the completion of the Las Vegas & Tonopah line. Few citizens, however, were in a mood to celebrate.

Four days later the Tonopah & Tidewater Railroad entered Gold Center from the south, and linked its tracks with those of the Bullfrog Goldfield. Not surprisingly, the two railroads soon announced plans for joint cooperation, and Goldfield and the Bullfrog District were thus served by two complete southern lines. Potential passengers and shippers could travel the Las Vegas & Tonopah all the way from Goldfield to Las Vegas, where connections to the west coast and the Rocky Mountains were possible, or they could take the Bullfrog Goldfield to Beatty and switch there to the Tonopah & Tidewater for the trip to Ludlow, California, with similar east-west connections at the southern terminus. Although the Las Vegas & Tonopah had been the first railroad to arrive in the district, the Tonopah & Tidewater immediately gained an advantage over its rival, for the latter's connections to the west coast were quicker and more economical. The Las Vegas & Tonopah countered by advertising that its route went "all the way" and that passengers would be spared the necessity of changing trains in Beatty.

Now that the race was over, the competing roads settled down to business--hoping that the market for hauling in supplies and equipment and hauling out ore would justify the costs of construction. The Las Vegas & Tonopah concentrated on improvements to its property, including the rail yards at Rhyolite and its passenger station, which was finished in June of 1908. Although events would prove that passenger traffic never warranted the construction of such a large station, the company reaped short-term benefits of publicity for being the owner of what was rightly called one of the showplaces of the southern Nevada desert.

Unfortunately, traffic volumes on all the railroads serving the Bullfrog District proved to be lighter than expected, since the district never became the producer as had been predicted during the early years of the boom. The Las Vegas & Tonopah made a small profit during the first year of operation, but that was the last year that it did. Due to its decision to utilize the "high line" in order to tap the mines of the Bullfrog Hills, the Las Vegas & Tonopah was saddled with heavier operating expenses than were its rivals, since all northbound trains were required to stop at Beatty and add an extra engine in order to negotiate the climb into Rhyolite. The ore from the high line never reached the predicted levels, and thus the railroad was left with the excessive costs of construction, without the ensuing profits from heavy ore shipments.

Although both the Bullfrog Goldfield and the Tonopah & Tidewater were experiencing much of the same problems, their shorter and cheaper route to the west coast helped them maintain higher shipping volumes than the Las Vegas & Tonopah was able to manage. In addition, "Borax" Smith had a monopoly upon the shipment of ores from his borax mines along the route of the Tonopah & Tidewater, which helped the revenues of that road considerably. As a final burden, the railroads were burdened with poor public relations. Almost as soon as the railroad days celebrations were over, miners and businessmen began complaining about the high freight rates charged by all the lines. As the mines developed into very low-grade propositions, freight rates announced in previous years began to look like highway robbery. Although the miners had a small point, for the prevalent rates made many mines unprofitable, most of the Bullfrog District mines would have had to be given free shipment of their ores in order to stay in business. Although all the railroads lowered their rates from time to time, no one was ever satisfied. The sentiment that the railroads were making huge profits seemed to predominate from

Rhyolite to Tonopah, and as a result, the property of their lines were heavily taxed. The Las Vegas & Tonopah, for example, paid taxes to Nye County amounting to \$11,942.70 at the end of 1907.⁷⁶

To make a sad story short, the Bullfrog railroads--and in particular the Las Vegas & Tonopah--declined in direct ratio to the decline of the Bullfrog District. Passenger and freight traffic fell off as mines closed and miners left town. The exodus had a ripple effect, for a smaller population in the district meant that fewer supplies were hauled in to support the remainder. A similar story was affecting the gold camps to the north, for although both Goldfield and Tonopah far out-lived Rhyolite, mines in those northern camps had passed their peak by the 1910s and were beginning what would be a much longer period of decline. In 1911 the Tonopah and Goldfield Railroad offered to sell its line to the Las Vegas & Tonopah, thus giving the latter a direct line through most of Nevada. Senator Clark was interested, but following the death of his son on board the Titanic in April of 1912, he turned apathetic towards business affairs, and the matter was dropped.

Matters were now becoming serious, and it became evident that unless the three competing lines were somehow consolidated, that all three would fail. The smallest of the three, the Bullfrog Goldfield, was the first to take action, but its attempt to sell itself to the Tonopah and Goldfield Railroad fell flat. The Las Vegas & Tonopah then stepped in and the two railroads made plans to consolidate their lines. Since both roads had tracks running between Beatty and Goldfield, the decision was made to

76. Bullfrog Miner, 11 July 1908; 2 January, 20 February, 20 March 1909. Rhyolite Herald, 17 & 24 March, 31 July 1909. Rhyolite Daily Bulletin, 10 March 1908. Nye County Recorder's Office, 1907 Assessment Roll, Rhyolite.

utilize the best parts of each line, and to abandon the remainder. Accordingly, the Las Vegas & Tonopah tracks would be used from Goldfield to a point just south of Bonnie Claire, where a shift would be made to the Bullfrog Goldfield tracks from there south to Beatty. This move would cut maintenance costs for both lines, and would enable the Las Vegas & Tonopah to avoid running its trains over the costly "high line" from Beatty through the Bullfrog Hills. Through service would run through Beatty, bypassing Rhyolite completely, although that town would still be served by a short branch line. All the track west and north of Rhyolite, however, which includes the section of track which run through the present boundaries of Death Valley National Monument, was abandoned.

The plans were approved by the Railroad Commission of Nevada, despite the protests of Rhyolite citizens, and the new combined route went into effect in June of 1914. For the first time, the Bullfrog Goldfield Railroad made a profit--ironically, much of it came from hauling ripped-up tracks and ties from its old roadbed north to Goldfield for salvage. The Las Vegas & Tonopah, however, was not so lucky, and continued to run in the red. Service over the remaining portion of the "high line" from Beatty to Rhyolite was finally discontinued in 1916, and the rails were removed.⁷⁷

As the years slowly passed, revenues and traffic on the Las Vegas & Tonopah continued to decline. Daily service between Las Vegas and Goldfield was maintained until February of 1917, when tri-weekly service was substituted. Then, the problems brought about by World War I spelled the end of the line. Due to war shartages and efforts to economize, the Freight Traffic Committee of the U. S. Railroad Administration ordered that

77. Inyo Register, 30 July 1914.

all perishable and merchandise traffic which formerly traveled via the Las Vegas & Tonopah would immediately be shipped only on the shorter Tonopah and Tidewater connections to the west coast. In other words, the Las Vegas & Tonopah was not allowed to haul anything but ore, and there was not much ore to be hauled. For a short while, the railroad was run by the Railroad Administration, but that body soon decided that the Las Vegas & Tonopah was "not considered essential or necessary to the uses of the Government," and was turned loose.

By this time, it was a moot question whether the railroad was essential or necessary to anyone, and the end soon came. The Las Vegas & Tonopah had lost money every year since 1908, but never enough to make it consider abandonment of its lines. Revenues now plunged drastically and the road was faced with bankruptcy. The high prices paid for scrap metal during World War I stimulated Clark to salvage as much of his railroad as he could, and on September 18, 1918, he applied to the Railroad Commission of Nevada for permission to cease operations. On October 31st, the last train pulled off the line and the tracks were taken up and sold. With the demise of its line, the Las Vegas & Tonopah also abandoned its passenger station in Rhyolite, and one of the last surviving structures in that dying town entered the delinquent tax list.⁷⁸

Following the death of the Las Vegas & Tonopah, the Bullfrog Goldfield Railroad returned to its old partner, the Tonopah & Tidewater, and the two roads combined operations. For all practical purposes, the Tonopah & Tidewater operated the line for the entire distance from Ludlow to Goldfield,

78. Nye County Recorder's Office, 1919 Assessment Roll, Rhyolite.

for the Bullfrog Goldfield had almost no rolling stock or engines left. Nevertheless, the railroad continued to operate as long as the Goldfield mines operated. As the 1910s gave way to the 1920s, those mines began to close down one after another, and revenues on the Bullfrog Goldfield slowly and surely declined. Finally, in January of 1928, that railroad was also abandoned.

Thus the Tonopah & Tidewater, which had been the last railroad to reach the Bullfrog District, was left as the last and only railroad operating in the vicinity. As the gold mines in the region began to play out, the Tonopah & Tidewater relied more and more upon its borax mines in the vicinity for revenue. Other scattered clay, marble and talc mines contributed enough freight to enable the railroad to operate feebly through the 1910s and the 1920s, and the road became a life line to the scattered population of the southern Nevada desert.

But towards the latter part of the 1920s, the borax mines began to close, and the life of the Tonopah & Tidewater was threatened. The Borax Consolidated Company, the parent of the Tonopah & Tidewater, continued to operate the road at a loss, preserving the rails and stock in case of future need, but heavy losses year after year became too much for it to handle. In 1938, the Tonopah & Tidewater applied for permission to abandon its lines. Local patrons of the road caught the ears of their politicians, and approval of the abandonment was delayed for several years, as means were sought to keep the line operating. But those efforts were ultimately unsuccessful, and on June 14, 1940, the Tonopah & Tidewater ceased operations. The railroad tracks were left in place for two years, in hopes that the railroad could resume, but the need for scrap metal during World War II caused them to be salvaged in 1942 and 1943. The last Bullfrog district railroad had finally died.

The demise of the railroads did not end their influence upon the transportation history of southern Nevada, for during the early days of highway construction in that state, the old roadbed of the Las Vegas & Tonopah was designated as part of the state highway system. When construction of U. S. route 95 between Las Vegas and Carson City began, which was the first major north-south highway through the state, the road was built along the old grade of the Las Vegas & Tonopah from Las Vegas to Beatty. Today, the traveler heading north out of Las Vegas towards Beatty and Carson City will travel along the same line which carried so much hope and optimism during the days of the Bullfrog boom.

b. Present Status, Evaluation and Recommendations

Due to the use of the old Las Vegas & Tonopah grade as a base for highway 95, all traces of the railroad bed have disappeared between Las Vegas and Beatty. Still visible to the visitor, however, is the old "high line" which ran from Beatty into Rhyolite and then through the Bullfrog hills to the north. This portion of the road, which was the first part of the railroad to be abandoned in 1914, winds for twelve miles through Death Valley National Monument. For most of this distance the old grade is clearly visible against the desert floor, and with its cuts and fills is in quite good condition, considering the ravages of time and weather.

With a few exceptions, today's visitor may walk or drive on the old roadbed from Rhyolite to the Original Bullfrog Mine, up through the cuts towards Mud Summit, north to Currie's Wells and on north out of the Monument's boundaries. The walk is a haunting one, for while tracing the route on its lonely way across the desert landscape, one can almost hear the whistle and rumbles of trains gone by. Just north of Mud Summit, more concrete

evidence of the past may be found in the ruins of an old section camp. Here, where the helper engines were dropped after the trains had climbed the grade up the "high line," may be found the site of several edifices which supported the railroad. Concrete foundations, a ground cistern and what is probably the foundations of an old water tank mark the spot. While there is not enough left at the site to make it particularly significant in itself, its location along the railroad grade makes it worthy of protection.

That portion of the Las Vegas & Tonopah Railroad grade which winds its way through Death Valley National Monument will be nominated to the National Register. The construction of this railroad had regional as well as local significance, since it formed a major part of the first and only north-south rail line through the state of Nevada. Although the section within the Monument boundaries was abandoned before the Las Vegas & Tonopah itself folded, the fact that it constitutes a major portion of the remaining visible grade makes its preservation important.

The story of the Las Vegas & Tonopah should be interpreted for visitors, in order to introduce to them the role which railroads played in the life and death of early twentieth-century mining camps, and the grade itself should be protected. In itself, the site of an abandoned railroad grade is as startling and as nostalgic a reminder of the dead hopes of bygone eras, when men attempted to wrestle a fortune from the forbidding deserts of southern Nevada, as is the lonely Homestake-King Mill foundations standing guard over a deserted desert.



Las Vegas & Tonopah Railroad grade, looking west towards the Original Bullfrog Mine from a point approximately one mile east of the Death Valley National Monument boundary line. The dumps of the Original Bullfrog are barely visible in the center background. Both photos by John Latschar, 1978.

Below: Portions of the railroad grade, looking southeast from the point where the Homestake-Gold Bar wagon road leaves the railroad, about 2 miles northwest of the Original Bullfrog. The grades in these two pictures are clearly marked, as they have been used for many years as auto roads.

1978 photos by John Latschar





A portion of the Las Vegas & Tonopah grade, looking northwest from Currie Well. Notice the fill in the foreground, and the cut through the small ridge in the background.

Below: The grade runs straight as an arrow once it leaves the hills and valleys of the Bullfrog district. In this photo, taken two miles north of Currie Well, the road bed may be discerned as it meets the horizon in the background. This portion of the grade is less obvious, since it has not been used as an auto road.

1978 photos by John Latschar.





Above and below: Front and rear view of the Las Vegas & Tonopah passenger station in Rhyolite. Since the demise of the railroad, the station has been used variously as a private residence, a casino, a gift shop, and a restaurant and bar. Although the structure is now in good condition, the present owner is very old, and local residents have no idea what will happen when she dies. Although the station itself is structurally intact, numerous changes have been made. The trees surrounding it, for example, were no more than seeds during the highlight of Rhyolite.

1978 photos by John Latschar.



8. Leadfield

a. History

The ghost town of Leadfield has become identified in western mining lore as an example of fraud, deception and deceit at its worst. Located in the middle of Titus Canyon about twenty-two miles west of Beatty, Leadfield boomed briefly in 1925 and 1926. The extensive promotion which surrounded the camp, the unsavory character of its chief promoter, and the swift and sudden demise of the boom has led to unkind treatment at the hands of popular writers of western history. Betty J. Tucker, writing in a 1971 issue of Desert Magazine, is a good example:

This town was the brain child of C. C. Julian, who could have sold ice to an Eskimo. He wandered into Titus Canyon with money on his mind. He blasted some tunnels and liberally salted them with lead ore he had brought from Tonopah. Then he sat down and drew up some enticing maps of the area. He moved the usually dry and never deep Amargosa River miles from its normal bed.

He drew pictures of ships steaming up the river hauling out the bountiful ore from his mines. Then he distributed handbills and lured Eastern promoters into investing money. Miners flocked in at the scent of a big strike and dug their hopeful holes. They built a few shacks. Julian was such a promoter he even conned the U. S. Government into building a post office here.⁷⁹

So goes the usual tale, which is fairly well duplicated by most writers of popular lore over the past forty-odd years. The true story, however, is somewhat different. Although Leadfield did set a record of sorts for being one of the shortest-lived towns in western mining history, there was more to it than merely an out-and-out stock swindle. Nor can C. C. Julian be blamed solely for the life and death of Leadfield.

79. Betty J. Tucker, "Death Valley's Titus Canyon," Desert Magazine, April 1971, pp. 26-27.



**EASTCENTRAL PORTION, GRAPEVINE PEAK QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT**



Scale: 1" = 1 mile

Leadfield, in fact, had ore from the beginning, which was in 1905, not in 1925. During the early days of the Bullfrog boom, Titus Canyon, like most of the territory surrounding the Bullfrog District, was examined by hopeful prospectors. In the fall of that year, W. H. Seaman and Curtis Durnford staked out nine lead and copper claims in the canyon, and came into Rhyolite with ore samples that assayed as high as \$40 to the ton. The prospectors were soon bought out by a consortium headed by Clay Tallman, a local attorney and promoter, and the Death Valley Consolidated Mining Company was incorporated. The company immediately began a development and promotional campaign, and shares of its stock were sold for 2½¢ each.

As usual, the news of the strike stimulated other prospectors and companies to get in on the potential bonanza, and claims were filed for miles around the Death Valley Consolidated property. The Bullfrog Apex Mining & Milling Company, for example, which we have already seen trying to exploit ground near the Original Bullfrog, purchased a group of four claims next to the Death Valley Consolidated. The former company, in the meantime, went to work, and as initial prospects looked encouraging, the price of the stock rose to 4½¢ on the local exchanges.

By May of 1906, the Death Valley Consolidated had progressed far enough to start taking out its better ore for shipment to the smelters. The company soon realized, however, that the long and arduous trip between its mine and Rhyolite and the high freight rates prevalent between Rhyolite and the far-off smelters, made the shipment of its ore absolutely unprofitable. As a result, the company ceased operations, and after a brief

Death Valley Consolidated Mining Company

Seven Claims, Perfect Title, No Debts

400,000 shares in treasury, balance pooled. Surface assays from \$18 to \$75. Values run in Copper, Lead and Silver. Immense surface showing. Owing to recent developments in the property, the price of stock has been raised to Five Cents. Only 15,000 shares will be sold at this price, when it will be raised to 10 cents.

Taylor & Griffiths, Fiscal Agts., Rhyolite, Nev.

six-month long life span, the Death Valley Consolidated Mining Company disappeared.⁸⁰

So matters stood for almost twenty years. Then, in March of 1924, three prospectors named Ben Chambers, L. Christensen and Frank Metts wandered into the canyon and began to stake out numerous claims on some lead deposits which they found. The three men worked their claims for over a year, before selling out to a local promoter named John Salsberry. Salsberry had been involved in Death Valley mining since the Bullfrog days, and was a former promoter of several mines on the west side of the valley, including some in the Ubehebe Mining District in the early 1900s, and the Carbonate Mine in the 1910s. Salsberry purchased twelve claims from the three prospectors and a few weeks later formed the Western Lead Mines Company, with 1,500,000 shares of stock worth 10¢ each. Salsberry extended the prospecting work in the district and by the end of 1925 the Western Lead Company had accumulated over fifty claims in Titus Canyon and had started to work. A compressor plant was installed to power the company's air drills, and eighteen men and six trucks began to build a long and steep auto road out of Titus Canyon towards the Beatty highway.

In January of 1926, the company built a boarding house, and began to lay a pipe line from Klare Spring, two miles down the canyon, to the mine site. The young camp was entering the boom stage. Following an enthusiastic Associated Press report on the new camp, the Inyo County Recorder reported that location notices were pouring into his offices. By January

80. Rhyolite Herald, 8 & 22 December 1905; 2 February, 23 March, 18 May 1906. Bullfrog Miner, 23 March 1906. Mining World, 19 May 1906, P. 620. Handbook on Nevada Mines, p. 20.

30th, the town had been officially named Leadfield, and half a dozen mining companies were in operation. Sales of the stock of Western Lead Mines Company were opened on the San Francisco exchange in late January, and within twenty-four hours 40,000 shares had been sold, with the price soaring to \$1.57 per share.

Eastern California, and especially Inyo County, was long overdue for a mining boom, and it seemed that the entire county jumped on the bandwagon. Hard times had begun to depress the county's economy, and this new boom was just the shot in the arm which the local merchants had been waiting for. Likewise, Beatty, on the other side of the state line, began to experience a revival in its economy, and the small railroad town, which had barely eked out an existence since the collapse of the Bullfrog boom, found itself as the new supply metropolis for the miners and companies swarming into Leadfield. No one was willing to look this gift horse in the mouth, and no one questioned the reality of the new boom--to do so would mean a swift ride out of town on a pole as a "knocker."

Then, in early February, came the announcement which seemed to assure the future of Leadfield. C. C. Julian, the "well known oil promoter of Southern California, who had been much in the limelight of late years on account of his spectacular oil operations," had bought into the Western Lead Mines Company, and was its new president. With the backing of such a successful and skilled promoter, Leadfield seemed assured of obtaining the necessary financial support to take it from a prospecting boom camp into a producing mine town. The Inyo Independent greeted the arrival of Julian with a glowing description of his character and abilities. "Julian is recognized as one of the greatest promoters of the country and it is a certainty that with his enthusiastic backing that something will come of Leadfield if there is



Life in the early days of a boom camp was always hectic, and a man had to sleep whenever and wherever the opportunity presented itself. Although this photo is undated, the proliferation of autos and the construction in the background indicates that it was taken during the early days of the boom.

Photo courtesy of Death Valley National Monument Library, #8189.

anything there." Quite a different endorsement would be printed in later years, after the mines had folded and everyone was looking for a scapegoat.⁸¹

The boom was now on in earnest. During February, the Western Lead Company was reported to have a hundred men working in its mines and on the Titus Canyon road, and talk of building a 500-ton mill was heard. When the road was completed in late February, a steady stream of trucks began entering the canyon, carrying timber, machinery and supplies. The Western Lead Company expanded its payroll to 140 men, and at least six other companies were engaged in serious mining. Average values in the tunnels of the Western Lead Mine were 8% to 30% lead, with seven ounces of silver to the ton, more than enough to make the mine a paying proposition if the ore held out as exploration continued.

The California State Corporation Commission, however, was not so impressed with the company, which had failed to secure a permit before it began selling shares of stock. Rumors of investigations by the Commission raised the righteous indignation of local folk, who refused to allow anyone to try to prick their balloon. The local attitude of Inyo County was well summed up by the Owens Valley Herald:

. . . the State Corporation Commission is using its every endeavor to try and prejudice the people against this latest promotion of Julian's. This commission has never sent a man into the Leadfield district to look it over, and it would appear that the stand they have taken is purely

81. Inyo Independent, 15 August 1925; 30 January, 6 February 1926. Mining Journal, 30 September 1925, p. 37; 30 December 1925, pp. 35-36; 15 January 1926, p. 24. Harold O. Weight, "Leadfield Died of Complications," Desert Magazine, November 1977, pp. 34, 36-37.

spite, just because Julian at one time refused to be dictated to by arrogant members of that Commission. The Commission does not seem to realize that in the stand they are taking that they [are] trying to hinder the development of the resources of this State, and the Commission also does not seem to realize that such arbitrary methods have no place in any development anywhere.

After all, the paper pointed out, Julian was not trying to swindle anyone. He had started a promotional campaign with full-page advertisements in the Los Angeles papers, but he clearly underlined the risks involved. "In the advertisements that he has recently been running in Los Angeles papers he has told in plain words just what he thought of the proposition and has advised people who could not afford to take a gamble not to buy any stock in it--for, as is well known, all mining development is a gamble." In addition, Julian had publicly invited any reputable mining engineer in the world to make a visit to the Leadfield District. If he did not find conditions as stated by Julian, then all expenses of his trip would be paid. In spite of the interference by the Corporation Commission, the paper concluded, "the future of Leadfield seems very bright, and it would not be at all surprising if the mines there did not turn out to [be] the biggest lead producers that the world has ever known." This Inyo County newspaper, obviously, reflected the attitude of the citizens--they desperately wanted and needed a mining boom, and the last thing they wanted was the over-zealous interference of the State of California.

As the paper could well have pointed out, Julian was far from being the only promoter singing the praises of the Leadfield District, for numerous other companies were also trying to cash in on the boom. Such companies, by March of 1926, included the Leadfield New Roads outfit, presided over by Walter J.

Frick, who announced that his company had good shipping ore in its tunnels, and would begin regular ore shipments soon. This company had just built a mine office on its property, and was bringing in additional machinery in order to rush the development work. Other companies in business included the Burr-Welch, the Leadfield Carbonate, the Joplin and the Joplin Extension companies, the South Dip mine, the Leadfield Metals, the Last Hope, the Cerusite, the Sand Carbonate and several others. There was, of course, a company called the Western Lead Extension, in the best traditions of mining booms.

But the Western Lead Mines Company, Julian's pet, was leading the pack. It was forging ahead with its development work, with one of its tunnels six hundred feet inside the mountain. The company purchased a 180-horsepower Fairbanks-Morse diesel engine in March, as well as a second air compressor to power its machine drills. The town of Leadfield was also trying to keep pace with the boom, which was attracting miners from all over the country, and announced that a large hotel would soon be built. The cosmopolitan nature of the boom was emphasized in early March, when eighteen former Alaskan miners sat down in Leadfield for a reunion dinner.⁸²

Then, on March 15th, came the day which put Leadfield on the map, when the first of Julian's promotional excursions pulled into Beatty. A specially-chartered train pulled into the sleepy town on Sunday morning and disgorged 340 passengers, who had been chosen from among the 1,500 who applied

82. Inyo Independent, 20 February, 6 March 1926. Owens Valley Herald was quoted in Inyo Independent of 20 February 1926. Mining Journal, 15 February 1926, p. 31; 28 February 1926, pp. 20, 37; 15 March 1926, pp. 37-38. Weight, "Leadfield Died of Complications," pp. 36-37.

for the trip. Together with another 840 visitors from Tonopah and Goldfield, the entourage overwhelmed Beatty until loaded into ninety-four automobiles for the trip through Titus Canyon into Leadfield.

After bumping over the spectacular new road and down into Leadfield, the visitors were served a sumptuous outdoor feast by the proprietor of the local Ole's Inn, who reported that he dished up 1,120 meals. The dinner was served to music provided by a six-piece band imported from Los Angeles. Lieutenant-Governor Gover of Nevada gave the key-note speech, ridiculing the persecution of Julian by the California Corporation Commission, and praising Julian for overcoming the numerous obstacles which modern governmental bureaucracies put in a man's path. Several other speeches followed, including one by Julian, voicing much the same opinion. During the afternoon the Tonopah orchestra played for those who wished to listen or dance (twenty-four women had come on the train), and the more serious visitors were conducted on a tour of the Western Lead Mine by John Salsberry. The mine, said Salsberry, was still in the early stages of development, but more serious work would get under way with the arrival of over \$55,000 worth of machinery which the company had recently ordered. The visitors were then driven back to Beatty for another night of partying, before going home. The trip, obviously, was a big success, and Western Lead stock advanced 25¢ on the San Francisco market the next day.

The Leadfield boom was now in its height. Plans were announced to build a forty-room hotel, and a week after the grand excursion the town had its own newspaper, the Leadfield Chronicle. By the end of the month of March, Western Lead stock had soared to \$3.30 a share, and over 300,000 shares in the company had been sold. In addition to the general public, ore

Opposite:

Two views of Leadfield, taken in March of 1926. The top view looks up the canyon to the northwest, and the bottom from the opposite end of the canyon, looking southeast. The buildings in the foreground of the bottom view belong to the Western Lead Mines Company.

Photo courtesy of Special Collections Library, University of Nevada, Reno.



Welcome to Leadfield.

March 1926



Welcome to Leadfield.

buying and smelting concerns were becoming interested in the camp, and several sent representatives to the district to discuss reduction and smelting rates. The Tonopah & Tidewater Railroad, eager for more business, also sent representatives to Leadfield, in order to estimate the amount of ore which the mines might be sending over its tracks.⁸³

In the months following the great train excursion, Leadfield continued to develop. More companies, including the Western Lead Extension, were given permission to sell their stocks on the exchanges of various states, and several, including the New Roads Mining Company, began to sort their high-grade ore for shipment. Salsberry, manager of the Western Lead Company, announced plans to build a 400-ton concentration plant at Leadfield, and new mining companies, such as the Western Lead Mines Number Two, opened for business. Since it cost \$18 per ton to haul ore from Leadfield to the railroad terminal at Beatty--which prohibited the shipment of most of the ore--local operators began to call for an extension of the railroad to Leadfield. The Tonopah & Tidewater, however, coldly replied that definite "plans for building a railroad spur into Leadfield have not been made, as present business does not warrant its construction."

During April, the town continued to grow. The new 180-horsepower diesel engine for the Western Lead Mine arrived and was placed on its concrete foundation near the portal of the main tunnel, next to the twelve-drill air compressor. The

83. Inyo Independent, 20 March, 1926. Mining Journal, 20 March 1926, p. 16. Weight, "Leadfield Died of Complications," p. 37. Leadfield Chronicle, 22 March 1926, as quoted in C. B. Glasscock, Here's Death Valley, (1940), pp. 280-283.

machines, unfortunately, were not put into immediate use, due to delays in the shipment of fuel oil. The New Roads Company, Western Lead's greatest competitor, continued to sack its high grade ore for shipment, and its new air compressor and air drills arrived. Then, on April 30th, the townsite of Leadfield was officially surveyed, and the town's plat was submitted to Inyo County officials for approval. The ambitious plat showed 1749 lots, arranged into 93 blocks. The central street was aptly named Salsberry street, while the least desirable lots, which sided upon a small ravine, were also aptly named Poverty Gulch. Significantly, all the land upon which the town was platted was upon the claims of the Western Lead Company, which donated that land to the townsite company. Although their names do not appear, it thus is obvious that the directors of the Western Lead Company were working closely with the directors of the townsite organization. The plat was approved by Inyo County officials the following month.

But in the meantime, the State of California was breathing hard upon Julian's neck. The Corporation Commission hauled a brokerage company into court for selling Western Lead stock without a state permit. The company argued that the stock which it had sold was not treasury stock of the Western Lead Mines, but was Julian's personal stock in the company. The former required a state permit, but the latter did not. Expert witnesses were called to testify, and according to the Tonopah Mining Reporter, fifteen to twenty qualified mining engineers and geologists testified that the Western Lead Mine was a quite legitimate proposition. "No testimony, except that of two engineers for the commission, was unfavorable." If the sale of stock was found to be illegal in California, the paper said, sales would merely shift to Western Lead's offices at Reno, from which California buyers could telegraph their orders.

But the continued investigations by the state of California began to hurt the sales of Western Lead stock, and another factor began to take a toll. Shortly before Julian had become involved in Leadfield, he had sold his controlling share in the Julian Petroleum Company to a former partner. His former partner shortly thereafter had engaged in a fraudulent overissue of Julian Petroleum stock, which soon caused that company to collapse. Although it appears that Julian had nothing to do with that affair, his name was firmly linked to the petroleum company in the public mind, and his credibility began to shrink. In one two-day period, the price of Western Lead dropped 175 points on the west coast trading boards, and the company never recovered from the panic which set in.⁸⁴

Nevertheless, Julian, the Western Lead Mine, and the numerous other mining companies involved in the Leadfield boom continued to pursue their exploration and development works. Late in May, the sixteen men working in the New Roads Mining Company opened a good strike of lead ore. At about the same time, Julian bought into that company, which gave him control of the two largest mines of Leadfield. With both the New Roads and the Western Lead companies showing steady improvement, Julian announced definite plans to construct a large milling plant at Leafield.

As summer approached, the Leadfield boom showed no signs of peaking. More companies came into the district

84. Mining Journal, 15 April 1926, pp. 35-36; 30 April 1926, p. 35. Inyo Independent, 17 & 24 April, 8 May 1926. Tonopah Mining Reporter quoted in Inyo Independent, 24 April 1926. Weight, "Leadfield Died of Complications," pp. 35, 37. Plat of Leadfield Townsite, 30 April 1926, Inyo County Court House.

and began operations, including the Boundary Cone Mining Company, the Pacific Lead Mining Company, and several others. The new companies found favorable public response on the west coast stock markets at first, for the continued boom in Leadfield made it appear that the California Corporation Commission was indeed playing a sour grapes role. The district even showed signs of becoming a producer, as the New Roads Company announced that its first shipment, consisting of two or three carloads of \$50 to \$90 ore, would soon be ready.

The Corporation Commission, however, had other ideas, and in late June of 1926, ordered that sales of Julian's personal stock in the Western Lead mines must immediately cease on the Los Angeles stock exchange. The decision was made due to "the evidence introduced at the hearing. . . that the sale of shares of the capital stock of the Western Lead Mines Company, a Nevada corporation, in the State of California, would be unfair, unjust, and inequitable to the purchasers thereof." It is interesting to note, in light of the heavy criticism which Julian has received in later years, that the commission was careful to omit any reference to any fraudulent or illegal activities on the part of Julian.

But despite this heavy blow to the financial fortunes of Julian, developments at Leadfield proceeded. The Mining Journal, a respected Arizona publication, printed a long detailed report on the Leadfield District in July, which helped to restore public confidence. "Indications are that the lead deposition in the Grapevine Mountains along the edge of Death Valley is one of the large deposits of the west and one that can be made commercially a factor in the lead production of the country." Once again, private and uninterested geologists and engineers seemed to be indirectly accusing the Corporation Commission of persecuting Julian. The mines agreed with the independent experts and continued to work. The Burr Welch Mine reported the location of

new ore deposits, and the Boundary Cone Mining Company ordered and installed a new 25-horsepower hoist and headframe. The new plant had a lifting capacity of 500 tons per day, and the company increased its work force to twelve miners. The New Roads Company let a contract for the driving of another 100 feet in its main tunnel, and announced plans for early ore shipments.

At the same time, during late July, the Western Lead Mining Company and its president, C. C. Julian, brought a \$350,000 damage suit against the Los Angeles Times and the California Corporation Commission, saying that the paper and the Commission had slandered Julian and the company without due cause and without sufficient evidence. The suit, however, was quickly thrown out of court for insufficient cause, "it being the duty of the corporation commission to investigate stocks and securities offered for sale in California."

During August, another new mining company, the Pacific Lead Mines No. 2, was incorporated and began work. The California Corporation Commission gave this company permission to sell its stock, 1,000,000 shares of which were offered to the public at 25¢ each. This decision was important, for it indicated that the Commission had finally been persuaded that Leadfield itself was a legitimate mining boom. The Commission would allow the sale of stock in Leadfield companies which were not controlled by Julian. In the meantime, the U.S. Postal Service had also decided that Leadfield was a family permanent mining camp, and on August 25th a post office was opened in the young town.

During September and October, drilling and tunneling continued in Leadfield's mines. The incline shaft of the Boundary Cone Mine reached a depth of 200 feet, and the Pacific Lead Mines, Inc., reported lead assays of 8 percent in its ore. But in late October, two events took place which spelled the

View of Leadfield, looking southeast down Titus Canyon from the Western Lead Mine. Undated, ca. 1926.

Photo courtesy Western History Collection, University of Colorado, Margaret Long Collection.



end of Leadfield. The main tunnel of the Western Lead Mine finally penetrated the ledge which the company had been tunneling towards, where its geologists had felt the best lead deposits would be. Instead of finding high-grade lead ore, the company found almost nothing. The ore assayed only 2 percent lead, far too small a percentage to mine profitably, considering the high freight costs.

This would not have been the killing blow, however, if the company had been able to regroup and look elsewhere for the elusive lead ore. But at almost the same time, the California Corporation Commission dealt Julian another blow when it halted sales of stock in the Julian Merger Mines, Inc. This holding company, which Julian apparently intended to use as backup financial support for the troubled Western Lead Mine Company, had been his last financial resort. When sales of Julian Merger Mines were forbidden, Julian's hopes were crushed, and his empire fell apart. One writer later declared that Julian expended nearly \$3,000,000 buying up stock after the decision was announced, desperately attempting to keep the system from collapsing. But even if this were true, which seems rather unlikely, the effort was futile. Julian was now broke, which meant that the Western Lead, the New Roads and the Leadfield Townsite companies were also broke. With the leading mining companies and the leading promoter of Leadfield out of the picture, investors in other companies quickly lost heart, and the collapse of Julian's companies had a domino effect. The other mines slowly closed, one after another, and Leadfield became a ghost town in a matter of several months. The Post Office, opened only few months before, closed in January of 1927.⁸⁵

85. Inyo Independent, 8 & 22 May, 7 & 27 August 1926. Mining Journal, 15 May 1926, p. 35; 30 May 1926, p. 35; 15 June 1926, p. 35; 30 June 1926, pp. 35-37; 15 July 1926, pp. 16-17, 37; 30 July 1926, pp. 37-38; 30 August 1926, p. 35; 30 October 1926, p. 31. Weight, "Leadfield Died of Complications," p. 39. Glasscock, Here's Death Valley, p. 284.

As usual, the failure of a mining district lead to a flurry of law suits. Several individuals sued the New Roads Company for back wages and debts, and for their efforts won the dubious title to the mine. Julian appealed the decision to halt sales of Julian Merger stock to the Second District Court of Appeals of California, but lost his appeal in February of 1927. Early in the summer of that year, the Western Lead Company, with no further hope of developing its property, removed its heavy machinery and the pipe line to a mine which the company owned in Arizona. By July of 1927, the Mining Journal reported that the only work in the district was being done by seven lonely miners who were still sinking in the Burr Welch Mine, using hand tools.

Between 1927 and today, little activity has taken place in Leadfield. The National Park Service reported that sporadic prospect work was done in Titus Canyon as late as 1959, but no actual mining has been done. Julian, in the meantime, went on to the Oklahoma oil boom, where he organized the Julian Oil and Royalties Company. After several years of operation, he was indicted for using the mails to defraud investors, but he jumped bail and fled to Shanghai, China in 1933. A year later he committed suicide at the age of forty.⁸⁶

Miners, prospectors, promoters and newspapers usually look for a scapegoat after the failure of a mine or a mining district, and in the case of Leadfield they had a ready-made villain at hand. After Julian was indicted in Okalhoma in 1933, everyone

86. Inyo Independent, 12 February, 12 March 1927; 28 April 1928. Mining Journal, 15 February 1927, p. 31; 30 June 1927, p. 29. Memorandum, Superintendent of Death Valley National Monument to Director, National Park Service, 6 April 1960. Weight, "Leadfield Died of Complications," pp. 39-40.

conveniently forgot that he had never been indicted or even considered for indictment for any of his activities in Leadfield, and the story of that ghost town gradually grew into what it has become today--the story of an out-right fraud from the very beginning, instigated solely by C. C. Julian. Such an opinion was quoted at the beginning of this section.

In fairness, that interpretation of Leadfield must be revised. In the first place, it is quite obvious that there was ore at Leadfield, and that it was not put there by Julian. He in no way salted the mines, for the existence of lead ore in the district had been known as far back as the Bullfrog boom days of 1905. As pointed out above, the consensus opinion of mining engineers and geologists during the boom days was that there was lead ore in the district, and that opinion was shared by the California Corporation Commission, which allowed companies other than Julian's to sell their stock. Finally, in another conveniently forgotten report, the California Bureau of Mines and Geology reported in 1938 that the main ore-bearing ledges of Leadfield carried lead ore of five to seven percent per ton, in add to five ounces of silver per ton--enough ore to support a mining operation.

A second major point to keep in mind in that Julian did not start the Leadfield boom, and that he had plenty of help in supporting the boom once it had started. Julian was not even involved in the Western Lead Mine until several months after the boom had begun. Then, like so many other mining promoters, he hurried to get in on the ground floor. And the boom, once started, had the whole-hearted support of the citizens of Inyo County, California and Nye County, Nevada. The economies of both counties needed all the help they could get, and no one promoted the mines and attacked the interference of the California

Corporation Commission with more fervor than the local newspapers. These things are quickly forgotten, however, once a boom has died. But it should be more than evident that Julian neither started the Leadfield boom nor was solely responsible for promoting it.

Finally, as a side note, it should be emphasized that the collapse of Julian's financial structure came at the worst possible time for Leadfield. When sales of Julian's various stocks were halted, his mines and others had spent thousands of dollars on the preliminary development work necessary to produce a paying mine. Miners had been hired, tunnels and shafts had been driven, machinery had been ordered, and the Titus Canyon road had been built. Then, just before the mines were ready to begin shipping ore and turning into producing companies, the collapse of Julian's finances brought about the desertion of the district. Although it seems doubtful that Leadfield had enough ore to support more than a small mining company or two, indications are that without the sudden panic of the fall of 1926, that mine or two could have survived. Harold Weight, one of the few writers who has not jumped on the blame-Julian bandwagon, gives the only satisfactory assessment of Leadfield. " . . . we will never know whether the camp, honestly financed and developed, would have made that big mine. We'll never know whether that once, Julian, as he protested, was making an honest effort to develop it."

We cannot close this section without acknowledging the one very real thing which Julian did--which was to build the Titus Canyon road. This effort, which cost an estimated \$60,000, was no mean feat. The road winds up through the mountain passes for over fifteen miles from Leadfield to the Beatty highway, and climbs from an elevation of 3,400 feet at the highway to 5,200 feet through the passes and back down to 4,000

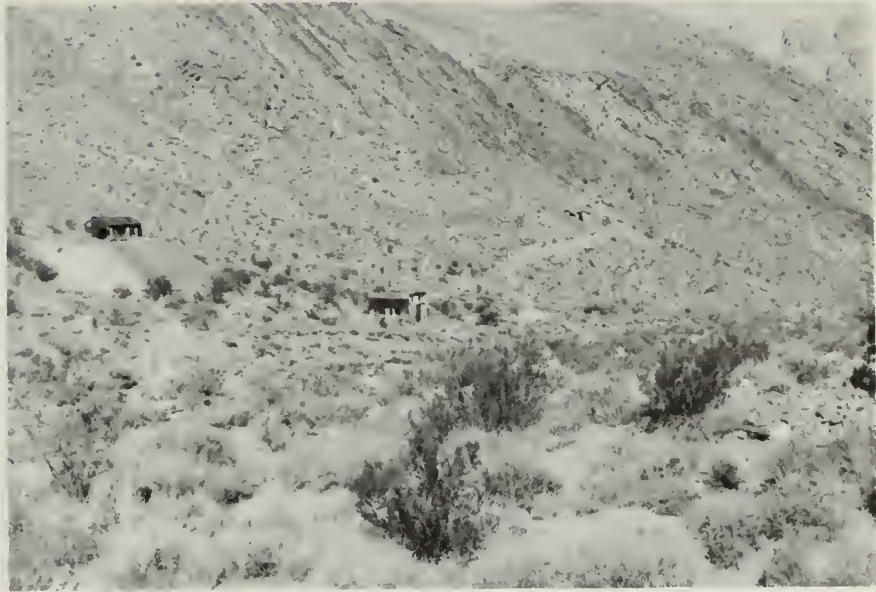
feet at Leadfield. The road was rightly considered an engineering marvel at the time, and today presents the visitor with one of the most spectacular routes in Death Valley National Monument. Without Julian, that road would not have been finished, a point which awed visitors fail to realize when reading the popular literature which castigates Julian for promoting the ghost town of Leadfield.⁸⁷

b. Present Status, Evaluation and Recommendations

The road into Leadfield is dotted with mines, dumps, tunnels and prospect holes, which may be seen from almost two miles east of the town site to two miles west of it. The townsite itself is covered with wood and tin debris and faint scars of numerous tent and wooden building sites. Extant remains include four wood and tin buildings, three of which were connected with the mines, and one which appears to be an old store building. Other structures include a well-preserved dugout, complete with square-set timbering on the inside, and the cement foundations of the mill, which represent the only part of the mill which was ever built.

Leadfield is on the National Register of Historic Places, but for all the wrong reasons. The historian who prepared the nomination form relied upon the popular writers for his evidence, and as a result, his statement of significance reiterates the popular myths: "Located in Titus Canyon, this mining town began in 1925 as a promotion scheme based on spurious claims. C. C. Julian advertised the town, making exaggerated claims

87. "Mineral Resources of Inyo County," California Journal of Mines and Geology, October 1938, p. 443. Weight, "Leadfield Died of Complications," p. 39. XXII Report, California State Mineralogist, October 1926, p. 504.

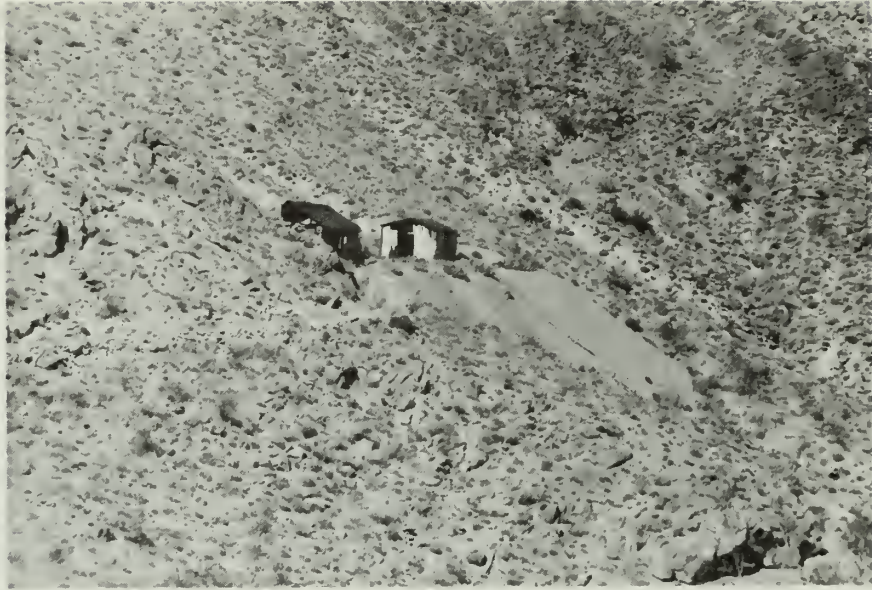


Leadfield in 1978, looking northwest up Titus Canyon. The old store building is in the center, with a mine building on the dump above. The buildings of the Western Lead Mine may be seen in the distant background.

Below: Opposite of the above view, looking at the store from the dumps of the Western Lead Mine. Note the mill foundations in front of the store.

1978 photos by John Latscher

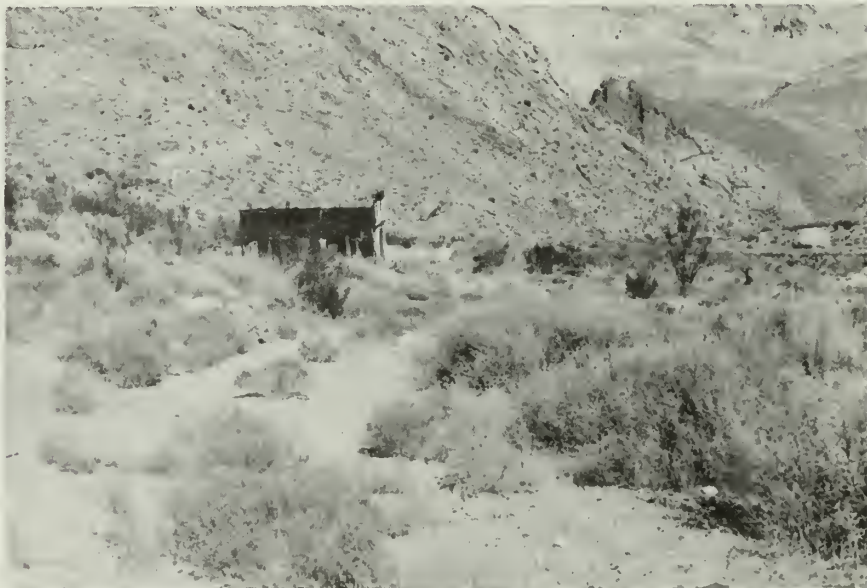




The two frame and tin buildings of the Western Lead Mine, viewed from the southeast.

Below: Main street, Leadfield, in 1978. Although not discernable in this picture, the ground on both sides of the old street are covered with former building and tent sites.

1978 photos by John Latschar



The significance of the site lies in the fact it was an example of one of the get-rich-quick schemes of the wild 1920s." This statement should be revised, for Leadfield not only belongs on the National Register, but it belongs there for the right reasons.

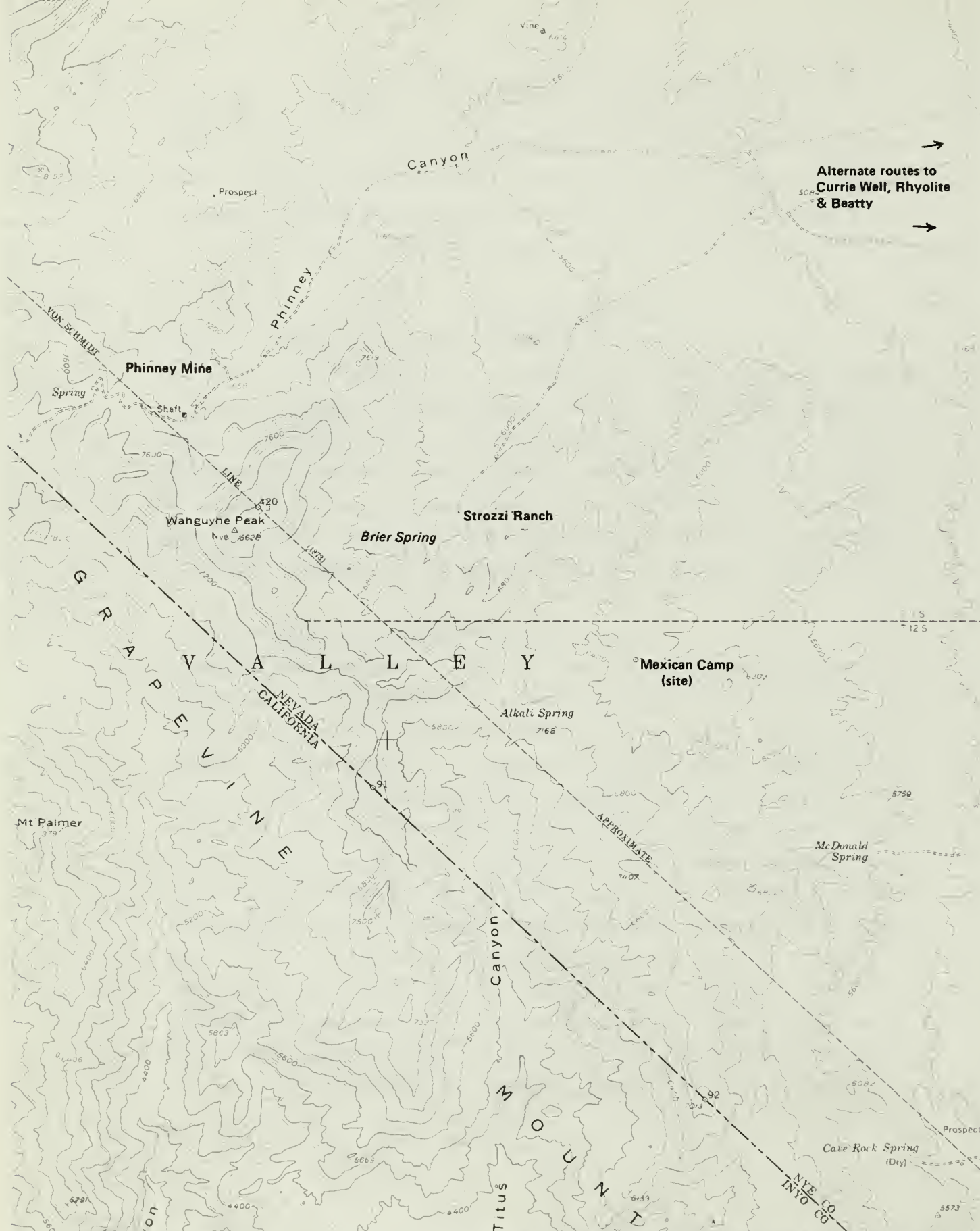
9. Miscellaneous Bullfrog Hills Properties

This section will cover a number of the less important sites within the Bullfrog Hills area. Some of these properties were identified with the Bullfrog District mining boom, while some are from later years, but for want of a better means of organization, all will be lumped together and discussed here.

a. Happy Hooligan Mine

The Happy Hooligan Mine, situated on the east slope of the Grapevine Mountains, about eleven miles west of Rhyolite, was one of the earlier discoveries within the Bullfrog District. The mine was first located by three prospectors named McMann, Stockton and Wilson in May of 1905. Within a month the rich surface ore brought in by the prospectors led to the sale of their five claims to Curtis Mann and the Gorrill brothers, who incorporated themselves as the Happy Hooligan Mining Company.

In July of 1905, a visitor left a description of the month-old workings at the mine site. The mine itself consisted of an open surface cut and a discovery hole, he wrote, where ore values of \$22 to the ton had been uncovered. The miners working at the Happy Hooligan lived in a large cave about one-half mile west of the mine, near a spring. The abundance of water and of wood--which was unusual for the Bullfrog District--made the camp a most pleasant place to visit and work. The owners of the Happy Hooligan informed the visitor that they had extensive development plans for the mine, including the erection of a mill at the water source. As usual, the publicity given the Happy Hooligan by this and other visitors soon resulted in the area around the mine becoming covered with location notices. For example, the Bullfrog Apex Mining Company, discussed before, located seven claims in the immediate vicinity of the Happy Hooligan in July of 1905.



Alternate routes to
Currie Well, Rhyolite
& Beatty

Phinney Mine

Wanguyhe Peak
Nve 8626

Strozzi Ranch

Brier Spring

Mexican Camp
(site)

Alkali Spring
7168

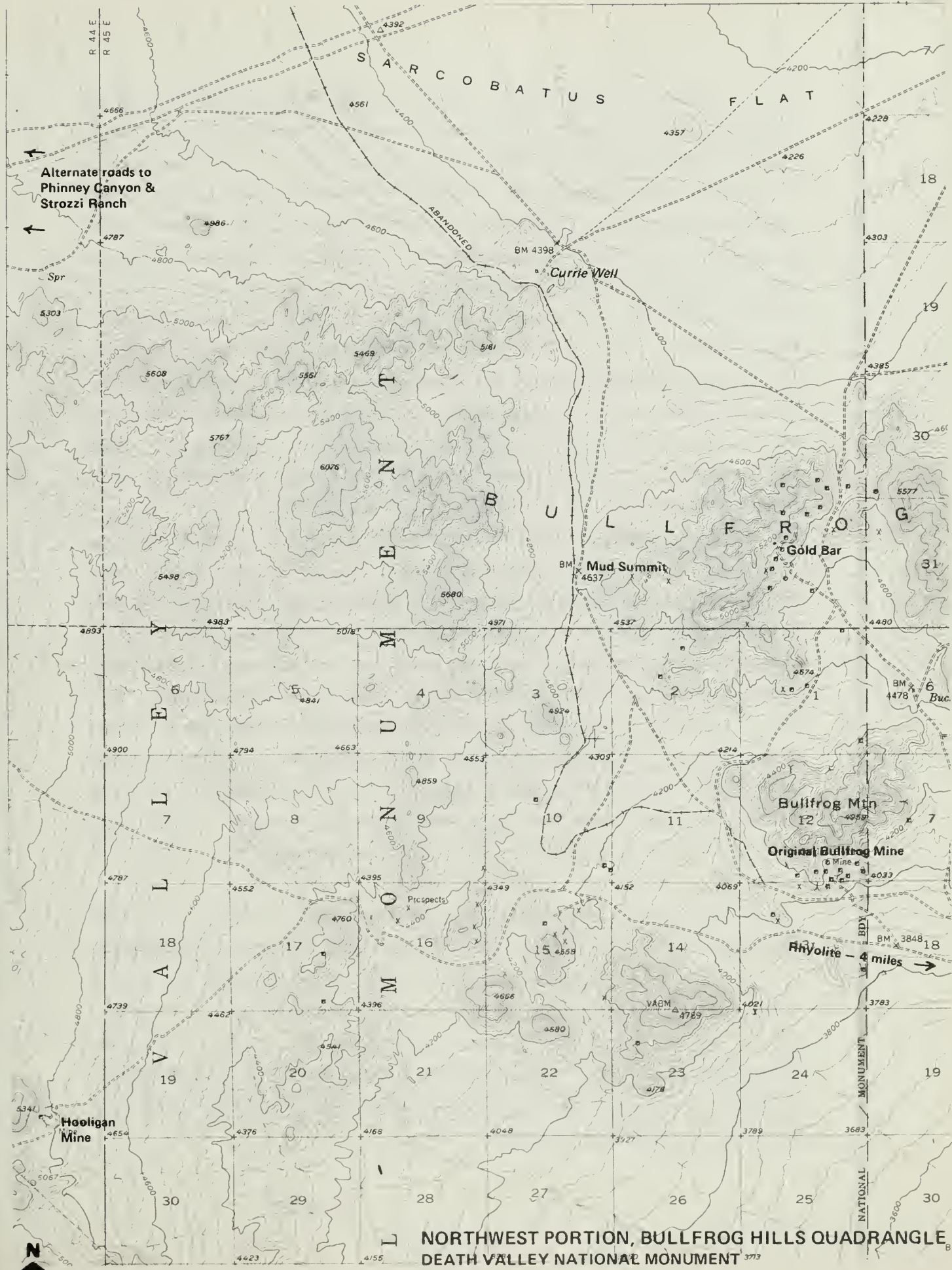
McDonald
Spring

**NORTHEAST PORTION, GRAPEVINE PEAK QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT**

143/40074 10 of 30



Scale: 1" = 1 mile



Scale: 1" = 1 mile

**NORTHWEST PORTION, BULLFROG HILLS QUADRANGLE,
DEATH VALLEY NATIONAL MONUMENT**

Apparently due to the extreme heat of the summer, very little work was done on the Happy Hooligan between July and September of 1905. With the arrival of cooler weather, however, mining began in earnest in October, and ore values uncovered during that fall proved encouraging. The mine announced that ore ranging from \$10 to \$100 per ton was found in the surface trenches in October, and the following month an exploration shaft was begun. By the end of November, Curtis Mann reported that the ore values persisted with depth, as good ore had been found in the bottom of the new shaft, which was now seventy feet deep. Development was increased, and the company began to cut a wagon road from Rhyolite west to its mine, while Mann enthusiastically predicted that the company would build a stamp mill within six months.

As 1905 closed, indications at the mine continued to be encouraging, according to its owners. W. W. Stockton, the mine superintendent, reported that the ore vein was two feet wide and that the three shifts of miners employed on the property had sunk the inclined shaft to a depth of 120 feet. But F. L. Ransome, the government geologist who visited the Bullfrog District late in 1905, recorded a different impression. The ore vein was rarely more than a few inches in width, he reported, and the future of the Happy Hooligan would depend entirely upon what conditions were uncovered as the shaft went deeper.⁸⁸

In January of 1906 the Happy Hooligan reported that values were increasing with depth, and that the company had

88. Rhyolite Herald, 7 & 14 July, 13 & 27 October, 3 & 17 November, 8 & 15 December 1905. Nevada Secretary of State, Articles of Incorporation, Vol 6, p. 503. F. L. Ransome, et al., Preliminary Account of the Goldfield, Bullfrog and Other Mining Districts of Southern Nevada, p. 62.

ordered a gas hoist for the property. Curtis Mann made a trip to San Francisco, where he arranged for the sale of Happy Hooligan shares on that city's stock exchange. Work continued through February and March, and the company announced that it would soon be ready to sack its high-grade ore for shipment. Simultaneously, the company opened an advertising campaign, and within three days after its first large ad appeared in the Rhyolite Herald, had sold 50,000 shares.

During March, the company began construction of a blacksmith shop and a boarding house on its property, finally letting the miners escape their somewhat primitive accommodations in the cave. The road to the property was finished and the Rhyolite Herald reported that it was suitable for auto travel. Ten men were employed at the mine and the company began construction of an ore bin, in anticipation of the arrival of its hoist. On the 30th of that month, Taylor & Griffiths, one of Rhyolite's leading stock brokerages, wrote that sales of Happy Hooligan stock were satisfactory, with most purchases being made by eastern investors. The present price of 20¢ per share led the brokers to declare that they "recommend the purchase at these figures. We expect to see it go higher." It should be noted, however, that Taylor & Griffiths recommended the purchase of every stock which they discussed in their market report, all of which could coincidentally be purchased at their offices.

As April went by the blacksmith shop at the Happy Hooligan was completed, and the company received a supply of 500 ore sacks, in order to prepare its high-grade ore for shipment. The company had started a new working shaft, which was down eighty-five feet, and expected that the arrival of the railroad in a few months would enable the Happy Hooligan to ship the high-grade ore at a profit. Within a month the 500 ore sacks

From the Rhyolite Herald, 2 March 1906

We Recommend an Immediate Purchase of the Treasury Stock of the

HAPPY HOOLIGAN

MINING CO.

At 18 cents!

Property consists of seven full claims and a millsite, situated in the eastern foothills of the Grapesvine range, eight miles east of Rhyolite, in the Bullfrog mining district. The property is most advantageously situated, being only two miles from timber, and having a good supply of water, together with owning a water right that will give ample supply for milling purposes. Development to date consists of an incline tunnel 184 feet, a winze 62 feet, 70 feet of drifts north and south up the vein, surface cuts and trenches amounting to 120 feet. Pannings and assays are secured everywhere, and from the assays taken during the progress of the work a promise of from \$18 to \$40 as the average values are shown. The property is looked upon by mining men as a high grade milling proposition. Shipping ore has been struck in several places, a new strike having been made in February, showing two feet of shipping values. The values have been exposed for 200 feet in length. A hoist has been ordered and extensive development will shortly be commenced, work in a new shaft and the two drifts now being in progress. All the workings are in ore. The ores are free milling, and will be treated by cyanide process, and the company proposes to erect a mill without delay.

Stock is listed on San Francisco Stock and Exchange Board. Wire reservations to

TAYLOR & GRIFFITHS - Agents RHYOLITE,
NEVADA.

were filled and waiting, despite delays caused by high winds which had blown down the new blacksmith shop. By the end of May, the company had finally located its hoist, which had been lost on a railroad siding during shipment, and began preparing the ground for the installation of it.

During the hot months of July and August, work was suspended at the mine, although whether this was due to the heat or to the lack of funds is not known. On September 14th, the company's stockholders voted at their annual meeting to resume work at the mine in the "immediate future." The long-delayed hoist was expected at any time, and the company announced that it had plenty of money to pursue development work for a number of months. Investors, however, were somewhat suspicious of the dearth of work at the mine since May, and stock prices began to slip. The high of 20¢ per share which the company had enjoyed in March had fallen to 16¢ by May and slumped further to a low of 9¢ by late September, when work was resumed at the mine.

During the first week of October, the Happy Hooligan reported that the cement foundations for the long-delayed hoist were nearly complete, that the new working shaft was down to 130 feet, and that the company had 500 sacks of ore waiting on its dump--which indicated that the company had not sacked any ore since May, when it had reported 500 sacks ready for shipment. Then, on October 19th, the long-awaited 15-horsepower gasoline hoist finally arrived, and was soon installed. With the new hoist working, sinking was resumed in the shaft, and the mine began to sack more high-grade ore. As these operations picked up during October and November, investors again took heart in the prospects of the company and stock prices started to rise. Shares in the Happy Hooligan sold for 10¢ each in October, and then for as high as 16¢ in early November, before closing that month at 14¢. With

some of the money from the stock sales, the Happy Hooligan increased its estate by purchasing twelve adjacent claims, which had been located and briefly worked in previous years by prospectors who had since given up hope.⁸⁹

The Happy Hooligan began to experience financial difficulties in early 1907. Despite the excellent showings which the company reported in its mine, and the fact that it had a carload of high-grade ore ready to ship to the railroad, the mine shut down in January and did not resume operations until April. In the meantime, however, the Happy Hooligan talked a good fight, announcing that grand development plans were being finalized and that the mine had \$200,000 worth of ore blocked out.

By this time, the announcements from the Happy Hooligan were becoming somewhat contradictory. In May of 1906, the company had announced that it had 500 sacks of high-grade ore ready for shipment, and in March of 1907 it again stated that 500 sacks were waiting at the mine--despite the fact that the company had announced several times in the interim that more ore was being sacked. Either the company's management was not sure what was going on, or the Happy Hooligan was very clumsily trying to fool the public. Not many people were fooled, however, and Bullfroggers began to ask why the company did not ship its high-grade ore, now that the railroads had arrived in the Bullfrog district. Investors asked these same questions, and prices of Happy Hooligan stock fell from 12¢ in January to 9¢ on April 5th, when work was finally resumed in the mine.

89. Rhyolite Herald, 12 January, 2, 9, & 23 March, 6, 13 & 27 April, 4 May, 17 August, 14 & 28 September, 19 & 26 October, 2 November, 28 December 1906. Bullfrog Miner, 23 & 30 March, 25 May, 5 October, 16 & 23 November 1906.

After over a month of work, things had not changed much. By the end of May, the company still could count only 500 sacks of ore on the dumps, but it did announce that a shipment would soon be made. Contrary to that announcement, however, the mine was then closed, before any shipments were made, which makes one wonder if those 500 sacks of ore ever existed. For the rest of 1907 the Happy Hooligan was idle, and the only work performed at the site for the next three years was the minimum necessary annual assessment work to enable the company to retain title to its claims. In 1911, however, even that was not performed, and the Happy Hooligan property re-entered the public domain of the state of Nevada.

Although the story is not at all clear, the Happy Hooligan had apparently run out of development funds in May of 1907, and before refinancing could be obtained, the Panic of 1907 had wiped out any chance that the company could ever resume operations. As a strange epilogue, stock in the Happy Hooligan remained on the trading boards long after the mine had closed. When work ceased in May of 1907, Happy Hooligan was selling at 3½¢ per share, but instead of dropping completely off the board when the mine closed, the stock hung on for almost another year. Prices slowly slipped from 3¢ to 2¢ and then to 1¢ per share through the rest of 1907, but not until March of 1908 did the stock finally disappear from the trading boards.

Details regarding the Happy Hooligan mine after its closure in 1907 are sketchy, although it is certain that nothing significant took place on the property during the ensuing decades. Physical evidence indicates that someone lived at the the mine and attempted to work it on a very small scale during the 1930s, and in 1951 the property was actively owned under another name. It is evident, however, that nothing more than surface scratching and

prospecting took place during these periods. The mine is idle today and bears every indication of having been so for quite a number of years.⁹⁰

Remains at the Happy Hooligan site are not impressive, and consist mostly of small dumps around shallow adits and shafts. Car parts litter the site, as well as assorted tin and wood debris, most of which seem to have come from a crude sort of reduction attempt in the 1930s era. An abandoned frame and tin shack may be found about one-half mile west of the mine, which is also tremendously littered with car parts and junk. The debris is the sort which one would expect around the home of an unknown desert hermit, who probably took refuge there during the depression, and feebly tried to work the mine. There is nothing at this site which deserves protection, preservation or interpretation.

b. Currie Well

Currie Well's claim to fame rests mostly on its use as a desert watering hole for stages and trains traveling between Rhyolite and Goldfield. Located some eleven miles north of Rhyolite, or seven miles north of the Original Bullfrog Mine, the water from this site was first used to supply thirsty horses, mules, teamsters and passengers traveling through the area. The site was claimed in succession by several miners and entrepreneurs, who tried to eke out a living by selling water to travelers and by providing meals for men and forage for animals. There is no indication that these efforts, which lasted intermittently from 1907 to 1909, ever paid off. Sporadic efforts were also made in later

90. Rhyolite Herald, 4 & 11 January 1907; 2 December 1908; 31 December 1910. Bullfrog Miner, 29 March, 24 May 1907; 7 March 1908. Rhyolite Daily Bulletin, 21 January 1909. Victor E. Kral, "Mineral Resources of Nye County, Nevada," p. 36.



Site of the Happy Hooligan Mine, showing the two main dumps.



The main well at Currie Well, showing the deteriorated remains of earlier attempts to improve the water source.

1978 photos by John Latschar.

years to improve the well site, with no obvious degree of success, and in 1911 two intrepid souls attempted to start a farm garden and alfalfa field. Again, the short life of these operations indicates that they were entirely unsuccessful.

The two brief spurts of real activity which surround the well site came during 1907, when the Las Vegas & Tonopah Railroad's construction crew made the place a work camp due to its water source, and during 1909, when the owner of the well tried unsuccessfully to improve the water flow in order to pipe it to adjacent mines. These spurts of activity were brief, however, and soon died out. Several short-lived mining companies also briefly tried to develop their claims in the area, but all these efforts died a quick and merciful death.⁹¹

The area around Currie Well is littered with various types of debris which tell the story of brief and unsuccessful attempts to exploit the water rights. Piles of barbed wire depict the site of an old corral, probably the one used for stage horses during the stop-over. Various piles of junked sheet and tin metal are left behind by those who attempted to control the flow of water from the well, which seemed to prefer seeping out of the ground at unlikely and unwanted spots. The only remains of any note are the ruins of two small beehive furnaces. Some people believe that these crude furnaces mark an attempt to smelt ore from local mines, but it is much more likely that they were used by the railroad construction crews as open-air blacksmith forges. None of

91. Rhyolite Herald, 19 April 1907; 13 November 1909; 4 February 1911. Rhyolite Daily Bulletin, 25 January 1908; 24 March 1909. Bullfrog Miner, 4 January 1907; 19 September 1908. W. C. Mendenhall, Some Desert Watering Places in Southeastern California and Southwestern Nevada, USGS Water Supply Paper #224 (1909), p. 89.

these remains are of National Register significance. Until a historical archaeologist can determine more about them, these sites should be treated with benign neglect.

c. Mexican Camp

Mexican Camp, located in the Grapevine Mountains about thirteen miles west of Rhyolite, was the site of a short-term wood cutting operation during the early years of the Bullfrog boom. Located at a small, intermittent spring, the camp was the headquarters of a group of Mexicans (hence the name), who cut timber from the surrounding hills, and hauled it out to Rhyolite via a trail which connected the camp to Titus Canyon. Operations at the camp appeared to be marginally successful, until the arrival of the Las Vegas & Tonopah Railroad in the Bullfrog District in December of 1906. After that, the Mexicans could no longer compete with the price of lumber brought in by the railroad, and the camp was abandoned. The site of Mexican Camp has apparently remained on USGS maps to this date primarily because no one knew what it was and thus dared not take it off. There is nothing of historic significance at the site today, although it may have historical archaeological potential.⁹²

d. Phinney Mine

The Phinney Mine, located about eighteen miles northwest of Rhyolite in the Grapevine Mountains, is the site of a small-scale, two-man mining attempt during the 1930s. The mine was first located by Charles E. and F. C. Phinney of Beatty in 1930, and between then and the end of operations in 1938, the two men managed to ship out approximately fifty tons of ore worth \$17

92. E. E. Stuart, Nevada's Mineral Resources, (1909), p. 27. W. C. Mendenhall, Some Desert Watering Places in Southeastern California and Southwestern Nevada, p. 89.

per ton--for a grand total of \$850. Not surprisingly, with the advent of better times towards the end of the depression era, the Phinney Mine was abandoned, and Charles Phinney moved to Beatty, where he died in 1952.⁹³

Structures at the site include two adits and small dumps associated with them, a small pipe line which funneled water from a spring above the mine down to the work area, and a decrepit twelve- by twenty-foot cabin built on the mine dump. The cabin shows all intentions of plunging off the side of the dump in the near future, due to erosion, and no one should be particularly concerned if it does.

About one-half mile above Phinney Mine is the site of another small-scale mining attempt, which also appears to date from the depression era. Remains at this site consists of a tent site, an old ore loading dock and a small shaft with a collapsed hoist. No known name can be associated with this mine for certain, and the site has no historical significance.⁹⁴

e. Strozzi Ranch

The Strozzi Ranch site, located two miles southeast of the Phinney Mine, or about sixteen miles northwest of Rhyolite, was the scene of a 1930-era ranching effort in the Grapevine Mountains. The site was homesteaded by Caesar Strozzi around 1931, and was seasonally used between then and 1947.

93. Victor E. Kral, "Mineral Resources of Nye County, Nevada," p. 36. Memorandum, Superintendent of Death Valley National Monument to Director of the National Park Service, 6 April 1960. Nye County Recorder's Office, 1942-1952 Assessment Rolls, Beatty.

94. Victor E. Kral, "Mineral Resources of Nye County, Nevada," p. 36.



Decrepit wood and tin shack on the dump at the Phinney Mine, emphasizing its precarious future.



View of Strozzi's Ranch. The tallest building in the center of the picture is the main living quarters, and support buildings are scattered up and down the small valley. The roof of the dugout is visible to the right of the vehicle. Note the fence posts scattered about.

1978 photos by John Latschar.

Apparently Strozzi lived at the ranch during the summer months and resided in Beatty during the winter. Since his tax lists show assorted numbers of cattle, goats and chickens throughout these years, he evidently used the ranch as a summer grazing ground, and herded his animals back to Beatty for the winter.

The ranch is located just north of Brier Springs, which Strozzi used for a water source, and evidence at the site that he also grew several small crops. A few peach trees, for example, may still be found fighting a desperate battle against the weeds. During the sixteen years that Strozzi utilized the ranch site, he erected several major improvements. Today the visitor may see the remains of a main house constructed of wood and tin, and five shacks, which served as a blacksmith shop, a chicken house, and the like. In addition, two dugouts are on the property, one of which is in fairly good shape. Extensive fragments of fence posts and fencing material indicate efforts which Strozzi took to keep his livestock under control. The National Park Service has added to the scenery of the site through the installation of two port-a-johns for the benefit of picnickers, who cannot reach the site anyway since the access road is completely washed out.

In the absence of more detailed information, the Strozzi ranch seems to be the site of one man's efforts to exploit free grazing rights on a seasonal basis, rather than a year-around residence. The attempt has no historical importance, and the buildings at the ranch do not deserve preservation. Although Strozzi's son is still alive and living in Beatty, he was uncooperative when asked for information by a representative of the National Park Service, which is not an unusual attitude among the local population.⁹⁵

95. Nye County Recorder's Office, 1931-1947 Assessment Rolls, Beatty.

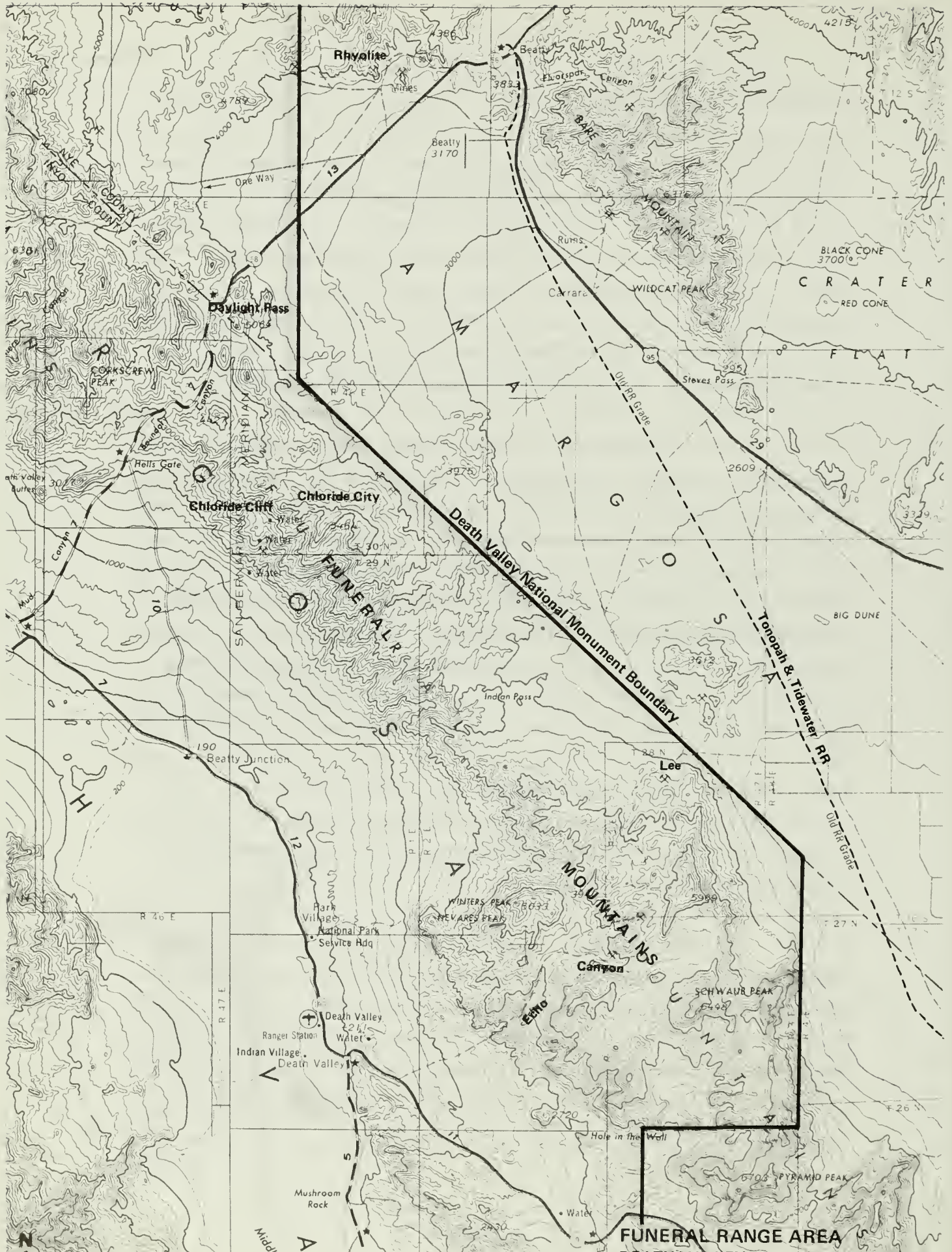
B. The Funeral Range

1. Introduction

The canyons and hillsides of the Funeral Range, running down the east side of Death Valley, have seen a wide and varied mining history. One of the first mines in the Death Valley region, the Chloride Cliff, was discovered and worked here in the early 1870's, and one of Death Valley's most productive mines, the Keane Wonder, is also located in this area. But the real burst of activity within this region, like so many others within Death Valley National Monument, was a result of the great Bullfrog boom.

In a sense, the Funeral Range and the Bullfrog Hills areas had a symbiotic relationship. Although we cannot be sure, it is a good possibility that one of the reasons that the locators of the Keane Wonder mine chose the Funeral range to prospect in was their knowledge of the Chloride Cliff mine, which had operated briefly some thirty years before. Although the original Chloride Cliff mine was never really successful, that was due more to the difficulties and costs of transportation in the nineteenth century than to the lack of ore content at the mine, and the knowledge that there definitely was ore in the area probably drew the attention of early twentieth-century prospectors. We do know that once the Keane Wonder Mine was located, its early fame drew other prospectors to the region, two of whom went on to discover the Original Bullfrog Mine, which kicked off one of Southern Nevada's most spectacular mining booms.

The great success of the Bullfrog boom, in turn, stimulated a secondary rush to the Funeral Range, as prospectors fanned out over the adjacent territory on the theory that one good discovery would lead to another. In fact, as the Mining World wrote in January of 1906, when the rush to the Funeral range was well under way, "Death Valley is the best prospected section in the



Scale: 1" = 4 miles

FUNERAL RANGE AREA
DEATH VALLEY NATIONAL MONUMENT
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world. For many years the danger accompanying the investigation has lured men to prospect this ground, hoping that the danger had kept other men away."

Although there is no doubt that the Funeral Range was covered with a swarm of prospectors during this time, their expertise was an arguable point. Another publication, the Mining & Scientific Press, later called for a more thorough investigation of the possibilities of Death Valley, on the theory that the first mad rush to the region had been made by prospectors of questionable skills. "On the side favoring further prospecting around Death Valley it should be said that the prospectors have previously been the laziest lode-hunters on the desert. Much of the alledged prospecting has been done by 'desert-rats,' those half-mad desert tramps who never made more than a pretense of looking for ore. Their search was generally confined to trails between water-holes." The writer had a point, for many of the prospectors of the western mining frontier were no better than out-door bums, who followed the booms from one camp to another in order to cash in on the free-spending days of boom fevers. They were a representation of the losers of society, who found it easier to wander the hills in a vague search for gold while living off someone else's grubstake, than to look for a steady job.

At any rate, whether experienced or not, dedicated or bums, the Funeral Range was thoroughly prospected in the years between 1905 and 1907, as the Bullfrog boom rose to its peak. Numerous mines and mining camps were established during that period, enough to cause the formation of two distinct mining districts subsidiary to the Bullfrog District. The South Bullfrog District was centered around the Keane Wonder and Chloride Cliff mines, in the northern half of the Funeral Range, and the Eho-Lee Mining District straddled the lower Funeral Range from Schwab on the west to Lee on the east. Between Daylight Pass on the north

and Furnace Creek wash on the south, there was hardly a square mile of territory which did not contain a mine or prospect during this period. There was gold in the hills.

Unfortunately, there was not enough gold to support the number of miners who wanted some. The mines and prospects of the region were greatly exaggerated and over-publicized, due to the excesses of the boom fever. Every new location within these booming districts was hailed as the new Comstock lode, while similar discoveries in isolated regions which were not booming were totally ignored. Once that fever began to subside, however, the smaller mines were quick to fade away. Their demise was helped by two disastrous events which affected all of western mining: the San Francisco earthquake and fire in the spring of 1906 and the Panic of 1907. To a lesser extent the San Francisco disaster cut short the amount of investor funds which were available to the young mines of the two districts for exploration and development, but the real disaster was the Panic of 1907. It hit the booming districts just when the mining companies needed money the most, in order to build mills, improve roads, invest in machinery, and continue development.

These two events, coupled with the gradual demise of the Bullfrog District itself, foretold the eventual end of the South Bullfrog and the Echo-Lee districts. The smaller mines were the first to go, but they were soon followed by the larger ones, before any really had a decent chance to find out whether the ore in the ground was rich enough and extensive enough to make a real producing mine. The towns of the districts, such as Lee and Schwab, likewise died with their mines, and never were given the opportunity to develop into substantial mining camps.

By 1910, the South Bullfrog and the Echo-Lee districts were almost deserted, with the notable exception of the Keane Wonder Mine, which steadily produced gold bullion throughout the years of discovery, boom and bust. But it, too, ran out of ore in the mid-1910s, and closed down. The Funeral Range was then left much as it had been found, except that uncounted shafts, tunnels, and prospect holes now dotted the countryside. Between 1920 and today, no significant mining has taken place within this region, although brief efforts were made to revive several of the larger mines. The scene today around most of these mines is much the same as it was seventy years ago. The only access to most of the region is along the old wagon roads and burro trails blazed by the Bullfrog era miners, and as years and washouts help the desert to slowly reclaim these roads, travel to the old mines and camps becomes more and more difficult.

But the South Bullfrog and the Echo-Lee districts were more typical than not of the life and death of mines and mining camps anywhere in the American west. For every famous mine and town, such as Goldfield and Tonopah, there were always hundreds of other mines and camps which tried and failed. The Funeral Range is, by and large, the history of such.¹

1. Mining World, 20 January 1906, p. 59. Mining & Scientific Press, 29 August 1908, p. 298.

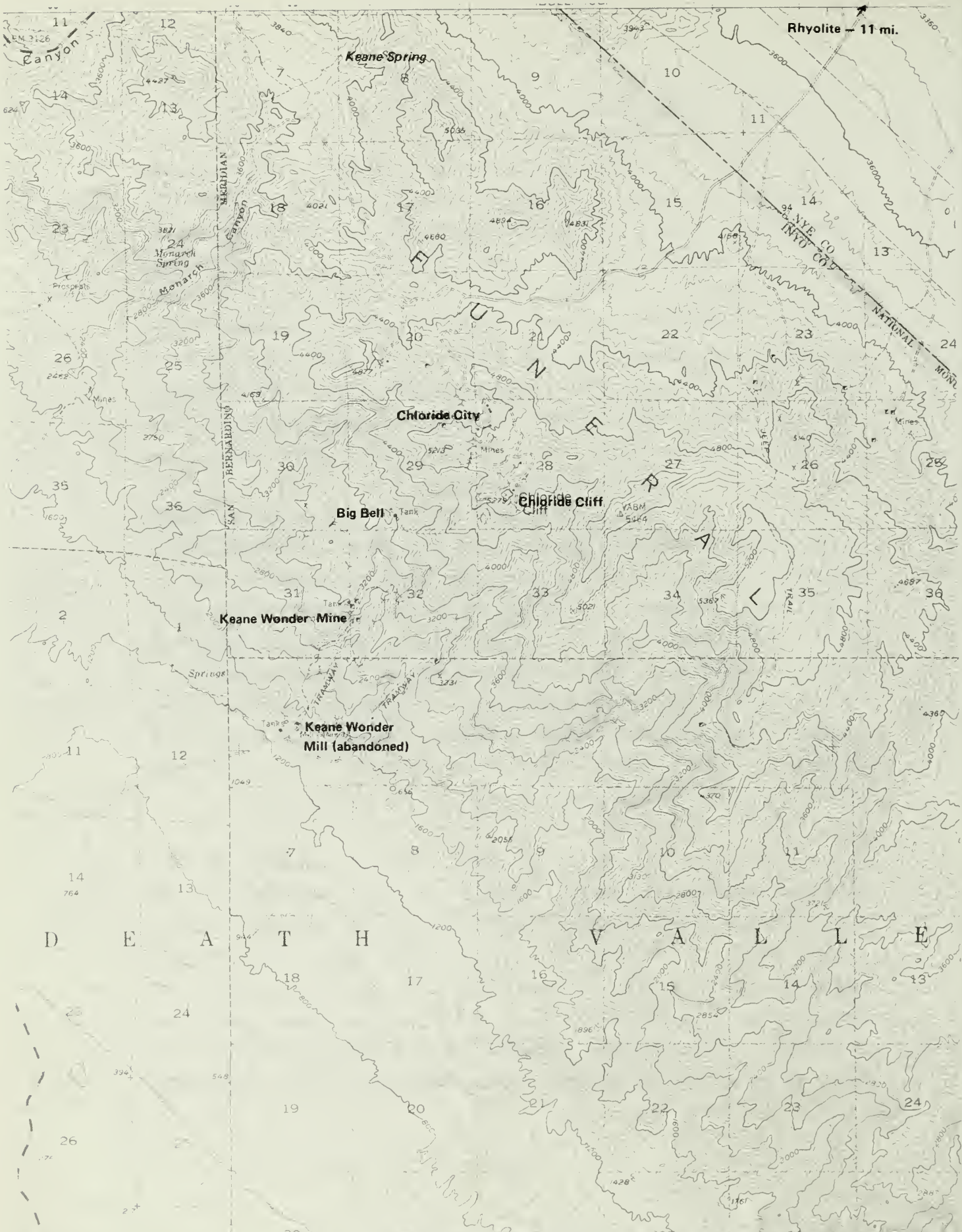
2. Chloride Cliff

a. History

Chloride Cliff is a term which has been applied to a geographic area, a series of mines, a town, and a mining district. For the purposes of this discussion, Chloride Cliff will be used in its geographic sense, to define an area four miles square. This area starts at the Cliff itself on the 'south, where one may stand on an old mine dump and gaze down upon a spectacular view of Death Valley some 5,000 feet below, if the wind does not blow you off the side of the cliff. From here, the mining area stretches northwest beyond the site of Chloride City, with old mines and dumps covering the ridges and shallow valleys along the way.

The oldest mine on the east side of Death Valley National Monument, and one of the oldest within the entire Monument, is the original Chloride Cliff Mine. It was discovered on August 14th, 1871, by A. J. Franklin, a civil engineer employed by the U.S. Government to assist in surveying the Nevada-California state line. Although the story varies--some say he picked up a rock to kill a rattlesnake and found ore--Franklin somehow found what he thought was a vein of chloride of silver. He immediately staked out seven claims, called the Franklin Group, and the following October formed the Chloride Cliff Mining Company.

In April of 1872, Franklin returned to his locations and began to work. Crude on-site tests indicated that his silver ore was worth between \$200 and \$1,000 per ton, and he began to dig a shaft. By July of 1873, when Franklin was employing seven miners, the shaft had been sunk to seventy feet, and he had nearly 100 tons of ore on the dump, ready for shipment. Transportation, however, was a definite problem, for there were as yet no distinct roads connecting Death Valley with



Rhyolite - 11 mi.

Chloride City

Chloride Cliff

Keane Wonder Mine

Keane Wonder Mill (abandoned)

**NORTHCENTRAL PORTION, CHLORIDE CLIFF QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT**

any point of civilization. The mine was dependent upon San Bernardino, 180 miles away, for food and supplies, and although one man set a record for riding the distance in fifty-six hours, the normal string of pack mules took considerably longer to cover the route.

During 1872 and 1873, when the Chloride Cliff Mine was operating, pack trains arrived with supplies about every three months. As these mule teams traveled back and forth, they slowly identified the best route between Death Valley and San Bernardino, and by 1873, Franklin was proudly able to boast that a fully laden wagon could travel to within three hundred feet of his mine. This early route into the heart of Death Valley was subsequently used during the first years of borax mining at the Harmony and Eagle borax works.

But even with a new road to follow, the great expenses of packing in supplies and hauling out ore made the Chloride Cliff Mine unprofitable, unless a cheaper method of reducing the ore could be found. A newspaper reporter who visited the mine in 1873 summed up the situation facing Franklin. "In many things the prospects seem favorable, they have unquestionably struck a vast amount of ore but as yet the ledge is not sufficiently prospected to justify a great expenditure of capital in erecting works . . ." And while Franklin was trying to make up his mind, the great Panamint boom started on the west side of Death Valley, which made his small mine relatively unattractive to those who had capital to invest. After nearly two years of operation, the Chloride Cliff Mine shut down.

Given the poor records which have survived from these early days of mining, we have no estimate of production from

the mine. The papers mentioned several times that pack mules were bringing out ore, but nothing more definite can be stated. But Franklin and his mine had a decided effect upon the future history of Death Valley. The wagon road balzed by his suppliers was used and improved by the large borax teams in later years, and Franklin had proved that there was ore in the Funeral Mountains. Thirty years later, when the Nevada mining boom began at Tonopah and Goldfield, prospectors remembered the old Chloride Cliff Mine, and came back to have another look at the area.

Franklin, in the meantime, did not abandon his mine. Every year, he traveled back across the desert to perform the annual assessment work on the Chloride Cliff Mine, until his death in 1904. Then his son, George E. Franklin, followed in his footsteps, and kept the claim active via the required assessment work. Thus when the Bullfrog boom hit southwest Nevada, the younger Franklin held an active and valid claim, which could once more be profitable as transporation and supplies became cheaper through connections at the new boom town of Rhyolite.²

With the exception of the Franklins, the Chloride Cliff area was virtually deserted between 1873 and 1903, when the Keane Wonder Mine was located about two miles to the southwest of Chloride Cliff. Then, in 1904 the Original Bullfrog Mine was discovered, and the great Bullfrog boom was on. As the ground around the Bullfrog Hills was soon covered with locations,

2. San Bernardino Argus, 10 July 1873. San Bernardino Guardian, 16 August, 1 November 1873. Inyo Independent, 29 September 1905. Bullfrog Miner, 23 March 1906.

prospectors gradually spread farther afield and their attentions were naturally drawn rather quickly to the Chloride Cliff area. This region, after all, had already produced two mines, the Franklin Mine in 1873 and the Keane Wonder in 1903.

George Franklin was on the scene, and the new excitements caused by the Keane Wonder and the Bullfrog boom made him redouble his efforts on the old Chloride Cliff Mine. In the meantime, numerous other mining companies were appearing, as locations were made, bought and sold, and consolidated. The area around Chloride Cliff, from Daylight Springs in the north to Furnace Creek in the south, and from Death Valley on the west to the Amargosa Valley on the east, was swarming with prospectors, and in September of 1905 the South Bullfrog Mining District was formed. The old Chloride Cliff Mine, which was now commonly called the Franklin Mine, was included in the new district.

George Franklin soon had plenty of company. In the immediate vicinity of his mine, the Mucho Oro Mining Company began operations in April of 1905, the Bullfrog Cliff Mining Company was formed in October, and the Death Valley Mining and Milling Company appeared in November. These three companies, along with Franklin's mine, soon dominated the best ground in the Chloride Cliff area, and squeezed out the smaller companies and prospectors. By the end of 1905, the Mucho Oro had a tunnel in sixty feet and reported assays of \$25 per ton. The Bullfrog Cliff Company, described as being "near" the Franklin Mine, was working ten miners, had a fifty-foot deep shaft, and reported ore values from \$30 to \$100. The Death Valley Mining and Milling Company, operating on ground next to the Bullfrog Cliff, reported five miners at work on two tunnels, with ore worth \$40 to \$60 a ton. George Franklin, still carrying on alone, reported average ore values in his old mine of \$28.

Copy of an early stock certificate, dated September of 1905.

Courtesy Dr. Richard Lingenfelter.



All this mining activity, naturally, called for a supporting townsite, or at the very least a small mining camp, and Chloride City was born in 1905. Located in a shallow and wide saddle 4,800 feet above Death Valley, the little town was placed in a very picturesque spot, for those who could stand the winds which constantly whipped across the Funeral Mountains and brought snow and blizzards during the winter months. Chloride Cliff is depicted on a 1905 map as being a few blocks square, and surrounded by mines and prospects. Water for the mines and miners was packed in from Keane Springs, three miles north, and wood for the barren Chloride Cliff region was brought in from ten miles away. Prospects were promising, however, and the Chloride Cliff area had all the indications of becoming another boom camp.³

During the first months of 1906, developments proceeded at the Chloride Cliff mines. The Bullfrog Cliff reported that it had enough ore in sight to support a small mill, and purchased water rights near Keane Springs. J. Irving Crowell, the mine's principal owner, went to San Francisco to conduct mill tests and arrange for financing. The Death Valley Mining and Milling Company continued to drive its two tunnels and reported in February that it had fifty tons of \$50 ore on the dumps, and one hundred tons of lower grade. The company announced that it would send its ore to the new custom mill at Gold Center for processing, when that mill was completed. While awaiting that time, the mine shut down temporarily. The Franklin Mine also continued

3. Inyo Independent, 21 April, 5 May, 29 September, 3 November, 15 December 1905. Rhyolite Herald, 20 October, 8 & 22 December 1905. S. H. Ball, A Geologic Reconnaissance in Southwestern Nevada and Eastern California, USGS Bulletin #308, (1907--field work done in June-December 1905), p. 173. Map, Gold Center: The Future City of the Bullfrog Mining District, Nevada, 1905.

to work, reporting in March that its shaft was 150 feet deep, with average ore values of \$17 per ton.

In April The Death Valley Company began mill tests upon its ore, to determine the best method of treatment, and let a contract to have its tunnel extended another 350 feet. Then, the San Francisco earthquake and fire occurred, and the Chloride Cliff mines cut back on operations, as everyone waited to see what effect the destruction of the West Coast's financial center would have upon the mines. Very little work was done through April and May, and in June the Death Valley Mining & Milling Company owned the only Chloride Cliff mine which was able to resume operations.

The San Francisco disaster seemed to be the last straw for George Franklin. In July he finally gave up and sold the mine which had been in his family since 1871 to a Pittsburgh syndicate for a reported \$150,000. The new owners, however, made no immediate moves to reactivate the mine. The Death Valley Mining & Milling Company, however, forged ahead with its development plans and work, and began considering a mill of its own, since it was becoming evident that the Gold Center mill would never be completed. The company inserted large advertisements in the Rhyolite newspapers, pointing out to potential investors to opportunities presented by the promising mine. But the post-San Francisco climate was not conducive to investment in a small and unproven mine, the advertisements proved futile, and the Death Valley Company abruptly shut down operations in late July. All the Chloride Cliff mines were now idle.⁴

4. Bullfrog Miner, 12 January, 9 & 23 March, 1 June, 13 July 1906. Rhyolite Herald, 19 January, 9 February, 13 & 20 April, 4 May, 1 & 8 June, 6 July 1906. Mining World, 7 July 1906, p. 23.

The mines of Chloride Cliff then went through a period of hiatus. During the last half of 1906, and all through 1907, 1908, and 1909, while the rest of the Bullfrog District and the South Bullfrog District were experiencing their biggest boom years, the Chloride Cliff mines lay idle. Despite the fact that the Keane Wonder Mine to the west was now producing gold month after month, and that the Chloride Cliff mines were surrounded by the boom and bust cycle taking place elsewhere in the South Bullfrog District, these mines saw no activity. The Death Valley Mining and Milling Company did announce plans to resume work in April of 1907, but it never did.

During this period, however, one thing did happen, for most of the Chloride Cliff mines were slowly consolidated into one large company. Exactly when this took place is unknown. The Franklin group was sold again in February of 1907, but the transactions involving the Bullfrog Cliff and the Mucho Oro mines are unrecorded. By December of 1907, though, the Chloride Cliff Mining Company had been formed, which included the properties of the Franklin Group, the Bullfrog Cliff and the Mucho Oro companies. J. Irving Crowell, the former president of the Bullfrog Cliff Mine, was the president of the new company. Crowell announced that work would be resumed on the combined property in December of 1907, but his promise went unfulfilled.

All during 1908 the only activity at the combined mines was the required assessment work, and the same was true in 1909. In December of that year, however, Crowell was finally able to announce that work would be resumed shortly and this time his promise was met. The mines had been leased to the Pennsylvania Mining and Leasing Company, which intended to develop the properties of the Chloride Cliff Mining Company. The stockholders of the Pennsylvania company, said Crowell, were

"disposed to put the property into producing condition," and had ample funds available for the task.⁵

Finally, in December of 1909, after an interval of over three years, serious work began on the property of the Chloride Cliff Mining Company. Development work began that month, and by the first week of 1910, the company was beginning to sack ore for shipment. The mine made a small twelve-ton shipment to a Rhyolite mill for testing purposes, and began to consider the construction of a mill at Chloride Cliff. The Rhyolite Herald proudly announced the resumption of work and described the holdings and prospects of the company in glowing terms. The Chloride Cliff Mining Company, it reported, had leased its entire holdings to the Pennsylvania Mining and Leasing Company. Prior developments on these properties, which included the claims of the former Franklin Group, the Mucho Oro Mine and the Bullfrog Cliff Mine, consisted of four tunnels ranging from forty feet to two hundred feet in length, and eight shafts from eighty to one hundred feet in depth. Prospects were extremely promising, said the Herald, and the world would soon see a flow of gold from the long neglected mines of Chloride Cliff.

The ore tests carried out in Rhyolite were successful, with average values of \$37 per ton obtained, and in late January of 1910 the Pennsylvania Company announced definite intentions to build a mill. During February the company began improving the road between its estate and Rhyolite, in order to facilitate the delivery of mill machinery. The Nevada-California Power Company, which was considering the extension of power lines

5. Bullfrog Miner, 15 February, 20 April, 14 December 1907. Rhyolite Herald, 5 April, 20 December 1907; 4 December 1909. Rhyolite Daily Bulletin, 26 December 1907.

to the Keane Wonder Mine, promised to extend another branch line to the Chloride Cliff mines when the Keane Wonder line was built. In late March the company's small mill arrived and was installed. It was only a one-stamp prospecting mill, with a ten to twelve ton daily capacity, but its purpose was to enable the company to conduct ore tests on the spot. The mine had a small supply of high grade ore, and hoped that by running it through the little mill, funds would be generated to build a larger one. The mill was installed on the side of the cliff below the old Franklin Mine, which was the main group of claims being worked.

By the end of April, the Rhyolite Herald was able to announce that the Chloride Cliff Mine was finally making good. The Pennsylvania Mining and Leasing Company had now expended \$10,000 on improvements and developments on the property, and the new mill was installed. Hardly was it placed in operation, however, than the company found that the available water supply was too small to run the mill, and it was shortly abandoned. With its new mill useless, the company shifted gears and proposed to lease one of Rhyolite's idle mills, and to haul its ore into town for reduction there.

But developments came slowly. The company succeeded in leasing the Crystal Bullfrog Mill at Rhyolite, and obtained a 12-horse team to haul ore to the mill site, but as June stretched into July, no ore shipments were made. The company was employing eight miners at the mine, but developments proceeded at a rather slow pace. In the meantime, the Pennsylvania Mining and Leasing Company was undergoing internal reorganization, and in August J. Irving Crowell, president of the Chloride Cliff Mining Company, emerged as president of the Pennsylvania Company. Crowell was thus in charge of the company which was leasing ground from the mining company of which he was also president.

After the reorganization, activities quickened. One hundred tons of ore were treated at the Crystal Bullfrog Mill in August, and Crowell announced that the mine could keep the mill well supplied for quite some time. Average values of the ore taken to the mill were \$35 per ton, and the mill reported savings of 90 percent of the value of the ore. Taking these figures, the mine should have received returns of \$3,250 for the ore which was treated in August. With the initial successes, the company announced plans to increase its ore shipments in the near future, and searched for more horse teams to haul ore. The company still owned a good water right about three miles from the mine, but the cost of installing pipe and pumping water uphill to the mine would be high. Nevertheless, the company planned to do just that, provided that the ore values in the mine held up with development. Although sporadic work was being done on all the company's claims, the main mining effort was still being concentrated on the old Franklin Mine.

From August to October of 1910, the company continued to work. Ore output was increased, and the company soon had four sets of horse teams hauling ore from the mine to the mill. The dumps at the mine contained over 200 tons of milling ore, and seven tons were delivered to the mill each day. During September, the Pennsylvania Mining and Leasing Company also began to ship some high-grade ore directly to the smelters at Needles, California and Goldfield, Nevada. Then, in the middle of October, work stopped while more plans were made.

The company announced that it had decided to enlarge its own one-stamp mill at Chloride Cliff. Three hundred tons of ore had by now been processed at the Crystal Bullfrog Mill, but the average mill savings had only been 60 percent on the average \$30 ore. The company was obviously losing much of its ore

content, which it could not afford to do. The company planned to continue sending selected high-grade ores directly to the smelters, but would add two more stamps to its own mill, as well as concentrating tables and cyanidation treatment. Water development was in progress at the company's source near Keane Springs, and the enlargement of the mill was of necessity dependent upon the delivery of water to the mill site. To do this, the Pennsylvania Company intended to install a four-mile pipe line and a pump at the springs. The costs would be high, but J. Irving Crowell stated that the ore uncoverings in the mine justified this kind of expenditure. The Rhyolite Herald supported Crowell's plans, for more development meant more work for local miners. Although only nine men were employed at the Franklin Mine, the company had hired as many as nineteen while ore shipments were being made, and the enlargement of the mill at Chloride Cliff would mean work for double that number of miners.⁶

As often happens, when a mine ceased work in order to develop future operations plans, it really meant that the company had no clear idea of what to do next. This was the case of the Chloride Cliff Mining Company and the Pennsylvania Mining and Leasing Company. Neither company had the resources to develop a small and isolated mine into a paying proposition, even if there was enough ore in the ground to warrant such expenditures. As a result, the Pennsylvania Company let its lease expire, and the mine lay idle as the Chloride Cliff Company searched for another source of capital. The solution was not found until April of 1911, when it was announced that the Chloride Cliff property was to be sold to an English corporation "of considerable financial strength."

6. Rhyolite Herald, 1, 15 & 22 January, 12 & 26 February, 30 March, 30 April, 28 May, 25 June, 30 July, 6, 13 & 20 August, 3 & 10 September, 15 October 1910.

J. Irving Crowell, who had been in London to negotiate the deal, told the Rhyolite Herald upon his return that a company was being formed in London to take over the property, and that a fund of several hundreds of thousands of dollars would be provided for a thorough prospecting and development of the twenty claims of the Chloride Cliff property. As soon as sufficient ore was uncovered, suitable machinery for reduction would be installed. This would likely involve the erection of an extensive wire tramway which would stretch from the mine to a new mill site, which would be located near the water source. In the meantime, the old Bonanza Hotel would be removed from Rhyolite and rebuilt on the Cliff property to house the miners.

The new company evidently meant business, for a representative of the Lechion Cable and Tramway Company of Denver, which had built the aerial tramway for the Keane Wonder Mine, arrived in mid-April to inspect that tramway and to propose plans for building another one for the Chloride Cliff Mine. But snags developed in the negotiations for the sale of the Chloride Cliff mines, and towards the end of May, the Rhyolite Herald was forced to announce that "negotiation for the ultimate purchase of the Chloride Cliff property is still in progress. . . ." The purchase was still expected to be completed, however, which would "result in activity on an extensive scale very soon."

For the next two months, negotiations lagged. Although the Herald reported that the second of three payments for the property had been made, final transactions were still stalled, and the paper speculated that the deal would be made in time for mining to start with the cooler weather of October. But during the following month of September, the sale was still not completed, although Crowell announced that the final payment of the \$250,000 purchase price was expected soon, and that the new company

intended to spend at least another \$250,000 in developments and improvements on the property. But still the sale was not completed. Crowell made another trip to London in October, and reported on his return that everything was progressing well. The English syndicate in turn sent a mining engineer to inspect the property in November, and Crowell again announced that the deal was progressing satisfactorily.

By late December, the patient Herald was able to announce that the deal had finally been closed, and that the English managers were expected in town early in 1912, when work would be started. But in February the paper was still saying the same thing. By March of 1912 it became apparent that the sale had not been made, and that it never would be. Crowell worked the property himself for a short time, before announcing in June that "Permanent operations on this property are again placed in the future. . . ." ⁷

At this point our knowledge of the detailed activities at the Chloride Cliff become less perfect, as the Rhyolite Herald ceased publication. Still, even with the death of the Bullfrog District, Crowell hung on and worked the property by himself from time to time. In April of 1916 a small Lane mill was constructed on a group of claims just west of the abandoned site of Chloride City, but the mill operated only a few days, due to the shortage of water. A sixty-foot deep well which Crowell had dug about a mile from the new mill site went dry almost as soon as the mill was started. The mine and mill were listed as idle in 1917.

7. Rhyolite Herald, 8 & 15 April, 2 & 20 May, 12 August, 2 September, 28 October, 11 November, 23 December 1911; 10 February, 30 March, 8 June 1912.

But Crowell still held on. Annual assessment work was done on the property through at least 1922, although Crowell was forced to sell a portion of his claims that year to satisfy some debts. In 1926 the mine was reported to be idle, and in 1928 it was sold to Louis McCrea of Beatty, who made several shipments of ore to a Salt Lake City smelter. The only recorded shipment during this time resulted in a profit of \$47 per ton for thirty tons of ore. Between 1928 and 1931 several more shipments were made, but all were of small quantities, and in 1931 the property was being operated by the Chloride Cliff Mining & Milling Company, a new organization, which leased the mines from Louis McCrea. The new company, as usual, had grand plans to develop the mines and to pipe in water from twenty miles away, but as usual, nothing happened.

The mine, however, was still active in 1935, when six men were employed, who shipped 100 tons of ore in that year. At this time, all the mining work was being done on the surface, and it was reported, in an understatement, that the company needed "further equipment." In 1938, the California Journal of Mines and Geology reported that the mine, still owned by McCrea and his associates, had shipped about thirty tons per month between 1932 and 1936, before leasing the mine to the Coen Company who operated it from 1936 to 1937. After a few years of inactivity, McCrea was again reported to be shipping gold ore to a mill at Benton, California, in 1941.

During that same year, the Chloride Cliff area saw yet another mine make its appearance, when cinnabar was discovered a short distance northwest of the Chloride City site. The Crowell Mining and Milling Company undertook to develop this discovery, and erected a five-ton Cottrell mercury plant. But before more than an estimated 150 tons of ore could be processed,

the small mercury plant caught fire and burned to the ground. The loss was too much for the company to absorb, and the cinnabar mine in turn was abandoned. This marked the last gasp of the Chloride Cliff area mines. Although intermittent prospecting and a few very small operations continued for several more years-- forty-four claims were filed with the National Park Service between 1956 and 1960--no further significant activity' took place.⁸

b. Present Status, Evaluation and Recommendations

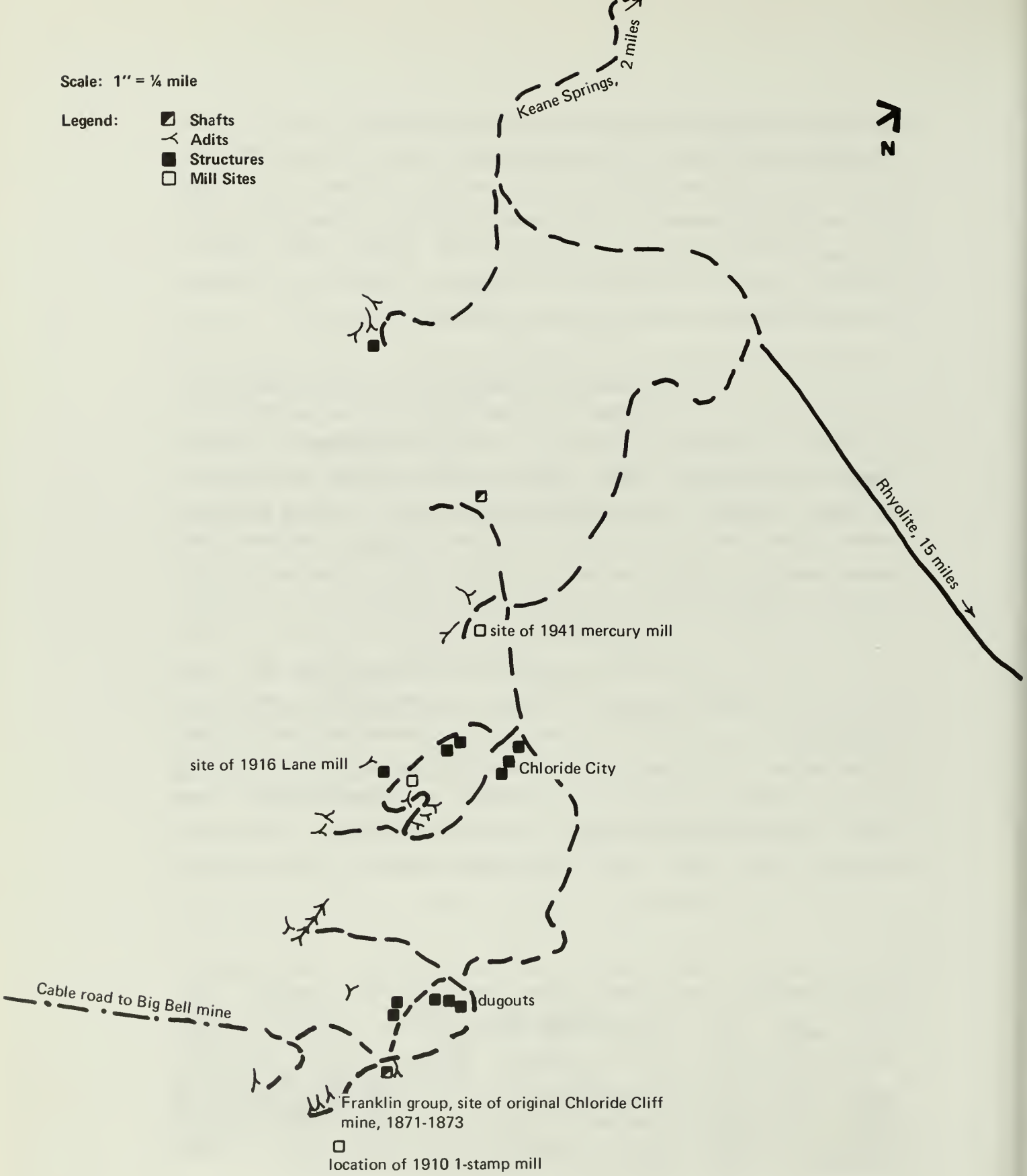
The entire Chloride Cliff area is cluttered with old shafts, adits and dumps, as well as collapsed buildings, dugouts, and several rather modern shacks. Some of these old mine sites indicate that activities were carried out over a period of several years, but most point to efforts lasting little more than several months. The mines were scattered over a four-mile square area, and significant remains may be found in five distinct groups.

At the southern end of the mining area, the site of the original Chloride Cliff Mine, or the Franklin Mine, can be positively identified. This mine group, which consists of four or five adits, with large stoped out areas in between, is situated on the very edge of a steep cliff (hence the original name), from which a spectacular view ranging from Badwater to Mt. Whitney may be seen. This is the site of the original discovery of the Chloride

8. Arthur S. Eakle, et al., "Mines and Mineral Resources of Alpine County, Inyo County, Mono County," USGS Bulletin #285, (1917), pp. 72-73. Inyo Independent, 8 April, 2 September 1922; 20 November 1926; 1 August, 21 November 1931. Mining Journal, 15 November 1928; p. 32; 15 December 1928, p. 30; 15 June 1941, p. 22; 15 November 1941, p. 20. M. J. Brown, Mining Activities in Central and Southern Nevada (1935), p. 7. California Journal of Mines & Geology, October 1938, pp. 391-92; October 1957, pp. 461-62. Memorandum, Superintendent Death Valley National Monument to Director National Park Service, 6 April 1960.

Scale: 1" = 1/4 mile

- Legend:
- ▣ Shafts
 - Y Adits
 - Structures
 - Mill Sites



Cliff Mine by A. J. Franklin in 1871. The mine was worked for two years by Franklin, and was then revived by his son and succeeding owners in 1905-6 and 1910. There are no structural remains at this site, and there is no way to identify which part of the mine was worked in the 1870s and which in the 1900s.

Part way down the cliff below this mine group stands the 1-stamp mill erected in 1910. There is very little evidence of a trail leading from the mine to the little mill, although a trail does descend from the mill site down into the ravine below. Remains of a primitive ore chute can be seen stretching from the mine about half way down to the mill site. The ore chute was obviously constructed of very cheap materials, and was used for a short time to slide ore from the mine down to the mill site. Several short exploration adits may also be seen along the trace of the ore chute. In addition, remnants of one inch pipe are scattered down the cliff side, tokens of the ill-fated effort to pipe water to the mill.

The 1-stamp mill itself is in excellent shape. Undoubtedly this is due to its inaccessibility, for anyone climbing the hill from the mill to the mine above would rue the addition of any extra weight. The mill machinery bears the markings of the Union Tool Company of Los Angeles, and the main support timbers stand twenty feet tall. The total lack of debris, waste rock or tailings around the mill indicate that it was briefly, if ever, used. When operations were abandoned at the mine above, only the engine and flybelt were salvaged. With a little oil, it looks as if the mill could run today, for virtually all its parts are intact.

About one-half north of the Franklin Mine is a group of three dugouts, obviously the homes of several miners during some stage of Chloride Cliff mining activity. The dugouts



Dumps of the Franklin Mine, site of the original 1871 discovery of silver ore. The floor of Death Valley, 5,000 feet below, can be seen in the background.

Below: The one-stamp mill below the Franklin Mine, erected in 1910, but apparently never used. The Franklin Mine is over the top of the ridge in the upper background. The individual standing beside the stamp is six feet, two inches in height.

1978 photos by John Latschar.





One of the three dugouts located about one-half mile north of the Franklin Mine. This structure, which measures twelve feet by twenty feet, was divided into two rooms. The roof over the far room has been blown away, as the rocks which weighted down the tin roof had gradually disappeared.

Below: Chloride City, viewed from the north. The town site itself was centered around the bare area in the center of the photo. The Franklin Mine is located on the south side of the ridge in the background, the 1916 Lane millsite is near the road visible in the right background, and the 1941 site mercury mill is to the right of the photographer.



are lined up against the bank of a small wash, which shelters the structures from the ravages of the constant winds which sweep over the Funeral Mountains. The dugouts are constructed of native rock, stone, wood, and tin, and are in reasonably good shape. Although the historical data is unable to identify these dugouts with any particular phase of mining, bottles from a small dump down the wash date mostly from the 1930s, although some purple glass is evident. The relative intactness of these structures, one of which measures twelve feet square, and the others which are approximately twelve by twenty feet, would indicate that they were probably built in the 1930s.

The third major grouping of structures is the site of old Chloride City. The town at its height in 1906 contained no more than four wooden structures, but two dugouts and numerous tent sites may be found in the area. Chloride City died in late 1906, when the local mines shut down for several years, and when mining returned to the area in the 1910s and the 1930s, the remnants of the building were used for whatever purpose seemed necessary. The wooden structures are now all collapsed, and have been stripped of most of their lumber. The largest of these collapsed structures, which undoubtedly was the boarding house, measures twenty-four by thirty feet, and the rest are about eight by twelve feet in size. The area around the old town site is heavily covered by prospect holes, adits and dumps, and it appears that the major mining efforts during the 1905-06 period took place in the general vicinity of Chloride City. Near one of the old adits, just south of the town site, is the grave of James McKay, who died at an unknown age, at an unknown time, and of an unknown cause. His gravesite, situated in the midst of a long-forgotten mining camp, seems like a symbolic "tomb of the unknown miner."



Chloride City, showing the remains of the boarding house.

Below: Grave of James McKay, located about a quarter mile south of Chloride City.

1978 photos by John Latschar





Ruins of the 1916 Lane mill, located just southwest of Chloride City. Photo was taken from the dump above the mill, showing the remnants of several concrete pedestals. The mill tailings are visible to the right front of the person in the photo, and the stone wall built to contain those tailings are just above his head.

Below: Ruins of the 1941 mercury mill, showing the water tank, and several levels of workings.

1978 photos by John Latschar



To the southwest of Chloride City, across the top of a small ridge, is the site of the 1916 Lane mill, built by McCrea and his associates. The mill is built on a medium-sized mine dump. A water tank was positioned on the side of a hill across from the mill site, and a four to six foot high stone wall was built below the mill, to prevent the tailings from being washed down the mountain. The mill site itself occupies an area about thirty feet square, but only concrete foundations and posts remain to mark the site. Several adits, a leveled tent site, a dugout and an old frame and tin shack may be found in the vicinity of the mill.

Finally, about a quarter mile northwest of Chloride City, is the site of the 1941 mercury plant. There are more physical remains to mark the site of this mill, for a galvanized water tank, extensive concrete foundations, and the ruins of a brick furnace are easily identified. Although erosion makes it difficult to judge, the amount of tailings around this mill would seem to indicate a life of several months before the complex was destroyed by fire.

In summary, the structural remains in the Chloride Cliff area include three mill ruins, several dugouts, several wood and tin shacks, and the collapsed buildings at Chloride City. Together with the proliferation of mine dumps, adits and shafts too numerous to describe, these remains present an interesting panorama of mining efforts carried out in this region between the 1870s and the 1940s. Although the total output of all the Chloride Cliff mines is estimated to be only \$35,000 during all these years, the variety of efforts represented in the area, together with the identification of the original 1871 Chloride Cliff Mine, make this property eligible for nomination to the National Register as a historic district. In addition to the remains described above, the ruins of the Big Bell Mine, situated one mile southwest

of Chloride City, will also be included in the Chloride Cliff Historic District. The Big Bell Mine itself is discussed in a subsequent chapter.

The entire Chloride Cliff area cries out for protection. At present, there are no attempts being made to protect the valuable and fragile historic resources remaining at the area, and the combined efforts of motorcyclists, four-wheel drive enthusiasts, bottle-hunters, and general scavengers are fast destroying the area. At least one of each type was seen in the vicinity when the author was examining the sites. The area should be thoroughly posted and regularly patrolled to discourage and prosecute destructive users.

In addition to protection, the Chloride Cliff district also presents Death Valley National Monument with a unique opportunity to interpret mining from the 1870s to the 1940s. The area is perfect for a self-guided tour, with visitors wandering the wind-swept region, stopping at various unmanned interpretive sites to reflect upon its long and varied history.

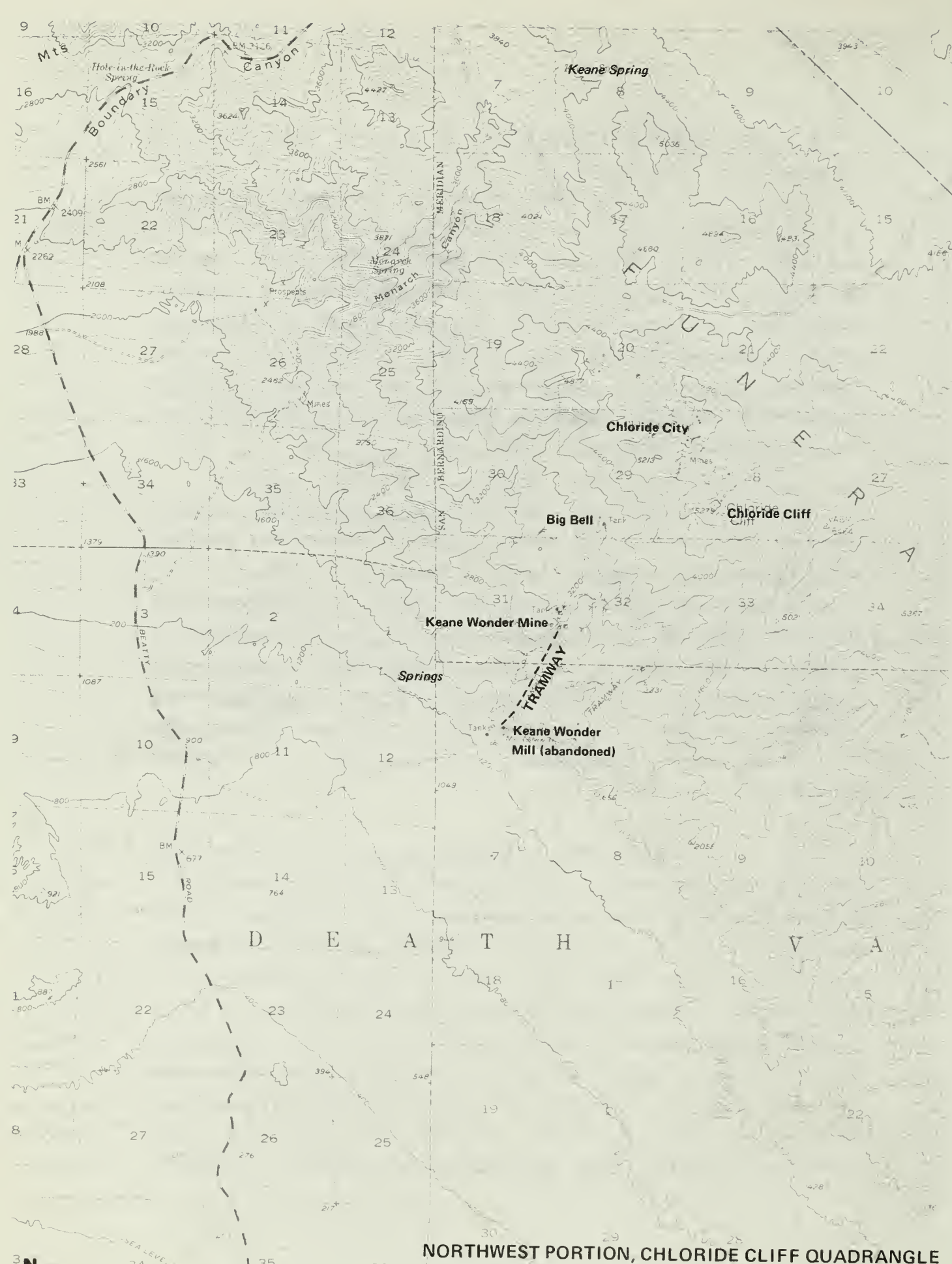
3. Keane Wonder Mine

a. History

In December of 1903, two prospectors wandered into the Funeral Mountains on the east side of Death Valley. Like so many others, these two men were among the horde of prospectors scanning the deserts and mountain ranges of southern Nevada for gold, spurred on by the fabulous riches discovered shortly before at Tonopah and Goldfield. What brought them to this particular area is unrecorded, but perhaps they had heard about the old Chloride Cliff Mine, which had operated briefly in the Funeral Range in the 1870s.

At any rate, the two prospectors, named Domingo Etcharren and Jack Keane, found an outcropping of silver ore in the northern Funeral Range in December of 1903. The two men worked their discovery for several months, attempting to trace the outcropping to a silver lode, but they were unsuccessful. Then, quite by accident, Jack Keane discovered an immense ledge of free milling gold ore a short distance from the original silver location. The discovery was aptly named the Keane Wonder, and represented Keane's first major strike after eight years of desert prospecting.

Like the 1870 operators of the Chloride Cliff Mine, which was located only two miles above the new Keane Wonder, Etcharren and Keane were dependent upon Ballarat for supplies. But unlike 1871, eastern California and southern Nevada were prepared for a gold rush in 1904, and when the two men came into Ballarat in May of that year for a rest and re-equipment, news of their strike touched off a genuine gold rush. Other prospectors rushed to the Funeral Mountains to get in on the strike, and promoters began to negotiate with Keane and Etcharren for the purchase of their locations. By late May, the strike was "confirmed"--that is, other prospectors and experts in the employ



NORTHWEST PORTION, CHLORIDE CLIFF QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT
 143/40074 9 of 30


 Scale: 1" = 1 mile

of mining promoters had examined the site--and Keane and Etcharren began to receive offers to sell their eighteen claims.

The two men, however, knew that they had something big, and decided to wait until the right offer came along. It did not take long, for within a few weeks the Keane Wonder was bonded to a well-known Claifornia mining operator, Captain J. R. Delamar. The terms of the bond called for Delamar to pay the locators \$10,000 in cash immediately, for which Delamar obtained the rights to develop the locations for one year, with an option to purchase the mine at the end of that time for \$150,000. The bond agreement was signed, sealed, and placed in the Inyo County Recorder's office on June 24, 1904, even though no one seemed to know for sure whether the mine was located in California or Nevada--a telling indication of the great lack of knowledge about the Death Valley region.

Delamar at once went to work, and shipped machinery and supplies to the mine. By the end of July he had thirty men working on the property. In the meantime, a decided rush was on to the Funeral Mountains, several other important discoveries had been made, and the Inyo newspapers reported that there "is a rush for the field from Ballarat and vicinity and pack jacks and canteens are in demand." By the end of July, one paper estimated that there were five hundred prospectors in the general vicinity of the new discovery. Two of these were "Shorty" Harris and Ed Cross, who were soon to discover the Original Bullfrog Mine.⁹

9. Inyo Register, 19 May, 30 June, 4 August 1904. Inyo Independent, 20 & 27 May, 24 June, 29 July 1904; 3 March 1905.

During the rest of 1904, Delamar's men feverishly worked the Keane Wonder Mine, racing against the one-year deadline to determine if it was worth the purchase price of \$150,000. An assay office and a general office building were built at the site, and a wagon road was cut across the desert to within a mile of the mine, which was situated mid-way up the steep Funeral Range above Death Valley. By early 1905, their efforts to develop the mine were frustrated by the beginnings of the great rush to Bullfrog, which made horses and wagons almost impossible to obtain, and development work of necessity was slowed down. Nevertheless, enough teams were found to make the sixty mile haul from Ballarat, and fifteen men were still employed in driving two exploratory tunnels in March of 1905. The results of this work made the Keane Wonder look like a truly great prospect. "There is," reported the papers, "enough quartz in this mountain, and float, if it carries sufficient value, to run a 100 ton-a-day plant for twenty years."

By this time strikes were popping up all around the Keane Wonder. Stimulated both by it and the even greater Bullfrog strikes, literally hundreds of prospectors were swarming through the Funeral Mountains. In an effort to maintain some order and to record the numerous locations being made, the South Bullfrog District was soon created, encompassing within its boundaries and Keane Wonder Mine. Just to its north, the Chloride Cliff Mine had been reopened, the Big Bell had been discovered between the Keane Wonder and the Chloride Cliff, and numerous other mines began operations. Inevitably, these peripheral mines included one incorporated as the Keane Wonder Extension Mining Company.

As May 15th approached, when Delamar's bond on the Keane Wonder would expire, he started negotiations with

Keane and Etcharren. In late April, he offered to buy the mine, but at less than the \$150,000 stated in the bond agreement. Unfortunately for him, Keane and Etcharren had closely watched the development work done by his men during the past year, and they fully realized that they had a real mine on their hands. Such a thing happens only once in a lifetime, and they refused to accept a penny less than \$150,000. Delamar either could not or did not want to pay that sum, and his option expired.

After Delamar's men left the property, Keane and Etcharren performed only sporadic work during the excessive heat of Death Valley's summer, while awaiting a new purchaser. They knew that their mine was too big for them to develop properly on their own, but all available investment money was being poured into the booming Bullfrog mines, and the Keane Wonder became almost forgotten. The two men, however, were patient and bided their time.

With the advent of cooler weather in September, Keane and Etcharren resumed work on their own. A small shipment of high-grade ore was sent to the smelter, and with the \$28,000 which they received for it (which amounted to \$1,867 a ton), they were able to employ a half dozen miners. Costs were comparatively low, since the mine could be worked through tunnels, thus avoiding the expenses of sinking and timbering shafts and hoisting the ore. With a bit of good luck, the shipment of occasional high-grade batches of ore would thus pay for the development of the mine on a small scale. With this plan in mind, the two men continued to work on their own through the remainder of 1905, employing five or six men, and waiting for the dust to settle around the Bullfrog boom, after which men with money would be able to see that their mine also had great potential.¹⁰

10. Engineering & Mining Journal, 17 April 1905, p. 837. Inyo Independent, 16 June, 3 November 1905. Inyo Register, 27 July

In early 1906, the prospectors' patience won out, as offers for the purchase of the mine were again made. L. L. Patrick obtained a bond for the property, similar to Delamar's of the previous year, with an option to purchase. Patrick immediately announced grand plans for the mine, including the erection of a 20-stamp mill at the foot of the Funeral Range, a mile from the mine and two thousand feet below it. Patrick and his men worked the mine for several months, while his engineers prepared surveys for an ore tram from the mine down to the mill site. But for an unknown reason Patrick decided not to exercise his option to purchase, and his bond expired in early March.

But by now promoters were standing in line for a chance at the mine, as soon as Patrick's bond expired, John F. Campbell and his associates jumped in. Campbell and his backers bought the Keane Wonder Mine outright, for a reported price of \$250,000, \$50,000 of which was paid to Etcharren and Keane in cash, and the rest given in form of stock in a company to be organized to develop the mine. The new company was incorporated in late March, with a capitalization of 1,500,000 shares. Jack Keane, who held a controlling stock interest, was elected president of the new company, with Campbell serving as vice president and Domingo Etcharren as secretary. The new company claimed to have forty to eighty thousand tons of gold ore on its twenty claims, and within a week, full page ads began to appear in the Rhyolite newspapers, offering stock for sale to the general public. The initial response was quite favorable, with Keane Wonder stock selling for 42¢ on May 4th, and 50¢ a week later.

1905. Rhyolite Herald, 15 & 22 September, 3 November, 15 December 1905.

We Advise Immediate Purchase of

KEANE WONDER

This Stock Should Double in Price

Within the Next Thirty Days

This is a PROVEN MINE, with enormous deposits of lustrous ore, in the Bullfrog

country situated about 12 miles southwest from Rhyolite, in the Funeral Range

2,000 FEET ABOVE DEATH VALLEY.

Tom Keane, a successful mining man of many years' experience, who is now the superintendent of and the largest holder in the Goldfield Great Bend mine, has made several examinations of the Keane Wonder, and he reports that there is

\$1,000,000 Worth of Ore Blocked Out

AND SEVERAL MILLION MORE IN VIEW

He reports the ore is free milling, and with water on the ground and wood but six miles distant, **ALL THE ORE CAN BE TREATED ON THE GROUND**, making this mine absolutely independent of any railroad or smelter.

The Keane Wonder mine was located about two years ago, and since has been extensively developed, about \$85,000 having been expended in blocking out and showing up immense bodies of ore.

Keane Wonder stock has an intrinsic value, with the large ore reserves, many times what it is now selling for, and this stock must certainly sell for a great deal more money soon.

It has immense bodies of ore that will mill \$20 to \$25 per ton in gold.

It has ore four feet wide that will average \$50 per ton in gold, free milling.

It has 8 feet and a half of ore on three different claims that averages \$200 per ton, free gold.

It has twenty claims and pay ore on every claim.

It has a ledge fifteen feet wide that will average sixteen dollars, free milling.

Keane Wonder ore can be mined and milled as cheap as any place in the world.

Two dollar and a half ore can be mined and milled by the Keane Wonder at a profit.

Keane Wonder will be a big dividend payer, as its gold production will last for years.

It is a bonanza - one of the great gold mines of the country.

There are a few of the reasons that make this stock the **BEST BUY IN NEVADA TODAY.**

We buy and sell all legitimate stocks, and have picked Keane Wonder to sell for you to make our clients the most money. We have the money for others. Let us make money for you.

Take our advice and buy Keane Wonder now. We have a reputation on the San Francisco Exchange and guarantee to buy right. Let us examine your orders. The mine is open to the inspection of all.

WRITE ————— INVESTIGATE ————— WIRE

GORDON CAMPBELL & Co.

GOLDFIELD, NEVADA

STOCK BROKERS

Members of Goldfield Stock Exchange

The new owners immediately resumed development on the property, and new ore strikes were soon made. Prospects looked extremely favorable for the company, for both wood and water were available within a reasonable distance from the mine, and the ease of tunnel mining indicated that development and extraction costs at the Keane Wonder would be relatively low. Within a short time the company had two mining camps established, one at the mine high on the side of the Funeral mountains, and the other located on the floor of Death Valley below.¹¹

The Keane Wonder was by now receiving attention from papers as far away as Denver, Colorado. The mine had grown to twenty-two claims, comprising 240 acres of land, but even with the expenditure of \$35,000 over the past year in development work, still only five of those twenty-two claims had been explored at all. But just when things looked brightest, disaster struck. The great San Francisco fire and earthquake of April 1906 effectively wiped out Campbell's fortune, which had an immediate effect upon the finances of the Keane Wonder Company. Development abruptly slowed down, and within a month reports were printed that Campbell was meeting in California with parties interested in buying the mine.

Campbell and his associates had no difficulty in finding a buyer. In late June, Homer Wilson, president of the Sildman Consolidated Mines Company of San Francisco, was in the Bullfrog District looking at various investment possibilities. On August 10th it was announced that Wilson and his associates had purchased the Keane Wonder Mine. The sale was heartily approved

11. Bullfrog Miner, 12 January, 30 March, 6 & 27 April 1906. Rhyolite Herald, 26 January, 23 February, 2 & 30 March, 6 April 1906. Inyo Independent, 23 February 1906. Inyo Register, 15 March 1906.

of by the local newspapers, which by this time had realized the financial distress caused Campbell by the San Francisco disaster. Wilson, who owned a string of mines in the Mother Lode country of California, was extolled as "one of the boldest and most successful operators" in California. The sale price was not released to the newspapers.

After several disappointments arising from previous sales, Jack Keane and Domingo Etcharren were now ready to sell out all their interests in the Keane Wonder, and this time they accepted full payment in cash, thus terminating their interests in the Keane Wonder Mine which they had discovered. Etcharren dropped completely out of sight and was never heard from again, but Keane's subsequent career can be sketchily traced. With the money from the sale of the Keane Wonder, Keane "who recently joined the ranks of those living on Easy street," invested in almost fifty claims in the Skidoo District on the west side of Death Valley. Within a few month's, however, Keane's luck turned sour. In September he was involved in a shooting affair in Ballarat, California, where after a night of drinking he wounded two local peace officers. Shortly after that he disappeared, to surface in Ireland in the fall of 1907, where it was reported that he was sentenced to seventeen years in jail for killing a man. The Rhyolite papers sadly commented upon this tragic end for one of the region's few lucky prospectors, but noted that when "drinking he usually resorted to his gun on very slight provocation."¹²

In the meantime, Homer Wilson and his associates went to work. The Homer Wilson Trust Company was

12. Rhyolite Herald, 27 April, 4 May, 8 & 29 June 1906. Bullfrog Miner, 4 & 11 May, 17 August 1906; 14 September 1907. Inyo Independent, 14 September 1906.

incorporated, as a holding company for the Keane Wonder and other Wilson interests, and the new Keane Wonder stock was offered to the public. Advertisements in December of 1906 claimed that the first allotments of stock offered for sale at 50¢ per share had been oversubscribed in forty-eight hours, and that stock was now for sale from the company at 65¢ per share. Work was resumed at the mine in early November, and the company immediately ordered a 20-stamp mill and auxiliary equipment. The milling plant, announced Wilson, would consist of crushing by stamps, with amalgamation, concentration and cyanidation, and was expected to cost between \$75,000 and \$100,000. Wilson promised the press that his mill would be the first one in the Bullfrog region to begin operations.

Ten men started preliminary grading work for the mill buildings in early December, and plans were drawn for a gravity tram to bring the ore down from the mine on the mountain to the mill site in the valley below. By late December, mill machinery began to arrive over the new railroad, including an 85-horsepower Coreless oil burning steam engine, which would be used to power the mill. The aerial tramway from the mine to the mill was surveyed, and the company decided to install a Riblet gravity tram, 4,700 feet long, wherein the loaded ore buckets coming down the mountain would pull the empty ore buckets and supplies back up to the mine. By the end of December, construction on both mill and tramway was under way, and in addition twenty men were still employed in the mine. The company announced that it had \$650,000 worth of ore blocked out, which would suffice to feed the mill for several years.¹³

13. Rhyolite Herald, 28 September, 21 December 1906. Bullfrog Miner, 2 November, 7 December 1906.

As 1907 began, luck stayed with the Keane Wonder Mine, sometimes in almost unbelievable proportions. The mine continued to look well, for as more tunnels were driven, more ore was found. Then, when some men began sinking a well near the mill site below the mine, they struck another gold ledge instead of water. The well was immediately turned into another working shaft. Twenty-five men were employed by the company in early January, and the foundations for the mill buildings were excavated.

During February, more mill machinery and equipment arrived over the Las Vegas & Tonopah Railroad. The machinery contract had been let to the Risdon Iron Works of San Francisco, and Walter Lyons, formerly employed by the rival Union Iron Works of the same city was hired as construction superintendent. The Porter brothers of Rhyolite, after intense competition, won the contract to haul some 255 tons of machinery, timbers and supplies from Rhyolite over Daylight Pass to the mill site, twenty-six miles away. As February and March progressed, machinery and supplies continued to arrive with regularity, and the Keane Wonder Mill began to take shape. As the framework for the main mill building began to rise above the desert in early April, the price of Keane Wonder stock rose with it, for investors were impressed by the final resources and energetic management of Homer Wilson. Keane Wonder stock was sold for 75¢ in early April, and 80¢ late in that month.

As equipment arrived, mill construction took priority over development of the mine, and all available labor was put to work at the mill site. The framework for the mill building was finished in April, the ore bins were built and the mortar blocks set. More men were added to the payroll, which reached \$3,000 per month. Final costs for the mill were estimated at \$85,000. At the same time, a group of men were put to work on the water

supply for the mill, which was being developed in several different spots. As a hedge, the Keane Wonder Company purchased Keane Springs, about seven miles away towards the top of the Funeral Range, as well as the young townsite at the springs. The company also bought up several claims adjoining its own, in order to obtain a right of way for its aerial tramway between the mine and the mill, bringing its total holdings to twenty-six claims, comprising some 450 acres. Arrangements were made to extend a telephone to the mill site, from the Rhyolite-Skidoo line. As construction proceeded, stock demand rose, but few shares were offered for sale. "The holders of this stock are evidently willing to wait for the dividends which seem sure to come within a few months," surmised the Rhyolite Herald.

By mid-May, all the mill equipment and machinery had arrived, and most had been installed. In addition, the company had finished the construction of a new boarding house at the mill site, to accommodate the construction crew and the future mill crew. Then, in July, with the mill essentially completed, the construction crews were shifted to the building of the aerial tramway. This would prove to be a long and laborious task, especially with the intense heat of summer, but the Keane Wonder Company pressed on, for it was in a decided race with the Montgomery Shoshone Company of Rhyolite to see who would have the first running mill in the Bullfrog region. The Keane Wonder was at a disadvantage in the race, for in addition to building a mill, it was also required to complete a tramway and many other auxiliary features. For example, in mid-July, a huge 25,000 gallon galvanized iron tank was built beside the railroad tracks in Rhyolite, to be used as a storage tank for the crude oil which would be hauled to the mill site to fuel the plant. According to the Bullfrog Miner, "This is the largest tank of the kind in the country."

But the construction proceeded well. By late July, the tramway towers were beginning to arise along the ridgeside, and the company predicted that the mill and tramway would be completed by September 1st. In the meantime, some miners had been put back below ground, and another strike of ore almost immediately resulted. Delays on the delivery of the huge tramway timbers slowed construction for a while in July and August, but other construction continued. The water and crude oil tanks at the mill were completed in early August, and the timbers for the tramway were laboriously dragged up the mountainside. Twenty-one thousand board feet of lumber were required for the upper tramway terminal, 28,000 for the lower, and 25,000 for the intermediate towers. The tramway had thirteen towers, with the longest span between them being 1,200 feet, and the vertical fall from top to bottom was 1,500 feet. During the height of tramway construction, the Keane Wonder Company employed no less than five mill wrights for framing the timbers for the terminals and tramway towers. Each tower rested upon a foundation measuring twenty-four feet square, in many cases blasted out of solid rock.

Despite the 105 degree temperatures at the construction site in mid-August, the workers toiled on, with most work being accomplished during early morning and late evening hours. Finally, on September 14th, the last load of equipment for the towers was hauled out to the mill site, making a total of 1,500,000 pounds of freight which had been hauled from Rhyolite during the course of construction at a cost of \$11,000.

Work was delayed somewhat in mid-September, when several men quit, stating that the food served at the Keane Wonder boarding house was "absolutely the worst ever put before a crew of working men on the desert." Mrs. Hull, the company cook, took exception to the accusation, and replied that "the provender is

good and the parties making complaints are soreheads." Nevertheless, new men were found, and construction continued. In early October the tramway cable was stretched, and only the hanging of the buckets remained for the tramway to be completed. Homer Wilson arrived in town to witness the first days of the mill tests, and also to award a contract to the Porter brothers of Rhyolite for the transport of crude oil from the storage tank in Rhyolite to the mill site. Two tank wagons, holding twenty-one and twenty-seven barrels respectively, would make nine trips each per month, in order to satisfy the demands of the big steam engine. The tank wagons, which were owned by the Keane Wonder Company, were special heavy duty Studebaker models.

Finally, in late October, everything was ready for the machinery to be turned on for the first time. Homer Wilson, in an understandably pleased mood, told reporters that he hoped the 80-ton capacity mill would turn out \$1,000 worth of gold per day when running at full speed. All mill tailings, he said, would be impounded, for the company expected to add cyanide tanks within a year in order to rework the tailings and thus extract the utmost in gold savings. In the meantime, the miners had 2,000 tons of ore broken down in the mine, ready to feed the mill. But due to the Panic of 1907, which had just hit the Nevada mining fields, Wilson was forced to make an emergency trip to Goldfield on October 27th, the day that the Keane Wonder Mill began to operate.

For the next month, everyone involved held their breath, waiting to see if the huge investment in labor and equipment would pay off. The equipment was turned slowly at first, as constant checks were made for defects in the machinery, and only forty tons were treated per day. But all the equipment worked well, and soon the tonnage was increased. On November 11th, the first bars of gold bullion were brought into

Rhyolite, the result of the first three weeks run, and were estimated by one local paper to be worth \$40,000. That figure was undoubtedly exaggerated, however, for the Keane Wonder Company did not announce its production figures, and another paper estimated the total output for all of November at only \$25,000. But regardless of figures, the tramway and mill were evidently working well, and the company formally invited reporters and interested miners to visit the site and take a ride in its tramway.

In early December, a Rhyolite Herald reporter made such a visit. The mill was now running twenty-four hours a day, he reported, and was treating seventy to seventy-five tons per day. The ore being treated at the mill averaged \$18 to \$20 per ton, and the present mill equipment was saving 65% of the gold content. The tailings, which were being saved for later cyanidation, assayed at \$3.95 per ton. Homer Wilson estimated the known ore reserves at 100,000 tons, and development work in the mine was increasing that figure faster than the mill could reduce it.

The ore bin at the upper tramway had a capacity of 100 tons, and an especially unique feature. Power from the gravity pull on the tramway was used to operate a preliminary ore crusher at the upper terminal, through which the rock passed before descending to the mill. In addition, a supplementary 13-horsepower gas engine was installed on the upper tramway terminal, so that the ore crusher could be operated when the tramway was idle. The tramway was supported by twelve towers and one breakover station. The highest tower was thirty feet, the lowest eighteen. The longest span between towers was 1,280 feet and was 500 feet above the floor of the canyon below. Each ore bucket on the tramway carried 600 pounds, and was loaded automatically. The material for the tramway included 95,000 board feet of timber and fifty tons of wire rope and terminal material, and the tramway rose on a grade of 1,000 feet per mile.

The ore buckets dumped automatically into the mill bin at the lower tramway terminal, which had a capacity of 200 tons. From there the ore passed onto suspended Risdon feeds, and under the Golconda pattern batteries, whose twenty stamps weighed 1,000 pounds each and dropped 100 times per minute. Inside amalgamation was by back plate and chock block with the ore passing from the screens onto a lip plate, and then falling into distributing pots and onto the apron plates. From the plates the pulp passed into the amalgam trap, and the sands went to the original classifier, with the coarse sands sent to two Wilfleys vanners and the fine sands to four Johnson vanners. Tailings were pumped into four Callow tanks, each eight feet in diameter, where 75% of the water was secured and pumped back into the tanks for use in the stamps. The tailings were impounded in dams and allowed to settle, with remaining water again recycled back through the mill. The amalgam was retorted and melted at the mill and finally converted into gold bullion.

Water for the mill was drawn from a well shaft 285 feet from the mill, and was pumped into a tank above the mill by an artesian pump. The mill itself was driven by a Corliss steam engine, with steam generated in a 126-horsepower Sterling boiler. The exhaust from the engine was used to heat a 100-horsepower Cochrane feed water heater, which heated the water to 210 degrees, thereby driving off the soda and other minerals which would have clogged the boiler. Crude oil was used to fire the boilers, and the works were lighted by electricity generated at the mill site.

The mill building was framed, and covered with galvanized iron. All the floors were concrete, with concrete foundations, mortar blocks and retaining walls. The tramway materials were from the Leschen Brothers & Company, a St. Louis outfit specializing in aerial tramways. Over forty different designs

and combinations, said Wilson, were studied before the company finally decided upon this arrangement. Finally, the reporter concluded, the Keane Wonder Company had a fine camp established at the mill site, where Mr. and Mrs. Wilson lived. Other families included those of Vice-president and Mrs. Rogers, and mill superintendent and Mrs. Lyons. The Kimball brothers had established a twice-a-week stage line between Rhyolite and the mill, to satisfy transportation demands.¹⁴

But despite the excellent success of the Keane Wonder Mill, all was not well with the company. The Panic of 1907 hit the Nevada mining industry quite hard, and one of the earliest casualties was the State Bank and Trust Company of Goldfield, and its president, Thomas B. Rickey. When the State Bank and Trust failed and went into receivership in November of 1907, the effects upon the future of the Keane Wonder Company were made evident when the newspapers reported that the bank had loaned the company \$200,000 for the construction of its mill and tramway. President Rickey promised that the loan would be made good, but as the Inyo Register pointed out, "The Keane Wonder is now practically owned by the State Bank and Trust Company," and the future of the company's finances was much in doubt.

But while waiting for the financial picture to become clearer, the Keane Wonder Mill continued to produce. It is difficult to give a reasonable estimate of mill output, since Homer

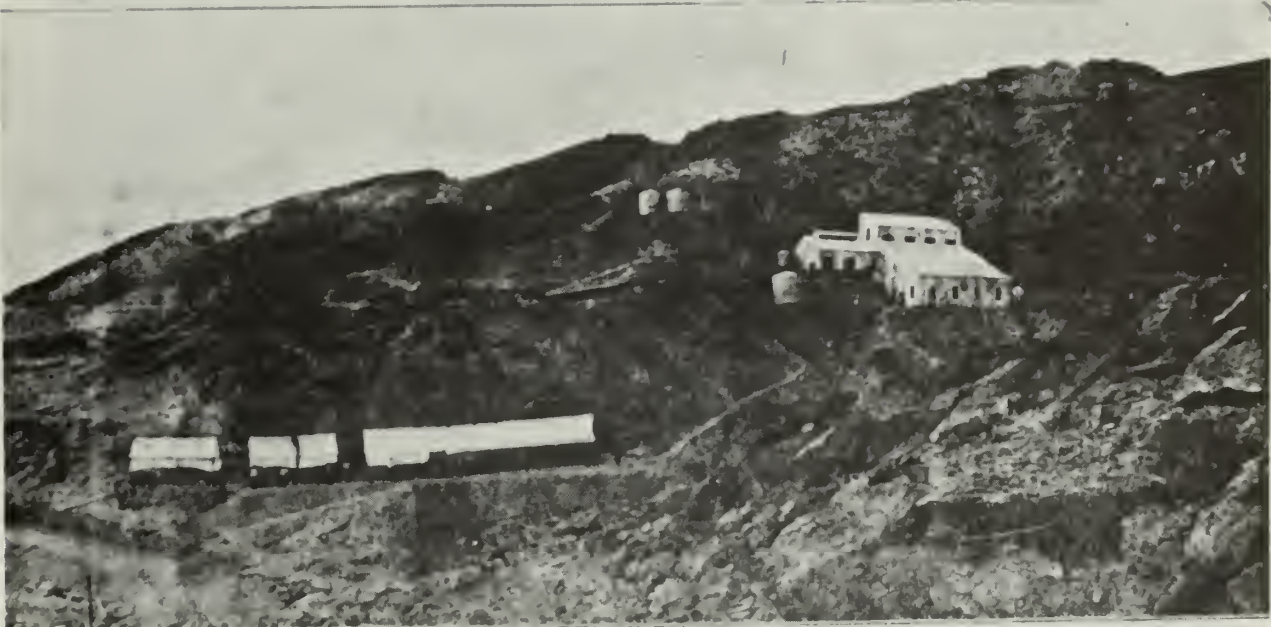
14. Rhyolite Herald, 4 & 18 January, 8 February, 29 March, 5 & 12 April, 25 October, 1, 15 & 29 November, 6 December 1907. Bullfrog Miner, 1 February, 8 March, 5 April, 10 May, 6, 13 & 27 July, 10 & 17 August, 7, 14 & 28 September, 12 & 26 October, 16 November 1907. Inyo Independent, 10 May 1907. Mining World, 20 July 1907, p. 121. Rhyolite Daily Bulletin, 27 September, 14 October, 12 November 1907.



The left half of the Keane Wonder Mill complex, which should be matched with the opposite photo. Note the piles of lumber and other materials, which would soon be used for the support buildings of the mine complex, the two small tent structures, and the large storage building. The cyanide plant, which would be built several years later, would stand on the slightly higher ground behind the large storage building.

Photo from the Rhyolite Herald, 6 December 1907.

The man... A short stop was... made at the... finished... where... by...
 not get... N...
 to know...
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 by...



Third Railway Into Rhyolite Now In Operation

The Big Picture

WILD BAR

The new Keane Wonder Mill, as photographed for the Rhyolite Herald in December of 1907. Although it is not a very good picture, it is one of the few remaining. The basic mill buildings have just been completed, but none of the support buildings, such as the building which later covered the lower tramway terminal (which is located behind the mill), have yet been erected. The tent houses in the foreground were boarding and bunk houses.

Wilson was not in the practice of announcing bullion figures, but we do know that the mill was working steadily. Wilson brought in a bar of gold bullion to Rhyolite on December 7th, the result of twelve days' run, and the papers estimated its worth at around \$16,000. Another gold brick was brought in on December 21st, estimated at \$6,000. As a unique feature of the Keane Wonder operation, the gold bullion was shipped to the mint, which processed it and shipped back gold coins to the company, which were used to pay the Keane Wonder employees. The mill was still not running at full capacity by the end of 1907, due to difficulties in obtaining enough of a water flow to satisfy the mill demands. Average daily runs through the latter part of 1907 averaged seventy-five tons per day. But still, based upon a compilation of the more conservative newspaper estimates, the Keane Wonder Mill produced around \$36,000 in gold bullion in 1907.¹⁵

As 1908 opened, the Keane Wonder Mill continued to produce, although the lack of an adequate water supply kept the mill from running at full capacity. Bullion estimated at \$15,000 was brought in on January 9th, and another shipment estimated at \$8,000 was sent to Rhyolite on February 5th. Even without being able to run full time, the mine and mill seemed to be operating most efficiently, for the entire costs of mining, traming and milling the ore was put at a mere \$3 per ton. This efficiency, of course, was greatly helped by the fact that the soft rock being mined at the Keane Wonder was being pulled out of horizontal tunnels and stopes, which alleviated the costly necessity of sinking and timbering shafts and of installing and operating hoisting machinery.

15. Bullfrog Miner, 7 & 21 December 1907. Rhyolite Herald, 27 December 1907. Rhyolite Daily Bulletin, 12 November 1907. Inyo Register, 14 November 1907.



View of one of the working faces of the Keane Wonder Mine, showing the ease of mining. The ore at this point could be stripped directly off the face of the cliff, which saved the company thousands of dollars over the costs of tunneling, shafting, and timbering. From a booklet, "Bullfrog Mining District," published by the Rhyolite Chamber of Commerce, 1909.

As could be expected, the troubles of the State Bank and Trust Company, which received wide publicity, caused a number of rumors to circulate concerning the Keane Wonder Company. The Inyo Register reported on February 13th that the mine and mill would close, due to those complications, but Homer Wilson hotly denied the rumor, stating that the mine had ore reserves sufficient to supply the mill for two more years. Two days later, as if to prove his point, Wilson brought in another gold brick estimated at \$4,000.

By late February, the newspapers were able to begin untangling the affairs of the Keane Wonder Company and the State Bank and Trust. The Rhyolite Daily Bulletin reported that T. B. Rickey, the former president of the bank, had personally taken over the debt of the Keane Wonder Company to the bank, which amounted to \$195,000. Since Rickey was also a heavy stockholder in the Keane Wonder Company, this seemed to bolster the future of the mine, for such a move would enable the Keane Wonder to avoid the long drawn out receivership settlement affecting the bank and all those connected with it. Further good news followed, for the discovery of an additional water source enabled the mill to begin running around the clock in late February. It immediately began to treat almost 80 tons per day, near full capacity, and Homer Wilson brought in another gold brick on March 5th, estimated at \$7,500, bringing February's production to an estimated \$15,000.

Further bullion shipments were made later in March, as an estimated \$5,000 was brought in on March 19th, and another \$1,700 on March 28th. A short time was lost for minor repairs, but the mill continued to function well. In late March, Homer Wilson, realizing that the continued rumors connecting the State Bank and Trust Company with his mine were having a

detrimental effect, granted a long interview to a reporter from the Rhyolite Daily Bulletin.

The Keane Wonder, he said, had two years of ore supplies already blocked out, and further development work would undoubtedly increase those known ore reserves. The average ore in the mine, like that which had already been run through the mill, was around \$16 per ton. The company would soon begin the construction of a cyanide plant to treat the mill tailings. At present the mill, without cyanidation, was saving about 62 percent of the ore content, and the addition of a cyanide plant would increase that savings ratio to 92 percent. When the plant was completed, Wilson hoped for a monthly production of \$25,000 from the combined works.

Water shortages, however, were continuing to plague the company. Even with the addition of a new water supply, and with the unusual recycling arrangements built into the mill, full time operation was impossible. Thus the mill had settled into a schedule of twenty-four hour operation for four days, followed by sixteen hours for the next three, while the water supply was built back up.

Concerning the rumors connecting the mine and the bank, Wilson was most specific. The finances of the Keane Wonder Company, in his opinion, were in good shape. With the output of the property the last three months the company had paid off every cent of its indebtedness, and would be able to begin paying dividends the next month--unless, of course, such profits were put back into the expansion of the facilities, such as a new cyanide plant. The Keane Wonder Company, said Wilson, had absolutely no connections or entanglements with the State Bank and Trust Company. The mine did not owe the bank a penny, and

whatever troubles Mr. Rickey was having involved only his personal stock in the Keane Wonder, and not the company itself. Rickey and Wilson together owned 875,000 of the 1,500,000 shares in the Keane Wonder, and whatever happened to Rickey's portion of those shares would have no effect upon the mine itself. In addition, the company still had 350,000 shares of treasury stock. These shares, which the company had never put on the market, could be sold at any time when the company faced financial difficulties. In summary, Mr. Wilson quite candidly put his mine into perspective. "We have not got what may be called a big mine or a high grade mine," he said, "but a nice little proposition that will clear good and dependable money every month in the year, and from the looks of things, for many years hence."¹⁶

April proved to be another good month for the Keane Wonder. Homer Wilson brought in three gold bricks estimated as being worth \$30,000. The output for future months looked even better, for during April yet another source of water was located, which the company said was sufficient to supply a 60-stamp mill. Pipe line and pumping machinery were ordered, for the new water supply was 3,500 feet from the mine and 100 feet below it. Work on the cyanide plant, the company announced, would begin after the new pipe line was laid.

In addition, new ore bodies were discovered in the mine, which increased the company's ore reserves. Some of the new ore was high grade, and was called the best discovery in the history of the mine. Homer Wilson essentially agreed with that assessment, and stated that there "is perhaps enough ore in sight

16. Rhyolite Daily Bulletin, 9 January, 5, 15, 20 & 28 February, 20 & 31 March 1908. Bullfrog Miner, 11 January, 8 February, 7 & 28 March 1908. Inyo Register, 13 February 1908.

to wear out the 20-stamp mill that we now have in operation on the property." Even the announcement that a disgruntled stockholder named E. H. Widdekind had filed suit in the Esmeralda county district court, asking for a receiver to be appointed to the Keane Wonder Company, failed to dampen the enthusiasm surrounding the mine. Widdekind alledged "all kinds of crooked work," chiefly that Wilson had appropriated large amounts of the company funds to himself, but no one seemed inclined to believe the accusations.

During May, the mine and mill continued to produce, with an estimated total of \$21,600. The decrease in bullion was due to continuing water difficulties, as the heat of summer cut down on the available water supply. Material for the new pipe line, however, was delivered in late May, and the company hoped to solve that problem shortly. But delays began to plague the company in June. Leaks in the new pipe line delayed its utilization, although pumps and even a windmill was installed at different water sources. Still the twenty-five employees of the mine and mill managed to produce an estimated \$15,200 during the month, with the mill running only about half the time. The long awaited cyanide plant was not yet started, due to the water problems.

In July, the extreme heat of Death Valley's summer began to take its toll. At the end of that month, the company announced that temperature had not been below 90 degrees for weeks, and was often above 124 even at midnight. Daily temperatures were usually up to 112 by breakfast and 124 by noon. Most men slept out of doors, and even eating was difficult, since the silverware was often too hot to handle. The boarding house cook flatly refused to allow a thermometer near his kitchen. The hot weather kept the water at near boiling temperatures, which made mill operation difficult. Still, over \$11,000 was produced that month, and the ore reserves were enlarged. In addition, three new

buildings were added to the camp, including a sixteen by forty-two foot residence for Homer Wilson and his family, a two-room office building and a new cook house.¹⁷

In August, a peculiar side-effect of the labor struggles currently running through Nevada hit the Keane Wonder. Early that month, the Rhyolite Miners Union adopted the Tonopah scale of wages, designed by the Nevada miners unions to set standard pay scales across the state. The Keane Wonder Company soon announced that it would honor the new scale. Unfortunately for its employees, the Keane Wonder had formerly been paying higher wages than the scale called for, and the move meant that the average miners' wages were cut from \$5.00 to \$4.50 per day. When the company announced the new rates, along with only a 25¢ reduction in the daily room and board charges, twenty men quit the mine. Wilson, however, had no trouble in hiring additional men, and even the former foreman of the Keane Wonder Mine, who quit on principle, told the papers that the Keane Wonder was "unquestionably one of the greatest mines in this section of the country."

Thus production and development went on, and in late August Wilson announced that the "biggest strike in the history of the Keane Wonder has just been made," when over eighteen feet of high grade gold ore was uncovered. In addition, some of the water problems were resolved, and in spite of the continued heat, average mill days of twenty hours were possible. Partly to alleviate the heat and discontent of his miners, Wilson made arrangements to put in a small ice plant at the mill.

17. Rhyolite Daily Bulletin, 4 & 6 April, 4 May 1908. Bullfrog Miner, 4 & 18 April, 2 & 9 May, 6, 13 & 27 June 1908. Rhyolite Herald, 29 April, 6 & 20 May, 3 & 24 June, 8 & 29 July, 5 August 1908.

Production in August was estimated at \$14,000 worth of gold bullion.

In late August, the Mining & Scientific Press, the esteemed San Francisco mining journal, printed a quite reasonable assessment of Keane Wonder mine, although it was not one designed to endear that paper with local boosters. "Death Valley has one actual mine," wrote the paper. "It is the Keane Wonder, a wonder if for no other reason than that it is the only producing property of the region. While not a bonanza, it is paying. Forty miners are busy supplying \$20 ore for a 20-stamp mill. Now and then a gold bar finds its way to Rhyolite, and figures in the press dispatches. . . ."

A week later, the Keane Wonder found itself in yet another national magazine, when the Engineering & Mining Journal printed an assessment of the suit of Edward Widdekind against Homer Wilson. In essence, Widdekind claimed that he had once held an option on the mine, and that Wilson had illegally maneuvered him out of the deal. In addition, he charged that through complicated and shady stock transactions, Wilson had pocketed some \$100,000 of the mine's money. He asked that a receiver be appointed while the case was heard, and also asked for half of Wilson's stock which he claimed was due according to their original agreement.

Wilson ignored the allegations and continued to supervise the work at the mine and mill. The easing of the summer's heat helped with the water problems, although they were still not completely solved, and the Rhyolite Herald estimated September's production at \$13,000. In the meantime, the stockholders of the company met in Phoenix and ratified several actions of the board of directors, among which were the election of

two members of the Thomas Rickey family to positions on the board.¹⁸

In October, the full extent of the financial troubles of the Keane Wonder Mining Company in relation to Thomas Rickey and his defunct bank became apparent. The Rhyolite newspapers had attempted to stay clear of the turmoil, but the much more aggressive Goldfield papers gave them full coverage. According to one, the Golfield Chronicle, Rickey was a financial manipulator of the first order. Even today, sifting through the accusations of the papers and the statements of the individuals involved, it is difficult to piece together the financial puzzle. Someone, it is evident, had borrowed money for the Keane Wonder to use from the State Bank and Trust Company, and had pledged several hundred thousand shares of Keane Wonder stock against the note. When the bank failed, Rickey had personally taken over the responsibility for that debt, which indicates either that he had borrowed the money from his own bank in the first place, or that he was trying to protect the Keane Wonder Company, of which he was a heavy stockholder, from the results of his bank's failure. Along with the debt, Rickey had also taken from the bank vaults the Keane Wonder stock which the bank had held as a lien against the debt.

But other interests felt that they had first call on the stock of the Keane Wonder. One such was D. Mackenzie, president of the Francis Mohawk Company of Goldfield. His company had lost a large amount of its deposits when the State

18. Rhyolite Herald, 5 & 26 August, 23 September, 7 October 1908. Bullfrog Miner, 15 & 29 August, 5 September, 3 October 1908. Mining & Scientific Press, 29 August 1908, p. 298. Engineering & Mining Journal, 5 September 1908, pp. 487-88.

Bank folded, and Mackenzie claimed to have exchanged his company's claims against the defunct bank for the bank's claims against the Keane Wonder. Thus Mackenzie felt that the Francis Mohawk Company had first rights to the stock which the Keane Wonder had left in the State Bank as security for its loan. Mackenzie wanted to hold that stock, which would force the Keane Wonder to either repay its debts to the Francis Mohawk, or to come under the control of the latter company.

But according to the Goldfield Chronicle, Rickey had played yet another trick.

Rickey and his ubiquitous and peripatetic attorney, J. F. Peck, put their heads together. They conceived the idea of having the company make a short time note for some of its indebtedness and mortgage the company's mines and mill as security for its payment. So they called the stockholders together at Phoenix, Ariz., on August 22 last. A note for \$43,000 was made to the Rickey Land and Cattle company, and to secure it a trust deed conveying all of the company's magnificent holdings to Peck was delivered to that individual. This note will fall due on Sunday, the 25th day of this month, and on that day Peck can, under the terms of a trust deed, for the comparatively paltry sum of \$43,000, sell the mine, the aerial tram, the mill, Keane Springs--in a word, gut the Keane Wonder Mining company to its last farthing.

Homer Wilson denied the "sensational story from Goldfield," but did little to clear up the confusion, since he refused to comment upon the details of the Keane Wonder's financial picture. He did, however, intimate that a reorganization of the company was imminent, and he pledged to protect the interests of everyone concerned. "You can say for me," he told the Rhyolite Herald, "that if I don't get killed in this matter, every stockholder in the Keane Wonder Mining Company will be fully protected." Wilson also stated that he knew for sure that Rickey had no intention of foreclosing on the company and with that, left for San Francisco to try and straighten out the mess.

In the meantime, the Keane Wonder mine and mill continued to hum along, and October's production was estimated at \$15,000. Although the company was continuing to try to find a solution to the water problem, the mill was still unable to run full time. But even with good production figures, the uneasiness about the various court suits involving the company had a disastrous effect upon its stock, which plummeted all the way to 8¢ per share by mid-October. Stockbrokers, even when taking into account the various rumors concerning the mine's future, could not understand this climatic fall. How, asked one, can stock in a mine which is producing an average of almost \$20,000 per month fall to such a ridiculously low figure?

Despite these financial questions, Homer Wilson seemed to be sure that his property would survive intact, and work proceeded normally. Gold bullion was regularly brought into Rhyolite during November, and production for that month was estimated between \$16,000 and \$25,000 by the Rhyolite newspapers. In the meantime, the Nevada-California Power Company began negotiations with the Keane Wonder to extend a branch line to its property, and the company finally began preliminary grading work for the future cyanide plant. The payroll was increased to fifty miners and millmen. A well respected mining engineer made a thorough examination of the mine for Wilson and reported that the Keane Wonder was "one of the greatest mines in the state, and one capable of much better results than even the great showing it has already made."

But at the same time, the various lawsuits surrounding the Keane Wonder and the State Bank and Trust grew more complicated. Early in November, D. Mackenzie was granted a temporary injunction preventing Rickey from foreclosing on the Keane Wonder for his \$43,000 trust deed. A week later, Mackenzie

and F. L. Wildes brought joint suit against Rickey and Homer Wilson, charging that they were using the mine to further their personal interests. The suit asked for a restraining order, and that the company be put in the hands of a receiver, in order to protect the stockholders of the Keane Wonder as well as the stockholders and creditors of the State Bank and Trust Company. Wildes, who was the bank examiner for the state of Nevada and also the appointed receiver of the State Bank and Trust, claimed that the large stock holdings of Rickey in reality belonged to the assets of the bank, and thus should be returned to it, for division among the banks creditors and stockholders.

But in mid-November, when the case was heard, the decision was decidedly in favor of Wilson and Rickey. The complaints were ruled out of order, and the judge remarked that he "failed to see wherein a receivership would be justifiable, when the Keane Wonder company is doing business, meeting its bills and making a profit upon its operations." In reporting this decision, the Rhyolite Herald continued to extend its sympathy towards Homer Wilson, and printed his version of the complications. The Keane Wonder Company, according to Wilson, was not indebted to the State Bank and Trust company. Its only indebtedness was to Rickey, in the form of the trust deed for \$43,000, which had been extended to help cover the costs of mill construction. The complications surrounding the 975,000 shares of stock held by Rickey and Wilson were merely personal matters between Rickey and D. Mackenzie, and Wilson hoped that Ricky would resolve these soon, in order to enable those treasury shares to be returned to the control of the company. Other people, however, were not so trusting of Rickey as was Wilson, especially after the Inyo Register

printed a rumor that Rickey was selling out his real estate interests in the Reno area, and transferring his funds to Germany.¹⁹

Whatever the case, the legal complexities settled down for several months, and Wilson was able to return his attention towards production and the construction of the new cyanide plant. In early December, Wilson announced that the machinery for that plant had been assembled at Los Angeles and was being shipped. Construction, with good luck, would be completed by February 1st. The plant would have eleven tanks, including six 25-foot diameter leaching tanks, each five feet tall, two 18-by-10 foot solution tanks, two 12-by-10 foot settling tanks, and one wash water tank. Zinc boxes would also be installed, with the equivalent capacity of another tank. When completed, the plant would be able to process a minimum of 100 tons of tailings per day, although the company hoped that the capacity would reach 200 tons. With a capacity of at least 100 tons at the cyanide plant, compared with the maximum 80-ton daily capacity of the mill, the cyanide plant would spend the rest of its time processing the 20,000 tons of tailings impounded from the mill during the previous years of mill operation. Thus it would be several years before the cyanide plant ran out of work.

In the meantime, development in the mine continued apace. Although Homer Wilson rarely gave out ore reserve figures, one of his shift foreman told the Bullfrog Miner in

19. Rhyolite Herald, 14 & 28 October, 11 & 18 November, 2 December 1908. Bullfrog Miner, 17 & 31 October, 7 & 21 November 1908. Inyo Register, 12 & 19 November 1908. Rhyolite Daily Bulletin, 5 December 1908. Goldfield Chronicle quoted in Rhyolite Herald of 14 October 1908.

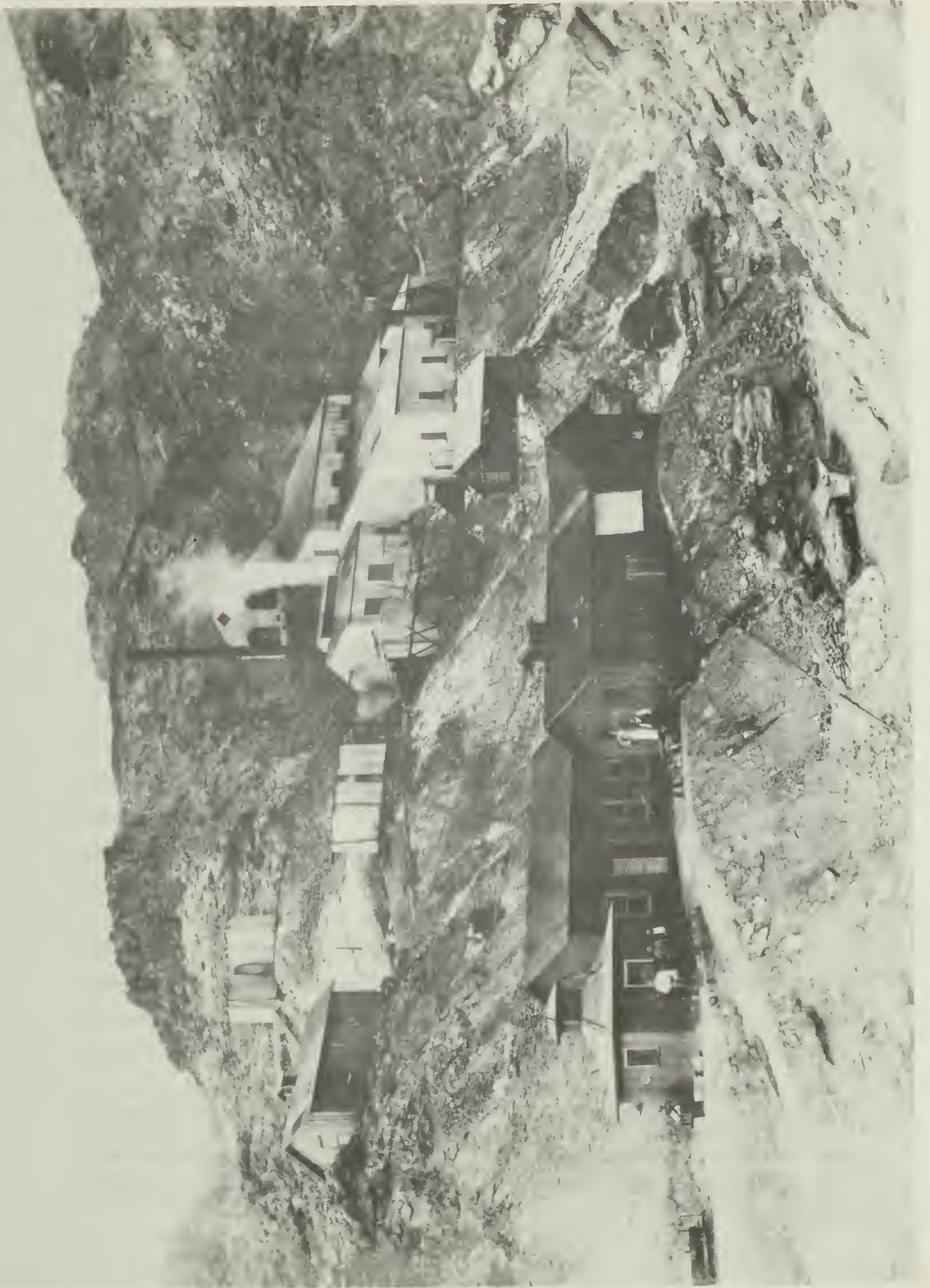
early December that the Keane Wonder mine now had a three years ore reserve in sight. Production at the mill proceeded fairly smoothly during December, despite a rare snowfall in the middle of the month, accompanied by a drop of the thermometer to 36 degrees, the lowest anyone could remember. Final production figures for that month were \$12,000, an estimate for once agreed upon between the Rhyolite Herald and the Bullfrog Miner. Total 1908 production, according to figures released by Wilson, amounted to \$140,092.37. Average monthly production, based upon Wilson's calculations, was \$11,674, which indicates that both Rhyolite newspapers had been overestimating production figures throughout the year. \$140,000 was enough, however, to mark the Keane Wonder Mine as the largest producer of gold in the county of Inyo, California, during 1908, which emphasizes its relative importance to the local economy. The Engineering & Mining Journal ironically noted that "judging by the complicated litigation over the stock of the Keane Wonder Mining Company, it out to be a good property."

With the law suits thrust to the background through the early months of 1909, the Keane Wonder mine and mill continued to grind out ore and bullion. January's production was estimated at between \$13,400 and \$15,000, and February's at \$13,000. No production estimates are available for March, but Homer Wilson announced on the 24th of that month that the mill had produced \$35,000 during the first three months of 1909. Mine development continued apace, and "though nothing of a sensational nature has been uncovered, yet the steady and consistent advancement made in the showing of mineral wealth justifies the official statement that the property never looked so good."

During this period, construction of the cyanide mill finally began. The first carload of machinery for the mill arrived in early January, and more supplies and equipment followed. By the end of February, the mill was virtually

Opposite: The Keane Wonder Mill, at the height of its activity, in March of 1909. Note the new buildings erected since 1907, especially the lower tramway terminal building, with its two distinctive horseshoe openings, above the mill. When the mill was salvaged in 1937, the tramway building was left, and today its framing timbers are the dominant feature of the Keane Wonder mill ruins.

Photo courtesy of Stanley Paher collection, copy from Death Valley National Monument Library.



completed, and test runs began. Delays in the delivery of some items of equipment, however, kept the new mill from entering full production runs until March 18th. Although Wilson admitted that it would take several months to determine the full capacity of the plant, which depended upon the always unreliable water supply, he hoped that the addition of cyanide treatment would increase the company's production by 80 percent, to around \$20,000 worth of bullion per month. With the cyanide mill in operation and the stamp mill and mine looking good, Wilson again extended open invitations to reporters and miners to visit and inspect his complex. The visitors were also invited to take a ride over the aerial tramway, "provided they assert that they are not afflicted with heart disease."²⁰

But in April, the complicated financial affairs of the Keane Wonder Company again spilled into the courts. Sometime during the early part of 1909, T. B. Rickey and D. Mackenzie, the former antagonists, had made a deal, whereby Mackenzie dropped his claims against the 975,000 shares of Keane Wonder stock. In return Mackenzie received a new joint trust deed with Rickey for nearly \$195,000. The new trust deed also replaced Rickey's older trust deed of \$43,000. The deal enabled Homer Wilson to regain control of the commanding block of Keane Wonder stock, if he could meet the interest obligations of the new trust deed.

But due to financial demands for the construction of the cyanide mill, Wilson failed to meet the interest

20. Bullfrog Miner, 5 & 19 December 1908; 2 & 23 January, 6 February, 6 & 20 March 1909. Ryolite Herald, 16 & 30 December 1908; 6 January, 10 & 24 February, 10, 17 & 24 March 1909; Pictorial Supplement, March 1909. Inyo Register, 24 December 1908. Engineering & Mining Journal, 9 January 1909, p. 120. Mining World, 30 March 1909, p. 190. Rhyolite Daily Bulletin, 1 March 1909.

payments, and Rickey and Mackenzie advertized the entire property of the Keane Wonder Company for sale in order to satisfy their demands. Earl Clemens, the publisher of the Rhyolite Herald, then entered the fray on behalf of minority stockholders of the Keane Wonder Company, asking for a restraining order on the sale of the Keane Wonder property, and also for a thorough accounting of the finances of the company. Clemens' motive was to protect the minority stockholders, who would be left holding worthless stock if the mine were sold to satisfy the trust deeds, and also to help clear up the tangled affairs of the Keane Wonder, since the continued active production of the mine was important to the prosperity of Rhyolite and the Bullfrog mining area.

Clemens' first moves were successful, for an injunction was granted by the Superior Court at San Francisco, forbidding the sale of the mine under the terms of the new trust deed until a full accounting could be produced before the court. Apparently, the judge tended to agree with Clemens that the personal indebtedness of Homer Wilson and the Homer Wilson Trust Company, which had originally promoted the Keane Wonder Mine, should be entirely separated from the legal debts of the Keane Wonder Mining Company itself. Clemens claimed that although the personal debts of Homer Wilson and his Trust Company could amount to as much as \$150,000, that the only legal debt of the Keane Wonder Company itself was the \$43,000 owed to T. B. Rickey. The picture was extremely complicated, for it was very difficult to sort out the personal and the public debts of Homer Wilson vis a vis the Homer Wilson Trust Company and the Keane Wonder Mining Company. Likewise, it was just as difficult to delineate between Thomas Rickey's personal and public debts, since he was a major stockholder of the Keane Wonder and also the former president and major stockholder of the State Bank and Trust Company. The key to the puzzle was whether the trading between

Wilson, Rickey and Mackenzie for the famous 975,000 shares of Keane Wonder stock was done by private individuals or by company officials. Clemens, at least, was certain that all the dealing had been done by the three men acting as private individuals and if the court accepted his interpretation, then the Keane Wonder Mining Company itself would emerge from the entire affair virtually debt free.

Later in April, another favorable aspect came into the picture when F. L. Wildes, receiver of the State Bank and Trust Company, entered the suit with a motion to force both Rickey and Mackenzie to return their stock to the assets of the bank, from which he said it was illegally obtained. This suit, if successful, would mean that Homer Wilson would have to return the 975,000 shares of treasury stock to Mackenzie and Rickey, which would void the new trust deed held by those men. Mackenzie and Rickey would then in turn be forced to return all that Keane Wonder stock to the bank, which would parcel it out among all the former shareholders and deposits of the failed bank. This would leave Rickey and Mackenzie with no claims upon the Keane Wonder Mine.

Although the rest of the story is not quite clear, since much of the private maneuverings and court proceedings did not reach the ears of newspaper reporters, final settlements were made in late May. Apparently the accounting requested by Earl Clemens resulted in a favorable decision for the Keane Wonder Company, and the court found that all the dealings involving the 975,000 shares of treasury stock were private contracts between individuals, for which the Keane Wonder Company could not be held responsible. As a result, bank receiver Wildes dropped his suit to obtain those shares of stock, and Homer Wilson retained them in trust for the company. Mackenzie, as a result of this suit, lost all his claims towards the Keane Wonder

stock, and Thomas Rickey's original trust deed, which was reinstated by this court decision, was paid in full by an affluent Keane Wonder stockholder. Thus it appeared that the Keane Wonder Company was free and clear of any outstanding debts. As the Rhyolite Herald happily wrote, the "honesty of Homer Wilson" had been upheld, since he had made good on his promise to protect the company's stockholders.

In the meantime, the mine and mill had kept on producing. On April 19th, Homer Wilson brought in bullion worth \$25,000, the result of one month's cleanup at the mill and new cyanide plant. The production was the largest ever in the Bullfrog region for one month, with the exception of the Montgomery-Shoshone Mill at Rhyolite. On May 19th, Wilson brought in more bullion estimated at \$18,000, the result of twenty-one days' work, as the mill pushed towards the magic figure of producing \$1,000 per day.

Other developments kept pace. A new body of ore was found in the mine on May 22d, and the long awaited ice plant was completed late that month. All the miners and millmen now had resource to free ice supplies to help alleviate the heat of summer. A new hoisting plant was ordered and when received was put to work on another shaft. The Keane Wonder Company now had a total of twelve power plants ranging in size from the 150-horsepower steam boiler and the 126-hp steam engine down to a 25-horsepower gas engine, two 13-horsepower, two 10-horsepower, two 5-horsepower, and three 2½-horsepower gas engines.²¹

As the summer progressed, it seemed that the Keane Wonder had only been awaiting the settlement of all its

21. Rhyolite Daily Bulletin, 13 & 14 April, 22 May 1909. Rhyolite Herald, 14 & 21 April, 5, 19, & 26 May, 2 June 1909. Bullfrog Miner, 24 April, 22 May 1909.

financial difficulties before making great surges forward. May's production continued to push towards the \$1,000 per day mark, as bullion worth \$22,000 was brought in, the result of a mill run of twenty-five days. The continuing water shortages had caused the mill to lay idle the remainder of the month. The payroll of the mine reflected its prosperity, as it was estimated by the Bullfrog Miner to be \$7,800 per month.

The demands for supplying the men and the mill machinery began to exceed the capabilities of the Porter brothers, who held the hauling contract, especially as the heat of summer began to take its toll on the horses. To solve this problem, one enterprising individual named J. R. Lane bought an old traction engine from the Tonopah & Tidewater Railroad and brought it up to Rhyolite. The engine was a Best Traction Engine, with 110 horsepower, and it burned crude oil. The engine was slow but powerful, and after improving the road to the mine, Lane hoped to be able to make one trip per week, carrying out up to fifty tons of supplies and equipment per trip. The Keane Wonder Company was interested and promised to buy the engine from Lane if he could demonstrate its practicality through several demonstration runs.

Then, on June 3rd, more good news came from the mine. "IMMENSE WEALTH DEVELOPED IN KEANE WONDER MINE," blared the headlines of the Rhyolite Herald. "NEW ORE BODY OF SUCH IMMENSITY THAT BIG PRODUCTION IS ASSURED FOR YEARS TO COME. MAKES THIS PROPERTY TAKE RANK AS ONE OF NEVADA'S GREATEST MINES." The mill immediately shifted over to begin milling ore from the big new discovery, which was located 150 feet below ground in a new shaft. On July 7th, Homer Wilson brought in the bullion returns from the new ore body, which totaled \$10,000 as the product of eleven days' run. A second shipment brought July's production to \$22,000, but August's

dropped slightly to \$18,000, as more and more time was lost due to water shortages intensified by the extreme heat of summer. July's payroll amounted to \$8,000, paid to forty-five men. Lane's traction engine completed its first test run on July 31st, despite the poor shape of the road, and hauled in a cargo of twelve tons. Impressed, the Keane Wonder Company began to negotiate a two-year hauling contract with Lane.

By mid-September, the traction engine had completed several more successful test runs, and the Keane Wonder Company ordered an oil storage tank for emplacement at the mill site as a refueling source for the big traction engine. The storage tank was a necessity, for when loaded the engine required over fifty gallons of fuel to make one trip to the mine. Mill returns for August were estimated at \$17,000, and the company announced that its ore reserves were still sufficient for two more years of production at the least. All of the company's property, Wilson pointed out, was still not explored.

As the fall progressed, Lane's traction engine continued to demonstrate its worth. After more test runs, the first true trip to the mill was made in late October, with four trailers hauling twenty tons of freight. The engine made the twenty-six-mile trip to the mill in $7\frac{1}{2}$ hours, and returned to Rhyolite the next day. Two trips per week were planned, which would be sufficient to satisfy the demands of the mine and mill, and also would make the enterprise profitable from Mr. Lane. Lane, in turn, was so satisfied with the prospects that he began to organize the Keane Wonder Traction Company in order to sell shares of his business. But on November 13th, the business ground to a halt, when the boiler of the engine burst while climbing over Daylight Pass.



"Old Dinah," the steam traction engine purchased by J. R. Lane in 1909 to haul supplies in to the Keane Wonder complex. The engine is here pictured ca. 1898, hauling borax.

Photo courtesy Western Regional Office, NPS.

Below: "Old Dinah," as she appears today, resting outside Furnace Creek Ranch, minus her boiler.

1978 photo by John Latschar.



Lane blamed the accident on the age of the machinery and the poor quality of water which he was forced to use, and left for California to purchase a new gasoline engine to install in the tractor. But apparently his resources were not adequate to the task, and the traction engine was not again used. The engine stood idle on Daylight Pass for many years, until two employees of the Pacific Coast Borax Company hauled it from Daylight Pass to Furnace Creek Ranch in 1932.

In the meantime, the mine and mill continued to produce. October's gold production reached \$20,000, and ten more miners were added to the work force in early November. New strikes, although not as big as the summer's discovery, were found in the mine, which maintained the company's ore reserves. Minor accidents shut down the cyanide plant for a week, but such interruptions were not unusual for a desert mining operation, and production continued. November's output was estimated at between \$24,000 and \$25,000, the second largest amount produced in a month since the mill had begun operations in 1907. December's yield was somewhat smaller, being \$20,000, due to water pipes which froze and broke. The Keane Wonder's total production for 1909 was announced by Wilson to be \$220,000, nearly double the previous year, and the average monthly output was \$18,333.

The success of the mine and mill was largely due to the very efficient methods used to extract and process the ore. The costs of mining were only two dollars per ton, mostly due to the ease of stoping directly from the side of the mountain. Milling costs, for both the stamp mill and the cyanide plant, were calculated at \$3.10 per ton. When the costs of fuel, transportation and supplies were added up, total production costs at the Keane Wonder mine and mill were about \$10 per ton, indicating that the company could make a profit upon any ore assaying above \$10 to

the ton. On November 27, 1909, Homer Wilson reported that since the mill had opened in 1907, it had treated 25,000 tons of ore, with an average value of \$12 per ton, and that the mill and cyanide plant had extracted 94 percent of the ore content. Based upon Wilson's figures, the total net profit for over two years of production at the Keane Wonder was about \$47,000.

With the mine and mill looking very successful, and with the financial complications finally resolved, investors once again began to buy the limited amounts of Keane Wonder stock which found their way to the trading boards. Stock which had fallen as low as 9¢ per share when it appeared that the mine would be sold to satisfy the trust deeds had risen to 25¢ by the middle of December and to 30¢ by the end of 1909.²²

As the Keane Wonder Mill began its third year of operation in 1910, conditions remained optimistic. In early February the company applied for United States' patents for twenty-seven of its claims, totaling over 413 acres of land. February bullion returns were \$20,000, and for the first time the mill reached the magical figure of \$1,000 production per day, as only twenty days' run was possible that month, due to water freeze-ups. March's production was even better, as the mill turned out \$25,000, and April's was again over \$20,000. After Homer Wilson made several trips to Los Angeles, the Rhyolite Herald discovered more about the financial settlements which had been made the previous year. As the dust settled, it appeared that the Keane Wonder Company did indeed owe money to the receiver of the

22. Rhyolite Herald, 23 June, 7 & 31 July, 14 August, 2, 23 & 30 October, 13, 20 & 27 November, 18 & 25 December 1909; 8 January, 12 & 26 February 1910. Bullfrog Miner, 12 & 19 June, 10 & 31 July, 14 August, 4 & 17 September 1909.

State Bank and Trust Company. But the debt was being paid off steadily, and the Herald concluded that the Keane Wonder would soon be out of debt.

May's production figures were somewhat less than \$20,000, and no figures were given out for June. The mine and mill, though, continued to operate through the hot summer months. The Tadich brothers of Rhyolite, who had established a general store at the mine and another one at the mill site, reported continued good business. The high number of miners employed by the company resulted in one of their number being chosen as a delegate to the Inyo County Democratic convention in August, and the Keane Wonder boarding house was listed as a polling place for Inyo County during the general elections the following fall. On September 1st, 1910, seventy-five men were employed at the mine and mill.

In September, the company announced that the water supply had finally been improved enough to support the mill full time. This was due to the clearing out of several stoping areas, which enabled the company to pump more underground water than before. In addition, Homer Wilson purchased and installed a 75-horsepower steam engine and compressor to drive a new set of machine drills. This soon resulted in a short-lived labor dispute, as twenty-four miners quit in a protest against the cut-back in jobs brought about by automation. The Keane Wonder Company, however, had no trouble in replacing the striking miners, especially since the majority of mines around the Rhyolite area were dead or dying by the fall of 1910, and unemployed miners were easy to find.

In the meantime the bullion shipments continued. By now the arrival of bullion from the Keane Wonder was no longer a striking news item, and the Rhyolite papers

printed bullion estimates only sporadically. August's returns were reported to be "about usual," and October's was merely assessed as "large." November's shipment was estimated at \$20,000, which was said to be close to the average monthly yield throughout 1910. Although no accurate production estimates are available for 1910--one paper reported \$350,000 for the year, which is obviously much too high--the Keane Wonder mine once again was listed as the largest producing gold mine in Inyo County, California.²³

The Keane Wonder entered 1911 as one of the only two surviving and producing mines of the Bullfrog region, and ended the year as the only one, for the big Montgomery-Shoshone Mill shut down in May. Thus the Keane Wonder, which had preceded the great Bullfrog rush, had succeeded in outliving the rise and fall of Rhyolite and the Bullfrog boom. As the sole surviving paper in the Bullfrog District in 1911, the Rhyolite Herald continued to cover the Keane Wonder Mine, but as the paper shrank from the twelve-page spread of balmy days to four pages, half filled with canned material, coverage of the Keane Wonder grew sparser.

Still, we do know that Homer Wilson reported average bullion yields of \$18,000 to \$20,000 during January, February and March of 1911, and that on April 15th he stated that "General conditions at the Keane Wonder mine are the best in the history of the property." The mill processed about 75 tons per day during that time, near its peak capacity of 80 tons, but profits were not large, since the overhead was high. The air compressor

23. Rhyolite Herald, 5 February, 5 March, 9 & 23 April, 7 May, 4 & 11 June, 23 July, 10 September, 1 & 29 October, 17 December 1910. Inyo Register, 11 August, 20 October 1910. Mining World, 21 January 1911, p. 152.

and other equipment installed late in 1910 had cost the company \$20,000, and the expense of hauling fuel oil and distillate was the company's heaviest fixed expense. Still, said Wilson, the "Keane Wonder will be a notable little producer for many years to come."

For a few months during the summer of 1911, George Wingfield, the famous Goldfield mining promoter and politician, held an option to purchase the Keane Wonder property, but the option was allowed to expire. Although no one knew for sure, the Rhyolite Herald speculated that Wingfield had been discouraged due to the manner in which the stock in the company was dispersed. He probably was not discouraged by the output of the mine, for production figures soared during that summer. April's cleanup netted the company \$25,000 and May's totalled an estimated \$22,600. Then, during the first two weeks of June, the Keane Wonder broke all its previous records, producing nearly \$30,000 during a 15 day run, or almost \$2,000 per day. Total production for June was estimated at almost \$50,000.

The mill was disabled for a week in July when a cylinder head was blown, but it was soon fixed and running again, and on August 5th the Rhyolite Herald quite properly called the property the "King of the Desert." Privately and quietly, the paper reported, "Keane Wonder stock is increasing in demand and value." Production figures were not listed for the fall months of 1911, although the papers inferred that the monthly averages were around \$30,000. The force of miners was maintained, and the Porter brothers found themselves unable to satisfy the supply demands of the company, so another hauling contract was let. Once again, the number of miners employed at the property was sufficient for the Keane Wonder office building to be designated as a polling place for the Inyo County general election.

In October of 1911, the estate of the Keane Wonder was greatly increased by the purchase of the Big Bell property, situated to the north, between the Keane Wonder and Chloride Cliff. The Big Bell Mine, which had fallen into bankruptcy, was sold at auction by the receiver of the First National Bank at Rhyolite, for the bank had also closed, and Homer Wilson purchased its claims for a mere \$1,600. A force of miners was soon dispatched to the property for exploration work.

October's production run was estimated at \$30,000, which was said to be slightly less than September's, and November's was estimated again at \$30,000. No final production estimates for 1911 were listed by the Rhyolite newspaper, although the averages mentioned throughout that year by the Herald would total to about \$326,000 for the year, if valid. The Herald's natural tendency to exaggerate is emphasized by a 1938 report in the California Journal of Mines and Geology, wherein 1911's production was conservatively estimated at \$161,000. The true figures are probably somewhere in between those two estimates, and only Homer Wilson knew what they were. The totals were enough, however, for the Keane Wonder to tie with the Skidoo Mine, on the west side of Death Valley, as the leading gold producers of Inyo County in 1911, the fourth year in a row wherein the Keane Wonder had appeared at the top of the list.²⁴

The mine and mill continued production in 1912, but the end was beginning to come into sight. The Rhyolite Herald

24. Rhyolite Herald, 15 April, 13 & 20 May, 3 & 24 June, 1, 8 & 15 July, 5 & 12 August, 2, 16 & 30 September, 21 & 28 October, 11 November 1911; 6 January 1912. Inyo Register, 25 May, 28 September 1911; 8 February 1912. Mining World, 27 January 1912, p. 207. California Journal of Mines & Geology, October 1938, pp. 402-03.

reported in January that the mine had only three months of ore reserves in sight, and development work was being pushed on the unworked claims of the company, some of which had never been explored since the early days of 1905. Ore was discovered on one claim, the Whipsaw, and the company began to shift operations around the ridge towards it. Surface tramway tracks were laid to take the Whipsaw ore to the upper aerial tramway terminal. In addition, development work was continued on the Big Bell claims, purchased by Wilson the previous year.

In late January the cyanide plant was temporarily shut down, as it had finally finished processing all the accumulated tailings which had been collected before the construction of the plant. The cyanide works would be idle, said Wilson, until another such accumulation had been gathered, since it was not economical to run it on a part time basis. In the meantime, the 20-stamp mill kept on crushing ore, at such a rate that another freight team was started between Rhyolite and the mill to supply the engines with oil. January's production once again reached an estimated \$30,000 worth of bullion, and February's almost reached that figure. Fifteen thousand dollars of that sum was reported to be pure profit for the company.

Then, on February 24th, disaster struck. The mile-long cable of the aerial tramway snapped and several ore buckets fell into the ravines below. All work on the mine and mill had to be stopped while the old cable was taken down and a new one restrung and the ore buckets placed back on line. The new cable weighed 26,000 pounds, and cost \$7,280. Railroad freight to get the cable to Rhyolite amounted to \$780, with additional wagon freight charges of \$350 just to haul it from Rhyolite to the mine. Total costs and delays set back the Keane Wonder Company almost \$10,000 before the tramway was again operating in late March.

In the meantime, the Keane Wonder Company received its patent for twenty-eight claims, which constituted "the largest territory comprised in one title that has been issued by the land department for many years." With the new patent on hand and the cable restrung, the mine and mill began running again at full capacity, and the Rhyolite Herald was fulsome in its praise for Homer Wilson, who had operated the Keane Wonder for so long. "Mr. Homer Wilson is entitled to all the credit, and for having struggled against adverse conditions for several years, never losing faith in the property, but steadily forging ahead and overcoming difficulties, and now his efforts are being crowned with deserved success." The accolades seemed warranted. As an example of Wilson's economical management, he had used the down time caused by the cable misfortune to rework and retool all the machinery in both mine and mill.

With the mine and mill running at full capacity again, but with the ore reserves dropping rapidly, the Keane Wonder Company began to think of selling its property. T. B. Rickey, who still held a large interest in the company, negotiated with a group of Philadelphia capitalists in early April, and the sale was made towards the end of that month. The purchase price was reported to be \$600,000. Half the payment was made immediately, and all the company's stock, together with the resignations of all its officers and directors, were placed in escrow until the second half of the payment was made on or before May 5, 1912. According to the agreement, Homer Wilson would stay on the property as supervisor while the new owners investigated the feasibility of several capital improvements, such as the addition of twenty more stamps to the mill and the conversion from oil to electric power. Once these improvements were made, Wilson was to turn over the property and end his long association with the Keane Wonder. As the news of the sale and the anticipated infusion of new capital into

the mine was spread, a corresponding rise in the price of Keane Wonder stock was recorded on the trading boards, rising from 16¢ to 35¢ in a few days.

As May turned into June, no improvements were made, although the mine and mill continued to operate. Homer Wilson was forced to leave the mine for a month, to attend his sick daughter in San Francisco, thus delaying the expansion plans. But upon his return in late June he assured the Rhyolite Herald that plans were being perfected, and that the improvements at the Keane Wonder would soon take place. In the meantime, production continued. May's bullion returns were said to be satisfactory, although no figures were given, and June's was reported as slightly smaller than May's.

Then, on August 22d, the end came. As the Inyo Register blazed in its headlines, "NOTED MINE'S DAYS OVER. KEANE WONDER HAS WORKED OUT ITS ORE BODIES." The Keane Wonder mine and mill, after running successfully since November of 1907, had finally shut down. The paper reported that the operations had been closed for an indefinite period, "and doubt is expressed whether it will ever resume production. It is said that for some time past the operations of the company have failed to yield a profit, and that development of the Whipsaw claim have not been successful." The final cleanup had been made, which netted \$10,000, and the ore pillars had been broken down, to save their contents. This was a sad sign, for with the removal of the ore pillars from areas which had been stoped so long, large portions of the underground workings of the mine complex would soon collapse. The Keane Wonder, said the paper, had exhausted all the ore in sight, and had no prospects of finding any more.

Four men were retained from the large work force to treat the remaining tailings in the cyanide plant, and

Wilson said that when cooler weather returned in the fall that development and exploration work would be done under contract, in the hopes of finding new deposits. "The news of the suspension of operations comes as a great surprise to mining men here," wrote the Inyo Register, "as reports from the property have been highly encouraging for a long time past." Remembering the past dealings of Rickey, the paper went on to accuse him of dumping a gutted mine upon a group of poor dimwitted Philadelphia capitalists. "Persons who have taken an interest in the matter declare that some one has been 'handed a lemon' and that Thomas B. Rickey is not that individual but more probably the one who disposed of the fruit." It is doubtful, however, if the paper's suspicions were true. The Rhyolite Herald had stated several months earlier that the known ore reserves of the mine consisted only of three months' supply. Such a published report would have been impossible to keep from the eyes of any businessman who knew what he was doing. In addition, the subsequent actions of the new Philadelphia owners, who retained the services of Homer Wilson, quite decidedly indicate that they did not feel deceived when their new mine shut down.²⁵

The first segment of the Keane Wonder's history had ended. The mine, which had first been located in 1904, had been consistently worked for over eight years, and the mill had steadily produced gold bullion from November of 1907 to August of 1912, longer than any other mill in the surrounding Bullfrog territory, or any mill on the east side of Death Valley. Final production figures for these years are necessarily unreliable, but

25. Rhyolite Herald, 27 January, 10 & 24 February, 9, 16 & 23 March, 6, 13 & 27 April, 18 & 25 May, 1, 8 & 22 June 1912. Happily, the Rhyolite Herald did not survive to see the closure of the Keane Wonder Mine, for the Herald had itself closed on June 22, 1912. Mining World, 24 February 1912, p. 471. Inyo Register, 25 April, 22 August 1912.

can be estimated. The mill probably produced about \$75,000 in 1912, which when coupled with the California Journal of Mines and Geology's conservative estimate of \$682,000 for the years 1907-1911, would bring total production to at least \$750,000.

But although the major period of production at the Keane Wonder was over, the mine and mill were not yet finished. Unfortunately, the subsequent history of the property is much less recorded, for the death of Rhyolite and its newspapers leaves us without the weekly coverage of the early years. In addition, as the Keane Wonder became less important to the economy of Inyo County, its newspapers concerned themselves less and less with the several subsequent attempts to revive the mine. Thus our information becomes rather sketchy.

We do know, however, that the first attempt to revive the mine came less than a year after it had closed down, in June of 1913. At that time, the new owners of the Keane Wonder held a meeting in Philadelphia, and a new board of directors was elected. Reports released to the Inyo newspapers indicated that the new company was in relatively good financial condition, and that the company had some new ore blocked out in the mine. In a rather confusing statement, Homer Wilson, who had been elected president of the Philadelphia company, stated that the mine had over 3,000 tons of ore blocked out, and that ten stamps and cyanide equipment would be added to the mill.

In July of 1913, another mining journal stated that the new management had perfected a plan to put in ten additional stamps and other equipment. Foundations were in place and installation of the machinery was about to start. In addition, a new shaft was being sunk on the property. We then hear nothing of the mine until January of 1914, when Homer Wilson told the Inyo Register that a new water supply had been developed. The

capacity of the stamp mill was still given as 80 tons per day, however, which indicates that no new stamps had been added. But the mill was evidently active, from the tenor of Wilson's statements, for he claimed that the Keane Wonder had produced over \$1,000,000 through the end of 1913. Then, the case of the State Bank and Trust Company reared its head, as the newspapers reported in February of 1914 that the Keane Wonder was still paying off its debt to the receiver of the bank. Evidently the mill was running, in order to produce the bullion to make those payments.

If it was operating, profits evidently were not very large, for the Keane Wonder Company failed to pay \$503.23 in taxes to the Inyo County Treasurer in June of 1914. Then, evidently the mill again shut down, for the company was forced to quit making payments to the State bank. As a result, the Keane Wonder mine and mill was sold at a sheriff's auction in about November of 1914, in order to satisfy the debt due to the bank. The purchaser of the property was the Francis Mohawk Mining Company, whose president, D. Mackenzie, had been one of the original litigants in the 1908-1909 suits revolving around the ownership of Keane Wonder stock. Homer Wilson, as usual, landed on his feet, and was named as superintendent of the mine and mill by its new owners, and the Francis Mohawk Company began to operate the complex once again. The new owners had a distinct advantage over their predecessors, for they were operating without any debts hanging over the company. To a mining concern operating on the fringe of profitability, as the Keane Wonder now was, this was important. The new owners, this time, made improvements to the property, chiefly an addition to the cyanide plant, which brought its capacity up to 300 tons per day.

Production runs at the Keane Wonder began again in earnest in the fall of 1915, as well as development work on some of the unexplored claims of the company. A new

superintendent was appointed at that time, as Homer Wilson finally ended his long identification with the Keane Wonder mine. The new ore bodies lasted only about six months, however, for the mill was again closed in May of 1916. The cyanide plant continued to run through July of that year before exhausting the tailings piles, after which the entire Keane Wonder complex lay quiet. The Francis Mohawk Company announced in July that a new reorganization was under way, and that endeavors would soon be made to open a large tonnage of ore which they believed to lie beneath the present workings. But the new plans were never carried through, and in 1917 the mine was still reported to be idle, and the company was still reported to be considering reorganization plans. The California State Mineralogist, in 1917, reported that all the known ore bodies were worked out, and estimated that the mine and mill had produced a total of \$1,100,000 in gold bullion through the end of 1916. If his figures are accurate, total production between 1912 and 1916, when the mill was operated sporadically, amounted to about \$87,500 per year.²⁶

After the revival efforts at the Keane Wonder failed in 1916, the mine and mill lay idle for many years. Edna Perkins, one of the very few writers of western lore who can be trusted, visited the complex in 1922. She described the mill site as a mass of deteriorating buildings, half blown down, with broken water pipes and other debris scattered around the area. The superintendent's house, she wrote, was obviously a fine residence at one time, but she and her companions preferred to sleep outside.

26. Inyo Register, 5 June 1913; 1 & 29 January, 19 February, 4 June 1914; 25 November 1915. Mining World, 12 July 1913, p. 74; 2 January 1915, p. 34; 13 November 1915, p. 786; 27 November 1915; p. 868; 18 December 1915, p. 990; 5 February 1916, p. 296; 29 July 1916, p. 205. 15th Report of the California State Mineralogist, December 1917, p. 79. California Journal of Mines & Geology, October 1938, pp. 402-03.

The large boarding house was almost completely ruined. The mill building, however, was still in relatively good shape, as it was locked and guarded. The watchman was John Cyty, who had been identified with the Funeral Range area ever since the Bullfrog boom, and he kindly unlocked the mill building for them and showed them an extensive array of machinery still intact inside.

The Keane Wonder mine and mill lay idle through the rest of the 1920s and the first half of the 1930s. W. R. McCrea of Beatty, who owned the Chloride Cliff Mine, tested the old tailings of the Keane Wonder mill in 1930, but he decided that their contents were not valuable enough to reprocess. Then, in 1935, the Keane Wonder complex underwent another attempt at revival.

During 1935 and 1936 the Coen Company bought and leased mining rights to the Keane Wonder and Big Bell mines, and carried out several testing programs. Most of the work was done on the Big Bell claims, but the company did employ eight men for some time in reworking the old mill tailings of the Keane Wonder by cyanide. Since the old Keane Wonder tramway was described as being deteriorated beyond repair, the company established its camp at the Big Bell site, which was its center of operations. The operations at the Big Bell were successful for several years, but no attempt was made to reopen the Keane Wonder Mine, beyond the reprocessing of the mill tailings. By November of 1937 the Coen Company had ceased operations, and the Keane Wonder mill and its contents were sold to George Ishmael, who dismantled the old stamps and hauled them to Los Angeles. Thus ended the proud history of the Keane Wonder Mill, for with the exception of the heavy foundation timbers of the tramway terminals, almost all the mill complex was salvaged.



View of the Keane Wonder Mill area, circa 1938. The lower tramway terminal building is standing in the upper left of the picture, just behind the smokestack, but the mill building itself has been torn down and salvaged. In the fireground are several buildings and tanks of the cyanide plant, showing the deterioration of two decades of neglect.

Photo courtesy of Death Valley National Monument Library, #8633, with credit to Stovepipe Wells Hotel, which misdated the photo as circa 1908.

In 1938, the Keane Wonder Mine was sold to E. L. Cord, the automobile manufacturer, who in turn leased it to two Denver miners, W. D. Leonard and George Schriber. In April of 1940, the Mining Journal reported that five men were employed at the mine in reconditioning the machinery and repairing the camp buildings in preparation for active development work. The aerial tramway was refurbished that fall, and preparations were made by ten employees to put in a new mill on the site of the old one. Camps were erected at both the mine and the mill site. By June of 1941 a new 150-ton mill was under construction and it was nearly completed by July. But the new mining effort was short-lived, for the operation was closed down in March of 1942, when all the machinery, with the exception of the new aerial tramway, was hauled away to another site.

From 1942 to the present, the Keane Wonder Mine has been idle. E. L. Cord held title to the estate until 1969, when it was sold to the Title Insurance and Trust Company of Los Angeles for \$25,000. The Title Insurance Company, in turn, sold the property to the National Park Service in the early 1970s.

Total production at the Keane Wonder mine and mill has been estimated by several different sources at \$1,100,000. Of this figure, most agree that between \$625,000 and \$682,000 was produced in the years between 1907 and 1911, during the greatest years of prosperity for the Keane Wonder Mining Company.²⁷

27. Edna Perkins, White Heart of the Mojave, p. 101. 22d Report of the California State Mineralogist, October 1926, p. 470. Mining Journal, 30 August 1930, p. 36; 30 April 1940, p. 20; 30 September 1940, p. 22; 15 June 1941, p. 22; 30 March 1942, p. 21. M. J. Brown, Mining Activities in Central and Southern Nevada, p. 8. Coen correspondence, June 1935 to November 1937, Death Valley National Monument, Mining Office Files. T. B. Nolan, "Nonferrous-metal Deposits," USGS Bulletin #871 (1936), p. 36.

b. Present Status, Evaluation and Recommendations

There can be no doubt that the Keane Wonder mine and mill complex should be put on the National Register. The Keane Wonder Mine represents one of the two largest producing gold mines within the vicinity of Death Valley National Monument (the other being the Skidoo), and in addition represents the longest running gold mine of the entire Bullfrog boom region. In a sense, the Keane Wonder can be given part of the credit for starting the great Bullfrog boom, since it was Domingo Etcharren's and Jack Keane's discovery that drew "Shorty" Harris and Ed Cross to that particular area. With a production of over \$1,000,000, the Keane Wonder was vitally important to the local economy of both Nye County, Nevada, and Inyo County, California, during the gold boom days of the early nineteen hundreds. In addition, the Keane Wonder mine and mill had several unique features, rarely found elsewhere, such as its mile-long aerial tramway. Although the mill itself is no longer standing, the Keane Wonder complex includes numerous structures and ruins which should be preserved and interpreted.

At the mine itself, located high up the slope of the Funeral Mountains above the mill site, extensive structures remain. It is not hard to look at the mine complex and realize that the entire area was continuously mined for a number of years. The side of the mountain is completely pitted with adits and stoped areas, and in places an entire section of the mountain has collapsed

Inyo Independent, 18 March 1938; 17 May 1940; 20 June, 25 July 1941. California Journal of Mines & Geology, October 1938, pp. 402-03; July-October 1957, p. 481. Desert Magazine, May 1942, pp. 5-7. Memorandum, Superintendent of Death Valley National Monument to Director, National Park Service, 6 April 1960. David Jones, "Appraisal of Mineral Interest Inherent in the Keane Wonder Patented Mining Property," National Park Service, April 1971.



**KEANE WONDER COMPLEX
DEATH VALLEY NATIONAL MONUMENT**

into the underground workings below. Several tent platforms dot the area, as well as a couple of rock-walled living quarters, and a collapsed wooden building. A water tank is perched high on the hillside, and two concrete hoisting foundations are below, one of which still has an engine, a cable spool, and hoisting mechanisms attached.

The upper tramway terminal is quite impressive. The structure is approximately thirty by sixty feet in size, and is composed of very heavy timbers, which were originally the foundation and framing timbers for the terminal. Although most of the covering material is gone, it is still quite easy to see how the terminal operated. Wire cables run in and out of the terminal, upon which the ore buckets rode. When the buckets entered the terminal, they were guided by an iron track, which carried them in and around to the ore bin, where they were automatically loaded. The ore buckets then continued around on the cable, back out the terminal and down the mountain. The gearing and other mechanisms are still visible, as well as a small electric motor, added in later years. An ore chute leads down into the ore bin, which stands just next to and above the upper terminal.

The tramway line is in fairly good shape, and as best can be determined, the 1940 reconstruction of it did not greatly alter its original configuration. Twelve of the towers are still standing, although the one nearest the upper terminal has collapsed. (It has collapsed since 1975 and should be restored immediately.) All the terminal towers have a base measuring twelve feet to a side, and some rise to thirty feet in the air. The heavy framing timbers of the towers are bolted directly into the rock, or into concrete foundations laid on the rock. The two main support cables of the tramway are still strung from the upper to the lower terminal, but the bucket cables have fallen to the ground between most of the towers. On the few sections where the bucket cables are still in place, ore buckets can still be seen hanging from the line.



Upper tramway terminal and ore bin, from below. Note strings of bucket cables and support cables lying below the terminal. The pipeline leading above the terminal towards the dumps in the upper left corner is also visible.

Below: The upper terminal and ore bin from above. The main support cables can be traced from the terminal down to a tramway tower on the edge of a ridge. Halfway between is the platform for the first cable tower, which has collapsed. The main trail from the mine to the mill is in the upper right corner of the picture.

1978 photos by John Latschar.





Close up of the ore bin (right) and the upper tramway terminal (center). Close examination will reveal the path of the ore buckets, which entered at the left front and traveled around to the ore bin and back out of the right front. Much of the gearing mechanism which operated the automatic loading facility is still visible.

Below: Remnants of one of the hoisting plants at the mine area, showing a cable spool at the right, the cable reel in front, and the engine in the rear. The pipeline leading up towards the top of a dump is clearly visible.

1978 photos by John Latschar.



The trail from the mine to the mill, cut during the construction of the tramway in 1907, is in very good condition. The main trail is clearly evident and easily walked, and branch trails can be seen leading to each of the tramway towers. Sections of a two-inch pipe line can be seen along much of the trail, including periodic expansion joints.

The lower tramway terminal, on the edge of the Death Valley wash, is equally impressive. This structure is about twenty-five by seventy feet in dimension, and like the upper is built of heavy and solid timbers. All the supporting mechanisms at the lower terminal have been salvaged since it was much easier to do so here than at the upper. The area below the terminal, where the original mill stood, has nothing left beyond a series of concrete foundations, water and fuel tanks, the ruins of several wooden structures and a series of leveled areas, upon which the original floors of the mill stood. Close to the mill site is the ruins of a twenty-five by forty foot frame building, which has completely collapsed. After viewing the mine and upper terminal area, the lower complex is a disappointment, for the upper looks relatively intact, but the lower bears the marks of years of salvage and souvenir hunters.

The cyanide plant is almost totally destroyed. The only remnants of this sprawling structure are the ruins or outlines of half a dozen tanks scattered over a wide area of heavily eroded mill tailings. Several level tent or building sites mark the area, and the ruins of another pipe line can be followed northwest towards a spring.

In summary, the remnants at the Keane Wonder mine and mill site are extensive, and offer the Monument an unusual opportunity to interpret the story of desert gold mining in the early twentieth century. At present, this story is not being told.

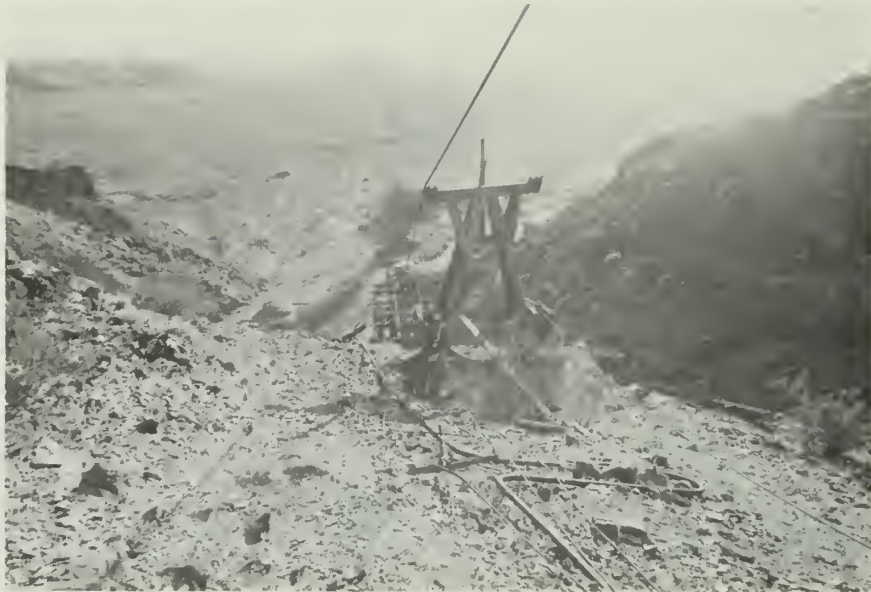


Close up of a terminal tower, showing details of construction. The main support cables, upon which the buckets rode, are still in place, but the bucket cables, which pulled the buckets along, can be seen dangling from the tower.

Below: View from the same tower, looking up the mountainside, showing the relative distance between towers. The Keane Wonder Mine is located below the farthest distant rounded mountaintop, above the towers barely visible in the distance.

1978 photos by John Latschar.



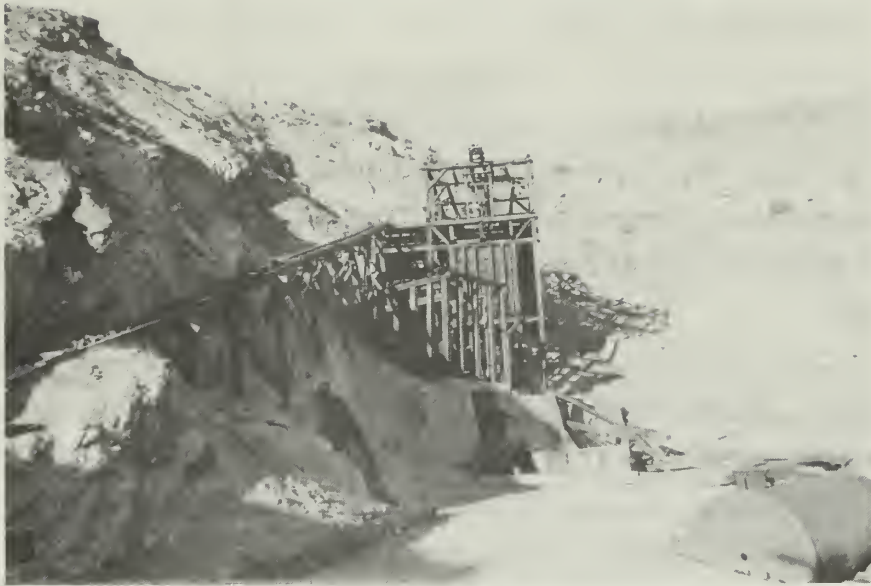


View of the #1 tower, looking down upon the lower tramway terminal, with Death Valley in the background. Again, note the bucket cables lying on the ground, next to the pipe line, with one of its expansion joints.

Below: View of the lower terminal and mill complex from above. The step-like graded levels to the left of the lower terminal were the floors of the original mill, which no longer exists. Some of the foundations, and a fuel tank, may still be seen. At the top right of the picture, beyond the water tank and telephone pole, is the area of the former cyanide plant, now marked only by eroded tailings and tank remnants.

1978 photos by John Latschar.





A closer view of the lower tramway terminal, from below. Some of the foundations, walls, and other remnants of the mill complex can be more clearly seen.

Below: A typical view of a portion of the former cyanide mill complex, showing tailings and the ruins of several tanks.

1978 photos by John Latschar.



The mill complex is easily reached from the Monument headquarters via a passenger car road, and the mine can be reached by an energetic hike up the excellent trail. Unfortunately, few park visitors realize that the mine and mill exist, and fewer still know anything about it. With the expenditure of a relatively small sum, this complex can become a major tourist attraction, and also a major point of historic education.

In the meantime, the mine and mill sites need protection. Stabilization of the tramway should be undertaken immediately, and the area should be protected and patrolled to protect it against vandalism and theft. Extreme care should be shown by the Monument when the mine and mill sites are readied for visitor use, particularly when the site is cleaned up. Although there is a degree of modern trash around the Keane Wonder site, most of the debris on the ground is of a decidedly historic nature, and only a trained professional, on the ground, should be allowed to make the key decisions regarding the dispositions of the Keane Wonder mine, mill, and tramway complexes.

4. Johnnie Cyty and the Big Bell Mine

a. History

1. Big Bell Mine

One of the more colorful participants in the South Bullfrog District mining boom of the early nineteenth hundreds was a man named Johnnie Cyty, also known as "Johnnie-Behind-the-Gat," for his fondness of resorting to his machine pistol to solve various difficulties. Cyty had been prospecting and mining for several years before his arrival in the Funeral range, and had lived for a time at the raw mining camp of Bodie, California. Following his stay there, Cyty found and developed a small mine in Snow Canyon, west of Death Valley, and for a few months produced bullion at a small mill which he built. But in the summer of 1904, the lure of the new strike at the Keane Wonder caused Cyty to abandon his Snow Canyon mine and to join the wave of prospectors combing the hills around the Keane Wonder.

With a partner named Mike Sullivan, Cyty left Ballarat, California on June 1st and headed towards the Keane Wonder country. Within two weeks the two men had located ten claims on the west slope of the Funeral Mountains, approximately half-way between the Keane Wonder and the old Chloride Cliff mines. Before another month was out, Sullivan and Cyty had optioned their brand new strikes to a Mr. Gaylord for a down payment of \$25,000 and an option to purchase for \$250,000. Although the details of the arrangement were not recorded, it seems apparent that Gaylord had one year to develop the mine, before his option to purchase it expired.²⁸

28. Inyo Independent, 5 February, 1 April, 3, 17 & 24 June, 8 July 1904. Inyo Register, 30 June, 4 August 1904.

Gaylord never did much work on the Big Bell Mine, as it came to be called. During the year of his option, no mention of either the man or the mine can be found. For whatever reasons, Gaylord was either unable or undesirous of exercising his purchase option, and the original locators regained control of the Big Bell in September of 1905. But Sullivan and Cyty did not work the prospect either, for in early November the mine was again bonded, this time to Walter O'Brien of Goldfield. O'Brien, said the Rhyolite Herald, "was one of the lucky fellows at Goldfield, where many snug fortunes have been and are being made, and he is now turning his attention to the more remote [regions] with the hopes of opening another bonanza."

Under O'Brien, the Big Bell Mine finally began to undergo development. By mid-November, O'Brien had organized and incorporated the Death Valley Big Bell Mining Company, and had sold several thousand dollars worth of stock in San Francisco, at 25¢ each. The stock sales were obviously made on the basis of the Big Bell's proximity to the Keane Wonder Mine, for the southern most claim of the former came to within 330 feet of the northern end line of the Keane Wonder property. O'Brien announced plans to put six men to work immediately, and talked of building a mill in the near future, complete with a 1½ mile tramway to carry ore from the mine to the proposed mill site. "The consumation of the . . . deal is believed to mean a fortune for Mr. O'Brien," reported the Herald.

During the remainder of 1905, O'Brien started hauling supplies to the mine site, and work began. Tunnels were started, and a camp was established. By the end of the year, O'Brien estimated that the company had 30,000 tons of

ore beneath the ground, and with water only two miles away, prospects looked good.²⁹

During the first half of 1906, work on the Big Bell proceeded smoothly, as O'Brien energetically exercised his option rights to develop the mine. Rich specimens of ore were brought into Rhyolite, some assaying as high as \$60 to the ton, most of which came from the ground located nearest to the Keane Wonder property. Playing upon the proximity of the two mines, the Rhyolite Herald ran headlines such as "BIG BELLE IS A WONDER," and reported that O'Brien had left for the east coast, in order to arrange for additional financing for the erection of a mill.

In the meantime, Johnnie Cyty, in partnership with L. D. Porter of Rhyolite, began work on some claims north of the Big Bell, which they inevitably called the Big Bell Extension. Two men were employed on this property, and a shaft was sunk in hopes of catching the Big Bell ore leads. During the spring and summer months, the efforts were successful, and Cyty in turn brought in ore specimens for display in Rhyolite.

But as September approached, and O'Brien's option year on the Big Bell mine drew to a close, he and Cyty were unable to reach an agreement regarding the eventual purchase of the mine. Cyty, who was nobody's fool, obtained the legal assistance of Senator William Stewart to look after his interests, and after several months of negotiations, a new company was formed. O'Brien was essentially frozen out of the new Big Bell Company, as two prominent Rhyolite merchants, L. D. Porter and

29. Rhyolite Herald, 22 September, 3, 17 & 24 November, 1 & 22 December 1905. Inyo Independent, 3 November 1905. Inyo Register, 23 November 1905.

Death Valley Big Bell Mining Company

Offers an allotment of 10,000 shares of treasury stock

At 25 cents a Share

OFFICERS and DIRECTORS:

President and Treasurer,	F. H. Stickney
Vice President,	H. D. Porter
Secretary,	J. R. McCormick
Additional Directors: J. E. Busch, John Cnty and T. T. Kelly.	

BUY SHARES IN ONE OF THE LARGEST ORE BODIES IN THIS SECTION

The company owns the Big Bell group absolutely. The treasury reserve is large, the promotion stock pooled, the directorate conservative. A force of men are at work on the property. We maintain that it is only a question of development to place the Big Bell in the dividend paying list, because the ore is there. We invite correspondence. A visit to the property will convince the most skeptical of the truth of our assertions. :: :: :: :: ::

Stock will be reserved in the order in which subscriptions are received

Address all communications and make remittances payable to

J. R. McCormick
Secretary

RHYOLITE,

NEVADA

J. R. McCormick, were the leading officers, with Johnnie Cyty listed as a director. Under the new management, work was resumed. A force of miners was put to work under the supervision of Cyty, who retained the controlling interest in the company. As 1906 drew to a close, more men were added, encouraging progress was made in the mine, and shares in the new Death Valley Big Bell Mining Company were advertised for sale, at 25¢ each.³⁰

In January of 1907, the Big Bell Company expanded its operations to a five man crew, and hired T. J. Kelly as the mine superintendent, in order to give the development of the property a more professional guidance than was possible under the direction of Cyty, who was basically a prospector. The miners began sacking ore for future shipment, and company officials confidently told the press that sufficient treasury stock had been sold to furnish funds for an extensive development campaign. "There are many who consider the Big Bell one of the biggest propositions in the country," wrote the Rhyolite Herald, "and under the new and able management it should come into even greater prominence as the work progresses."

In February, with the mine beginning to look permanent, the Big Bell Company started to build several stone boarding and bunk houses on the property, and applied for a patent on three of its five claims. By March 1st, over 100 sacks of high grade ore had been filled at the mine, and before work was interrupted by the heat of summer, good progress was made in the company's tunnels.

30. Rhyolite Herald, 5 & 12 January, 21 September, 19 October, 14 & 31 December 1906. Bullfrog Miner, 30 March, 6 April, 9 November, 7 & 14 December 1906. Inyo Independent, 15 June 1906.

Work was resumed on the mine in November, somewhat later than usual for that part of the country. By the end of 1907, the Rhyolite Herald was able to report that the company had considerable amounts of ore sacked and ready for a future shipment, and great quantities of milling grade ore in sight. It was evident, however, that the Big Bell was not being worked very energetically during the latter part of 1907, a possible result of the Panic which hit Nevada's mining frontier that fall.

In the meantime, although Johnnie Cyty was still the principle stockholder in the Big Bell Mine, he became less and less identified with the running of the operation. After his replacement as superintendent of the mine, Cyty took his money into Rhyolite and invested in the Unique Dance Hall, where lonely miners could pay to dance with Cyty's girls, one of Rhyolite's more innocent forms of entertainment. The dance hall, however, was not particularly successful, partly because Cyty employed non-union girls, at a time when the aggressive western mining unions were attempting to unionize every facet of every mining town. Cyty's use of non-union girls resulted in a boycott of his hall, called for by the union girls of other dance halls and supported by the majority of the unionized labor forces of Rhyolite's mines.

Consequently, Cyty was unable to pay his rent, and was expelled from the building which he had leased. He refused to leave, however, and broke back into the building, which resulted in his arrest and a fine of \$25, after he paid court costs and promised to be good. The affair was an indication of Cyty's temper, which he always found rather hard to control. By the end of 1907, as a result of these problems and a fondness for the gaming tables of Rhyolite, Cyty had evidently squandered most or all of the money received from past Big Bell transactions, for he

A broadside, calling for a boycott of Rhyolite's non-union dance halls, sponsored by the unionized girls of the Concert Dance Hall, ca. 1907.

Courtesy Nevada Historical Society Manuscript Collection.

THE UNIQUE AND ADOBE CONCERT HALLS Are Unfair Houses

We request all Union men not to patronize said halls

The unfair girl workers are:

TESSIE ALFRED

KITTY LA BELLE

LITTLE FAY

MAZIE

SKIDOO BABE

FAY

Signed by

THE CONCERT GIRLS

was unable to pay \$6.68 in property taxes to the Nye County treasurer.³¹

As 1908 began, the Big Bell Mine was not having much better luck than was Cyty. Evidently the new company had run out of development funds, for very little work was done on the property. The mine, however, had very good prospects, which were realized by outside sources, and several times the Rhyolite newspapers printed rumors about the imminent purchase of the mine. But with the mining depression caused by the Panic of 1907 still effecting the region, investment money was extremely difficult to find.

Then, in April, Cyty lost control of his mine, in a manner made traditional by western movies. In a twelve hour roulette game lasting through a Saturday night and into Sunday morning, Cyty lost all his stock in the Big Bell Mine to C. É. Jones, proprietor of Rhyolite's Stock Exchange gaming rooms. It is indicative of Cyty's lack of common sense that he played against the owner of the gambling house himself. Cyty lost a total of 250,000 shares to Jones, valued at 4¢ each, or a total of \$10,000. No one seemed particularly sorry for Cyty, another evidence of his standing with the local community. In fact, most of Rhyolite seemed downright glad to see Cyty out of the picture, as witnessed by this editorial in the Bullfrog Miner:

Local mining men generally are exulting over Cyty's loss, since they believe that it means the sale of the property to people who have the means to go ahead with its development. . . . In times past there have been

31. Rhyolite Herald, 4, 11 & 18 January, 1 February, 1 March, 5 April, 29 November 1907. Bullfrog Miner, 11 January, 8 February, 13 July, 23 November 1907. Mining World, 20 April 1907, p. 518. Nye County Recorder's Office, 1907 Assessment Roll, Rhyolite.

numerous attempts made to acquire control of the property, but invariably Cyty had checkmated every transaction proposed. He had acted as a dog in the manger, neither making any effort to develop the mine himself, or allowing others to take the control of the stock at an equitable figure.

Just to rub salt into the wound, the Inyo Independent reported that the 250,000 shares which Cyty had gambled away at the value of 4¢ each, he could have sold only a few months earlier for 30¢ each, or \$75,000.

Within a week, the papers reported negotiations pending for the sale of the Big Bell property, and surveyors finally began surveying the property for a patent. But even with Cyty out of the way, a quick sale was not possible. In August, rumors were still floating concerning the sale of the mine, although the Big Bell Company was still considering developing it on their own. An agent of the Leschen & Sons Rope Company of St. Louis, who had built the Keane Wonder aerial tramway, inspected the property and submitted plans for an aerial tramway for the Big Bell Mine, which was virtually inaccessible to anything larger than a mule. At the time, the property was described as having a thirty-foot tunnel, which indicates that little if any work had been done since early in 1907.

During the fall of 1908, rumors about the sale of the Big Bell property continued, as representatives of an English concern arrived to inspect the mine. But nothing happened, and in October the property was analyzed by a local stock broker. "This splendid property," he reported, "with proper equipment will yield as big returns as the Keane Wonder. Some little of this stock can be purchased at a low figure, and as a

speculative buy it has few equals." Speculative was the key word.³²

As 1909 opened, it was evident that the Big Bell Mining Company was in trouble. The annual statement of the company showed that total revenue for stock sales and other sources during the previous year had been a mere \$1,097.17. Expenditures during 1908 had been \$1,074, including \$525 spent for a patent survey, leaving the company with a balance of \$23 to start the new year. On January 16th, the stockholders of the Big Bell Company met to approve the sale of the property. No mention was made as to whom they approved the sale to, but perhaps they were ready to sell to anyone who offered to buy.

Another big flurry of interest came about in February, when the Rhyolite Herald reported that the English syndicate was seriously considering buying the mine. Their representative had examined it the previous year and rendered a favorable report, and was now back on the ground for a more thorough examination. The Englishman reported that he felt that the Big Bell could be developed into a large and profitable mine, since its ore averaged around \$20 per ton. He had recommended purchase of the property, as well as the construction of a water pipe line and a mill. "The successful investment of foreign capital in the Bullfrog country," wrote the Herald, "is of such great importance that everyone will gladly welcome it."

But again, nothing happened. In March another mining engineer, from an unknown company, inspected the

32. Rhyolite Daily Bulletin, 14 February, 23 April, 1 May 1908. Inyo Independent, 17 April 1908. Bullfrog Miner, 18 April, 19 September, 19 October 1908. Rhyolite Herald, 19 August 1908.

property and said he was impressed, and the papers reported again that a deal was likely. In the meantime, the Big Bell Company was doing little more than the necessary assessment work required to retain title to its claims. In March of 1909 the Rhyolite Herald reported a mere 500 feet of total work done on the property, an insignificant amount for a mine which had been discovered almost four years previous.

In June of 1909, the Herald reported that the London syndicate was again negotiating to purchase the Big Bell, and the paper hoped for a successful conclusion. In a bit of honesty, the editor also admitted some of the problems involved in the Big Bell negotiations. "That the Death Valley country is a rich mineral zone is well known, but lacking milling facilities, transportation and water, have been the drawbacks which have kept this section in the background."

Through the rest of 1909, the situation at the Big Bell changed little. The mining engineer from the English syndicate was back for yet another look at the property in August, but that company was exceedingly loathe to make up its mind. The Big Bell Company, in the meantime, did put some of its best ore on display at the American Mining Congress convention in Goldfield, and in late October finally filed the application papers for a patent on its property. The company applied for patents on three mining claims called the Big Bell, the Frisco and the Rainbow, and also for the Big Bell mill site, a total of 52.32 acres. The three mining claims were all located mid-way between the Keane Wonder and the Chloride Cliff mines, but the mill site was located about one mile northwest of the Keane Wonder Mill, on the edge of the Death Valley floor, nestled just at the foot of the Funeral Mountains.³³

33. Bullfrog Miner, 16 January, 14 & 28 August 1909. Rhyolite Daily Bulletin, 20 January 1909. Rhyolite Herald, 24 February, 17 March, 9 June, 30 October 1909; Pictorial Supplement, March 1909.

The Big Bell's fortunes did not improve much in 1910. The papers reported that a deal was pending on the mine in January, "which may put it into operation very soon," and in February word was received that the Big Bell's patent was approved. The Rhyolite Herald listed the property as one of the area's many "promising prospects" and in April even reported that it was being operated. The work continued for two months, and in June another deal was reported for the sale of the mine. Engineers for the purchasers said that the Big Bell had 25,000 tons of \$12 ore in sight and 15,000 tons of "loose" ore. The ore was of such a grade that a milling plant close by would be required to admit of a reasonable profit. Again, in June and July, papers reported deals "on" for the sale of the mine, but again nothing came of the negotiations. The mine shut down operations in June of 1910, and no further work was done that year.

Finally, in 1911, the fortunes of the Big Bell Mining Company, which had been sputtering for the last several years, completely died out. On April 29th, the receiver of the First National Bank of Rhyolite, which had closed its doors, offered 300,000 shares of Big Bell stock for sale at auction, in order to satisfy an outstanding debt of \$2,638. The following month, the optimistic Rhyolite Herald reported that there were "some indications of a decided change in the conditions of the Big Bell property." The Herald was more correct than it supposed, for in September the entire Big Bell estate was advertised for sale at auction by the sheriff of Inyo County, California, to satisfy back taxes due on the property.

As noted above, the Big Bell property was purchased for \$1,600 by Homer Wilson of the Keane Wonder Mine, who was hoping to use the Big Bell claims to alleviate the shortage of ore in the Keane Wonder Mine, and during 1912 the Keane Wonder Company did exploration work on the Big Bell claims for a

few months. But by June of that year, the Keane Wonder had become discouraged over the prospects of the Big Bell claims, for the company failed to pay taxes upon the property, and it reverted to the control of the Inyo County treasurer.³⁴

The Big Bell mine lay idle from 1912 to 1935, when the Coen Company acquired mining rights to the property. After a preliminary testing period, the Coen Company opened operations in earnest on the Big Bell site, and established a camp. Eight men were put to work in March of 1936. A ball mill was erected at the property, as well as cyanide tanks, and a pipe line was constructed from Keane Springs down to the mine, via Chloride Cliff. Due to the virtual inaccessibility of the mine, access was primarily down from Chloride Cliff, via an "improved" motorcycle trail, which was little more than a crude inclined cable road. A Mack truck chassis was modified and used to slowly winch supplies and men up and down the steep ridge. Keane Springs was improved and a pump house and pumping machinery installed. Operations at the mine, however, proved that overhead was too high or the ore content too low for profitable operation, and by the fall of 1937, the Coen Company had abandoned its efforts. Due to the extreme efforts required to haul its machinery back out of the mine site, everything was left in place. The Coen Company probably produced a small amount of gold bullion during its period of operation, but no production statistics are available.

The Big Bell Mine lay idle between 1937 and 1940, when it was acquired by K. M. Woods of Beatty, who

34. Rhyolite Herald, 1 January, 26 February, 30 April, 4 June 1910; 29 April, 20 May, 26 August, 9 September, 21 October 1911; 27 January 1912. Inyo Independent, 18 February, 1 July 1910; 7 June 1912. Inyo Register, 10 May, 16 June 1910. Engineering & Mining Journal, 18 June 1910, p. 1292. Mining World, 24 February 1912, p. 471.

operated it for a very short period. In March of that year, the mine was reported on the producing list, and plans were made to increase its milling capacity from 20 to 40 tons daily. Woods' effort, however, was short-lived, and the mine shut down again in 1941. In 1952 the California Journal of Mines & Geology reported that the Big Bell was owned by H. D. Porter, the old Rhyolite merchant, and Marie MacPherson, a descendent of another Rhyolite pioneer. The mine was idle in 1952, but was reported to have produced some lead, silver and gold during the period of 1939 to 1941. The last year of operation was 1941, and from then until today the mine has been idle. The property is still held by the Porter family.³⁵

2. Cyty's Mill

In the meantime, Johnnie Cyty's luck had not been much better than that of the mine he had discovered. In 1908, after Cyty lost control of the Big Bell, he returned to the prospecting life, centering his attention around the Big Bell Extension claims. Unfortunately, there was some question as to whether or not he had properly performed and filed the annual assessment work on those claims, and some of the ground was also claimed by C. Kyle Smith, the popular recorder of the South Bullfrog Mining District. Smith and Senator William Stewart had formed the Lee Gold Crest Mining Company to develop a group of claims in the Funeral Range, and also another group south of there, in the vicinity of the Lee-Echo mining district.

For several months, as the dispute over the ownership of the ground flared, both men uttered threats

35. Coen Correspondence, 1935-37, Death Valley National Monument, Mining Office files. Inyo Independent, 8 March 1940. Mining Journal, 15 March 1940, p. 20. California Journal of Mines & Geology, July-October 1952, p. 454. R. L. Richie, The Directory of Nevada Mines (1940), p. 15.

against the other, and the matter came to a head in late November, when Smith found Cyty working on the disputed claim. Arguments lead to gunfire, and Cyty killed Smith. The matter immediately became the number one topic of conversation throughout the region, and Cyty did not have a chance in the local press. Smith had been a well liked and successful miner, as compared to the more taciturn and moody Cyty, who seemed not to have a friend for miles around. The coroner's jury returned a verdict of guilty against Cyty, and he was bound over for trial in Inyo County. Feelings ran high, and talk was heard around Rhyolite of lynching the prisoner. The Bullfrog Miner, for one, felt no responsibility for unprejudiced reporting, and in a blazing editorial on November 28th, announced that local sentiment "CONVICTS JOHN CYTY OF COLD-BLOODED MURDER." Past mis-deeds and quarrels of Cyty were re-run through the press, and his long held sobriquet of "Johnnie-Behind-the-Gat" was made much of.

Pretrial hearings, depositions, and other legal maneuvers lasted from the fall of 1908 into the spring of 1909, and the trial began in March of that year. In early April, the jury convicted Cyty of manslaughter, a verdict which caused the Inyo Register to complain that "Jury Treats Cyty with Distinguished Consideration." Most local folk felt that Cyty had unjustly escaped the hangman, and the verdict caused much grumbling. Only the Inyo Independent maintained its composure, and aptly summed up the conflicting testimony delivered at the trial: "One peculiar fact in the case is that both men were shot from the rear and both men were shot twice."

Sentencing was set for May and then delayed until June. Under current California law, Cyty could receive one to ten years in jail. On June 25th, he was sentenced to ten years in San Quentin, but notice of appeal was at once filed, and a stay of execution pending the appeal was granted. The

appeal was heard the following November, and was successful. The California Appellate court reversed the judgement and order of conviction and said that Cyty must be given a new trial, due to technical errors. In March of 1910, Cyty's retrial began, and he was soon acquitted. It appears, from the confusing and contradictory evidence, that the jury had finally decided that Cyty was defending his ground, and there was some evidence that Smith had fired the first shot. Cyty, who was finally set free after a year and a half in jail, left for southern Inyo County where he said he had some valuable mining claims.³⁶

After his acquittal, Cyty disappeared for about a year, and then returned to the Funeral Range. In February of 1911, he resumed work on the property which had been in dispute with Smith, and made good progress. Since he had little money for developmnt, Cyty entered into an agreement with some Keane Wonder miners, whereby they would work his property for a percentage of the returns. Several men accepted the deal and began sacking ore, which Cyty hoped to have treated at the Keane Wonder Mill.

But by March, indications on Cyty's property were so promising that he changed his mind, and on March 11th, Cyty purchased his own small mill. His luck had changed, for Cyty seized the opportunity to buy a 3-stamp mill at

36. Rhyolite Herald, 25 November, 2 December 1908; 7 & 21 April, 20 & 27 November, 25 December 1909. Bullfrog Miner, 28 November, 26 December 1908. Rhyolite Daily Bulletin, 23 December 1908; 5 March, 5 April, 18 May 1909. Inyo Independent, 27 November, 4, 18 & 25 December 1908; 26 March, 9 April, 14 May, 25 June, 19 November 1909; 18 February, 1 April 1910. Inyo Register, 8 April 1909; 24 & 31 March 1910. "The People of the State of California vs. John Cyty," copy of appeal, November 12, 1909, District Court of Appeal, Second Appellate District, State of California.

a sheriff's auction for a mere \$500. The mill, which had belonged to the Hayseed Mining Company of Lee, California, was situated at the Leeland Station on the Tonopah & Tidewater Railroad, and Cyty was soon busy supervising the move of the mill to his property.

By mid-April, horses and teams were busy moving the mill to the site which Cyty had selected. Due to the lack of water and the inaccessibility of his mine, the mill was installed about one mile northwest of the Keane Wonder Mill, on the Death Valley slope of the Funeral Mountains, where a series of three springs provided an adequate water flow for the mill. Cyty's mill site appears to be the same mill site formerly claimed by the Big Bell Mining Company, an ironic twist. Evidently there were some delays in setting up the little mill, for the Rhyolite Herald promised first in April and again in August that the mill would start crushing ore soon. On September 16th, the same promise was made, and the Herald added that much good ore was on the site waiting for the mill to start.

Finally, on October 14th, 1911, Cyty got his mill operating. The Rhyolite Herald reported that the mill had been running for a few days, but no cleanup had yet been made. The mill consisted of three Nissen stamps, with a twelve to fifteen tonnage capacity per day, and the mine was said to have ore running from \$20 to \$30 per ton. By now feelings against Cyty had subsided considerably, and the Herald gave him due credit: "Cyty certainly deserves credit for his persistency and triumph over many difficulties and lack of funds. He is entitled to success, and his pluck and industry may win it for him." On November 25th, Cyty made his first shipment of bullion from the small mill, but the amount of the shipment is unknown. Sadly, for some reason, the mill did not prove profitable, for no more

shipments were made, and no further mention of either the mine or mill can be found.³⁷

After Cyty left his mine in 1911, little further mention of him is found for ten years, and one can only assume that he spent much of the interim in prospecting. Cyty reappears on the Nye County tax rolls in 1921, as the owner of three burros, a cabin and a house in Rhyolite. In 1922, Edna Perkins encountered Cyty, as described above, working as the watchman for the Keane Wonder Mill, which he kept under lock and key. Cyty told Perkins that he had a gold mine in the vicinity, which although it was not being worked, "was richer than the Keane Wonder ever dreamed of being. Once some one had offered him \$300,000, but his partner would not look at it. His tone implied that it was a paltry sum anyway." When Perkins asked him if he still hoped to sell his magnificent mine, "He seemed not to know what he intended to do. Plainly he was another victim of the 'terrible fascination.' . . . whether he sold the mine or not, he would hang around Death Valley the rest of his life."

From 1922 until 1926 Cyty continued to split his time between his caretaker duties at the Keane Wonder Mill and his home in the ghost town of Rhyolite. In 1926, he again found himself in trouble, when the "lone hermit of Death Valley" was bound over to the district court of Inyo County for shooting George Dalton. Cyty, it seems, had moved to Beatty at the beginning of the Leadfield boom in 1925, and had built a small hotel with lumber salvaged from several Rhyolite buildings. Dalton, who was new to the region, got into some kind of argument with Cyty,

37. Rhyolite Herald, 4 February, 11 March, 1, 15 & 22 April, 12 August, 16 September, 14 October, 25 November 1911. Mining & Scientific Press, 1 April 1911, p. 475.

and Johnnie once again resorted to his pistol to settle the dispute. Although Cyty gave his age as fifty-three at the pretrial hearings, the Inyo Independent was sure that he was seventy-five or older at the time. Cyty was convicted of assault with a deadly weapon in December of 1926, and was sentenced to one to five years in the penitentiary. His lawyer immediately appealed the decision, and although the record is unclear, the appeal was apparently successful, for Cyty continued to live in Rhyolite.

From 1926 to 1929, Cyty lived in Rhyolite, and in 1930 he moved to Beatty. From then until 1944, Cyty's name can only be found on the Nye County tax rolls, when he paid his yearly taxes on a house and a lot in Beatty. In 1944, the property was transferred to another owner, and one can only assume that Johnny-Behind-the-Gat had died.³⁸

b. Present Status, Evaluation and Recommendations

1. Big Bell Mine

The numerous structures remaining at the Big Bell site are fairly well preserved, and are very interesting. The high degree of preservation, as well as the amount of unsalvaged material at the site, are due solely to the mine's geographic location. Access to the Big Bell may be had from only two trails, neither of which is easy to negotiate. From below, one may hike up to the Big Bell site, using the Keane Wonder trail from the mill to the mine, and then following the Big Bell trail on up from the Keane Wonder mine to the Big Bell site. Total distance along this route is about two and a half miles, and demands a constant climb, from an elevation of 1,260 feet to 3,200 feet.

38. Edna Perkins, White Heart of the Mojave, pp. 104-05. Inyo Independent, 27 November, 11 December 1926. Nye County Recorder's Office, 1921-1944 Assessment Rolls, Rhyolite, Beatty.

The other means of access is from Chloride Cliff above, wherein the hiker must walk down the old cable road from an elevation of approximately 5,000 feet at Chloride Cliff. Obviously, unless one hikes straight down from Chloride Cliff through the Big Bell site to the Keane Wonder Mill, a visit to the Big Bell Mine will occasion considerable effort. For this reason, few if any souvenir hunters have been able to carry off any momentos from the mine. For the same reason, when the Coen Company ceased operations in 1937, it evidently felt that the effort and expenses of salvaging its machinery was not worth while. As a result, the Big Bell site presents a fine picture of life and work in a mining camp in the late 1930s.

The access road from the Chloride Cliff area, which was the one used by the Coen Company, is unique in itself. A very steep trail follows the edge of a ridge from Chloride Cliff down almost 2,000 feet to the Big Bell site. This trail was improved by the Coen Company and converted into an inclined cable road. Large iron stakes were driven into the rock at several points along the trail, and a converted Mack truck bed, with a winching engine attached, was used to negotiate the climb. The truck hooked onto the lowest cable, and winched its way up to that cable's anchor point, where the first cable was cast off, and the next one hooked on. In this method, the truck slowly and laboriously inched its way up to Chloride Cliff, where a regular truck took the load and departed for civilization.

The mine itself is divided into three distinct areas. The extensive remnants of a ball mill dominate the first. This section includes a small ball mill, manufactured by the Wheeling Mold and Foundry Company of Wheeling, West Virginia, and includes an ore bin, water tank, fuel tank, mixing tank, two work sheds, a conveyor belt, tailings ponds, and much other miscellaneous equipment. A short aerial tramway connects the mining area, on the far side of a small but deep ravine, to the ore



View of the Big Bell Mine complex from Chloride Cliff, showing its general geographic location. The mine complex can barely be seen in the middle right of the photo where several black spots are found. The cable road is partly visible in the left middle of the picture, crossing the top of a ridge. The Keane Wonder mine and mill are out of sight, beyond the farthest ridge.

Below: Detail of one of the anchor points on the cable road.

1978 photos by John Latschar.



bin beside the ball mill. Two large settling tanks, each approximately ten feet high and twenty-five feet in diameter, dominate the cyanidation portion of the mill plant. These tanks are set upon a level platform held up by a rock retaining wall, and ore from the mine and from the ball mill was transported to the tanks via a conveyor belt, which fed into another short aerial tramway, which dumped into the tanks. All the mill buildings were constructed of wood and tin, and most still stand. The ball mill, however, was an open-air operation, so there are no buildings of any significant size upon the property.

On the opposite side of the ravine from the mill is the major mine area. The mine was developed almost totally by means of short tunnels and adits. Half a dozen of these tunnel entries can easily be seen, most connected by a tramway. The tram cars dumped their loads into an ore bin, after which the ore was carried across the ravine on a short aerial tramway to the ore bin feeding the ball mill. As an example of the kinds of artifacts left behind when mining ceased, a twelve foot high rock drill stands beside one of the adits with its drill point driven into the rock.

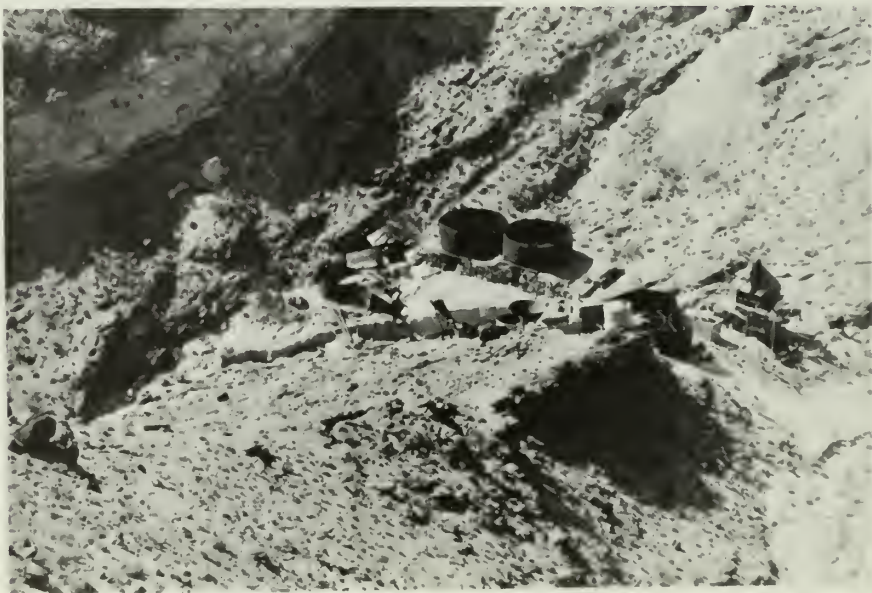
Across the top of a ridge from the mine are the living quarters. Some of these may be the same buildings constructed by the Big Bell Mining Company in 1907, for they roughly match the descriptions printed in the Rhyolite newspapers. A rock wall, approximately fourteen feet deep and thirty-five feet long, surrounds three wood and tin shacks. Two of the shacks are still standing, but one has collapsed. The rock wall was evidently used as a wind break, a precaution which seems justified, for another wooden shack built outside the walls has been completely demolished. In addition, the living area includes a tent platform site, and the inevitable wood and tin outhouse.

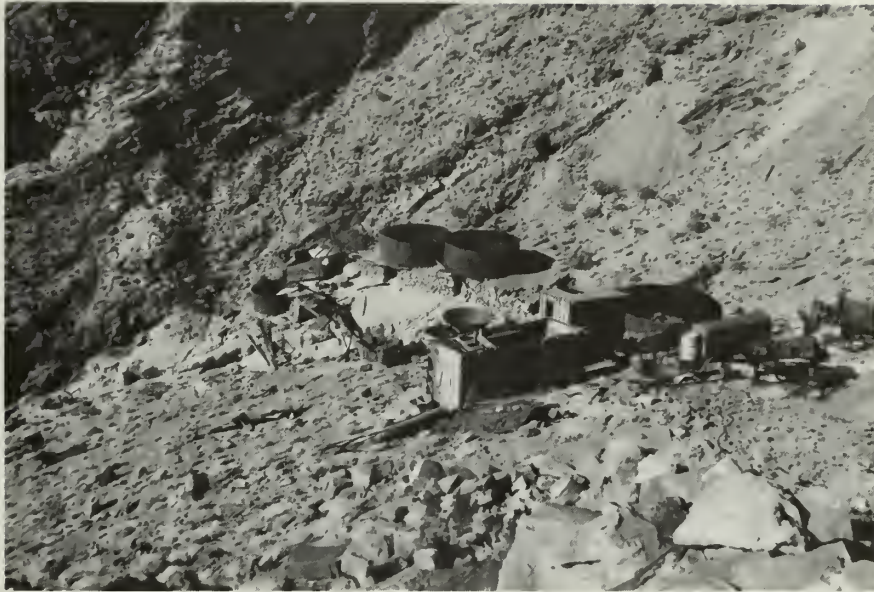


A closer view of the Big Bell Mine. The mill complex is located in the middle left of the photo, and the dumps of the mining area are visible above the mill. In the top center is the living area, marked by the stone wall surrounding the shacks.

Below: A more detailed view of the mill complex. The two large tanks dominating the photo are cyanidation tanks, and their tailings may be seen below. The small square structure with a pointed roof in the right center of the photo is the ore bin of the mill, which also acted as the tramway terminal for ore coming from the mine over the short aerial tramway. The small ball mill is located beneath and to the left of the ore bin.

1978 photos by John Latschar.





Another view of the mill structures. The ball mill is seen at the extreme right of the photo, and just in front of it is the Mack truck chassis, used to negotiate the cable road. The two shacks were used for storage and as a repair shop.

Below: One of the artifacts left at the mine complex, an eight-foot machine drill. The long bit of the drill is still attached and has been quite solidly driven into the rock.

1978 photos by John Latschar.



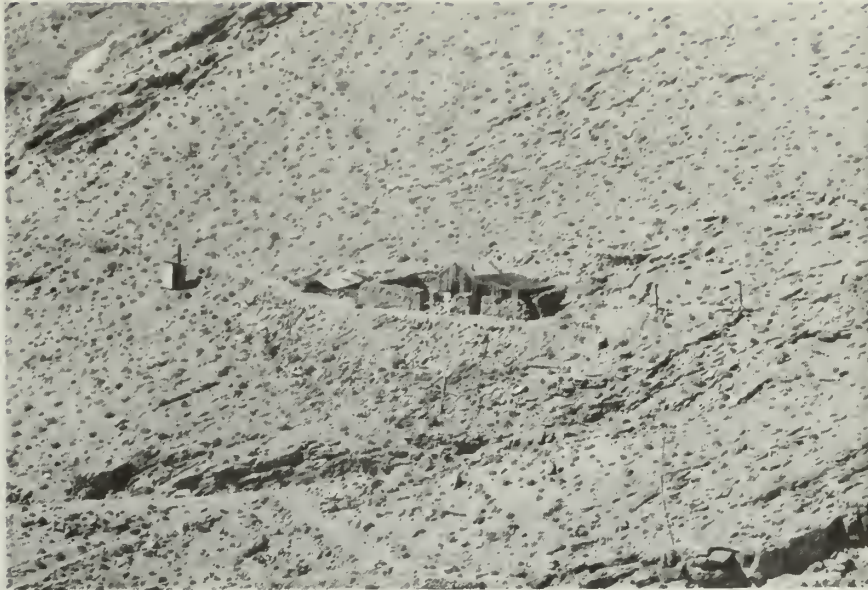


View of the mine complex, from above the mill. Most mining was done through short tunnels and stoping, and the ore was carried to the bin at the right via a short tramway. From this bin, a short aerial tramway carried the ore across the ravine to the mill complex.

Below: View of the mine and mill complex from near the living area, showing the relationship between the two. The cables are still stretched between the mine and mill, and may be seen in this photo.

1978 photos by John Latschar.





View of the living area, showing the rock wind break, which protected two of the three shacks built inside. The roof of another shack may be seen to the left, which has been completely demolished by the winds. Just to the left of it is the typical wood and tin outhouse.

Below: One of the shacks, from above. The mill may be seen in the distance below the shack, and the cable road leads up from the mill towards Chloride Cliff.

1978 photos by John Latschar.



In summary, the Big Bell Mill site is extremely interesting, for it presents a vivid picture of a small-time mining operation of the late 1930s. There is little evidence remaining that can be traced directly to the early 1900s, but that is not surprising, since very little mining actually took place during that time. Because of the mine's inaccessibility, it can best be interpreted by some simple signs onsite. However, since the display of mining machinery is extensive, and perfectly exhibits the nature of a depression-era mining effort. The Big Bell mine and mill site will be included as part of the Chloride Cliff Historic District, for nomination to the National Register. Perhaps the best use for the structures and artifacts at the Big Bell would be recording onsite, followed by removal and display elsewhere, on a limited scale. The site itself should be protected, but this probably will not be a major problem, since few if any will want to carry off souvenirs considering the distance and effort involved.

2. Cyty's Mill

Cyty's Mill site contains the remnants of the small three-stamp mill which he imported to the spot in 1911, and a wooden shack. The mill itself consists of a wooden ore chute and ore bin, which fed into the mill. Only the heavy framing timbers remain of the mill, as all the machinery was dismantled and salvaged sometime in the past. Two steel tanks stand next to the mill frame, evidently the water storage facilities, and a short distance away is another tank close to a small spring, with a small tailings pile next to the tank. This latter was probably the spot of a small cyanidation process. The limited amount of tailings indicate that the mill ran for only a short time, and produced a very limited amount of bullion.

Cyty's shack still stands below his mill, and is in relatively good condition. The shack is built upon an elevated and leveled rock platform, and is of wooden construction,

measuring about fourteen by twenty-four feet. Unlike most desert shacks, this one had the unusual comfort of finished wooden floors and walls. Finally, across the way from the shack, on the side of a little knoll, are the remains of two rock shelters, used either for living or storage purposes. The walls of the larger shelter are about three feet high, and measure twelve by twenty feet.

In summary, Cyty's Mill is a very interesting site, especially when compared to the much larger Keane Wonder complex less than a mile away. It offers a unique interpretive opportunity, for it represents one of the most prevalent practices of desert mining--the removal of equipment from one site to another as old mines died and new ones were born. The mill at Cyty's site was originally built for the American Mine near Columbia, Nevada. In March of 1910, the mill was purchased by a lessee of the Hayseed Mining Company of Lee, California, and moved to a spot west of Lee, near the Tonopah & Tidewater Railroad. Then, as described above, Cyty purchased the little mill after the Hayseed operation failed, and moved it to its present location. Such transactions involving mining and milling equipment were quite common in the early days of desert mining, and Cyty's mill presents us with an unusual opportunity to document and interpret this practice.

For a combination of the above, along with Cyty's employment for several years as a watchman at the Keane Wonder Mill site, and the opportunity to compare and contrast one of Death Valley's largest and smallest mining efforts, the Cyty Mill site will be included in the National Register nomination for the Keane Wonder Mine and Mill.

Finally, Cyty's Mill is especially interesting due to his personal history as one of the desert's truly eccentric



Johnnie Cyty's three-stamp mill, showing the small ore bin above the mill, and his shack below.

Below: A closer view of the stamp mill, from the front. The water tank can be seen at the left, and the small concrete engine mounts are visible below and to the right of the mill.

1978 photos by John Latschar.





A view of Cyty's shack, seen from the north. The stamp mill is up the hill to the left, out of the picture.

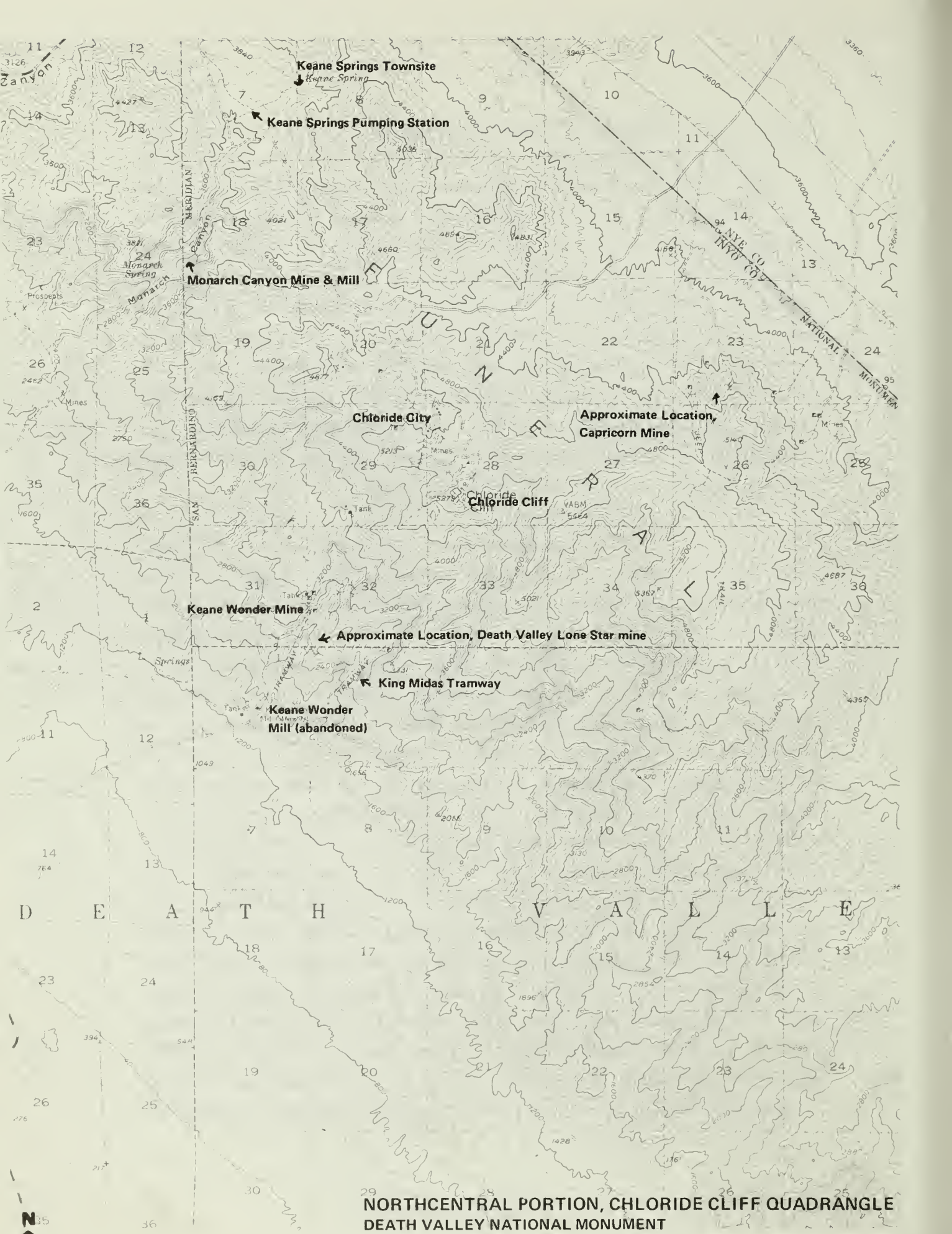
characters, and his story should be told either at the visitor's center or on the site. Perhaps onsite interpretation would be best, for it would give the visitor a chance to see and appreciate the pile of barren rock for which a man was killed.

5. South Bullfrog Mining District

a. History

With the Keane Wonder strike to the west and the great Bullfrog boom to the east, it is no wonder that the upper Funeral Range was soon overwhelmed with prospectors. Early rushers to the Bullfrog region succeeded in locating ground close to either the Keane Wonder or the Original Bullfrog mines, and as we have seen, some met with success and others with failure. But in this section we are concerned with the later prospectors, who did not arrive in time to obtain "close-in" locations near the two big strikes, and who were thus drawn to the empty area between the Original Bullfrog and the Keane Wonder, known as the upper Funeral Range.

The rush was such that in August of 1905, less than a year after the Bullfrog strike, there were so many prospectors in the area that they decided to organize a new mining district, designed to bring an element of order into the numerous conflicting claims which had inevitably built up when hundreds of prospectors were looking over a limited amount of choice ground. Thus, on August 18th, the South Bullfrog Mining District was organized. At a meeting at Keane Springs, a few miles north of Chloride Cliff, the miners of the region met and agreed upon several rules and regulations for the establishment of the new district. C. Kyle Smith, who was later to be shot by Johnnie Cyty, was elected recorder of the district, and was thus given responsibility for keeping the claim and assessment books in order, to prevent future legal or physical struggles over mining claims. In addition, the boundaries of the district were laid out, and were roughly described as being from Surveyor Well in Death Valley, east to the Nevada state line, down the state line to the northeast line of the Echo Canyon Mining District, west to Furnace Creek, and then northwest to Surveyor Well. These boundaries included several well known mines, such as the Keane Wonder, the Chloride



**NORTHCENTRAL PORTION, CHLORIDE CLIFF QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT
143/40074 17 of 30**

Cliff and the Big Bell, and unnumbered prospects and infant mines which had been opened in the past year. Recording fees, including district and county charges, were \$2 per claim, and the money was used to reimburse Smith for his pains and expenses of keeping books. Due to the extreme crowding of prospectors into the district, the meeting agreed to severely restrict the time allowed for prospectors to improve their claims, giving them only ninety days from the time of location to perform \$100 worth of assessment work, compared to the usual year.

As the rush continued through the fall of 1905, the prospects for the district looked extremely good. The Inyo Independent wrote that "this district has a brilliant future," and the Rhyolite Herald, in an understatement, said that "this portion of the country is attracting considerable attention of late on account of the excellent showing made by the Keane Wonder, and property in that section is much sought after." By the end of 1905, as the initial flurry of prospecting settled down somewhat, the mining promoters and money men began buying and consolidating claims and forming mining companies to exploit the mineral wealth which everyone was sure lay just under the surface of the ground. The South Bullfrog Mining District, in the popular term of the day, was a "comer."³⁹

As 1906 progressed, the South Bullfrog District continued to boom, and mining companies began to incorporate and begin work on their claims. With the advent of actual mining in the area, the local residents and prospectors, most of whom lived at or near their mines, began to take steps to advertise their district, for everyone realized that in order to keep the investment money

39. Inyo Independent, 18 August, 29 September 1905. Rhyolite Herald, 13 October 1905. Bullfrog Miner, 18 January 1908.

South Bullfrog
Mining District

For information Regarding
**Funeral Range
Death Valley
and Panamint.**

Address,
C. KYLE SMITH, Dist. Recorder,
REARME SPRINGS, NEV.
(P. O. Address, box 123, Rhyolite, Nev.)

Two advertisements, as printed in the Bullfrog Miner, for the young South Bullfrog Mining District. The above appeared on January 12th, and below, on March 9th, 1906.

The South Bullfrog Mining District

Takes in some of the richest sections of
DEATH VALLEY AND FUNERAL RANGE

It is a district of poor prospectors, but of rich mineral prospects,
and offers rare inducements to those wishing to get in on the
GROUND FLOOR IN MINING.

flowing in, public exposure was necessary. It was also nice, of course, to have a genuine mine, but until anyone knew whether there were any in the district, public advertisement was the next best step. Accordingly, on March 16th, the South Bullfrog Booster's Club was organized, composed of miners from the area, and an advertisement campaign was begun. In addition, the Booster's Club was directed to look into the annoying fact that a new town, located southeast of Rhyolite, was also using the name of South Bullfrog. In order to limit the confusion of potential investors, a committee was appointed to meet with the new townsite agents and try to persuade them to change their town's name. The meeting was unsuccessful, but since the town of South Bullfrog quickly died, the matter resolved itself.

The Booster's Club also voted to begin work on a new road from Rhyolite to Chloride Cliff, in order to provide better access to the district for visitors and supply wagons. In the meantime, Richard Willis of Rhyolite started a stage line and burro train between Bullfrog and the town of Keane Springs, which was becoming the heart of the district. The stage line would run twice a week, and the burro train on demand.

Between January and May of 1906, at least nine mining companies incorporated and began work in the district. Numerous prospectors were also still hunting for good locations, or else sitting on them, waiting for a higher bid for their potential gold mines. Although the district looked good, the Bullfrog Miner put it back into perspective in late April, when it remarked that with "the exception of the Keane Wonder and the Chloride Cliff mines, but little real active work has been done" in the area.

For the better part of two years, the miners and promoters of the South Bullfrog District plugged along, hoping that sooner or later the one great mine would appear in their midst,

South Bullfrog District Mining Companies

<u>Company Name</u>	<u>Date Work Started</u>		<u>Last Date Mentioned</u>	
California Bullfrog Mining Company	11 August	1905	28 August	1909
Trio Mining Company	26 January	1906	30 September	1908
Golden Horn Mining Company	26 January	1906	13 March	1909
DeForest Mining Company	9 February	1906	29 March	1907
Hartford-Montana Mining Company	2 March	1906	4 May	1912
Calvada Gold Mining Company	6 April	1906	6 April	1906
Highland Boy Gold Mining Company	7 April	1906	21 December	1907
Death Valley Golden Buck M.C.	13 April	1906	July	1907
Inyovada Gold Mining Company	26 May	1906	30 April	1910
Vermont Rose Mining Company	3 August	1906	28 October	1911
Lulu Mac Mining & Milling Company	7 September	1906	20 August	1910
Death Valley Gold Mining & Milling	Fall	1906	4 January	1907
War Eagle Mining Company	25 January	1907	8 March	1907
South Bullfrog Mining Company	8 March	1907	30 April	1910
Rising Sun Mining Company	29 March	1907	29 March	1907
Death Valley Exploration & Development Company	12 April	1907	30 December	1908
Kentucky Mining & Milling Company	15 June	1907	15 June	1907
Golden Chief Mining & Milling Company	20 July	1907	2 December	1911
Bullfrog Comstock Mining Company	26 September	1907	26 September	1907
Lee Gold Crest Mining Company	11 October	1907	26 February	1910
Bullfrog Midas Mining Company	21 March	1908	11 April	1908
Utopia Consolidated Mining Company	20 February	1909	14 April	1909
Henrietta Mining Company	24 March	1909	14 April	1909
Minerou Mining Company	10 July	1909	10 July	1909

which would make everyone's fortune. Unfortunately, exactly the opposite happened. One mine after another looked good, and made plans for shipping ore or for building a mill, only to find out after the shafts and tunnels had bit a little deeper into the mountain, that their ore had pinched out. In addition, the economic troubles of the times plagued the district, for mines were forced to close after the San Francisco disaster of 1906, and more were shut down by the general financial panic of 1907. Without a big mine to pull in the money, the rest of the South Bullfrog mines could hope for little investor support, and few if any of the local promoters were able or willing to develop a mine out of their own pockets.

One after another, the remaining mines closed during 1907 and 1908, although a few continued the struggle through 1909 and 1910, and two lasted even until 1911. But the longer life of the latter mines had more to do with the stubbornness of their owners, rather than of any mineral content in the ground, for none of the mines listed in the table above ever produced any gold. With the exception of a very few hopeful miners, the entire South Bullfrog Mining District was deserted by the end of 1910, and an assessment of the district's boom can only be that it was a total failure. The miners left behind little more than numerous pits and holes around the mountainsides, most of which show little signs of anything beyond preliminary development work, and all of which serve to confuse present investigators who try to pick out a few of the more significant mines from the numerous holes in the ground.⁴⁰

40. Rhyolite Herald, 11 August 1905; 26 January, 9 February, 2 March, 3 August 1906; 4 & 25 January, 8 & 29 March, 12 April, 11 October 1907; 30 September, 30 December 1908; 24 March, 14 April, 28 August 1909; 26 February, 30 April, 20 August, 2 December 1910; 4 May, 28 October 1911. Bullfrog Miner, 16 & 23 March, 6, 13 & 27 April, 7 September 1906; 29 March, 15 June, 20 July, 21 December 1907; 21 March, 11 April, 26 December 1908; 20 February, 13 March, 10 July 1909. Rhyolite Daily Bulletin, 26

The DeForest Mining Co

EIGHTY ACRES IN THE FUNERAL RANGE
SOUTH BULLFROG DISTRICT
WHERE THE FALL BOOM IS GOING TO BE

No idle acreage, every claim has ore opened up.
Lowest assays \$2.00, highest assays \$183.00
The property will be actively worked and is now being developed rapidly.
An earnest, heavily interested directorate who believe they have an exceptional property.

Stock at 5 cents per share, treasury stock only, all other stock pooled.

If this property was right in Bullfrog, the stock would be selling rapidly at 10 cents to 20 cents, in view of the remarkably fine showings with the comparatively small amount of work done.

Read this advertisement and send for a prospectus and full particulars, we want you to know all about it. At the same time you might ask for

HARSHAW'S MARKET LETTER

RHYOLITE,
NEVADA
Box 222

J. W. HARSHAW

RHYOLITE,
NEVADA
Box 222

From the Bullfrog Miner, 1 June 1906.

....THE
HARTFORD-MONTANA
MNNG & MILLING CO.

Offer to the public a small
block of their

TREASURY STOCK at 10c

Full paid and non-assessable

Surface assays run \$112, \$148 up to \$365. One foot ran \$97.60; four and a half feet ran \$30.40, while the ledges carries values across 16 feet.

Property consists of 4 full claims free and clear of debt, three miles northwest of Keane Wonder.

All applications for stock should be made to **JAMES McENTEE**, Treasurer.

A typical advertisement for a South Bullfrog District mining company. From the Bullfrog Miner, 5 April 1907.

It would be interesting, however, to take a quick look at a few of these South Bullfrog mines, in order to detail the life and death of several of the typical efforts which took place.

b. Death Valley Lone Star Mine

The first claims of the Lone Star group were located in the summer of 1904, shortly after the Keane Wonder strike had stirred interest in the area. Little is heard of them, however, until December of 1905, when the Death Valley Lone Star Mining Company was organized. The organization was rather typical for the time, with a capital stock of 1,500,000 shares being created, 750,000 of which were designated as treasury shares for sale to the general public. The officers, who kept the rest of the shares to themselves, were headed by S. R. Phail, president, and Victor O'Brien, vice president. The company had six claims, described as being just below the Keane Wonder Mine, and two claims in another part of the district. Stock was immediately offered for sale at 10¢ per share, and large full-page advertisements appeared in the Rhyolite newspapers. Early in 1906, the company began work on its claims.

Small strikes were found from time to time, but nothing good enough to warrant calling the Lone Star a real mine. As the Bullfrog Miner put it, the developments at the property were "interesting, if not sensational." Four men were employed at the mine in April of 1906, and despite the financial distress caused by the San Francisco earthquake and fire, the company reported that it would "continue work for an indefinite period." S. R. Phail, the president, tried all the usual tricks to publicize his

September 1907. Nevada Secretary of State, Articles of Incorporation, Vol. 8, pp. 248, 513. Handbook on Nevada Mines, p. 21.

Death Valley Lone Star Mining Co.

INCORPORATED
UNDER
THE
LAWS
OF
ARIZONA

DEPOSITORY:
Southern
Nevada
Banking
Company,
BULLFROG,
NEVADA

CAPITALIZATION, \$1,500,000

FULLY PAID AND FOREVER NON-ASSESSABLE

750,000 SHARES IN TREASURY

BALANCE OF STOCK POOLED

OFFICERS:

S. R. PHAIL, President and General Manager; Locator of Property.
VICTOR O'BRIEN, Vice-President; Mining Engineer and Correspondent.
F. P. KERNS, Secretary; General Manager Bullfrog Townsite, Water & Ice Co.
F. H. STICKNEY, Treasurer; Cashier Southern Nevada Banking Co.

DIRECTORS:

L. D. PORTER, Director; Merchant - Beatty, Las Vegas and Rhyolite.
JOHN KEANE, Director; Locator and owner of the famous Keane Wonder.
S. F. LINDSAY, Director; Merchant, Rhyolite, Nevada.



Top half of a full page advertisement.



PROPERTY AND LOCATION

THE property consists of eight claims on the Death Valley slope of the Funeral Range, about 19 miles from Bullfrog. Six claims known as the "Lone Star group," joins the famous Keane Wonder mine on the south. Two claims known as the "Eclipse" and "Bonanza" join the Poso mine of the Texas group. The property is owned by the Company and fully paid for and the title is unquestioned and absolute.

The Keane Wonder ledge, which runs through this property, runs from 4 to 27 feet in width and has an average assay of \$24.00 per ton. There is enough ore blocked out to keep a 20-stamp mill running for 7 years. *ALL MONEY* derived from the sale of Treasury Stock will be used in developing the property and putting it on a paying basis.

Negotiations are now pending for the erection of a Custom Stamp Mill by the owners of the Poso-Texas group.

We are now doing development work on the "Bonanza" claim, and our intention is to have a large quantity of ore ready for milling when the mill is installed.

A limited number of shares of the *Treasury Stock* will be placed on the market at *TEN CENTS* per share, subject to withdrawal from the market at any time without notice.

The Stock will immediately be listed on San Francisco, Tonopah and Goldfield Exchanges to facilitate trading.

For further information write to

FRANK P. KERNS, Secretary,
BULLFROG, NEVADA

The bottom half of the preceding advertisement, which appeared in the Bullfrog Miner, 9 March 1906.

mine, such as bringing in specimen ore for display at the Southern Hotel in Rhyolite. But despite these efforts, and the fact that Lone Star stock was listed for sale on the San Francisco, Goldfield and Rhyolite stock exchanges, interest in the mine never developed. The Rhyolite papers never reported any trading activity in Death Valley Lone Star stock, and towards the fall of 1906, work at the mine was stopped, probably due to financial reasons.⁴¹

Early in 1907, the Rhyolite Herald reported that the Lone Star had excellent ore in its mine, and that the company "expected that work will soon be resumed on the Lone Star." The company held its annual meeting in February, which resulted in new officers being elected. J. P. Nelson, the new vice president, went out in March to examine the property "with the view of resuming operations." Nothing had been done at the property lately, said the Bullfrog Miner, "due to friction of management." But despite the reorganization, work was not resumed until late in December of 1907, when a force of men and supplies were sent out to the mine. Although the immediate purpose of the men was to perform the necessary annual work to enable the company to retain title to its ground, the company announced that it was "the purpose of the management to continue work with a view to placing the property on a paying basis as soon as possible."

But the hopes were soon demolished. The annual work on the property uncovered no new ore leads, and although the Rhyolite Daily Bulletin announced on January 22nd that the mine "has been amply financed and development will be

41. Inyo Independent, 29 July 1904. Rhyolite Herald, 8 December 1905; 5 & 26 January, 16 & 30 March, 13 April, 11 May 1906. Bullfrog Miner, 12 January, 9, 16, 23 & 30 March, 6, 13, 20 & 27 April, 4 & 11 May, 3 August, 7 September 1906.

rushed," work stopped in late January and no further work was done on the mine until November of 1908, when Sam R. Phail returned to the property to perform the annual assessment work. Despite the lack of work on the property for over two years, John A. Moffat & Co., one of Rhyolite's leading stockbrokers, felt able to write in October of 1908 that "We recommend this stock as a good speculative purchase." By the fall of 1908, the South Bullfrog Mining District had numerous stocks for sale which could only be described as "speculative."

Although the mine was dead in all reality by the end of 1907, efforts were made from time to time to revive its prospects. The Death Valley Lone Star Mining Company continued to hold its annual meetings as late as January of 1910, and presumably someone attended. Not until January of 1912 did the Rhyolite Herald feel safe to say that "no work has been started, nor does it appear that any is in contemplation on the Lone Star property." Like many others, the Death Valley Lone Star had not made that important transformation from a promising prospect to an actual mine. The transformation was difficult to make when there was no ore in the ground. The Death Valley Lone Star Mine has no historic significance.⁴²

c. Capricorn Mine

As noted above, the Capricorn Mining Company was one of the few South Bullfrog District companies ever to ship any ore from its mine. In this respect it was unusual, but a short description of a marginally productive mine would perhaps be illuminating. The first notice of the Capricorn was in November of

42. Rhyolite Herald, 4 January, 27 December 1907; 11 November 1908; 18 January 1910; 27 January 1912. Bullfrog Miner, 1 February, 8 March, 14 & 28 December 1907; 19 October 1908. Rhyolite Daily Bulletin, 22 January 1908.

1907, when J. P. Burns, its locator, gave up trying to develop it on his own, and began looking for buyers or lessees. It took him several months, but in February of 1908 Burns leased a block of his claim to John Anglin and I. Peterson. The two men went to work at once, and soon reported that they had excellent showings.

In the meantime, Burns also continued to mine, and perhaps inspired by the example of his tenants, announced in March that he had found some ore. The luck of the first lessees in turn inspired more miners to try their luck, and by the end of March, Burns had let leases to L. J. Lock and Alfred Jones, another to Captain E. P. Miner and a third to Tom G. Murphy. All the leases were for blocks of land 200 feet square, and Burns continued to work on the unleased portions of his claim, taking out high grade ore for sacking. By mid-April he had an estimated \$2,000 worth of ore on the Capricorn dump.

Through the rest of the spring and summer, Burns and his lessees continued to work on their respective portions of the Capricorn mine, and yet another lease was let to the Barton brothers in June. The Bullfrog Miner reported that twenty-five men were working on the combined portions of the Capricorn property in mid-June. In July, Captain Miner, dissatisfied with the ground covered by his lease, entered into a deal with Burns whereby the two men became partners in the development of another section of ground. In late July, they made the first shipment from the property, two tons of silver ore which they estimated to be worth \$200 per ton.

When the smelter returns were received several weeks later, their prediction turned out to be remarkably accurate, as the ore was assayed at \$195 per ton. The expenses involved, however, pointed out the difficulties which always faced operators of remote desert mines. Freight charges to get the ore to the

Goldfield smelter had cost \$32.26, smelter charges were \$60 and sampler charges were \$50. Considering that the smelter had succeeded in recovering 95 percent of the ore content, Miner and Burns were left with a mere \$289.18 profit from their first ore shipment. The men estimated that it would take them two months to assemble another such shipment, which indicates that they were willing to work for a little over \$72 each, per month. Unionized miners, such as those at the Keane Wonder Mine, earned more than that.

Undaunted, the men began another shaft on the property, in a more promising location, and continued to work. By the middle of August they were again sacking high grade ore for shipment, and on September 9th, a second shipment was made, consisting of 7,200 pounds of ore. This shipment, however, was not as rich as the preceding one, and settlement with the smelter were made at an assayed value of \$167 per ton. If freight, smelter and sample charges had not changed since July, Miner and Burns received a net profit of \$224 for their second shipment, to split between themselves.

In October of 1908, since the various leases had proved that there was ore in the Capricorn Mine, Burns finally got his wish, and a group of capitalists financed his mine and incorporated the Capricorn Mining Company. A Mr. San Francisco of Cimarron, Kansas, was named as president of the company, and Captain Miner and J. P. Burns were listed as joint vice-presidents. After the new company was formed, all the previous lessees were denied any extensions of their leases, with the exception of Captain Miner, who continued to act both as a company officer and as a lessee from that company. Advertisements were placed in the local papers, and Capricorn stock went on the market at the initial price of 10¢ per share.

An Opportunity That Cannot Be Duplicated

The Chance of a Life Time---25,000 Shares at 10c
Amounting Almost to a Gift

THE CAPRICORN MINING COMPANY.

Capital \$1,000,000; par value \$100; 400,000 shares in the treasury; non-assessable stock; has been incorporated under the laws of Nevada and will be managed by the following officers:

President—Mr. San Francisco, Cashier of the Gray County State Bank, Cimarron, Kansas.

Vice President—Capt. E. P. Miner, Rhyolite.

General Manager—J. P. Burns, locator of the Capricorn ground.

Secretary—Phil M. Chandler, Rhyolite.

Depository—Bank of John S. Cook & Co., Rhyolite, and the Gray County Bank, Cimarron, Kansas.

Additional Directors—James McEtee, Rhyolite, and C. J. Gikison, Merchant, Fort Collins, Colorado.

The estate consists of six full claims, or 120 acres, in the Funeral range in California, fourteen miles from Rhyolite and seven miles from the Tompah & Tidewater railroad; of this area 200 square feet has been leased to Capt. E. P. Miner and his associates. A shaft fifty feet deep has been sunk. From these workings high-grade silver ore is being taken out and shipped to the sampling works at Goldfield. The first shipment of about two tons realized \$195 per ton; the second shipment of about four tons realized \$167 per ton; a carload of high-grade is being assembled and will be sent out within ten days, and besides there is more than 100 tons on the dump, the lowest assay of which gives values of \$41.70 per ton. All this from the fifty-foot shaft, and the leasers are now working in a shoot two and one-half feet wide and length unknown, from which they are sacking the carload above referred to.

The management offers 25,000 shares of stock for the purpose of sinking a shaft 200 feet for the company, east of the leased portion, and it is not improbable that sufficient ore will be found to make the property self-sustaining, and the directors hope that it will not be necessary to place any more of the stock on the market. The property, considering the development work done, can not be duplicated in this section, and is the only leased property ever opened heretofore that has paid its own way from the mineral extracted in the course of development.

The formation is lime, porphyry and quartzite. The company feels confident that the Capricorn will develop into a treasure house. The ore is rich in horn silver, with a small percentage of copper and perhaps \$1.50 in gold. The presence of silver indicates permanency, and it is more than probable that large shoots will be encountered from a shaft 200 feet deep.

Every dollar from the sale of stock will go into the company's treasury and be expended in sinking the shaft. This is a legitimate and honest mining proposition. This offer you will hardly meet with again. There are certainly bodies of rich ore on the property, and we hope that 200 feet will be sufficient depth to uncover some of them.

Make your applications for stock to the Capricorn Mining Company, at either Rhyolite, Nevada, or Cimarron, Kansas. When the allotment of 25,000 shares has been taken no more stock will be loaned at this price, and no more will be sold under any circumstances until we see what a shaft 200 feet deep will bring forth.

PHIL M. CHANDLER

Secretary, Rhyolite, Nevada.

"The Chance of a Life Time," from the Rhyolite Herald,
25 November 1908.

Development was initiated by the company, and in November the Rhyolite Herald reported that the company had eleven tons of ore ready for shipment. In order to avoid the high freight charges to Goldfield, Miner decided to ship the ore to a smelter at Needles, California, where he could get a better deal. In late November of 1908, ore teams began hauling the ore into the railhead at Rhyolite. With the mine operating and taking out ore, investors began to be interested, and the local papers, never loath to sing the praises of a local mine, began to boost the Capricorn. "Many people are now aware," said the Rhyolite Daily Bulletin, that the South Bullfrog District had one of the "richest silver bearing mines in the United States. Should the quality of ore now being taken out continue with depth," the paper added, the Capricorn would be a "worldbeater." The company, in the meantime, announced that its eastern office, at Cimarron, Kansas, was selling stock as rapidly as it was received, and thanked the Rhyolite Herald for the effectiveness of the only advertisement placed in the state of Nevada.⁴³

By late December, the Capricorn shipment had been assembled at Rhyolite, and amounted to a twenty-five ton carload of ore, estimated at \$200 per ton. In mid-January of 1909, Captain Miner received returns on the shipment, and the result was not very impressive. His ore had been assayed only at \$132.50 per ton, and after deducting freight and smelter charges, his net profit was only \$2,158.18, out of which wages and expenses of mining upon the company account would have to be taken. As a final note for 1908, it is interesting to observe that the Capricorn Mining

43. Rhyolite Herald, 22 November 1907; 10 June, 15 & 29 July, 19 & 26 August, 9, 16 & 30 September, 14 & 21 October, 18 & 25 November 1908. Rhyolite Daily Bulletin, 8 & 24 February 1908. Bullfrog Miner, 14, 21 & 28 March, 4, 11 & 18 April, 2, 16, & 30 May, 6 & 13 June, 1 & 15 August, 3 & 10 October, 7, 14, 21 & 28 November 1908.

Company was considering installing a horse-powered whim at its shaft, to replace the crude hand windlass in use up to that time--the company was still in the very early stages of development.

But the company kept on trying. The working staff was increased in early January of 1909, and advertisements for the mine again appeared in the newspapers. J. P. Burns was elected as the new president of the company, replacing Mr. San Francisco, and he immediately announced that a gasoline hoist would be installed by February 1st, at which time the company would start mining in earnest.

But Burns' promise was not carried out, and in March of 1909, Captain Miner was the only man working on the property. The company returned its miners to work in April, but they only remained until May, when once again they were laid off. Miner made another shipment, consisting of eight tons of ore, in early May, but smelter returns were not released to the papers. After several more months of idleness, the executive committee of the Capricorn Company met in late July, and reluctantly approved a decision to borrow money to continue the development work at the mine. But before that could happen, they changed their minds, and decided to close down the mine until fall rather than to "sustain liabilities which would under present financial conditions necessarily would be very burdensome."

But the mine was closed longer than until fall. In October, J. P. Burns returned to Rhyolite and announced that "efforts are being made to resume operations," but the lack of finances made his hope futile. The next notice of the company comes in February of 1910, when an elaborate and quite complicated scheme of financing was announced, whereby the Capricorn would receive money for mining costs in return for a thirty-year bond

upon its property. After examining the mine, however, the potential bonding firm, the Granite Securities Company of Los Angeles, decided not to go through with the deal, and the mine lay idle. Finally, in October of 1910, one John J. Barket was given a two-year lease on the entire Capricorn property, but he never made good on his lease, and the Capricorn Mine died a silent death.

Total production of the Capricorn Mine, taking the announced figures at face value, was a little over \$5,000. Of this, net profits, once freight and smelter charges were deducted, were around \$3,500, from which salaries and supplies must be deducted. Considering the number of years and the number of men working the mine, nobody, obviously, got rich from the Capricorn Mine. Indeed, most men would have earned far more money by spending the equivalent period of time employed as a shift miner in one of Rhyolite's bigger mines. But shift miners never get rich, and some mine owners do, and therein lies the compelling pull of the mining game. The Capricorn Mine has no historic significance.⁴⁴

d. Howard Little Exploration Company

In direct contrast to companies such as the Death Valley Lone Star and the Capricorn, which made legitimate efforts to mine the ores of the Funeral Range, the South Bullfrog Mining District had its share of outright frauds. One such was the Howard Little Exploration Company, which was more unique in that its scheme was detected and publically exposed, then for the mere fact that it was perpetrated.

44. Bullfrog Miner, 5 & 26 December 1908; 2 & 9 January, 20 & 27 March, 17 April, 8 May, 31 July 1909. Rhyolite Herald, 2, 9 & 16 December 1908; 6, 13 & 27 January, 3 & 31 March, 7 & 28 April, 5, 12 & 19 May, 16 October 1909; 19 February, 1 & 29 October 1910. Rhyolite Daily Bulletin, 11 & 26 December 1908; 8 April 1909.

The company made its first appearance in September of 1908, when J. F. Howell, its promoter, managed to get an article printed in the Bullfrog Miner. The nature of the article, which was little more than an advertisement, together with the quite obvious fact that the Miner editor had never heard of the company before printing the article and had not seen the property involved, says much for mining camp journalism. At any rate, the Howard Little Exploration Company, according to Howell, had a group of claims eight miles southeast of the Keane Wonder Mine. Work had been progressing at the mine for some time, and the company had a shaft down 104 feet into the ground, and was employing five men. One hundred sacks of high grade ore had been taken out of the mine for future shipment, and the company had ordered a hoisting plant and had begun grading work for the placement of that hoist. The company was headquartered in Boston, and, incidentally, had stock for sale.

On the strength of that article, which was much more effective than a paid advertisement would have been, Howell sat back and watched stock subscriptions come in. His game lasted until December of 1908, when the scheme collapsed. All the Boston stockholders were not as easily fooled as Howell had hoped, and a group of them pooled their money to send an attorney and a mining engineer to inspect the mine which they were financing. Upon arrival in Rhyolite, the two men went out to Howell's mine and found that things were not quite as Howell had said. Instead of a 104-foot deep shaft, they found merely an exploration hole. No one was working at the property, and no one had been working there since last March, before Howell obtained title to the property. No hoist had been ordered, and no grading work had been done for a hoist. In short, the whole thing was a fraud, and Howell had bilked the investors out of about \$10,000. His scheme had been simple, for he had been drawing upon the company treasury to pay wages to non-existent miners, and to pay for non-existent lumber

and supply bills. Happily for the Boston stockholders, Howell was immediately arrested and put behind bars, and as much of the investors' money as could be recovered was returned to them.

Howell was unusual, in that his fraud had been detected in time to recover some of the investors' money, and in that he had been put in jail. The Bullfrog Miner, realizing that this was the case, hoped that his imprisonment "will serve as an object lesson" for other con men "that may be lurking mid the sagebrush of these parts." The Miner, also recognizing that it was largely responsible for the success of Howell, printed a long apology.

The Bullfrog Miner confesses to some duplicity in the matter. Howell's story was printed in these columns in the issue of September 19 last, and if the currency given to Howell's report assisted the faker in getting a single cent from the Boston stockholders we are very sorry for it, even though all the statements were qualified as those of Howell and not of the paper.

The Miner has always aimed to keep faith with the public in its mining reports. It enjoys a reputation for conservatism. This reputation is prized highly. It is the purpose to continue to merit the public confidence and good will.

But the Miner is not immune from imposition. No paper is. Howell worked the reporter just as he worked the Bostonians. There was no reason for doubting the correctness of the "dope" given to the scribe, and it was impossible, owing to the great distance to the "mine," to verify Howell's story.

But the damage had been done. Not only were certain Boston stockholders swindled out of their money, but the entire Bullfrog District suffered as well. Frauds such as these gave Nevada mining investments a bad image, particularly those in the area where the fraud was carried out. In addition, the honesty and reliability of the Bullfrog Miner was tarnished, which made its coverage of the rest of the mines in the area that much more

suspect. All honest men, from the mine owner to the storekeepers of a district, lost when such a swindle was carried out, and it is no small wonder that feeling ran so high. The Howard Little Mine has no historic significance.⁴⁵

e. Monarch Canyon Mine

1. History

This mine, which is one of the few of the South Bullfrog District mines to have left some physical remnants, is rather frustrating to trace. It was never a large enough operation to be incorporated into a mining company, or to have a common name, and is thus referred to today by its geographic location, in the heart of Monarch Canyon, about two miles southwest of Keane Springs.

First notice of this property was in December of 1905, when A. K. Ishmael, its locator, closed a deal with Frank Durham and a Mr. Gaylord of Los Angeles (probably the same Gaylord who was briefly associated with the Keane Wonder property). Durham and Gaylord obtained a bond and lease on the mine, with an option to purchase it from Ishmael for \$20,000. Work began shortly after the deal was closed, and by January of 1906, a tunnel had been extended sixty feet into the mountainside on the Indian claim, the major claim of the group. Work was rather brief, however, and ceased sometime shortly after April of 1906, probably due to the effects of the San Francisco disaster. No further notice of the mine can be found until 1909.

Sometime in the interval between the spring of 1906 and 1909, the mine was sold by Ishmael to the Keane

45. Bullfrog Miner, 19 September, 26 December 1908.

Springs Mining Company, an outfit which never worked the property. Then, in March of 1909, Ishmael procured a 2½-year lease on the property from the Keane Springs Company, with the financial backing of Frank R. Randall. The Indian claim of the mine was described at that time as having a seventy-foot tunnel, which indicates that hardly any work had been done between 1906 and 1909. But preliminary assays showed that the mine had \$18 to \$20 ore in sight, and three men were sent to start work on the property.

Ishmael took a partner named Richard E. Clapp, and the two men proceeded to develop their mine. Water near the sight was of adequate supply for a small mill, and after two months of digging the men decided that milling tests were in order. They were not thinking of a large mill, since their mine was not large, but rather of putting in a small one in order to save themselves the backbreaking labor of packing out raw ore from the mine to a Rhyolite mill. Among other improvements, Ishmael and Clapp built an assay office at their property, in order to test their ores, but the office burned down only a month after it had been completed. Nevertheless, the men stuck to their mine, and reported good progress being made in August of 1909. Four men were employed at the site, and two tunnels were being driven, one to a length of sixty-five feet and the other to one hundred feet.

Such a small operation did not deserve much space in the Rhyolite newspapers, but periodic reports were printed, especially in the spring of 1910, when Ishmael and Clapp decided to build a small mill. In May of that year, the two men purchased a small Nissen reduction plant, and the machinery soon began to arrive. The men also bought the Hoffman House swimming pool at Rhyolite, which had closed, and tore it down and used the lumber to house their new milling plant. By late June, a pipe line from a local spring had been completed to the mill site, and

foundations were being laid. Late in August, the mill was completed and began to operate. It was a small one-stamp mill, and combined a concentration and amalgamation process of ore reduction. Cyanidation was not a part of the mill process, but could be added later.

The mill was reported to be running well in mid-September, and in October several small bars of crude bullion were sent to the Selby smelter. No returns were announced. Clapp and Ishmael, in Rhyolite for a periodic supply trip, admitted that there were some minor difficulties with the mill, but stated that on the whole it was running well. But for some reason, the mill was not regularly run after October of 1910. Between then and April of 1911, the mine and mill were idle, and in April the Rhyolite Herald reported that work on the mine would resume soon, as the property was to be amply financed and the small mill utilized. Such, however, was not the case. The Montana-Hartford Mining Company, another South Bullfrog outfit, used the mill in June to test some of its ore, but that was its only use in all of 1911.

Although I. K. Ishmael gave up and left the country, his former partner, Richard Clapp, was not yet ready to give up. In February of 1912, Clapp reported that the Indian claim was very encouraging, and that developments would continue on the property. In May, Clapp again reported that he had a new ore shoot, and that he was in touch with eastern parties and hoped to start up on a large scale soon. In the meantime, he said, he would continue with steady development work on his own.

But with the demise of the Rhyolite Herald, Rhyolite's last newspaper, in June of 1912, we come to an end of our printed detail regarding the mine. Given the general history of other such mines in the area, it is doubtful that Clapp

was able to do much more with his property. Physical evidence at the site indicates that if the mine was worked at all after June of 1912, it was not worked extensively, or for a very long duration.⁴⁶

2. Present Status, Evaluation and Recommendations

Ishmael's and Clapp's little mill still stands in Monarch Canyon. It consists of a one-stamp Nissen crusher, built by Fairbanks & Morse, with a patent date of November 29, 1904. Most of the machinery and controls of the mill are still extant, including a one cylinder engine, two large wooden flywheels, and miscellaneous controls. The mill is built on a concrete pedestal, with a small wood and tin building around the engine and mill machinery. The structure, however, is largely demolished, due to wind and weather.

Above the mill, which is situated on the floor of the canyon, the rest of the complex rises up the steep side of the canyon wall. An ore bin is directly above the mill, and a long ore chute connects the bin to an ore tipple perched high above the mill site. From the tipple, portions of the old tram track may be followed around a bend to the mine itself, which consists of a tunnel adit and a small stoped area. Other remnants on the site include a collapsed shack near the mine, the foundation for a tent or frame building near the ore tipple, and what appears to be the stone ruins of a powder house near the mill.

The road to the mill has been washed down from the side of the canyon wall, but a one-mile hike from the end

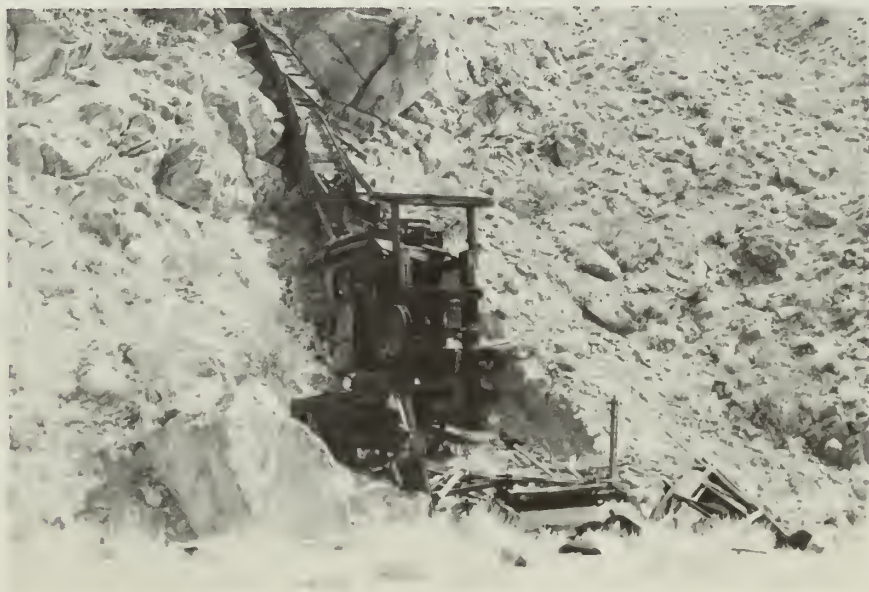
46. Rhyolite Herald, 15 December 1905; 19 January 1906; 17 March, 19 May, 9 June, 7 August 1909; 7 & 28 May, 11 & 25 June, 27 August, 10 September, 15 October 1910; 29 April, 24 June 1911; 10 February, 4 May 1912. Bullfrog Miner, 27 April 1906.



Mill ruins in Monarch Canyon. The ore tipple is out of sight above the ore chute, and the mine is around the corner from the tipple, towards the top center of the photo.

Below: Closer view of the mill mechanism. The flywheel which shows prominently was connected to the one stamp of the mill, and was powered by the engine, housed in the small building below. Most of the debris on the ground is portions of the engine house and mill coverings, which have been blown off.

1978 photos by John Latschar.



of the road to mill is not overly strenuous. The site is interesting and useful, as it depicts a small-time mining operation of the early 1900s, and should be exploited for interpretation, either on the site or elsewhere. The site is not of National Register significance. The mill machinery, however, has both historic and interpretive value, due to its rare Nissen-type character. Thus the mill equipment should be protected and preserved, either on the site or in the Monument's museum.

f. King Midas Claim

About half a mile to the east of the Keane Wonder tramway, as seen on the Chloride Cliff topographic map, is located another aerial tramway which has puzzled visitors for many years. The second tramway, however, is not and has never been connected with the Keane Wonder Mine, and although it was not connected with the South Bullfrog Mining District either, this opportunity will be taken to clear up some of the past confusion.

The King Midas Claim, which covers the ground over which the tramway passes, was located and worked between 1949 and 1955 by Joseph Harris, who at one time called his mine the Keane Wonder Extension. Since Harris' mine was located high on the side of the Funeral Mountains, he constructed an aerial tramway from the mine down to the canyon floor below, in order to extract his ore. The tramway was 3,000 feet in length and descended from an elevation of 2,800 feet at the mine shaft down to 1,700 feet in the canyon floor. The tramway originally consisted of galvanized cables, towers, and a hoisting mechanism. It is still partially in place, but the power cable, tramway buckets and loading facilities are missing. An ore bin at the foot of the tramway is in disrepair. In 1975, Harris estimated that total production from his mine between 1949 and 1955 had been 300 tons of ore, and from all evidence the mine and tramway have been idle since 1955.

Although the King Midas claim appears to have no historic significance, neither the mine site or the upper portions of the tramway were examined for this study. Such an examination must take place before a final recommendation can be made for this site.⁴⁷

g. Keane Springs and Townsite

1. History

As one of the main watering spots of the northern Funeral Range, Keane Springs was always important in the life of the South Bullfrog Mining District. Indeed, the use of the springs predates the district itself, since one Eugene Lander had a claim to the springs as early as 1878, presumably to sell its water to the Franklins who were working on their Chloride Cliff Mine. But Keane Springs saw its peak of activity during the Bullfrog mining boom.

As soon as miners and prospectors began to enter the area, Keane Springs was recognized as a major source of good water. During the summer of 1905, water was packed from the springs to the Chloride Cliff mines, as well as several other small mines in the region. As the boom continued, and more and more prospectors came into the area, the Springs also took upon a commercial and social life as a business and gathering place for the district. As early as February of 1906, S. A. C. Nelson opened the Death Valley Mercantile Company at Keane Springs, undoubtedly in a large tent, and retained C. Kyle Smith, the district recorder, as clerk of the store. In March of 1906 work was started on a wagon road from the springs to Chloride Cliff, some three miles away, and during the same month, the Kimball brothers of Rhyolite

47. Memorandum for File, Robert Mitchum, Death Valley National Monument, Mining Office, 10 June 1975.

Keane Springs Townsite

KEANE SPRINGS is situated some eleven miles from Bullfrog across the Amargosa desert. A new road is being built from Keane Springs to Rhyolite. Water is good, pure and free to all owners of lots. It is piped into the town.

Keane Springs is the only logical place for a town site for many miles around and is the center of a rich mineral section which is being rapidly opened up.

A post office is applied for and a stage service is already in force between Rhyolite and Keane Springs.

Early application should be made for lots which range in price from \$25 to \$100.

The plat will be ready in few days time and you can obtain full particulars from me. The prices are reasonable and big profits can be realized.

Call and see me or write for reservations.

J. W. HARSHAW

Box 222

Rhyolite, Nev.

Bullfrog Miner, 20 April 1906

established a stage line from Rhyolite to Keane Springs, to serve the passenger and mail needs of the South Bullfrog District.

By mid-April of 1906, the convenient location of the springs, as well as its good flow of water, caused a group of promoters to put their heads together and start the Keane Springs townsite. The town was promoted by the Keane Springs Land Company, and lots were put up for sale. Advertisements appeared in the Rhyolite newspapers, and the town was described as containing a boarding house, a store and a saloon. Since the actual site for the town was located a short distance from the springs, a pipe line was laid directly into the townsite, and all lot purchasers were guaranteed an ample supply of water at their doorsteps. Lots were advertised from \$25 to \$100 apiece, and a post office was applied for. Total acreage claimed by the townsite company was estimated at between 100 and 120 acres.

By late May, when the townsite was less than a month old, further improvements were noted. The springs were cemented in, in order to prevent pollution, and a pipe line was laid under ground for 500 feet to the center of town, with another 150-foot line being put in to bring water to a reservoir being built. A new road was being cut, which would eliminate much of the roundabout travel through the Funeral Range between Rhyolite and Keane Springs, and in addition to Kimball's stage line, a regular burro train service was established to supply the needs of the inhabitants. The town at this time was described as having a store, a boarding house, two offices, a saloon, a corral, a stable and several tent houses. Surveying for the purpose of obtaining a patent was in progress. Work continued through the summer of 1906, and by September streets had been cleared and more tent houses erected for rent. A new frame office building, the town's first, had been completed, and although the post office was not yet

approved, the postal authorities were said to be favorable towards the proposal.

But by the fall of 1906, Keane Springs had already seen its height. Many of the major mines of the region, such as the Keane Wonder and the Chloride Cliff, established their own living camps, and the minor mines never got off the ground. Chloride City became a competitor for the supply center of the district, and Keane Springs slowly declined back into a favorite watering hole, an occasional stopover for travelers and prospectors. The town, like so many of its ilk through the desert mining regions of the west, had died before it was really born.

The subsequent history of Keane Springs is one of the long periods of idleness, followed by short bursts of activity. As noted above, the Keane Wonder Mining Company purchased Keane Springs sometime around 1907, as a hedge against the mill's recurring water problems, and maintained a watchman at the property for several years, in order to protect its potential water source. A couple of prospectors were still living at the springs in 1909 in crude tent houses, but even they were washed out by a destructive cloudburst that fall. In 1910, the springs were developed by the Pennsylvania Mining & Leasing Company, which was attempting to increase the water supply for its little one-stamp mill below Chloride Cliff, but that effort was short-lived.

Between 1911 and 1912, W. W. Wilson, who listed his residence as Keane Springs, planted "all kinds of garden vegetables," in an attempt to start a truck garden, probably for sale to the small core of miners left in the area. His effort was also short-lived. Following the departure of Wilson, the springs were relatively undisturbed until the 1935-1937 years, when the Coen Corporation began mining at the Big Bell. In connection with that mining effort, improvements were made at the spring, including



Ca. 1935 photo of the Keane Springs pumping station and water tank, built by the Coen Corporation between 1935 and 1937. The old Keane Springs townsite is across the low hill behind the pump, towards the top right of the picture.

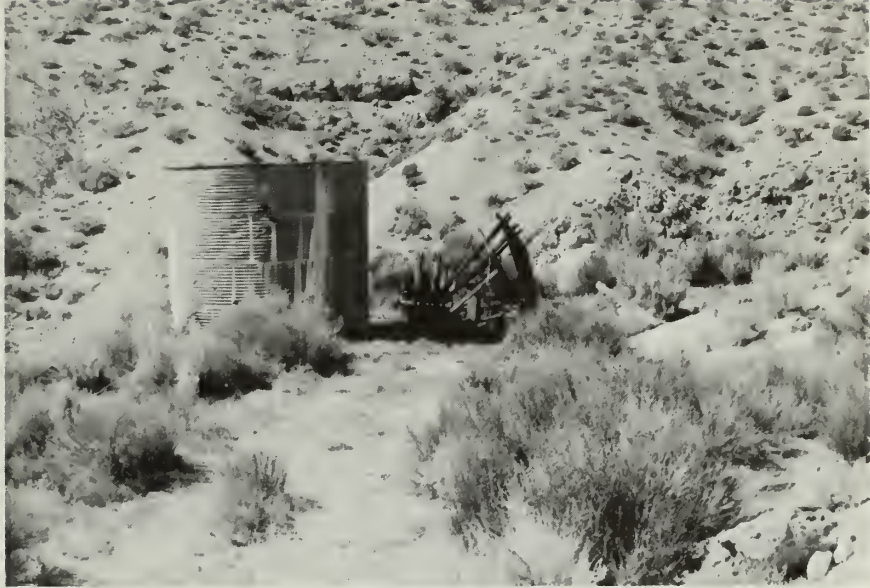
Photo courtesy of Death Valley National Monument Library, classification 622.1.

the installation of a large pump house and engine, and a galvanized iron holding tank. Pipe was laid from the spring up to Chloride Cliff and then back down to the Big Bell Mine, with the pipe line generally following the Keane Springs-Chloride Cliff trail, and then the cable road from the Cliff down to the mine. After the demise of the Coen Company's efforts in 1937, the equipment was abandoned.⁴⁸

2. Present Status, Evaluation and Recommendations

The most prominent remains in the vicinity of Keane Springs today are the water tank and the ruins of the pumping machinery installed by the Coen Company. The pump was powered by a diesel engine, was manufactured by the Fulton Engine Works of Los Angeles, and has three pumping cylinders. The water tank is approximately ten feet high. Pipes from the pump run in two directions, and may be traced along the road from Keane Springs most of the way up to Chloride Cliff and from there down the side of the cable road to the Big Bell Mine. In the other direction, the pipes can be found leading towards the Keane Springs townsite, which is nestled in a small wash among the low hills of the Funeral range plateau. Much of the potential of the townsite was lost through the flood of 1909, but several level tent platform sites remain, some of which have low retaining walls still standing. No more than seven such sites can be found, indicating the destruction of the flood and the fact that the townsite never

48. Inyo Independent, 2 February 1878. Bullfrog Miner, 23 February, 16 & 23 March, 20 April, 28 September 1906. Rhyolite Herald, 23 March, 20 April, 21 September 1906; 31 March, 21 April, 9 October 1909; 15 October 1910; 15 April 1911; 3 February 1912. Inyo Register, 24 May 1906. S. H. Ball, A Geologic Reconnaissance in Southwestern Nevada and Eastern California, p. 174. Coen Correspondence, Death Valley National Monument, Mining Office Files, 1935-1937.



Ruins of the Keane Springs pumping machinery in 1978.

Below: Close-up of the ruins of the pump.

1978 photos by John Latschar.





The Keane Springs townsite area began about where the road disappears in the middle of the photo. The main living areas appear to have followed the bottom of the shallow wash, which was not particularly good planning in a desert environment with its occasional flash floods.

Below: A closer view of the same wash, showing one of the larger remaining leveled tent sites.

1978 photos by John Latschar.





A typical view of the northern Funeral Range, in the vicinity of Keane Springs. The townsite is located to the left of the road, about a half a mile, and the springs are just beyond the low hill in the foreground. The Keane Springs-Chloride Cliff trail may be picked out in several places, winding towards the top of the picture. Chloride Cliff itself is located just below the highest range of mountains in the extreme background.

1978 photo by John Latschar.

prospered. The setting, however, is quite picturesque, and since the townsite can be reached by passenger cars, could prove quite an interpretive attraction. A brief story of the short life of this ill-fated mining camp would make an interesting contrast to the more permanent camps, such as Chloride City, and the real boom towns of the early 1900s, such as Rhyolite.

Although the site is interesting, its brief life and lack of any real contribution to the history or development of the area do not qualify it for National Register consideration.

As the nation's principal conservation agency, the Department of the Interior has basic responsibilities to protect and conserve our land and water, energy and minerals, fish and wildlife, parks and recreation areas, and to ensure the wise use of all these resources. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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