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historic resource study

a history of mining, vol. II of II

part 2 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 2 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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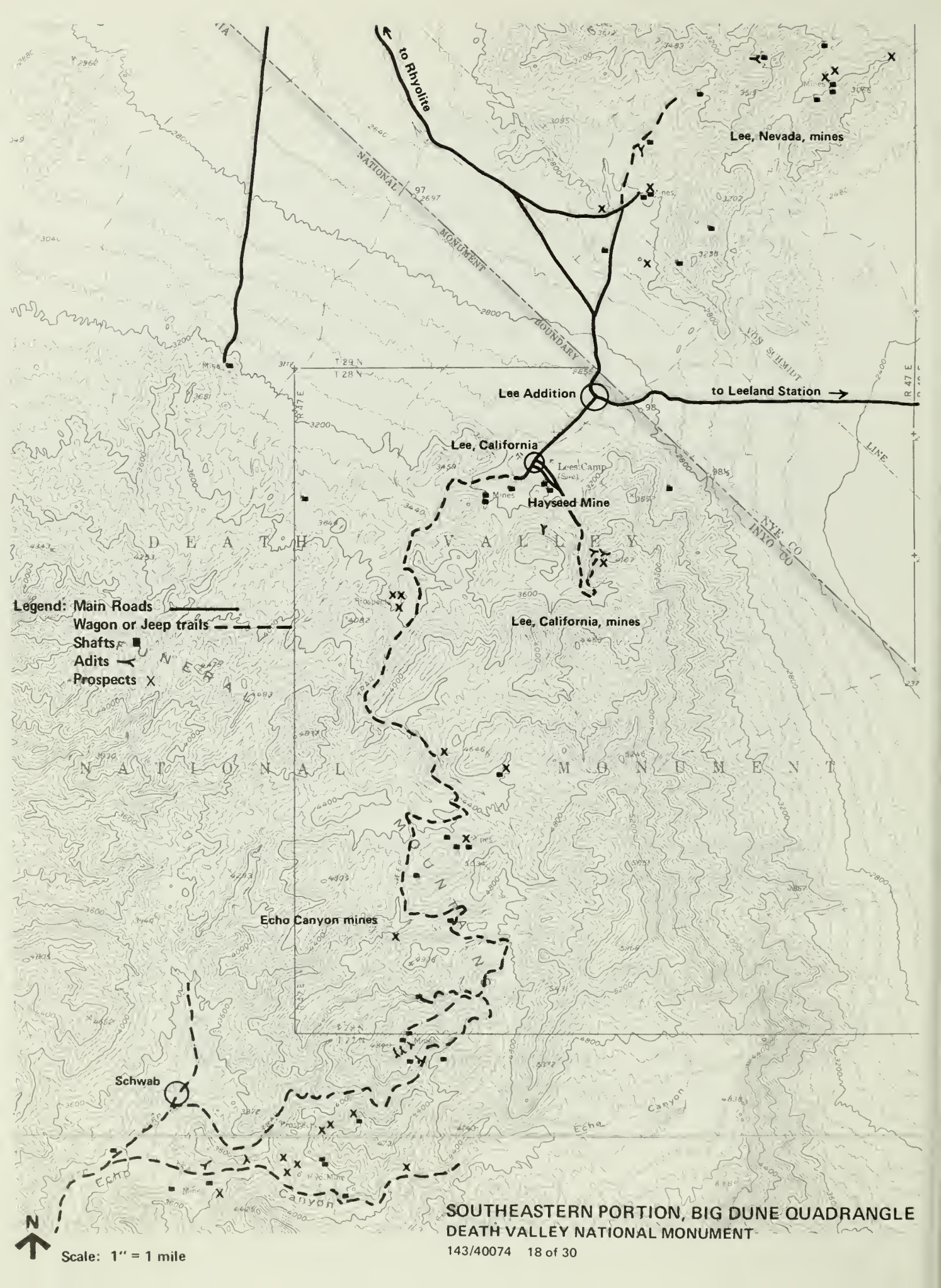
6. Echo-Lee Mining District

a. History

In the southern part of the Funeral Range lies another mineral district which boomed during the great Bullfrog years. From the former site of Schwab on the west side of the range, this district paralleled a line drawn east and northeast through Echo Canyon out to Lee, California, on the east side of the mountains, and on across the Nevada state line into the Amargosa Valley. Altough this mining district covered portions of both California and Nevada, the greater part lay in California. Since the Death Valley National Monument boundary runs along the state line in this area, this section will deal primarily with that portion of the mining district which lay within California and the Monument boundaries.

The first locations in the area are credited to "Old Man Finlay," a veteran desert prospector, who traced his connections back to the days of Breyfogle. Finlay had accompanied Breyfogle on several of his futile searches for the Lost Breyfogle mine, and during one of those trips in the late 1800s, noticed and located several gold prospects on the east side of the Funeral Mountains, near the Nevada state line. His locations, however, lay neglected until the impetus of the Bullfrog rush hit the region. Then, accompanied by Richard and Gus Lee, two brothers from another old desert family, Finlay relocated several prospects in November of 1904 and the early months of 1905.

At about the same time, other prospectors were beginning to wander into the southern Funeral Range, as the splash caused by the Bullfrog strikes sent ripples flowing out in all directions through southern Nevada and southeastern California. Between January and March of 1905, Chet Leavitt discovered a gold prospect on the western side of the Funerals, in Echo Canyon. When the news of these two strikes hit the booming towns of



SOUTHEASTERN PORTION, BIG DUNE QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT
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Bullfrog and Rhyolite, a minor rush to the southern Funeral Range began, as those prospectors who were too late to cash in on the Bullfrog District began to search elsewhere for their gold. Within a short time, more locations were made between Leavitt's strike on the west and Finlay's and the Lee brothers' on the east.

By March of 1905, enough prospectors had filtered into the area for a new mining district to be created, and on the 31st of that month, the first movements to establish the Lee Mining District had started. A few months later, in October, a similar condition existed on the west side of the Funerals, and the Echo Mining District was organized. The two districts, which soon merged and became known as the Echo-Lee Mining District, had boundaries which can roughly be described as the Amargosa Valley on the east, the South Bullfrog Mining District on the north, Death Valley on the West, and Furnance Creek wash on the south. By October of 1905, interest in the new district was high, but although the Rhyolite Herald reported that "considerable work" was being done, the boom was still in its beginning stages.[49]

But in 1906 the action began to heat up. By the end of January two companies had begun to work on the Lee side of the district and six companies on the Echo side. Preliminary efforts were begun to improve the communications of the district, especially those on the Echo side. Since anyone wishing to reach the Echo District had to travel from Rhyolite west through Daylight Pass, south down the Death Valley floor, and then back east up Echo Canyon, work on a road to cross the Funeral Range from the Lee side of the district over into the Echo side was

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49. Inyo Independent, 31 March, 20 October 1905. Bullfrog Miner, 8 February 1907. Rhyolite Herald, 6 October, 7 November 1905; 22 February 1907.

begun. As time went on, and more and more locations were made along the mountains between the two sides, such work became easier.

By the end of April, 1906, when two more companies had begun operations on the Lee side and two more on the Echo side, the district was beginning to boom. The new railroads coming into Rhyolite kept a close eye on this new activity, and the Tonopah & Tidewater in particular made it known that their line would hug the east side of the Funerals, in order to be in the best position to capitalize upon the new mines of the Echo-Lee and South Bullfrog districts. The Rhyolite newspapers were also well aware of the amount of business which new mining districts would bring to their town, and several editorials specifically pointed out this fact.

As the summer and fall of 1906 progressed, it became apparant that enough mineral content was present in the southern Funeral Range for the new mining district to be there to stay. By the end of that year, another company had begun work on the Lee side of the range, and six more had begun on the Echo side, making 19 companies in all working in the new district. As the population swelled, several major problems surfaced, two of the most important of which were the troubles in communication between the mines of this remote region, and the lack of water. The miners banded together to solve both these problems, with subscriptions taken up to drill a well along the road from Rhyolite into the Lee area, and a similar contribution being taken to fund the building of a road all the way from Rhyolite, through Lee, to the Echo Canyon side of the range. By the end of 1906, both projects were underway.[50]

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50. Bullfrog Miner, 12 January, 23 March, 13 & 20 April, 30 November, 21 December 1906. Rhyolite Herald, 5 January, 23 February, 13 April, 29 June, 19 October, 9 & 16 November, 21 December 1906. Inyo Independent, 3 August 1906. Nevada Secretary of State, Articles of Incorporation, Vol. 9, p. 412.

DON'T PASS UP

 Echo Canyon 

In Your Mad Rush to the Southward



The Inyo Gold and the Sutter are two of the biggest mines in the Echo Canyon mining district.

The Echo Canyon Mining Co. owns 8 claims joining the Sutter and within 1500 feet of the Inyo Gold.

There'll be something doing in Echo Canyon Mining this winter. Watch this space for announcement of first stock allotment. Address inquiries to

H. L. MOODY BEATTY NEV.

One of the earliest advertisements for the Echo Canyon mines, which appeared in the Rhyolite Herald of October 12, 1906.

On Burro Mountain, Lee District

50,000 SHARES

Of the Treasury Stock of the LEE IMPERIAL MINING CO. are offered for public subscription **AT 25 CENTS A SHARE** Positively no more stock will be sold at this figure.

Lee Imperial Mining Company

400,000 Shares in Treasury

Capital Stock 1,000,000 Shares
Fully Paid and Non-Assessable
(Organized Under the Laws of Arizona)

Par Value $1.00

The property is paid for and deeded to the company free from debt, and consists of four full claims, the North Star, Cross, Cross No. 1, and Windy Fraction, located on Burro Mountain, in the Lee District, which is fast becoming famous for the wonderful showings made, many of the veins carrying values from the surface.

The Directors are competent business and mining men who are financially interested in making a dividend payer, and were selected for the individual assistance they could render in the active management of the mine rather than figureheads. Prospectus and full particulars furnished upon request, but we suggest telegraphing order to assure securing a block of this stock at the ground floor price.

Application for the stock should be made to

Dorr, McDonald & Co.

Mining Investments, Rhyolite, Nevada

A later advertisement, which appeared in the Rhyolite Herald of December 21, 1906.

PARTIAL LIST OF LEE, CALIFORNIA, MINES

Name	Date First Mentioned	Date Last Mentioned
Hayseed Mining Company	5 January 1906	6 January 1912
Tenderfoot Mine	15 January 1906	9 December 1908
Honeysuckle Mining Company	23 February 1906	3 August 1907
Lee Hidden Treasure Gold Mining Company	20 April 1906	2 December 1911
Bullfrog Echo Mining Company	1 October 1906	15 February 1907
Honeysuckle Extension Mining Company	24 January 1907	3 August 1907
Lee Gold Grotto Mining Company	25 January 1907	6 November 1909
Flapjack Mine	1 February 1907	28 January 1911
Lee Whale Mining Company	1 March 1907	26 May 1909
Lee State Line Gold Mining Company	1 March 1907	8 May 1908
Lee Gold Crest Mining Company	15 March 1907	3 August 1907
Lee Buster Mining Company	5 April 1907	15 November 1907
Daddy Lee Mining Company	5 April 1907	24 May 1907
Georgia Lee Mining Company	5 April 1907	10 December 1908
Nero Mining Company	26 April 1907	8 August 1908
Jumbo Consolidated Mining Company	3 May 1907	8 November 1907
Ducks Mine	10 May 1907	27 April 1912
Hayseed Extension Mining Company	8 June 1907	3 August 1907
Lee Bank Mining Company	6 July 1907	2 December 1908
Utopia Mining Company	6 July 1907	28 December 1907
Gold Shield Mine	3 August 1907	11 January 1908
Peerless Lee Mining Company	3 August 1907	6 December 1907
Pumpkin Mining Company	3 August 1907	2 December 1911
Lee Florence Mining Company	24 August 1907	24 August 1907
Lee Comstock Mining Company	14 September 1907	January 1908
Chambers Mine	2 September 1908	10 September 1910

PARTIAL LIST OF LEE, NEVADA, MINES
(Outside Death Valley National Monument Boundary)

Anna Mine
Apache Mine
Blue Grass Mine
Bullfrog View Mining Company
Cala-vada Mining Company
Calvin Mine
Combination Mining Company
Cornucopia Mine
Frisco Mine
Goldstone Mining Company
Grandee Mine
Greater Nevada Mining Company
Lee Bell Mining Company
Lee Bonanza Mining Company
Lee Bonanza Extension Mining Company
Lee Consolidated Mining Company
Lee Mines Company
Lee Mohawk Mining Company
Lee Nevada Mining Company
Lee Princess Mining Company
Lee Virginia Mining Company
North End Mining Company
Swan Hilda Mining Company
Swan Hilda Annex Mining Company
Skookum Mining Company

PARTIAL LIST OF ECHO CANYON MINES

Name	Date First Mentioned	Date Last Mentioned
Inyo Gold Mining Company	January 1905	27 January 1912
Bradshaw & Paymel Mine	15 March 1905	27 April 1912
Sutter Mine	17 November 1905	1 March 1907
Sunnyside Mining Company	5 January 1906	14 August 1909
Nellie B. Mine	12 January 1906	26 February 1910
Lee Burro Gold Mining Company	12 January 1906	25 February 1911
Lee Jumbo Gold Mining Company	23 March 1906	17 June 1909
Echo Gilt Edge Mining & Milling Company	13 April 1906	7 June 1912
Echo Canyon Gold Mining Company	29 June 1906	5 October 1907
Mesquite Mine	9 November 1906	17 May 1907
Burro Extension Mining Company	30 November 1906	2 December 1908
Skybo Mining Company	19 October 1906	13 June 1912
Echo-Lee Gold Mining Company	21 December 1906	14 August 1909
Lee Imperial Mining Company	21 December 1906	3 August 1907
Ready Cash Mine	4 January 1907	22 February 1907
Lee Theresa-Clyde Mining Company	1 February 1907	17 May 1907
Gold Top Mine	1 February 1907	1 February 1908
Rosario Mining Company	15 February 1907	11 January 1913
Echo Consolidated Mining Company	22 February 1907	7 November 1908
Pearl Mine	1 March 1907	18 April 1908
Gold Pick Mine	1 March 1907	1 March 1907
Inyo Ventura Mining Company	1 March 1907	12 April 1907
Lee Golden Gate Mining Company	22 March 1907	18 January 1908
North Burro Lee Mining Company	19 April 1907	19 April 1907
Idaho Mine	3 August 1907	15 August 1908
Angelus Mining Company	31 August 1907	8 November 1907
Portland Gold Mining Company	12 October 1907	18 October 1907
Ready Money Mine	1 February 1908	7 March 1908

Early in 1907, the Echo-Lee District emerged into a completely full-fledged mining boom. Between January and April of 1907, ten new mining companies opened operations in the Lee side of the district, and ten additional mines were started on the Echo side. Several towns were platted on both sides of the range, with Lee, California leading the list on the east side and Schwab on the west. In mid-January of 1907, the Rhyolite Herald, observing the beginnings of a real boom to the south, noted that the district had been held back in the past by a scarcity of water and difficulties in getting supplies, but that those conditions were now almost a thing of the past. "It is typical of Nevada to astonish the mining world and to offer sensations in mineral products," said the Herald, "and it is predicted that the Lee District will not only astonish but will become another sensation of Southern Nevada." Being based in Rhyolite, Nevada, the Herald naturally called the most attention to the Nevada portion of the Echo-Lee District.

The Bullfrog Miner also took note of the genuine rush to the district. Early in February, that paper blazed in its headlines that the "STAMPEDE IS ON TO LEE," and reported that twenty-five outfits had been counted on the road to Lee in one day. "The rush appears to be on in earnest." The stock brokers of Rhyolite also took a keen interest in the new mines, for every new mining company meant more stock for them to trade and thus more commissions. Although Taylor & Griffiths, one such firm, acknowledged that "the less said about the stock market now the better for all hands," they went on to add that the Lee and Echo District mines were doing well. Promotion stocks in the good companies were much in demand, and twenty to forty rigs were seen going into the new district every day.

As the rush continued in February, the Bullfrog Miner began to see visions of wealth and glory for Rhyolite, which could add to the fame from its own mines by

becoming a major supply center for outlying districts such as Lee and Echo. While the mines of those districts had not yet been developed to any great degree, the Miner noted that when they were the "Lee and Echo districts promise to surpass Goldfield and all others," and as a consequence "RHYOLITE WILL PASS GOLDFIELD," and become the single most important mining center in Nevada. A week later, the Miner was still singing the praises of the new district. "Echo and Lee at present occupy the center of the stage of mining excitement. For months local operators have had their eyes on these funeral range camps . . . and many sagacious Bullfrogs stand in the way of making a mint of money by their timely investments in Lee and Echo Ground."

Taylor & Griffiths, in turn, were only too glad to echo these sentiments. "The Echo-Lee district is the center of the greatest activity seen in this section of the country since the early days of the Bullfrog," they wrote. "We predict that the Echo Lee district will be the sensation of the year in the gold mining camps." In honor of the new district, the Bullfrog Miner published a special sixteen-page Lee-Echo supplement to its regular eight-page paper on March 1, 1907, packed full of descriptions of mines in the district, as well as advertisements for most of them.

Toward the latter part of February, as more and more companies began work, enough wage-earning miners were hired to justify the formation of a union. On February 27th, the Death Valley Miner's Union was organized, and the Rhyolite scale of wages, $4.50 per day for normal underground miners, was adopted. In early April, the miners on the Echo side of th district followed suit, and organized the Echo Miners Union, headquartered at Schwab, the leading mining camp on that side of the range. As the boom continued, the stock brokers reported good business in Lee and Echo stocks, and Taylor & Griffiths reported that the "interest in the Lee district remains unabated. . . ."



Courtesy of the Allan Metscher collection, Central Nevada Historical Society

ECHO GILT EDGE
Mining & Milling Co.

Incorporated under the laws of Arizona for 1,500,000 shares, par value $1.00

Officers and Directors

President, W. B. Mackey
Colorado Springs.

Vice-Pres., Judge J. A. Elston
Colorado Springs.

Secy & Treas., Wm. H. Frick
Colorado Springs.

Director, Chet Leavitt
Rhyolite, Nev.

PROPERTY

The property of this Company consists of seven claims in the Echo District, within a short distance of the Inyo Gold Mining Company.

REASONS WHY

we wish to go on record as predicting that this will be one of the greatest of Nevada's mines: Before much work had been done on this property a very thorough examination by experts resulted in the following: Sixteen assays taken from across the ledges in as many different places gave an average of $16.50 in gold, six to twenty ounces in silver, and eight to forty-eight per cent in lead. Seven assays just received average **$101.86**. Assays from rich streaks not included in the above ran $5000 per ton in gold.

SACKING RICH ORE FOR SHIPMENT

Since that time considerable development work has been done, the values increasing with depth and the veins widening rapidly. Although this has always been considered a big milling proposition, large bodies of rich shipping ore have recently been opened up, and the Company is now sacking same preparatory to shipping at an early date. These are facts which we are ready to demonstrate to any one. We offer for immediate subscription

Fifty thousand shares of Echo Gilt Edge Mining and Milling stock at **30** cents per share

Dorr, McDonald & Co.

Mines and Investments

Rhyolite, Nevada

From the Rhyolite Herald, 1 March 1907. As evident from these advertisements, Rhyolite stock brokers and mining promoters were instrumental in promoting the Echo-Lee mines.



Shaft on Midnight Claim of Echo Lee

Although this is a relatively poor picture, it helps put the Echo-Lee District mining boom into perspective. The shaft in the middle is the main working shaft of the Echo-Lee Mining Company, which was a fully incorporated mining company, owning fifteen claims. Stock in the company at the time of the photo was selling for 15¢ per share. Note the lack of structures around the mine, and the crude hand windlass used to hoist the ore. Such operations were very typical of the Echo-Lee District, and each of these isolated mines hoped to strike it rich. The Echo-Lee Mining Company, however, was not one of the lucky ones, and its mine never saw much more activity than what is depicted here. Compare this photo, taken from the Rhyolite Herald of 15 March 1907, with the following advertisement, from the Herald edition of March 1, 1907.

Echo-Lee Mining Company's

Stock at 15 cents a Share, is one of the best buys in the

ECHO-LEE DISTRICT

Company owns 15 claims in the heart of the District—every claim heavily mineralized. The values in the shaft on the Midnight claim are steadily increasing with depth. Starting at $10. on the surface, they are now $47. at 36 feet.

Copper assays on the B Fraction run from 12 to 19 per cent.

The whole property is characterized by strong ledges all carrying values. Assays from over fifty samples do not show a skunk, while some of them run as high as $980.

We predict that the Echo-Lee District will be the scene of the greatest mining excitement this section of the country has ever seen.

Only 50,000 Shares of Echo-Lee Stock Will Be Sold at 15 Cents

Wire Your Reservations

Taylor & Griffiths, Brokers

Rhyolite, Nevada. Metropolis of the Bullfrog Mining District.

When spring turned into summer, even the heat of the Death Valley climate could not slacken the pace of the boom. Two new companies started work in Echo and nine in Lee. The Inyo Independent reported in late May that eighty men were employed as wage-earners in the mining companies operating in the district, and estimated that another 500 could be found prospecting around the hills, or working their own small mines. Some water had been found in the vicinity of Lee, which alleviated one of the problems of the district, but water still sold for $3.00 per barrel, and much of it was still hauled in from Rhyolite. In mid-July, the Bullfrog Miner reported that eight to ten companies had hoists in place and operating, and more had hoists on order--a prime indication that many companies were passing from the earlier stages of development where hand windlasses and horse whims were used to raise the ore.

But in the fall and winter of 1907, the bloom went off the Echo-Lee boom, a direct result of the Panic of 1907. This financial panic, which hurt all the mining districts of the west, even those proven areas such as Goldfield and Tonopah, arrived at the worst possible time for the young district in the southern Funeral Range. By the end of September 1907, when the effects of the Panic began to make themselves felt in the area, a total of fifty-two mining companies had begun operations in the Echo and Lee Districts--plus another twenty-five on the Nevada side of the Lee District. Although nine of these companies had failed shortly after they were formed, the Panic caused the demise of numerous more companies. Between August of 1907 and the end of the year, a total of thirteen mines went out of business, and no new mines began operations.

The panic had hit just when most of the Echo-Lee mines were beginning to make the transition from the exploration stage into more serious development work. Many mines

had proved that they had ore in the ground, which was the purpose of the early stages of exploration, and were just now beginning to start the expensive work of proving the extent of their ore reserves and extracting that ore for shipment or milling. For this purpose, eighteen hoists had been ordered and placed in the district during 1907, and miners had been hired to work the ore deposits. All this was done through funds supplied by stock sales and in a few cases by individual owners of mines. But now, with the panic affecting all segments of western mining, investors and mine owners began to pull in their horns. Small investors were forced to sell off their stock holdings in order to meet loan obligations called in by failing banks, or even to pay for food when their jobs were lost. Larger investors and promoters, most of whom came from Rhyolite and Goldfield, quickly dumped their smaller holdings in the Echo-Lee District in order to protect their larger and much more important investments in Rhyolite and Goldfield, which were their main sources of wealth and support. The Echo-Lee District, at the time when it most needed investor confidence and large treasury funds in order to mine the ore in the ground, suddenly felt itself cut off from all funds whatsoever, and mine after mine was forced to close down for lack of money to pay for labor and supplies.

Some of these mines closed for good, but many were able to weather the panic and resume operation in 1908. But the boom was now definitely over, and investors, once burned by the Echo-Lee District, were loath to reinvest in those mines--even though they had been burned by circumstances far beyond the control of the mining companies. Consequently, after the fall of 1907, a decided change took place in the Echo-Lee District, as the mines which were left struggled to survive in a much more pessimistic atmosphere than that which had prevailed during the rosy days of the boom during the spring and summer of 1907.

In late December of 1907, reflecting this trend, the Rhyolite Herald noted that only ten companies were actively operating in Lee, although many others were expected to resume once the financial distress had passed. "In ordinary times," wrote the Herald, "Lee would experience a strong boom, and I predict as money becomes easier, you will see much of it invested in Lee."[51]

During the early months of 1908, the Panic gradually eased its hold upon the district. Only six more companies gave up during that period, and one new company started, although it also failed after only a few months. Several of the old mines, which had closed during the previous fall, were relocated by individual prospectors on midnight of December 31st when the old claims became invalid. But most of these were small, one-man operations, and never amounted to much.

As the district slowly revived, several individuals began to look into one of the major sources of the district's troubles. The Echo-Lee District had no milling facilities of its own, and thus had to transport its ore into Rhyolite for treatment there or elsewhere. This necessitated a large freight expense, which kept mines with low grade ore from becoming paying propositions. Ore of the content, for example, which kept the Keane Wonder Mill operating for years, was present in the Echo-Lee District in smaller quantities, but the expenses of transporting it to Rhyolite made it unprofitable to mine and mill. Thus J. D.

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51. Rhyolite Herald, 4, 18 & 25 January, 1, 15 & 22 February, 8, 15 & 22 March, 5 & 26 April, 18 October, 8 & 15 November, 6 & 20 December 1907. Bullfrog Miner, 4 January, 1, 8, 15 & 22 February, 1 & 8 March, 5, 12 & 19 April, 3, 10, 17 & 24 May, 8 June, 6 & 20 July, 3, 24 & 31 August, 14 September, 5 & 12 October, 28 December 1907. Inyo Independent, 24 May 1907. University of Nevada, Reno, Manuscripts Collection #NC35, Account Book of John S. Cook Bank.

Cushman and several other leading mine owners proposed the erection of a custom milling plant for the district, which would be able to treat ore from all the local mines. The idea was a good one, but unfortunately, no one had a combination of money and faith in the district necessary to finance such a project.

In the meantime, more and more of the Echo-Lee mines gave up on developing the mines themselves, and began to turn to the leasing method, a sure indication of hard times. Lessees were not hard to find, for most of the mines had enough promise to put stars in the eyes of desert prospectors, but with the exception of an occasional small sack of high-grade ore, none of the lessees made good. Finally, in May of 1908, one of the final unmistakable signs of the decline of a mining district appeared when the Lee State Line Gold Mining Company's property was put up for sale at a sheriff's auction. The State Line Mine had looked so promising only the previous spring that its claims had been patented. Although such a move made title to its claims absolutely secure, it also made the company's property subject to property taxes from the county, and now the company could not pay those taxes.

Three more mining companies went broke during the summer of 1908, as the trend continued. The Rhyolite Herald reported in mid-June that the camp of Lee was "quiet," a far cry from the year before. During the remainder of 1908, five more companies went broke, and even nature took a hand against the district, when a major cloudburst washed out a large part of the road from Lee to Schwab. Several thousand dollars was estimated as being necessary to repair the road, and no one in the district had that kind of money. By the end of 1908, only eighteen companies were left in the entire district, and many of those were

only performing the annual assessment work necessary to retain title to their claims, while awaiting better times.[52]

But the Echo-Lee District did not die easily. As 1909 opened, the Rhyolite Herald noted renewed interest in the district, and gave an assessment of the previous years. "The panic . . . was probably felt in the Lee district a great deal worse than in most other of Nevada's gold camps . . . during the hard times it was next to impossible to secure sufficient capital to properly develop its mines. Today, mining conditions are decidedly better, and from this time on Lee-Echo will begin to give an account for herself that will surprise the world." The Bullfrog Miner agreed with that assessment, and reported in early February that "Slowly, but surely, conditions are improving at Echo Lee. . . ."

But, unfortunately, such conditions did not improve enough. The trend of 1908 continued through 1909, and during that year, five more companies gave up and abandoned their claims, leaving only thirteen that still retained hope. The Ash Meadows Water Company, which had intended to lay a pipe line into Lee, and had even surveyed such a line the previous year, abandoned its plans to supply the district with water, for a lack of customers. Likewise, the Tonopah & Tidewater Railroad, which had talked several times of extending a branch line to the district during the balmier days, abandoned its plans, due to a decided lack of freight demand. The Bullfrog Miner, perhaps not understanding the situation as well as it should, wondered in

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52. Bullfrog Miner, 4, 11, 18 & 25 January, 1, 11 & 29 February, 7 March, 18 April, 8 & 15 August, 3 October 1908. Rhyolite Herald, 10 June, 2 September, 4 November, 2 & 9 December 1908. Inyo Independent, 8 May 1908. Rhyolite Daily Bulletin, 10 December 1908. Death Valley Magazine, January 1908.

September why there were only twenty-five men working in the entire district, when everyone knew that there was good ground to be had for the picking.

The year 1910 proved no more fortunate. Although only two more companies abandoned their mines that year, the majority of the eleven which were left were reduced to being able to do little more than their annual assessment work. More companies which had patented their claims in prosperous days, such as the Lee Jumbo Gold Mining Company, were forced to miss their tax payments, and saw their property sold at sheriffs' auctions. The district died hard, however, and still had enough inhabitants in 1910 to qualify as a poling place for both the primary and general elections of Inyo County. But in 1911, even though a few mining companies struggled on, very little more than assessment work was done. Four more companies gave up that year, leaving seven in token operation, and more fell under the sheriff's hammer. But by 1912, even the most foolhardy had given up, and six more companies folded, leaving only the Rosario Mining Company on the active list--and it gave up in January of 1913.

The Echo-Lee Mining District, after a grand beginning and a boom which was in the best traditions of western mining, had been fatally crippled by the Panic of 1907. Although many of the mines had continued to struggle through the succeeding years, their hopes were futile. Once Rhyolite itself began to show signs of dying around 1910, the final fate of its surrounding districts was almost a foregone conclusion. Although a few sporadic attempts were made in the depression years of the 1930s to revive a few of the mines, those efforts also failed rather quickly, and the Echo-Lee District has been virtually deserted ever since.[53]

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53. Bullfrog Miner, 6 February, 1 May, 14 August, 11 September 1909. Rhyolite Herald, 13 January, 26 May, 4 September, 6

b. Lee, California

An integral part of every self-respecting mining boom, regardless of size, was the establishment and promotion of a town. The Lee District was no different from any other boom area in this respect, and was actually slower that most in starting a town. But eventually, a group of enterprising individuals decided to cash in on the boom spirit. Starting a town, however, was a little more difficult than it seems. On the surface, all one had to do was to locate and claim a parcel of land, within comfortable distance from the mines which he wanted to serve, and then just stake out lots for sale. But unless the townsite promoter could persuade people to buy his land, he would go broke, and since everyone was living on free land before he came, he needed a powerful incentive. That incentive was business. If the promoter could get the business houses, especially the saloons, boarding houses and restaurants, as well as the grocery and hardware stores, to locate in his town, then his townsite could offer the advantages which would overcome the cost of buying a lot. Thus the town promoters would normally enter into reciprocal agreements with merchants, and would offer them prize locations at cheap prices or even for free. The merchants, who were just as anxious to be the first into a new town, and who wanted locations near the center of the future town, were usually more than happy to enter into this kind of deal.

Such was the case of the Lee District. With the start of the Lee boom, in late 1905 and early 1906, miners and

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November 1909; 26 February, 10 September 1910; 28 January, 25 February, 2 December 1911; 6 & 13 January, 27 April 1912. Inyo Independent, 8 May 1909, 7 June 1912. Inyo Register, 2 June, 11 August, 8 September, 20 October 1910; 28 September 1911; 7 June 1912. Mining Journal, 30 June 1940, p. 41. Mining World, 11 January 1913, p. 74. California Journal of Mines & Geology, October 1938, p. 395. Index to Proof of Labor, Inyo County Recorder's Office, Lee Jumbo Mining Company, 17 June 1909.

prospectors who came into the area merely pitched their tents wherever they wished, and set up housekeeping--provided, of course, that they were not on anyone's claim. It was not until November of 1906, when the Lee District was first beginning to experience a real boom, that rumors of a new townsite were heard, and sometime during the next month a town was laid out. In early January of 1907, the Lee Townsite & Mining Company was organized to promote this new town of Lee, named after the district and the Lee brothers who were instrumental in opening the district. The townsite was platted, and tents, building materials and supplies were sent in. The company announced that it would be ready to accept inhabitants by January 10th. The town was situated twenty-five miles from Rhyolite, and advertised that it would soon have a telephone connection, a corral and feed yard, a restaurant, rooming house, and, of course, a saloon. The new town was located in Nevada, just east of the California state line, and thus outside of the Death Valley National Monument boundary.

But more than one group of promoters had the same idea, and another townsite was soon started. Interstate rivalry played a part, for the second town, which was situated inside California, was named Lee, California, and was promoted by the Lee Hidden Treasure Mining Company, upon whose property the townsite was platted. As the Bullfrog Miner observed, "it is claimed that a camp is never fairly certain of a good future until it has a townsite fight," and such a fight was now on.

The timing and the location was right for Lee, California, and the town quickly began to grow. Rhyolite merchants established branch stores and other individuals opened up places of business, hoping to capitalize on the new mining boom. By February 8th, the town boasted of a restaurant, a rooming house and a saloon, as well as a general store, and plans for a feed lot, a lumber yard, a grocery, a liquor store, and a general

The New and Thriving Town of

Lee, Nevada

The metropolis and supply center of the Lee District; the logical outfitting point of the working mines that only recently sprang from infancy into permanent life.

"The Town of Lee, Nevada, is to the Lee District What Rhyolite was to the Bullfrog District two years ago."

The growth of the new Town of Lee, Nevada, has been uniform. Progress has only been hindred by the lack of conveniences, which are being freighted in with all possible speed. Many of Rhyolite prominent business men are establishing in Lee, Nev.

Water—the chief drawback of all desert mining camps—can be had for domestic purposes at $3.00 per barrel. But even this condition is only temporary, as work on the new well, two-and-one-half miles distant, is progressing rapidly. When water is reached in this well, the water question will be a comparatively simple one.

Telephone service into Lee, Nevada, can be had within four or five days, according to the assurance of Mr. Adams, the Manager of the Southern Nevada Consolidated Telephone and Telegraph Company. Mr. T. M. Holt's office will be the central headquarters. With telephonic communication with the outside world, Lee, Nevada, will enjoy privileges at the age of a few weeks that Rhyolite did not enjoy at the age of four months.

The new wagon road through Lee, Nevada, is now the main travel road, and is used by the stage and auto' lines. It is one of the best roads in Southern Nevada, and is tributary to the working mines.

The "Borax" Smith railroad is surveyed through Lee, Nev., assuring it as a railroad center.

Are not the above facts evidence-conclusive that Lee, Nevada, is, and always will be THE town of the Lee District? If not, call, or write, and we will endeavor to point out to you its many advantages from both a mining and commercial standpoint.

We will also have some literature in which we cover all interesting points regarding the Town in detail.

BUSCH BROS., Sole Agents

RHYOLITE, NEVADA

LEE, California

NEAR THE STATE LINE

A Town of Opportunities at the Heart of the Great

LEE-ECHO GOLD DISTRICT

Of Nye and Inyo Counties. Lots at Lee Are Now, for the First Time, Advertised for Sale

BUY LOTS AT LEE AND DOUBLE YOUR MONEY

Botton half of a full-page ad from the Bullfrog Miner, 1 March 1907. See the top half on preceeding page. Compare this with the ad for Lee, Nevada, shown earlier.

LEE

THE METROPOLIS OF THE MINES

The Hayseed, State Line, Hidden Treasure, Burro, Gold Grotto, Honeysuckle, etc., are Close to Lee

THE LEE TOWNSITE IS BEING PATENTED

POWERS & SULLIVAN

TOWNSITE AGENTS - - - - - - - LEE, CALIFORNIA

merchandise store were in the works. Twenty-six people had purchased lots towards the middle of town, all under agreement that wooden buildings would have to be erected, and one eighteen by thirty foot frame building and seventeen temporary tent stores and houses were already in the town. The Kimball Brothers of Rhyolite established regular service to Lee, with thrice-weekly stages leaving Rhyolite every Monday, Wednesday, and Friday morning.

By mid-February, the papers reported that both Lee, Nevada and Lee, California were booming. About 150 people were in the two towns already, lumber was coming in by the wagon load, and tent buildings were givin to frame structures. F. S. McArthur established a daily auto service between Rhyolite and the two Lee towns, in competition with the Kimball Brothers' stages, and the autos were scheduled to leave Rhyolite at 8 A.M. each day and Lee at 10 A.M. for the return trip. Lee, California, was platted and plans were laid for the establishment of six business blocks, with the residential district surrounding them.

As February moved into March, and the Lee boom went into full swing, the two towns heightened their competition. Newspaper ads were placed, extolling the virtues of each townsite, and much behind the scenes bargaining took place between the two groups of townsite promoters and the merchants coming into the district. By March 1st, Lee, California seemed to be winning the fight, with an estimated population of 100 citizens, although the only real difference between the two towns, as the Death Valley Chuck-Walla pointed out, was that gambling was legal in Nevada and was not in California. Even that, however, made little difference, as no one seemed particularly concerned with controlling gambling in California. Indeed, neither town had any peace officers or county officials appointed as yet, so a certain freedom from restraint was definitely present.

On March 1st, in its special Lee-Echo edition, the Bullfrog Miner described the towns in some detail. Lee, California had forty tents and several frame houses at the time, and included businesses such as two restaurants, two rooming houses, three saloons and a bakery. Water cost $3 per barrel, already down from the $5 of the previous year, and would get cheaper as soon as some new wells were dug. The telephone line into town was expected to be completed within a week. On March 5th, the plat of Lee, California was approved by the Inyo County Board of Supervisors. The townsite was roughly in the shape of a squat triangle, with a width of five blocks at the base, and a height of five blocks. Provisions were made for the sale of 400 lots.

By the end of March, the Rhyolite Herald predicted that Lee, California would win the townsite battle, as it "seems to have the call." In reality, the mines around Lee, California were showing greater promise than those around Lee, Nevada, which was of primary importance. Between sixty and seventy tents and buildings were in the California town, and additional structures were going up as fast as carpenters could work. A new lumber yard was established, and another saloon and a fresh meat market headed the list of new businesses. An ice house was added the next week, making the preservation of meats, produce and drinks much easier for all concerned, and an average of six buildings were started each week during the latter part of March and the first of April.

Then, on April 19th, the fatal blow to the hopes of Lee, Nevada, was struck. S. J. Hernstadt, who was a principal owner of the Hidden Treasure Mining Company as well as a chief promoter of Lee, California, struck pure water at a depth of 120 feet, 3½ miles east of Lee. Since Hernstadt was so closely connected with Lee, California, there was no doubt in anyone's mind that none of his water would find its way to Lee, Nevada.

You Can Buy of

THOMAS M. HOLT

AT

LEE, NEVADA---LEE, CALIFORNIA

YOUR

LUMBER

HAY, GRAIN

WATER

GROCERIES

Rhyolite Prices Plus Wagon Freight

Freight Teams Leaving Nearly Every Day

Give me your hauling

An early advertisement from an enterprising merchant who set up stores in both Lee, Nevada and Lee, California, until he determined which town would win the townsite fight. From the Bullfrog Miner, 8 March 1907.

Hernstadt immediately anounced plans to lay a pipe line and build a pumping station to bring the water into Lee, California.

By mid-April, the town of Lee had grown magnificently. A post office had been established in the Colorado House, which was already Lee's leading saloon and gentlemen's club. In addition, the town had four restaurants, one meat market, four general stores, three feed yards, four office buildings, four saloons--including one which was built of corrugated iron and measured twenty by forty feet--one dry goods store, one assay office, two lodging houses, one ice house, a miners supply store, one barber shop, one surveying office, one brokerage office, two lumber yards, and a stage station. Not to be left out, the Death Valley Miners Union was just beginning to erect a Union Hall, a traditional ingredient of any western mining town.

In addition to all these frame or iron buildings, the downtown business district was literally surrounded by a sea of white tents, the homes of miners and businessmen recently moved into the district. Lots were selling from $30 to $450 each, depending upon location, and the population was put at 300 men and twenty ladies. According to the Bullfrog Miner, these twenty ladies were "very much contented and happy with this new camp life. . . ." Dances were held "every time a new building is dedicated, which is quite often indeed."[54]

But such prosperity was not to go unchallenged. On April 19th, "one of the largest townsite and

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54. Bullfrog Miner, 30 November 1906; 4 January, 1 & 15 February, 1 & 8 March, 3 May 1907. Rhyolite Herald, 4, 11 & 25 January, 1, 8 & 15 February, 1 & 22 March, 5 & 19 April 1907. Death Valley Chuck-Walla, 1 June 1907. Plat of Lee Townsite, 5 March 1907.

mining property transactions yet consummated in the history of southern Nevada trading" was made, when the L. P. McGarry Brokerage Company of Rhyolite, which we have already met as the operators of the Bullfrog West Extension Mining Company, secured control of the Hayseed Extension Mining Company, the North Bullfrog Lee Mining Company and the Gold Shield Mine. Since, as McGarry announced to the papers, the Lee, California townsite lay in a wash which was unsuitable for a real town, McGarry planned to start a new one, called Lee Addition, upon his new land. The new town was described as being "one of the prettiest" sites in that portion of the country. "The people of the old town," McGarry boldly told the papers, "are moving just as rapidly as they can to get locations, and the new town of Lee [Addition] is a lively rival" to both Lee, California and Lee, Nevada.

Within a week, McGarry's Lee Addition was taking shape, with fifteen to twenty tent sites upon the ground, and a boarding house. But the promotors of Lee, California were not worried, and asked "the Herald to state that the town is just where it always has been, and always will be; in other words, that Lee, Cal., is doing business at the same old stand." Despite its new rival, Lee, California had the upper hand, and continued to grow. The new well did a "land office business," with men lining up to draw water, and the flow was sufficient to satisfy their demands. Preparations were made to put in the pipe line from the well into town, and to build the pumping station. Late in April, realizing that his town was now big enough to require some sort of governmental authority, S. J. Hernstadt submitted a petition with eighty signitures to the Inyo County Board of Supervisors, asking that a Justice of the Peace be appointed for Lee.

During May of 1907, with the Echo-Lee boom in its fullest bloom, Lee continued to grow. The Death Valley Miners Union reported a membership of seventy miners, and stepped up

construction of its union hall. The telephone exchange was finally completed, which linked Lee to the outside world, and J. P. Nelson announced plans to build a $5,000 hotel. By this time, the Bullfrog Miner reported that Lee, Nevada had "all but given up and moved to California," but the Lee Addition remained as a rival to Lee, California. The two townsites, however, were so close together that the Miner predicted that instead of slugging it out, they would eventually grow together and become one town. A new general store was buillt, J. E. Saunderson announced plans to open a bank in the fall, the Pacific Express Company moved into town, another saloon opened, and C. E. Kincaid was appointed as Justice of the Peace and deputy tax collector for Lee and its environs.

As May progressed, the rivalry between Lee and Lee Addition continued to keep pace with the district's boom. The plat of Lee Addition was approved by the Inyo County Board of Supervisors on May 6th. McGarry was even more optimistic concerning his town than the promoters of Lee, California had been, as his plat shows a townsite eight blocks long and five blocks wide, with over 800 lots staked out for sale. One week later the two townsites came to an agreement whereby the water from Hernstadt's well would be shared between the two towns, since there was sufficient for both. On May 17th, the Miners Union at Lee gave an informal dance as a house warming for their "magnificent Hall," a frame structure measuring twenty-eight by sixty feet. The hall was big enough for six sets to dance at one time.

As the summer began, and the boom at Lee showed no signs of abating, the Kimball Brothers increased their stage service into town to a daily schedule, and reported that their stages were "loaded down on each trip." The stage left Rhyolite at 7:30 each morning and returned about 6 P.M. Recognizing the need for law and order, the Inyo County Board of Supervisors let

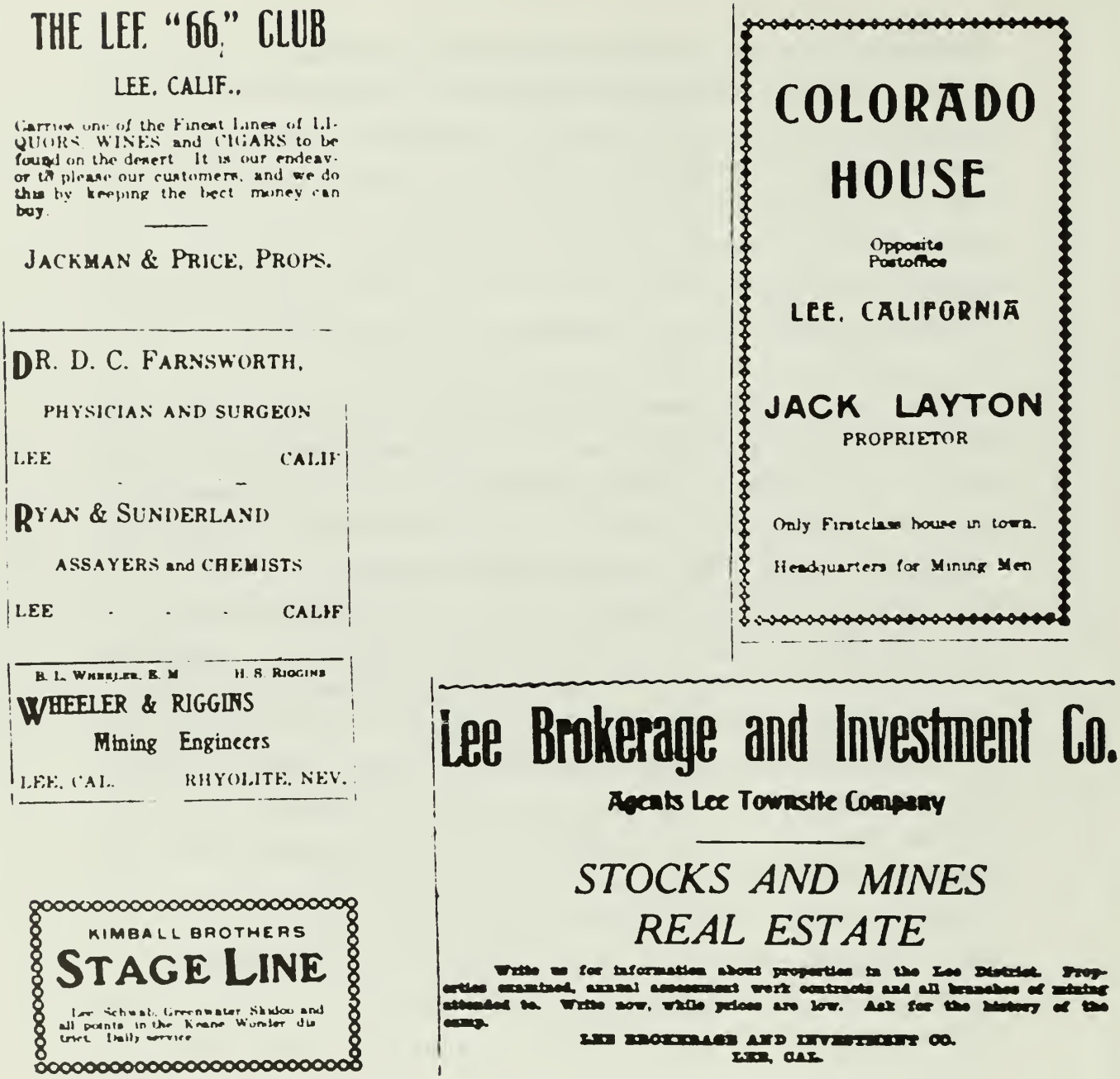
out bids in late June for the erection of a jail at Lee. Late in that month, the Lee, California citizens also organized themselves for government by the establishment of a Board of Trade. A charter membership was appointed to "look after the general welfare of the camp." Like those at Rhyolite and many other mining camps in the west, such a board of trade exceeded its legal authority in assuming the right to govern a town, but no one seemed to complain, given the need for some sort of civic direction.

In late July a two-story, ten room wooden hotel building was completed at Lee, and Hernstadt's well was cased up and the pump put in. The Tonopah & Tidewater Railroad, which was then building into Rhyolite, sent a representative to assess the freight potential of the district, and announced that it would run a spur track into town in the near future, "if conditions justify it." The Rhyolite Herald, in conjunction with S. J. Hernstatd, announced that arrangements were almost completed for a paper to be started at Lee, which would be published at the Rhyolite office until a printing plant could be brought into town. Just to complete the requirements of the town, Dr. D. C. Parnsworth moved in towards the end of July, giving the miners and their families the promise of medical attention. As a final note depicting the prosperity of a booming mining camp, on August 17th, the Lee Board of Trade passed a resolution restricting the redlight district to two blocks and warned that the restriction would be "rigidly enforced." Lee had arrived.[55]

As the fall of 1907 began, the town of Lee, California had reached its height, although its inhabitants did not

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55. Bullfrog Miner, 19 April, 3 & 17 May, 15 & 29 June, 20 & 27 July, 3, 10, & 17 August 1907. Rhyolite Herald, 26 April 1907. Inyo Independent, 26 April, 10 May, 28 June, 2 August 1907.



A selection of advertisements for various Lee, California businesses, from the Bullfrog Miner, 3 August 1907.

yet know it. Indeed, signs seemed most promising, especially when the Tonopah & Tidewater Railroad came into the vicinity and established a station, known as Leeland, along its main line into Rhyolite. With the tracks now a reality, General Manager John Ryan of the railroad visited Lee to assess the freight situation and left, saying that "little doubt is entertained but that the branch will be built" into Lee. A week later, the Ash Meadows Water Company, a corporation formed to pipe water into the booming districts of Lee and Greenwater, finished the survey of its pipeline into Lee. Water would be brought to Lee, the company announced, before the line was built into Greenwater.

In early October, Lee even had its own newspaper, as the Lee Herald, a branch publication of the Rhyolite Herald, issued its first paper. Although it was only a six-page folio newspaper that was printed at Rhyolite and shipped to Lee, that was enough to establish the prestige of any mining camp. On October 15th, Leeland Station on the Tonopah & Tidewater Railroad opened for service. With the railroad now only six miles from camp, freight and transportation costs between Lee and the outside world were cut considerably. But the rail service had a drawback. With the new railroad, stage demand for the Lee-Rhyolite line dropped drastically, and the Kimball Brothers cut back on their operations. Since the Kimball stages had brought the mail into Lee as an optional service, Lee was suddenly left with no regular mail delivery, and it began to pile up in Rhyolite.

By late October and early November, the effects of the Panic of 1907 began to be felt in Lee. As mines began to sut down and miners left to find work elsewhere, the town slowly began to lose its population. Even though Lee was estimated to have 500 citizens in early November of 1907, the decline had started. Nevertheless, the town carried on. A daily stage service between Leeland and Lee was established, with the six miles being

Opposite: Panoramic view of Lee, California. The center of town is evident on the left, the dump and shafthouse of the Hayseed Mine is in the right corner, and a few tents of Lee Addition are visible in the center distance. Note the number of tents as compared to wooden buildings in town, which indicates that the photo was taken before the peak of Lee's Boom. The wagon road to Rhyolite fades out of the photo towards the left top, as it enters the Amargosa Valley.

Photo courtesy Nevada Historical Society.


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covered in one hour. In late December a new mail contract was let, and the Leeland stage also began to bring in Lee's mail, which made the inhabitants seem much less isolated.

And there were still a few people migrating into Lee, helping to ease the flow of migrants moving out. One such was the town's second doctor, who was described by the Rhyolite Herald. "Mrs. Dr. Sellier," as she was called, was lately of Rhyolite, and opened an office in Lee on December 27th. "Dr. Sellier uses electricity in the practice of her profession, and is said to be very successful. She is also a phrenologist, palmist and telphthist [sic], and is endowed with physic and magnetic power to a wonderful degree, and being a thoroughly posted mining expert is able to give advice in matters connected with this industry." Medical help was not always the best in a mining camp.[56]

Storekeepers and other merchants, who depended upon a stead flow of cash to stay solvent, usually left a dying camp sooner than did the miners and prospectors who were willing to live on bacon and beans while digging for gold. Lee was no exception to this rule. During the first half of 1908 most of the town's business establishment sold out, packed up, and departed for other booming camps, to try again. Although there were still eleven mining companies active to some degree in the Echo-Lee District in June of 1908, the town had dwindled to only three stores, a saloon and a restaurant. The camp was described in an understatement as being quiet, although those who were left were expecting "better days when the universal hard times are over."

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56. Bullfrog Miner, 21 & 28 September, 12 & 26 October, 16 November 1907. Rhyolite Herald, 11 & 18 October, 20 & 27 December 1907. Pacific Miner, November 1907, pp. 14-15.

Many of those stores which had survived closed for the summer season, as the heat caused most of the mining companies to shut down work for several months. The Lee Hotel, for example, was closed sometime in the spring of 1908 and did not reopen until early December, when its proprietor returned from San Francisco. One of the lumber yards also reopened in early December, as a winter work in the mines called for a limited supply of timbering material. Although the town had dwindled drastically, its post office was still functioning at the end of 1908.

Very little is heard from the town of Lee for the next few years. Mining camp newspapers, such as those at Rhyolite, were much more eager to cover the growth of a new mining town than the death of an old one. It was bad business to give publicity to a mining district which was dying, and the Rhyolite papers soon began to ignore Lee, hoping that its troubles would go away. Thus mentions of the town are few and far between during 1909 and 1910, and it is much more difficult to keep track of the rate of decline. We do know that Lee had at least one store left in October of 1910, as it was used as a polling place in Inyo County's general election that fall.

The next mention of the town is in January of 1911, when a short article describing Lee's social life was printed in the Rhyolite Herald. During that month, Mrs. D. G. Brown had given a card party at her home, with eleven guests, and W. H. Lillard, proprietor of Lee's last store, held a party complete with dancing, music and light refreshment. In June of 1911, Lee was again in the newspapers, but this time for less fortunate reasons. The Lee Hidden Treasure Mining Company, the owner of the Lee townsite, was listed in the Inyo County papers on the delinquent tax list. The Hidden Treasure Company, like many others, had patented the land upon which its mine and Lee townsite lay, and was now no longer able to pay its taxes.

Lillard's store was again listed as a polling place for the Inyo County election in the fall of 1911. Lillard, who was one of the last to give up on Lee, told the Rhyolite Herald in January of 1912 that the camp had "never looked better than at present." But it was just wishful thinking, for by this time even the post office had left town, and had been reestablished at Leeland station. Lillard's wishful quote in January of 1912 was the last mention we have of Lee, California. Sometime shortly after that, even an optimist like Lillard found it necessary to pack up and leave a busted desert mining town. Within a few years, all the lumber, metal and other useful materials that could be salvaged from an abandoned town had been hauled away, and the former bustling camp reverted to its original quiet and forlorn state.[57]

c. Hayseed Mining Company

The Hayseed was the first mine located on the Lee side of the Echo-Lee District, and was also the only company on that side of the district which ever produced more than an occasional sack of gold. The first mention of this mine is in November of 1904, when Richard and Gus Lee located what they called the Hayseed and State Line claims. The two prospectors held on to their claims until February of 1906, when they sold them to Campbell, Metson and Brown, of Tonopah, for between $7,500 and $10,000 in cash. Unfortunately, however, the Lee brothers sold their mine more than once--a practice which was not that unusual--for in early March Charles del Bondio brought suit against Richard and Gus to enforce a performance of contract in writing to sell the Hayseed and State Line claims to him. Although the Lee brothers might be forgiven for breach of contract, since neither of

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57. Inyo Register, 20 October 1910; 1 June, 28 September 1911. Rhyolite Herald, 10 Jun, 11 & 25 November, 2 December 1908; 28 January 1911; 13 January 1912.

them could read or write, the plot thickened in late March, when they sold the mine again, this time to Russ Sutherland and Hector McKenzie, for $10,000.

Apparently the Lee brothers took their money and ran, leaving the various claimants to their mine to sort out their difficulties among themselves. Naturally, given the complex problems involved, it took almost a year for a solution to be worked out, and mining did not start on the Hayseed and State Line claims until shortly before February of 1907. Once mining did start, however, excellent results were almost immediately obtained. At a depth of twenty-five feet, the Hayseed shaft struck an 18-inch gold vein which assayed from $8,600 to $123,600 per ton. Although there was considerably less than one ton of gold in that streak, it was still a magnificent strike.

With ore in the ground, and the tricky questions of ownership resolved, the Hayseed Mining Company was organized in March of 1907. Sam F. Lindsay was president of the company, and J. P. Nelson served as vice-president and superintendent of the mine. Although details of the ownership compromises were not made public, the fact that none of the previous owners of the mine appeared anywhere in the organization of the new company indicates that all the former claimants had sold out to the new owners. With its problems solved, the Hayseed Company began advertising and promoting stock sales, and since it was the original mine in the district and had a high-grade streak of gold ore, Hayseed stock sold "like hot cakes." Over $56,000 worth of stock was sold at 50¢ per share within two hours after the announcement of the incorporation of the company was made, including $25,000 worth to one Goldfield firm.

Work at the Hayseed property commenced, and within a few weeks, a tunnel had been run into the ledge for a

BUY

HAYSEED MINING CO.

Stock at 50 Cents

NOW AND

LEE BURRO MINING CO.

tock at 25 Cents

NOW

If You Want Quick Profits

APPLY FOR STOCK AT

RHYOLITE MINING AND BROKERAGE COMPANY

AND

TAYLOR & GRIFFITHS

Rhyolite, Nevada

Advertisement for the Hayseed Mining Company and the Lee Burro Mining Company, both of which were owned and operated by the same interests. From the Bullfrog Miner, 15 March 1907.

distance of 100 feet. As work and time progressed, the mine looked better and better, and by the middle of March, the price of treasury stock for sale to the general public had been raised to 70¢, an almost unheard of price for a mine which was just starting its exploratory stage of development. That rich ore was present in the mine was made evident by the fact that one of the Hayseed's miners was caught high-grading (stealing ore) from the shaft. By the end of March, Superintendent Nelson had purchased ore sacks to prepare a shipment of the mine's high-grade ore, and a 25-horsepower hoist had been ordered for the 50-foot-deep shaft. More miners were added to the work force, 260 sacks were filled with high-grade ore, and Nelson started to build a 100-ton ore house to store the riches.[58]

As spring turned into summer, the sensational nature of the Hayseed Mine continued. Taylor & Griffiths, the Rhyolite stock brokers, announced in early April that the mine would make a carload shipment of $150 ore within a month, and reported that Hayseed stock was selling at 75¢ per share, with a heavy eastern demand. On April 5th, a strike was reported at the mine, with the miners taking out between $1,000 and $1,500 worth of ore in one day. Two hundred seventy-five sacks of ore were filled on the dump, the incline shaft was down to a depth of seventy feet, and the ore house was finished. One week later, on April 12th, Superintendent Nelson announced that the shaft was down to eighty-one feet, and that the company had twelve tons of high grade ore sacked. By the end of that month, Hayseed stock was selling for 53¢ on the local stock exchange, and the heavy

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58. Inyo Independent, 2 March 1906. Bullfrog Miner, 23 February, 23 March 1906; 8 & 15 February, 1 & 15 March 1907. Rhyolite Herald, 23 February 1906; 1, 8, 22 & 29 March 1907. Nevada Secretary of State, Articles of Incorporation, Foreign: #200½-1907.

demand for the company's stock had enabled it to pile up a balance of $26,384.05 in the John S. Cook bank at Rhyolite.

During May, the framing and foundations for the new gas hoist were prepared at the mine, while a few miners stayed underground and worked with the help of a hand winze. But as the months passed by, and the promised high-grade ore shipment did not take place, investors began to become suspicious, and the price of Hayseed stock on the open market began to slump. Stock which sold for 50¢ on the third of May had slipped to 47¢ by May 10th and to 41¢ by May 31st.

Then, during June, legal problems again arose to plague the company, as Charles del Bondio decided that he was not satisfied with the compromise reached the preceeding spring. The Hayseed owners, after several months of negotiating, settled the matter out of court, in order to get back to mining, and especially to divert the publics' attention away from any possible claims against their property, since such had disasterous effects upon public confidence and stock sales. In the meantime, mining continued, and in late June the Hayseed shaft had reached a depth of 150 feet, and ore was still being sacked for shipment.

During July, encouraging progress was made, as the Hayseed Company decided to push ahead with development work despite the intense heat of the summer. J. P. Nelson reported another ore strike on July 6th, with high grade ore which assayed around $100 per ton, and with the help of the new Fairbanks-Morse gasoline hoist, the shaft was quickly sunk to a depth of 215 feet. By the end of July, the shaft had been pushed even deeper to 300 feet, where it struck a rich body of ore. This new strike, coupled with the resolution of the latest ownership struggle, helped Hayseed stock to rebound, and it rose to 55¢ by the end of the month.

On August 3d, the Bullfrog Miner reported that the Hayseed had finally made its first shipment, but that report turned out to be in error, for no shipment had been made. The shaft, however, was down to 330 feet, which was correctly reported on August 3d, but after that news from the Hayseed mine suddenly became scarce. Superintendent Nelson did report briefly on August 17th that good ore bodies had been found on drifts pushed out from the 100 and 300-foot levels of the shaft, but little other work came from the mine. Investors, made wary by the silence of the company and by the long delay of an ore shipment, started selling off their stock again. By the end of August, Hayseed stock had slumped back down to 43¢ per share.

The picture remained much the same for the rest of the year. Nelson reported once a month to the papers about the progress in the different drifts and crosscuts from the main shaft, but other than affirming that the mine had ore, he refused to release assay figures or give the usual estimates about richness of the mine. This, coupled with the disastrous effects of the Panic of 1907, pushed Hayseed stock completely off the trading boards, and after August, no more trading in Hayseed shares was reported. Although the company was still working on its own in the main shaft, rumors began to spread in mid-October that the Hayseed mine was planning to let leases on other portions of its property. The letting of leases, which always indicated hard times for a mining company, was a bad sign, but once again the management took no steps to confirm or deny the rumors.

Then, inexplicably, without any of the usual prior public knowledge, the Hayseed Company sent out a carload of ore in late October. Although the number of tons sent out was not announced, the ore was estimated to be worth between $150 to $200 to the ton, and the usual carload shipments from other mines averaged between twenty and twenty-five tons. Once again,

however, no smelter returns from the ore shipment were announced, which effectively killed any promotional potential of the shipment, and news releases from the mine remained few and far between. On November 16th, in a very brief announcement, the Bullfrog Miner said that the Hayseed was thinking of putting in a mill, but nothing further was mentioned--a highly unusual fact, considering the importance of a mill to the district. Such an event was usually chewed over to the point of tedium by the local newspapers.

During the remainder of 1907, the puzzling situation at the Hayseed Mine continued. The Rhyolite Herald reported on November 22d that the Hayseed Mine was looking good. Encouraging values, it said, were reported in the crosscuts from both the 100 and the 300-foot level, and the company was employing seven miners. The Bullfrog Miner, in turn, reported in late December that the Hayseed definitely had plenty of shipping and milling ore, and was continuing work. Superintendent Nelson, according to the Miner, said that he could keep a good sized mill running for a long time with the ore already blocked out in the mine.[59]

During the first half of 1908, the situation at the Hayseed Mine stayed much the same. The Bullfrog Miner reported in mid-January that the mine looked better than ever, and had $60 to $100 ore in the drift from the 100-foot level of the shaft, which was now out to 380 feet. The mine, according to another report in late January, was sacking ore from four places in

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59. University of Nevada, Reno, Manuscripts Collection #NC-35, Account book of John S. Cook bank. Inyo Independent, 2 August 1907. Rhyolite Daily Bulletin, 26 October 1907. Rhyolite Herald, 5 & 12 April, 22 November, 6 December 1907. Bullfrog Miner, 5 April, 3, 10, 17 & 24 May, 8, 15 & 22 June, 6, 20 & 27 July, 3 & 17 August, 7, 14, & 21 September, 5 & 18 October, 16 November, 21 December 1907.

the underground workings. Although the company still retained its mysterious silence concerning its ore holdings, it obviously felt that the mine had a future, for on April 29th, it filed a notice of application for a patent upon the Hayseed and State Line claims, a total of 38 acres.

Only when the company had its annual meeting in June was the public finally given a chance to see what shape it was in. Superintendent Nelson, who presented the annual report to the meeting, announced that 1,700 feet of work had been accomplished during the last year, including sinking the shaft down to the 325-foot level. Over 460 feet of drifting and 150 feet of crosscutting had been done on the 100-foot level of the shaft, and 111 feet of drifting and 108 feet of crosscutting on the 300-foot level. The mine, he reported, had good milling ore on the 100-foot level, but had yet to find any on the 300-foot level. The property was equipped with a 25-horsepower gasoline hoist, an ore house, a blacksmith shop and a horse stable. 67,450 shares of the company's treasury stock had been sold to the general public, leaving the company with a balance of 382,550 shares for possible sale, although the general financial picture at the time made it doubtful that it would be able to sell any more. One shipment of ore had been made, of eighteen tons, which returned $73 to the ton, far less than had been estimated, for a total gross profit of $1,314.

Although Nelson said that the company had $30,000 worth of $15 ore in sight, that was not enough to warrant the erection of a milling plant, without which $15 ore was worthless, due to excessive costs of freighting. The rock on the 300-foot level, he said, was so hard that it rendered hand work too expensive to continue, and the company had no funds to invest in machine drills. All told, the picture painted by Nelson was not very optimistic, and it is no small wonder that the Bullfrog Miner

reported that "It was decided at the meeting to let leases provided responsible people can be interested in the matter. An endeavor will also be made to bond the property, and raise funds for a milling plant." But apparently the company either changed its mined, or "responsible" leassees were hard to find, for the company continued to work on its own, using its dwindling supply of money, and had eight men employed in late July.

Shortly afterwards, however, the mine closed, and remained idle for the rest of 1908. J. P. Nelson took a vacation to Colorado, and when he returned in early December he would not say what, if anything, would be done with the Hayseed property. He did tell the Rhyolite Herald, though, that he expected "to see a genuine revival" in the Lee District "when the panic has passed away for keeps." The Rhyolite Daily Bulletin, on December 28th, speculated that something would be done to revive the mine following the company's next meeting, scheduled for January 2, 1909.[60]

During 1909, the Hayseed Company began looking more seriously for a lessee, and for a while it seemed that the company would not have far to look. On January 9th, it was announced that negotiations were under way for J. P. Nelson, the vice-president and general manager of the company and S. J. Hernstadt, the secretary, to lease the mine, with the financial backing of Hernstadt's brother, W. L. Hernstadt of New York. On February 3rd, S. J. Hernstadt announced that the deal had been completed, and that operations would begin soon, with an inspection

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60. Rhyolite Daily Bulletin, 28 December 1908. Engineering & Mining Journal, 25 January 1908, p. 230. Mining World, 1 February 1908, p. 231. Inyo Independent, 31 May, 1908. Bullfrog Miner, 18 January, 13 June, 5 December 1908. Rhyolite Herald, 29 April, 10 June, 9 December 1908.

of the mine and ore tests being made prior to a decision on whether or not to build a mill. The lessees, said Hernstadt, had an abundance of capital. Ironically, while this deal was being negotiated, the Hayseed patent application was approved by the U.S. Land Office, and a patent was delivered to the company, too late to do it any good.

But evidently W. L. Hernstadt of New York had better things to do with his abundance of capital than finance his brother, for the leasing arrangement fell through. Then in April, the Bullfrog Miner reported that some big stockholders of the Hayseed Company, together with the owners of the Crystal Bullfrog Mill at Gold Center were negotiating for a long term lease on the full holdings of the mine. Their object was to operate the mine and dump and treat the ore at the Crystal Bullfrog Mill. Several weeks later, however, the Miner reported that the deal was not yet closed, and it never was. The only other mention of the Hayseed during 1909 was a notice that it had sent an ore specimen to the American Mining Congress Convention at Goldfield, but the specimen did not seem to interest any of the conventioners enough to attract a lessee for the mine.[61]

Finally, in early 1910, the Hayseed Company found the lessee for which it had been looking. On February 19th, Dr. F. H. Harding, of Fosteria, California, obtained a three-year lease on the mine. According to the Rhyolite Herald, which exaggerated somewhat, Harding had ordered a 10-stamp mill and would install it as soon as possible. Development and preparatory work was to start at once. Terms of the lease called for a sliding scale of royalty payments, from 10 percent on $15 ore to 35 percent

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61. Bullfrog Miner, 9 January, 6 February, 10 & 24 April, 14 August 1909. Rhyolite Herald, 3 February 1909.

on ore of $150 value or higher. Harding had the option to purchase any improvements which he made at the mine during the term of his lease, such as a mill or pipe line. He had nothing to lose, beside his time and labor, for his only payment requirements were in the form of royalties. If he found no ore, neither he nor the company got anything.

By the first of March, Harding had started to work on his lease, and by the middle of the month he was preparing the ground for the installation of a mill. Towards the end of April, the Rhyolite Herald reported that Harding was so pleased with the results of the first several months of his work that he had brought his wife and family in to live at Lee. On May 14th, Harding purchased a mill from the defunct American mine near Columbia, Nevada, and started to dismantle it for shipment to Lee. The mill had a capacity of thirty tons per day, and Harding hoped to have it in operation within seventy days, treating the free milling ores of the Hayseed Mine. The mill had three Nissen-type stamps, and due to the lack of adequate water at the Hayseed Mine, would be installed one mile west of Leeland Station, four miles east of the mine, where there was a well with sufficient water to support the mill.

By the first week of August, Harding had his mill in place and running. The Rhyolite Herald reported on August 13th that the mill had run well during its first ten-day run. The three stamps had been treating about ten tons a day, about half its capacity, and was making a 70-80 percent savings, using amalgamation only. The ore from the mine which was being treated averaged around $30 per ton, which would permit a profit, even considering the four-mile wagon haul from the mine to the mill and the shipping charges on the Tonopah & Tidewater Railroad to get the bullion to the mint. On September 10th, Harding turned out the first bar of gold bullion from the little mill, but when he brought the gold into Rhyolite, he refused to estimate its value.

One month later, on October 15th, Harding again came into Rhyolite, but this time he had no good news. The little mill, he said, using amalgamation only, would not save enough of the ore content to make a profit on $30 ore. Cyanidation would have to be added to make the mine and mill profitable, but Harding did not have the resources to add a cyanidation plant to his mill. Accordingly, Harding sold his lease to Ed Mellarkey and Hugh Leonard sometime prior to November of 1910, and the Hayseed Leasing Company was formed. The new partners resumed operations at the mine and mill in late November, and in mid-December reported that a twenty-day run at the mill had yielded a gross profit of $607.54 in gold bullion.

But Mellarkey and Leonard soon realized that such returns were not enough to make a go of the mine, and they ceased operations. With both the lessee and the sub-lessee out of business, the Hayseed Mining Company had no funds to pay county taxes upon the mine or mill, and on March 11, 1911, the mill was sold at a sheriff's auction. As related above, Johnnie Cyty purchased the mill for $500 and moved it to his mill site on the Death Valley slope of the northern Funeral Range. In the best traditions of desert mining, the little three-stamp Nissen mill went to work for its third owner. The last notice we have of the Hayseed Mine is in December of 1911, when T. H. and E. M. Francis of New York, together with Ed Bevis of Rhyolite, inspected the property. Although the Rhyolite Herald reported that they and the Hernstadts were again considering operating the mine, nothing happened. The Hayseed Mine, the largest producer of gold on the Lee side of the Echo-Lee District, was finally abandoned. Sometime during the subsequent years, the hoist and headframe, the ore house and blacksmith shop, and all other items of value were salvaged, and the Hayseed Mine was left to gaze down upon the deserted streets of Lee, California.

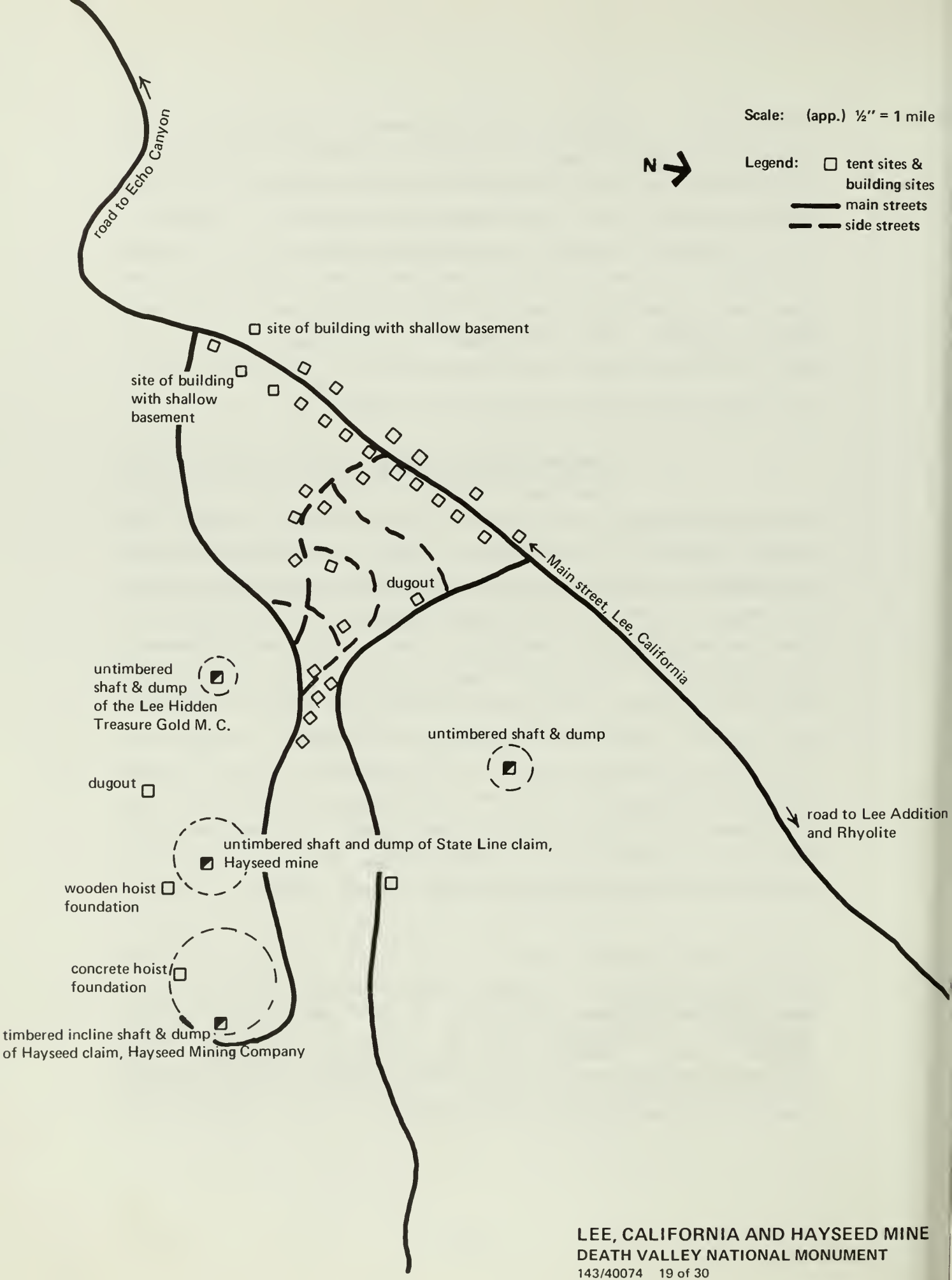
During the negotiations which led to the acquisition of the Hayseed property for Death Valley National Monument in the early 1970s, information concerning the mine's previous owner, W. L. Hernstadt, was uncovered. Apparently S. J. Hernstadt had finally convinced his brother, W. L., to take over the mine, although it was too late to do the mine any good. When W. L. Hernstadt died in 1964, 204,792 shares of Hayseed Mining Company stock were found in his estate. The stock, according to his lawyer, had been regarded as Hernstadt as being "worthless many, many years before his death."[62]

d. Present Status, Evaluation and Recommendations

The Lee, California townsite, as L. P. McGarry pointed out seventy years ago, lies along the side of a shallow wash at the very foot of the eastern slope of the Funeral Range. Although not much appears to the first glance when a visitor enters the area, a climb up to the top of a small knoll just west of the townsite brings things into focus. From above, one may observe the outline of the town, with three main streets connected by half a dozen side streets. Almost forty building sites of some degree may be discerned, ranging from leveled spaces which were no more than tent sites, to rock retaining walls surrounding the sites of wooden and iron buildings, and even the sites of two buildings which had basements. In addition, several dugouts were scattered around the fringes of the townsite. The Lee townsite, as it now appears, is one of the largest undisturbed townsite areas in the west. It is an

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62. Rhyolite Herald, 19 February, 5 & 19 March, 23 April, 14 & 21 May, 18 June, 2 July, 13 August, 10 September, 15 October, 26 November, 17 December 1910; 11 March, 2 December 1911; 6 January 1912. "Appraisal of Mineral Interests Inherent in the Hayseed-Stateline Group at Lee Camp, California," Paul H. Knowles, Nationl Park Service, San Francisco, June 23, 1972. Death Valley National Monument, Mining Office files.



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outdoor laboratory for historical archaeology, as well as an excellent site for the interpretation of a traditional boomed and busted mining camp.

The townsite, as benefits a mining camp, is surrounded with shafts, adits and dumps, silent signs of the efforts of its citizens to wrest wealth from the earth. The largest of these is the Hayseed Mine, which sits just east and slightly above the townsite. The Hayseed claim of this mine has a large dump, a timbered incline shaft which sinks over 300 feet into the ground, and a three by eight foot concrete engine foundation, where the 25-horsepower hoist used to sit. The State Line claim, also owned by the Hayseed Company, is just to the west of the former claim, between it and the town, and has a smaller dump, with an untimbered shaft and a wooden foundation for its smaller hoisting engine.

To the northeast of Lee, California, nestled right up against the Nevada state line, lies Lee Addition. McGarry's timing in promoting this townsite could hardly have been worse, since he started it just before the Lee boom began to fizzle. Nevertheless, half a dozen tent sites can be found in the vicinity, as well as four stone walls, each measuring about twelve feet square, which were retaining walls for wooden structures. In addition, the main feature which dominates the Lee Addition site is a 75 by 85-foot rectangle, surrounded by two to three foot high stone walls, which probably was used as a feed yard and corral.

The Hayseed Mine, the Lee townsite and Lee Addition will be nominated to the National Register. Although these sites do not contain any imposing physical structures, myraids of smaller remains and ruins possess potential historical archaeological significance and are too valuable to leave unprotected. Although the site is now hard to get to from Death Valley, the old Echo-Lee



Panorama of Lee, California townsite. The main street of town may be seen traversing the photo from left to right. The road to the left goes to Echo Canyon and the one to the right leads out to Lee Addition and Rhyolite. The center of town was in the approximate center of the photo.

1978 photos by John Latschar.



View looking northeast down the main street of Lee, California, towards Nevada. Altough not discernable in this photo, the sides of this street are lined with level sites, retaining walls and basements of the former structures.

Bottom: View from the opposite direction, taken at Lee Addition and looking back towards the eastern slope of the Funeral Range. Lee, California is nestled at the foot of the range, in the very center of the photo.

1978 photos by John Latschar.





Above and below: Views of typical retaining walls at the Lee, California townsite. Some of these walls, such as those above, probably had little more than a wood, tin, or canvas roof above, while others, such as those below, served as foundations and wind shelters for wooden or tent buildings.

1978 photos by John Latschar.





View of the Hayseed dump from above, with the vehicle for size comparison. Lee townsite is located out of the picture to the left.

Below: The three by eight foot concrete foundation for the hoisting engine on the Hayseed dump. The concrete shell was rather thin and is crumbling, but the steel anchor rods were well driven into the rock below.

1978 photos by John Latschar.





One of the retaining walls at the Lee Addition, formerly used as a foundation for a building.

Below: View of the large rectangular stone wall at Lee Addition, probably used as a corral and feed yard. The low mountain in the background of both pictures is in Nevada, and is the site of the Nevada mines of the Lee District, as well as the townsite of Lee, Nevada.

1978 photos by John Latschar.



road, which is now a jeep trail, is passable by four-wheel drive. With little improvement, the road could be used by the majority of the visitors. If that was possible, the park visitor, after a beatiful and exciting ride through Echo Canyon and over the Funeral Range, would have an unparalleled opportunity to see and learn about the life and death of a very typical desert boom camp. Such a trip would rival and perhaps surpass the famous Titus Canyon Road.

About one mile southeast of the Lee townsite is the ruin of a more active claim. Three adits are perched high on the side of the mountain, and below them, in a narrow wash, is a wood and tin cabin. Beside the cabin stands a wooden loading platform, used to load the ore from the mine above into trucks which drove up beside the platform. No knowledge of the history of this mine has been found, although a sign on the door of the cabin notes that the claim was relocated in December of 1975, with the permission of the original owners, Mr. Kaylor (sp?) and Mr. Rambo (sp?). This site is relatively modern, and has no historic significance.

7. Echo Canyon

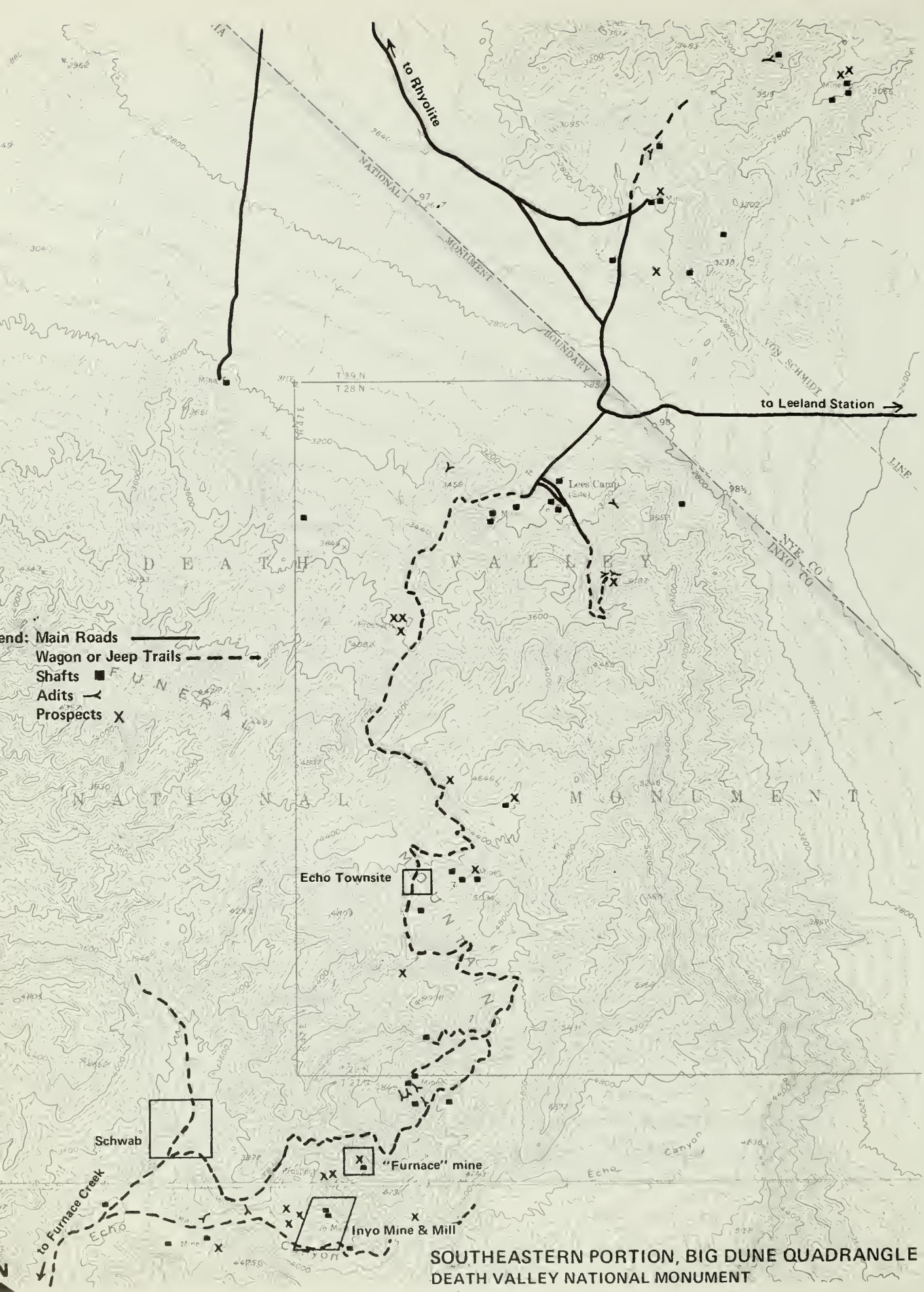
Although the history of the boom and bust of the Echo Canyon mines and townsites does not differ much from that of the Lee side of the district, as already outlined in the stories of the Lee townsite and the Hayseed Mine, time will be taken to present the histories of several important aspects of Echo Canyon mining.

a. Inyo Gold Mine

1. History

Like the Hayseed Mine to the east, the Inyo Mine on the Echo side of the district represents both the earliest discovery on the west side of the Funeral Range, and also the only mine on that side which ever produced more than an occasional sack of gold. The first locations in Echo Canyon were made by Maroni Hicks and Chet Leavitt in January of 1905. After a brief trip to civilization for supplies, the two men returned to Echo Canyon in March, and made several more locations. By May of 1905, the prospectors had accumulated two groups of locations, consisting of twenty claims, and after staking out all the ground which they thought might be any good, they started to dig a tunnel on one of the claims in June.

During the summer of 1905, as the first movements into the Echo-Lee District began, the Hicks and Leavitt property became one of the most talked about in the region. It appeared that the prospector's dream was about to come true for the two men, as they found capitalists interested in purchasing their locations. In August, nine of their claims were bonded to Tasker L. Oddie for $150,000, and the remainder to Charles Schwab for $100,000. Schwab was to pay the prospectors $5,000 on September 1st, if he decided he wanted the mine. Oddie, in turn, was to pay $5,000 on December 1st and the balance of the money one year later. Although Schwab never paid, and apparently never



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tried to develop his portion of the mine, Oddie's men went to work at once. Soon they had a shaft 50 feet down in the ground, and were talking of erecting a mill, a wire rope tramway and an electrical power plant for the mine. Oddie also considered cutting a new wagon road to Rhyolite at a cost of $1,500, cutting off thirty-five miles from the present winding road.

But by November, Oddie had let his option expire, due to "a misunderstanding having arisen concerning terms, etc.," and the claims were bonded again, to two Colorado capitalists. The new agreement called for a payment of $10,000 immediately, and another $140,000 during later months. But again, the new purchasers were either not impressed when they began to work, or were not able to raise the $10,000 demanded by Hicks and Leavitt, for their option was soon cancelled.

Finally, in December, a sale was made. L. Holbrook and associates, a group of Utah mining promoters, purchased the entire mine and incorporated the Inyo Gold Mining Company. Maroni Hicks accepted cash for his half of the mine, but Chet Leavitt retained his interests and became the vice président of the new company. The Inyo Gold was incorporated in Utah, with a capitalization of $1,000,000, based upon 1,000,000 shares of stock with a par value of $1 each. The new company owned twenty-one claims, which represented all of the Hicks & Leavitt properties, including those which had formerly been bonded to Charles Schwab. Soon after the incorporation of the new company, development work in the mine began, and in early January of 1906, the property was surveyed.[63]

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63. Rhyolite Herald, 26 May, 14 July, 11 August, 3 November, 22 December 1905; 12 January 1906. Bullfrog Miner, 12 January 1906; 1 March 1907.

By the first of February the shaft on the Inyo Mine was down to sixty-five feet, and that depth had been increased to 100 feet by March. At that time, nine men were employed at the mine, under the direction of Chet Leavitt, who was general manager of the company. By the end of April, crosscuts were going out from the 100-foot level of the shaft in the search for ore, and a second shaft was started on another claim. In June, a big strike was made at the mine, as noted by the Rhyolite Herald: "The Inyo Gold Mining Company has made the most phenomenal strike in the history of Funeral Range mining and one of the biggest uncoverings since the discovery of Tonopah." Assays from the new strike, which was at the bottom of the new shaft at a depth of sixty-five feet, were close to $300 per ton.

Following the news of that strike, which seemed to prove that the Inyo Gold would make the transition from a developing to a producing mine, rumors began to circulate concerning the sale of the property. In August, the Bullfrog Miner reported that the mine had been sold to the Schwab interests for $2,000,000, and the Rhyolite Herald reported that all of the company's stock had been sold for $1 per share to a group of Salt Lake City capitalists. But nothing came of either rumor, and since the mine ceased work during the hot summer months, little was heard from it.

In October the Inyo Gold Mining Company was reorganized, although the changes were mostly internal. L. Holbrook, the principal owner, was still listed as president of the company, but Chet Leavitt lost his position as vice president. Work would be resumed shortly, the company stated, and now that the railroads were reaching Rhyolite, the shipment of medium grade ore from the mine would soon make it a producer. But work progressed more slowly than the company had hoped, and no shipments were made in 1906, although the company had its new

shaft down to seventy-three feet by the end of that year, and several crosscuts were started.[64]

But as 1907 opened, work began in earnest on the Inyo Gold. The company ordered a small gas hoist in early January of that year, and by the end of that month reported that it had three shafts exploring for ore at depths of 100, 73 and 30 feet, respectively. In addition, tunnels and crosscuts were being driven, and ore bodies were being found, although the estimated extent and content of the ore finds were not greatly publicized. Chet Leavitt, who was still the mine superintendent, was employing twenty men in February, and a boarding house had been built at the property for their convenience. Plans were also in the works to construct a commissary store, and the company ordered ore cars and tramway tracks to facilitate the removal of ore from the mine.

Towards the end of February, the Rhyolite Herald took time out to describe and assess the Inyo Gold's property. Average values in the various shafts and tunnels, the paper stated, were around $44 to the ton. The ore was free milling, which meant that it could be treated in the simplest manner, and once the Ash Meadows Water company had completed its pipe line into the Lee district, the company was considering the construction of a mill. Water was now hauled from Furnace Creek, a distance of eight miles, at considerable expense to the company. The boarding house at the mine was feeding thirty miners. Since that overcrowded its accomodations, a new boarding house with an eighteen by thirty foot dining room and a fourteen by sixteen foot

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64. Rhyolite Herald, 2 February, 2 March, 20 April, 8 June, 31 August, 28 September, 19 October, 9 November 1906. Bullfrog Miner, 6 April, 17 August 1906.

kitchen was being built. When it was finished. the present boarding house would be converted into a rooming house. In addition, the company was building a sixteen by twenty foot comissary for the sale of groceries and mining supplies to the company's employees and other prospectors in the area. "The concensus of opinion," concluded the Herald, "is that the Inyo Gold Mining company's prperty, the original Hicks & Leavitt group, is one of the most likely properties in the new gold fields along the Nevada-California border."

During March and April, work continued steadily, and the local papers faithfully reported the progress made in the company's shafts and tunnels. By mid-April, the company had begun preparations for the construction of a mill, and several loads of lumber were on the ground. The mill was to be built at the mouth of the main tunnel, near the new blacksmith shop. Thirty men were employed at the mine, and most were eating at the recently-completed boarding house, run by Mr. and Mrs. McKnight. By this time a portion of the mine's new hoisting machinery had arrived, and the company announced that it would not ship its high-grade ore, but would rather keep it on the dump until the mill could be built. In response to several inquiries, the papers reported that the Inyo Gold was a closed corporation, so that the company's stock was not being sold on the oper market. Several blocks of shares, amounting to no more than 50,000, had been sold by one or more of the original incoporators of the company, but most of those had been bought back by other owners.

Once again, due to the heat of summer, work slacked during the hot months of 1907. Some miners continued to labor in the shafts and tunnels, but not with the pace of previous months, and the papers had little more to report other than the statistical advances of that work. But in September, the company, which was running out of development funds advanced by

the owning partners, decided to go public. From its application for a license to sell stock in California, many details of the company's position are available. Fifty-two thousand of the 300,000 shares of treasury stock in the company had already been sold, and the Inyo Gold was now asking permission to sell the rest. The company had an indebtedness of $15,250 and no money in the treasury. The property was equipped with a hoisting whim, a balcksmith shop, a bunk house, and mining tools, and its employment roll had shrunk to seven men. Three hundred and fifty feet worth of shaft work had been done, in addition to 700 feet of tunneling and 75 feet of crosscutting. No ore shipments had been made, but the company claimed to have $650,000 worth of ore in sight. At the time of its application, the Inyo Gold had already been approved for stock sales in Utah.

The Inyo Mine could not have chosen a worse time to go public, for the Panic of 1907 hit the district shortly after the company put its stock up for sale. Had the decision been made six months earlier, the Inyo mine could have taken advantage of the height of the Echo-Lee District boom, when stock in much less worthy mines was selling at fever-inflated prices. Now, in the fall of 1907, mines were closing and very few investors could be found who were willing to risk scarce investment funds in an outlying district. Now, instaed of a fat treasury which would have enabled the company to continue its development work on an extensive scale, and to build its mill, the Inyo Gold instead was faced with bankruptcy.

Nevertheless, the company continued operations for a few months. Work was continued during September and October, with a force of between fifteen and twenty miners. But after the middle of October, momentum slowed considerably and very little further work was accomplished for the rest of 1907, although the mine was reported to still be employing a "small force

of men" at the end of the year. The Rhyolite Herald denied rumors that the Inyo had closed down completely in December, and went on to lament the general state of mining in Echo canyon. "The properties are among the best in the district and it is much regretted that the companies do not find it consistant to work on a large scale. But the ore is there and when the financial sky is clearer, the properties will show the world what kind of golden lining Echo canyon is made of."[65]

Like so many of the other Echo-Lee District mines, the Inyo Mine had been fatally crippled by the Panic of 1907. Following the onset of the panic, development work virtually ceased throughout the rest of 1907, and 1908 followed suit. No work was done on the mine during that entire year, and the only notices in the papers concerning it were several rumors of sale. The Bullfrog Miner reported that the mine had been sold to Thomas Lockart, president of the Florence Mine in Goldfield, in March, and the Rhyolite Herald reported that L. Holbrook had secured control of a majority interest in the mine during August. But neither of these rumors wre borne out, as the Inyo Mine virtually dropped from sight. In July and August, both papers reported that the mine would be reopened soon, complete with a processing mill, and several paragraphs were taken up in discussions of the possibilities of such an event, but they never occurred. In November, Chet Leavitt promised that the mine would soon be heard from, and stated that all the claims of the company would be patented before the year was out. The company had even taken the opportunity for some nation-wide advertising, when the

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65. Rhyolite Herald, 4 & 18 January, 1, 8, 15 & 22 February, 15 March, 5, 12 & 26 April, 6 & 13 December 1907. Bullfrog Miner, 8 & 22 February, 1 & 8 March, 5 & 12 April, 17 May, 29 June, 3 & 31 August, 21 September, 5 & 12 October 1907. Rhyolite Daily Bulletin, 24 September 1907. Inyo Register, 12 September 1907.

Harpers Weekly Advertiser devoted an issue to Nevada mining, but even the effect of a full-page ad was futile, for the depression upon mining was being felt across the entire nation.

During 1909, the situation did not improve at all. The Rhyolite Herald reported in April that Chet Leavitt had sold his interest in the mine, but a later issue noted that the deal was not definite, and it never was. The company did put some ore on display at the American Mining Congress convention in Goldfield that fall, but little else happened on the property. The company's application for a patent on seventeen of its claims--a total of 215 acres--was approved on August 15th, but like so many other mines of the region which had applied for a patent during the boom days, the papers arrived too late to do the company any good. In September, the Bullfrog Miner optimistically noted that the "Inyo property has arrived at the point where plans for a mill are next in order," and the next week printed a rumor that the Inyo mine "will be subject to the biggest leasing deal yet known in Nevada." Salt Lake City promoters, the paper reported, were negotiating for a long term lease and were planning to develop the ground to the extent of constructing a large size treament plant. On the basis of this rumor, Inyo Gold stock suddenly appeared on the trading boards, for the first time ever, and was sold at the price of 6¢ per share. But like so many others, this deal also feel through, and the Inyo Mine continued to lay idle.

The rumors continued through the following years, as the Rhyolite Herald reported in January of 1910 that the company was again negotiating for the sale of the property, with the potential buyers proposing the installation of reduction facilities. Again, nothing came of the negotiations. The mine, which had not been worked since the fall of 1907, was not mentioned again until January of 1912, when its stockholders met in Utah with the intention of reducing the par value of the company's

stock from $1 to 10¢ per share, apparently as an attempt to start another promotional and development campaign. But again nothing happened, and the Inyo mine was finally abandoned.[66]

Thus ended the first phase of the Inyo mine. Its officers had held onto the mine too long, and had made the decision to go public only after they had run out of private development funds, just in time to see the Panic of 1907 ruin their hopes. After 1907, little if any mining was done to what was once seen--probably correctly--as the best and most promising prospect in Echo Canyon.

But unlike the other mines of the Echo-Lee District, the Inyo Gold had a revival. Unfortunately, that revival took place long after Death Valley mining had lost its appeal, and little notice of the subsequent activities at the Inyo Mine reached the local newspapers. Thus although we know that the mine was operated for several years in the 1930s, we have very little day-to-day knowledge of those operations.

After the death of the mine in 1912, the next known reference to it comes in the fall of 1928, when it was sold to Earl B. Gilbert and Daniel Winzelor. Within a few weeks, Gilbert transferred his half of the mine to his wife. Following those transactions, the mine disappears again until 1937, when Mrs. Gilbert leased it to the Inyo Consolidated Mining Company. In August of that year, the Inyo Independent reported that Guy C. Ridell, a mining engineer from New York, had arrived at the Inyo camp to inspect the mine's workings. The mine had apparently

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66. Harpers Weekly Advertiser, 11 April 1908, p. 35. Bullfrog Miner, 28 March, 11 July, 7 November 1908; 24 April, 14 August, 4 & 11 September 1909. Rhylite Herald, 10 June, 1 & 26 August 1908; 7 April, 20 November 1909; 1 January 1910; 27 January 1912.

been operating for several months at the time of this report, for Loren Granger, the manager, was reported in Bishop, buying another load of supplies for the mine.

In March of 1938, the paper reported that the company was still operating, and had installed a ball mill at the mine. The mill was capable of treating twenty-five tons of ore per day, and water for operations was being hauled from Furnace Creek. Since this was costly and unsatisfactory, the company was planning to build a pipe line and pumping station, if operations at the mine continued on a satisfactory basis. The California Journal of Mines & Geology, in October of the same year, reported that the Inyo Consolidated Mine was working on the seventeen patented and five unpatented claims of the property. The principle development was an inclined shaft, 220 feet deep, and the report listed the lengths and depths of various other shafts, tunnels and crosscuts within the mine. At best estimate, by comparing the figures given to those rleased by the mine in 1907, the Inyo Consolidated had been working the property for less than two years at the time of this report. Ore from the mine, said the Journal, was averaging about $25 per ton, and was being processed through the twenty-five ton capacity ball mill. The mill equipment consisted of a fifty ton ore bin, a six by ten jaw crusher, a thirty ton receiving bin, a reciprocating feeder, a three by six ball mill, amalgamation plates, two Simpson tables, and a drag classifier for dewatering. Water was still being hauled from Death Valley, and eight men were employed at the mine and mill.

But shortly after that report, the Inyo Consolidated ceased operatons due to a lack of further funds. Although present tailings at the mill site indicate that a limited amount of ore was treated no production record from this era of the Inyo mine exists. In February of 1939, Mrs. Gilbert again leased the mine, to an unnamed individual, who almost immediately found a



The Inyo Mine complex, ca 1938, during the active period of the Inyo Consolidated Mining Company. The structure in the middle with the smokestack is the cook house, and the mill complex is shown to its right. The mining area is far above the mill, to the rear of the photographer. Photo courtesy Death Valley National Monument Library, Negative #1100.

rich ore shoot at the bottom of one of the shafts. Before the press coverage of this phenomenom ceased, the lessee had sipped thirty-six tons of ore worth $280 per ton to the smelter, for a gross profit of $10,080, and had hired several miners. But once again, the ore shoot ran out, and the lessee was soon out of business.

But the Inyo died hard. The mine was leased again to two men named Thomsen and Wright in 1940, and they installed a small smelter high on a ridge one-half mile above the former mill site. There, for a short time, they attempted to smelt some of the high grade ore which they took out of a different portion of the Inyo Mine. Again, no production record is available for this effort, which had ended by 1941. A later mining engineer, who inspected this portion of the property, concluded that the furnace at the little smelter had been fired only once, which indicates that the last two lessees of the Inyo Mine were even less successful than had been their predecessors. This was the last attempt to work the Inyo Mine, although its claims are still privately owned.[67]

2. Present Status, Evaluation and Recommendations

Due to the relatively recent date of the last attempts to exploit the Inyo Mine, historic structues at the property are quite extensive. At the mill site are the remains of the ball mill and its supporting machinery, and a complex of living

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67. Inyo Independent, 8 September, 13 October 1928; 6 August 1937; 18 March 1938, 10 February 1939, 9 August 1940. California Journal of Mines & Geology, October 1938, pp. 399-401; January 1940, p. 24. Memorandum, Death Valley National Monument Superintendent to Director, National Park Service, April 1960. "Appraisal of Mineral Interests Inherent in the Inyo Mines Claim Group," National Park Service, January 1975.

and support buildings. The mill ruins consist of the ore bin and chute, a jaw crusher and the settling plates--the ball mill aparatus itself has been removed. In addition a large metal tank and the old diesel engine which powered the mill still remain. Around the mill is a complex of structures in various degrees of deterioration, including five tent platform sites, some with wooden floors and remnants of canvas, a collapsed wooden frame building, and six standing wood buildings, ranging in size from a twelve by twelve shed to an eighteen by thirty foot cook and dining house. Most of these buildings are quite crude, being constructed of wood plank floors, with unfinished walls and ceilings, but the cookhouse, at least, has a cement floor and was equipped with plumbing. Although it is not possible to be certain, some of these buildings, especially the tent platforms and one old dugout in the midst of this complex undoubtedly date from the 1907 era of mining. But the adaptation and use of different structures and materials during the later period of mining makes a differentiation between the two eras hard to determine.

Above the mill and living area is the main mine complex of the Inyo Mine. Here one may find a stone powder house, another tent platform site, a fairly substantial ore bin, a collapsed wooden building, and a whole array of shaft and tunnel entrances running up and down the hillside. The ore bin has a tramway track leading into one of the adits, and a stright-six gasoline powered engine, adapted from a vehicle of some sort, which was used to hoist the ore. Above this group is yet another complex of mine workings, which appears to be older than the first. This area includes another timbered adit, a tramway track, a leveled tent site, a small ore bin, and a crude ore chute leading down to a rickety loading bin. Close by is yet an shaft, with a winch left over from the ore hoisting days.



The Inyo Mine complex in 1973, as viewed from the lower Echo Canyon road. The mill buildings have been salvaged, although the skeletal remains of the mill are still standing. The cookhouse, which has deteriorated considerably, is seen at the far right, and the ore bin of the main mine complex is seen in the top center of the photo. The complex looked much the same in 1978. Photo courtesy of Bill Fiero, Las Vegas, Nevada.



A closer view of the Inyo Mill remains, in 1978. The ball mill originally stood just below the wheels of the jaw crusher, seen in the top of the photo.

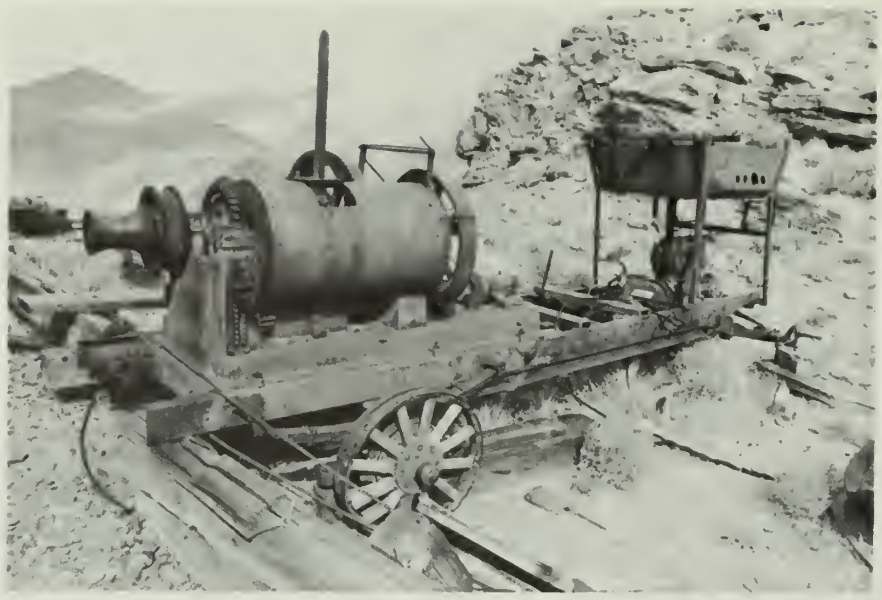
Below: The cookhouse in 1978, showing the general deterioration of the building. Much of the damage is due to natural elements, but portions of the siding lumber has been stripped for use as firewood by the complex's occasional visitors.

1978 photos by John Latschar.



Finally, far above the main working area of the mine, in the next ridge to the north, is the site of the 1940 smelter works, sometimes called the Furnance Mine, after its main feature. This complex can only be reached by a long and arducous climb up a twisting mule trail from the upper Echo Canyon road. A stone loading dock is at the bottom of the trail, as well as a crude corral used to tether animals when the owners climbed the hill. Far above is the smelter, perched on the side of the ridge. Machinery here includes the small furnace, with supporting tanks and equipment, connected to a collapsed tunnel entrance by tram tracks. Above the furnace is a deep and timbered incline shaft and a stoped area, evidently the main working area of this complex. Near it, on the very top of the ridge, is a four-cylinder diesel engine used for air compression, and another altered vehicle engine used to drag supplies up the ridge from the upper Echo Canyon road far below, via a cable dragway.

All told, the Inyo Mine complex holds a wealth of artifacts and structures, some of which can be safely dated prior to the 1930s. For this reason, despite the rather unproductive history of the mine during the original boom, it is recommended that the structures and equipment on this site be recognized and protected for their historic values, and the Inyo Mine as a whole will be nominated to the National Register. The site would make a good interpretive complex, since it is not too far from the Furnace Creek road, and is accessible, with a little improvement, to two-wheel drive vehicles. Visitor use of the Inyo Mine site is more frequent than for most of the other areas of the Echo-Lee District. Three nude sunbathers were surprised on the day that this site was examined.



The winch drum and engine at the upper Inyo Mine complex, aka Furnace Mine. This mechanism was used to drag supplies up the steep side of the ridge from the upper Echo Canyon road below.

Below: View of the descent from the "Furnace Mine" to the upper Echo Canyon road, with the winching cable still in place.

1978 photos by John Latschar.





General view of the "Furnace Mine," looking down from the vicinity of the winching works. The mine and mill complex are located on the opposite side of the ridge from the upper Echo Canyon road, so that supplies were hauled up one side of the ridge from the road and then lowered down to the mill site on the opposite side.

Below: Close-up of the crude furnace smelter.

1978 photos by John Latschar.



b. Schwab Townsite

1. History

In December of 1906, as the Echo-Lee District was beginning to swing into its real boom stage, a new townsite was started on the Echo side of the district to serve the many mines which were beginning to operate in the vicinity. In a fit a grandeur, the townsite was named Schwab, after the well-known steel and mining magnate, who had peripheral interests in the Echo-Lee District. The townsite was promoted by the Schwab Townsite Company, which was incorporated in Nevada on December 31st, and was financed by S. H. Black, J. C. Houtz and J. E. Cram. The company's treasury for promotion and site improvement was $30,000, and was fully paid in advance by the three principles, making Schwab a closed corporation.

Large, full-page ads were placed in the Rhyolite Herald and the Bullfrog Miner on December 28th, announcing the formation of the town, and proudly noting that it was the first town in the Echo-Lee District, which was true by only a few days. "The Price of Lots will Multiply by Five in Ninety Days," warned the ads, and to prove the point, the owners announced that arrangements had already been completed for the establishment of a restaurant, a lodging house, a mercantile store, an assay house and a saloon. In addition, the new wagon road from the Lee side of the district into Echo Canyon was almost finished, and would soon be upgraded into an auto road. Water would be provided to the townsite within thirty days, either by well or by hauling from Furnace Creek, and a stage line and telephone connections would soon arrive. An application had been made for a post office. Fifty lots, said the promoters, had been sold already. Schwab, summed up the ads, was "A Town with an Assured Future," and would "be the scene of the greatest mining excitement in all the history of Nevada."

The next week, as the Bullfrog Miner quaintly noted, "The town of Schwab started for the Nevada desert yesterday from Los Angeles in a box car." The materials for the new canvas city, added Mr. Houtz, would be enough to house several hundred people. Several loads had already gone out, including material for a restaurant, lodging house, store and feed yard, and arrangements had been made for a hardware store and a general merchandise store. By mid-January Black and Cram reported that the new town was flourishing. Demands for lots exceeded expectations, and inquiries had been received from as far away as Boston. Two carloads of townsite materials had arrived, and three more were on their way. The Kimball stage company had plans to put in a stage line, the well diggers had found water at a depth of only five feet, and arrangements for a bakery, a grocery store, a hardware store and another saloon had been made. Eighteen head of horses had been engaged by the town promoters in order to haul all this material from the railroad siding at Rosewell. Streets were being graded, and ample food, horse feed and water was now available to all travelers and prospectors, so they no longer needed to come fully self-sufficient when they entered the Echo Canyon region.

On January 18th, the Rhyolite Herald reported that seventy-seven lots had been sold in Schwab, "many of them being to eastern people who are already familiar with the Lee and Echo Districts through the ads in the local papers." A fourth carload of supplies, containing eight tons, had been delivered to the town, and a fifth, of three tons, was expected shortly. The population of the district surrounding Schwab was estimated to be 400, and twenty-nine men had been counted at the Schwab saloon at one time. Eight lots in the townsite had been sold to the Bohemian Club of San Francisco, and the Rhyolite Herald ruefully wondered if "Tuxedos will soon be fashionable there." The townsite company had ordered a 45-horsepower

Apperson auto, which was expected in late January, and which would be put on the run from Rhyolite to the new town. The following week, the Bullfrog Miner reported that an abundance of good water was now available at the townsite, and that many good substantial tent buildings had been erected. The first stage for Schwab had left Rhyolite on January 24th, and the paper surmised that the new town was already "established as the distributing point of that district."

On February 1st, the papers reported that the feed yard was now ready to furnish food and shelter for horses, that the new automobile had arrived and was ready to start service to the town, and that the Kimball Brothers had established a regular stage service to Lee and Schwab, leaving Rhyolite every Monday, Wednesday and Friday. By the beginning of March, the Bullfrog Miner reported that 100 men were employed in the mines surrounding the townsite, such as the Inyo Gold, the Skibo and the Echo Gilt Edge. The Lee-Schwab wagon road, which was too steep in places for autos to negotiate, was being improved, and arrangements had been made to bring in a well drilling machine, in order to improve the water supply. "There are excellent accommodations for both man and beast at Schwab, and one is assured a visit to the new town will not be regretted."

By the end of March, the three-month-old town's population was estimated at 200. The Rocky Mountain Bell Telephone Company had its poles up and was to begin stringing wire from Lee to Schwab at once. The stage service had been incrased to a daily basis, and the auto service also planned to go on a daily schedule soon. But by now Schwab had a greter claim to fame. "One of the most unique wonders of the new West," said the Bullfrog Miner, "is the town of Schwab, Cal., owned and promoted by women." This news was quite unique, and caused many headlines in local papers. "A Mining Camp Built by Ladies," as the Death Valley Chuck-Walla put it, was an unusual sight in the

WATCH US GROW

SCHWAB

THE ONLY

TOWN IN THE FAMOUS

LEE-ECHO MINING DISTRICT

One-Half Mile from the Inyo Gold Mining Co.

One-Quarter Mile from the Skibo Mining Co.

For particulars address

Schwab Townsite Company

RHYOLITE, NEVADA

west. Yet when the matter is examined it seems much more natural than extraordinary. The first woman to enter the company was Gertrude Fesler, who had come to Rhyolite from Chicago and opened a brokerage office--"Miss Gertrude Fesler, Stocks and Mines Bought and Sold." Fesler had purchased J. C. Houtz's interest in Schwab, and through her dealings with the other two owners, had become acquainted with their wives. A Col. Dunn, who had bought out J. E. Cram, decided that his wife could ably care for his interests in the townsite, leaving him free for other pursuits, and Mrs. Black--Mrs. Dunn's daughter-in-law--had also purchased her husband's share, thus forming the all-female company. Helen H. Black became president of the new Schwab Townsite Company, with Mrs. Dunn as the vice president and Gertrude Fesler acting as secretary, treasurer and chief promoter.

Ownership by ladies such as these meant some unusual changes in a desert mining town, and the Death Valley Chuck-Walla was quick to point them out. "The gamblers were told to get out. Saloon men were frowned at and sporting women were positively refused entrance. Men said that a mining camp could not exist under such restrictions, but Schwab did. The women hastened to secure the postoffice, the first in the district, and everybody in the three towns [Schwab, Lee, California and Lee, Nevada] had to come to Schwab for mail."

In addition to the new postoffice, which was approved and established on April 5th, Schwab also was the home of the Echo Miners Union, organized early in April. By the end of that month, the union counted seventy-five members, who adopted the Rhyolite scale of wages of $4.50 per day. the townsite company donated a lot to the union, and a large tent was erected to be used until funds could be raised for a Miners Union Hall. Several more town lots were sold during April, but Mrs. Black reported that the one big need for the town was a general

mercantile store, to enable miners and companies to get supplies close at hand.

But even with all these improvements, Schwab was never a serious rival to Lee, California. The two towns were separated by eight miles and the Funeral Range, and each was the center for approximately the same number of mines. But Lee, California had all the geographic advantages. All supplies and materials reaching Schwab had to come through Lee, so it was only natural that supply houses at Lee dominated the trade of the two towns. In addition, since Lee was much loser to Rhyolite, that town reaped all the addvantages of frequent notices in the Rhyolite newspapers, which amounted to free advertising. Reporters and visitors could travel to Lee and back to Rhyolite in one day, but getting in and out of Schwab took longer, so it was only natural for them to concentrate their attention on the closer town. And once the town of Lee had the upper hand, it was quick to build upon the advantage. Miners and prospectors from the Echo District, for example, found that it cost them no more to travel into Lee to obtain their supplies than to purchase them at Schwab, and when this was coupled with the prospect of a night's entertainment in the larger camp, most began to do so. Perhaps the Death Valley Chuck-Walla was right, in that a mining camp suffering from the lack of female entertainment and gambling, and with drinking frowned upon, had too many disadvantages to survive in the mining frontiers of the early 1900s.

For a combination of these causes, the town of Schwab, after its first several months of growth, began to stagnate. It lost the townsite battle to Lee, and when the Panic of 1907 closed many of the mines in the Echo-Lee District, it soon became very apparent that two towns were one too many for the district to support. So many mines cloed so quickly in the fall of 1907 that the Echo Miners Union was disbanded in November.

Schwab died a quick and unmourned death, after only a year of life, and was not heard of after 1907. The town had never even reached the stage where a wooden building was raised, so it was relatively simple for the disappointed merchants to pack up their tent stores and head for brighter horizons.[68]

2. Present Status, Evaluation and Recommendations

Schwab is not located where most writers of western lore have assumed it to be. According to most accounts, the townsite of Schwab was located directly below the Inyo Mine, in the lower Echo Canyon wash. For this reason, they claimed, no one has ever been able to definitely find any remains of Schwab, since the 1930s mining activity at the Inyo site erased all vestiges of the former town.

But past historians have been mislead by the contemporary accounts of Schwab, such as the advertisements which placed it only one-half to three-fourths of a mile from the Inyo Mine. Operations at that mine, between 1907 and the 1930s, covered many different areas of the company's 214 acres of claims. In 1907, Schwab was only less than a mile from the Inyo Mine, but from a different portion of the mine than that operated in the 1930s, where the ball mill and housing ruins now stand.

The best contemporary description of the location of Schwab is from the Rhyolite Herald of 22 February 1907.

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68. Rhyolite Herald, 28 December 1906; 11 & 18 January, 22 February, 5 & 26 April 1907. Bullfrog Miner, 28 December 1906; 4, 11 & 25 January, 1 & 22 February, 1, 8, 15 & 29 March, 12 April 1907. Nevada Secretary of State, Articles of Incorporation, Vol 10, p. 397. Death Valley Chuck-Walla, 15 March, 1 June 1907. University of Nevada, Reno, Manuscripts Collection #NC35, Account Book of John S. Cook bank.

"The town of Schwab is situated just below the Inyo and Skibo camps at the junction of the wagon roads leading up the east arm of Echo canyon and to Death Valley on the south." In other words, Schwab is located in the north or upper branch of Echo Canyon, astride the main Echo-Lee wagon road, across a small ridge from the present Inyo ruins, and about 1½ miles from those ruins. At this location, evidence of the old townsite may be found.

The remains consist of seven leveled tent sites, some with low and crude stone retaining walls remaining. More tent sites were once present, but have been erased by high water in the adjacent wash during Death Valley's infrequent but violent flash floods. Two of the tent sites have eroded cellars behind them, about ten feet square and five feet deep. Since an immense pile of broken 1900 to 1910-dated beer bottles is located directly behind one of these tent-cellar sites, it is safe to say that this was the tent saloon, where once twenty-nine men were counted drinking at one time. The townsite covers several hundred feet along the shallow wash which marks the northern branch of Echo Canyon, and remains are mostly restricted to the west side of that wash. On the east side, however, is another tent location, and a shallow, unmarked grave, a lonely monument to one prospector who ended his days during the brief life of Schwab. About 300 yards to the west of the townsite is a crude derrick, the remains of Schwab's well. The well site is dry and completely filled in, but numerous five gallon cans are scattered along the trail from the well to the townsite.

The remains of Schwab are fragile and scant. The site needs to be examined by historical archaeologists and deserves interpretation as one of the west's many short-lived mining camps. It is also in need of some sort of protection to prevent it from disappearing back into the terrain of the canyon's wash. The Schwab townsite will be nominated to the National Register in conjunction with the Inyo Mine complex.

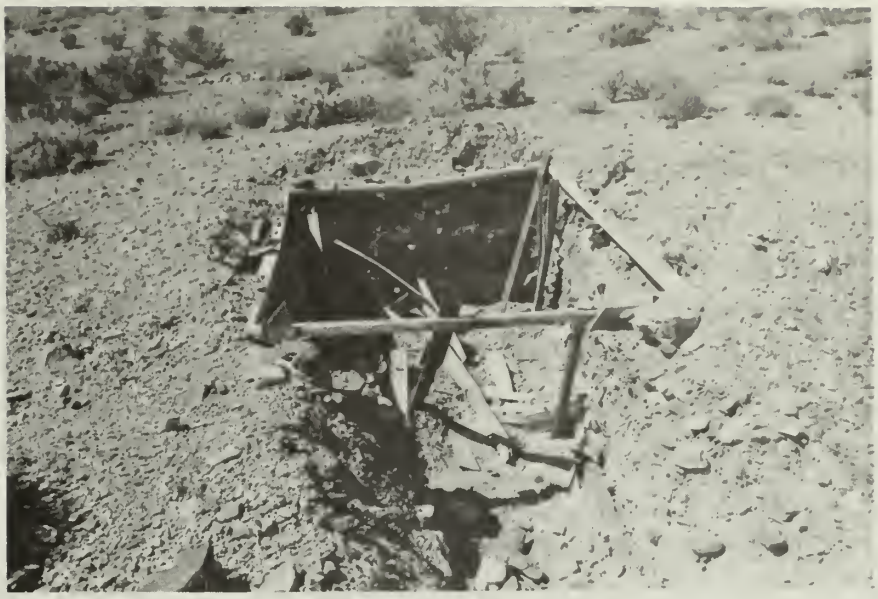


View of the Schwab townsite, looking southwest. The Inyo Mine ruins are located on the far side of the ridge in the background.

Below: A closer view of a portion of the townsite area, showing the very fragile remains of two tent building sites. The tent site on the right has an eroded cellar behind it--or in front of it, according to this view.

1978 photos by John Latschar.





A close-up of the cellar seen in the previous photo.

Below: Unmarked grave site on the east side of the Schwab townsite.

1978 photos by John Latschar.



c. Echo Townsite

Schwab was not the only town started on the Echo side of the district, for in March of 1907 the owners of the Lee Golden Gate Mining Company inaugurated another town on their claims. Called Echo, this town was situated about half way between Schwab and Lee, along the road connecting those two towns, upon a low saddle near the summit of the Funeral Range. The formation of the new townsite was announced on March 22nd, but although the townsite owners put in an application for a postoffice, they seemed content to rely upon the business of the mines in the general vicinity for building their town, and did not advertise or promote it in the manner of Lee or Schwab.

By the end of April, the townsite had been platted, and lots were on sale to the public. The plat was approved by the Inyo County Board of Supervisors on May 10th, but the town never caught on. Nothing more is heard of this townsite, which never prospered solely because the mines around it, in the eastern portion of the Echo District, never really got off the ground. The mines in this section, such as the Lee Golden Gate, the Sunnyside, the Echo-Lee, the Jumbo and the Burro, never really got out of the prospecting stage, and thus never employed a large enough group of miners to support even the smallest of mining camps. Echo townsite disappeared shortly after it was born, and was never heard of again.[69]

Remains at this site are even more scant than those at Schwab, and probably would not be discovered by anyone who was not particularly looking for a townsite in the general area.

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69. Rhyolite Herald, 22 March, 26 April 1907. Bullfrog Miner, 3 May 1907. Inyo Independent, 10 May 1907.

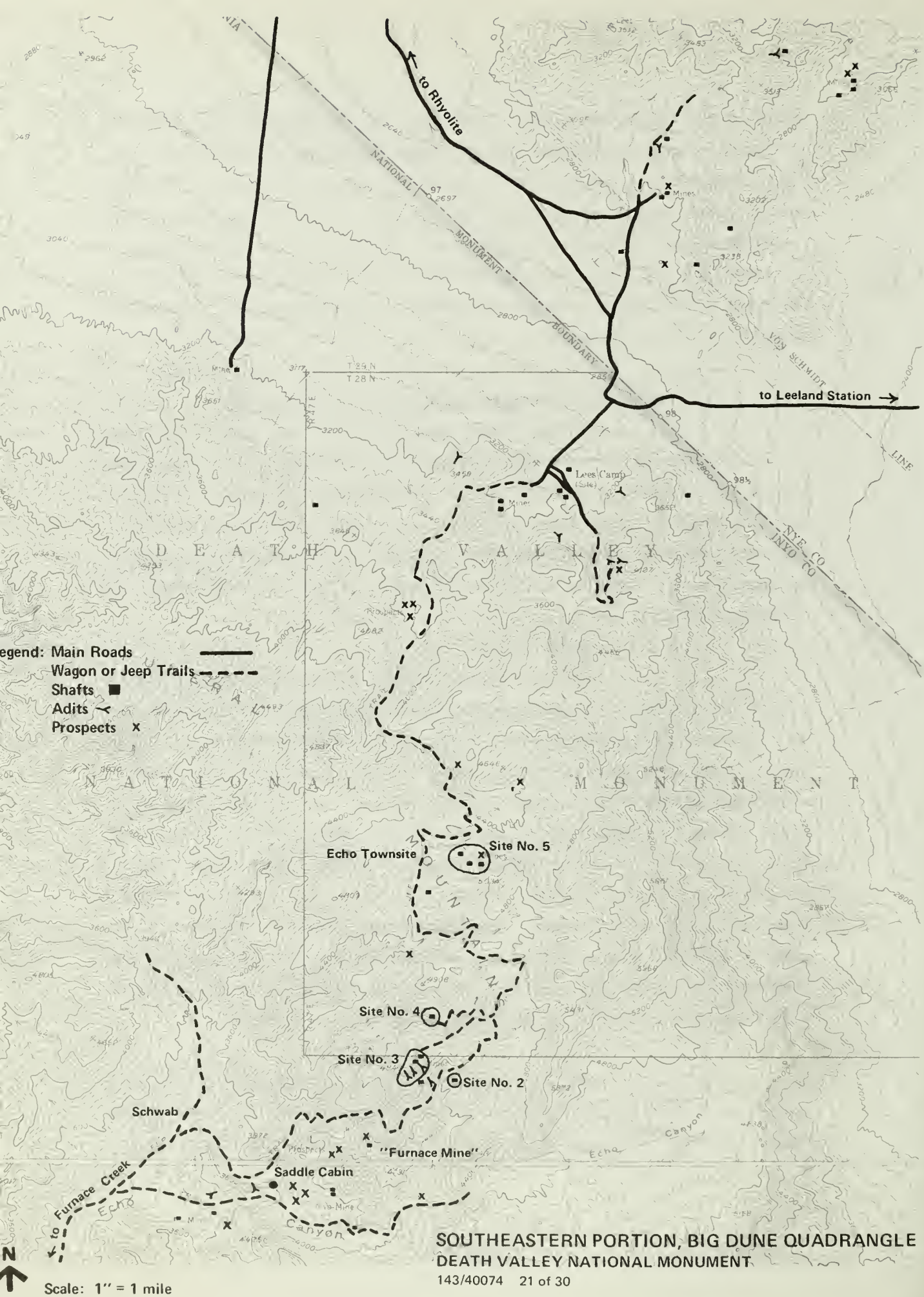
No more than four level tent sites may be found, with the smallest of possible retaining walls. Near these is a pile of debris and tin cans, the size of which would seem to indicate that no more than half a dozen people lived here for no more than half a year. The townsite scars are very fragile and probably will soon disappear, but the site is far from deserving National Register nomination, unless determined by a historical archaeologist to have archaeological significance.

d. Miscellaneous Echo-Lee District Sites

As might be expected from the history of the Echo-Lee District, the entire southern Funeral Range is dotted with shafts, adits and prospect holes. These may be seen along the Echo-Lee wagon road, from several miles below Schwab all the way to Lee. None of these sites have a significant role to play in the interpretation of the Echo-Lee District, but several will be discussed briefly.

Site 1: About a mile below the Inyo mill site stands the ruins of a cabin, commonly called the Saddle Cabin, for its location near a low saddle cutting the ridge which divides the lower from the upper Echo Canyon roads. This cabin, which measures twenty feet square, was standing in 1973 but has since fallen victim to the elements and collapsed. The cabin had a cement floor and stone foundation walls supporting that floor, and nearby is a crude dugout shelter, probably used as a vehicle cover. Although we cannot be sure, the cabin was probably built and used during the 1930s era of mining at the Inyo Gold, and has been unused since that time. Its general condition and lack of historical significance makes any preservation efforts unwarranted.

Site 2: In upper Echo Canyon, along the old Echo-Lee road, are some ruins which may be traced to an earlier date. Located along the sides of the wash about 3½ miles up the



SOUTHEASTERN PORTION, BIG DUNE QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT
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Echo townsite was located along the main Echo-Lee road, and streched between the photographer and the vehicle as shown in this picture. The townsite scars are so minute that they will not show up in this general view.

Below: The ruins of the collapsed Saddle Cabin.

1978 photos by John Latschar.



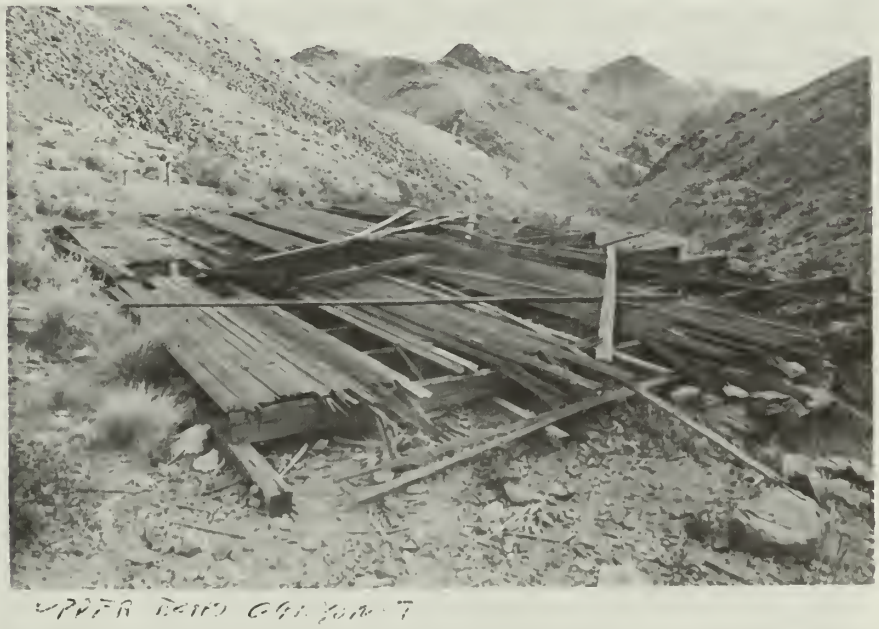
canyon from Schwab townsite, are several old tent platform and building sites. One of the platform sites has little more than a collection of mining debris collected by a previous tourist, and another has the ruins of a wooden platform, measuring sixteen by twenty-four feet, which was used to floor a tent structure. Nearby are the ruins of a collapsed wooden building, measuring about fourteen by twenty-eight feet, and a well-preserved dugout. All these sites were undoubtedly used as living quarters during the Echo-Lee boom period, and the mines at which the inhabitants worked may easily be seen along the sides of the canyon walls. This general area also has a twelve by sixteen foot cabin, which still stands, and is in generally good condition. The cabin is still occupied intermittently by one of the west's desert hermits, who hangs out a welcome sign for all travelers who happen to come his way. None of the structures or ruins on this site are significant or deserve preservation efforts. However, they should not be demolished, reclaimed or naturalized, but rather should be allowed to suffer "benign neglect" and the effects of nature's forces.

Site 3: High above the previous site is a series of 1907-era mines, at the very top of the Funeral Range. Located at the end of a perilous wagon road which follows the lip of the ridge, this complex has four shafts, most of which are well timbered, and the usual traces of past mining efforts, including a concrete engine mount near one of the shafts, and a crude wooden hoisting frame near another. The road leading up to this complex was improved from a burro trail at some time, and the wagon road is complete with a circle at the upper end, where wagons could turn around, provided they were careful not to fall to the floor of Echo canyon, hundreds of feet below. This site is interesting, but due to the multitude of mines in the area, and the rather inexact descriptions given for most of them in the contemporary newspapers, it is impossible to connect a specific mining company to the site. Visiting it is well worth while for the exciting ride and



Above and below: The cabin and the remains of the wooden tent platform at Site #2, in Echo Canyon. The air vents of the dugout may be seen behind the platform in the lower photo.

1978 photos by John Latschar.





A general view of Site #3, high on a ridge in the Funeral Mountains. The wagon road, which provided access to this site, may be seen in the immediate foreground.

Below: View of the access road and burro trail leading up to Site #3. The photographer is standing on the wagon road, which may be followed down towards the right side of the picture, while the older burro trail can be seen winding around the ridge to the left.

1978 photos by John Latschar.



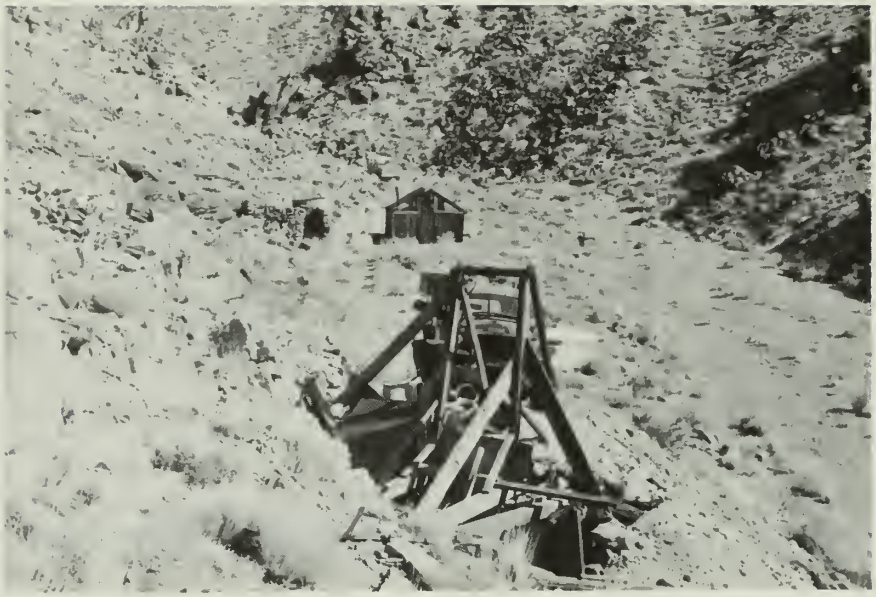
spectacular view, but it does not deserve preservation efforts. Again, the ruins on this site should not be obliterated, but rather left to the ages.

Sites 4: About a quarter of a mile away, in the next canyon to the north, stands the unappealing remains of a post-World War II mining effort. This site has a decripit wood and paper shack, the remains of a stone-walled building, a leveled tent site, and an untimbered shaft. The shaft has a crude whim, powered by a World War II surplus Dodge Power Wagon, and judging by the condition of the vehicle and winch, has not been used for quite a number of years. The shack, however, was lived in, at least on a temporary basis, as late as 1975, judging by the garbage and magazines strewn about inside. The site lacks significance and deserves no preservation efforts.

Site 5: Towards the Lee side of the district, once one has crossed the summit of the Funeral Range and begun to descent towards the Amargosa Valley, stands another relic of a 1930s-era attempt to revive one of the Lee mines. This site contains a rusty tin shack standing next to an older tent platform site, and was evidently used by some lonely desert hermit who tried to revive one of the several old mines visible in the immediate vicinity. It also lacks historical signficance and deserves no preservation efforts.

e. General Echo-Lee District Recommendations

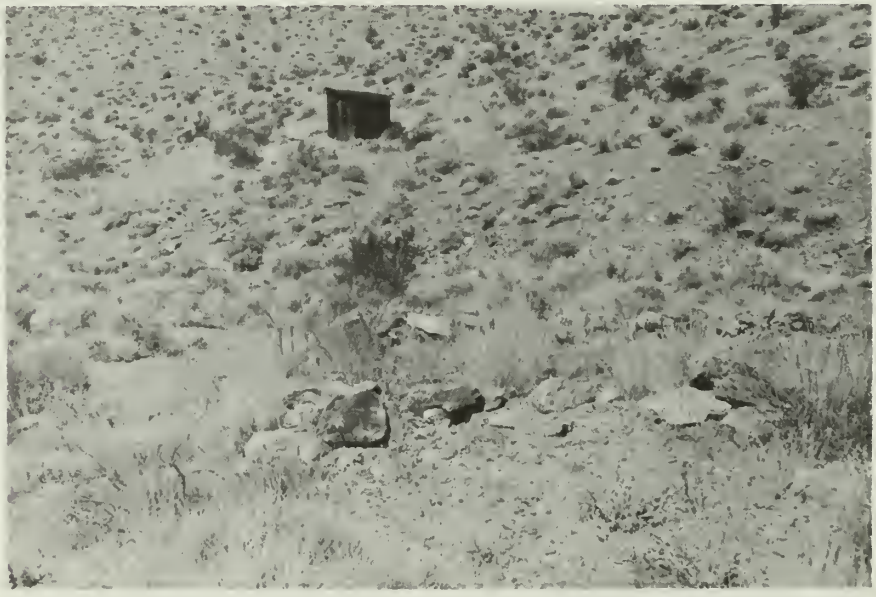
The Echo-Lee District offers Death Valley National Monument one of its greatest potential historic areas. Using the present roads and jeep trails, a four-wheel drive vehicle can easily negotiate the entire distance across the Funeral Range from Schwab to Lee. With periodic grading, normal passenger cars could be offered an exciting and adventurous excursion, similar to the Titus Canyon road experience--and probably at less cost, since maintenance costs for the Echo Canyon road would be less.



General view of the mine, Power Wagon, and cabin at Site #4.

Below: The wood and tin shack on Site #5.

1978 photos by John Latschar.



Starting at the junction of Furnace Creek road and the Echo Canyon jeep trail, the visitor would first travel up through lower Echo Canyon, where the walls of the canyon rise straight up out of the desert floor in much the same way as does lower Titus Canyon. After passing through the impressive lower canyon, the visitor could then stop at the Inyo Mine and mill complex, then double back to the upper Echo Canyon road and stop at Schwab. Further up the canyon, on the old Schwab-Lee road, a short but arduous hike could be offered to the more energetic visitors, whereby they could view the "Furnace" mine complex. Further up the canyon road is Site #2, with its assorted ruins.

After climbing out of Echo Canyon along the old road, adventurous visitors could then follow the old wagon road along the crest of the ridge to Site #3, and the less adventurous could continue to follow the main road up over the crest of the Funeral Range and down to Lee. Along the way, the townsite of Echo could be seen, before the travelers descended into the Amargosa Valley at the sites of Lee townsite and the Hayseed Mine.

At this point, several options would be available. The route could be retraced back to Furnace Creek, or the visitors could continue on. Turning to the north, they could follow the old Rhyolite-Lee road out towards Rhyolite, crossing the grade of the Tonopah & Tidewater Railroad on the way, and return to Death Valley via Daylight Pass. Sidetrips could be made, as desired, to Rhyolite, the Original Bullfrog Mine, the Homestake and Gold King mill ruins, the Chloride Cliff District, or through Titus Canyon. To the south from Lee, the road to Leeland Station on the Tonopah & Tidewater could be followed, and then the visitor could return to Death Valley through Furnace Creek.

Whichever option is followed, a trip such as this would offer the visitor a combination of scenic beauty,

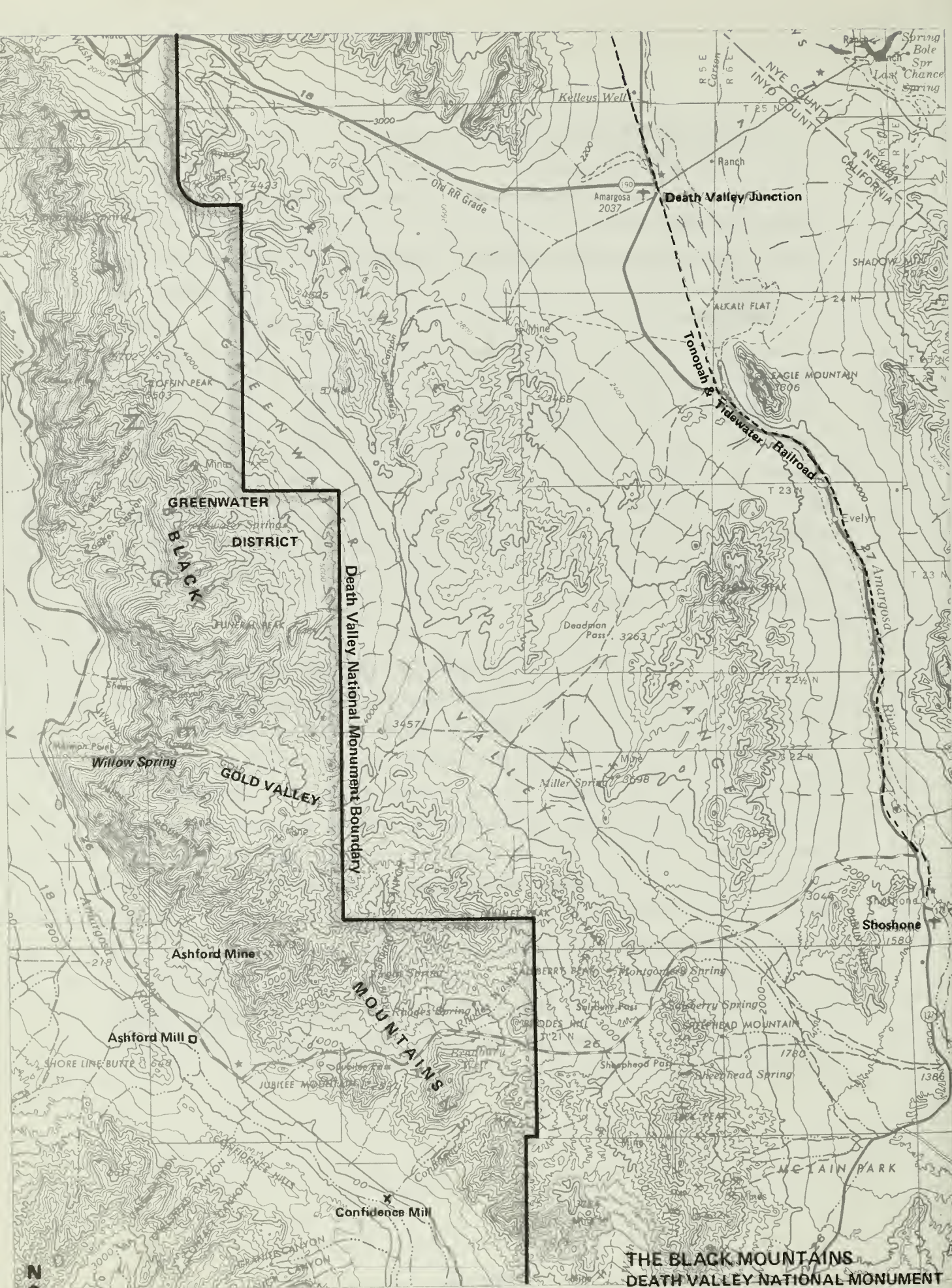
spectacular views, an exciting ride, and numerous interpretive possibilities. The interpretation could be carried out either through signing at the sites, a trip booklet available at the visitors center, or a combination of both. Such a visitor experience as this is not available anywhere else in Death Valley National Monument.

C. The Black Mountains

1. Introduction

As the reader is by now undoubtedly aware, the history of the entire east side of Death Valley was dominated by the great Bullfrog boom. This influence, which we have already seen in the Bullfrog Hills and the Funeral Range, was no less evident in the Black Mountains, to the south of the Funeral Range. Like the above territories, the history of mining in the Black Mountains is dominated by the story of various and sundry booms and busts, all subsidiary to the Bullfrog boom to the north. At a glance, therefore, the history of the mines and mining camps in this section is not too different than those related above. But there were two distinct phenomena which showed up in this section. Although neither of these are particularly surprising on their own rights, they both emphasize telling points concerning the success or failure of desert mining camps.

The first was the amazing stampede into Greenwater. That spectacular rush will be described in more detail later, so it suffices to point out here that in Greenwater we see the final culmination of the unbelievable boom spirit which had been prevailing in the desert mining camps since the discovery of Tonopah in 1900. Since that discovery, scores of boom towns had been added to the map in southern Nevada and southeastern California, and each seemed to proclaim to the world that the new era of mining booms was here to stay. Untold riches were buried beneath the desert floor, and all one had to do was dig almost anywhere to secure a fortune. That spirit reached its height in conjunction with the Greenwater stampede--and the subsequent Greenwater bust marked the beginning of the decline of the early twentieth-century mining booms.


GREENWATER
DISTRICT
BLACK
MOUNTAINS
Death Valley National Monument Boundary
Death Valley Junction
Tonopah & Tidewater Railroad
Amargosa River
Shoshone
Ashford Mine
Ashford Mill
Confidence Mill
Willow Spring
GOLD VALLEY
Kelleys Well
Old RR Grade
Deadman Pass
Miller Spring
Sheephead Pass
Sheephead Spring
Salsbury Pass
Salsbury Spring
Montgomery Spring
Rhodes Spring
Rhodes Hill
SHEEPHEAD MOUNTAIN
EAGLE MOUNTAIN
ALKALI FLAT
SHADOW MTN
TOPHIN PEAK
SHORE LINE BUTTE
JUBILEE MOUNTAINS
CONFIDENCE HILLS
NYE COUNTY
INYO COUNT
NEVADA
CALIFORNIA
Amargosa
2037
Ranch
Spring
Bole
Spr
Last Chance
Spring
Evelyn
Mine
Mines
Pass
Peak
Hills
Canyon
Wash
Valley
Flat
Flats
Range
Mountains
Park
Lines
N
Scale: 1" = 4 miles
THE BLACK MOUNTAINS
DEATH VALLEY NATIONAL MONUMENT
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On a less psychological note, the mining camps of the Black Mountains also pointed out quite clearly the ever-present handicaps against which desert mining camps were forced to struggle--the search for water, fuel and transportation. At the time of the mining booms in the Black Mountains, Rhyolite was far and away the largest supply center in the entire Death Valley region, and the farther south one moved from Rhyolite, the more expensive food, fuel and supplies became. Thus the farther one moved from Rhyolite, the more expensive it was to open a mine, and the richer one's ore had to be in order to reap a profit. In addition, the fact that water sources grew fewer and farther between as one moved south multiplied the problems of expenses and even survival. Mines, in short, which would have become producers in the Bullfrog Hills were totally unprofitable in the Black Mountains. These dual problems of water and transportation are the constant factores in the determination of the success or failure of mines in this section.

On an entirely different note, it seems fitting to give the reader a word of warning at this point. This study has been based heavily upon the accounts of mines as printed in contemporary mining camp newspapers and national mining journals, neither of which sources are completely reliable. Mining camp newspapers were always wont to emphasize the positive and ignore the negative in their reporting, for the success of the paper depended upon the success of the camp. Thus, as we have seen time after time, mines which are reported to be healthy, productive and rich in one issue of a paper are suddenly closed by the time the next issue hit the street, without a word of explanation from the friendly editor. National mining journals, while more prestigious, are hardly more reliable in their weekly coverage, since the great majority of their news came from the editors of local papers, who served as stringers for the national syndicates.

But the editors and papers should not totally shoulder the blame, for they in turn relied upon the mine owners and superintendents for their information. With this in mind, the following article, which appeared in the Inyo Independent in 1882, should be enough to emphasize the dangers of relying upon such biased sources for information concerning a mine:

> Recently, says an exchange, a Nevada man invented a lying machine, and went around trying to sell 'em. The machine was warranted to trot out a first-class lie on any subject, at a moment's notice. But it didn't sell well. He took it to an editor. Said the editor: "Come, you get out of this. I tell the truth in my business." The inventor presented it to a lawyer, but he also looked horror-stricken and offended. A fishing party looked hankeringly at it, but their language was to the effect that they abhorred untruth. At last the disheartened inventor tried a mining superintendent, who flew mad in a minute. "You scroundrel," he cried, "do you mean to insult me?" "No," tremblingly answered the man. "Then what in blazes do you mean by offering me that thing?" "Why I--I thought you might occasionally want to use it in your business." "You wretch, what do you take me for?" "Oh, sir, I didn't mean to insinuate that you could tell a lie." "That's it " cried the superintendent; "that's what I'm mad about. You conceited ass, you think you're able to invent a machine that I can't lie all around, and that without an effort. I never was so insulted in all my life! Get!" And he immediately set to work writing his weekly reports.

Since this type of reporting was more evident in Greenwater than in any other boom camp in Death Valley, a word to the wise should be sufficient.

2. The Greenwater District

a. History

Greenwater Valley was the site of the most spectacular boom in the history of Death Valley mining. While other districts, such as Bullfrog, Lee-Echo, Panamint, Skidoo and Leadfield had their booms, which saw rushes into new mining areas and the establisment of new mining camps and towns, Greenwater surpassed all the others in the brilliance of its birth. Within a year and a half from the beginning of the rush to Greenwater, the deserted desert was home to over two thousand inhabitants in four towns, seventy-three incorporated mining companies, and was the focal point of over 140 million dollars worth of capitalization.

But it was not only the amazing rush to Greenwater which sets it apart from other booms, for Greenwater also experienced the shortest life ever recorded for a boom camp of its size. Within one year from the height of the boom, all but five of the companies had left the district, and Greenwater was practically deserted. By the end of two more years, everyone had given up, and the Greenwater Valley, the scene of so much bustle and excitement a short time before, was once again completely deserted. This combination of a tremendous boom, a brief life and then complete desertion, all within the space of less than four years, has made Greenwater a name which is still anathema to the investing public, and dear to the hearts of desert folklorists. Few, if any, mining camps in the American west have ever combined such initial excitement with such total disappointment.

Inevitably, considering the popular place of Greenwater in the annals of western folklore, it is sometimes difficult to separate the fact from the fiction surrounding the history of the district--and there is no lack of either. Although the argument about who really discovered Greenwater started as

early as 1906 and has continued ever since, it seems apparent that the honor must be divided. Some prospectors later claimed that they had made copper locations in Greenwater Valley as early as the late 1890s, but the obvious difficulties inherent in mining copper in an isolated spot caused such locations, if made, to be abandoned.

The real discovery of Greenwater, as with most throughout the Death Valley area, came about as a result of the Bullfrog boom, sixty-five miles to the north. As noted before, the great rush to the Bullfrog Hills soon filled up the ground in that vicinity with location notices, and late-arriving prospectors were forced to move farther afield. Two such men, Fred Birney and Phil Creasor, ambled south down the east side of the Black Mountain Range, and in February of 1905, while looking for gold, uncovered rich surface croppings of an immense copper belt in Greenwater Valley. Birney and Creasor sent samples of their find to Patsy Clark of Spokane, a well-known copper mining operator, and Clark was sufficiently impressed to buy the claims from the two men in May.

Hearing of Clark's new holdings, which held amazingly high copper values at the surface, F. August Heinze, the "famous copper king" of Butte, Montana, also visited the new locations, and was equally impressed. The rich surface showing was so promising that Heinze and his partners immediately bought sixteen copper claims from another pair of early prospectors for the neat sum of $275,000. Commenting upon the transaction, which brought newspaper attention to the area, the Inyo Independent reported that the "vast copper deposits in the Funeral [sic] range have long been known to prospectors, but their inaccessability to the markets prevented working." Now, with the booming camp of Bullfrog to the north, and the promise of railroads into the desert regions, the transportation and supply problems would be much less

severe, although the Greenwater Valley was still a long way from civilization.

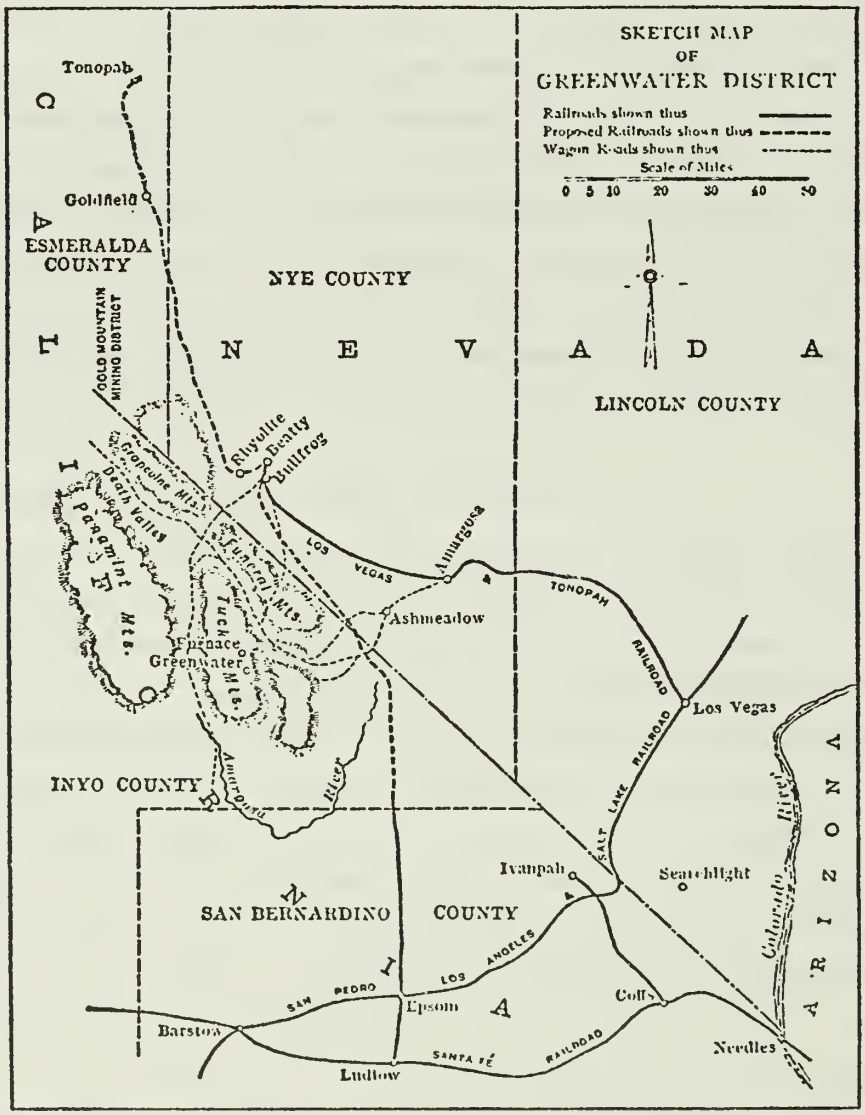
As the news quickly spread that two of copper's biggest operators had located in Greenwater, a mile rush ensued. Prospectors and mining men started to flock into the Greenwater area in order to stake out close-in ground. As usual with a new boom, transportation problems exceeded all others, and many prospectors, including one who reported for the Inyo Independent, were reduced to walking from Bullfrog into the new district, a task which took three days. The work was rough, since even in Spetember the thermometer reached 113 degrees in the afternoon, and the reporter-prospector found that he was forced to sit down and rest after building each monument to mark his claims. The heat was not alleviated by the total lack of water in the district, and prospectors who ran out of water were forced to leave their location work and return to Bullfrog, the nearest point of civilization.[1]

By late June of 1905, Patsy Clark already had eight men working at his property, and a shaft had been sunk thirty-five feet into the ground. As the year progressed, other operators entered the scene, including Arthur Kunze, who secured some of the best looking ground in the area and had five men working it by the end of the year. As 1906 opened, Kunze, Clark and Heinze began to have plenty of company, for innumerable other mining promoters, prospectors and miners were entering the district. Clark established a mining camp near his mine to support his operation, and other small camps sprung up along the valley floor as mines began to open almost daily.

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1. Inyo Independent, 5 & 19 May, 9 June, 8 September 1905. Bullfrog Miner, 2 November 1906.

A somewhat inaccurate map, published in late 1906, which nevertheless shows the relative distances involved between Greenwater and Rhyolite and Amargosa, its two main supply points.



As the rush to the area continued, however, it soon became apparent that the lack of an adequate water supply anywhere in the vicinity would be a major problem. "The water proposition is the serious drawback in that section at present, and will be a matter of considerable expense," remarked a Rhyolite stock broker, "yet the earmarks of the country seem to show that any expense would be justified, judging from the surface indications." Those surface indications were were indeed so rich that men and money continued to rush into the district, regardless of the serious problems of water and transporation. As the spring progressed, some of the biggest names in Nevada mining joined the boom, and fortunes reaped in Tonopah and Goldfield were reinvested in the promising new district.

"All of the great copper magnates are looking to this section," reported the Inyo Register in May, "which is destined to become the next great copper district of the world." That prediction seemed to be borne out by June of 1906, as the copper belt was "proven" to be at least seven miles long. Four of the larger mines had by now been incorporated into full-fledged mining companies, and Greenwater seemed assured of a long and lively life.

The rush slowed down somewhat during the hot summer months of 1906, although the future of the district looked even better when both the Las Vegas & Tonopah and the Tonopah & Tidewater Railroads, which were building into the Bullfrog District, expressed interest in tapping the new copper belt into the south. The local papers declared that the district "will make one of the greatest copper camps in America," and the continuing rush caused the major national mining journals to take notice of the area. "The weather in Death Valley is the only thing that prevents Greenwater from having one of the biggest booms on record in this country," wrote the Bullfrog Miner. "But even the midsummer heat of the

"terrible region" does not keep prospectors out. Hardly a day passes that Bullfrog prospectors are not seen starting out for Greenwater." In early July, a stage line was started from Ash Meadows into the new district, and water, which was being hauled in from fifteen miles away, was selling for $5 per barrel.[2]

During one week of July, seven different properties were bought and sold in Greenwater, and by the end of that month, the demand for surveying and assaying support for the prospectors and promoters was so great that two offices had been established in the district. Over fifty miners were working for the five companies which had started sinking by the end of July, innumerable others were combing the hills for promising locations, and the Greenwater Miners Union was organized. A crude road from the Rhyolite area had been carved out, which cut travel time to five hours by auto, but still the water problem plagued the development of the district. In addition, so many claims were being located, sold, exchanged and relocated that inevitably conflicts began to arise between claim holders.

Hundreds of thousands of dollars had changed hands by the end of July, as feverish trading of mines and claims took place. Five mining companies were organized, and the capital stock of four of them reached the figure of $5,750,000. "This week auto after auto loaded with prospective investors has gone to Greeenwater, and the demand locally for horses and rigs has almost exceeded the supply," reported the Bullfrog Miner. The rush was

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2. Inyo Independent, 9 June, 8 September, 15 December 1905; 31 May 1906. Rhyolite Herald, 23 June 1905; 16 March, 4 May, 23 June 1906. Bullfrog Miner, 9 & 30 March, 4 May, 1 June, 1 & 13 July 1906. Inyo Register, 31 May, 12 July 1906. Engineering & Mining Journal, 2 June 1906, p. 1068. Mining World, 17 March 1906, p. 365.

causing scarcities in Greenwater, and water rose to $7.50 per barrel, while horse feed was almost as hard to find. But the rush continued, and "As is usual in new Nevada mining camps the townsite epidemic has broken out in a decidely virulent form. No less than three towns are already planned, and it is a difficult matter at this time to tell which is going to be the commercial center of the district. That there will be a flourishing town in the district goes without saying, but which and where it will be is a matter of conjecture at this writing. It has the most observing man guessing."

As more and more prospectors flooded into the area, concerns began to arise over their welfare. Printed warnings were published in the Rhyolite papers, warning prospectors to bring all the food and water they would need into the district with them, since none could be provided there. Water was being hauled from Furnace Creek in Death Valley, but "Teams making the trip to the creek and back, fifty miles, drink about as much as they can deliver, making it almost impossible to get any reserve supply. Unless travelers heed the timely warning there is liable to be real suffering, and perhaps a number of deaths." Several mine owners, who were importing water to meet the demands of mining and to supply their employees, publically warned prospective visitors that they could no longer afford to sell water to private individuals.

But despite all these serious problems, there was no denying the allure of the Greenwater District, and the rush continued in August. By this time, the district was beginning to take shape, competing towns had been surveyed and platted, and one of them had established a boarding house. On July 29th, a meeting was held to organize the new district, in order to alleviate some of the problems caused by conflicting claims, and to remove the necessity for prospectors to travel all the way to Independence,

California, to record their claims. The population of the district was now estimated at 300, and several stores and a restaurant had opened for business. Kimball Brothers, the staging kings of Rhyolite, announced a new stage line which would make thrice-weekly trips into Greenwater, and one traveler counted over 100 freighting wagons heading towards the district in one day, straining their resources to supply the growing demands of the new boom camp. Canned tomatoes were an especially popular item for sale at the crude tent stores, since they were cheaper than water, which was now selling for $10 a barrel, and quenched the thirst almost as well.

The rush to the new region had several unique aspects, which the local newspapers were quick to spot. Due to the extremely rich surface showings, money was pouring into the district at a tremendous rate, before ground was even broken. As the Rhyolite Herald noted, "money seems to have beat labor to the scene of activity, as the big capitalists were on the ground and buying claims when no work has been done." "It is not a poor man's region," agreed the Bullfrog Miner, "but one which will require a great deal of money to develop it."

All this business, of course, was good for the Rhyolite area merchants, and the new boom was looked upon favorably. "All Nevada is taking a hand in this rush," noted the Inyo Independent, "as practically the whole of the United States has been told of its marvelous deposits of copper, which are revelations to geologists and mining men in general." Although the district hardly needed another spur to its boom, it got one anyway on August 10th, when the organization of the Greenwater Death Valley Copper Company was announced. Promoted by Charles Schwab, the steel and mining millionaire whose name was magic to Nevada miners, the new company was incorporated for $3,000,000,

and together with Patsy Clark's Furnace Creek Copper Company, assured "a thorough and complete development of the district."

By the middle of August, the townsite rivalry was beginning to take shape, as two major competitiors emerged from the dust. Arthur Kunze was the chief promoter of the first, and his town seemed to have the edge. Alternating between the name of Kunze and Greenwater, Kunze's townsite was located midway between the mines of the Furnace Creek Copper Company and the Greenwater Death Valley Copper Company--the district's two largest mines. By mid-August, Kunze's townsite boasted of two stores, and a hotel, a restaurant and several corrals were under construction. The Salsberry Water Company was under contract to Kunze to keep the camp supplied with water, and a petition was sent in for the establishment of a Post Office.

The Kimball Brothers obligingly routed their stage line to Kunze's townsite, and the Tonopah Lumber Company, in addition to establishing a lumber yard to supply the hectic construction pace, sent down several 12-horse teams, to be used in hauling supplies from Johnnie Siding of the Tonopah & Tidewater Railroad to the new townsite. The lumber company, in addition, supplied a 2,500 gallon water tank for the townsite company, and Kunze's plat of the town, which showed thirty-two blocks with over 550 lots for sale, was approved by the Inyo County Commissioners on August 13th. Assessing the situation, the Bullfrog Miner predicted that Kunze's camp seemed to have the inside track over it's main rival, the townsite promoted by Harry Ramsey.

Just to add to the confusion, Ramsey also insisted on calling his townsite Greenwater, although it was commonly called Ramsey, and less commonly called Copperfield. Whatever it was called, its location was hard to pin down, since it

was variously described as being one to four miles east or southeast of Kunze's camp. Nor did Ramsey help alleviate the confusion when he moved his site around at least once. Nevertheless, Ramsey vigorously promoted his own town, and even tore down his iron office building at Rhyolite and moved it to Greenwater-Ramsey-Copperfield.

As the rush continued, one observer counted $25,000 worth of supplies heading into the Greenwater District in one day, and another counted 200 miners and prospectors in the area, not including those who were out in the hills surrounding the camps. The Engineering & Mining Journal, assessing the Greenwater boom, noted that the "copper finds there recently have brought about an excitement equal to that at Bullfrog two years ago. Hundreds of people from Tonopah, Goldfield, Lida, Palmetto and the Bullfrog towns are traveling towards Greenwater in all sorts of conveyances. As high as $200 is being paid to automobile companies for transporation by wealthy operators who are anxious to get in early."

But getting into Greenwater was not that easy for those who could not afford the $200 to rent an auto. Those who arrived by train via Johnnie Siding could sometimes hitch a ride on one of the big freight teams constantly traveling between the railhead and Greenwater, but that trip took from twelve to fifteen hours. The Kimball stage took just as long, for the relatively reasonable rate of $18 per passenger, but spaces were limited, and numerous travelers found themselves forced to wait at Johnnie Siding for a day or two before their turn on the stage came. One migrant described his trip to the Bullfrog Miner: "It's a fright of a trip; 55 miles from Johnnie siding,; sand most of the way. Stage leaves Johnnie siding 3:00 p.m.; had supper at Ash Meadows; camped for the night 10 miles this side of it." Once arrived at Greenwater, the situation was

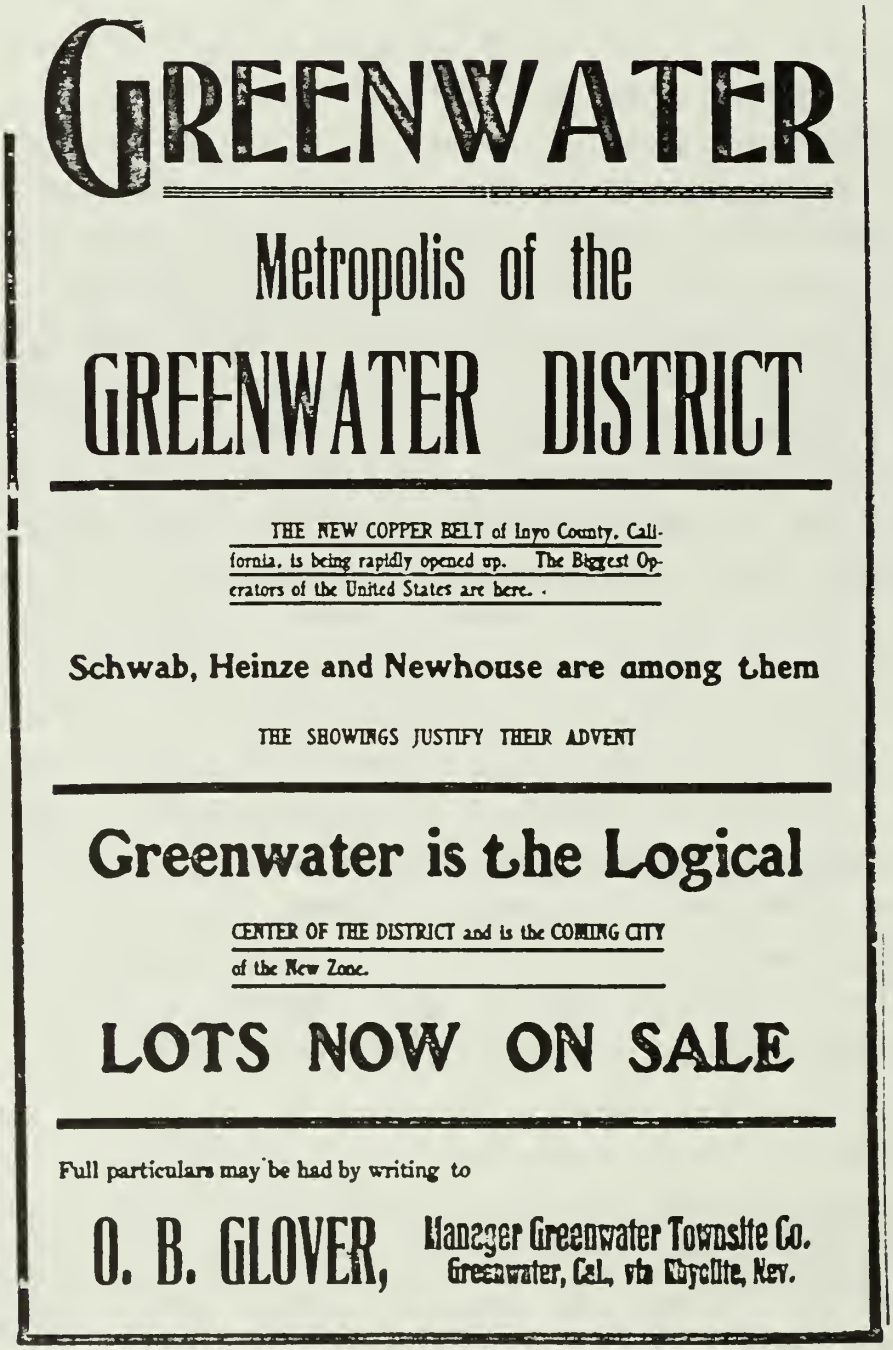
not much better. "About 70 to 100 men here and about 100 gallons of water, 15¢ per gallon. Meals $1 transiently, regular 1.50 a day. Store and a restaurant here and about a dozen tents. The camp is on Kunze's ground. Clark [Patsy Clark's mining camp, also known as Furnace] is about 2 miles west and Ramsey 2 or 3 miles east."

As August came to an end, the Greenwater District braced itself for the increasing rush which would undoubtedly come with the cooler weather of the fall and winter. Arthur Kunze and Harry Ramsey continued to promote their towns, and endeavored to attract the merchants which would make their camps the winner. Ramsey formed the Greenwater Townsite Company to promote his camp, and by the end of August he had a restaurant, two saloons, a hotel and a store. Kunze, meanwhile, had completed arrangements with several merchants, and the Greenwater Banking Corporation was organized, with a capitalization of $100,000, as well as the Greenwater Mercantile Company, which planned to erect a large general merchandise store. In addition, Kunze's site had a lodging house, a store, a saloon, a restaurant, and a number of tents as well as a "first class assay office." Kunze seemed to have an advantage over Ramsey, since his townsite was higher in the hills, and was cooler than Ramsey's site, which was on the floor of Greenwater Valley--an important consideration. The local folk, however, were divided in their assessment of the future winner of the townsite struggle, although the Rhyolite Herald picked Ramsey's camp to win. But whoever won, "the townsites are lining up for the struggle of supremacy and everything points to a prosperous fall and winter."[3]

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3. Bullfrog Miner, 13, 20 & 27 July, 3, 10, 17, 24 & 31 August 1906. Rhyolite Herald, 20 & 27 July, 3, 10, 17 & 31 August 1906. Inyo Independent, 3, 10, 24 & 31 August 1906. Inyo Register, 16 August 1906. Greenwater Times, 23 October 1906. Engineering & Mining Journal, 18 August 1906, p. 319. Nevada Secretary of State, Articles of Incorporation, Vol 9, pp. 199, 245, 270. Inyo County Courthouse, Plat of Greenwater, 13 August 1906.

Advertisement for Ramsey's townsite, variously known as Greenwater, Ramsey and Copperfield. From the Bullfrog Miner, 31 August 1906.



GREENWATER

Metropolis of the

GREENWATER DISTRICT

THE NEW COPPER BELT of Inyo County, California, is being rapidly opened up. The Biggest Operators of the United States are here.

Schwab, Heinze and Newhouse are among them

THE SHOWINGS JUSTIFY THEIR ADVENT

Greenwater is the Logical

CENTER OF THE DISTRICT and is the COMING CITY of the New Zone.

LOTS NOW ON SALE

Full particulars may be had by writing to

O. B. GLOVER, Manager Greenwater Townsite Co.
Greenwater, Cal., via Rhyolite, Nev.

As the fall season opened, the anticipated rush to the Greenwater District exceeded all expectations. The ingoing stages were crowded beyond capacity, and the congestion of freight and passengers at Johnnie Siding grew alarming. Huge piles of freight built up at the railhead, and many prospectors were reduced to walking the fifty-five miles to the camps. The competing townsites took advantage of the rush to proclaim their respective appeals. Ramsey's camp, despite being moved, still gave stiff competition to Arthur Kunze's town and Patsy Clark's camp of Furnace--although the latter was never intended to be more than a convenient camp for the miners working at Clark's Furnace Creek Copper Company mines. Dr. S. Trask of San Francisco was persuaded by Kunze to move into his town and start a drug store, a new saloon was started, and Bob Brogleman, proprietor of the Greenwater Mercantile Company, began construction of his large store. Several more boarding and lodging houses sprang up at Kunze's camp, until he could boast that ample boarding and lodging accommodations could be had. The Greenwater Banking Corporation started in business, and although the price of water declined slightly to 15¢ per gallon, water was still such a problem that the Ash Meadows Water Company was organized, at a capitalization of $3,000,000, in order to pump and pipe water in from that site to the growing towns of Greenwater.

By the middle of September, Jack Salsberry of the Tonopah Lumber Company reported that he had sold 150,000 board feet of lumber in Greenwater, and had orders backed up for 300,000 feet more. In addition, the lumber company had contracted to haul 625 tons of freight into the district, including 120 tons for the Kunze townsite and 16 tons alone for Brogleman's store. The lumber company by now had large water holding tanks erected at both Kunze's and Ramsey's townsites, and had several six-horse teams constantly hauling in water to supply the tanks.

Even though over 100 men were employed in the fourteen mines working in the district, labor was becoming scarce, as most men preferred to prospect on their own in the hopes of striking it rich, rather than settling down to a regular job. But as the boom continued, the camps seemed to show signs of being able to handle the influx of migrants. Although water still cost from $6 to $10 per barrel, "and the expense of feeding a mule is still as great as the money paid by a sojourner at a first-class hotel in New York City," there was at least enough tents so that most men who wished could sleep under cover, and it was possible to obtain food in the camps. In order to supply the increasing crowds, the Kimball Brothers increased their stage service from Johnnie Siding to a daily basis, and promised to try to make the trip to Greenwater in one day.

Al Neilson, the recorder of the Greenwater District, reported on September 21st that he had recorded 700 claims since the district was officially organized on September 6th. The Inyo Independent reported in mid-September that the district now had at least 1,000 people, with more crowding in every day. As could be expected in the midst of such a boom, trading in Greenwater stocks went wild. One company, the Independent reported, could fix its total value at $5 million based upon the selling price of its stock, even though it had sunk only to a depth of 280 feet, and had shipped no ore. The Associated Press, in turn, reported that during a two week period in September, sales aggregating a grand total of $4,125,000 had been made in Greenwater, and the "price of everything in the district has shot sky high." The Engineering & Mining Journal noted that Greenwater was "no place for a poor man, as provisions and water are both high in price, though on the other hand any prospect which may be found may be sold."

The Rhyolite brokerage firm of Taylor & Griffiths, who were gleefully trading Greenwater stocks as fast as they could get their hands on them, also reported the same trend. "The interest in the Greenwater district is intense. The demand for good properties is far in excess of the supply." As examples, Furnace Creek Copper stock, which had a par value of $1, and which was initially sold for 50¢ per share, was now trading around $4.50 per share, and Greenwater Death Valley was selling around $2. Furnace Creek Extension stock was put on the market at its par value of $1 per share, and was immediately oversubscribed, even though the company had not yet stuck a single pick into the ground. Greenwater, in short, was a promoters dream.

As September came to an end, it seemed sometimes that all of Rhyolite was decamping for the new district. Ramsey's town reported a population of 200, and at Kunze's, Bob Brogleman reported doing a land office business at his merchandise store, even though he hadn't finished building it yet. The Rhyolite papers began to blossom with large and elaborate advertisements placed by Greenwater companies, most of whom were not yet working. In September alone, six more mining companies were incorporated, bringing the total in the district to sixteen. The capitalization of thirteen of those companies totaled over $20 million.[4]

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4. Inyo Register, 6 & 20 September 1906. Bullfrog Miner, 7, 21 & 28 September 1906. Rhyolite Herald, 14, 21 & 28 September 1906. Inyo Independent, 14 & 21 September 1906. Mining World, 5 September 1906, p. 359. Engineering & Mining Journal, 22 September 1906, p. 559. Nevada Secretary of State, Articles of Incorporation, Vol 9, pp. 219, 322, 358.

The month of October saw the height of Greenwater's boom, as everyone took advantage of the cooler fall weather to get into the district and locate good ground. During this month alone, fourteen more mining companies were incorporated in the district. As usual, some of these companies had mines, and some did not. With the great proliferation of mines and mining companies, moreover, the less honest of the mining promoters found it easy to cash in on the unbelievable boom spirit which surrounded the Greenwater name. Taking their cues from the two leading mines of the district, the Furnace Creek Copper Company and the Greenwater Death Valley Copper Company, a confusing list of mining companies appeared on the lcoal trading boards, as well as those in San Fracisco and New York. Who, for example, could hope to remember the difference between the Furnace Creek Copper Company, the Greenwater Furance Creek Copper Company, and the Furnace Creek Consolidated Copper Company, let alone the Greenwater Conslidated Copper Company, the Greewater Copper Mining Company, the Greenwater United Copper Company, the United Greenwater Copper Company and the Greenwater Copper Company, each of which was a distinct organization?

As with the mines, the towns of Greenwater also entered a true boom period. Construction began in early October on a two-story building for the Greenwater Banking Corporation, and a safe was ordered to store its money. By the middle of the month, the Inyo Independent reported that investment capital in the new district had already reached the $15 million mark. Every prominent copper operator in the United States had some interest in the district, and claims had been staked for twenty miles on every side of Greenwater. Over forty mining engineers had made reports on the mineral potential of the area for their repective employers, and it was the "unanimous opinion that Greenwater will excell in copper production, both the camps of Bisbee and Butte."



RAMSEY, GREENWATER DISTRICT

Unfortunately, our only photo of Ramsey's townsite, alternatively known as Greenwater, Ramsey and Copperfield, is a rather poor one. This view was taken by representatives of the Engineering & Mining Journal during their trip to the area in October of 1906, and was printed in the Journal of December 15th.

Photo courtesy of William Metscher collection, Central Nevada Historical Society.

An early Greenwater mining advertisement, from the Rhyolite Herald, 19 October 1906.

ANNOUNCEMENT!

To avoid expense and disappointment to our clients, we take this means of notifying you that our allotment of

Greenwater Saratoga Copper Company's Stock,

as offered by us at 50 cents per share, through these columns on October 13th and through our Mining and Market Review, has already been over-subscribed to the amount of over 550,000 shares, and will be much more greatly over-subscribed by the time this appears in print.

We wish again to thank our clients for their cordial support and appreciation of our efforts and success in presenting only the highest class of securities at prices upon which enormous profits are certain. We will also state that Greenwater Saratoga is now quoted on the Goldfield and San Francisco Exchange at 75 bid,—80 asked, and will undoubtedly double in the very near future.

For all our clients seeking a safe and permanent investment, rapid profits and dividends, we recommend the purchase of GOLDFIELD MADONNA at market (now 20 to 25 cents per share); FRANCES-MOHAWK at market, (now 70 to 85 cents); GREENWATER RED BOY at market (now 70 to 80 cents); GREENWATER SARATOGA at market (now 75 to 80 cents.)

Watch this space for our next fortune maker at opening prices. Enormous profits and early dividends follow our recommendations. :: ::

D. MACKENZIE & CO.

Holders of the world's record for rapid mine making and dividend-paying.

GOLDFIELD NEVADA

The district by this time had 450 men and four women, and Kunze's town of Greenwater had five saloons, three restaurants, two general merchandise stores, and three lodging houses, where cots or springs on an old dry goods box cost $1 per night. Telegraph and telephone lines were being run from Bullfrog to Greenwater, and were nearing the town. Some luxuries were available, but when the first case of champagne entered the district, there were so many potential buyers that it was put up for action and sold for $150. Due to the lack of ice, liquor and water were both cooled by being stored in gunny sacks. The water itself served many purposes, first being used to wash dishes, second to wash clothes, and then given to the mules and burros to drink.

Happily, wages soared as high as prices, since miners who were willing to work steadily instead of prospecting on their own were somewhat rare. Unskilled miners and common laborers commanded $4.50 per day, carpenters were paid $8 daily and were in great demand due to the building boom, and expert miners received $5 to $5.50 per day. No one worked more than an eight-hour day. "The boom is growing more tremendous with each day," summed up the Inyo Independent. "Tons of machinery are being crowded into the Greenwater district; freight has become congested; every team for miles has been pressed into service and people are hurrying into the district as fast as the stage line can carry them."

Between forty and fifty mule teams were hauling in supplies from Johnnie Siding, but no progress was made in reducing the back-load which was still piled high at the railhead. Kunze's camp of Greenwater was booming, and as much as $1500 was reported to have been paid for an inside lot. Kunze even succeeded in landing the pearl of every self-respecting mining camp, its own newspaper. On October 23d, the first issue of the

Greenwater Times appeared on the streets. It was an eight page paper, published every Tuesday by James Brown and Frank Reber, and half of its eight pages were canned material. Nevertheless, the rest of the issue was chock full of new, gossip and tidbits, some confusing and most exaggerated.

By this time the camp of Greenwater was beginning to change from a tent to a board town, and the Greenwater Times was sure to note all the newly constructed buildings. Bob Brogleman, proprietor of the Greenwater Mercantile Company, had a thirty by sixty foot frame building with a "handsome rustic front," which housed his store, hotel and restaurant. Messrs. Smith and Owsley had the newest saloon, in a twenty by thirty-foot frame building with a shingled roof. John Salsbury had an eighteen by thirty-foot office building almost completed, and his thirty by sixty-foot store building would be finished in a few days. Arthur Kunze's building was almost completed and it would house the Post Office, which had been granted to his townsite, as well as the bank and his private office. E. L. Phelps had his saloon in a boarded tent, Tom Murphy was building a men's furnishings store, and J. J. Griffith had let a contract for a twenty-room hotel. Commenting upon the building boom, the Greenwater Times smugly predicted that it was "safe to prognosticate that Greenwater will be growing thirty years hence." After all, the "future of the city of Greenwater is surely as open and easily read as any book--and the reading says it's the greatest copper city of a century."

The advertisements carried in this first issue of Greenwater's paper give an insight into other business establishments in the town. In addition to the ones mentioned above, the Greenwater Brokerage Company, the Greenwater Restaurant, Edward Behten's real estate, investments and mining

office, the Do Drop Inn, the Greenwater Lumber Yard, the McKinney Glover law, mining, real estate and brokerage company, the Greenwater Club, Hunter & Hutner's civil, mining and electrical engineering firm, J. C. Davidson, notary public, Reber & Company's real estate and mining information offices, the Bank Saloon, and Kennedy & Lass's assaying and surveying service, all placed advertisements in the paper.

The booming mining business was also good for the labor interests, and by late October, the Greenwater Miners Union was over 100 strong. Meetings were held every Tuesday, and the Greenwater Townsite Company donated two "very fine lots" to the union, where they intended to build their union hall. The miners started a fund drive to build and staff a union hospital, and proudly proclaimed its motto across the pages of the Greenwater Times: "It is Justice the World Needs! Not Charity!"

In other news, the Times reported that the chief engineer for the Las Vegas & Tonopah Railroad was in town to select the best rail route into the district, and that due to public demand for living space, Patsy Clark had agreed to throw open his townsite of Furnace, which had hitherto been reserved for employees of his mine. Then, as was fitting, the first issue of the Greenwater Times closed with a large advertisement for the Greenwater Townsite Company. Greenwater was, according to this ad, "The Greatest Copper City of the Century." The payroll at its mines already exceeded that of Beatty, Bullfrog and Rhyolite combined, and $52,500 in real estate had been sold in Greenwater in the month of September. Still, however, business lots were available at "ground floor prices" to anyone interested.

Less than a week later, the Inyo Independent took its turn at marveling at the wonder of the eastern California

desert. Look at the place, the paper said, where back in July only one tent was to be seen. Now Greenwater was a well laid out city, with over 1,000 people in the district. At the present rate, the population would be 2,000 before the year was over. The Bullfrog Miner, noting the same week that nearly $20,000,000 had been invested in 100 claims in the last six months at Greenwater, agreed that "by far the most sensational jump into prominence of any mining camp added to the map in many years is that of Greenwater . . . . Greenwater is without doubt the greatest copper mining territory ever found in the world." Only the Engineering & Mining Journal, the far away and much more staid publication, managed to hold its breath. In a much more realistic appraisal, and one which immediately became immensly unpopular in Greenwater, the Journal noted that the "district is too new, however, to permit of trustworthy predictions as to its future, and it will take many months before development work can be carried far enough to establish its real value, and make it a factor in copper production. The present indications, however, are promising."

Although the Engineering & Mining Journal was absolutely correct in stating that it would be many months before anyone began making money by mining copper, that was too cold an assessment for a boom town. There were much easier and quicker methods of making money in a boom town, and although all of them were risky, there was not a lack of men who were willing to try. Charles Crismor, for example, was a favorite Horatio Alger-type story much played up by the local papers. Arriving in Rhyolite in January of 1906 with 30¢ in his pocket, he had entered the restaurant business there. With the advent of the Greenwater boom, Crismor had grubstaked two prospectors with left-over food from his dining room, and by the 1st of November had sold the claims which they staked for a $150,000 profit. Such was the way money was made at Greenwater. The promoters who bought those

prospects, in turn, incorporated a mining company to find out if there was any ore in the ground, and sold stock shares to the investing public, which by now extended from the west to the east coast. The promoters paid themselves salaries out of the proceeds of the stock sales, and used the rest of the funds to look for ore. Only if ore was found would a profit flow back to the stockholders. In the meantime, as long as the boom lasted and people could be persuaded to invest their money in Greenwater's mines, everyone on the ground was making money.

As the boom continued and the mineral district spread farther and farther out across the desert, new towns appeared to accommodate those miners who lived too far from Greenwater, Copperfield or Furnace to walk to work. South Greenwater, for example, was started on the grounds of the Pittsburgh-Greenwater Copper Company, fifteen miles south of Greenwater itself, in early November. Later that month, the town of East Greenwater was started, to serve the mines in that area, approximately eight miles east. At about the same time, the first gas hoists began to arrive in the district, marking the transition of some of the companies from the exploration to the development stage of mining. Eleven more mining companies were incorporated in November, bringing the total in the district to forty-one. Many times that number of small mines, locations and prospects were also being held and worked by individual miners who were awaiting the proper price to sell their locations to mining companies.

And the towns continued to grow. Our best information concerns Kunze's Greenwater, since the Greenwater Times naturally boosted its own town over the rival camps. By November 6th, Greenwater had two barber shops, and twenty wooden buildings were in the course of construction. A lawyer had moved to town, to take advantage of the lucrative fees involved

in the inevitable mining conflicts, Paul Wiesse had started a butcher shop, and two more restaurants were ready to open, bringing the total to five. T. E. Blake opened a shoe repair shop, two more offices full of mining engineers and surveyors opened, and J. C. Collins announced the grand opening of his "Undertaker and Scientific Embalmer" services. So many carpenters were now in camp, serving the demands of the building boom, that they organized themselves as a local branch of the Nevada carpenters union.

Despite the boom fever, there were several firms besides the Engineering & Mining Journal which managed to resist the excitement of the rush. William Clark, president of the Las Vegas & Tonopah Railroad, for example, resisted the heavy local pressure to begin immediate construction of a branch line into Greenwater, and instead more reasonably announced that the branch road would be built "just as soon as we are fully assured of the camps' permanency." The pressure on Clark was tremendous, for if Greenwater did turn into a productive camp, the first railroad into the district would reap enormous profits. In addition, the Greenwater fever had invaded the Clark family itself, for J. Ross Clark, William's brother, had invested in the district and incorporated the Clark Copper Company.

By the middle of November, the Greenwater phenomenon could no longer be called a boom or a rush in the usual meanings of those terms, and the Inyo Register described it best as a "stampede." No less than 100 people, said that paper, were arriving in the district every day, and still the demand for labor far exceeded the supply, since most of the newcomers preferred to look for their private bonanzas rather than settle down to shift work in the mines. As a partial remedy, mine superintendents had taken to placing pickets down the trails leading into town, in order to grab the miners as they arrived, and offer them jobs.

But the district still had several rather insurmountable problems, and in mid-November one of them was graphically highlighted when one of the water wagons serving the holdings tanks of the town broke down. An immediate panic ensued, and water prices shot up to $20 per barrel before the wagon could be repaired. It was a reminder, if any need be had, that Greenwater would never become a producing district until the water and transportation problems were solved, for under the present services only the very highest grades of copper ore could be profitably shipped out of the district.

By the end of November, the Greenwater stampede was of such proportions that although the district had yet to ship a single sack of ore, it was getting almost weekly coverage by the national mining journals. "California and Nevada prospectors, miners and capitalists are thronging into the new copper camp of Greenwater . . . . as fast as they can get there by automobile, stage, wagon, burro or afoot" wrote the Engineering & Mining Journal. "The trails across Death Valley and the Amargosa desert are filled with men on the way. Rich men, ready to buy anything with a likely look are plentiful, which is a sure proof that the camp is on the boom . . . . From a population of 75 at the end of October, the camp has grown to 1,000 in a few weeks, and not less than 100 men a day are arriving. Labor is in demand, and already about 500 miners have been set to work on the big properties, and as fast as experienced miners come in they are at once given employment." As one single example of the continuing boom, Thomas W. Lawson of Boston, a noted copper operator and millionaire, purchased the Greenwater Red Boy and Greenwater Saratoga Mining Companies in late November for a reported $2,000,000 in hard cash, and immediately announced plans to erect a copper smelter. Indicative of this boom spirit purchase is the fact that Lawson intimated that the smelter would be built at



View of Kunze's Greenwater in late 1906, shortly before the townsite merger of Kunze and Ramsey's townsites. One large wooden building has been completed, and another is in the course of construction, while numerous tent and frame structures, the common mode of living, are much in evidence. Note the piles of lumber on the ground, the two freight teams in the middle of the street, and the feed yard in the center foreground.

Photo courtesy Nevada Historical Society.



This, and succeeding pages, show several street scenes in the bustling life of Kunze's Greenwater townsite. Unfortunately, shortly after these photos were taken, the townsite merger was announced, and most of the buildings were taken down and moved out into the flat to the site of New Greenwater.

Photos courtesy Nevada Historical Society.

Unfortunately, no photos survive of the combined town of New Greenwater, formed by the merger of Kunze's and Ramsey's camps.


GREENWATER TIMES AND
POST OFFICE,
GREENWATER CAL. 1906.


CARLSON PHO.
GOLDFIELD
MAIN STREET

Greenwater, regardless of the fact that there was no where nearly enough water anywhere around Greenwater to support a smelting plant. One wonders how carefully Lawson considered his purchase before laying down his money.

By now the Greenwater boom was so great that the competition between the Kunze and Ramsey townsites became impractical. Kunze's site, due to its location nearer the larger mines, and its success in obtaining a Post Office, a newspaper and several leading business houses, was clearly leading in the townsite race over Ramsey's camp, but there were problems involved in Kunze's physical location. His camp was perched up in the Greenwater Hills, practically on the end line of the Greenwater Death Valley Copper Company mines, and only a wooden fence kept drunken miners from walking off the end of one of Kunze's streets into one of the mines' shafts.

In addition, the leading mine owners of the district realized that a railroad was an absolute necessity for the future prosperity of Greenwater, and building a railroad into Kunze's town would be difficult, due to its location in the hills overlooking Greenwater Valley. Nor were the railroad interests very anxious to build directly into the heart of the mining district, for they had painfully learned at Tonopah how expensive it was to lay tracks over active and conflicting mining claims. Thus the railroad companies, both for ease of construction and avoidance of invovement in expensive land battles, preferred to build their rail heads at spots away from the actual mines. Charles Schwab, in turn, was growing uneasy at the prospect of a large town right on top of his mining claims, since that would lead to difficulties in opening up new ground when the time came. For a combination of these reasons, the leading promoters of the district decided in late November to move Kunze's camp of Greenwater away from its

present location and down into the Greenwater Valley below, where railroad construction and land acquisition would be much easier and less expensive. After all, the planners at this time were expecting Greenwater to blossom into a city of thousands, rivaling the other great copper towns of the United States, such as Butte, Montana, and there simply was not enough room at Kunze's site for such an expansion.

As a result, Harry Ramsey's camp of Copperfield, which had never enjoyed the prosperity of Kunze's, suddenly found itself saved. A new Greenwater Townsite company was incorporated, which bought out the interest of both Ramsey and Kunze in their old townsites, and backed by the capital of the leading mining promoters, announced that the entire Kunze townsite would be moved down into the valley, near Ramsey's old site. Owners of lots in both Kunze's and Ramsey's old townsite would be given lots of equal value and lcoation in the new town, and the new combined townsite would carry the name of Greenwater.

After the announcement of the townsite consolidation, the Las Vegas & Tonopah Railroad reported that it would build a spur into the new site, and John Brock announced that he would soon start construction on a $60,000 hotel. All was not well, however, for with the coming of winter, although mild snowfalls helped alleviate the water shortage, the cold weather immediately pointed out another serious supply problem in the district. Wood was almost unavailable as a fuel to warm the tents and buildings of the district, and Greenwater residents began to experience a "lively skirmish to get enough greasewood to keep warm."

Then, just to keep the townsite situation from becoming too calm, Patsy Clark decided to promote his townsite of

Furnace, and ads began running in the Rhyolite newspapers. Lots were on sale, according to the ads, for $250 to $750 apiece, and over $30,000 worth of lots had already been sold. "FURNACE," the ad proclaimed, "WILL BE THE METROPOLIS OF THE GREENWATER DISTRICT."

But wherever they were located, and whatever they were called, all the towns of the district continued to expand. The Southern Nevada Telegraph and Telephone Company completed the extension of its telegraph lines into the district in mid-December, and promised that the telephone lines would soon be finished as well. Wells were being sunk by several hopeful individuals and water was struck in one, eighteen miles from town. The Greenwater Townsite Company began laying pipe from Greenwater Springs to the townsite, although the flow of that spring was nowhere near enough to accommodate the demand.

By the end of 1906, with the population of the district pushing 1,500, the boom was finally slowing down, although everyone blamed the unprecendented cold weather rather than any abatement of the Greenwater fever. Several snow storms in late December caused much suffering, and the price of greasewood, which became inceasingly scarce, rose to $15 a wagon load. Twenty loads, it was reported, were necessary to equal the burning power of a normal cord of wood. The cold weather stopped work on most of the mines, for only those whose shafts were deep enough to escape the effects of the weather were able to continue work. Still, nine more mining companies were incorporated in the district in December, bringing the total to fifty, and everyone sat back, waiting for a break in the weather, so that Greenwater's unprecendented stampede could continue. During the lull in the

Reservations in

FURNACE

The Patsy Clark Townsite can now be made

Prices $250 to $750

Fine Opportunities for all kinds of business

WATER

In Plenty

Will be suppled by the Townsite Company at a reasonable rate

$30,000

Worth of business lots were reserved on the ground in three days last week

FURNACE WILL BE THE METROPOLIS OF THE GREENWATER DISTRICT

SIDNEY NORMAN,

AGENT

Furnace, Cal.

The first advertisement for Clark's townsite of Furnace. From the Beatty Bullfrog Miner, 8 December 1906.

the action, the townsite move began, and New Greenwater, "The Greatest Copper Camp on Earth," was born.[5]

Hard on the heels of the townsite consolidation came the news of another large merger, which set even the feverish minds of Greenwater agog. Several of the leading mine owners, realizing that the district needed a smelter in order to become a producer, announced the formation of a giant merger towards that purpose. On December 15th, Charles Schwab, John Brock, and some financiers from Philadelphia formed the Greenwater Death Valley Copper Mines & Smelting Company. The merger company had a capital stock of 5,000,000 shares, par value $5 each, for a total capitalization of $25,000,000--an amazing sum which astounded even such boom-hardened towns as Goldfield and Tonopah. The new corporation was essentially a holding company, and consisted of the majority interests in the Greenwater Death Valley Copper company, the United Greenwater Copper company, and the unincorporated mines belonging to Brock and the Philadelphians. By pooling their resources, Schwab and his partners hoped to be

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5. Death Valley Chuck-Walla, 1 January 1907. Bullfrog Miner, 5 & 26 October, 2, 9, 16 & 23 November, 7, 14, 21 & 28 December 1906. Rhyolite Herald, 12, 19 & 26 October, 2 November, 14 December 1906. Inyo Independent, 12 & 26 October, 30 November, 21 December 1906. Inyo Register, 15 November, 20 & 27 December 1906. Greenwater Times, 23 October, 6 November 1906. Engineering & Mining Journal, 27 October 1906, p. 787; 24 November 1906, p. 989; 15 December 1906, pp. 1105-6; 22 December 1906, p. 1187. Beatty Bullfrog Miner, 8 December 1906. Mining World, 15 December 1906, pp. 719-21. University of Nevada, Reno, Manuscripts Coll. #NC35, Account of Pittsburgh-Greenwater Mining Company with John S. Cookbank of Rhyolite. California Secretary of State, Articles of Incorporation, Vol 197, p. 156. Nevada Secretary of State, Articles of Incorporation, Vol 9, pp. 435, 587, 634, 697; Vol 10, pp. 7, 10, 54, 81, 97, 103, 290; Articles of Incorporation, Foreign: #103½-1906, 170½-1906, 316½-1906.

able to cut costs and erect a large smelting plant for the reduction of the ores from each of the mines. Although no specific site was announced, Ash Meadows immediately became the leading contender for the smelter site, due to its proximity to a plentiful water supply and the railroads.

The new company announced that it would build its own branch railroad from the mines to the smelter area, thirty miles away, and that work would immediately begin on the railroad spur, the water development at the smelter site, and construction of the smelter itself. A smelting expert was hired by the merger company for $25,000 per year to supervise the selection of the plant site and construction of the smelter. In the meantime, although the mines involved in the merger came under the umbrella supervision of the new corporation, each would retain its separate identity and would continue to pursue its own development independently.

Spurred by this news, developments at Greenwater continued at a rather hectic pace. The townsite merger was being carried out, and in addition, Patsy Clark, who stayed outside of both the townsite and mining mergers, continued to plug his town of Furnace. By January 1st, that site was described as containing stores, business houses and a hotel. A separate stage line connected it with Amargosa, and a Post Office had been requested.

The new townsite of Greenwater was likewise experienceing growth, in addition to the confusion of consolidation. A second weekly newspaper, the Greenwater Miner, was started by an editor who was attracted to the boom district all the way from Nome, Alaska, and several more assaying, surveying and brokerage offices opened. But January saw yet another young publication start up, which turned out to be one of Greenwater's unique claims

to fame. On January 1st, the first issue of the Death Valley Chuck-Walla hit the streets. The little magazine, published by C. E. Kunze and C. B. Glasscock, was best described by Glasscock in later years as "freakish." It was printed on butcher paper, for economy, and the two young editors launched their enterprise with a total capital stock of $35. As its advertisements read, it was "A Magazine for MEN." It was "written in a vein to please. It is entertaining as well as valuable. It exposes the crooks, the wildcats and the frauds, and roasts the knockers." And, as the cover declared, it was "Published on the desert at the brink of Death Valley. Mixing the dope, cool from the mountains, and hot from the desert, and withal putting out a concoction with which you can do as you damn well please as soon as you have paid for it. PRICE, TEN CENTS."

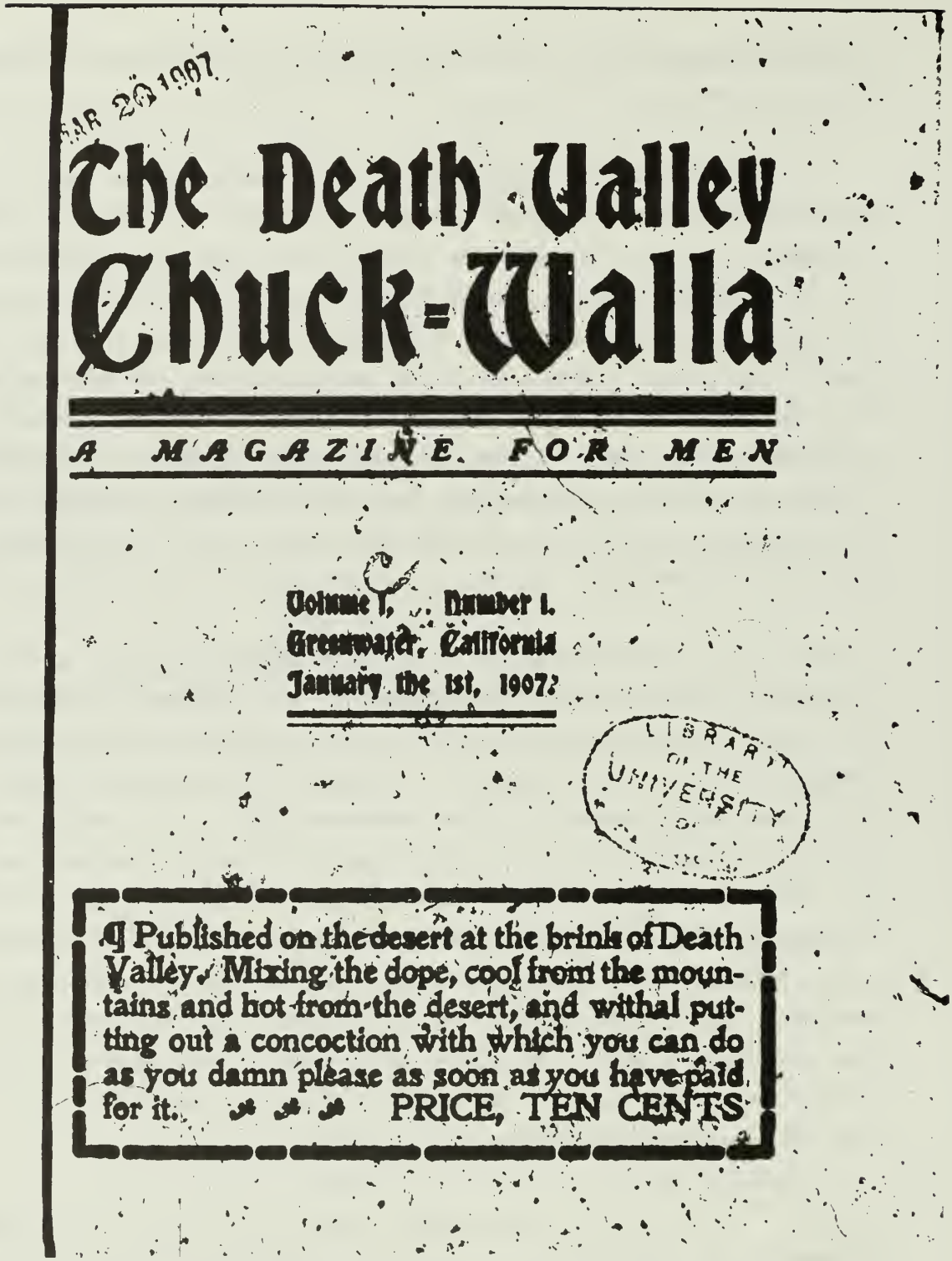
The first issue of the Death Valley Chuck-Walla was especially unique, for it vividly described the total confusion inherent in the townsite move which was currently taking place. In an article aptly titled "A Town on Wheels," the movement was portrayed: ". . . pandemonium reigns. Saloons and boarding houses, stores, and brokerage firms are doing business on the run and trying to be on both sides of the mountain at one time. A barkeep puts down his case of bottles on a knoll en route from the old camp to the new and serves the passing throng laden with bedding and store fixtures . . . . The butcher kills a cow en route and deals out steaks and roasts to the hungry multitude hurrying back to the old camp to get the necessities for the new . . . Those who remain in the old camp are walking two miles to the new to get the eggs for breakfast. Those who have journeyed to the new are walking two miles to the old to get their mail, and a pair of socks. Through it all Jack Salsbury, Harry Ramsey and the Townsite Company smile . . . Questions as to the cause of the change are referred to the anti-publicity committee, and picturesque

and forceful language as to the advisability of the change noted and filed for reference."

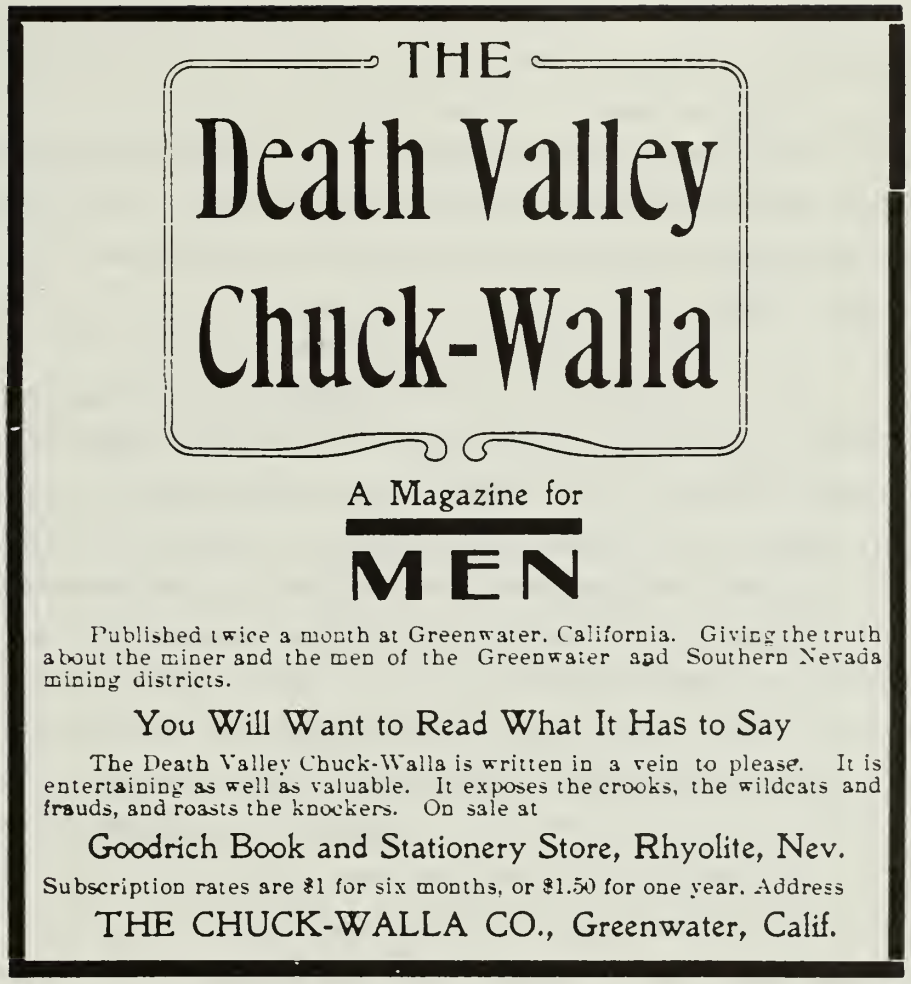
The Chuck-Walla had other aspects as well. Although the editors were totally committed to boosting the Greenwater District, they also realized that the proliferation of fradulant mining schemes would hurt the district in the long run, and made it their pet project to uncover mining companies who were bilking the public. The first issue carried a long article damning the manipulations of the Boston-Greenwater Copper Company, promoted by J. Grant Lyman and his Union Securities company, Lyman, it may be remembered, had been arrested in Boston for pushing stock sales for non-existant mines around the Bullfrog area, and he was doing the same at Greenwater.

By January 4th, the Rhyolite Herald was able to report that the townsite consolidation was complete. Although the total population of the district and its towns was not easy to estimate, since so many men were constantly thronging through the hills, the Herald estimated it at between 1,500 and 2,000. More important, however, for the development of the mining district, was the report from the Fairbanks-Morse Company that it had received orders for at least twenty hoists of various sizes for the district, which indicated that more and more companies were beginning the transition from exploration to the development stage of mining. All the district needed in order to pass from a boom camp into a permanent mining town was for one big mine to make the next step, from development into production.

New Greenwater, meanwhile, reported thriving business. The townsite company surveyed 2,200 lots in over 130 blocks at the new site, and reported brisk sales. Lots on main



Front cover of the Death Valley Chuck-Walla, printed on butcher paper (which makes it extremely difficult to reproduce), showing the actual size of the magazine.



A typical advertisement for the Death Valley Chuck-Walla, this one appeared in the Rhyolite Herald on 8 February 1907.

street sold from $500 to $5,000 apiece, and the county supervisors of Inyo county approved the townsite plat. The continuing cold weather, however, put a damper on business, as one miner reported that it was "fiecely damnable, and we put two-thirds of the time trying to rustle greasewood enough to keep from freezing." Despite the snowfall, water was still in short supply and was selling for $10 per barrel.

Nor were freight difficulties made any easier by the weather. The trip from Johnnie Siding by a loaded freight wagon took three to four days, and freight costs were still extremely high, due to the lack of enough teams to supply the demand. Freight charges from Johnnie Siding to Greenwater were $60 per ton, which succeeded in driving subsistence costs at Greenwater through the roof. The Greenwater Bank, however, reported no lack of business due to high costs, and in one week early in January reported $20,000 worth of transactions. Visitors to the district at this time could watch four separate surveying parties on the ground at the new townsite, as both the Las Vegas & Tonopah and the Tonopah & Tidewater Railroads had survey crews considering lines into the town, and the Southern Nevada Telegraph and Telephone Company also had two crews out, surveying lines for the telegraph and telephone extensions into New Greenwater. Farther up the road, a fifth survey crew could be seen laying out a new access road into Furnace. All in all, as the Engineering & Mining Journal noted, "There seems to be no diminution of the rush to the Greenwater . . ." The Journal, however, was still puzzled about the Greenwater madness, for as it noted, "as yet none of the camps in that region has become productive."

The Engineering & Mining Journal was not the only publication to wonder at the immense rush into Greenwater. The Mining World, in late January, noted that "It is too early to

predict the possibilities of this district. Its remoteness from transportation facilities and water have retarded its development, but notwithstanding the many difficulties encountered, very active work is being prosecuted on about 50 different properties. During the next six months, exploratory work will have probably progressed sufficiently to determine the persistence of the ore deposits." That was the crux: why was so much money being poured into the district, when the very existence of the ore deposits below the surface level had not yet been proven? Apparently the boom spirit, which had been ravaging throughout Nevada and eastern California since the bonanza discoveries at Tonopah and Goldfield, reached its height at Greenwater. In addition, since copper deposits at other camps such as Bisbee and Butte had always improved with depth, everyone assumed that the same would hold true for Greenwater. Since the surface richness at Greenwater far surpassed that of any copper camp ever, who could fail to think that Greenwater could indeed become the Greatest Copper Camp on Earth?

One paper, at least, did think exactly that. In late January the Goldfield Gossip printed its own assessment of the Greenwater District, and it was one which flew directly in the face of all the local predictions. "We have dissected reports from as many sources as possible regarding the future of Greenwater," wrote the Gossip, "and all these agree that the camp would never make a producation of copper to amount to anything." As might be expected, that report caused an immediate and extreme reaction from the Greenwater papers, particularly the Death Valley Chuck-Walla, which more than adequately fulfilled its promise to "roast the knockers." The Bullfrog Miner also scorned the Goldfield Gossip's assessment, and printed its own: " . . . there can be but one future for Greenwater and that will be expressed by the six words 'Greatest Copper Camp in the World.'"

In the end, however, no one would know for sure whether Greenwater would turn into a producer or not until the actual time arrived, and meanwhile the Greenwater District enjoyed its booming prosperity. In late January, the Greenwater Times and the Greenwater Miner reported that the district had enjoyed its first marriage celebration. The growing affluence of the desert camp was also indicated by the notice of a piano for sale, and the Death Valley Auto Company was established. In addition, a town government committee was organized to supervise sanitary and police measures, and Inyo County appointed a Justice of the Peace and a constable for the district. District Recorder Nelson informed the papers that 3,000 location notices had been made in his book during the last five months, and estimated that probably 1,500 more had been recorded directly into the Inyo County books at Independence.

By mid-February, the Rhyolite Herald reported that it was confident that the Tonopah & Tidewater would build a branch into the Greenwater District, and even speculated that the road would be finished by June 1st. The Death Valley Chuck-Walla, in its mid-February issue, put the population of the district at 2,000, including 500 in the town of Furnace, which was beginning to emerge as a real rival to the new Greenwater townsite. By this time, seventeen more mining companies had been incorporated since the first of the year, bringing the total of incorporated mining companies in the district to sixty-seven, but not all of them were working. Indeed, some of them never worked at all, as they were designed more to mine the pockets of gullible investors than to mine the ground. The Death Valley Chuck-Walla, in one of its more valuable contributions, listed the mines of the area, and indicated that twenty-three of them were actually mining for copper.

Butte and Greenwater Copper Stock

The ten claims incorporated in this company adjoin the property of the Schwab Merger Mine at Greenwater, which is capitalized at $25,000,000. We have the same copper ledges on our property and therefore the same good prospects for developing the **Greatest Copper Mine** in the **World.** Our Company is not capitalized at $25,000,000.00. While we have the very best land in the Greenwater District the **BUTTE & GREENWATER COPPER COMPANY** is capitalized for only $1,500,000. One Million Five Hundred Thousand shares. The par value is $1 per share. We are selling 300,000 shares of treasury stock at 50 cents per share.

If you want to know more about this stock or this company write to us. Or you may write to the Chuck-Walla men at Greenwater. They know what stock at Greenwater is worth buying.

Taylor and Griffiths, Brokers, Rhyolite, Nevada

A typical Greenwater mining advertisement, as it appeared in the Death Valley Chuck-Walla, 15 February 1907.

Many of the mines listed by the Death Valley Chuck-Walla were not working, although most were planning to, and the magazine went on to specifically denounce several which it had proven were frauds. Neither the Greenwater Death Valley Copper Mining Company, for example, nor the Greenwater Consolidated Mining Company appeared to own any ground in the district, although both were actively advertising and selling stock. The Greenwater Death Valley Copper Mining Company in particular seemed to be relying on the close similarity between its name and that of the Greenwater Death Valley Copper Company to bilk unwary investors of their money, for the latter was one of Greenwater's biggest active concerns.

The same issue of the Chuck-Walla carried a large ad for the Greenwater Townsite Company, which optimistically forecast that Greenwater would soon be the center of three railroads. The district's population, according to the ad, was over 2,000, and two telephone and telegraph lines were doing business. "Since the first of December lots have doubled in value. This is due to the fact that there is no question whatever about the permanency and future of the place. Greenwater is destined to be the richest mineral producing city on the whole globe." In addition, the magazine carried ads for several new Greenwater businesses, including the Greenwater Drug Company, and Akali Bill's Death Valley Chug Line, a fanciful name for a desert character and his one automobile, who claimed he could take anyone anywhere for the proper price. Greenwater was now becoming so full of its own future, that the Enigneering & Mining Journal reported that "From the desert comes the news that the Greenwater people believe that they are growing so rapidly that they need a county all to themselves, with Greenwater as the county seat."

GREENWATER

IS THE COMING CITY OF THE
GREAT NEVADA AND DEATH VALLEY MINERAL BELT

It lies in the heart of the marvelous Funeral range mountains, in which have been located the largest copper, borax and niter deposits known to man, deposits that in dollars mount into **BILLIONS.**

Railroads, three in number, are now building to GREENWATER.

A $5,000,000 water supply system is now being built for Greenwater.

The Schwab merger copper mine, the largest individual mine in the entire Nevada Death Valley mining district, capitalized at $25,000,000, is located within a stone's throw from the heart of Greenwater.

This Merger Corporation also has planned a $2,000,000 smelter near Greenwater, upon which work will commence immediately and to which the copper ores from the Greenwater district and the gold ores from other districts will be sent.

A telephone line and a telegraph line are now in operation at Greenwater, and other lines are building to the city. The town has already a population of two thousand and is striding forward ahead of all competitors.

BUT WHAT ABOUT REAL ESTATE?

Since the first of December lots have doubled in value This is due to the fact that there is no question whatever about the permanency and future of the place. Greenwater is destined to be the richest mineral producing city on the whole globe. City lots at Greenwater are now the best conservative investment you can find. Come and see for yourself or write for information about town lots to

EDWARDS & BARLOW

AGENTS FOR

The Greenwater Townsite Company, Greenwater, Cal.

An advertisement for the combined town of New Greenwater, as it appeared in the Death Valley Chuck-Walla, 15 February 1907.

But as February drew to a close, there was a decided slackening in the great Greenwater boom. The district had now been opened for well over a year, and had been in a boom stage for more than half that time, and as of yet, none of the companies which were sinking their shafts had found any ore under the surface which could compare with the rich surface streaks that had started the boom. This fact, while slow to dawn upon the district itself, was beginning to become apparent in the nation-wide stock market. The Rhyolite brokerage firm of Taylor & Griffiths also noted the trend, and commented in late February that the "demand for Greenwater securities of acknowledged merit . . . has not been what it should be," but went on in the same breath to push stock sales. "From a development standpoint, this district is making a most excellent showing . . . . The surface showing in the Greenwater district has never been surpassed in the history of copper mining . . . . It is now time for the man who is inclined toward copper to get in and secure some of this stock while it is low."

The Bullfrog Miner also noted the same slight slackening of the Greenwater boom, and reported that while "there is somewhat of a dullness pervading the camp, as far as the influx of people and industries is concerned, the properties are looking mighty fine." In a way, Greenwater was starting to succumb to its own over-blown boom publicity, for after the stampede to the district began to subside, everything else looked less than normal by comparison.[6]

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6. Rhyolite Herald, 28 December 1906; 4 January, 8 February 1907. Death Valley Chuck-Walla, 1 & 15 January, 1 & 15 February 1907. Inyo Independent, 4 & 18 January 1907. Bullfrog Miner, 11 & 25 January, 8, 15 & 22 February 1907. Engineering & Mining Journal, 12 January 1907, pp. 77-82, 107; 26 January 1907, p. 205;

But at the time, no one could possibly have hoped to persuade a Greenwater citizen that the bloom was beginning to fade. On March 1st, the papers reported that the Greenwater Death Valley Copper Mines & Smelting Company was beginning to work on the smelter site at Ash Meadows. More immediate encouragement came from the news that Mr. Lemle was opening a sub-agency for Budweiser at Greenwater, and was arranging for daily ice delivery via auto. "If he can run his autos over the hot roads fast enough to keep the ice from melting en route," said the Death Valley Chuck-Walla, "he will surely catch the trade." During the same week, the Greenwater Meat Company was organized, and advertised that it would drive cattle across two mountain ranges from Owens Valley, California, to Greenwater, in order to furnish a constant supply of fresh meat daily to Greenwater inhabitants. The Furnace Townsite Company also stepped up its advertisements, and the Greenwater Townsite Company countered by running its own ads, plugging the unique and desirable aspects of its camp. In its bi-weekly rundown on Greenwater mining, the Death Valley Chuck-Walla was able to list twenty-one mines and mining companies who were actively working in the district.

Still, qualms of uneasiness were beginning to be felt around the district. The Bullfrog Miner was the first local paper to admit such, noting that "As yet there are no real mines in

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2 February 1907, p. 304; 16 February 1907, p. 349. Mining World, 26 January 1907, pp. 138, 144. Inyo Register, 31 January 1907. Nevada Secretary of State, Articles of Incorporation, Vol 10, p. 429. Inyo County Courthouse, Plat of New Greenwater, 11 January 1907. C. G. Glasscock, Gold in Them Hills, (1932), p. 269. Greenwater Times and Greenwater Miner quoted in Inyo Register, 31 January 1907. Goldfield Gossip quoted in Death Valley Chuck-Walla, 15 February 1907.

Greenwater, as mining men understand the term." The paper went on to qualify that statement, adding that the "working shafts are down several hundred feet and the ore bodies are well enough defined so that the owners know that they have immense quantities of very valuable rock, but the workings so far have been confined to these shafts and no effort has yet been made to take out ore except such as was necessary in sinking the shafts." Privately, many Bullfrog oeprators were glad to see that the Greenwater boom was abating, for at the height of the rush, the drain of investment money towards Greenwater had decidedly hampered the operation of the mines around the Bullfrog District.

The mid-March issue of the Death Valley Chuck-Walla noted little change in the district, with nineteen companies actively working. On the brighter side, the Inyo Register reported on March 15th that articles had been filed at Jersey City, New Jersey, to incorporate the Tonopah & Greenwater Railroad Company, with the purpose of building a railroad from the Amargosa Borax works to the Greenwater District. A capital stock of $500,000 had been created, and the construction of such a road, which would easily tie into the Tonopah & Tidewater, would mean a ready outlet for Greenwater's ores. Although no announcements were made, the Inyo Independent speculated that the recent incorporation undoubtedly meant that the Tonopahy & Tidewater itself had decided not to build into Greenwater. The new railroad company was expected to start work soon, and complete the line by July 1st. Two routes had already been surveyed into the district, but no decision had been made as to which one to use.

By the end of March, the Bullfrog Miner put the population of the district at 2,000, which indicated that for the first month since the district had been discovered, it had not grown. Both Greenwater and Furnace, however, were described as

DEATH

Valley is the richest unlocked treasure vault of the world. It is being conquered by man, and has already been shorn of many of the terrors with which its name and that of the

FUNERAL

Mountains have been identified for so long. The outlook in the Greenwater Mining District is by no means as melancholy as the nomenclature of the surrounding country. It will become the greatest copper camp of them all. It will be

YOUR FUNERAL

if you fail to invest in the new "Patsy" Clark townsite, situate on the property of the Furnace Creek Copper Company (the oldest and deepest mine in the camp), in the very heart of the Greenwater district.

FURNACE

is the coming metropolis of the Greenwater-Death Valley district, because:

It is entirely surrounded by good mines;
The miners employed in these mines make it their home;
Its payroll, even now is greater than that of the rest of the Greenwater district combined.

Prices and full information upon application.

SIDNEY NORMAN, AGENT,
Furnace Townsite Co., Furnace, Cal.

Address all communications "via Greenwater."

A later advertisement for Patsy Clark's townsite of Furnace. From the Death Valley Chuck-Walla, 1 March 1907.

being very alive and bustling, and both townsites had hotels, lodging houses, saloons, feed corrals, freight companies, meat markets, auto lines, brokerage houses, attorneys, newspapers, boarding houses, etc. In addition, three railroad lines had been surveyed into the district, the Ash Meadows water company was working on getting water piped into the district, and an electric light system was projected for the towns.

But the boom had definitely slowed, as evidenced by the incorporation of only seven more companies in the district in March. The following months of April and May would see one additional company incorporated during each, bringing the total of incorporated mining companies in the Greenwater district to seventy-three. Although that was more than enough, the cessation of incorporations meant that the exploration stage of the Greenwater district had finally drawn to a close, after a short but extremely violent boom, and the future of the district now depended upon what ore bodies were found under the ground during the subsequent development phase.

On April 1st, the Death Valley Chuck-Walla reported that twenty-four companies were presently engaged in finding out exactly what did lie under the surface of the ground. The pipe line for the Ash Meadows water system had been ordered, and a telephone connection had been completed between Greenwater and Furnace, enabling conversation between the two rival towns. Plans had also been announced for a new $50,000 hotel.

Two weeks later, the Death Valley Chuck-Walla was able to report twenty-six companies working, but as of yet no one had found sufficient ore bodies beneath the surface of the earth to warrant full-scale production mining. Towards the end of April, the Bullfrog Miner reported that 300 men were working in

Would You Enjoy a Trip to Hell?

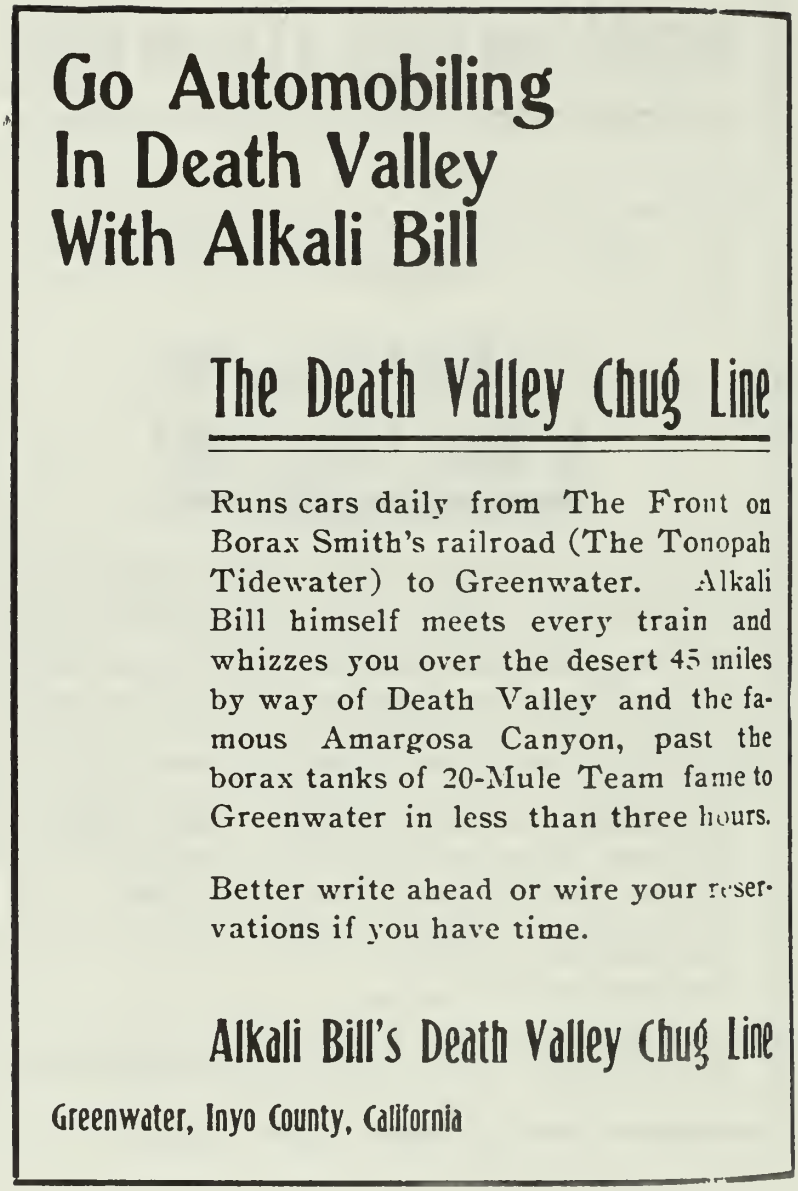
Probably you would not. At least we will suppose so. Even if you would enjoy it there is no hurry about starting. If you are going you will do so sometime without having to plan ahead of time.

You Might Enjoy a Trip to Death Valley, Now!

It has all the advantages of hell without the inconveniences. It is a wonderful country with all the weird mysticism of Dante's Inferno, marvelous scenery, strange romanticism, fabulous wealth and absolute novelty. If you would enjoy a change from ordinary city life and fashionable summer resort outings you would find it here. You would see and learn of things of which you have never dreamed. ***An automobile trip through hell*** would certainly be a novelty. Such an excursion through Death Valley would be no less wonderful and much more comfortable. You may have this. If you are interested write to

The Mining Advertising Agency, Greenwater, Cal.

One of the most delightful advertisements of the Mining Advertising Agency, run by the editors of the Death Valley Chuck-Walla, which epitomizes their distinctive style. 1 April 1907.



Advertisement for Alkali Bill's famous auto line, from the Death Valley Chuck-Walla, 1 April 1907.

the district, with about half being employed in the mines around Greenwater and the other half around Furnace. The payroll for the district was approaching $50,000 per month. The townsites had settled down from the boom period, and Greenwater was described as being mainly a rag town, aothough it had some wooden and one iron building. Lumber was still very expensive, costing $130 per thousand board feet, which depressed the building industry, but the bank was thriving, and business in general was good. Water still sold for the very high price of $7.50, as compared to $5 per barrel which had been the highest price Bullfrog had known in its early boom days.

By the first of May, although twenty-six companies were still actively engaging in development work, it was becoming very apparent that unless someone found a large profitable copper lode soon, the district would be in trouble. The investing public, which by now expected great things from the district which had boomed so brilliantly, was becoming impatient, and as another month passed without any big ore strikes being made, stock prices began to slip.

The Death Valley Chuck-Walla noted the stock slump, but blamed it on the eastern Wall Street stock manipulators "who wish to bear the stocks until they can be purchased at a rate far below their real value and therefore at great profit." In reality, the Greenwater boom had led to too great of expectations from the investing public, and suspicions of a gigantic fraud were now beginning to form among the ranks of far-off investors. Nor did it help the Greenwater District that the first effects of the Panic of 1907 were beginning to be felt on the eastern stock markets. Naturally, shares of mining compaines which were still in the initial stages of development were among the first to be unloaded by cash-hungry investors. Still, no one was ready to

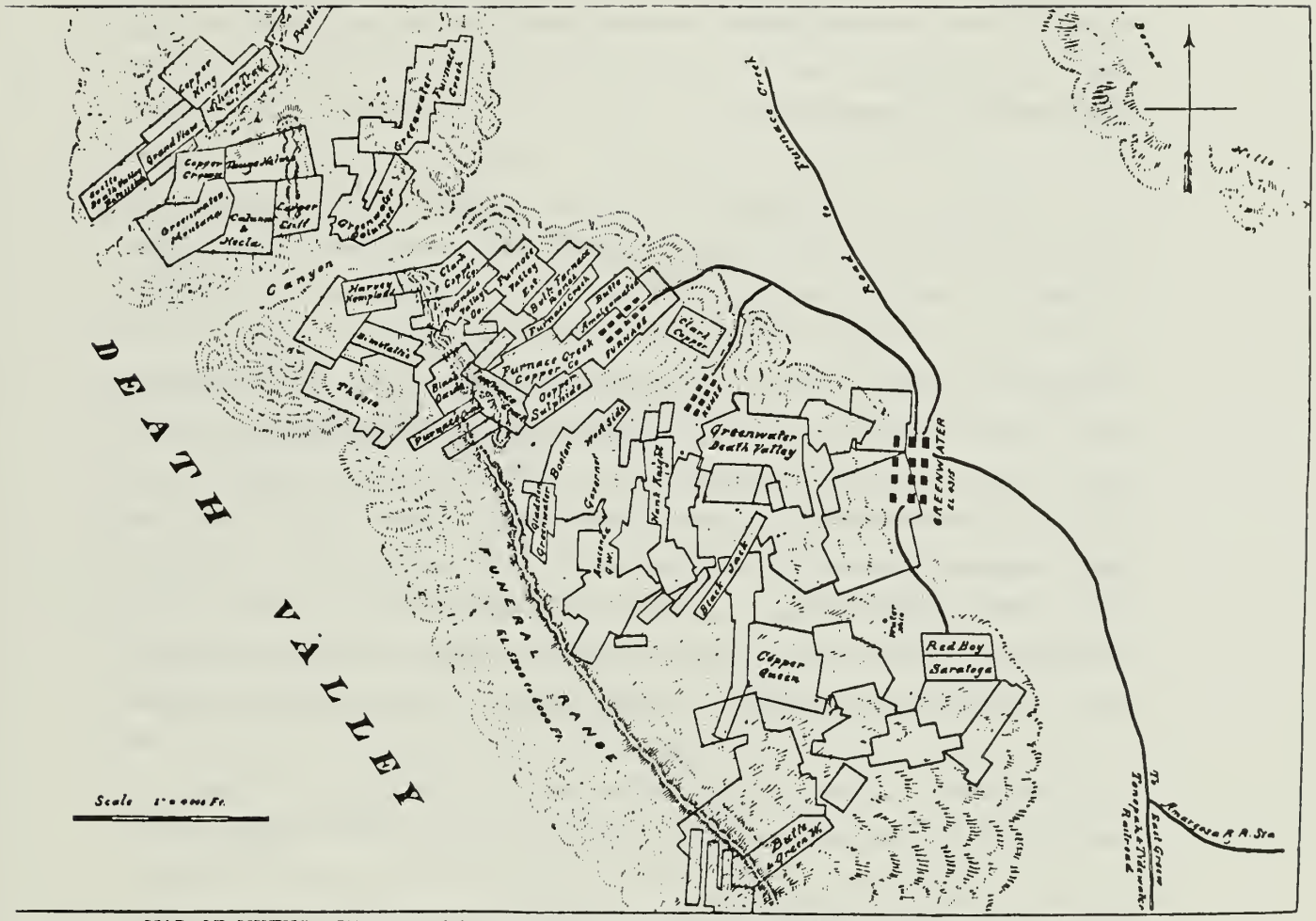
give up, least of all the naive young men publishing the Death Valley Chuck-Walla. They could write with pride that their magazine was read by more than nine thousand stock brokers across the nation, although they sadly noted that only 1,000 of them had paid for their subscriptions.[7]

On May 1st, the Ash Meadows Water Company ordered 135 miles of pipe for its various lines into Greenwater, Lee and other spots. The line to Greenwater, it announced, should be completed by the middle of August, when water would be available for around $4 per barrel. During the same week, Inyo County belatedly got around to implementing a full civil government for the district, appointing a deputy sheriff, a deputy district attorney, a deputy assessor, a deputy tax collector and a new Justice of the Peace. By the middle of the month, the Death Valley Chuck-Walla could report 300 miners still at work. One company had no less than six gas hoists going full blast, and several were down to the 300 and 400-foot levels. Unfortunately, no ore bodies had yet been found.

Towards the end of May, the Tonopah & Tidewater Railroad announced the opening of Zabriskie Station, which cut the distance between Greenwater and the railroad considerably. The company also announced the establishment of an auto service between the station and Greenwater, with connections to both daily trains. The auto ride would take two and a half houres, and tickets were available from the commercial agent

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7. Rhyolite Herald, 1 March 1907. Bullfrog Miner, 8 & 29 March, 19 & 26 April 1907. Death Valley Chuck-Walla, 1 & 15 March, 1 & 15 April 1907. Inyo Register, 15 March 1907. Inyo Independent, 22 March 1907.



MAP OF MINING DISTRICT IN IMMEDIATE VICINITY OF GREENWATER, INYO COUNTY, CALIFORNIA.
ATE MINING BUREAU.

MAP OF MINING DISTRICT IN IMMEDIATE VICINITY OF GREENWATER, INYO COUNTY, CALIFORNIA. California State Mining Bureau, Bulletin #50, September 1908. Map data compiled in May 1907.

permanently stationed in Greenwater. The Inyo County commisioners also announced plans to consider the erection of a turnpike from Independence to Greenwater, at an estimated cost of $1,000, whereby travel time between the two towns would be shortened by several days.

On June 1st, the Death Valley Chuck-Walla could still point to twenty-five companies at work, and although no sizeable ore bodies had yet been found, no one seemed quite willing to give up. Articles from the district's two other papers, the Greenwater Times and the Greenwater Miner, also contained the same hopeful spirit, and the Engineering & Mining Journal noted that fifteen gas hoists were at work throughout the district, and that more miners were at work than ever before. For once, the labor problem seemed to be solved, for the buying and selling of claims had ceased with the coming of harder times, and more and more miners were willing to give up their dreams of instant wealth and settle down to earning a steady wage. In late June, the Inyo County Board of Supervisors let out bids to construct a branch jail at Greenwater, and announced that the proposed sixteen by twenty-foot stone and cement building would contain three cells.

Then, on June 22d, the inevitable fire swept through part of Greenwater. Although the relative damage was rather light, considering the destructive potential for fires in mining camps built of canvas and wood, one saloon and the offices and presses of both the Greenwater Miner and the Death Valley Chuck-Walla were consumed. The editors of the Chuck-Walla had only recently bought out the Greenwater Miner, and they immediately announced plans to secure a new printing plant from the west coast and continue both publications. But the capital stock of $35 which they had started out with had not increased very much over their six months of publication and after several

weeks of trying to get their paper printed at the Bullfrog Miner office, the editors gave up and left the country. The Las Vegas Age, one of the more mature Nevada newspapers which had never much approved of the style or approach of the Chuck-Walla, noted that it "was roasted alive by the Angel of Fire because of the many unholy things it has printed. The destruction of the Miner, (whose sins are less notorious) and the saloon only proved that chastisement, like rain, falls 'alike upon the just and the unjust.'"

The fire seemed to be an omen, for with the passing of the Death Valley Chuck-Walla, Greenwater's loudest and brassiest booster, the fire seemed to go out of the district. The Ash Meadows Water Company, for example, had promised on June 29th that water would be connected into Greenwater by the 1st of August, but by July 13th, revised that date to September 15th, and added that pipe would be laid into Lee before Greenwater--indicating that the prospects of the Lee District now looked better to that company than did those at Greenwater.

As the summer wore on and fall approached, it became apparent to all but the most die-hard that the great Greenwater boom had started to bust, and many people could be seen quietly leaving town. As a continuing barometer, the Ash Meadows Water Company postponed its connections to Greenwater once again, and announced on September 13th that water would not be available to the district until the middle of November. Those who still had faith tried to explain away the decline of the district by advancing various causes. "The present situation is one of those cyclic occurrences that simply hampers the growth of what is coming," said one, "but will not stop it for you have the wares that the world needs so much." "The camp, as far as the town is concerned, is very quiet," noted another observor, "but work in the mines is going steadily on . . . . There is not much doubt as

to the ultimate future of Greenwater. The camp is now going through the development period, which all camps have to undergo, in laying the foundation for their future prosperity."

But if the mines were still developing, not nearly as many were doing so as in previous months. Of the seventy-three companies which had incorporated to do business in Greenwater by the spring of 1907, only twelve were left by September. Although these figures must be qualified by pointing out that fully thirty of those companies never did any work at all, still it was apparent that the mining situation at Greenwater was definitely on the decline, and unless some ore was found soon, the camp would die. The Panic of 1907, which was beginning to hit the mining regions of the west by this time, obviously aggravated the problem.

Businesses, such as the Greenwater Lumber Yard, began to close their doors in the summer of 1907, and as the fall progressed, the trend increased. Fires again played a part, such as in mid-October, when Charley Hennessy's saloon, the Death Vally Vault, burned to the ground. Once the fire started, as in the case of the Chuck-Walla's office, the building was allowed to burn completely, since water to put out the fire was more expensive than the wood necessary to rebuild. The loss of the Death Valley Vault, however, was especially hard to take, since it had become famous throughout the district by offering a free face wash with every drink purchased.

Although fifteen hoists were still in operation in Greenwater in mid-October, and "more extensive development is expected as soon as the weather becomes cooler," even the local papers were beginning to wonder about the future of the district. The Inyo Register noted on October 17th that the "impression

prevails that Greenwater is not in the best condition as regards mining showing," but protested a week later that "Greenwater has, for some occult reason been pronounced dead, or at least in decline. The facts in the case do not bear out such a statement." Still, the paper noted that the population of the district was now estimated at 500, down considerably from the 2,000 of the previous spring.

The departure of businessmen continued in November, and included one of the editors of the Greenwater Times, who sold out his half interest to his partner. "From a business standpont the camp is on the bum," he told the Bullfrog Miner, "but from a mining standpoint it looks better than ever." If from a mining standpoint he meant that the mines were reaching increasing depths, he was right, for two of Greenwater's biggest mines had by now sunk to 500 feet below the surface of the earth. But they still had not found the elusive copper deposits without which the district could not survive.

And as 1907 ended, those ore bodies were still not located. The district experienced a mild revival in December, as mine owners and prospectors came back in to do the annual assessment work on claims and locations in order to protect their titles for another year. But as the year ended, the population had shrunk to "several hundred," and only ten companies were still working, five of which had come under the control of the Greenwater Death Valley Cooper Mines & Smelting Company, the large holding company.[8]

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8. Bullfrog Miner, 1, 17 & 24 May, 8 & 29 June, 13 July, 2 & 23 November 1907. Rhyolite Herald, 13 December 1907. Death Valley Chuck-Walla, 15 May, 1 June 1907. Inyo Independent. 7 & 28 June, 13 September 1907. Inyo Register, 4 July, 17 & 24 October 1907. Engineering & Mining Journal, 15 June 1907, p. 116;

As 1908 opened, it was clearly evident that the only hope for the Greenwater district lay in the two big mines which were still operating, and which were going for great depths to find the ore bodies. The Furnace Creek Copper Company, the Patsy Clark outfit, was still sinking on its property, as was the Greenwater Death Valley Copper Company, the main Schwab holding. Both were sinking below the five hundred foot level, and one or the other would have to find ore soon or Greenwater's mining history would be extremely short.

The work continued through January and February, but with no results. By mid-February, the once-bustling Greenwater District had shrunk to a mere shadow of its former self. The only business establishments left in the district were the Tonopah Lumber Company, which was still supplying timbers for the mine shafts, two saloons, two stores and one restaurant. The total population of the district had fallen to "about fifty souls," and the Rhyolite Daily Bulletin sadly wrote that the "desert country about Greenwater is not as abundantly prosperous as it was one short year ago." The remaining buildings at Greenwater were already being torn down and moved to Gold Valley, a small boom town to the south. But those remaining at Greenwater did not give up easily. In early March a Greenwater report stated that a spur track from the Tonopah & Tidewater Railroad would "probably" be built into the district at an early date, and as "soon as the building of the road is assured a great

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19 October 1907, pp. 727, 754; 23 November 1907, p. 992. University of Nevada, Reno, Manuscript Collection #NC35, Account of Greenwater Lumber Yard with John S. Cook Bank of Rhyolite. Greenwater Times and Greenwater Miner quoted in Bullfrog Miner, 8 & 15 June 1907. Las Vegas Age quoted in Myrick, Railroads of Nevada, II, 603.

mining boom is almost a certainty." The report went on to blame the demise of Greenwater on the slump in copper prices worldwide, without remembering that Greenwater had no copper to ship, regardless of price.

The Furnace Creek Copper Company and the Greenwater Death Valley Copper Company continued to sink throgh April and May. R. J. Fairbanks told the Bullfrog Miner that "Every month or so these companies send their experts and I understand that the recommendations are to continue sinking. It is a well known fact that excellent ore was discovered on the surface, and these companies are going on the theory that depth will reveal profitable bodies." Fairbanks, who had one of the last remaining stores in the district, added that "These people are spending their money and taking a chance. If they can afford to do this, I can afford to await results, since I am making a living and then some, in the meantime." He was foced to admit, however, that "the camp is showing small encouragement at this time . . . "

Later in April the Bullfrog Miner reported again on the district. "The future of the Greenwater district depends very largely upon the shafts which these two companies are sending down. It is held by geologists and mineral experts that if copper deposits exist in commercial quantities in the Greenwater district they will be found below the water level and at great depth, and these companies have undertaken to demonstrate the theory."

But still no ore was found, and the district continued to decline. The Greenwater Times, the last of the district's newspapers, finally gave up and quit publishing shortly after the end of May. By early June, R. J. Fairbanks reported that "Greenwater is only a shadow of its former self." Fairbanks had the only store and saloon left in the district, "and the

population had dwindled to almost nothing." The only other business left in town was the Tonopah Lumber Company, which would stay as long as the companies were sinking and buying timbers for their shafts.

In mid-June the Greenwater Death Valley Copper Company struck a small streak of copper ore 1,000 feet below the surface, and mild excitement was felt again in Greenwater. Since many of the previous claims in the district had been allowed to lapse, the news of the strike brought some prospectors back to relocate their claims, in case the strike turned into something big. Within a week, however, it had proven to be only a small stringer, but even that brought out the hopes of the faithful. Although the extent of the strike was disappointing, the Rhyolite Herald reported that "the quality was good and will no doubt lead to a larger body of ore. The existence of ore at this depth will certainly be accepted as conclusive evidence that Greenwater is not a surface proposition as has so often been claimed." Despite the smallness of the strike, prospectors continued to come back into the district to relocate their claims, just in case.

Even the mining companies were heartened by the small strike, and as the Inyo Independent pointed out, " although Greenwater is not very active at the present time . . . it is a significant fact that the owners over there are patenting the mines and are spending sums of money which business men are not likely to throw away or sink in worthless ground." Closer papers, such as the Bullfrog Miner, were not so optimistic: "Greenwater, which once attracted such wide attention on account of rich surface discoveries of copper, has practically faded from the map . . ."

But such was the lingering magic of the Greenwater name that the rumors of a new rush would not die. In

mid-July, the Engineering & Mining Journal reported that Greenwater "is again to the front, after being dead for many months." The Journal had its own unique idea as to why the previous strike had not been given much publicity, and wrote that it "was kept as quiet as possible until the Schwab interests could secure control of contiguous territory. Meantime there is again a rush of prospectors and others into the camp, incited by this reported discovery." But those who returned were sorely disapponted and soon left again, for the strike had definitely not amounted to much. The Tonopah Lumber Company finally gave up and closed down its Greenwater yard in late July, and by the middle of August the Bullfrog Miner reported that the "town of Greenwater has but few people left. Mr. Fairbanks himself is running the only store in town."

The decline continued through August. The Post Office at Greenwater was discontinued on the 15th of that month and moved to Death Valley Junction, and Mrs. Spear, proprietor of Greenwater's last restaurant, closed down late in the month and returned to Rhyolite. The Mining & Scientific Press, late in August, summed up the results of the summer season in the district: "Greenwater is still trying to keep itself from utter collapse . . . . Occasionally the long-silent telephone wires to Rhyolite dropped whisperings of fancy 'strikes' at Greenwater. These found their way into print, but Greenwater failed to sustain the promise of its earliest boom days for anyone to take much interest in these later murmurs."

During the rest of 1908, the district was exceedingly quiet. The Greenwater Death Valley Copper Company continued to sink in its shaft, going deeper and deeper in the search for ore. The Furnace Creek Copper Company did likewise, although at a slower and more desultory pace. The Greenwater

Calumet Copper Company, which had been idle for some time, returned to perform the required annual assessment work in the fall, and several small groups of miners and prospectors did likewise. But as the year ended, no profitable bodies of copper ore had been found anywhere in the district, and it was quite apparent the time was rapidly running out for Greenwater.[9]

Just when it seemed that Greenwater was finally dead, another revival of hopes arose. Early in January of 1909, ore was again found in the Greenwater Death Valley Copper Company's mine, this time at a depth of nearly 1,100 feet. The mere mention of the discovery, before anyone knew the amount, extent or richness of the deposit, caused another mild rush back into the district. As the Rhyolite Daily Bulletin reported, "Greenwater, the copper camp of the Funeral range, has steadily advanced in its development, and is believed to be on the verge of a boom which will eclipse its first meteoric flight. That such a boom is imminent, and will undoubtedly come early this coming year, is now confidently believed by those most intimate with conditions there. As a result of this change in the feeling toward this camp, most of the old-timers, who were first into this camp, and were most concerned with its success, are back again, doing assessment work, relocating good ground, and preparing for the awakening which they say is sure to come soon."

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9. Bullfrog Miner, 25 January, 7 March, 4 April, 6, 13 & 27 June, 8, 15 & 29 August, 3 October 1908. Rhyolite Herald, 27 May, 10 & 17 June, 29 July, 9 & 30 December 1908. Rhyolite Daily Bulletin, 19 & 24 February 1908. Inyo Register, 18 June 1908. Inyo Independent, 12 June 1908. Mining & Scientific Press, 29 August 1908, p. 298. Engineering & Mining Journal, 11 July 1908, p. 101. California State Mining Bureau, Bulletin #50, September 1908, pp. 299-324.

That article, which seemed wildly extravagant when printed in early January, began to look more realistic by the beginning of February, when the Greenwater Death Valley Copper Company announced the discovery of a sixty-foot ore body bearing 5 percent copper at a depth of 1,080 feet. The Bullfrog Miner, reporting the discovery, remarked that the "new-old camp of Greenwater, the camp of glorious hopes and shattered promises . . . is again to the front in the attention of the mining world . . . . On the proving of the new ore body depends the future of the Greenwater Death Valley mines, and practically of the camp of Greenwater." The news of the discovery started another small rush into the district, several other defunct mines reopened their works, and the population of the district soared up to 150. Somewhere, new investors were found to back another plunge into Greenwater stock, and such companies as Greenwater Central Copper started work once again. Towards the end of February, as the mini-rush continued, the Bullfrog Miner once again reported that the "camp of Greenwater is on the rise from all indications. Parties with holdings there are putting forth more zeal in the development than has been shown for over a year."

Developments on several properties continued through March, with the East Greenwater Copper Company and the Greenwater Calumet Copper Company joining the list of reactivated mines. But the efforts were futile, and soon proved worthless. The small mines shut down again, and in March one of the two giants gave up, when the Furnace Creek Copper Company finally abandoned hope and ceased work. Throughout the summer and fall of 1909 only the Greenwater Death Valley Copper Company continued to work, and finally even that company quit in September. The shaft was stopped at a depth of 1,439 feet, and the papers were finally able to report for sure that Greenwater was totally dead. As the Inyo Register wrote in the nature of an

obituary, with "the cessation of all work at the Greenwater Death Valley mine, the once thriving camps of Greenwater and Furnace Creek, California, have been given over to the reign of the coyotes. There is scarcely a man to be found in the entire district, and locally it is considered extremely doubtful that the Schwab company will ever resume work at the mine, which was once pronounced a bonanza."[10]

Greenwater was now definitely dead, and the great boom which had propelled its name across the headlines and stock boards of the nation was best forgotten by the thousands of investors who had been badly burned. The Mining World, in its annual review of mining for 1909, summed up the demise of the once heralded district in one short sentence: "The copper districts of the county have lapsed into obscurity." With the final crushing of hopes, locations were abandoned, as were titles to the once thriving business blocks of Greenwater and Furnace, and the Inyo County papers started carrying long lists of delinquent tax payments due from mining companies, businesses and citizens who had once owned land in the district. The demise of Greenwater even had a ripple effect, as Amargosa, once a lively station on the railroad used to supply the Greenwater boom, declined by the middle of 1910 to a population of two.

Mining was never again revived in Greenwater, and by 1917 all that a visitor could find on the spot of the town of 2,000 inhabitants was one deserted cabin. Most of the buildings at Greenwater and Furnace were readily movable, due to the lack of

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10. Rhyolite Daily Bulletin, 8 January, 15 & 18 February 1909. Bullfrog Miner, 6 & 20 February, 10 April, 11 September 1909. Rhyolite Herald, 1 & 17 March, 11 September 1909, Inyo Register, 4 November 1909.

permanent construction, and most had been hauled away by their owners. What was left had been taken by R. J. Fairbanks, the last merchant of Greenwater, and hauled to Shoshone, a settlement on the Tonopah & Tidewater Railroad, where Fairbanks started a small store which later grew into a thriving desert oasis.

Small attempts at sporadic production were made in 1916-1918, and again in 1929, during periods of very high copper prices, but these efforts never amounted to more than one or two man operations, and consisted mostly of gleaning the remains from the dumps of the old mines and laboriously packing it out of the desert. Total production from these activities was estimated at $10,000. During the early 1920s, Greenwater became a favorite winter rendezvous spot for the old desert-rats, a breed of shiftless and broken-down prospectors left over from the Nevada boom years, who gathered there for several winters to swap yarns about the old days, and dream their futile dreams of strikes to come.

A rather foolish attempt was made in 1970 to revive the Greenwater District once again, when a consortium calling itself the Furnace Creek Copper Company (no relation to Patsy Clark's outfit) scraped together the mining rights to a great number of claims in the district, and even paid for a wildly optimistic mineral report on the area. Happily, the backers of the company decided against the attempt to resume mining. Greenwater is now totally deserted, with the exception of occasional campers who remember the once-famous days of one of the desert's most glorious boom districts.[11]

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11. Mining World, 22 January 1910, p. 172. Inyo Register, 2 June 1910. Rhyolite Herald, 25 June 1910. Arthur Eakle, Mines and Mineral Resources of Alpine County, Inyo County, Mono County, pp. 66-69. T. B. Nolan, "Nonferrous-Metal Deposits," p. 37. C.

b. Present Status, Evaluation and Recommendations

1. Greenwater, Furnace and Kunze

The main portion of the Greenwater District lies within the boundaries of Death Valley National Monument, but due to an odd shift of the boundary lines in this area, the very heart of the district is outside the Monument. Thus, while the main workings of the Furnace Creek Copper Company are within the Monument, along with its supporting town of Furnace, the holdings of the Greenwater Death Valley Copper Company are outside the boundary, as are the townsites of Kunze and Greenwater.

The entire area is scattered with numerous dumps and shafts, monuments to the futile efforts to cash in on the Greenwater boom. The deepest of these, which belong to the Greenwater Death Valley Copper Company, are outside the Monument, but visitors need regard boundaries very little in this part of the country, since they are mostly unmarked, and there is little to differ between the remains inside and outside the Monument.

The only remains of note within the Monument are around the site of Furnace, where several outlines of old buildings and tentsites may be found. In addition, the dumps of various companies, mostly noteably those of the Furnace Creek Copper company, may be seen, as well as timbered shaft collars, loading dumps, cement hoisting platforms, etc. There is, however, very little that can be used as interpretive features in this section,

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B. Glasscock, Here's Death Valley, p. 232. Frank A. Crampton, Deep Enough: A Working Stiff in the Western Mine Camps, (Denver: 1956), p. 269. John F. Jordan, Jr., "A Preliminary Appraisal of the Greenwater District, Inyo County, California, For the Furnace Creek Copper Company," Reno: 1971.



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NORTHCENTRAL PORTION, FUNERAL PEAK QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT
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although the forelorness of the desert landscape emphasizes the harshness of life for those miners and prospectors who once searched here for riches.

To the southeast, outside the Monument boundaries, the site of old Kunze may be located due to the remains of three stone cabins, the ruins of several dugouts, and a scattering of old tentsites. The physical remains here are more extensive than anywhere else in the Greenwater district, but can not be protected or interpreted by the National Park Service, due to their location. Between the site of old Kunze and Greenwater, the deepest shafts of the Greenwater Death Valley Copper Company are found, plainly marked by the impressive size of the dumps beside the road. Here again, however, there is little for interpretation to focus on.

Farther to the east, where once stood Greenwater, a maze of streets and trails may be seen cutting through the desert. Other than that, there is almost nothing to mark the spot, for what little remained of the site, after Fairbanks and the desert rats carted away the remaining buildings, has long been picked clean by more modern tourists and souvenir hunters. Indeed, the most impressive thing about the site of Greenwater is how the town which once boasted 2,000 inhabitants could have disappeared so utterly.

2. Greenwater Springs

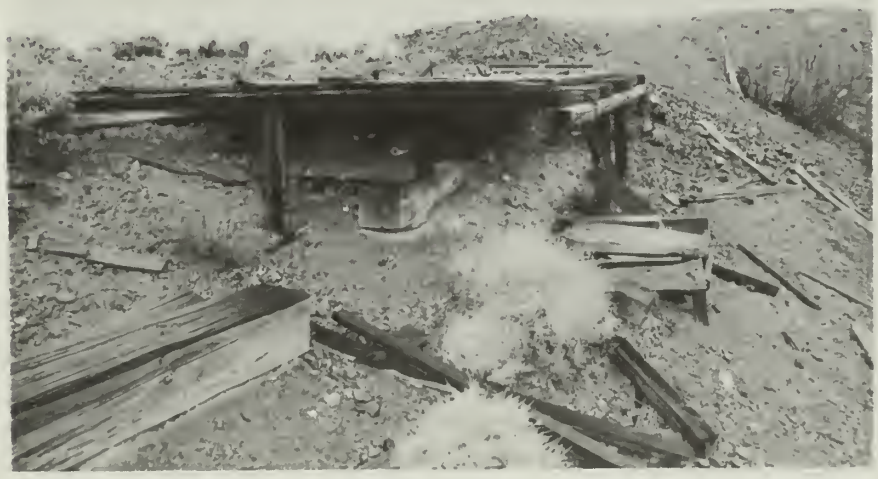
To the south of Greenwater is Greenwater Springs, the obscure little water hole which gave its name to the entire district. The area around the spring has the ruins of a stone shelter, an old mine shaft and dump complete with concrete hoisting foundations, and several prospect holes. At the spring itself some evidence of past attempts to improve the flow may be seen, including some timber and concrete work within the spring



Above: Abandoned site of one of the main shafts of the Furnace Creek Copper Company

Below: Close-up of same site, showing wooden hoisting platform.

1978 photos by John Latschar.





Above: General view of the townsite location of Furnace. Although no structures are remaining, close examination of the ground will reveal numerous old tentsites and an occasional piece of debris.

Below: Two of the stone houses still standing in the small valley where Kunze was once located. The one on the right is still complete with roof, but the one on the left has deteriorated considerably.

1978 photos by John Latschar.



itself, and the remnants of some two-inch pipe which formerly carried the meager flow of water to the thirsty inhabitants of Greenwater.

3. "Coffin" Mine

To the northwest of Greenwater, about five miles, is the site of the abandoned "Coffin" Mine, so named in retrospect by its proximity to the peak of the same name. The mine's only documented claim to fame stems from a letter reportedly written home by a young miner: "Dear Pop, and All. Well I just came in from the Grave Yard Shift; of the Coffin Mine, on the Death Valley Slope of the Funeral Mts. How's that? Tragical enough?" Although this letter, which hangs in the Furnace Creek Ranch museum, is dated 1906, there are several problems with its authenticity. The voluminous information on the Greenwater District does not contain any reference to a Coffin Mine; the mine itself is situated on the Amargosa slope of the Black Mountains rather than the Death Valley slope of the Funeral Mountains; and all the physical evidence at the site indicates that it was a gold mining operation of a later date than the Greenwater boom.

But whatever the origin of the letter, the Coffin Mine has some rather typical ruins, including a shaft, some dumps and the scattered debris of several building sites, probably bunk and cook houses. Gasoline tins scattered around the site would seem to indicate that this mining effort took place later than Greenwater, probably in the 1910s or 1920s. The site itself is not very impressive, but the isolated setting and obvious lack of civilization aptly sums up the type of life experienced by the operators of a small time desert mine. The Coffin Mine site does not have National Register significance, but should be examined by a historic archaeologist. In the meantime, benign neglect is recommended.



Above: Concrete hoist foundations, dump and shaft of a mine near Greenwater Spring, typical of the many mining remains in the Greenwater District.

Below: Scattered debris, dumps and a shaft mark the location of the "Coffin" Mine.

1978 photos by John Latschar.



All in all, therefore, the physical remains of the Greenwater District are not particularly noteworthy in their own regard, and, unfortunately, the best remains of early twentieth-century ruins are on Bureau of Land Management holdings. Nevertheless, the sheer history of the area, even when totally unsupported by historic structures, together with its historical archaeological values, are enough to warrant nomination to the National Register as a Historic District. Greenwater experienced one of the most violent and short-lived mining booms of any mining camp in the western United States, and the total human effort invested in its mines, coupled with the total lack of success, has never been equalled. For a few short years, Greenwater was a name familiar to stock brokers and mining investors from New York to San Francisco--a name first loved, then despised. Its site deserves recognition, protection and interpretation.

3. Greenwater District Mines

a. Mines and Mining in Greenwater

During the short and spectacular Greenwater boom, fully seventy-three mining companies were incorporated within the district, and literally scores of smaller mines and prospects were opened. Papers have been located for thirty-three of the companies which did incorporate, which show their combined capitalization value to be over $76,000,000. Although the exact capitalization totals of the other forty incorporated companies cannot be determined, the minimum standard capitalization for the time period was $1,000,000 per company, which would give us a total capitalization value of the Greenwater district mines of over $116,000,000. This total, of course, in no way reflects the actual amount of money spent in the district, but it does give some idea of the amazingly vast amounts which investors and promoters hoped to reap from the rich copper ores of Greenwater.

But as we know, the district turned out to be a complete bust, with no ore of consequence ever being mined. None of the seventy-three companies ever entered the production stage of mining, but this is not to say that none of the companies were profitable. Many of the companies which were incorporated for business in Greenwater never actually did any mining at all, nor ever intended to. Indeed, as the Death Valley Chuck-Walla pointed out in several cases, quite a few of the companies did hope to mine the pockets of their gullible investors. The scheme was relatively simple and was quite easy to pull off during the giddy days of the Greenwater boom, for few if any investors in New York or San Francisco could hope to determine which companies were serious and which were fakes. All an unscrupulous operator had to do was incorporate a company with a Greenwater-like name, advertise it as being in the "heart" of the district or near a well-known mine, and collect the money which started to pour in for stock subscriptions.

The stock, of course, was worthless, since the company either had no land or no intention of mining, but the promoters would have collected their profits and departed the scene long before this fact became evident.

That this scheme was played over and over again in Greenwater is quite apparent, given the fact that thirty of the mines which were incorporated in that district never did any work at all. Undoubtedly, the great majority of these companies were much more interested in mining the pockets of investors than in mining the ground. In the long run these were the only mining companies who made a profit of the Greenwater boom, for no one who invested the stockholders funds in actual mining efforts made any money. Nor should we feel too sorry for the investors. Anyone caught up in a boom spirit such as prevailed in Greenwater cannot be pitied for having his dreams fail, for greed was the primary consideration of investors, just as it was for mining promoters. Indeed, investors lost no more money in fradulent mining schemes than in honest ones, since Greenwater had no productive ores.

But, of course, not all the Greenwater mines were fakes. Most of the companies did make an honest search for ore, and several, particularly the Greenwater Death Valley Copper Company and the Furnace Creek Copper Company, continued that search long beyond the bounds of reasonable doubt. All in all, however, the infant mortality rate for Greenwater mines was shockingly high. Fifty-two of the seventy-three companies did not last longer than six months, and only five companies were in operation longer than one year. The average life expectancy for a Greewater mining corporation was a dismal four months and three weeks. Since it would be a lengthy task to even outline the

INCORPORATED MINING COMPANIES, GREENWATER DISTRICT

Name	Date First Mentioned	Date Last Mentioned
Furnace Creek Copper Company	23 June 1905	17 March 1909
Furnace Creek Gold Mining Company	8 September 1905	8 September 1905
Greenwater Consolidated Copper Co.	4 May 1906	10 April 1909
Funeral Range Copper Company	4 May 1906	29 March 1907
Greenwater Copper Mining Company	1 July 1906	1 May 1907
Furnace Creek South Extension Mining Company	3 August 1906	1 May 1907
**Greenwater Death Valley Copper Co.	10 August 1906	1 September 1909
Butte & Furnace Creek Copper Mining Company	17 August 1906	17 August 1906
Greenwater Monitor Copper Company	17 August 1906	17 August 1906
Greenwater Calumet Copper Company	27 August 1906	10 March 1909
Clark Copper Company	7 September 1906	1 May 1907
Greenwater Black Jack Copper Mining Company	11 September 1906	1 May 1907
Greenwater Furnace Creek Copper Co.	15 September 1906	15 April 1907
Furnace Creek Consolidated Copper Co.	17 September 1906	1 May 1907
Furnace Creek Extension Copper Mining Company	21 September 1906	15 April 1907
Greenwater Red Boy Copper Mining Company	28 September 1906	24 October 1907
Butte & Greenwater Copper Company	12 October 1906	1 June 1907
Greenwater Hercules Copper Company	12 October 1906	12 October 1906

Name	Date First Mentioned	Date Last Mentioned
Greenwater United Copper Company	12 October 1906	12 October 1906
Anaconda Consolidated Copper Company of Greenwater	12 October 1906	12 October 1906
*Boston-Greenwater Copper Company	12 October 1906	12 October 1906
Pittsburgh-Greenwater Copper Company	18 October 1906	1 June 1907
Greenwater Saratoga Copper Company	19 October 1906	24 October 1907
Furnace Valley Copper Company	19 October 1906	1 April 1907
Greenwater Rambler Copper Company	23 October 1906	23 October 1906
Btte Funeral Range Copper Company	23 October 1906	1 January 1907
**United Greenwater Copper Company	23 October 1906	30 December 1908
Greenwater Copper Company	23 October 1906	9 February 1907
Salt Lake & Greenwater Copper Co.	26 October 1906	26 October 1906
Kunze Consolidated Copper Company	27 October 1906	15 February 1907
**Ironclad Greenwater Copper Company	3 November 1906	24 October 1907
Funeral Range Copper Extension Mining Company	6 November 1906	6 November 1906
Greenwater-Furnace Creek Consolidated Copper Company	6 November 1906	6 November 1906
Greenwater Townsite Copper Company	15 November 1906	15 November 1906
Kempland Copper Company	16 November 1906	1 May 1907
South Greenwater Copper Company	17 November 1906	29 June 1907
New York Greenwater Copper Company	20 November 1906	20 November 1906
Original Greenwater Copper & Gold Mining Company	22 November 1906	22 November 1906

Name	Date First Mentioned	Date Last Mentioned
Greenwater Bonanza Copper Company	24 November 1906	24 November 1906
Greenwater Iron Mountain Copper Co.	30 November 1906	30 November 1906
Ramsey Consolidated Copper Company	30 November 1906	15 March 1907
North Greenwater Copper Company	10 December 1906	10 December 1906
Greenwater Consolidated Copper Company of Funeral Range	11 December 1906	11 December 1906
Greenwater Pay Copper Company	15 December 1906	1 May 1907
Consolidated Greenwater Copper Mining Company	15 December 1906	1 June 1907
Greenwater Apache Mining Company	15 December 1906	15 December 1906
Greenwater Death Valley Copper Mines & Smelting Company (The $25,000,000 holding co.)	15 December 1906	1 September 1909
Death Valley Copper Glance Mining Company.	17 December 1906	17 December 1906
Greenwater Salt Lake Copper Company	28 December 1906	25 January 1907
Greenwater Thrifty Copper Company (undated incorporation paper in 1906, never mentioned again)	1906	1906
Montana-Furnace Creek Copper Company	1 January 1907	1 May 1907
Greenwater Ibex Copper & Gold Mining Company	4 January 1907	4 January 1907
Greenwater Central Copper Company	5 January 1907	18 February 1909
**Greenwater El Capitan Copper Company	1 February 1907	24 October 1907
East Greenwater Copper Company	15 February 1907	10 March 1909
*Greenwater Death Valley Copper Mining Company	15 February 1907	15 February 1907

Name	Date First Mentioned	Date Last Mentioned
*Greenwater Consolidated Mining Co.	15 February 1907	15 February 1907
Consolidated Greenwater Copper Mining Company	15 February 1907	1 June 1907
Copper Oxide Company	15 February 1907	15 February 1907
Copper Sulphide Company	15 February 1907	15 April 1907
Furnace Creek Copper Oxide Company	15 February 1907	1 April 1907
Gladstone Greenwater Copper Development Company	15 February 1907	15 April 1907
Greenwater Bimetallic Copper Company	15 February 1907	29 March 1907
Greenwater Copper Helmet Company	15 February 1907	15 April 1907
Greenwater Ely Consolidated Copper Company	15 February 1907	15 February 1907
Greenwater Superior Copper Mining Company	15 February 1907	15 February 1907
Greenwater Furnace Valley Copper Company	15 February 1907	1 April 1907
Greenwater Vindicator Copper Mining Company	1 March 1907	1 June 1907
Greenwater Chuck-Walla Copper Co.	15 March 1907	1 May 1907
Kingston Range Copper Mines Corporation	15 March 1907	15 March 1907
Salt Lake & Furnace Creek Copper Company	29 March 1907	29 March 1907
Greenwater Copper King Company	15 April 1907	1 May 1907
Kentucky Copper Mining Company	1 May 1907	1 May 1907

* - Companies exposed by the Death Valley Chuck-Walla as frauds.

** - Companies included in the Greenwater Death Valley Copper Mines & Smelting Company merger.



The inscription on this 1906 photo simply reads "California and Calumet Mines, Greenwater, Cal." and amply portrays the holdings and improvements of a typical mine during the Greenwater boom--nothing. Photo courtesy Nevada Historical Society.

histories of these seventy-three companies, representative samples are given instead. Included are the stories of the two major companies in Greenwater, that of a typical company which lasted a brief five months, and that of an outright fraud.

b. Furnace Creek Copper Company

In the early 1900's, Patrick "Patsy" Clark of Spokane was one of the best known copper magnates of the United States. As noted before, when two prospectors made their initial copper discoveries in Greenwater, they immediately notified Clark's agents, and Clark became interested in the new district. In May of 1905, Clark visited the virgin Greenwater territory and purchased the claims. By the middle of the next month, he had already opened up a mine, and by the end of June had eight men working in a shaft which was thirty-five feet deep. Clark was the first major operator in the district, and hoped to reap a quick fortune by finding the immense underground copper deposits from which came the rich surface croppings of Greenwater.

By March of 1906, although the copper lode had not been found, Clark had decided that the indications on the ground warranted permanent and extensive exploration and development, and his young mine was upgraded into a mining camp by the arrival of tents, camp supplies, working tools, etc. By this time his working force had been expanded slightly to nine, and the shaft was sixty feet deep. The Greenwater rush was now starting in earnest and numerous prospectors and rival promoters were on the ground. Taking advantage of the initial wave of excitement which was sweeping the mining world, Clark incorporated his company in March, and named it the Furnace Creek Copper Company. The company was formed with a capital stock of $1,250,000 and shares in the company were put on the market at 50¢ each, one half of their par value. Clark offered 125,000 of

these shares to the general public, in order to build up development capital, and within three hours every share had been sold. The Mining World explained the phenomenon by noting that "Mr. Clark's success as a mining operator has been so great, and Butte as well as Spokane people have such confidence in any property that he backs, that they eagerly purchase what stock he has to offer."

With the success of his capitalization, Clark stepped up work at the mine, and by mid-April had fourteen men employed and was sinking two shafts, down to fifty and one hundred feet, respectively. Arrangements were made to purchase a small 15-horsepower gas hoist to speed up the work, and by mid-May, the new hoist had arrived and was installed. By this time, with the Greenwater boom well under way, prices of Furnace Creek Copper, the earliest and best-known mine in the district, were leaping through the roof. One bold investor in New York city purchased an entire block of 100,000 shares at the price of $3.25; 1,500 more were sold in the same city for $4.25 per share; and the price at Los Angeles went even higher to $4.50. These were totally unheard-of prices for stock in a company which had yet to extract or ship a single pound of ore.

With the money rolling in, Clark discarded his 15-horse power hoist and replaced it with a larger 40-horse power model, which would enable him to sink to a depth of nearly 1,000 feet. Clark also began buying up adjacent claims and had soon extended his company's control to an area of approximately 400 acres. Both the Tonopah & Tidewater and the Las Vegas & Tonopah Railroads offered to build a spur line to his mine, upon request, and Clark mentioned that he was considering the construction of a 300-ton smelter. But for the time being, these ambitious plans were laid aside until the copper body could be

proven. The staff was expanded to sixteen miners, and the shafts went deeper and deeper, reaching the 150-foot point in mid-July. The Bullfrog Miner, suitably impressed by the rapid development of the company, commented in July that the "Furnace Creek Copper company, owned by Patsy Clark, is developing into one of the biggest things of its age known in copper mining."

During the summer of 1906, small pockets of high grade ore were occasionally found in Clark's mine, but no bodies large enough to mine commercially. Still, it was much too soon to expect much, and development continued. By mid-August, the shaft was down to 220 feet, and three shifts were working around the clock in the mine. The shaft had been sunk to 265 feet by early September, the work force increased to eighteen men, and another large hoist was procured. By this time, stock in Clark's company had leveled off somewhat, and was being sold and traded at a steady $4 per share, four times its par value.

But as the Greenwater boom reached its most violent phase in the fall of 1906, there was no holding down the price of stock, regardless of the lack of any ore yet produced. Furnace Creek Copper stock rose to $4.50 in late September and then up to $5 and $5.25 per share by mid-October. Some of this flurry was caused by prevalent rumors of a consolidation between Clark and his chief competitor in the district, Charles Schwab, but even after that rumor proved false, stock prices remained unrealistically high.

In mid-October, excitement prevailed at the company's headquarters, as copper ore was struck in a crosscut from the 200-foot level of the main shaft. Development was spurred by the discovery, and by the middle of November, in addition to the numerous crosscuts and drifts which the company was sending

out from the 100 and 200-foot levels of its shafts, the main working shaft was still going deeper. By the end of 1906, the company had two large hoists working on its shafts, the main one of which was down to 385 feet, and forty men were employed by the firm. No ore had yet been found, but the company was in tremendous financial shape, and there was plenty of time for development work.

Almost as an afterthought, Clark also entered the townsite business late in 1906, due more to public pressure than desire. Since supplies and accommodations throughout the district were in such shortage at the peak of the boom, miners and prospectors naturally flocked towards Clark's camp, where stores had been established to cater to the needs of the miners he employed. Realizing that the only way to control his camp in the face of the unwanted crowds was to organize a townsite, whether he wanted one or not, Clark entered the townsite battle in October. Shortly thereafter a townsite company was incorporated and by December advertisements were printed in the Rhyolite newspapers, advertising losts for sale from between $250 and $750 apiece.[12]

As 1907 opened, the Death Valley Chuck-Walla reported that Patsy Clark had one shaft down to 300 feet in depth, and others were on the way. In addition, the young townsite of

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12. Rholite Herald, 23 June 1905; 16 March, 20+27 July, 3 August, 7+14 September, 12 October 1906. Bullfrog Miner, 9 March, 13 April, 18 May, 1 June, 13+27 July, 17 August, 28 September, 2 November 1906. Beatty Bullfrog Miner, 8 December 1906. Greenwater Times, 23 October, 6 November 1906. Inyo Register, 12 July, 11 October, 15 November 1906. Inyo Independent, 5 May, 9 June 1905; 31 August, 19 October, 21 December 1906. Mining World, 17 March 1906, p. 305; 15 September 1906, p. 359; 15 December 1906, pp. 719-21. Engineering & Mining Journal, 2 June 1906, p. 1068.



View of the workings of the Furnace Creek Copper Company, ca. December 1906. The rude collection of tents soon afterwards grew into the mining camp of Furnace, which was later moved down the valley when it began to interfer with mining operations. Note the pile of shaft timbers to the left of the hoist, and the water wagon in the center. Photo courtesy Nevada Historical Society.

Furnace (sometimes called Clark) was bustling with a store, a restaurant, a hotel and other business firms, and a Post Office had been applied for. Sinking continued rapidly during that month, since the cold weather forced companies working near the surface to shut down, and Clark for once was able to hire all the miners he needed. By the middle of the month the main shaft had broken the 400-foot level. When the growing townsite threatened to interfere with the operation of the mines, it was bodily moved away from the main shaft down the slope to the north, and replatted there. Town lots began to command a premium, especially since the consolidation of Kunze's and Ramsey's townsites made Furnace the only reasonable place to live for miners employed by Clark and other nearby companies. As development continued, and the problem of obtaining supplies for the mine and townsite grew, a road was surveyed to the site, in order to ease deliveries.

During February, work continued on the main shaft, although several other exploratory shafts and cuts were being run. By the middle of that month the main shaft had been sunk to 480 feet, another crosscut was started at the 250-foot level, and the growing town of Furnace counted a population of 500. By March 1st, with the shaft at the 500-foot level, new crosscuts were started and ore was discovered. Although the copper deposits uncovered were not large enought to crow about, they were large enough to mine, and the Furnace Creek Copper Company began sacking its best ore for shipment to the smelter. To get there, the ore had to be hauled over fifty miles across the sandy desert to the Las Vegas & Tonopah station at Amargosa.

By mid-March, the company was still stoping ore for shipment, and the shaft had been continued below the 500-foot level. Only ore which averaged above 12 percent copper, a very high figure, could be profitably shipped. At the end of

that month, the company was still assembling a shipment, which indicates that it did not have a great abundance of 12 percent ore. Nevertheless, with the main shaft down to 550 feet, the Death Valley Chuck-Walla felt justified in calling the Furnace Creek Copper Company the very best mine in the entire Greenwater District.

Sometime in April, the first shipment of ore was sent out, which represented the first shipment from the Greenwater District. The shaft was now down to 600 feet, and the Bullfrog Miner reported that 150 men were working in the vicinity of Furnace, most of them for the Furnace Creek Copper Company. In mid-May, the company was still shipping ore, but no returns were received from the smelter until late in that month. Those returns showed that one carload of hand-sorted ore sent out contained 22.68 percent copper, which was of profitable level, but two other carloads (of approximately twenty tons each) had not yet been heard from.

Despite these shipments, which represented the closest anyone in the Greenwater District had yet come to becoming a real producing mine, the Death Valley Chuck-Walla noted on June 1st that the Furnace Creek Copper Company was not looking good. Formerly one of the best in the district, it was now running out of development funds, in the Chuck-Walla's assessment, and for some reason it had taken its biggest hoist off the main shaft and replaced it with a rather useless 5-horsepower hoist. That hoist could have no hope whatever of raising rock over 600 feet from the bottom of the shaft. The magazines' presentments were correct, for shortly after that the mine shut down. The management implied that the shut-down was to avoid the extremely hot weather of the summer months in Greenwater, but everyone knew better, and no one was particularly surprised when the mines were not immediately reopened in the fall.

The company definitely had problems, for it had expended enormous sums in fruitless development work, and now it faced the problem of whether to give up completely, or to continue to look for the elusive green ore. At the annual meeting, held in early October, some of the problems were ironed out, and a picture of the company's financial condition emerged. According to the Bullfrog Miner, the company had experienced some "internal difficulties", which meant that the directors were undecided as to who to blame for past failures. These difficulties are easy to understand when it is pointed out that stock prices in the company had slipped over $4 in less than a year. Stock which was eagerly sought for over $5 less than one year ago had slumped all the way to 20¢ per share by the end of October, 1907. Although the decline of the Greenwater boom and the Panic of 1907 were contributing factors, still the basic reason for the stock slump was the essential fact that after spending thousands of dollars on development work, the company had no ore to mine for future profits.

An analysis of the balance sheets showed that $135,303 had been spent in such work in the past year, including $59,250 for labor and supplies, $1,857 for legal expenses, $4,927 for machinery and plant, $4,409 for buildings and fixtures, $5,181 for surveys and patents, and $9,000 for stable expenses, chiefly water. Exactly 228,600 shares of treasury stock had already been sold, bringing in $131,687. Receipts from ore shipments totaled $2,625.09, and money value of equipment and supplies on hand was placed at $20,536, including timbers, mine and boarding house supplies, gas hoists, wagons, teams, tanks, and office buildings. Over 2,800 feet of work had been done, including eleven shafts totaling 850 feet, one crosscut of 764 feet, six drifts of 652 feet and nine surface cuts of 332 feet, two stopes of 30 feet and one tunnel of 161 feet.

But what really mattered was that the company had only 21,400 shares of treasury stock left to sell, which would raise only $4,280 at present prices. This, coupled with 50,000 shares of personal stock donated to the company by Clark for development purposes and $16,110 remaining in the company's treasury, meant that the Furnace Creek Copper company had left no more than $30,390 to spend in the search for ore. Nevertheless, the company hired eight men and resumed work, announcing that the shaft would be sunk to the 1000-foot level before giving up. With the revival of work, which continued through the rest of 1907, Furnace Creek Copper stock rebounded somewhat, and closed out the year at 25¢ per share.[13]

As the first months of 1908 passed, the Furnace Creek Copper Company continued to work with a "good force of men," as the "Clarks were determined to either prove their holdings immensely valuable or demonstrate the utter failure of the property as a producer." Early in March a new 60-horsepower hoisting plant arrived and was installed, and by the beginning of April the main shaft was approaching the 800-foot level. Sinking and lateral exploration continued through April, May and June, and occasional small pockets of copper ore were found. Although all these pockets soon pinched out, the presence of some ore at these depths was just enough to keep the company's hopes alive, and it confirmed that the shaft would be sunk to 1000 feet in depth before giving up.

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13. Death Valley Chuck-Walla, 1 + 15 January, 15 February, 1 + 15 March, 1 + 15 April, 1 + 15 May, 1 June 1907. Rhyolite Herald, 4 January, 8 November, 13 December 1907. Bullfrog Miner, 11 January, 19 April, 31 May, 10 + 26 October, 9 November 1907. Inyo Register, 24 October 1907. Rhyolite Daily Bulletin, 4 November 1907. Engineering & Mining Journal, 12 January 1907, pp. 77-82; 21 December 1907, p. 1189. Mining World, 21 December 1907, pp. 1087-88.

Work continued through the summer, although the work force was not large enough for very rapid progress to be made. As August approached, the best assessment of the company was that the development results were encouraging, "but nothing out of the ordinary has been reached." Still the company continued to sink, and steady progress was reported through the fall of 1908, but still without finding any commercial ore bodies.

As 1908 turned into 1909, the work at the Furnace Creek Copper Company became slower and slower, and the company began giving up hope. Finally, in mid-March of 1909, the mine was closed. The Rhyolite Herald sadly announced that the company had "finally given up hope of developing satisfactory ore bodies without going to great depth" and after several years of effort, "work was entirely suspended a few weeks ago." Miners were discharged and soon even the watchman was given his notice. The elusive ore body, which had been followed sporadically down to 200 feet below the surface, had been completely lost at that point, and although the shaft had been sunk below 800 feet, no more ore had been found.

For a few months, the Furnace Creek Copper Company held on to its property, waiting to see what would happen to the Greenwater Death Valley Copper Company's property, whose shaft was below 1,000 feet and still sinking. If that shaft hit the copper ore which everyone in Greenwater had been looking for, there was a possibility that the Furnace Creek Company would be able to resume operations. But such did not come to pass, and the Furnace Creek Copper Mines were abandoned. The entire collection of claims belonging to the company was allowed to lapse, and

reverted to county land status in June of 1910, when the company failed to pay $10.51 in Inyo County taxes.[14]

c. Greenwater Death Valley Copper Company

The other major mine in the Greenwater district, the Greenwater Death Valley Copper Company, was also owned and operated by one of the great business magnates of the early twentieth century, Charles Schwab. After making his fortune in steel, Schwab had been attracted to the gold fields of Nevada following the Tonopah and Goldfield booms, and, as we have seen, dabbled constatly in mines in and around the Bullfrog area. When the Greenwater rush began, Schwab, like most major operators in the area, rushed to the site in order to capitalize on what seemed to be the biggest boom of them all.

Schwab's activities are hard to follow during the early days of the boom, since he had several agents in and around the mining towns of Death Valley who bought and sold mining properties on his behalf. For a short time in early 1906, Schwab held an interest in the Funeral Range Copper Company, but it was shortly sold, apparently because he was unable to gain outright control of the company. In July of 1906, Schwab began buying up mining claims in his own right. Schwab paid $180,000 to Arthur Kunze and his partners for a group of sixteen claims, and on August 10, 1906, the Greenwater Death Valley Copper Company was incorporated. The capitalization was for $3,000,000, one of the largest capitalizations in the district, and Schwab retained majority

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14. Mining World, 31 October 1908, p. 683. Bullfrog Miner, 25 January, 7 March, 4 + 25 April, 9 May, 6 + 13 June, 11 July, 8 + 15 August, 3 October 1908. Rhylite Herald, 27 May, 29 July, 4 November 1908; 17 March, 19 May 1909. Inyo Register, 10 June 1910.

control of the company, even though his name does not appear as a member of the board of directors. The company by this time held title to 300 acres of ground, and announced that the installation of mining machinery and the inauguration of an extensive development campaign would soon start.

In addition to its mineral holdings in Greenwater, the Schwab company also owned water rights at Ash Meadows, and preliminary plans were announced to install a pumping and power station in that vicinity. Lumber and supplies began to flow into the company's property at Greenwater and work began. According to the usual procedure a "limited amount" of Greenwater Death Valley Copper Company stock was offered for sale in Rhyolite and other mining towns of the west, and by the end of August, the main shaft of the mine was down to 100 feet in depth, and work was started on two other shafts. The company ordered three gas hoists to facilitate the sinking.

With the organization of a company such as this, with a man of Schwab's reputation behind it, the local newspapers immediately began to follow the progress of the company. The Bullfrog Miner reported in late September that the company was already employing forty miners on its property. In addition, it said, the company had ordered three gas hoists (of 25, 40 and 50-horsepower), which would easily give it the largest hoisting capacity in the district. These first indications of development work were quite promising, and the Inyo Independent reported towards the end of September that the company had "good ore."

Although the Furnace Creek Copper Company was the darling stock of the Greenwater District, Greenwater Death Valley Copper did not do poorly. The attraction of the Schwab

name--even though he had never attempted copper mining before--plus the good location and the obvious intent of the company to develop its property extensively, caused the price of its stock to soar upwards, until it was selling for $2 per share in late September, twice its par value. By the end of that month, the three new hoists had arrived at the mine and were being placed above their shafts, two of which were already below the 100-foot level.

The company added a few more claims to its property list in early October, and spurred by this and other mysterious activities, the newspapers soon picked up the smell of something big. Since the biggest thing they could imagine would be a combination of Clark's and Schwab's mines--the two largest in the district--incessant rumors circulated of a merger between the two powerful operators. The rumors caused especially heavy trading of the stocks of both companies in Boston and New York, and the rumors became so proliferant that the papers began to believe themselves. The Inyo Independent reported in mid-October that the merger between the companies was practically final, since the main points affecting it had been settled between Clark and Schwab. When another month passed, however, without any merger announcements, the Bullfrog Miner revised its estimate and reported that difficulties had arisen, which had delayed the consolidation.

In the meantime, the Greenwater Death Valley Copper Company was working hard, and early in November began taking shipping ore out of one of its shafts. By this time the company had two of its shafts below 100 feet, a third below 50 feet, and had built two comfortable frame offices on its property. Work continued through the rest of 1906, and by early December the two deeper shafts were at the 200-level, and the Greenwater Death Valley Copper company had emerged as one of the largest operations in the district.

Then, on December 15th, the long-anticipated merger took place. Unfortunately, the papers had been speculating about the wrong companies, however, for the Furnace Creek Copper Company had no part in the merger. Instead, a consolidation was announced, of the Greenwater Death Valley Copper, the United Greenwater Copper and several unincorporated mines owned by John Brock and some Philadelphia financiers.

The new merger company was named the Greenwater Death Valley Copper Mines and Smelting Company, and had a capitalization of $25,000,000, with five million shares worth $5 each. It was easily the largest incorporation that the Death Valley region had ever seen. The new company was a holding corporation, and as such bought up the controlling interests in the companies it took over. The stock distribution in the new company was based upon the amount of stock which had been sold in the older companies, and 68 percent of the merger company's stock went to buy out the Greenwater Death Valley Copper Company, 18 percent to the United Greenwater, and the rest to the owners of the unincorporated mines. Charles Schwab, it was definitely pointed out, was in control of the holding company, and plans were announced for the erection of a smelter at Ash Meadows, where the Greenwater Death Valley Copper Company already had water rights. In addition, the holding company announced that it would build a railroad from the smelter site to the Greenwater mines. A smelting expert was hired for $25,000 per year to supervise the selection of the construction site and the construction of the plant, and hopes were raised that the smelter would be running within a year.

Under the management arrangement of the holding company, however, the subsidiary companies under its control would continue to work on their own, retaining their names, identities and managment--subject, of course, to the approval of Schwab and the parent company. Thus the mines continued to



An early view of the Copper Queen shaft of the Greenwater Death Valley Copper Company, ca. December 1906. This was the shaft which was ultimately sunk to a depth of over 1400 feet. In this view, however, work has barely started, and the miners are still using a crude hand whim to raise the rock to the surface. The young town of Kunze may be seen in the background. Photo courtesy Nevada Historical Society.



Another view of the same shaft, this one taken below ground, where an intermediate hand whim was being used. The man sitting at the right, with suspenders, notebook and pen in pocket, is undoubtedly the mine superintendent. He may also be seen in the background of the preceeding picture. Photo courtesy Nevada Historical Society.

explore and develop their own deposits, and the holding company was used for a pooling of resources and capital, which would be necessary in order to finance the capital expenditures which were proposed.[15]

Under the impetus of the new merger arrangements, and with the Greenwater boom at its very peak, the Greenwater Death Valley Copper Company opened 1907 in impressive style, increasing its work force to nearly fifty men. Two more gas hoists were added to the property, bringing the total to five hoists pumping away over five separate shafts. Four of the shafts were over 100 feet in depth, and the deepest one had reached 125 feet. By early February the holding company announced that construction plans were completed for its smelter, which would cost $1,500,000 to build, and reaffirmed that a rail line would be constructed between the smelter site and the mines. The Death Valley Chuck-Walla reported that the Greenwater Death Valley Copper Company had itself spent over $100,000 since starting work in August of 1906, and now had all five shafts down past the 100-foot point. Labor costs alone were running the company $10,000 a month to pursue its vigorous campaign. The deepest shaft was now down to 140 feet, and an air compressor had been ordered to force air down to the men working below ground.

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15. Rhyolite Herald, 4 May, 17 August, 28 September, 12 October, 28 December 1906. Bullfrog Miner, 30 March, 13 July, 10, 17 + 24 August, 7, 21 + 28 September, 5 + 26 October 1906. Inyo Independent, 10 August, 21 September, 12, 19 + 26 October, 2 November 1906. Inyo Register, 12 July, 23 August, 13 September, 11 October 1906. Greenwater Times, 6 November 1906. Engineering & Mining Journal, 25 August 1906, p. 371; 15 December 1906, p. 1138. Mining World, 15 September 1906, p. 359; 15 December 1906, pp. 719-21.

Early in March the Greenwater Death Valley Copper Mines & Smelting Company added more mines to its holdings, including those of the Greenwater El Capitan Copper company. Construction on the smelter was slated to start within sixty days, and survey work for the railroad spur was started. By the middle of that month, the deepest shaft on the Greenwater Death Valley Copper Company's property was near the 300-foot level, and two others were down to 275 and 200 feet. Three shifts were working around the clock, a machine shop had been installed at the central shaft, an assay office was built, and a sawmill was under construction, to facilitate the shaping of timbers for the deep mine shafts.

The rapid exploitation of the company's property continued through April, and the payroll was increased to 75 men. By the 19th of that month the deepest shaft was down 475 feet, and had fairly good copper ore (3%) at the bottom. Sinking kept pace in the other shafts, and towards the end of April, four of the company's five working shafts were below 400 feet. As May progressed, crosscuts were run from several of the shafts, as exploratory measures, and by the end of May another small strike was reported at the 485-foot level in one of the shafts. In the meantime the holding company was completing plans for its smelter, and equipment for the construction of the plant was ordered. The holding company also increased its list of subsidiary mines, until it held title to over 200 claims comprising some 4,000 acres of land. Although the Greenwater Death Valley Copper Company was clearly the leading subsidiary within the umbrella group, sinking and exploration was also carried on in numerous of the company's other mines.

More strikes were made in June, and although none were large enough to turn the mine from development into

production, all were encouraging as they gave indications of an immense copper body just a little farther below the surface. The Bullfrog Miner reported towards the end of June that six shafts were working at the Greenwater Death Valley property, the deepest of which was now 500 feet. Miners were still scarce in Greenwater, and since contractors refused to work on crosscuts during the graveyard shift, the company was forced to cut back its operation to two daily shifts. "The success of this mine, which would lead to a smelter being built," concluded the Bullfrog Miner, "is most important for the Greenwater district."

Further strikes of small copper deposits were reported in July, and late in that month, the Greenwater Death Valley Copper Company made a shipment of two carloads (approximately forty tons) of its high-grade ore, which had been taken out of the small strikes during the past months. Following that shipment, the news from the mines decreased, and development slowed down somewhat as Schwab and other operators began to feel the effects of the Panic of 1907. Not until late October was the Greenwater Death Valley Copper Company mentioned again, when it was reported that they had added ten more men to the payroll. By now the Greenwater Death Valley Copper Mines & Smelting Company was employing 100 men in its combined operations, and more than half of them were working directly for Greenwater Death Valley Copper Company.

In November, however, three of that company's shafts were closed, in order to economize on development work, and only three shafts were still in operation. An indication of some past troubles was alluded to in the Bullfrog Miner, when it mentioned that the Schwab property was resuming full-scale work. As the year closed out, developments seemed to be increasing once again, as the company let a contract for 500 feet of sinking in its

main shaft. The shift from company work to contract work, though, was a ready indication that the Greenwater Death Valley Copper Company was beginning to feel the financial pinch.[16]

By the beginning of 1908 the Greenwater boom had busted, and the Greenwater Death Valley Copper Company was one of the few still working in the district. Gone were the balmy days when companies were organized for $25,000,000: the Greenwater Death Valley Copper Mines & Smelting Company quietly faded into the background, and no more word of smelter construction or railroad building was heard. Rather, operations were contracted, development was restricted to the most economical means, and the Greenwater Death Valley Copper Company tried to save all its previous investments in a desperate search for ore. Happily, the company still had a fat treasury, due to wise management practices and the constant sale of company stock in previous days when prices had been high.

As the new year opened; the main shaft at the property was approaching the 600-foot level, and progress was steady now that work had been concentrated on one shaft. The company reported in March, after two more months of work, that $125,000 was left in its treasury for further development work, and that its shaft was now 740 feet deep. Another contract was let at this time to sink 100 feet further. By the first of April, the shaft

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16. Death Valley Chuck-Walla, 1+15 January, 15 February, 1 + 15 March, 15 April, 15 May 1907. Rhyolite Herald, 4 January, 1 March, 13 December 1907. Bullfrog Miner, 8 March, 19 + 26 April, 31 May, 22 June, 13 July, 2 + 9 November 1907. Inyo Independent, 8 February 1907. Inyo Register, 24 October 1907. Rhyolite Daily Bulletin, 4 November 1907. Engineering & Mining Journal, 12 January 1907, pp. 77-82; 11 May 1907, p. 925; 27 July 1907, p. 182. California State Mining Bureau, Bulletin #50, September 1908, pp. 299-324.

was down to 850 feet, by far the deepest of any in the district, and towards the end of April was approaching the magic 1000-foot level, where all the company's experts had predicted the giant copper body would be found. As May ended, the shaft was down to 940 feet, and Superintendent Jerry O'Rourke optimistically told the Rhyolite Herald that "they will make a camp of Greenwater yet."

On June 10th the 1000-foot point was finally reached, and true to prediction, ore was struck. The first assays on the copper body ran 5 to 6 percent copper, but no one could yet estimate how extensive the deposit was. This strike, as noted before, caused a minor rush back into the Greenwater District, as prospectors and companies who had let their titles lapse rushed back in to reclaim them. But within a week, the strike had proven to be no more than a small stringer or ore. Still, no one doubted that the presence of this small stringer indicated that there was a large body of copper within the vicinity, and the strike did prove that Greenwater was "not a surface proposition as has so often been claimed."

The company was still confident that ore was in the ground, and stated in late June that "in case ore is not struck in the crosscut which has been started from the 1,000-foot level, that the company will sink another 1,000 feet to demonstrate its theory that a body of copper ore exists in the locality. However, it is believed that the present crosscut will uncover commercial copper when it reaches its objective point." As July progressed, the company pursued that objective, via crosscuts from both the 500 and the 1,000-foot levels, and was apparently satisfied enough with the results of the search to finally apply for a patent to its claims. The application listed a total of thirty claims and thirteen fractions, for a total of over 515 acres.

In the meantime, the crosscuts were continued, and although ore assaying 6 percent copper and eleven ounces of silver, for a total worth of $25 per ton, was discovered in the crosscut from the 500-foot level, nothing of importance was found at the deeper 1,000-foot level. Despite this discouraging result, the company kept working. Time and money, however, were beginning to press the Greenwater Death Valley Copper Company, and the work force was cut back until it was described in late October as a "small force" of men. Work was resumed in the main shaft in November, and by the end of the year, it had been sunk to nearly 1,100 feet. Small stringers of copper ore were found as the shaft went deeper, but nothing of commercial grade or extent could be found.[17]

After a disappointing 1908, the new year opened on a more promising note for the Greenwater Death Valley Copper Company. The drifts continued to find ore, its quality started to improve somewhat, and the Rhyolite Daily Bulletin reported in early January that "the situation in the Greenwater district is very encouraging." The paper again reported towards the middle of January that the company was bringing up buckets or ore, which was starting to appear in bunches, and "every indication points to a monster vein in the property that should soon be tapped." The Mining World picked up on that report, but cautioned that "considerable work remains to be done to demonstrate the extent and value of these finds."

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17. Bullfrog Miner, 11 + 25 January, 7 March, 4 + 25 April, 9 May, 6 + 20 June, 11 July, 8 + 15 August 1908. Rhyolite Herald, 27 May, 10 + 17 June, 29 July, 12 August, 9 + 30 December 1908. Rhyolite Daily Bulletin, 24 December 1908. Inyo Register, 5 March, 18 June 1908. Engineering & Mining Journal, 11 July 1908, p. 101. Mining World, 31 October 1908, p. 683.

But after years of fruitless searching for ore, it was hard to hold down the elation over finding copper, even though its commercial extent was not yet proven. Early in February the Bullfrog Miner reported that the recent discovery of sixty feet of 5 percent copper ore at the 1000-foot point of the shaft had caused the company to become "highly elated" over the discovery, and to push "developments vigorously." "On the proving of the new ore body," remarked the Bullfrog Miner in an understatement, "depends the future of the Greenwater Death Valley mine and practically of the camp of Greenwater."

Hard on the heels of this discovery came another, as ore was finally found in the crosscut from the 1,000-foot level of the shaft, 200 feet out. This body was soon proven to be forty feet in width, which was still not enough to warrant commercial production, but much more than enough to warrant further exploration and development. "The find has caused all kinds of excitement around Greenwater," reported the Rhyolite Daily Bulletin, "and all indications point to a big revival in the mining industry." The Bullfrog Miner agreed, and reported that the "camp of Greenwater is on the rise from all indications. Parties with holdings there are putting forth more zeal in the development than has been shown for over a year."

With the revival of hopes, the Greenwater Death Valley Copper Mines & Smelting Company, which still held control of the Greenwater Death Valley Copper Company, released its annual report for the year ending December 31, 1908. The holding company had a cash balance of $138,136 at the end of that year, which included $49,099 in the treasury of the United Greenwater Copper Company and $87,136 in the treasury of the Greenwater Death Valley Copper Company. Since the United Greenwater had long ago ceased work, its treasury funds were available for

application towards the continuing development work on the Greenwater Death Valley Copper Company's mines. The parent company, it was announced, owned or controled 96 percent of the capital stock of the Greenwater Death Valley Copper, the United Greenwater Copper, and the El Capitan Copper Mining Company. All but the Greenwater Death Valley Coper Company, however, were idle.

Pushing hard upon its discoveries, that company continued its work through March. By the middle of that month, the main shaft was down to 1,220 feet and was going for 1,500, which was now seen as the point of decision. Fifteen men were employed at the mine. Work was temporarily halted in early April, when Fred Kelly, a 39-year old miner, fell to his death in the shaft of the mine, but was soon continued, and in late April and early May, more small copper bodies were found. By the middle of May, with the shaft approaching the 1,300-foot mark, the future of the mine was still indecisive, for although the "usual indications of copper are present . . . . no commercial ore bodies have been encountered."

The Bullfrog Miner reported at this time that the total treasury of the Greenwater Death Valley Copper Mines & Smelting Company, based upon its earlier annual report, would be sufficient for more than four more years of development work, based upon the average costs of $2,500 per month at the mine. Such an expenditure would be impractical, however, for everyone agreed that if copper was not found by the 1,500-foot depth, the mine would be abandoned, since copper below that level, no matter how rich, would be very expensive to mine. But the Greenwater Death Valley Copper Company and its parent holding company were both in rather good financial shape, and even though ore was not found, the price of stock in both companies began to rise, going

from 4¢ to 9¢ per share. The reason for the trading, explained the Rhyolite Herald, was the fact that if the company quit work, the remaining treasury funds would be divided among the holders of its outstanding stock, which made that stock worth a few cents per shares. Shareholders, in other words, now hoped that the Greenwater Death Valley Copper Company would either find ore quickly, or else close down quickly and distribute the remaining funds.

On July 24th, it looked like the latter would be the option taken. Work was halted at the mine, for the shaft had reached the 1,400-foot level, and the present hoisting plant at the property did not have the capacity to raise rock from any lower down. The superintendent asked for instructions, giving the company the options of purchasing a new hoist for deeper sinking, of crosscutting from the 1400-foot level, or of shutting down the mine. After some thought the company decided to purchase a larger hoist, and while awaiting its arrival, to crosscut at the bottom of the shaft.

But the crosscutting soon proved futile, and for some reason the company reversed its decision, for the new hoist was never ordered. Work gradually slowed down at the mine, and finally, on September 1st, was halted. The work force was laid off. After sinking to a final depth of 1439 feet below the surface, the deepest shaft in the Death Valley region, the Greenwater Death Valley Copper Company finally gave up its search for copper ore and abandoned its mine. Greenwater was now totally dead, for this was the last company operating in the district. The Inyo Register printed the obituary for both the mine and the district: "With the cessation of all work at the Greenwater Death Valley mine, the once thriving camps of Greenwater and Furnace Creek, California, have been given over to the reign of the

coyotes. There is scarcely a man to be found in the entire district, and locally it is considered extremely doubtful that the Schwab company will ever resume work at the mine, which was once pronounced a bonanza." Ironically, with the cessation of work at Greenwater, shares in the Greenwater Death Valley Copper Mines & Smelting Company shot up from 7¢ to 11¢ each, as stockholders anticipated the splitting of the remaining treasury funds.

The stockholders, however, were doomed to disappointment, for the holding company decided to invest the remaining funds in other mining districts rather than dissolve the company, and for the next several years, sporadic reports of the company could be found from gold districts in Nevada and California, where they tried their luck. Unfortunately, the other districts proved no more fruitful than had Greenwater, and the company eventually went broke.

In the meantime, however, the Rhyolite Herald had nothing but prise for the Greenwater Death Valley Copper Company, for in Greenwater it had done all that could be expected and more to try to prove the benefits of the once highly praised district. The management of the company, said the Herald, had always been honest and above board, and reasonable men could have been expected to give up long before they had. No one should be able to complain about the conduct of its business in the Greenwater District.

Shortly after the mine was closed down, contracts were let to haul the machinery and equipment out of the district for use elsewhere, a job which was expected to take five or six weeks. The cannibalization of the Greenwater Death Valley Copper Mine was so complete that the timbers were even stripped from the shafts and brought up for use again elsewhere. The

company's property was totally abandoned, and in June of 1910 reverted to county control, when the once mighty Greenwater Death Valley Copper Company failed to pay $10.85 in county taxes on its numerous mining claims in the district.[18]

d. Kempland Copper Company

The two companies discussed above were quite unusual, and they do not represent the average Greenwater District mining company. As noted before the average life of a copper company in Greenwater was limited to slightly less than five months, considerably less than that of either the Furnace Creek Copper Company or the Greenwater Death Valley Copper Company. For the sake of comparison, therefore, a short narrative of the life and death of a more typical copper company should prove instructive. Such is the Kempland Copper Company, which lasted five and a half months from its first mention in the newspapers to its last.

The origin of the Kempland Copper Company is shrouded in mystery, as is most of those which surfaced in Greenwater, and was undoubtedly the result of a series of mining

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18. Rhyolite Daily Bulletin, 4 + 18 January, 15 February, 1 + 15 March, 12 April, 3 May 1909. Bullfrog Miner, 6 + 20 February, 10 April, 15 May, 11 September 1909. Rhyolite Herald, 3 + 10 March, 12 + 26 May, 24 July, 11 + 18 September, 13 November 1909; 8 + 15 Janaury 1910. Inyo Independent, 9 April 1909. Inyo Register, 21 October, 4 November 1909; 2 June 1910. Mining World, 30 January 1909, p. 190. Fort the further adventures of the Greenwater Death Valley Copper Mines & Smelting Company and its subsidiary companies after the abandonment of the Greenwater District, see the following: Rhyolite Herald, 12 November 1910; 7 January 1911; 24 February 1912. Mining World, 21 October 1911, p. 812; 9 November 1912, pp. 858-9; 21 August 1915, p. 304.

sales, trades, and consolidations of claims. It was first mentioned on November 16, 1906, when the Bullfrog Miner noted in passing that it was located near the Clark Copper Company and the Greenwater Calument Copper Company. It was again mentioned in December 21st, when the Inyo Independent commented that a tunnel was being driven on its property.

The Death Valley Chuck-Walla alluded to the Kempland property on January 1, 1907, writing that it was located near the townsite of Furnace, in close proximity to the mines mentioned above, as well as the big Furnace Creek Copper Company. From this description, and the fact that the Kempland first appeared during the latter days of the height of Greenwater's boom, it is safe to infer that it was a typical "risk" operation. In other words, the grounds owned by the Kempland Copper Company were undoubtedly purchased and mined more for their proximity to the Furnace Creek Copper Company's property than for any mineral content or worth of their own. As mentioned before, this was quite a common practice at the time, and was a practice which was responsible for the proliferation of mines around any big strike. We have seen this same phenomonem at work in Bullfrog, and again in the South Bullfrog and Lee-Echo districts.

Although we have no incorporation papers for the Kempland Copper Company, it was undoubtedly capitalized for $1,000,000 with shares worth $1 each par value, since this was the lowest incorporation ever seen in Greenwater. By mid-February, the company had succeeded in selling enough of these shares to start permanent development work, and the Death Valley Chuck-Walla reported that the company was working on a tunnel, and had a large enough work force to warrant the hiring of a superintendent. The company was steadily developing its ground, and had a good showing of ore.

On March 1st, by which time the company's tunnel was in 100 feet, the Death Valley Chuck-Walla noted that it was owned by J. Ross Clark. Clark was also the owner of the Clark Copper Company, which adjoined the Kempland, and was the brother of William Clark, president of the Las Vegas & Tonopah Railroad. The company had ore in its tunnel, said the Chuck-Walla, and was making plans to ship it as soon as possible. By the middle of the month, although no ore had been shipped, more progress had been made in the tunnel, which was now 200 feet deep into the side of the hill.

By April 1st, the company looked even better. It now owned twenty-two claims northwest of the townsite of Furnace, and was crosscutting on the ore ledge. Full surface equipment had been installed, the copper ore brought up was giving high assays, and plans were still being made to start shipments in the near future. In summary, the Death Valley Chuck-Walla called the Kempland Copper Company "One of the best properties in the district." On April 15th, the company was still working on its claims, but no shipments had been made. Later in that month the Bullfrog Miner reported that the company had a small eight-foot ledge of ore which assayed about 7 percent copper, and on May 1st, the Death Valley Chuck-Walla again reported that the company was at work, and was preparing to ship ore.

But that was the last reference ever made to the Kempland Copper Company. Evidently, work ceased soon after May 1st. What had happened? Although we will never know for certain, the demise of the Kempland undoubtedly paralleled that of many other Greenwater mines. With the great number of mines and mining companies around Greenwater, the competition for the investment dollar was intense, and there were not enough dollars to go around. With a rather limited budget, the average company was

able to spend what funds it could raise in exploring the ground for several months. When the funds ran out, with the inevitable failure to find any commercial ore, the mine was simply and quietly shut down, and the miners departed to find work in another of Greenwater's concerns. It had been a good gamble to try to find ore next to the bonanza holdings of the big Furnace Creek Copper Company, but the gamble had failed. The investors were out their money, and the directors their time. With the great number of mines in Greenwater, however, and the relative insignificance of the Kempland Copper Company as compared with the giants of the district, no one particularly cared. The death of the mine was certainly not important enough to warrant mention in the papers.[19]

e. Greenwater Death Valley Copper Mining Company

Readers who think that this mining company has already been discussed should look closely at its name, for therein lies its story. This is a far more interesting company than the Kempland Copper, and is one which really illuminates what the Greenwater mining boom was all about. First organized and advertised in February of 1907, the company immediately came under the suspicions of the editors of the Death Valley Chuck-Walla. The Chuck-Walla, they wrote, "has been unable to located the properties" of the company, which was promoted by the C. M. Sumner Investment Securities company of Denver--a city which had had over fifty years of practice in all sorts of shady mining manuevers. The company's claims could not be found anywhere in the Greenwater District, wrote the Chuck-Walla, and it

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19. Bullfrog Miner, 16 November 1906; 26 April 1907. Inyo Independent, 21 December 1906. Death Valley Chuck-Walla, 1 January, 15 February, 1 + 15 March, 1 + 15 April, 1 May 1907.

evidently hoped that the similarity between its name and that of the Greenwater Death Valley Copper Company, one of Greenwater's finest, would be sufficient to confuse enough investors to make some money on a nonexistant mine.

So far, the story is not particularly unusual, for such is the way the mining game was played in the early twentieth-century west. But the Greenwater Death Valley Copper Mining Company would not give up. It persisted in advertising its advantages, despite its exposure, and even went to the lengths of describing its good copper claims, supposedly located four miles north of Greenwater. The Death Valley Chuck-Walla panned the outfit again and warned its readers that "we cannot find such claims as this company claims exist. We suspect that the concern is doing a wildcat business at the expense of Greenwater's good name and we warn investors to be careful before placing their money into this." As a courtesy and also a warning to others who were thinking of trying to fool potential Greenwater investors, the editors sent a copy of their magazine, including the article damning the company, to its promoters in Denver.

The response was amazing. The Sumner Investment Company of Denver wrote back to the Death Valley Chuck-Walla, admitting that they had never seen their claims, but affirming that they did have two of them, and they were supposed to be good ones. However, they "could not tell where they were, as they themselves did not know. They were seeking information about their property through us," wrote the Chuck-Walla, and at the same time "they were advertising stock for sale in their company." Such exposure presented the mining business at its worst, for the Denver company was admittedly advertising stock for sale in a mine which did not exist, on the basis of two copper claims which they had never seen and could not locate.

But the Greenwater Death Valley Copper Mining Company was not one to give up easily, and they again wrote to the Death Valley Chuck-Walla. "Now in regard to the 'Bronze' and 'Midkado' claims in Greenwater we are more anxious to know something about them than you are . . . We will therefore greatly appreciate it if you will inform us of what expense will be attached to having some reputable surveyor go out and see whether he can find these claims and if they are property monumented, etc." The Chuck-Walla was so flabbergasted by this request that it printed it verbatim in its magazine. Few wildcat mining companies had the nerve expressed by the Greenwater Death Valley Copper Mining Company--to ask the editors of the magazine which was exposing it to the world as liars and cheats to help them find their own mine.

Although there is no denouement to this story, for the claims were never located and the mine never existed, it does serve to tell a point. Undoubtedly, even with the wide and unmistakable exposure of this fraud, the promoters of the Greenwater Death Valley Copper Mining Company made money. Even with the bad publicity, there was enough just in the name of the corporation to fool some of the people some of the time.[20]

f. The Greenwater Boom

As a final note, which is perhaps necessary after reciting the history of the Greenwater Death Valley Copper Mining Company, it should be pointed out that the Greenwater district as a whole was not a fake. Inevitably, considering the rapid rise and fall of the district, which has seldom been paralleled elsewhere, modern writers of western lore have begun to look upon

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20. Death Valley Chuck-Walla, 15 February, 1 March, 15 April, 1 May 1907.

the whole Greenwater experience as one giant fraud. Their justification, as best it may be put, is that no boom town or district could have risen or fallen so quickly if something fishy was not in the works somewhere.

Although there is no doubt that Greenwater had more than its share of wildcat mining companies, there can be no doubt to any serious student of its history that the district as a whole was legitimate. The boom was brilliant and brief, but it can be explained by two major factors. In the first place, the science of geology was not the precise study that it has later become, and most amateur and professional geologists of the early twentieth century worked more on precedence than on fact. Thus, since it had clearly been proven in other great copper mining districts, such as Bisbee, Arizona and Butte, Montana, that copper deposits always improved with depth, Greenwater did indeed look at first like the copper bonanza to end all bonanzas. The surface croppings at Greenwater surpassed any seen elsewhere to that time. With the prevailing notion that those exceedingly rich deposits would increase significantly with depth, there could not be any reasonable doubts in anyone's mind at the time that Greenwater far surpassed--at least in potential--any copper mining territory the country had ever seen.

The second factor is the psychological spirit of the times. In 1906 and 1907, when the Greenwater boom was at its peak, all of Nevada and most of southeastern California was riding the crest of the great twentieth-century mining boom, which had lifted the desert regions out of the twenty-year long depression that had followed the closing of the Comstock mines. The boom had started in Tonopah in 1900 and had spread southward, through Goldfield, Bullfrog and numerous other Nevada mining districts, into Death Valley. Everywhere one looked in Nevada and eastern

California, they could see booming mining camps. None of these camps had yet reached the peak of their booms when Greenwater started, and as a result the boom spirit of the surrounding territory was at its highest ever. Greenwater, in a sense, was the culmination of that spirit, for only after Greenwater had failed did other camps begin to falter. In short, Greenwater came at a time when all of Nevada was booming, and the times were totally--although unrealistically--optimistic.

In short, there was copper ore at Greenwater. Unfortunately, it did not improve with depth, as it was supposed to have done. The boom at Greenwater eclipsed all others seen before, due to the boom spirit of the times, but it was based upon the contemporary belief that the district held untold richs. Although there were more fradulant mining companies in Greenwater than in any district we have seen, that was more a result of the unbelievable boom spirit which prevailed throughout the country than of any underlying conspiracy within the district. Greenwater was a real and legitimate mining district, and several companies proved that point beyond all doubt by expending enormous sums of money trying to exploit it. Unfortunately, Greenwater did not have sufficient copper ores to turn it into a producing district.

4. Greenwater Suburbs

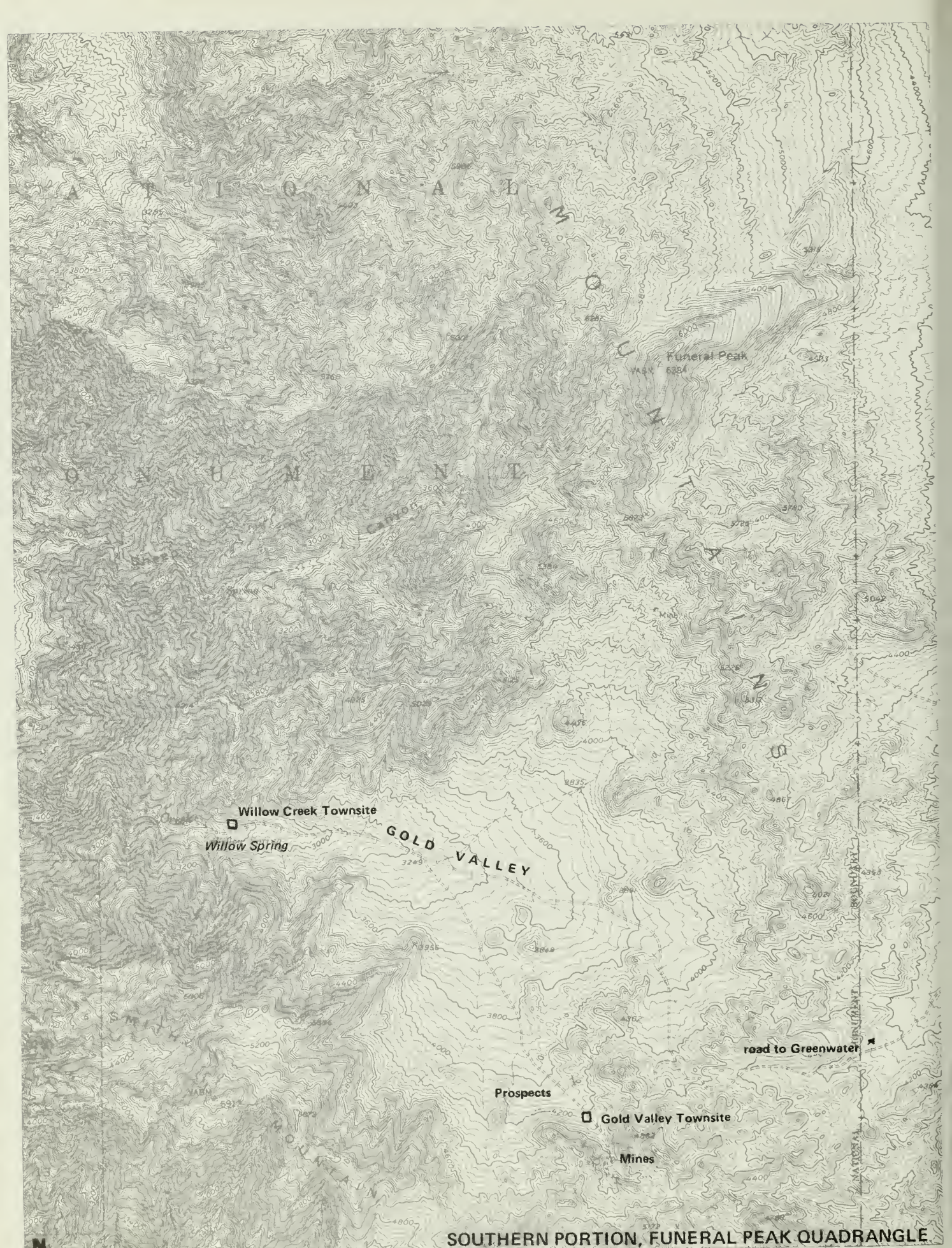
Just as the great Bullfrog boom spilled out into the surrounding territory and caused secondary booms at locations such as Skidoo, Echo-Lee and Greenwater, the Greenwater boom also had a ripple effect, and caused several smaller rushes into the surrounding territory. Like Bullfrog, the first mad scramble to the Greenwater area soon filled up all the available ground for miles around the heart of the district, and late-arriving prospectors began to drift farther afield in the search for ore. Several mining districts were thus discovered, such as East Greenwater and South Greenwater, alluded to in previous chapters. In addition, three minor areas within Death Valley National Monument were opened and explored in this fashion, and they will be the subject of this chapter.

a. Willow Creek and Gold Valley

1. History

The Willow Creek and Gold Valley area, located about ten miles south of Greenwater--about fifteen miles by road--was the scene of a Greenwater boom in minature. Indeed, the story of the mines and settlements in that area is so similar to that of Greenwater, although on a considerably smaller scale, that we need not take too much time to examine it.

Not surprisingly, considering the great problem of water in the Greenwater District, the first mention of Willow Creek is not one of a great mineral location, but the discovery of water. In August of 1906, just as the Greenwater boom was swinging into its height, several prospectors who had wandered down to the south reported the discovery of a good spring of fresh water, which they estimated was capable of supplying three to four thousand people. That news immediately



SOUTHERN PORTION, FUNERAL PEAK QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT
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attracted more prospectors to the area, for Willow Creek was one of the few good water sources in the southern Death Valley area. If they were not able to find copper or gold in the vicinity, at least the prospectors would be assured that they would not die of dehydration.

With the Greenwater boom at its peak, and a good water source handy, Willow Creek was soon swarming with prospectors, and within a very short time copper was located in the vicinity of the spring. By the end of August, a camp had been established at the spring, and several locations had been staked out. Although most prospectors agreed that Willow Creek's copper was not as good as Greenwater's, still the Bullfrog Miner proclaimed that "Willow Creek Is the Latest."

The boom spirit which had thrust Greenwater to the top in such a short time spilled over into the Willow Creek area, and soon a minor boom was well under way. By the end of September enough prospectors were in the area to warrant the establishment of a freight line from Kingston, the newest station on the Tonopah & Tidewater Railroad. Some of Rhyolite's leading mining promoters had already moved into the new territory, including Senator T. L. Oddie, who secured a fairly large group of copper claims. Chet Leavitt, who we have met before in the Lee-Echo District, also moved quickly into Willow Creek. In addition to staking out numerous claims, Leavitt announced the formation of a townsite company, to promote his new town of Copper Basin. Willow Creek's first mining company, the Greenwater Pasadena Copper Mining Company, was incorporated in September and soon had six men working on several of its forty claims. The Bullfrog Miner reported that it "is understood that some very high grade copper ore was uncovered, and that there was quite a rush from Greenwater to the scene of the discovery."

During October of 1906, Oddie started work on his property, and paid $30,000 to extend his holdings. On the 4th of that month, he incorporated the Greenwater Arcturus Copper Company, with a capitalization of $3,000,000. Within a few weeks, Oddie had plenty of competition in the area, as the Greenwater Willow Creek Copper Company was incorporated for $2,000,000 on November 12th, and the Greenwater Baltic Copper Mining Company was incorporated for $1,000,000 on November 14th. A slight idea of the frantic activity which accompanied the opening of this subsidiary area may be gained from noting that one man purchased five copper claims for $25,000, and the Greenwater Baltic obtained its four claims near the headwaters of Willow Creek for the price of $75,000.

The excitement over these new copper strikes and the ensuing rush into the district caused the inevitable battle over townsite locations. On November 16th, the townsite of Willow Creek was organized, near Willow Spring and next to the property of Oddie's Greenwater Arcturus Copper Company. Surveyors were immediately put to work laying out a pipe line from the spring to the new townsite, and a pump was ordered. The new townsite was promoted by E. E. Mattison, and he placed advertisements in the Rhyolite newspapers, promising prospective citizens an "ample water supply" and telephone and telegraph connections immediately. Lots were put on sale from $150 to $250 each. In this case, the townsite battle was an extremely short one, for with the opening of the Willow Creek townsite, we hear no more of Chet Leavitt's townsite of Copper Basin, which apparantly folded overnight. The life of his townsite--if it ever existed on the ground--was so brief that we cannot place its location definitely, although it was not very far away from the new townsite of Willow Creek.

The mild Willow Creek copper boom continued through the rest of 1906, paralleling the Greenwater boom in minature. On November 30th, the Busch brothers of Rhyolite announced the organization of the Greenwater Amalgamated Copper Company, which had fifteen claims in the district, and sales of other claims continued. One enterprising prospector managed to unload fifteen claims for $30,000 in cash, merely due to their close proximity to Senator Oddie's Greenwater Arcturus properties. Other claims were bought, sold and traded, and several of the incorporated mining companies, such as the Greenwater Pasadena and the Greenwater Amalgamated Copper, started to work. By the end of 1906, the Bullfrog Miner was able to report that Willow Creek "is going to make a flourishing camp." Already, the young townsite had three stores, two lodging houses and three saloons.[21]

During the winter, the rush into the Willow Creek area subsided, for the initial copper boom was over. The various companies settled down to look for ore, and since it was now obvious that the copper belt in the Willow Creek area was rather small, the amount of prospecting in the vicinity tailed off. The Greenwater Arcturus, Senator Oddie's company, worked steadily through the first several months of 1907, while the other companies worked more sporadically. The Greenwater Amalgamated Copper Company, for example, ceased work after barely a month of operation, and was never heard of again, while the Greewater Willow Creek Copper Company never even began work at all.

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21. Rhyolite Herald, 17 August, 21 & 28 September, 19 October, 16 Novemeber 1906. Bullfrog Miner, 24 & 31 August, 21 & 28 September, 5 October, 2, 9, 16, 23 & 30 November, 7, 21 & 28 December 1906. Greenwater Times, 23 October, 6 November 1906. Inyo Independent 2 November 1906. Mining World, 15 December 1906, pp. 719-21. Nevada Secretary of State, Articles of Incorporation, Vol 9, pp. 435, 676, 697.

Although the rush to the area had definitely subsided, several more mining companies were organized. The Greenwater Clinton Copper Mining Company, which held eight claims, was incorporated for $1,500,000 on March 1st, and announced that work would start shortly on its property. Interestingly, the Greenwater Clinton also revealed that it had some gold values mixed in with its copper claims. Likewise, on March 8th, the incorporation of the Nevada Greenwater Mining, Milling and Smelting Company was announced. Finally, on March 15th, the incorporation of the Greenwater Guggenheim Copper Company was announced, with a capitalization of $1,500,000--and absolutely no connection to the famous Guggenheim family. The Death Valley Chuck-Walla, however, immediately denounced the last company as an outright fraud, since the three claims it claimed to have in Willow Creek did not exist. Unlike other companies we have seen, the Greenwater Guggenheim ceased advertising its non-existant mine shortly after its exposure, and was not heard of again.

By the end of March, with the Greenwater Pasadena, the Greenwater Arcturus, the Greenwater Baltic and the Greenwater Clinton mining companies hard at work, a local resident felt safe in boasting that the Willow Creek section would "prove up the richest copper mines around Greenwater." As April passed and May began, the district settled down, with its companies looking for the copper deposits, and Willow Creek looked every bit the picture of a small suburb of Greenwater. Then, on May 10th, the picture suddenly changed, when the Greenwater Baltic Mining Company discovered a high grade silver-lead streak on its property.

Copper was one thing, but silver was quite definitely another, and the Willow Creek rush began all over again. Within a week after the strike on the Baltic was announced, the Bullfrog Miner proclaimed that a "Wild Rush Is On to Willow Creek." Numerous new locations were made and several more silver

The Greenwater Clinton Copper Mining Company

Incorporated under the Laws of Arizona, February 15th, 1907.
Principal Office: Rhyolite, Nye County, Nevada.

OFFICERS AND DIRECTORS

W. EDWARDS,..... President
Vice-Pres. S. F. Stock and Exchange Board
FRANK E. HORTON,..... Vice-President
Daisy Mine, Goldfield, Nevada
C. E. TOOKER,.....Secretary and Treasurer
Sec. and Treas. Bullfrog Velvet Mining Co.
J. F. MITCHELL,..... Mining Engineer
Portland Mine, Goldfield, Nevada
E. R. COLLINS,.....Director
Postmaster, Goldfield, Nevada

CAPITAL STOCK - - - - - - - $1,500,000.00

1,500,000 Shares, par value $1.00 each. Fully paid, non-assessable
500,000 shares in the Treasury.
Depositary: Merchants National Bank, San Francisco, Cal.
Bullfrog Bank and Trust Company, Rhyolite, Nev.

The company's estate consists of 8 full claims situated in the Greenwater district six miles southwest of Greenwater in what is known as the Willow Creek section. Surface values show copper ore ranging from 6 to 30 per cent with a gold return as high as $10 a ton. The ledges are pronounced and strong and in the opinion of those who have examined the estate it will make one of the biggest copper mines in the Greenwater district.

GREENWATER CLINTON COPPER MINING CO., C. E. Tooker, Sec'y, Rhyolite, Nev

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A typical Willow Creek mining advertisement, from the Death Valley Chuck-Walla, 1 April 1907.

strikes announced, and another wave of prospectors rolled over the country, looking for the silver indications which had previously been ignored in the initial rush for copper ground. The Greenwater Copperhead Company was formed, with silver-lead indications on its claims, and numerous smaller silver mines were opened. The Bullfrog Miner reported that the "keenest interest is being shown in Greenwater over the events of the past few days in Willow Creek, and rigs and outfits are now at a premium." To help those rushing into the district, volunteers began working on a woagon road to improve access to the camp. The Willow Creek Townsite Company was ready for another boom, for its plat of Willow Creek had just been approved by the Inyo County Board of Supervisors. The new camp had thirty-one blocks surveyed and marked and just over 300 lots for sale.

As the new rush continued, the Bullfrog Miner wrote in mid-May that "WILLOW CREEK STILL ON THE BOOM. THE NEW CAMP IS ASSUMING CITY PROPORTIONS." Telegraph and telephone lines would be there soon, the paper said, and a water company had been organized to pipe water from Willow Springs up to the townsite. The Tonopah & Tidewater Railroad, taking note of the amount of freight which was now going into the re-booming area, included Willow Creek as one of the freighting points on its new timetable, with teams connecting the townsite with Tecopa Station.

The new rush also caused the older copper companies of the district to re-evaluate their holdings, and new assays were run on their ore, looking for indications of silver or gold which had been ignored before. By the end of May, with both the new and old companies working, the Willow Creek District looked extremely prosperous and full of promise for the future. The Greenwater Baltic, said the Bullfrog Miner, was the best

WILLOW CREEK
TOWNSITE

Immediately adjacent to recent discovery of largest ledges of high grade ore in the

Greenwater District

AMPLE WATER SUPPLY

Telegraph and Telephone office to be installed immediately

Immense amount of development to be inaugurated at once. High grade ore ready for shipment.

LOTS $150 TO $250

E. E. MATTINSON, Manager

McKINNEY & DE FOREST

AGENTS

GREENWATER, CAL.

Advertisement from the Bullfrog Miner, 24 May 1907.

property in the area, and had gold and silver on its claims, in addition to copper. The Nevada Greenwater looked second best, but its shaft was only down to twenty-seven feet below ground. In addition, the Greenwater Arcturus, the Greenwater Clinton, and the Greenwater Copperhead were all working and looking good. The Arcturus, in particular, was evidently serious about its mining efforts, since it had ordered a 50-horsepower hoist for its property. A petition was being circulated in the area for a new Post Office, and a movement was underfoot to use the pure water of Willow Creek to start a brewery. In summary, although the Bullfrog Miner noted that the Willow Creek excitement was taking many people away from Greenwater, it cautioned that there were "no deep workings in the camp" as of yet, and more time was needed to demonstrate the permanency of the Willow Creek ores.

If nothing else, Willow Creek was definitely an up and down mining area. At the same time that the new gold and silver finds were causing a new rush to the territory, some of the older copper mines were beginning to close down, since the rich surface copper streaks pinched out with depth, just as they did at Greenwater. Thus, the Greenwater Pasadena Copper Mining Company ceased work in late May and the Greenwater Copperhead Company in early June. But the Greenwater Baltic, the Greenwater Arcturus, the Nevada Greenwater and the Greenwater Clinton continued to work, as most of them discovered enough traces of gold or silver on their properties to warrant further development work.

The Willow Creek townsite was also described in mid-summer as looking very prosperous, and was conceeded to be a sure winner, since it "lies in a natural basin and is the one available location in that section to house and home a mining and business population." It was described on June 1st as

being a "considerable-sized" community. At the same time, the Greenwater Clinton was called the best mine in the district, but it was being pushed by the Greenwater Baltic. "More miners are wanted at once," for the latter property, said the Bullfrog Miner, "and will be put to work as fast as they can be obtained."[22]

Then, on June 22d, the Willow Creek area suddenly boomed all over again, when Harry Rasmey and O. B. Glover made a surface strike of gold about four miles southeast of Willow Spring. The strike had gold which assayed at $200 per ton, and the Bullfrog Miner predicted that the "discovery will give still another boom to the Willow Creek section . . ." The paper was absolutely right, for once again prospectors and promoters poured into the region to look at the ground around the new strike, and the game was started all over again. Ramsey and Glover claimed--as had many others over the years--to have finally found the "Real and only Breyfogle" mine. Several more gold strikes were made within a short period of time, and suddenly the Willow Creek area was transformed from a copper mining camp to a gold camp. With the new promise of riches, the opinion was soon forthcoming that the Willow Creek area would "undoubtedly distance Greenwater in a short time."

After the dust had settled somewhat, the papers were able to begin to assess the new situation. A new mining company--the Willow Creek Greenwater Copper Mines Company--had been formed, and its bad timing in incorporating a copper company for $2,500,000 when all everyone else cared about was gold is reflected in the fact that it never went to work. The

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22. Death Valley Chuck-Walla, 15 February, 1 & 15 March, 1 & 15 April, 1 May, 1 June 1907. Bullfrog Miner, 15 February, 1, 8 & 29 March, 10, 17, 24 & 31 May, 8 & 15 June 1907. Inyo Independent, 10 May 1907. Inyo County Courthouse, Plat of Willow Creek townsite, 7 May 1907.

WILLOW CREEK & GOLD VALLEY MINING COMPANIES

Name	Date First Mentioned	Date Last Mentioned
Greenwater Pasadena Copper Mining Company	28 September 1906	24 May 1907
Greenwater Arcturus Copper Company	4 October 1906	5 October 1907
Greenwater Willow Creek Copper Company	12 November 1906	12 November 1906
Greenwater Baltic Copper Mining Company	14 November 1906	1 January 1910
Greenwater Amalgamated Copper Company	30 November 1906	21 December 1906
Greenwater Clinton Copper Mining Company	15 February 1907	4 January 1908
Nevada Greenwater Mining, Milling & Smelting Company	8 March 1907	5 October 1907
*Greenwater-Guggenheim Copper Company	15 March 1907	15 March 1907
Greenwater Copperhead Company	10 May 1907	8 June 1907
Willow Creek Greenwater Copper Mines Company	8 July 1907	8 July 1907
Sunset Gold Mining Company	28 Septebmer 1907	22 November 1907
Willow Creek Gold Mining Company	11 October 1907	8 July 1908
Willow Creek Combination Mining & Milling Company	22 November 1907	22 November 1907

* - denounced as a fraud by the Death Valley Chuck-Walla

Bullfrog Miner remarked in late July that "Considerable excitement has been caused at Willow Creek by the late strike of gold in paying quantities in the Glover property in that section. Details are lacking at this time, but according to brief communication received the outlook is encouraging." The Inyo Register was not so cautious in its assessment, writing that the "Latest reports from the scene of the new strike in the Willow Creek district, situated in the Funeral Range, about 12 miles south of Greenwater, indicates that the surface showing is the richest ever discovered in this desert region, if not in the world."

Although that seemed a bit premature, the Bullfrog Miner soon joined the band wagon and dropped its caution, headlining that "WILLOW CREEK WILL BE A SECOND GOLDFIELD." The new rush, which soon resulted in numerous small mines being opened up, also reintroduced the townsite battle to the area. Early in April the Goldsworthy brothers, who were responsible for one of the bigger gold strikes, announced the formation of Gold Valley townsite. These brothers did not think small, and when the plat of their townsite was approved by the Inyo County Board of Supervisors, it showed an immense camp of ninety-six blocks, with over 1,200 lots surveyed and ready for sale.

Willow Creek was now definitely booming, and just to prove the point the miners of the area pulled out of Greenwater and organized a district of their own. As August continued, more gold strikes were reported, and two wise prospectors, taking advantage of the new rush fever, sold their gold claims for $50,000. "Willow Creek is going in the near future to make one of the biggest camps in the southern country," stated one operator to the Bullfrog Miner, and the prediction seemed borne out, when Ramsey and Glover uncovered a pocket of $500 Gold ore at the 17-foot point of their shaft. The rush to the new gold

section of the district threatened to entirely eclipse the older copper section, and the Greenwater Arcturus closed down on October 5th, as did the Nevada Greenwater Mining, Milling and Smelting Company. In the meantime, the new gold section was booming and the Gold Valley townsite was described as having a general store and a saloon, with more business slated to come in soon. "According to all reports," said the Bullfrog Miner, "Willow Creek is attracting as much or more attention than any of the other Southern camps. It seems to have set Greenwater in the shade a degree or so, and it is stated that several firms are preparing to move from Greenwater to the new camp."

By the end of that month, it was quite clear that gold had replaced copper in the Willow Creek District, "not because they don't have copper," said the Bullfrog Miner, "but because copper is down to 15¢ a pound and gold is $248 a pound." The paper counted fourteen gold strikes in the district, and noted that most of the miners and prospectors, wary of the boom and bust cycle of the Greenwater mining companies, were attempting to work their properties without outside financing. It was undoubtedly a wise move, for in addition to the Greenwater bust, which was beginning to become quite apparant, the Panic of 1907 was also making itself felt in the western mining regions, and investment dollars for new districts and unproven mines was almost impossible to attract.

Despite these problems, several new gold mining companies were incorporated in the fall of 1907, including the Sunset Gold Mining Company, in late September, the Willow Creek Gold Mining Company (capitalized for $1,000,000) in mid-October and the Willow Creek Combination MIning and Milling Company (capitalization $1,000,000) in late November. The effects of the panic were drastically shown in the case of the latter

company, for it was utterly unable to attract investment dollars, and never succeeded in going to work.

But in the meantime, the miners forged ahead with what means they had available, and the new gold district looked good, considering the times. The new town of Gold Valley added a lodging house and a barber shop to its list of businesses in October, and the Bullfrog Miner called it "a considerable mining settlement." Fully half a dozen good-looking gold mines were ging opened late that month, and the Miner reported eight new strikes being made in the district. "The surface showings are surely great," the paper continued, "and if they continue Willow Creek will be shipping ore in three months if not sooner." All in all, a local resident confidently predicted "a prosperous winter" for everyone.

Frank Reber, editor of the Greenwater Times, stated in early November that only the collapse of the Greenwater District and the effects of the Panic of 1907 kept Willow Creek from really booming. "If it were any other time than now you would see one of the greatest stampedes into Willow in history, but it is hard to interest people the way conditions are at this time." The Bullfrog Miner, early in November, also stated that "No mining camp of recent times has shown so many and such rich ore discoveries as Willow Creek can now show for so short a history." Fully thirty-five gold strikes and twenty or more silver-lead strikes were on record, and a long list of properties were working--although the great majority of them were small one or two-man operations, which would take quite a while to turn into producing mines.

Since the lack of a friendly financial atmosphere kept the great majority of these mines from incorporating and using investors' dollars to develop their

properties, the district as a whole turned to the leasing system, whereby the owner would rent his property to anyone who was willing to work it, in return for some combination of cash rent or a percentage of the ore taken out of the mine. Leasing work, as compared to the more extensive work which was possible through full-scale development, was slow and tedious, and as the district settled down in the late fall of 1907, there was not much to report. The Rhyolite Daily Bulletin noted in late November that "While the financial depression has affected Willow Creek to a certain extent, the showing is such that work will be continued on a large number of properties." The reversal to older and small-time methods of mining was highlighted by the use of an arrastra in the district, from which some miners were said to be making as much as $50 per day.

Late in December, the Rhyolite Daily Bulletin again assessed the camp, and reported "mining matters very encouraging at that camp, and while quiet at present, in sympathy with the general financial conditions, the district is developing into a good camp." In accordance with the abatement of the rush, and the lack of capital to develop the mines, the new town of Gold Valley was not growing very fast, although it had succeed in eclipsing the twonsite of Willow Creek. The Rhyolite Herald reported late in December that accommodations at Gold Valley were limited to ten or twelve tents, a store and a saloon. But still, more than half a dozen gold mines were still operating, although at a rather slow pace.[23]

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23. Bullfrog Miner, 22 June, 6, 13, 20 & 27 July, 10 & 17 August, 28 September, 5, 19 & 26 October, 2, 9, 16 & 23 November, 21 & 28 December 1907. Rhyolite Herald, 18 October, 22 November, 6 & 27 December 1907. Rhyolite Daily Bulletin, 12, 16 & 30 October, 7 & 30 November, 4 & 24 December 1907. Inyo Register, 25 July 1907. Inyo Independent, 2 & 16 August, 11 October 1907. Nevada Secretary of State, Articles of Incorporation, Vol 13, pp. 77, 503; Vol 14, p. 627. Inyo County Court House, Plat of Gold Valley townsite, 4 August 1907.

As 1908 began, the copper section of Willow Creek, which had been responsible for opening the district originally, was entirely dead, and the only copper companies still operating were those which had subsequently discovered gold or silver on their property. The Greenwater Baltic, for example, was still working its mine, but was looking solely for gold and was no longer interested in copper. The Greenwater Clinton Copper Mining Company, however, which had found traces of gold on its property in addition to its copper, closed down early in January of 1908, as its gold deposits were not sufficient to warrant any further work. In addition to the Baltic, the only other incorporated company at work in the district was the Willow Creek Gold Mining Company, although several non-incorporated mines were still hard at work.

All in all, as the new year started, the district looked about as good as it could, considering the nationwide depression which was following on the heels of the panic. One of the lessees in the district was about ready to begin shipping out his high-grade gold ore, and none of the new gold locations made the previous fall had been allowed to lapse. One of the district's operators stoutly maintained to the Rhyolite Herald in late January that Willow Creek "is going to be the banner camp of the section when it gets a little more attention and money. The panic has set it back, but . . . the goods are there." Showings were so good on the property of the Willow Creek Gold Mining Company that its owners began talking about adding a dozen more men to the payroll and of building a 15-stamp mill for the mine.

But development work was necessarily slow, and the Inyo Register was still reporting in mid-February that "If at depth the same values hold as now appear upon the surface and from shallow workings, the coming few months will witness another prosperous camp in the Funeral range . . ." Indeed, as February drew to a close, Willow Creek got a shot in

the arm from the rapid collapse of its giant neighbor to the north, Greenwater. The Rhyolite Daily Bulletin reported that "what buildings are remaining in Greenwater are being torn down and moved to Gold Valley, the Willow Creek town," and many Greenwater merchants, before giving up entirely on the Death Valley region, decided to give Willow Creek a try. Alkali Bill, for example, who could no longer find passengers for his Death Valley Chug Line, opened service into Gold Valley, although it is doubtful that he was able to find many passengers willing to pay the $100 which he had charged during the glory days of Greenwater. With the influx of Greenwater migrants, Gold Valley experienced some growth, and by the end of March was described as having a population of seventy, with about twenty tent and frame buildings under construction.

With its new prosperity, the citizens of the town applied for a Post Office, and the Gold Valley Mercantile Company finished and moved into its new building. Then, in late May, the event which the district had long awaited took place, when one of the biggest lessees in the district made the first shipment of ore. Although accounts vary, approximately twenty-five tons of ore was shipped out, at an estimated worth of around $300 per ton. But despite this shipment, which gave the first indications that Willow Creek was turning into a producer, the Bullfrog Miner sadly noted that "Very little outside interest . . . is being manifest in the district." But the paper was sure that "when times get better Willow Creek is going to make a noise like velocity."

Unfortunately, however, times did not get better, and following that one shipment of ore, the Willow Creek District started to decline. No more news was heard from the area between July and December of 1908, and the mines began to close down. The Willow Creek Gold Mining Company, for example, ceased

operations early in July, and most of the independent operators were forced to follow its example. Once again, the isolation of the Death Valley mining districts was taking its toll, for the expense of mining, transportation and living in a desolate region made the mining of all but the highest grades of ore impractical. The Rhyolite Herald, however, was not quite ready to give up on the district, and reported in December that several tons of shipping ore had been taken out of the Greenwater Baltic during the fall of 1908, and that numerous outfits were going back into the district to perform their annual assessment work necessary to retain title to their claims. "Everyone interested seems optimistic regarding the future."

But although most prospectors retained their titles through 1909, and the Greenwater Baltic even performed its annual work in order to retain its property through 1910, the Willow Creek District was dead--the victim of hard times, isolation, and too little ore. Most of the miners left the area during the fall of 1908 and the rest early in 1909. Their spirits were not broken, however, by the failure of one more mining district, as evidenced by Jack Robichau, who left Willow Creek early in January of 1909, on his way to the new boom district in Alberta, Canada.[24]

2. Present Status, Evaluation and Recommendations

Not much is left to picture the short life of the Willow Creek District, for none of the mines were ever

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24. Bullfrog Miner, 4 , 11 & 25 January, 29 February, 21 & 28 March, 4 & 18 April, 9 & 30 May, 6 & 13 June 1908; 9 January 1909. Rhyolite Herald, 8 July, 9 December 1908; 1 January 1910. Rhyolite Daily Bulletin, 7 & 21 January, 24 February, 26 March 1908; 4 January 1909. Inyo Register, 6 February 1908. Inyo Independent, 14 February, 20 March, 3 April 1908.

developed enough to even warrant the installation of a gas hoist, and neither of the two townsites ever boasted any substantial buildings. The mines, particularly the gold mines around the site of Gold Valley, are clearly visible from the tell-tale dumps spilling down the mountainsides, but none of the workings are very extensive. Gold Valley townsite itself can be picked out of the valley floor, due to the visible remnants of tent sites, building sites, and scattered debris and garbage around the area.

To the west, around the site of Willow Creek townsite, even less is left. One substantial stone platform, which once housed the only real building in the district, can still be seen, as well as several tentsites, and a small accumulation of mining debris. The Willow Creek townsite, incidently, has long been confused as a millsite, but there is no evidence of any kind of mill ever being erected in the district. The spring, as many in the Death Valley area, was used as a water source for many years after the demise of the mining district by the desert rats who did not have enough sense to quit looking for gold in Death Valley, and therefore has a small amount of Depression-era garbage associated with it.

There is nothing, however, within this district which warrants National Register nomination, although the area does have potential historical archaeological values. The remote and beautiful scenery of the Willow Creek and Gold Valley area would make a very interesting trip for Monument visitors. The story of the min-rush to the area should be interpreted, either at the site, or at the Visitors Center.

b. Rhodes Springs

1. History

Even farther to the south of Greenwater was another of its subsidiary mining areas, loosely known as



View of Gold Valley townsite, looking northwest towards the road leading into Willow Creek. The pole in the center marks the approximate center of the old townsite.

Below: One of the larger stone foundations at the old Willow Creek townsite, which supported a tent and frame business in days gone by.

1978 photos by John Latschar.





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Scale: 1" = 1 mile

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Rhodes Springs. In this area, approximately twenty miles south of Greenwater, and over thirty miles by road, was one of those isolated Death Valley mines which had been discovered in the late nineteenth century and was reopened under the impetus of the mining booms which swept the Death Valley region in the early 1900s.

The first notice of Rhodes Springs was in 1886, when the Mining & Scientific Press reported that A. G. Rhodes and his partner had located some good prospects in southeast Death Valley. The mine which the two men had discovered was several miles from the spring itself--which was named by Rhodes. Due to the total lack of transportation facilities in the entire region in that time period, Rhodes was forced to haul supplies into his mine all the way from Daggett, California, and to haul his ore back out across the same forbidding desert. Nevertheless, Rhodes did bring 1,200 pounds of silver ore into Daggett in May of 1886, which netted him almost $800. Despite this absymally small return for a large investment of labor and time, Rhodes declared that he would return to his mine after the hot weather of summer had passed. But on the return trip both Rhodes and several prospective purchasers of his mine were lost, and were presumed to have perished in the desert.

The mine was rediscovered in December of 1905 by three prospectors who were wandering far afield in south Death Valley, looking for potential unstaked ground. The three men reported finding Rhodes' original location notices, which were still legible, as well as an old trail leading to the mine, and an old windlass and a wooden bucket. The dump of the old mine, in addition, contained about two tons of silver ore, which the prospectors claimed was very valuable. Late in December, the re-locators of Rhodes' mine brought in a mining engineer, who examined the dump and recommended that the mine be reopened.

As usual, the discovery led to a number of other prospectors coming into the area, but this time not much was found. It was September of 1906 before any more valuable ground was located in the area, and during the following month several other mines were opened. The activity, although not very extensive, was enough to make the Mining World call Rhodes Springs a camp, and by the end of 1906, about five mines were being opened up by various groups of men. J. Irving Crowell, a Rhyolite investor, led the pack with the incorporation of the Bonanza Greenwater Copper Company, which had smatterings of copper, silver, lead and gold on its property in the vicinity of the springs.

Operations in this vicinity were never very impressive, but were carried out on a shoe-string basis for several years. One of the moe promising locations in the district was bonded for $100,000 in May of 1907, and the Bonanza Greenwater Company had enough ore to start sacking it the following month. That ore would be shipped, according to the Bullfrog Miner, as soon as a wagon road into the mine was finished. Since this area was closer to the railroad line than was Greenwater, transportation costs were not quite so prohibitive, and the Bonanza Greenwater estimated that the total cost of mining and freighting its ore would be about $28 per ton. Since they estimated their high-grade ore at around $100 per ton, a good profit could be made on their deposits. Work was eased by the fact that the ore being mined was all exposed on the edge of a dyke, which made the operation a strip mine-type affair.

The Bonanza Greenwater had twelve men working on stripping its ore in mid-June, and Irving Crowell, its owner, predicted that the amount of ore which could be simply dug off the top of the ground was worth $100,000. To back up his

statement, he made a twenty-ton shipment of the ore to a smelter in Salt Lake City late in June. The ore returned just over $90 per ton, which after deducting $20 per ton for freight and shipping, left Crowell with $1,400 to pay for his supplies, labor and profit. Crowell's success, although marginal, was enough to inspire other prospectors to scour the area for similar deposits, and the Bullfrog Miner reported in late June that "All the ground has been located for miles and then one on top of another in desperate attempts to get as near the discovery as possible."

Although not many people found similar deposits, one group of prospectors felt that they had enough promising ground to form the Copper Basin Mining Company in September of 1907. But that effort was shortly proven futile, and the company folded after little more than a month's operation. In the meantime, the Bonanza Greenwater Company continued to mine its ore through the rest of 1907, and towards the end of the year reported that the access road to its mine had been completed at a reported cost of $6,000. With the new road easing the transportation difficulties considerably, said Crowell, his company would soon become a regular shipper of ore.

After that bold declaration, however, Crowell and the Bonanza Greenwater Copper Mining Company disappeared from view forever. Although we have no way of knowing for certain, it would appear that one more mining company had felt the effects of the decline of the Greenwater area boom, as well as the Panic of 1907. Probably, Crowell had stripped off all the easily-mined ore from the surface in his first shipment, and soon found that costs of supplies and transportation, as well as the lack of investor confidence, made it impossible to purchase the necessary tools and equipment to start underground mining.

In March of 1908 another strike was made in the vicinity of Rhodes Springs by three prospectors named Thomas McMurry, W. P. Graham and Lewis Rice. Again, the initial discovery was rather sensational, with bunches of ore on the surface which assayed $25,000 per ton in gold. The strike caused the usual sensation, and other prospectors converged on the area, but within two months it was proved to everyone's satisfaction that the men had merly made a lucky discovery of an isolated high-grade pocket of ore. Unfortunately, there was considerably less than one ton of the extremely rich stuff. After one group of miners ran a tunnel 100 feet into the side of the mountain and another sunk a shaft about seventy feet deep, everyone gave up and left the district. Rhodes Springs and its vicinity, which had seen the effects of a very outer ripple of the tremendous splash caused by the Greenwater boom, never amounted to much, and was soon deserted except for the faint footsteps of an occasional prospector who came back to make sure that the hidden bonanza had not been overlooked.[25]

2. Present Status, Evaluation and Recommendations

The Rhodes Springs area today bears absolutely no trace of these brief and minor efforts to mine the surrounding hills--which is not at all surprising considering the

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25. Mining & Scientific Press, 8 May 1886, p. 310; 12 June 1886, p. 396. Mining World, 10 November 1906, p. 582; 15 December 1906, p. 720. Greenwater Times, 23 October 1906. Death Valley Chuck-Walla, 1 June 1907. Rhyolite Daily Bulletin, 26 September 1907. Inyo Independent, 3 July 1908. Rhyolite Herald, 8 & 22 December 1905; 22 November 1907; 29 April, 17 June 1908. Bullfrog Miner, 7 September, 23 November, 7 December 1906; 1 February, 1 March, 10 May, 8, 15 & 29 June, 5 October, 16 November, 14 December 1907; 21 March, 2 May, 20 June 1908.



Ruins of the main cone-crushing element of the Rhodes Springs mill, which measures eight feet in diameter.

Below: The ruins of the mill foundations at Rhodes Springs, with the water tank in the upper right corner of the photo.

1978 photos by John Latschar





Ruins of the pump-house at the Rhodes Springs camp.

Below: The living shack at Rhodes Springs, with numerous signs on the door predicting death and disaster to anyone who enters.

1978 photos by John Latschar



limited time and effort which went into those mines. Instead, the site bears the marks of much later development, including a nondescript miner's shack which has been built and added on to between the 1930s and the 1960s and the ruins of a small milling effort. These were orginally built by a miner who worked a small claim in the hills during the 1930s, and erected the buildings which are still visible. Based upon the remaining evidence, the mill at this site was a cone-crushing type, and was not used for very long, for there is little evidence of tailings in the area. There is a substantial concrete water holding tank built above the mill, which is all that is still intact today. Below the small mill site, which is built on the side of a little hill, extensive collections of wood and metal debris can be found. Between the mill and the living shack are ruins of several more sheds, including a pump-house, all dating from the post-depression era. All in all, this site can best be summed up as a small-scale effort by a one or two man team, which never amounted to much. None of the remains possess historical or architectural significance. After historical archaeological clearance, the site should be cleaned up. Any artifacts useful for interpretation should be collected, leaving the concrete and wooden ruins of the little mill to the efforts of time.

c. Virgin Springs

1. History

An even smaller and still less important mining effort took place in the confines of Virgin Spring Canyon during the early 1900s. Like Willow Creek and Rhodes Springs, the discovery of ore in Virgin Springs Canyon was a direct offshoot of the Greenwater boom. When a lonely prospector found surface croppings of 30 percent copper in the area in the fall of 1906, the South Furnace Creek Copper Company was soon organized, with a capitalization of $1,250,000. Stock was put on sale for 25¢ per share, and due more to the name of the company than to any knowledge of its property, enough shares were sold for mining to

start. The company owned nine claims, and towards the end of 1906 had employed six miners to start a shaft on one of them. The work was disappointing, however, and after a brief life of two months, the mine was abandoned and the company folded.

The Virgin Spring area was not molested again until the spring of 1908, when another short-lived strike was made. This time, gold was discovered, as a result of the little gold boom in nearby Willow Creek. Before the flurry died down, several claims had been optioned for a reported $60,000. Like the earlier strike, however, this one soon proved worthless, and the mine was quickly abandoned.[26]

The Virgin Spring area has been deserted ever since, with the exception of a small milling operation which was connected with the Desert Hound Mine, which will be discussed later.

2. Present Status, Evaluation and Recommendations

There are, however, some historic structures in Virgin Spring canyon, which are a result of one of the two short-lived strikes in the area. On the west side of the wash which travels down the center of the canyon, about one mile north of Virgin Spring, stand the ruins of four stone structures and one tent site, which were used as living quarters, probably by the employees of the South Furnace Creek Copper Company.

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26. Greenwater Times, 23 October 1906. Mining World, 10 November 1906, p. 582; 15 December 1906, p. 720. Inyo Independent, 21 December 1906. Engineering & Mining Journal, 22 December 1906, p. 1187. Rhyolite Herald, 22 May 1908.

Several of these stone buildings are only ten to twelve feet in length, with walls which have crumbled down to only two feet in height. The fourth, however, is much more imposing, being some twelve by twenty feet in size, with well-laid stone walls six feet high--probably near their original height. This structure is built into the side of a large rock, which has protected it from the elements, and is complete with a doorway, a wooden window frame, and a large stone chimney. Although the site is very interesting, and gives a good picture of isolated living in a Death Valley mining camp, it does not warrant nomination to the National Register. It does deserve being left intact, but that should not be difficult, since it is extremely doubtful that many will ever visit the site. The access road has been completely washed out for years, and will probably never be replaced. The site can only be found by someone with patience, a strong four-wheel drive vehicle, and a knowledge of its precise location. The mining around the area was not important enough to warrant interpretation, either on the site or elsewhere.



Above: One of the smaller stone ruins at the Virgin Spring camp site.

Below: The larger ruin, showing the doorway in the front, window at the right and chimney to the left. This is one of the largest stone structure ruins within Death Valley, but it is completely inaccessible.

1978 photos by John Latschar.



5. Miscellaneous Black Mountain Properties

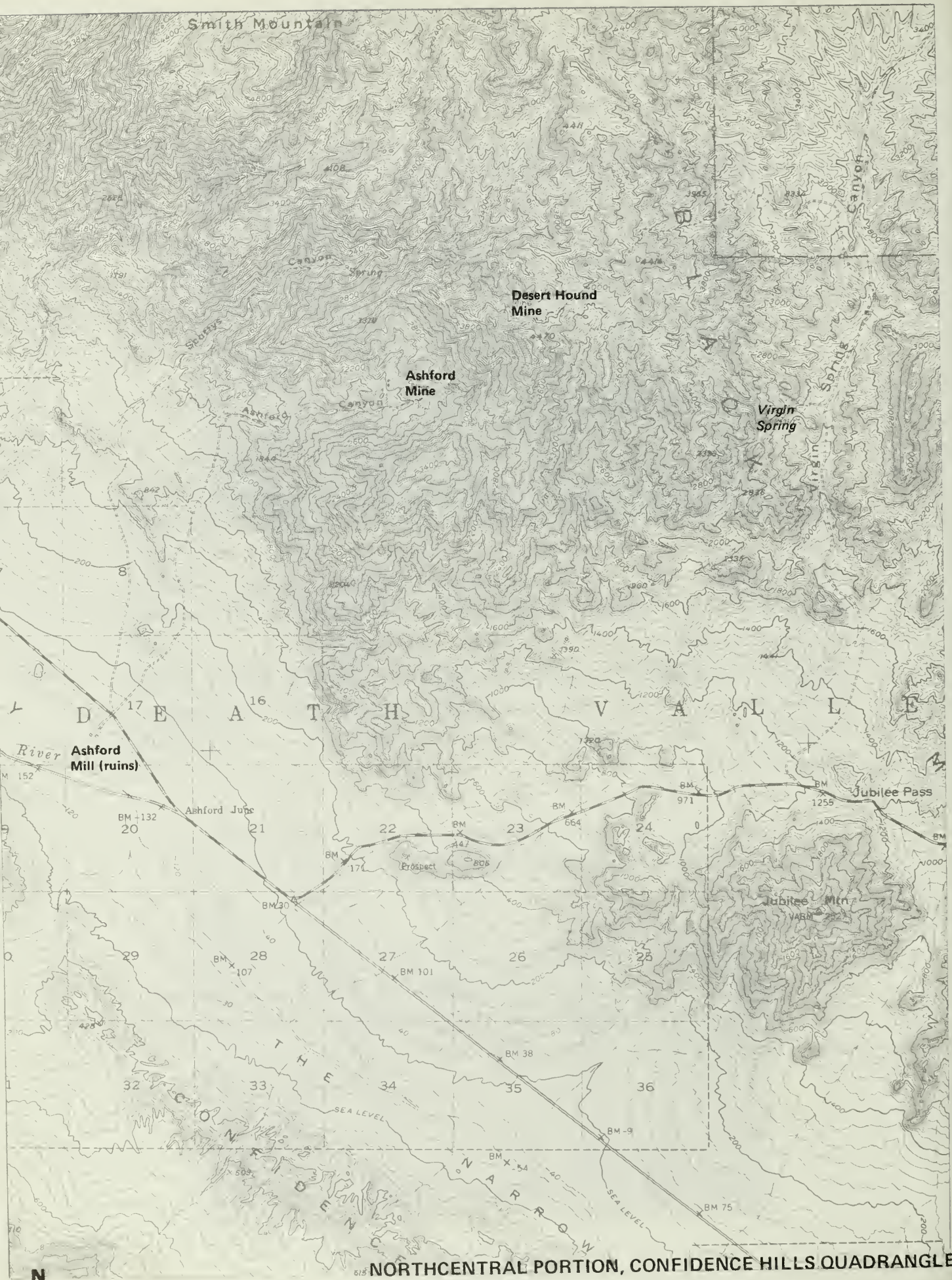
Scattered around the southern portion of the Black Mountains on the east side of lower Death Valley are several properties which cannot be logically grouped or discussed as part of any mining district or time period. As such, they are lumped together here and presented for what they are--isolated examples of several more attempts by lone individuals or small groups to wrest wealth from the forbidding terrain of Death Valley.

a. Desert Hound Mine

1. History

The Desert Hound Mine was first discovered in the late summer of 1906, when the Engineering & Mining Journal reported that E. M. Wilkens and Burt Sides had located it high on the summit of the Black Mountains, overlooking Death Valley. The mine was perhaps the most isolated in all of Death Valley, particularly when transportation time to the nearest points of settlement were considered, for the only way in or out was via a five-mile hike, either from Virgin Spring or the Death Valley floor. The closest point of contemporary civilization, Greenwater, was over twenty airline miles and close to thirty road and trail miles away.

Nevertheless, the two men managed to sell their property to an eastern syndicate for $30,000 in cash and 75,000 shares of stock in a new company, which became known as the Keys Mining Company. The company was owned and promoted by E. D. Mellen & Company of Boston, and had sixty-five claims, with both gold and copper values. Bill Keys was the local manager and representative of the company on the ground, and the Desert Hound Mine was commonly known as the Keys Mine.



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Following its discovery, the Desert Hound Mine underwent a bewildering shift of owners, as each subsequent purchaser found out exactly how isolated the mine really was, and how costly it would be to operate. Through it all, Bill Keys remained the only stable individual, as he served first one and then another owner as its ground representative and manager. The DuPont Powder Company, in a rare venture into mining, bought the mine from the Boston promoters in early 1907, and announced that development would start soon. DuPont, however, soon found out how expensive it would be to start developments, and as late as July 1907, still had not started work.

The next mention of the Desert Hound is in October of 1907, when Bill Brockington replaced Bill Keys as manager of the property. This time development work was started, under the direct supervision of Brockington, and by the end of October the Rhyolite Daily Bulletin reported that Brockington was ready to ship out two carloads of ore, worth an estimated $20,000. Six men were employed at the mine at this time, and development work continued through the rest of 1907. Late that year, by which time a tunnel had been run in 120 feet and a shaft sunk to seventy feet, a gold strike was reported, but no more shipments were made. Sometime in the fall of 1907, DuPont leased the mine back to a group of Boston promoters, although it took the local newspapers several months to catch up on that change.

In February of 1908, the Inyo Independent reported that Brockington was working eight men on the property. Two assayers had been brought in from Boston, and a complete assaying outfit had been installed at the mine, including a furnace which weighed 600 pounds. Work was necessarily slow, due to the extreme isolation of the mine, but by the end of April, the Rhyolite Herald reported that the miners were beginning to sack high-grade

ore for shipment. The Bullfrog Miner reported several weeks later that the assay testing done by the Boston experts had been successful, and the company was planning a big development campaign.

Following that report, however, no more news was heard from the mine until December of 1908, when Brockington told the Rhyolite Herald that the mine "is destined to become the greatest producer in California." A party of Boston promoters of the Key Gold Mining & Milling Company had arrived in Death Valley for a visit to the mine, and reports indicated that the visitors were so pleased with its prospects that they planned to install an aerial tramway near the mine to take the ore down to a proposed mill site.

In January of 1909, the Rhyolite Daily Bulletin reported that a wagon road was being built from Death Valley Junction to the property, in order to facilitate the planned improvements, and the Bullfrog Miner confirmed later that month that plans were being made to construct a small mill on the property. Water was scarce in the vicinity, however, and the fact that the mine was "located in an almost inaccessible place" made such plans difficult in the extreme to carry out.

Nevertheless, work continued at the Desert Hound, and the Rhyolite Daily Bulletin reported in February that a second mine had been opened at the camp, which was "rapidly coming again to the front." The Rhyolite Herald reported considerable development later that month, with the mine holding an abundance of ore between $80 and $100 per ton. A mill would be required to mine it profitably, however, due to the costs and difficulties of transportation. Little more is heard from the property in 1909. The Bullfrog Miner reported in May that a good

force of men were working, and the Rhyolite Herald mentioned in September that between ten and fifteen men were working on a crosscut tunnel and a drift.

No further word was heard from the mine for a year and a half, until April of 1911, when the Rhyolite Herald reported that the Key Gold Mining Company was running a 1,300-foot tunnel to tap its vein, and had recently shipped forty tons of ore to the Needles, California, smelter, worth about $310 per ton. Highlighting the difficulties of the mine, the Herald stated that $60 ore was often dumped out at the mine, since it did not pay to ship to the smelter. Follwoing that report, the Desert Hound was not heard from for another year, until the Inyo Register reported in February of 1912 that the DuPong Powder people were working at the mine. That, however, was the last mention of the mine for quite some time.

After twenty-some years of idleness, the Desert Hound was again reopened in the 1930s, as a small one-man operation. This enterprising miner blazed a pair of nice hiking trails between his property and Virgin Spring Canyon, where a small milling operation was set up at the spring. Judging from the ruins of that mill site, which consists of no more than a small tailings dump and a small concrete engine mount, the milling operation was neither long-lasting nor particularly successful. Sometime in the late 1930s, the mine was finally abandoned for good.[27]

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27. Engineering & Mining Journal, 26 August 1906, p. 371; 13 February 1909, p. 380. Mining World, 10 November 1906, p. 582. Greenwater Times, 23 October 1906. Rhyolite Herald, 1 February, 18 October, 8 November, 27 December 1907; 29 April, 9 & 30 December 1908; 11 January, 17 February, 18 September 1909; 22 April 1911. Bullfrog miner, 6 July, 19 October, 2 November 1907; 9 May 1908; 16 January, 22 May 1909. Rhyolite Daily Bulletin, 16 & 30 October 1907; 15 February 1909. Inyo Independent, 14 February, 6 March 1908. Inyo Register, 8 February 1912. Memorandum, Superintendent Death Valley National Monument to Director National Park Service, 6 April 1960.

2. Present Status, Evaluation and Recommendations

The Desert Hound is one of the most isolated mines in all of Death Valley, for the only access to the site is either via a relatively pleasant four-mile hike from the Virgin Spring trailhead, or a rough two-mile hike up from Ashford Mine, on the west side of the mountains. To complicate matters, the Virgin Spring trailhead can only be reached by a determined driver of a four-wheel drive vehicle who knows precisely where he is going, and Ashford Mine can only be reached via a steep one mile hike up Ashford Canyon from the point where the access road is washed out. In other words, not many people will want (or be able) to take the effort to visit the Desert Hound Mine.

Nor should they. The Desert Hound is the most unsightly place in Death Valley. It can best be described as a large garbage pit. Anyone who has lingering doubts about the romanticism of depression-era mining, on a one-man scale, will be totally absolved of such delusions by a visit to the Desert Hound.

The complex consists of several different sites, strung out along the access trail. At the fartherst western side, on a ridge overlooking the Ashford Mine and Death Valley, is a former tent community, consisting of nine tent sites and a twelve by twelve stone shelter, with some walls remaining. This community was undoubtedly the home of the 1907-1909 era miners. The only remnants of their occupation are the tell-tall rectangular placed stones, which were once used to keep their tents from blowing off the ridge into Death Valley. One quarter of a mile to the east is the main mine site, which was worked both in the early 1900s and again in the 1930s. The marks of the earlier occupation are mostly obscured by the 1903s era junk, although two tent platform sites are still discernable. In addition, a jumble of rusted and stripped machinery lies in the bottom of a small defile below

the mine site, probably the ruins of the 600-pound assaying furnace hauled in during 1908. Other than that, the rest of this site has been totally demolished by its later occupants. The third Desert Hound site, located about one half miles east of the mine, along the access trail, consists merely of the faint outlines of stone retaining walls around two tent sites.

In summary, there is nothing of particular historic significance at the Desert Hound, although it may yield historical archaeological values. The site dies not warrant interpretation, and should be left in its disorderly state. Due to its remote location, it is extremely doubtful that more than one or two hardy souls will find the site each year.

The mill site at Virgin Spring associated with the 1930s mining at the Desert Hound is neither large nor impressive. Total remains there consist of a small concrete engine mount and an eroded pile of tailings. Whatever milling machinery was used there has long since disappeared, and the site has no particular significance.

b. Ashford Mine and Mill

1. History

In January of 1907, Harold Ashford wandered into the Death Valley region, and attracted by the gold strikes at the Desert Hound Mine, prospected in that vicinity. Within a few months, he discovered that the Keys Gold Mining Company had failed to do the required assessment work on several of its claims, and Ashford relocated them and started to work on his own. It took the Keys Gold Mining Company almost two years to discover that someone else was working their former claims, and when Ashford refused to vacate, the company took him to court. In January of 1910, however, the judge found in favor of Ashford



Above: View of the tent sites west of the Desert Hound Mine. The two people standing in the center and far center of the photo mark the first and last tent sites, which are barely discernable even on the ground.

Below: The main Desert Hound Mine site, showing a small protion of the junk accumulated by its last resident.

1978 photos by John Latschar.



and he retained title to his claims. He might have been better off if he had lost.

Harold Ashford and his brother, Henry and Lewis, worked the mine off and on between 1910 and 1914, without spectacular results. Then, in November of 1914, the brothers managed to lease the mine to B. W. McCausland and his son, Ross. The McCauslands started to work on a large scale, and within a year had driven a tunnel 180 feet into the side of the mountain. At the height of their operation, the McCauslands had twenty-eight men employed, had invested over $125,000 in capital improvements, including machinery, trucks and labor costs, and had completed 2,000 feet of total workings. In addition, a mill had been built on the floor of Death Valley, five miles and 3,500 feet below the mine, where the ore from the mine was trucked for preliminary treating. The mill included a jaw-crusher, a ten-foot Lane mill, a Wilfley table and a Diester slime table. The McCauslands were described by the Inyo Register as being wealthy residents of Los Angeles, and in late August they announced that their forty-ton capacity mill was in operation, and they had plans to increase its capacity to 150 tons.

But despite taking out an estimated $100,000 worth of ore, the McCauslands soon discovered that the ores from the mine were not rich enough to justify all this capital expenditure, and they ceased operations in September of 1915. In order to cut their losses, the McCauslands decided not to pay the Ashfords for the year's lease on the mine. The Ashfords took them to court, but never got their money back.

Following this fiasco, the mine and mill were idle for some years, until 1926, when it was reported that four men were working. The total footage of workings at the mine,



The Ashford Mill, built in late 1914 or early 1915. This photo was marked as being taken in 1942. If that date is correct, then the mill was in remarkable shape at the time, since it was never again used after the McCauslands abandoned their efforts in late 1915. Photo by an unknown photographer, from a box marked "new prints," Death Valley National Monument Library.

however, had not increased since 1917, which indicates that they were not working very hard. Neither did they work very long, for the mine was soon closed down again. Another long period of idleness followed, until 1935, when the Ashfords once again leased their mine, this time to the Golden Treasure Mines, Inc. That company reopened the mine, and since the old mill was inadequate to treat its ores, shipped their rock out to Shoshone where it was loaded upon the Tonopah & Tidewater Railroad. The long truck hauls, however, proved very expensive, and after searching for other ways to reduce costs, the company settled down to taking out only the highest grade of ore available. Work on the mine by the Golden Treasure company lasted until sometime in 1938, when they gave up. Total shipments by the Golden Treasure company amounted to no more than $18,000 over a period of two years.

Following the departure of their lessees, the Ashfords began working on their mine again, and in August of 1938 made a 38-ton shipment. By this time the mine was described as comprising twenty-six claims, and had a 320-foot shaft with a crosscut, a 215-foot tunnel, and a 200-foot drift. Equipment at the site included a portable Ingersoll-Rand compressor and various camp buildings. Three men were working, probably the three Ashford brothers.

After working the mine themselves for a short period, the Ashford's leased it again, this time to the Bernard Granville and Associates of Los Angeles. That company immediately went to work, employing ten men, and soon installed a short aerial tramway, to facilitate the task of consolidating the ore from the scattered shafts and tunnels to one central point for trucking down the mountain. Operations continued until sometime in 1941, when the new lessees gave up. No record of any shipments being made by Granville and Associates can be found.

The Ashfords continued to hold title to their mine following the departure of their last lessees, although they apparently never returned to work it themselves. In perhaps the best summary of the spotted history of the Ashford Mine, C. B. Glasscock wrote that it was able "to produce just enough gold to keep the Ashfords in groceries and lawsuits for more than a third of a century."[28]

2. Present Status, Evaluation and Recommendations

Structures at the Ashford Mine are numerous, although not many of them could be calssified as historic. The main mine site itself is situated high on the west side of the Black Mountains, overlooking Death Valley, and the old road to the site has been washed out for many years. Access today is only possible via an arduous hike about one mile from the end of the road up to the mine site. Structures at the main complex consist of one collapsed shack, an outhouse, a large office and cookhouse building, two wooden bunkhouses, a tin shed, a headframe and ore bin, and the tramway towers and terminal. All of these structures date from the 1930-1940 period of mining. Although they present a good picture of a small mining community during that period, they are not of National Register significance, due to their late date and relative lack of contribution to the history of the locale.

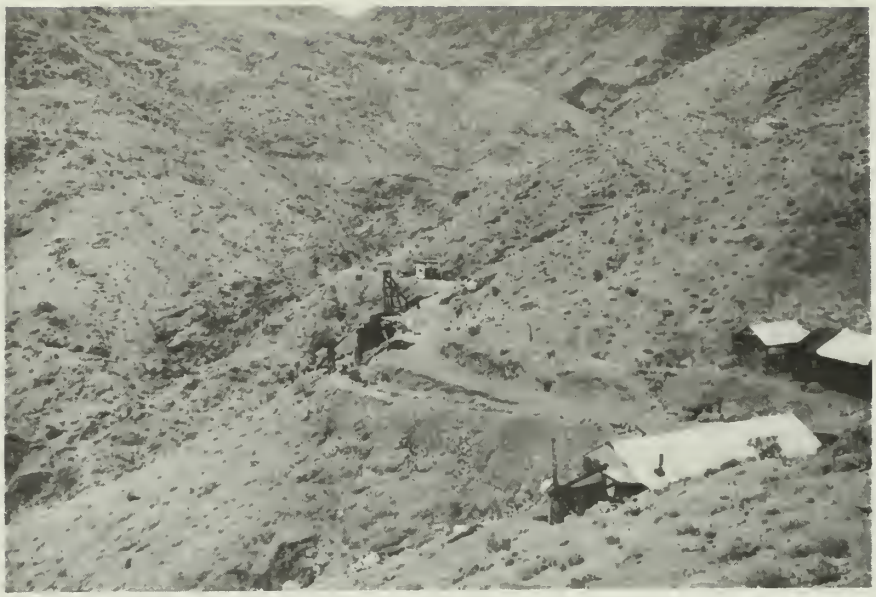
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28. Inyo Independent, 2 November 1909; 12 November 1921; 5 November 1937; 31 May 1940. Inyo Register, 27 January 1912; 14 January, 29 July, 26 August 1915. Mining Journal, 15 August 1938, p. 21. California State Meneralogist, XV Report (1917), pp. 78-79; XXII Report (October 1926), p. 469. California Journal of Mines & Geology, October 1938, p. 383; January 1940, p. 22; January 1951, p. 39; July-October 1959, p. 475. T. B. Nolan, "Nonferrous-Metal Deposits," p. 40. Glasscock, Here's Death Valley, pp. 252-52. Letter, Golden Treasure Mines, Inc., to Bureau of Public Roads, State of California, 15 May 1935, Death Valley National Monument, Mining Office Files.

Just around the knoll from the main mining site--towards the east--are the ruins of an older mining effort, undoubtedly the remnants of the McCausland's work in the 1910s. Here may be found several older adits and dumps, the ruins of a collapsed shack and half a dozen level sites, the former homes of a small tent community. This site has better integrity than the former, since it was relatively undisturbed in later mining years, but still does not possess historic significance. Benign neglect is recommended for these mine sites, both of which possess potential historical archaeological values.

The ruins of Ashford Mill stand on the floor of Death Valley. Structures here consist of the crumbling walls of a concrete office building, and the ruins of the mill itself. Not much is left of the mill, with the exception of the large concrete foundations and a very limited amount of debris. The ruins of the mill foundation and the office building are rather interesting, and according to local legend, are due to the fact that a double load of cement was shipped to the McCauslands when construction was in progress. Rather than send it back, which would have entrailed further transportation expenses, the extra cement was used in construction of the mill and office building, which largely accounts for their still standing today.

The Ashford Mill is a popular tourist stop, as it stands just adjacent to the main south Death Valley road. There is a large interpretive sign at the mill, which is substantially incorrect, since it relates a romantic tale of foreign princes and huge sums of money. As none of that is true, it would behoove the Monument staff to replace the sign with a more factual--if boring--account of the mill. Other than that, the only recommendation for the Ashford Mill site is one of benign neglect, for it does not possess National Register significance.



Above: The Ashford Mine, showing the complex used in the 1930s. The cookhouse and office is in the foreground, the bunkhouses are to the right, with the headframe, collapsed tramway terminal and a shed visible in the rear.

Below: View of the upper Ashford Mine complex, where the 1910s mining efforts of the McCauslands took place.

1978 photos by John Latschar.





Above: The office building at the Ashford Mill site.

Below: Ruins of the foundations of the Ashford Mill.

1978 photos by John Latschar.

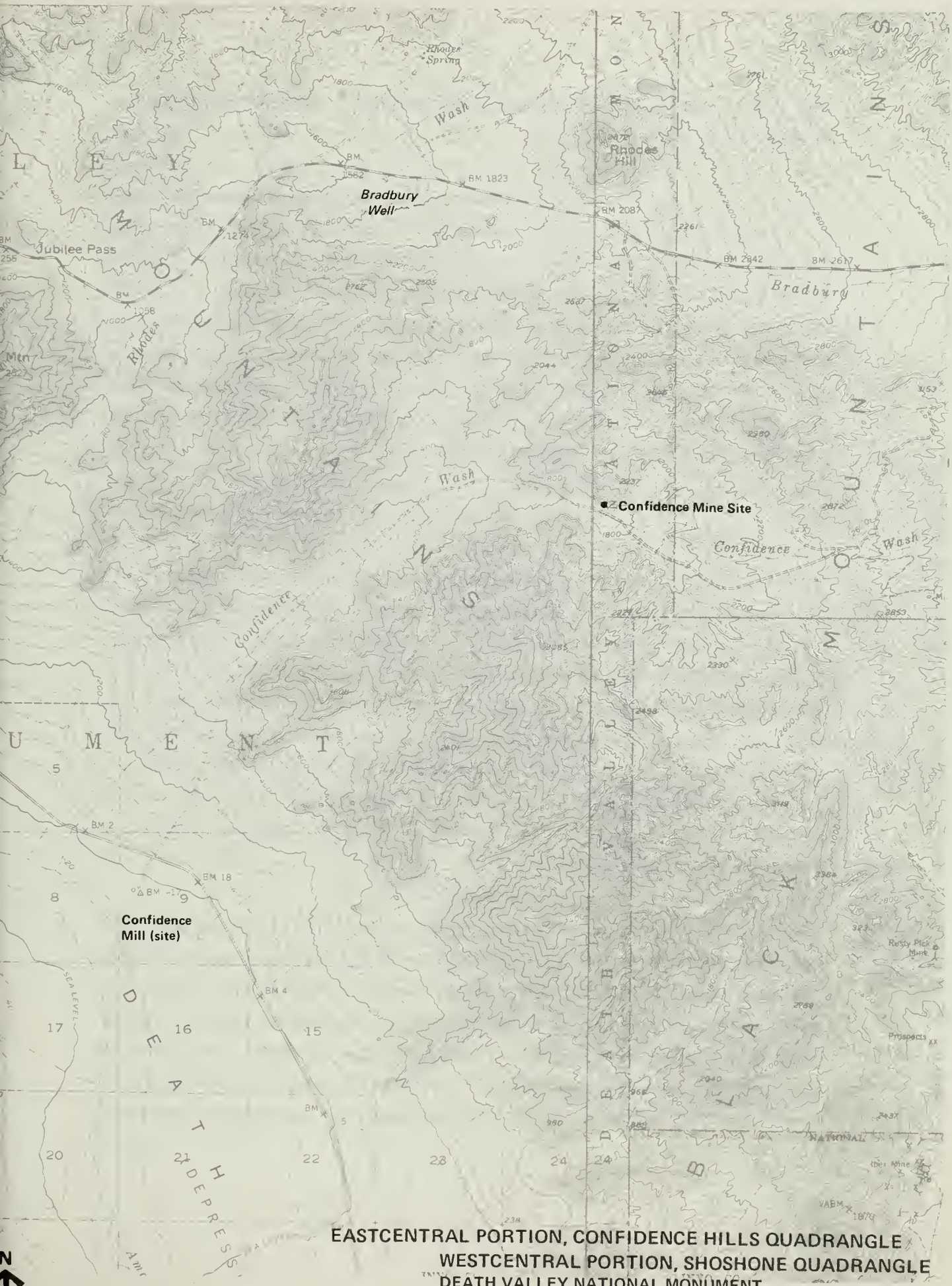


c. Confidence Mine and Mill

1. History

The last mine discussed in the chapter is one of the oldest in Death Valley. The Confidence Mine was first discovered sometime around the early 1890s by an Indian woman named Mary Scott, who thought it was a silver mine and neglected it. In 1895, Mary relocated the mine on a grubstake from Frank Cole and Jimmy Ashdown. When samples showed high gold content, Cole and Ashdown sold the mine to George Montgomery for $36,000. In November of 1895, the Inyo Register reported that Montgomery was in town buying mules to use to haul freight and supplies over 100 miles from Daggett, California, to the mine, which had just begun operations. The mine, said the paper, had opened up some fine looking gold ore, running from $15 to $75 per ton, and due to the transportaion difficulties, a 30-ton Bryan mill was being built seven miles below the mine, on the floor of Death Valley. The mill engine would run on gasoline, since it was far cheaper to haul in gas than was the effort to collect wood. Mining expenses in the isloated and little-known region were not helped by the price of $100 per head which Montgomery was foced to pay for fourteen large mules.

During the first part of 1896, the new mine was worked vigorously. The Inyo Register reported early that year that the Confidence Mining Company was operating the mine and mill, with the backing of financiers from Salt Lake City, particularly John Q. Cannon. The mill was under construction, and was expected to be completed soon, and a full force of miners and millmen had been hired, although no accommodations had been provided for them. That was not too bad, said the Register, since "as it seldom rains," everyone merely camped in the open air. The Confidence, said the paper, was one of "the most difficult and expensive mines to work in the country, owing to the scarcity of



EASTCENTRAL PORTION, CONFIDENCE HILLS QUADRANGLE
WESTCENTRAL PORTION, SHOSHONE QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT

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Scale: 1" = 1 mile

fuel and water principally, but freighting from Daggett [is] equally as arduous a task."

Due more to its uniquely isolated location in unexplored Death Valley than to its size or importance, the Confidence Mine also received attention from a national mining journal. The Mining & Scientific Press, in January of 1896, reported that the mine had three shafts and a tunnel, with the deepest shaft being about 125 feet. The mill would be ready to run by February 1st. Later that month, the Inyo Register reported that the mill was started up and was running well, and twenty-five men were employed by the company.

In May of 1896, the Inyo Register again reported on the mine, with some detail. It had been purchased in partnership by Cannon, Montgomery and a man named Langford, all of whom were also operating mines around Johnnie and Chispa, Nevada. It had two shafts of 150 feet each, connected by a drift. A well had been dug near the mill, from which a China pump raised "about the saltiest water on earth" from a depth of eighty feet. In order to reduce the water for the mill, it was necessary to first pass it through a condenser. The mill consisted of a rock breaker, a Bryan roller mill with a capacity of twenty tons per day, and a few feet of silvered copper plates. Power was supplied by a 20-horesepower gas engine.

Costly as these provisions were, said the report, they were not nearly sophisticated enough to reduce the rebellious ore to buillion, and consequently the mill had been shut down after only a few months of operation. A fairly large tailing pile indicated that a sizeable amount of ore had been run through the mill in its three-month life, before its owners realized their errors. Indeed, the mill had proved so inefficient that local

prospectors claimed they could make $5 per day by panning the mill tailings. The company did not even have assaying equipment at the mine or mill, and in short, said the Inyo Register, "one wonders how they can have any idea of 'where they are at' in the mining and milling business."

Supplies were hauled into the mine from Daggett, but when the reporter visited the mill in early May, no superintendent or paymaster had been there since January. Twenty men had quit on April 4th, and scattered across the desert to find one of the mine's owners to demand their pay. "The company must have expended forty to fifty thousand dollars in a mill that will [have] to be extensively added to or removed entirely before they can ever get a dollar out of it."

This story of inefficient and bumbling management caught the attention of the Mining & Scientific Press, which reprinted it in its entirity, with the following introduction: "In vast southeastern Inyo there are mines and mining operations which few residents know anything about. And in that region of mountains and deserts it is difficult to describe locations, no existing map showing anything about them. It is also hard to describe some of the mismanagement in their attempts to get money out of the mines."

The Inyo Independent reported in late July of 1896 that the Confidence Mine and Mill was still closed down, with "no pay day in sight." The mill still stood in Death Valley, but the owners had not been back to it, and "it looks like the result of bad management." In October, the paper again reported that the "Salt Lake company owning the Confidence mine and mill on the east side of Death Valley in the Amargosa mountains have not resumed operations, neither has it paid a dollar of numerous debts. . . ."



The Confidence mill, from a photo taken in 1909. The caption reads "Confidence Cyanide Plant, has stood 15 years on the desert." From "Niter Lands of California," Death Valley National Monument Library, Neg #3090.

The mine remained closed in early 1897, and in February of that year Montogmery sold his half interest in it to Cannon for $81,000--indicating that Cannon, at least, still believed that there was gold in the ground. Two months later, one L. F. J. Wrinkle was reported to have offered Cannon and his associates $100,000 for the mine, plus one fifth of the non-assessable capital stock in a new mining company, and a guarantee that $100,000 worth of work would be done at the property. The Inyo Register, in an understatement, commented that "The figures now offered, considering the isolated location of the property, indicate that a bonanza is believed to exist there."

But that sale came to naught, and the mine and mill lay idle. Further speculation concerning the Confidence property surfaced in 1898, when the Inyo Independent reported a rumor that the Meneva Mining and Milling Company was about to buy the mine from Cannon. Cannon apparently thought so also, for he took the precaution of patenting his claims, but again the deal was not consummated.

Not much was heard from the mine or its owners for the next several years. In 1901, the property changed hands, although it stayed within the Cannon family, and in 1904 the Confidence Mine was listed on the Inyo County delinquent tax rolls, for failure to pay $6.06 in taxes on the patented property. Again a veil of silence fell around the mine, which was not lifted until May of 1907, when the Death Valley Chuck-Walla, during an assessment of mining possibilities in that part of the country, mentioned the old Confidence Mine, which had long been idle. With "the renewal of activity in the district in other sections and the opening of new mines," speculated the Chuck-Walla, "work will again commence on the Confidence." Later that fall, the Rhyolite Daily Bulletin also mentioned the idle Confidence Mine as one with possibilities, since it had smelting-quality ores.

But despite the optimism of those two mining camp newspapers, the mine was not reopened, even though the Salt Lake organization retained control and title to it. Finally, in May of 1909, the long awaited resumption of work began. The Bullfrog Miner reported that month that the Confidence Mine "which has been idle for several years, has again started work with a good force of men. The development is being backed by Salt Lake Capitalists and unless the extremely hot weather prohibits, will continue during the summer."

The new lessees of the property, the Death Valley Gold Mining Company, worked only sproadically during the summer, due to the intense heat in that portion of Death Valley, but in September operations were stepped up. The Rhyolite Herald reported that W. J. West, the new manager, had taken five sacks of ore from the mine into Salt Lake City for milling tests. The ore was averaging $50 per ton, and the company had three shafts working, down to twenty, seventy and 150 feet, respectively. Apparently the old mill, which was still standing, was deemed inadequate to reduce the ores--not surprising, since it had been inadequate in 1896--and the company was making plans to erect a new mill. As usual, the Rhyolite Herald concluded that the lack of an adequate water supply was the main problem facing the company.

Two weeks later, the Rhyolite Herald confirmed that operations had been resumed on the old Confidence. One Mr. Merritt, who seemed to be heading up the organization, told the paper that he would bring in machinery to the property "as soon as he can conviently get around to it," and that "if the old Confidence will only do half as well as in the pioneer days it will be all that he will ask." Meanwhile, the men at the mine were sacking the high grade gold ore. The Mining World also confirmed

in September that the Death Valley Gold Mining Company was planning to erect a mill in Death Valley, as soon as the Salt Lake ore tests could determine the kind of mill required. The mine, it reported, had a sufficiently large tonnage of ore blocked out to justify the expense of constructing a mill.

One month later, in mid-October, the Rhyolite Herald reported that the Confidence Mine was just completing a shipment to the smelter in Salt Lake City. The ore was regarded as fairly high grade, assaying between $60 and $150 per ton. But after that report, the mine fell idle once again. Apparently the ore tests in Salt Lake City had shown that the ore was too low grade or too hard to process to make its extraction from an extremely isolated corner of Death Valley profitable. In June of 1910, and again in 1911, the property of the Confidence Mining Company appeared on the Inyo County delinquent tax rolls, for the want of $14.11 in county taxes.

Unfortunately, at about this time a great desert legend was born, when W. C. Mendenhall, writing for the Geologic Survey, confused this Confidence Mine with the old "lost" Mormon mine from which the Mormons were traditionally believed to have taken much gold in the 1850s. Mendenhall's mistake, due to the prestige of USGS publications, has been habitually repeated throughout the years, until the truth is hard to seperate from the fiction. There is absolutely no evidence that the Confidence Mine in Death Valley is the lost Mormon mine, and there is much evidence to the contrary. The contemporary descriptions of the mine in 1895 and 1896 make absolutely no reference to the Mormons, and indicate quite strongly that Montgomery and his partners were the first men to operate it. Such legends, however, are hard to kill.

In the meantime, R. J. Fairbanks, the enterprising merchant from Greenwater and Shoshone, bought the Confidence Mine and operated it on his own for three years. The difficulties which beset him, as well as previous owners, are best put in his own words.

> This was a gold proposition, and in spite of the fact there's gold in there that will run $35,000 to the ton, I operated entirely at a loss. Most of the ore would run about eight dollars to the ton, and I'd have to crack hundreds of tons of the eight-dollar ore trying to get a few pounds of the $35,000 stuff. The financial failure of this venture was due entirely to the utter impossibility of the transportation problem. Everything had to be wagoned in and out from the railroad at Shoshone, and the haul more than ate up the profits . . .

After Fairbanks gave up, the Inyo Register printed a rumor in July of 1915 that "It is now practically assured that a new management will soon open" the Confidence Mine. However, that rumor was false, as were those printed by the Mining World in March of 1916. At that time, it was believed that the Corona Mining and Milling Company planned to reopen the mine, and to construct a 100-ton stamp mill on the property. The Mining World went on to repeat the silly tale connecting the Confidence with the lost Mormon mine, and then improved upon that by also stating that the Confidence was the secret source of Death Valley Scotty's wealth. About the only truth to its entire report was the statement that the "workings are in bad shape and have every appearance of having been ruthlessly looted."

Needles to say, the Corona Mining and Milling Company never reopened the Confidence Mine, and it lay idle for several more years. A traveler to the area in 1921 saw no evidence of mining anywhere in the area, and although several desert rats did move into Confidence Wash in the latter years of the

1920s, none of them worked the Confidence Mine. In 1926 the California State Mineralogist reported that the mine was idle and had been for several years, and that the mill had been dismantled. Sometime around 1934, the mine was again operated very briefly, and a small amount of high-grade ore was packed out and shipped to a smelter.

Then, in the fall of 1941, an exhaustive examination of the mine was made on the behalf of some Salt Lake City investors who had become interested in the mine. The inspection of the property showed around 740,000 tons of ore blocked out in previous development work, with an average value of $14 per ton. Although some high-grade ore worth $125 per ton could be found, most of that had already been stripped out by previous operators. Water was available about one and a half miles from the mine, and the examiner believed that enough water could be developed to support a mill. Considerable stoping had already been done by previous miners, as well as the driving of two tunnels, one about 175 feet into the mountainside, and the other about 375 feet. Previous production, according to this report, was claimed to be about $200,000, most of it in the early days of the mine. "If sufficient capital can be secured," wrote the Mining Journal, a mill would be built and the property would be brought back into production.

But such was not the case, probably due to the combination of lack of capital and the isolation of the mine, which would have made mining very expensive even in 1941. In any event, mining of gold was forbidden the following year, due to war-time demands, and following the failure of this last effort, the old Confidence Mine was at last left alone.[29]

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29. Mining & Scientific Press, 18 January 1896, p. 50; 16 May 1896, p. 402. Inyo Register, 28 November 1895, 2 January, 27

2. Present Status, Evaluation and Recommendations

Not much remains to mark the efforts of so many people over so many years to exploit an isolated Death Valley mine. At the mine site, approximately six miles up Confidence Wash from the mill, some ruins may be seen. These consist of two prospect holes in the side of the wash, used for living and storage areas by later occupants of the site, and a series of adits and shafts which climb far up the side of the mountain. The main mining complex, towards the top of a very steep ridge, has several stoped out areas, and a faint foot path leading from one adit to another. The complex is centered around the ruins of an old ore bin, which was once connected to a crude bucket tramway to lower the ore down to the floor of the wash. Some tramway rails, a crude rocker box, and other paraphernalia from the last periods of mining may be found. Evidence of earlier occupants has been destroyed long ago by later miners.

For several miles up and down Confidence Wash in this area, other traces of very small-scale mining attempts

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February, 7 May 1896; 4 February, 6 May 1897; 2 June 1910; 1 June 1911; 29 July 1915. Inyo Independent, 31 July, 2 October 1896; 26 February 1897; 14 October 1898; 12 July 1901; 10 June 1904; 28 November 1925. Mining World, 18 September 1909, p. 614; 18 March 1916, p. 580. Death Valley Chuck-Walla, 1 May 1907. Engineering & Mining Journal, 6 February 1897, p. 14. Rhyolite Daily Bulletin, 16 October 1907. Bullfrog Miner, 22 May 1909. Rhyolite Herald, 4 & 18 September, 16 October 1909. Mining Journal, 15 November 1941, p. 22. California State Mineralogist, XXII Report, 1926. California Journal Mines & Geology, October 1938, p. 393; Janaury 1951, p. 40. R. J. Fairbanks, "My Seventy-three Years on Southwestern Deserts," Touring Topics, (June 1930), pp. 20-26. W. C. Mendenhall, Some Desert Watering Places in Southeastern California and Southwestern Nevada, USGS Water Supply Paper #224 (1909), p. 39. David G. Thompson, Routes to Desert Watering Places in the Mohave Desert Region, California, USGS Water Supply Paper #490-B (1921), pp. 197-99.

may be found, mostly dating from the Depression years, when numerous down-and-out individuals resorted to living rent-fee in the wilds of Death Valley. The home of one such occupant, fondly known as the "Wind Cave," is located a short distance up the wash from the mine, but it has absolutely no historical significance. All in all, the ruins in Confidence Wash are impressive, but only in the sense of making the viewer wonder what desperate hopes could have led men to believe that they could get rich from this forsaken territory.

The mining area of Confidence Wash is not historically important enough to warrant National Register consideration. Although the lack of access to the site at present denies its interpretive potential, benign neglect is recommended. The area should not be reclimed, cleaned up or naturalized, but rather left to the elements, and left for the enjoyment of what few back country hikers may stumble upon its remains.

Down in Death Valley is the site of the old mill. Not much remains here either, for years of wind and occasional cloudbursts have combined to almost cover the mill site. The mill machinery has long been hauled away for other uses, and the most visible sign of the old mill is a raised earth platform with a thin and crumbling cement floor in the middle. Piles of assorted concrete bits and remains of tanks and pipes are scattered around the area at the whim of the elements, and the old well, where once the saltiest water on earth was found, is almost completely filled with sand.

The Confidence Mill has significance due to its age, but the almost complete destruction of the site by the hands of men and the weather has destroyed its integrity. It will



Above: The old Confidence Mine site, showing several adits just above the floor of the wash. The old ore bin, which marks the center of the main mining complex, can barely be seen in the top center of the photo, just below the ridge line.

Below: The ore bin, from which a crude bucket tramway once descended to the floor of the wash below.

1978 photos by John Latschar.





Ruins of the old Confidence Mill, on the floor of Death Valley. The thin concrete slab and the engine mount are the only substantial remains of the old mill.

1978 photo by John Latschar.

not be nominated to the National Register, but is recommended for historical archaeological study. The location of the mill site also negates its interpretive potential, since the lower east side road has been closed to protect the fragile environment of the rare pup fish at Saratoga Springs. Benign neglect is recommended for the mill site, along with a strong recommendation against any attempts to clean up, reclaim or naturalize the area.

d. Bradbury Well

Bradbury Well, located along the Salsberry Pass road opposite Rhodes Springs, was first located and named in the late 1910s or early 1920s. The well is mentioned as a good watering place in 1921, and again in 1922, when Margaret Long described taking off the boards which covered the top of the well, and pulling up a bucket of water. Other than those brief mentions, the well has never been referred to in connection with the early history of Death Valley.[30]

The well site today is still easy to find, due to the tell-tale vegetation which clearly marks every source of water in Death Valley. The well, however, has been filled with sand by the winds of the desert, and only the circle of stones which once marked its site to desert travelers is now visible. The site has no historic significance or interpretive potential, and is recommended for benign neglect.

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30. Thompson, Desert Watering Places, pp. 197-99. Margaret Long, "The Woman of Death Valley," mss, Colorado University Manuscripts Collection, #281-(8). T. S. Palmer, ed., Place Names of the Death Valley Region in California and Nevada (1948), p. 12.



Bradbury Well, looking north towards the Salsberry Pass road. 1978 photo by John Latschar.

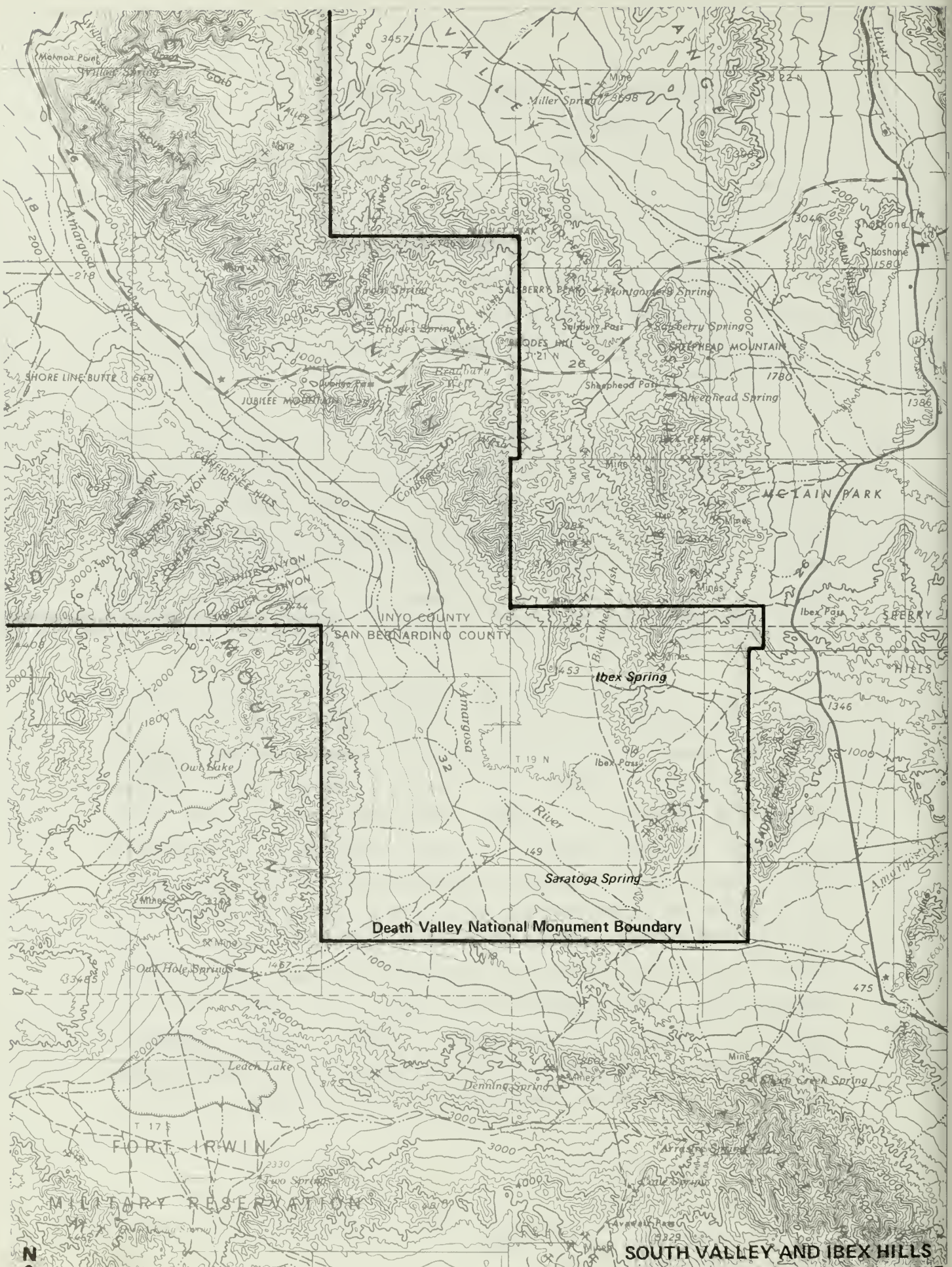
D. South Death Valley and the Ibex Hills

1. Introduction

This section of Death Valley is perhaps the most desolate region within the Monument. Dominated by the dry sink of the Amargosa River, the landscape consists mostly of sand, salt, and the low Ibex Hills. The region has always been isolated from any centers of population, however small, and the present road network completely bypasses it. Two spots of vegetation, Ibex Springs and Saratoga Springs, possess practically the only signs of life within the area.

As might be expected, historic activities within this region have been centered around those two springs, which represent the only sources of water in the south valley. Saratoga Springs was known as a dependable water source by 1880, and Ibex Springs shortly thereafter. For most of the ensuring hundred years, the use of these two springs, by travelers entering or leaving the valley, has been the only activity of note.

Small-scale mining attempts, however, have taken place. The original Ibex Mine was opened in the 1880s, and ran for a few years. A very brief niter rush swamped the south valley with prospectors in 1902, and a more prolonged rush occured during the Bullfrog boom years. This latter rush saw the brief exploitation of several mines in the Ibex Hills, and an ill-conceived attempt by gold-mad promoters to dredge the floor of the desert. With the demise of the Bullfrog boom, the area reverted to practical desertion until the modern talc mining operatons began in the 1930s. With the exception of the dormant talc mines, whose edifices dominate the physical remains in the region, very little is left with which to interpret the earlier years. Time, weather, sticky-fingered prospectors, and salvaging talc miners have combined to erase all but the most minute signs of earlier activities.



SOUTH VALLEY AND IBEX HILLS
DEATH VALLEY NATIONAL MONUMENT

In brief, the South Valley and Ibex Hills region has seen periods of short and intermittent life, interspersed between years of practical desertion. The history of the area as a whole is not a continual tale of man's exploitation, but rather a series of brief and unconnected attempts to wrestle wealth from the barren ground. There is little left within the region with which to interpret its spotted past.

2. The Ibex Springs Region

a. Ibex Hills Gold and Silver Mining

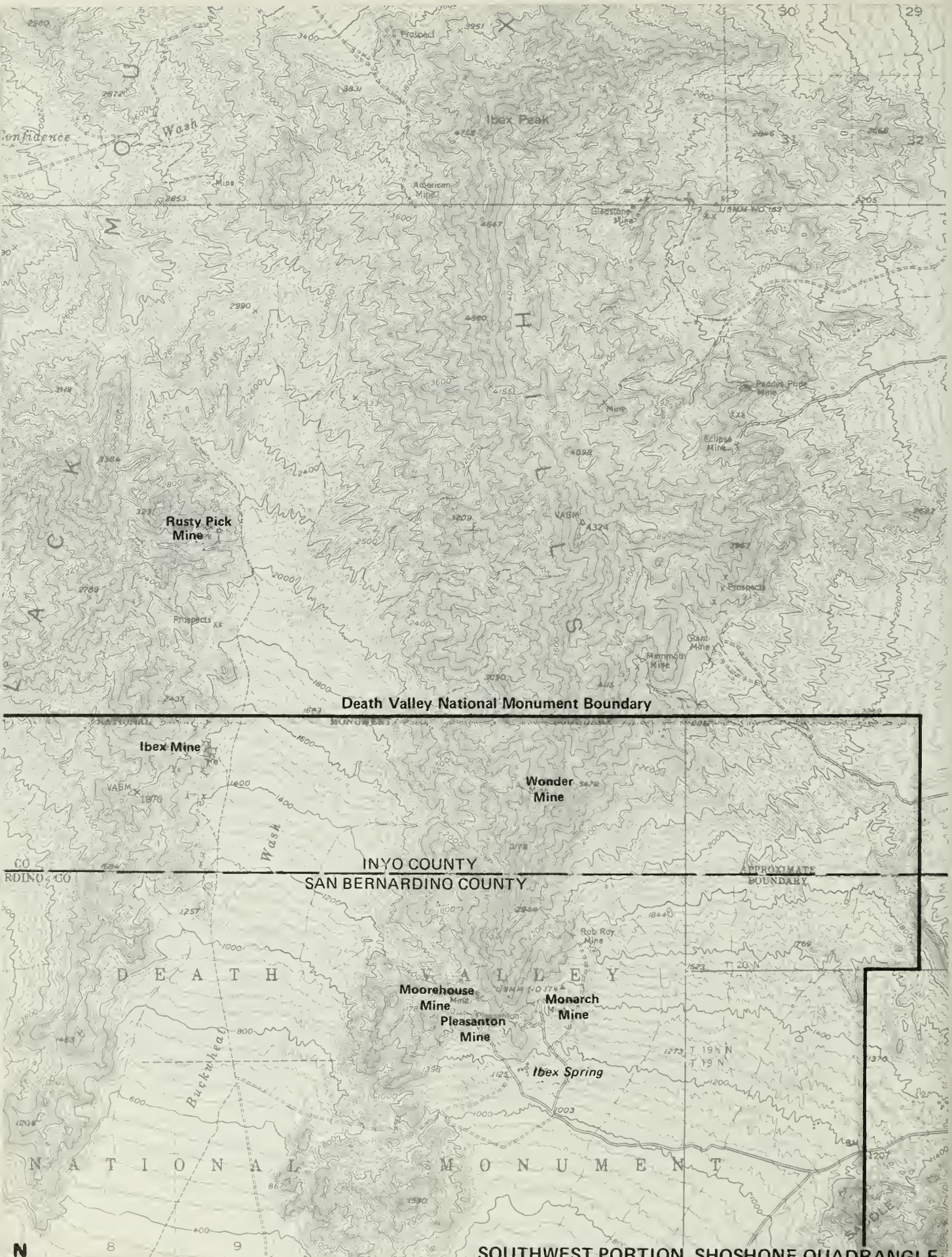
1. History

Early references to mining activities in the Ibex Hills area are somewhat questionable, due to vague and contradictory geographic references in the contemporary newspapers and journals. The first serious mining to take place in this region apparently began in December of 1882, with the incorporation of the Ibex Mining Company--a Chicago based group. The exact location of the original Ibex Mine is undetermined, but it is probably safe to put if within a mile of the Ibex Mine located on the 1951 Shoshone quadrangle.

The Ibex Company had good luck initially, as evidenced by its decision to build a five stamp dry roasting mill in 1883. Following the completion of the mill, several loads of silver-lead ore were shipped out, but production was never extensive. This early mine soon experienced all the problems which would plague later mining efforts in the Ibex region--intense heat, water shortages, exorbitant freight costs--thus preventing the profitable extraction of any but the highest grade of ore. As a result, the original Ibex Mine was never very successful. In 1889 the mine was operated only sporadically due to fuel problems, and by 1892 the mine and mill were idle.[1]

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1. Inyo Independent, 9 December 1882; 2 June 1883; 26 September 1885. Enginnering and Mining Journal, 27 January 1883, p. 47; 21 April 1883, p. 226. Mining & Scientific Press, 22 March 1884, p. 212; 10 May 1884, p. 324. Report of the Director of the Mint . . . Year of 1883, p. 166. Report of the Director of the Mint . . . Year of 1884, p. 104. Ninth Annual Report, California State Mining Bureau, (1889), pp. 238-39. John R. Spears, Illustrated Sketches of Death Valley . . . (1892), p. 160.



Scale: 1" = 1 mile

SOUTHWEST PORTION, SHOSHONE QUADRANGLE
DEATH VALLEY NATIONAL MONUMENT

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For the next several years, the Ibex district was deserted, with the sole exception of Frank Barbour, who relocated the Ibex Mine and performed the necessary assessment labor year after year. Then, after fifteen years of isolation, Barbour was suddenly crowded with company--a result of the prospecting wave set off by the Bullfrog boom.

In June of 1906, a party of three prospectors on their way north towards the Greenwater District discovered the Orient Group of claims approximately two miles north of the Ibex Mine, and the rush was on. Within a year, three major claims, as well as many minor ones, had been staked. The Busch brothers, prominent mining promoters from Rhyolite, purchased two of these, the Orient and the Rusty Pick Groups. The third, the Evening Star Mine, one mile from the Rusty Pick, was owned and operated by the Heckey brothers, who moved their wives and families to the site. Meanwhile, Frank Barbour continued to push development on the "old" Ibex Mine.[2]

Attempts to develop these mines continued throughout 1907 and 1908. By December of 1907, the Orient had forty sacks of ore ready for shipment, and the Evening Star, which boasted a sixty-five foot shaft, had taken out almost twenty tons of ore for eventual shipment. The problems encountered by the mines were emphasized by the cost of $20 per ton freightage, merely to get the ore from the mines to the railroad, twenty miles away. Nevertheless, prospects were bright enough to warrant a Christmas

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2. Index to Proof of Labor, Inyo County Courthouse, Arcturus/Ibex mine. Bullfrog Miner, 16 November 1906; 11 January, 5 & 19 April, 22 June, 31 August 1907. Rhyolite Herald, 18 January 1907. Death Valley Chuck-Walla, 1 May 1907. Inyo Register, 5 September 1907. Inyo Independent, 13 September 1907.

dinner hosted by the Heckey women, and attended by the miners of the region.

Developments continued during the early months of 1908. In February, the Busch brothers bonded the Orient and Rusty Pick claims to a Goldfield operator, and the Heckey brothers readied their first carload of ore for shipment, claimed to be worth $85 to the ton. By May, the Rusty Pick shaft was down to eighty feet. Then, due to a combination of summer heat, lack of development funds and the failure of promising ore leads, this portion of the Ibex District suddenly slowed down.[3]

By May of 1909, a year later, the Rusty Pick Mine, which had been sporadically active, still had only 200 total feet of development work, and had made only one shipment of ore, worth $50 a ton. Nevertheless, the Busch brothers managed to bond the mine again, to Chicago and Goldfield operators. The new owners promised immediate and extensive developments, but the promise went unfulfilled.

The following years saw occasional activity, but little real mining. In 1910 the Busch brothers managed to bond the Orient and Rusty Pick once more, but no work was done on the property. Funds were so low on the Evening Star property that the former partners were suing one another to recover the costs of assessment work. Although several men were at work on the Rusty Pick again in 1911, by the end of the year Pete Busch, the mining promoter, was reduced to performing his

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3. Rhyolite Daily Bulletin, 11 October 1907. Bullfrog Miner, 19 October, 16 November, 28 December 1907; 4 January, 8 & 22 February, 14, 21 & 28 March, 25 April, 30 May, 13 June 1908. Rhyolite Herald, 15 & 22 November, 27 December 1907; 3 June 1908.

own assessment work. By this time, the Evening Star group had been abandoned, as John and Melvin Heckey left with their families, to join their brother Ross in Alaska.[4]

In the meantime, a few miles southeast of the "old" Ibex Mine, the area in the vicinity of Ibex Springs had undergone a very similar experience. Like the "old" Ibex Mine, the Ibex Springs region pre-dated the Bullfrog boom, but did not undergo any serious developments until the effects of that boom had spread southward. The first known miner in this area was Judge L. Bethune, who located three claims at Ibex Springs in April of 1901. When Judge Bethune got drunk and died in the desert in 1905, his mine immediately became "lost" and subject to all the folk tales peculiar to lost mines. In this case, however, it was not lost for long, for the mine was relocated in January of 1906.[5]

The new locators, primarily Rhyolite men, incorporated themselves as the Lost Bethune Mining Company in October of 1906, and with a capitalization of $1,250,000 began development work. Bunk houses and a boarding house were erected at Ibex Springs during 1907 and by March of 1908 the mine's eight employees had sunk a shaft 200 feet deep, had fifty tons of ore on the dump and had shipped over 300 tons, which averaged $43.30 per ton. Despite this encouraging start, however, the demise of Rhyolite, which curtailed the flow of development funds and increased freighting and supply expenses, had its effect

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4. Bullfrog Miner, 22 May 1909. Rhyolite Herald, 26 January, 2 June, 18 September, 27 November 1909; 19 February, 9 April, 26 November 1910; 28 January, 2 December 1911.

5. Engineering and Mining Journal, 20 September 1902, p. 386. Rhyolite Herald, 12 Janaury 1906. Bullfrog Miner, 12 January 1906. Death Valley Chuck-Walla, 1 May 1907.

upon the Lost Bethune. Although monthly shipments of high grade ore were still reported in May of 1909, the mine was abandoned the next year.[6]

Five years later the Ibex District experienced a revival of sorts. Leading the way was the "old" Ibex Mine, still owned and operated by Frank Barbour. The mine employed twenty men in 1915, and was termed a regular shipper. Across the wash to the east, the Wonder Mine had been developed, and plans were announced to erect a mill. In 1916, by which time Barbour had sold out, the Ibex had fifteen men at work, and the new owners were planning to construct a 2,800-foot aerial tramway from the mine on the side of the mountain down to the wagon road below. In 1917, although the Wonder had already become idle, the Ibex was still active. Nineteen men were employed, paid at $4 per shift, and seven or eight tons of ore were being trucked out daily--the tramway had not been built. By 1921, however, the mine was again idle, and this time it had breathed its last.[7]

One other mine bloomed briefly in the Ibex region. The Rob Roy, about one mile north of Ibex Springs, was located in 1914, and by 1915 was described as well developed and shipping ore of good quality. This mine was periodically active as late as 1924, when the owners, the Ibex Springs Mining Company, received a patent for four lode claims and one mill site. As quietly

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6. Rhyolite Herald, 19 January, 2 February, 12 October, 16 November 1906; 18 January, 8 February, 5 April 1907; 23 September 1908; 28 August 1909; 7 January 1911. Bullfrog Miner, 15 March, 5 April 1907; 7 March 1908; 2 May, 28 August 1909.

7. Inyo Register, 29 July, 26 August 1915. Inyo Independent, 24 March 1916. California State Mineralogist, Fifteenth Report, (1917), pp. 85, 96-97; Seventeenth Report, (1921), p. 287.

as it had appeared, however, the Rob Roy sank back into obscurity, and with the exception of lonely prospectors who still roamed the desert dreaming of riches, the Ibex region lay quiet.[8]

2. Present Status, Evaluation and Recommendation

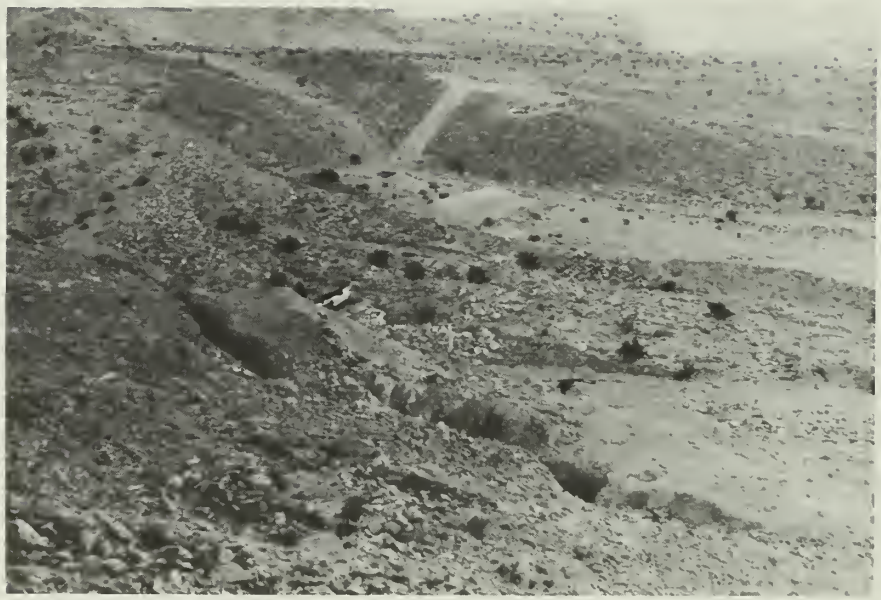
Very little remains to mark the sites of all this activity. Ground explorations have failed to specifically mark the site of the 19th-century mine and mill of the Ibex Mining Company. Given the extensive activities of following years and the prevalent practice of cannibalization, however, this lack of physical evidence is not surprising.

The 20th-century remains are hardly more promising. The main efforts in the Ibex Hills area were centered around the Rusty Pick, Orient, and Evening Star Groups, all of which were north of the Monument boundary, and thus were not examined. At the Ibex itself, sporadic prospecting and development work, which was carried on even into the 1970s, has succeeded in erasing all signs of earlier activities. Examination of these sites reveals unnumbered holes in the ground, but little else.

A similar tale is told at the Ibex Springs area. Here, all trace of early 20th-century mining has been completely obliterated by the talc mining carried on in later years. Thus, with the exception of the buildings at Ibex Springs (discussed below), there are no remains worthy of preservation consideration in the Ibex Hills area. There is potential for historical archaeology, particularly around the "old" Ibex Mine.

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8. Inyo Register, 29 July 1915. Inyo Independent, 25 September 1920; 21 January 1922; 22 March 1924.



General view of the Ibex Mine area in 1978. Note numerous dumps, pits, and cuts in vicinity.

1978 photo by Linda Greene.

b. Ibex Springs Area Talc Mines

1. History

The last stage of mining activities in south Death Valley opened in the mid-1930s, when John Moorehouse located 16 talc claims a short distance northwest of Ibex Springs. By 1941, Moorehouse had managed to extract 1100 tons of talc. After a short period of idleness, Moorehouse then leased his claims to the Sierra Talc Company in the mind-1940s. Sierra Talc developed the ore bodies extensively, and produced almost 62,000 tons of ore by 1959. By then the talc seams were largely depleted, and the mine was operated only sporadically until about 1968. Site examination leads to the conclusion that no more than assessment work, and very little of that, has been done since the latter date.

Two other talc mines were also operating during this same general time period. Ralph Morris and associates located the Monarch group of four claims in 1938, and operated it until 1945, when it was also leased to the Sierra Talc Company. Sierra Talc operated the mine until 1950, with a total production between 1938 and 1950 amounting to 46,000 tons. The mine was then idle for six years, until it was leased to the Southern California Minerals Company in 1956.

Just to the south of the Monarch is the Pleasanton group of two talc claims, first opened in 1942. The Sierra Talc Company acquired the lease to this group also in 1946, and total production for the mine reached 16,000 tons by 1947. The Pleasanton was then idle for several years, until the Southern California Minerals Company acquired its lease in 1956, and connected the underground workings with those of the Monarch. Operated together, the Monarch and Pleasanton yielded another 7,500 tons between 1956 and 1959, for a total combined production of 69,500 tons. Between 1959 and 1968, intermittent operations

were continued, but site examination indicates that little serious production was undertaken during that time. Both the Monarch and Pleasanton mines are now idle, and have been for several years.[9]

2. Present Status, Evaluation and Recommendations

Due to the recent nature of these mining activities, extensive structural remains are present in the area. At the Moorehouse, which consists of three distinct levels, the progressions of mining activities can clearly be seen through the development of mining structures. The lower and middle levels, reflecting the lode mining activities of the earlier years, contain extensive complexes of adits, ore bins, ore chutes and tramway networks. These wooden structures are rather picturesque, are in relatively good condition, but are not of historic significance due to their lack of age. A policy of benign neglect can best be suggested for this complex, for the lack of historic significance does not warrant any preservation funds being spent at this time. Conversely, the mine structures certainly should not be destroyed or carted away, as the value of the complex will obviously grow with age.

The upper level of the Moorehouse reflects the latest period of development and assessment work, being nothing more than an extremely unsightly complex of scars, pits, and heaps left over from stripping operations.

Both the Monarch and Pleasanton also have extensive structural remains. At the Monarch, these consist mainly

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9. Lauren A. Wright, Talc Deposits of the Southern Death Valley-Kingston Range Region, California, Special Report #95, California Division of Mines and Geology, (1968), pp. 52-60.

of a small living compound, containing three 1940s era living shacks, a cookhouse, and various support buildings. These shacks are all of poor construction, although they are still in reasonable shape. They warrant no preservation or concern. The Monarch Mine workings consist of a small complex of adits, tramways and ore bins, all in very poor shape. Again, the best policy should be to let them rest in peace.

At the Pleasanton, more extensive mining structures remain. Like the Moorehouse, the Pleasanton was worked on several levels, with a (collapsed) connecting shaft in between. On the lower level is a large loading dock and tramway network, used for loading both Monarch and Pleasanton ores during the latter years of combined operations. On the upper workings are several shafts and adits, complete with a partial tramway and a wooden headframe. Although interesting, these structures are not nearly as complete as those of the Moorehouse, and benign neglect is again recommended.

Viewed as a whole, the best extant representation of recent talc mining operations in southern Death Valley is contained in the structures of the Moorehouse Mine. The remaining structures at that site are the most extensive, of the best condition, and reflect several different periods of mining activity. As stated before, however, even this complex does not warrant preservation efforts at the moment. The Moorehouse structures should remain relatively intact for a period of time, however, since the only access road to the area brings the visitor (who would have to be a four-wheeler) directly into the front of the Monarch-Pleasanton areas, with the Moorehouse tucked behind a low ridge out of sight. As such, the Moorehouse will probably remain relatively untouched for some time, and should be kept in consideration for potential future preservation efforts.



Homestead of Tom Wilson, a former employee of Southern California Minerals Company, who built this complex to avoid paying rent in the company town of Ibex Springs.

Photo by Park Ranger Hill, 1962, courtesy Death Valley National Monument library, #2670. This site, adjacent to the workings of the Monarch Talc Mine, had changed very little by 1978, with the exception of natural deterioration of the structures.



View of the lower workings of the Pleasanton Talc Mine in 1962, when the mine was still sporadically active. Note the white talc dumps of the Monarch Mine to the upper right.

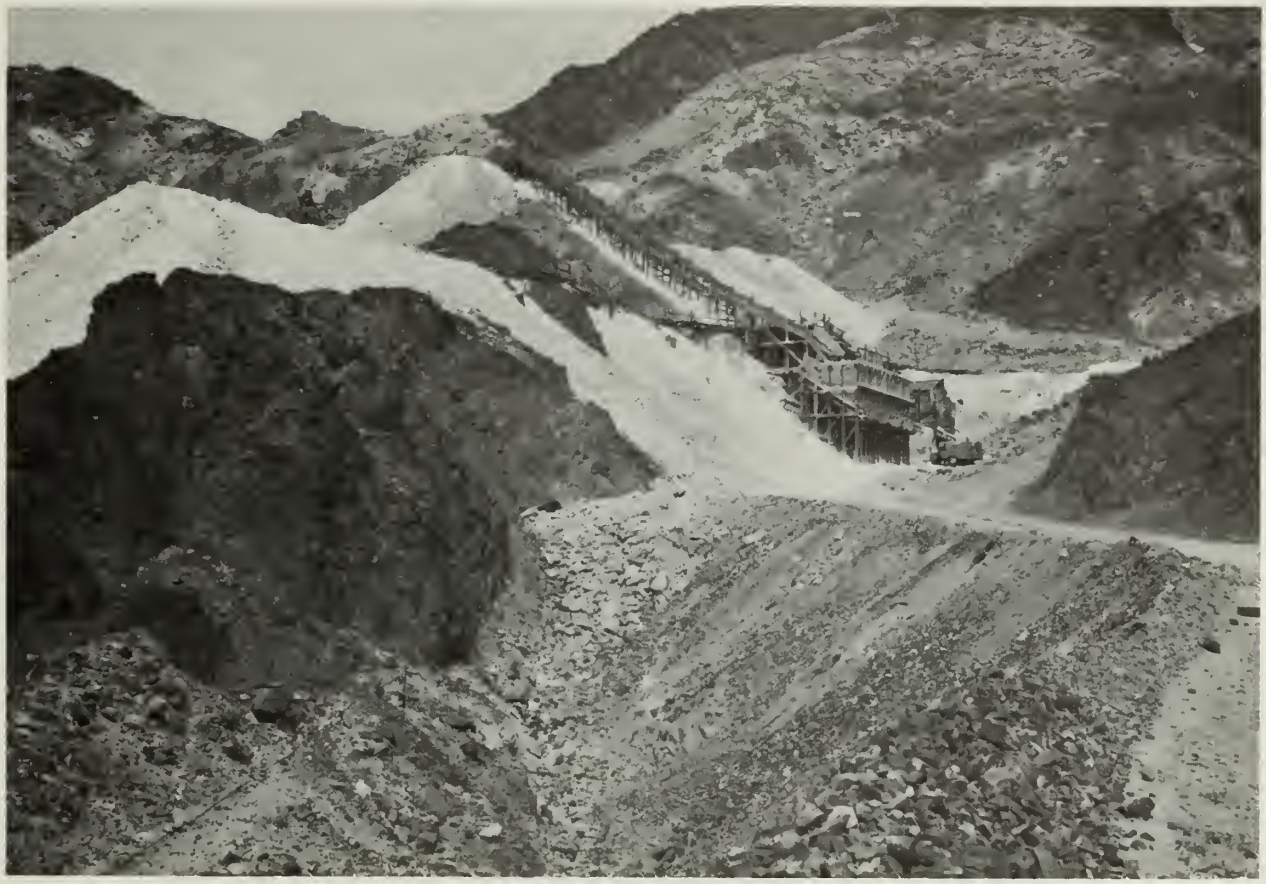
Photo by Park Ranger Hill, courtesy Death Valley National Monument Library, #2674.



View from above, of lower level workings of Pleasanton Talc Mine.
1978 photo by Linda Greene.



View of upper level workings of Pleasanton Talc Mine.
1978 photo by John Latschar.



Lower, and older, level of workings at Moorehouse Talc Mine in 1962. The scene has changed little in succeeding years, with the exception of normal deterioration of the structures.

Photo by Park Ranger Hill, courtesy Death Valley National Monument Library, #2673.



View of more recent strip mining activities on upper level of Moorehouse Mine.

1978 photo by John Latschar.

c. Ibex Springs

1. History

Desert watering holes are difficult places to interpret, and Ibex Springs is no exception. Although we know from the data that certain activities took place at Ibex Springs during certain periods of time, constant use of the watering hole by prospectors, travelers and miners for almost one hundred years has slowly erased all but the most recent signs of the past. Nevertheless, certain of the remaining structures can be identified and dated.

The first specific references to Ibex Springs were in connection with the "old" Ibex Mine of the 1880s. Unfortunately, both the mine and the spring moved around constantly in the vague geographic descriptions given in the early accounts, making it impossible to pinpoint any specific activities. Ibex Springs, however, was undoubtedly the water source for the old Ibex Mine and Mill.

During the Bullfrog boom years of the early twentieth century, references become more specific. The locators of the Lost Bethune Mine, which was in the immediate vicinity of the springs, described the area as having old arrowheads and stone cooking pots laying around, and told of the "remains of old buildings that no modern Indian could or no Mormon would build." One of these buildings, a three-sided stone structure, was converted into a bunkhouse by the miners. Subsequent descriptions of the locale in 1907 described it as "a fine camp of bunk houses, boarding house, etc." Whether these buildings were constructed of stone, wood, or canvas is unknown.[10]

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10. Rhyolite Herald, 5 April 1907. Bullfrog Miner, 5 April 1907.

With the demise of the Bullfrog era mines, the small camp at Ibex Springs was deserted, and became fair play for the needs of wandering prospectors and travelers. Although we can not be certain, it is probably safe to surmise that little remained of the camp by the time the Ibex talc mines opened in the mid-1930s. Throughout the active operations of the Moorehouse, the Monarch and the Pleasanton from the 1930s to the 1950s, and the intermittent mining of the 1960s, Ibex Springs was exploited as a water source for mining and living needs, and a fairly substantial camp appeared. Since the talc mines have remained in private hands until recent years, the remains of this camp have escaped large-scale destruction, and dominate the present scene.

2. Present Status, Evaluation and Recommendations

The talc mining camp at its height consisted of a dozen wooden buildings, including a bathhouse with plumbing, several sheds and storehouses, and several living quarters. Most of the buildings were constructed of boards and plasterboard, and had electric lights and propane appliances. The spring was improved by the talc miners by means of a concrete spring house and collecting tank, from which water was pumped or flowed to the shacks. The area is spread with numerous artifacts of very recent vintage, such as car hoods, Pepsodent toothbrushes, and a plastic Zenith radio casing. Although the buildings themselves remain in a fairly good state of repair, the proliferation of junk throughout the site makes it an eyesore.

Interspersed among the modern ruins are signs of the more removed past, such as remants of stone walls, dugouts, and storage caves. Most of these are located in the northern part of the complex, nestled against the slope of the hills. The most important are two stone dugout/shelter ruins, consisting



Ibex Springs townsite in 1962, during last years of use.

Photo by Park Ranger Hill, courtesy of Death Valley National Monument Library, #2690.



Above: View of typical structure at Ibex Springs townsite, showing deteriorated condition in 1978.

Below: One of two small stone cabins on hillside to the north of Ibex Springs townsite.

1978 photos by John Latschar.



of three to four foot high walls, constructed of unmortered rock. Bottles in a small dump near the dugouts date the ruins to the Bullfrog era boom, and the dugout shelters were undoubtedly used as temporary shelters before the erection of the "fine camp" of the Lost Bethune Mining Company. No other surviving structures can be positively dated from the Bullfrog era.

Due to the great predominance of the scene by the modern talc mining camp, there is very little historic integrity left at Ibex Springs. The modern camp is certainly not of historic significance. The early 20th-century stone ruins have more interest, but due to a great proliferation of such type ruins throughout the Monument, and the fact that the more modern structures negate the integrity of these remains, preservation efforts are not warranted on this site. Since the older stone ruins are small, difficult to locate, and are tucked away out of sight of the rest of the camp, a policy of benign neglect should lead to no more than natural deterioration of the site.

3. Gold and Nitrate

a. Amargosa Gold Placers

1. History

In 1907, the intense gold fever which gripped the Death Valley region spilled out from the mountains surrounding the valley into the desert floor below. Following the strikes at Rhyolite, Lee, Greenwater, Gold Valley, Ibex, Harrisburg and Skiddo, anything seemed possible, for gold was being found practically everywhere a prospector stuck a pick into the rocks. Moreover, the men who searched for gold on the barren floor of the desert had a theory--one that seemed to make the discovery of riches a foregone conclusion.

In the original 1849 California gold rush, the initial finds had been in the stream beds below the mountains, where gold nuggets and flakes had been washed down from the lode claims in the mountains above. As time and experience proved, a prospector could find the original lodes by following the stream beds or geologic faults back up the valleys and mountains, until he found the source of the gold. In Death Valley, the opposite theory was proposed. Since gold had already been found in so many of the valleys and mountains surrounding the desert floor, there must be some on the floor itself, washed down through thousands of years of erosion. The only problem was to find it.

The first indication of this effort came in March of 1907, when the Inyo Register reported that over 40,000 acres of land had been located as placer claims on the floor of south Death Valley, straddling the Inyo-San Bernardino County line. Since the Register was somewhat detached from the immediate scene of the excitement, it was somewhat skeptical of the prospects, wondering what anyone "expects to do with about 70 square miles of Death Valley . . . "

The Bullfrog Miner, however, was much more interested. As the local paper, vitally interested in the welfare of any mining enterprise in the area, the Miner gave the erosion theory much more credit. "It is held by scientists who have made a study of the situation that the floor of Death Valley, or the great sink which ranges below the sea level, probably contains some of the richest gold deposits to be found in the world."

The Miner reporter had undoubtedly been talking to a Rhyolite prospector, Clarence Eddy, who was the leading proponent of the new theory. "Death Valley proper," Eddy later explained in detail,

> contains about 500 square miles. Within this area there is sufficient wealth to make every poor man in the world richer than Croesus; to make King Solomon's mines and Monte Cristo's treasure look like penny savings banks. It is literally composed of gold, silver, copper and lead . . .
>
> For ages the rains and snows have been beating these mountains down into Death Valley. They are filled with the precious metals. Gold, silver, copper and lead abound here. The great quartz rocks, on account of their weight go down. Down, down, down, they have rolled for centuries! The melting snows and rains of winter keep the surface of the basin damp throughout the season. The entire surface of the valley is composed of the highest chemical matter. There is salt, saltpetre, iron--every chemical known to science, in one form or another. Vats of vast areas have formed which are perfect quagmires of chemicals under constant action.
>
> Well, these highly mineralized rocks, largely impregnated with the precious metals, are constantly rolling down into this cauldron of chemicals. They have been doing it for ages and centuries, as already stated. The dampness of winter set the processes to work. The hot suns of summer follow. No drugest's graduate nor assayer's crucible ever performed more scientific functions!

> The quartz may be seen there in all stages of decomposition. It melts under these processes like the snows in the burning sunshine above. In a few years the ore is a part and parcel of the bed of this great sink--a mixture of strong chemicals in powdered and liquid form that work on and on with the centuries, filling higher and higher the great basin that has become one of the seven wonders of the world.
>
> For time immemorial the ores of the mountains have been rolling down into the valley; the processes have been as busy as nature itself. Gold is indestructible. It may be 100, 1000, or 10,000 feet below, but it is there, and when the process is discovered by which it may be reclaimed, all the world will be rich, and gaunt poverty will cease its weary journey in the land.[11]

Not one to rest upon his theories, Eddy had already located the most promising spots in this bed or riches. Together with F. L. Gould of Reno, Eddy had made a prospecting trip to the region during the early part of 1907. His partnership with Gould soon dissolved into competition, however, as Gould managed to secure the backing of a San Francisco operator, J. A. Benson (ironically, a man who had already been convicted of government land frauds). Gould and Benson led a party into the desert region in November of 1907, in order to test the sands and locate desirable placer claims. While the Gould-Benson party was quietly acquiring placer locations (they may be the ones who located the 40,000 acres mentioned above), Eddy was more noisily doing the same. Having obtained some capital backing from Salt Lake and Rhyolite, Eddy made a trip to the vicinity of Bennett's Well with Judges L. O. Ray and J. A. Largent of Rhyolite. Ray and Largent were convinced of the possiblities. "It would require dredgers to handle the dirt," they reported, "but it is argued that there is plenty of water--salt water--to be had at almost any part of the

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11. Inyo Register, 21 March 1907. Bullfrog Miner, 29 June 1907. Quote from Death Valley Magazine, February 1908.

valley, and that machinery of this kind could be easily operated." Neither judge, however, was sufficiently convinced to put up any further money.

Nevertheless, Eddy made another trip to the valley in December, when he located 112 placer claims in the vicinity of Bennett's Well and Tule Hole, in the name of his Salt Lake financiers. The Gould-Benson group, in the meantime, was busily surveying the valley.

The fever continued through January of the next year. Eddy staked out 1,220 acres for his company, and the Gould-Benson interests, reportedly organized as the Death Valley Placer Mining Company, drilled test holes and found water, some 300 feet west of Bennett's Well. The test holes showed returns of from 50 cents to $3.50 in gold per cubic yard of dirt, far more than enough to support a successful placer operation. Further test results in February showed returns of $2.00 in gold and 30 cents in silver per cubic yard. Encouraged by these indications, the Gould-Benson group actually ordered a dredger in order to begin mining.

Eddy, however, who felt that Gould and Benson had stolen his idea, was not having so much luck. Apparently his Salt Lake financing had fallen through, for in late February James Edmunds, of Chicago, arrived to inspect Eddy's placer claims. Edmunds, however, was not very optimistic, following a short trip to the claims. In fact, his conclusions, released to the Rhyolite newspapers, succeeded in bursting the overdue bubble. His faith, reported Edmunds, was "considerably shaken in the theory. Shattered would probably be the proper word to use in the premises . . . " There may well be gold somewhere in the valley, but there certainly was none where Eddy

took him. In summary, Edmunds stated, "it is fooling away time to look for placers." As usual in such circumstances, one candid statement was all it took to completely bust a mining fever. Even the Bullfrog Miner sadly concluded that Eddy's theory now seemed to be based on "child-like" hopes.[12]

Eddy, however, was not so easily discouraged. Nor was Gould, who by this time had lost both his dredger and his San Francisco backers. Naturally, the two again teamed up and attempted to advance their scheme once again. Two prospectors with a theory and no money, however, could obtain no results, and the great dream of dredging the floor of Death Valley for millions in gold soon faded away.

Clarence Eddy's dream, though, was hard to kill. In 1932 and 1933, during the depression, prospectors again flooded the west, searching in desperation for that one quick discovery which meant instant wealth. Again, the floor of Death Valley was not ignored. Six miles northwest of Saratoga Springs, an unidentified group dug shafts and drill holes, testing for placer gold. 1,500 samples reportedly turned up gold to the value of 55 cents per cubic yard, but no production resulted, due to difficulties in devising a method of recovery. At the same time, a group headed by one T. A. Rhodimer, working in essentially the same area as had the Gould-Benson group, claimed to have uncovered over 100 million cubic yards containing in excess of $1.00 in gold per yard. When a potential developer, the Natomas Company, sent out an expert in the fall of 1938, the old story was repeated. The expert's tests showed only traces of very fine gold, and the scheme collapsed.

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12. Bullfrog Miner, 23 & 30 November, 28 December 1907; 25 January, 15, 22 & 29 February 1908. Inyo Register, 5 March, 16 April 1908.

In 1958, the dream was reborn once more. The Mineral Productions Company of Colorado acquired leases on the same seventeen sections of ground northwest of Saratoga Springs, and again initiated tests. Although they reported assays from a trace to over $11.00 per yard--with an average of around $1.00--every type of drilling equipment which was tested failed in action. In 1959, the American Zinc, Lead and Smelting Company investigated the area, but soon quit, as did Transworld Resources. Thus, despite glowing reports in at least one mining journal, and the claims of the Minerals Production company that 98 percent of the gold was recoverable by cyanidation, no serious attempts towards actual mining got off the ground.[13]

Following the flurry of 1958-1959, no further attempts were made to open placer mines in south Death Valley. Another hopeful prospector did file claims on thirty-two locations in the fall of 1973, in essentially the same area tried by Benson and Gould in 1907 and Mineral Production in 1958. As could be expected, recording of locations was the nearest he got towards actual mining.

2. Present Status, Evaluation and Recommendations

Due to the nature of these abortive placering attempts on the floor of the valley, absolutely no physical clues remain to help locate the precise areas where these activities took place. The early placer claims were made in two areas: the

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13. Ward C. Smith, Mineral Resources in and Near Death Valley National Monument, (1959?), Manuscript Report, Death Valley National Monument mining files. Letter, Mineral Production Company to National Park Service, 30 March 1959, Death Valley National Monument mining files. California Mining Journal, February 1960, p. 16.

vicinity of Bennett's Well, and the general area northwest of Saratoga Springs, along the Inyo-San Bernardino County line. More precise locations, however, are impossible. Obviously, no historic structures of any significance are in the area concerned.

There is, though, an excellent interpretive opportunity connected with this story. A feasibly located interpretive sign, placed somewhere along the road leading to or through south Death Valley, would have a decided impact upon tourists. Perhaps nothing could better impart the real meaning of gold fever than to stand in the heat of the valley, staring across the shimmering floor of the sink, trying to comprehend the dream of the men who thought it possible to float a dredger in the middle of that wasteland.

b. Amargosa Nitrate Mines

1. History

The history of nitrate mining in south Death Valley is very similar to that of the gold placering attempts. Both types of mining activity were in the same general region, both left little or no traces on the land, and neither resulted in any production at all.

Attempts to find nitrate in the area, however, predated those of the gold hunters. As early as 1892, a mining engineer named J. M. Forney issued an ambiguous study of nitrate claims in the area roughtly fifteen miles northeast of Saratoga Springs and fifteen miles southeast of Shoshone--outside the present Monument boundaries. In 1896, several groups of prospectors recorded large claims of from 1160 acres to 2,760 acres in this region, but no further activities took place.[14]

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14. L. F. Noble, et al, "Nitrate Deposits in the Amargosa Region, Southeastern California," USGS Bulletin #724, (1922), p. 11. Inyo Independent, 7 & 14 February, 1896.

The first--and only--true rush to the area was in 1902. Again, the rush was the result of a promising report, this time by the California State Mining Bureau. Its Bulletin 24, published in the summer of 1902, described in glowing detail no less than eight niter fields in the south Death Valley region, totaling some 32,000 acres. In the opinion of a modern geologist, the "erroneous assertions" made by this report have been responsible for "raising unjustified hopes" from 1902 until today.

But the damage had already been done, and the rush was on. Of the eight fields described in the report, four were all or partially within the present-day borders of the Monument. Contemporary descriptions are vague, but it is evident that much of the ensuing pandemonium took place within the confines of the park.

The San Francisco Chronicle was the first paper to report the beginnings of the grand rush. In October of 1902, 900 men were reported either in the valley already or poised to make the rush. In an interview with a gold prospector, who professed not to be interested in niter, the following was excerpted:

> Is there niter there? There is enough niter in Death valley to make it a center of population and life instead of the center of desolation and death that it has long been. Tens of thousands of men will be employed. Railroads will be run into the valley from all points. From what I have seen and learned I should say that Death valley will prove to be the rival of Chile as a producer of niter.

Within a week, however, the bad news came in. On October 13th, an official of the Geologic Survey denounced the rush:

> . . . There is, in my opinion, not the slightest chance that anybody going in to locate nitre will make a dollar.

> The demand for saltpeter is comparatively small, taking all manufactoring, mining and medical and chemical uses, including gunpowder manufacture, and the market is held at present by a trust that controls all the saltpeter to fill all the demand in sight.
>
> In strikes me as a little short of insanity for the average miner to go into Death Valley to locate nitre claims. I have been through Death Valley and know what such a trip means. So far as profit is concerned they might as well make a rush on Salton basin and locate salt claims.[15]

The geologist was undoubtedly correct. Either due to his more pessimistic statements, or to the inevitable disappointment of prospectors already on the scene, the rush faded as quickly as it had appeared. Very few of the prospectors even had enough hope left to bother recording any claims which they might have made.

Following the grand rush of 1902, more desultory efforts in the niters beds of south Death Valley appeared from time to time. In the fall of 1905, it was reported that the state government was inspecting the beds, and again in April of 1906, the unconvinced California State Mineralogist called attention to the possibilities of the region. In 1907, two companies, the Pacific Nitrate Syndicate, and the American Niter Company, ran tests in the area. The Greenwater Times and the Greenwater Miner reacted to the news in the manner to be expected of Greenwater papers, claiming that the "largest powder works in the world are to be established at the southern extremity of Death Valley." Even the Bullfrog Miner scoffed at that.

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15. San Francisco Chronicle, 8 October 1902, p. 3; 9 October 1902, p. 6; 14 October 1902, p. 1. Inyo Register, 9 October, 27 November 1902.

The Pacific Nitrate Syndicate ran fairly extensive tests in the area during the next year or two, and had enough employees on the spot during 1909 to warrant the erection of several tents and frame buildings at Saratoga Springs. When the tests proved futile, one of its employees, A. W. Scott, Jr., filed on 160 acres of niter claims in the immediate vicinity of Saratoga Springs, and continued the efforts for a short time. Scott was also kind enough to leave behind a photograph album, "Niter Lands of California," depicting life at Saratoga Springs in 1909 and 1910.[16]

Further study of the area's niter beds was undertaken by the U.S. Government in 1912 and 1914, and by the California Nitrate Development Company in 1914 and 1916. The only concrete results of all this study and testing were recommendations that further tests and studies be made. Finally, in 1922, the USGS issued the definitive report of the niter deposits of the region. Eleven deposits in and near south Death Valley were exhaustively studied, including the two major deposits within the Monument boundaries: the Saratoga bed, lying south and southwest of Saratoga Springs, and the Confidence bed, running ten miles north and south of a point directly opposite of the Confidence Mill site.

The results of these studies effectively put an end to nitrate prospecting in Death Valley. Speaking in general of the entire area, the report concluded that

> Nitrate salts in extractable quantities have been found in the deposits described in this report, but considered in relation to the needs of the country, even for a very

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16. Inyo Register, 7 December 1905; 19 April 1906. Bullfrog Miner, 15 June, 6 July 1907. Greenwater Times and Greenwater Miner, quoted in Bullfrog Miner of 15 June 1907. Inyo Independent, 11 March 1910. Noble, "Nitrate Deposits," pp. 12-13.



Niter Lands of California--this was the desolate country which attracted the great niter rush of 1902.

Photo from "Niter Lands of California," courtesy Death Valley National Monument Library, #3083.

> short period during the emergency of war, these deposits were not regarded as of immediate practical importance, because of the relatively high cost of any known method of collecting and extracting such nitrate in a commercial form, as compared with the cost of getting the nitrate from Chile.

More specifically, the Saratoga deposits were considered "too small to be worth consideration as a source of nitrate even under war conditions," while the "most abundant sort" of niter found in the Confidence field was "too poor," and "the richest is too scarce, to be exploited commercially." Thus died the niter mines of Death Valley, without ever haveing produced.[17]

2. Present Status, Evaluation and Recommendations

Again, like the gold placers of the same region, the nature of the activities involved in niter prospecting left little or no visible scars on the ground. True fanatics, armed with accurate and specific maps and research data, will be able to find various cuts and trenches scattered throughout the area, but absolutely no remains of historic significance will be found.

The short-lived camp at Saratoga Springs connected with niter prospecting will be discussed in the Saratoga Springs chapter below.

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17. Noble, "Nitrate Deposits," pp. 9, 14-15, 50, 59.

4. The Saratoga Springs Region

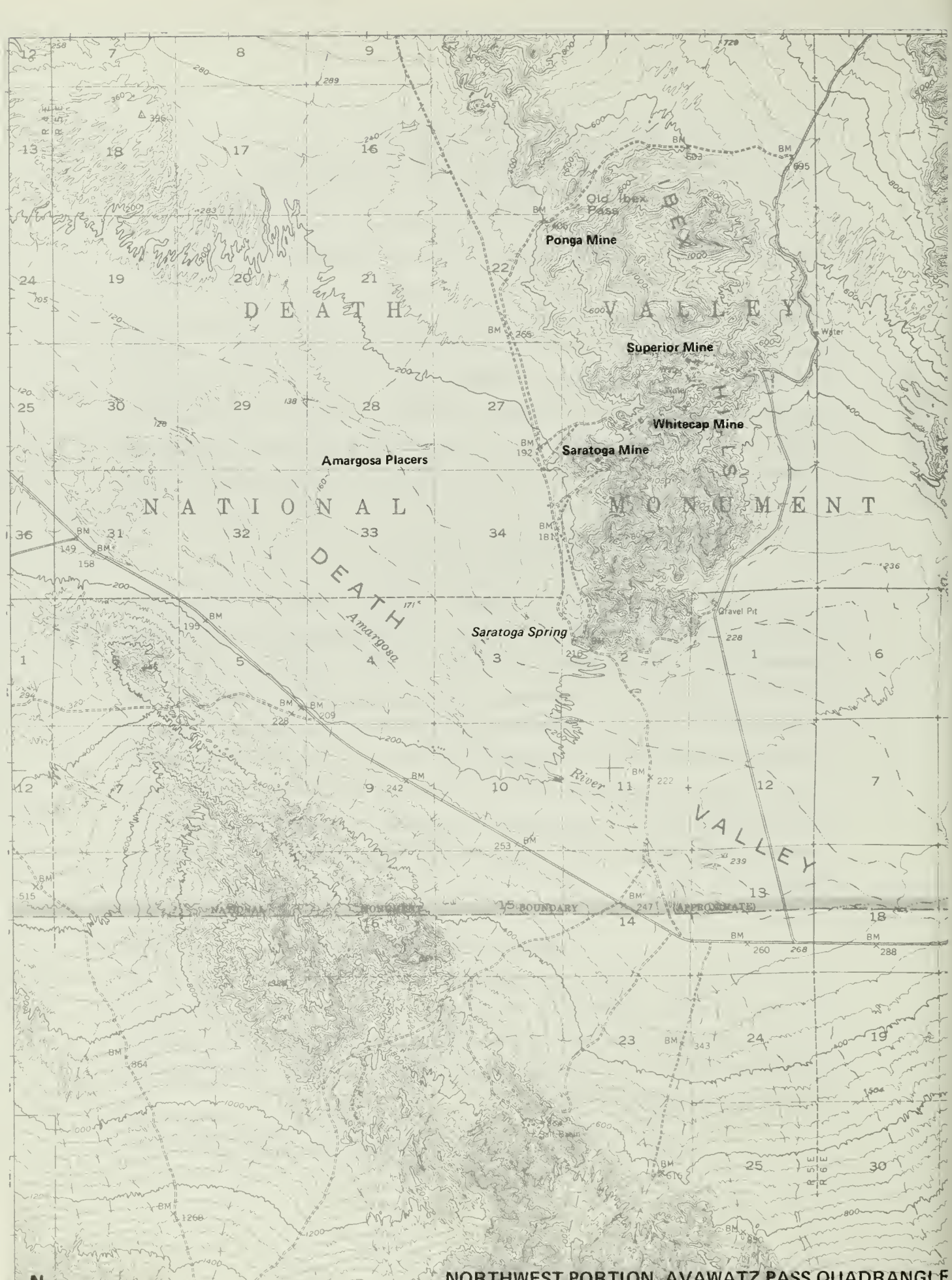
a. Saratoga Springs Area Talc MInes

1. History

Shortly after the discovery of talc mines in the Ibex Springs region, several more talc deposits were located to the south, in the hills north of Saratoga Springs. The first of these was the Ponga, a single talc claim about three miles north of Saratoga Springs, which was located by Ernest Huhn in the mid-1930s. After sinking a small shaft, Huhn depleted either his capital or his desire to develop the claim (or perhaps both), and it lay idle until 1948, when it was leased to the Southern California Minerals Company. This company worked the deposit from 1948 to 1955, obtaining 12,554 tons of commercial talc. The Ponga has been idle since 1955, and is now owned by Pfizer, Inc.

The Superior Mine, located in the midst of the hills north of Saratoga Springs, was the next to be developed. Consisting of three claims, this mine was owned and operated by the Southern California Minerals Company from its beginning in 1940 until recent years. The Superior Mine was easily the most developed and most productive talc mine in the southern Death Valley region, producing 141,000 tons of ore during its most active period, 1940-1959. The Superior remained in intermittent operation through the early 1960s. Its now dormant facilities are owned by Pfizer, Inc.

Adjacent to the Superior is the Whitecap Talc Mine, also owned and operated during its active life by the Southern California Minerals Company. Consisting of a single body of ore, the Whitecap was worked between 1947 and 1951, yielding 6,315 tons of ore. The mine has not been operated since 1951, and is now the property of Pfizer, Inc.



NORTHWEST PORTION, AVAWATZ PASS QUADRANGLE

DEATH VALLEY NATIONAL MONUMENT

143/40074 30 of 30

Scale: 1" = 1 mile

To the southwest are the three groups of workings known collectively as the Saratoga Mine. The northern group of this complex was opened in 1944 and worked for one year by the Champco Minerals Company, which extracted about 1,000 tons of ore. After lying idle for several years, the Saratoga complex was leased by the Southern California Minerals Company, which opened new bodies of talc in the south group in 1949. These were worked for several years until being abandoned in 1954, having produced only small amounts of talc. Finally, in 1955, the central group of claims was opened by the Southern California Company, and intermittently operated until the mind-1960s. As a combined total, the output of the three groups of the Saratoga Mine are estimated as having produced 5000 to 10,000 tons of talc. All the Saratoga holdings are now idle, and are in the possession of Pfizer, Inc.

During the active phases of these Saratoga Springs area talc mines, ore was hauled by truck to various railroad points for shipment to processors in Los Angeles and Ogden, Utah. The usual shipping point was Dunn Siding on the Union Pacific Railroad, about 28 miles southwest of Baker, California--a point approximately 64 miles from the mines.[18]

2. Present Status, Evaluation and Recommendations

As a group, the Saratoga Springs talc mines closely resemble those of the Ibex Springs area. At the

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18. Lauren A. Wright, Geology of the Superior Talc Area, Death Valley, California, Special Report #20, California Division of Mines and Geology, (1952), pp. 1-2, 5-7, 16-22. Lauren A. Wright, Talc Deposits of the Southern Death Valley-Kingston Range Region, California, Special Report #95, California Division of Mines and Geology, (1968), pp. 27, 63-67, 70-73, 78.

Ponga, which was essentially a lode opertion (with a minimum of bulldozer exploration and assessment work), there is a wooden ore bin, a collapsed wooden headframe, an engine house foundation, and two shafts. All of these structures are in poor condition, and none possess any historic significance.

The Whitecap site contains only a wooden headframe and ore bin, but both are in excellent condition. The Saratoga groups contain the usual assortment of wooden ore bins, headframes, tramway remnants, and foundations--in various stages of deterioration. As in the case of the Ponga, both the Whitecap and Saratoga were essentially shaft and lode operations, with a minimum of bulldozer stripping carried on in the later years of development.

There is not much to differentiate between the Ponga, the Saratoga, or the Whitecap. The wooden mining remains are relatively intact and most are in good shape, probably because all three mines were operated by the same company, which refrained from stripping abandoned sites, in case of future developments. As in the Ibex Springs area, a policy of benign neglect is recommended. Ther is certainly nothing within these sites to warrant the utilization of preservation money, and their remoteness from general tourist traffic will probably preserve these remains with only a usual amount of natural deterioration.

The Superior Mine, reflecting its greater period of production, has more extensive structural remains. These are, however, of a more modern period than found elsewhere in the region, and consist of tin and frame living shacks and mine buildings, as well as a steel headframe. In a mining sense, this site is the most important one in the area, but it is also the most unsightly and the least historic. Judging from the condition of the



Partial view of the Superior Talc Mine workings, showing steel head frame, steel frames for abandoned buildings, and dumps.

1978 photo by John Latschar.

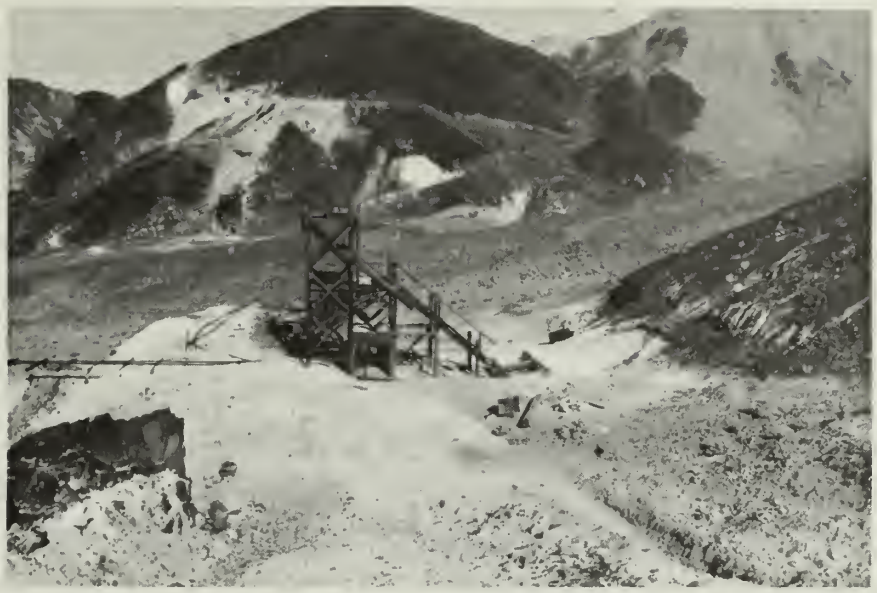


Above: Ruins of short-lived Ponga Talc Mine, overlooking south Death Valley.

Below: Wooden headframe and hoisting works of Whitecap Talc Mine.

1978 photos by John Latschar.





Saratoga Talc Mines: View from middle group of workings north towards northern group.

1978 photo by John Latschar.



Saratoga Talc Mines: View of southern group of workings.

1978 photo by Linda Greene.

camp, operations in the last years were carried out on a shoestring budget. As a result, the area today resembles a modern garbage dump more than a possible historic site. When the underground talc lodes ran out, the company resorted to stripping operations before giving up, leaving the area pitted with large and small gouges and holes, and destroying the possibility of interpreting the earlier years of activity. This general condition of the site, coupled with the modern flavor of the remaining structures, makes the Superior mine unworthy of any preservation efforts.

b. Saratoga Springs

1. History

Like Ibex Springs to the north, activities at Saratoga Springs have been constant and varied over the last hundred years, for the springs have long been the most important watering spot in the south Death Valley region. As with Ibex Springs, little remains to bear witness to Saratoga's past, due to the destruction wrought by years of harsh weather and the sticky hands of generations of prospectors and travelers.

The first printed mention of Saratoga Springs is connected with the 1871 Wheeler survey. Although accounts are somewhat contradictory, a portion of the Wheeler party apparently camped at the springs, and named them after the well-known resort of Saratoga Springs, New York. Whether or not the springs were first discovered by Wheeler's party, they soon became known to travelers, teamsters and prospectors of the desert region, and were important desert stops for all. Although the accounts again vary, the springs were a primary watering hole for the famous 20-mule team borax wagons during the 1880s, as they were on the direct route from the old Amargosa borax works, and the alternate route for the Harmony borax works of Death Valley.[19]

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19. Harold O. Weight, Twenty-Mule Team Days in Death Valley (1955).

After the borax works were closed in the late 1880s, the springs reverted to the occasional use of prospectors and travelers, until 1902, when the mad nitrate rush began. These rushers left almost as soon as arrived, however, and the springs were quiet again until the reverberations of the Bullfrog boom reached down into south Death Valley. Then, in 1905 and 1907, occasional references were made in the Rhyolite newspapers to gold and silver miners who had prospects nearby. None of these prospects panned out, and activity around the springs soon declined. In 1909 the niter prospects were again investigated, and due to the efforts of A. W. Scott, we have a pictorial account of life at the Saratoga Springs mining camp. But Scott's camp only lasted a year or two, and the springs area was subsequently deserted. The only visitors for the next twenty-odd years were lonely prospectors and tourists, who slowly but surely dismantled what had been left behind by earlier occupants. A 1921 visitor saw no signs of life in the vicinity of the springs.[20]

In the 1930s, with the opening of the Saratoga district talc mines, the springs once more became an important source of water. Throughout the life of the Ponga, Superior, Whitehouse and Saratoga mines, all water for the daily use of the mines and miners (with the exception of drinking) was drawn from Saratoga Springs. At the same time, a small resort and water bottling effort was carried out by a local entrepreneur. World War II killed the resort, due to gas rationing, and the water bolttling business soon followed suit. The mines were slower to die, and continued to draw upon the Spring waters until the 1960s, when they finally closed.[21]

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20. Rhyolite Herald, 8 Dec 1905; 22 Nov 1907. David G. Thompson, Routes to Desert Watering Places in the Mojave Region, California, USGS Water Supply Paper #490-B, (1921), pp. 97-99.

21. See above, Saratoga talc mines section; Benjamin Levy, "Death Valley Historic Background Study, National Park Service, (1969), pp. 157-78.



Above: Stone cabin built ca 1890, converted to blacksmith shop in 1909 by Pcific Nitrate company.

Photo from "Niter Lands of California," courtesy Death Valley National Monument Library, #3076

Below: Same site, 1978. Photo by Linda Green.





Pacific Nitrate Company's camp in vicinity of Saratoga Springs, at its height ca. 1910.

Photo from "Niter Lands of California," courtesy of Death Valley National Monument Library, #3104.



Second stone cabin, Saratoga Springs area, probably built by Pacific Nitrate ca. 1909, may be seen through framework of cabin under construction.

Photo from "Niter Lands of California," courtesy Death Valley National Monument Library, #3092.



Spring house at Saratoga Springs, undated, ca. 1930. Note tourist accomodations in right background.

Photo courtesy Death Valley National Monument Library, #1563.

2. Present Status, Evaluation and Recommendations

Little remains upon the site of all this activity. While this is not unusual for a desert watering hole, the situation at Saratoga Springs is further confused by conflicting data concerning the two principal remaining structures--the remnants of two stone cabins.

D. A. Hufford, a compiler of popular lore, wrote that in 1901 there were two old stone houses at the springs, built in the 1890s, and used as a saloon and a store for the borax teamsters. A. W. Scott, however, in his photograph album "Niter Lands of California," labeled one of the structures as a stone house built by a "one lunger" about 1889, who lived there for two years. Scott's niter company converted the stone house into a blacksmith shop.

Scott's pictures, taken between 1908 and 1909, also show half a dozen tent and frame structures built in the vicinity of the springs during that period, including a store and a spring house. Althoug it is not certain, the spring house appears to be the one used by the Saratoga Water Company in the 1930s.

Unfortunately, through the depredations of time, weather, and economic talc miners, no remnants of the frame or tent structures built by the niter company are now visible. The only extant structures at Saratoga Springs are the slowly crumbling walls of the original two stone houses built sometime prior to the turn of the century. The smaller of these is little more than a pile of rubble, but the larger one is still partially intact. Constructed of unmortered stone, with dimensions of nine feet by twelve feet,

the three to four foot high walls of this ruin are clearly discernable.[22]

Due to its sensitive location, just north of the fish pool at Saratoga Springs, the site of these stone ruins should be subject to a policy of benign neglect. Although they are a part of an interesting site, the ruins do not justify preservation or stabilization funds, but should be protected against vandalism, and made a part of the interpretation of the long history of Saratoga Springs.

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22. D. A. Hufford, Death Valley, Swamper Ike's Tradition Lore, (1902), p. 18. Levy, Death Valley, pp. 157-58. A. W. Scott, Jr., "Niter Lands of California," photograph album, Death Valley National Monument Library.

V. Recommendations for Treatment of Death Valley Mining Sites

A. General Proposals

Specific recommendations for managment of the sites studied in this report may be found in the appropriate sections of the body of the text. The following are several general comments that are valid for the entire Monument area.

All mining sites and properties researched possess various levels of historic interest and significance. Those that have been determined to be historically significant have been or are in the process of being nominated to the National Register of Historic Places. Those of historic interest or importance that do not meet the criteria of eligibility for the National Register due either to a lack of significance or a lack of integrity have been recommended for a policy of benign neglect. This means that the Monument would make no effort to maintain the structures at a particular site or provide or maintain access to them. It includes the recommendation that the Monument not demolish any structures on the site nor reclaim or naturalize the area.

As a general rule, benign neglect is a blanket recommendation for all mining properties within the Monument that date prior to 1942 and that do not have National Register significance. It is also recommended for certain mining properties that underwent their greatest development after that year, which was a turning point in Death Valley mining history for two reasons. First, the United States Government at that time banned mining of non-strategic minerals as detrimental to the war effort. Secondly, and more important in its effects on the Monument lands, the post-war era initiated strip-mining methods of operation, where even the smallest mining effort left a quite visible mark upon the land, in comparison to the minor surface disturbance generated by earlier underground excavations.

Death Valley National Monument announced recently the beginning of its RAMS (Reclamation of Abandoned Mining Sites) Program, whose purpose, according to the Superintendent, is the "reduction of safety hazards, removal of unwanted structures and debris, and reclamation of disturbed resources."[1] Because of the vast number of sites involved of varying significance, the broad scope of the program, and the irreversibility of some of its proposed actions, the authors share several concerns over its impact on the historic resources of the region, especially upon older mining sites that are not considered eligible for the National Register of Historic Places. For such sites, which have been recommended for a policy of benign neglect, the authors recommend against any demolition of existing structures or the reclamation of sites. In addition, it is strongly recommended that any necessary removal of "unwanted debris" be done with the assistance of a qualified preservationist who would be given the opportunity to record and retrieve any artifacts of value from the site. If the Monument staff decides to reclaim any pre-1942 mining sites, it is recommended that a qualified preservationist first record the site photographically, record and retrieve any artifacts, and maintain a permanent record of the site in Monument files.

As a general rule, a policy of passive safety measures is recommended for the reduction of safety hazards inherent in mine shafts and tunnels, on both National Register properties and those recommended for benign neglect. The use of steel grates, for example, placed just below the collar of shafts and immediately inside tunnel entrances is greatly preferable to the closure of shafts and tunnel through blasting or filling. Steel grates would

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1. George Von der Lippe, Supt., DEVA NM, to Director, Western Archeological Center, 9 November 1979.

both protect the visitors and preserve the historic integrity and flavor of the mining sites.

In regard to cultural resources on the west side of the Monument, it is recommended that efforts continue to acquire the Skidoo Mill site. This mill, the largest extant mill on Park Service lands in the Western Region with its equipment still in place, is fast deteriorating due to a lack of maintenance and the ravages of nature. If acquired, a course of action should be undertaken immediately to stabilize the mill, and plans should be made for its future restoration.

Access to the eastern side of the Monument by local residents and visitors is both easy and frequent, and the sight of four-wheel drive vehicles and motocycles is not uncommon. Unfortunately, few of the dozens of access roads and trails are marked, so visitors do not realize when they are entering protected National Monument lands. This problem is especially acute in the Bullfrog Hills region and the Chloride Cliff area. Bondary markers should be erected as soon as possible on all entrance roads and trails. Two properties on the eastern side of the Monument, both of which have been nominated to the National Register of Historic Places, need immediate stabilization and preservation work. The Keane Wonder Tramway and its lower tramway terminal both need stabilization work, to prevent their deteriorating structures from collapsing. In addition, the Homestake-King Mill foundations should be examined by an architect to determine what, if any, stabilization measures are necessary to keep those imposing foundations walls from slowly crumbling.

And, of course, the authors would like to see the fruits of their labors disseminated, through better interpretation of Death Valley's rich mining heritage. Since this was one of the main

reasons behind the study itself, it is recommended that funds be programmed to implement Death Valley's interpretive program, following the recommendations given in the body of the report.

B. National Register Properties

The following sites and districts have been, or will be, nominated to the National Register of Historic Places.

1. The West Side

Site/District	Status
Big Talc Mine	Nominated - 1980
Chloride Cliff Road (Twenty-Mule-Team Borax Route)	Nominated - 1980
Corduroy Road	Nominated - 1980
Eagle Borax Works	on NR - Dec 1974
Eichbaum Toll Road	Nominated - 1980
Furnace Creek Wash Historic District	Nominated - 1980
Garibaldi Mine	Nominated - 1980
Gateway of the '49ers	Nominated - 1980
Goldbelt Spring Talc Camp	Nominated - 1980
Gold Hill Mill	Nominated - 1980
Harmony Borax Works	on NR - Dec 1974
Harrisburg Historic District	Nominated - 1980
Hungry Bill's Ranch Historic District	Nominated - 1980
Journigan's Mill	Nominated - 1980
Lemoigne Mine and Cabin	Nominated - 1980
Lost Burro Mine and Mill	Nominated - 1980
Nevares Homestead	Nominated - 1980
Old Stovepipe Wells	Nominated - 1980
Panamint Treasure Mine	Nominated - 1980
Queen of Sheba (Carbonate) Mine and Mill	Nominated - 1980
Skidoo Historic District (April 1974 Nomination to be revised)	on NR - April 1974
Stovepipe Wells Hotel	Nominated - 1980
Ulida Mine and Camp	Nominated - 1980
Wildrose Canyon Antimony Mine	Nominated - 1980
Wildrose Canyon Charcoal Kilns	Nominated - 1980
Wingate Pass Battle Site	Nominated - 1980

National Register Properties (cont)

2. The East Side

Site/District	Status
Chloride Cliff Historic District	Nominated - 1980
Echo Canyon Historic District	Nominated - 1980
Greenwater Historic District	Nominated - 1980
Homstake-King and Gold Bar Mine and Mill	Nominated - 1980
Keane Wonder Historic District	Nominated - 1980
Las Vegas & Tonopah Railroad Grade	Nominated - 1980
Leadfield	on NR - June 1975
Lee Historic District	Nominated - 1980
Original Bullfrog - West Extension Mines Site	Nominated - 1980

C. List of Classified Structures

The following is a list of structures within Death Valley National Monument which are on the List of Classified Structures, together with those which the authors recommend as future additions to the LCS.

1. The West Side

Structure	Status
Corduroy Road	LCS report needed
Eichbaum Toll Road	LCS report needed
Furnace Creek Wash Historic District Ruins	LCS report needed
Garibaldi Mine Stone Ruins	LCS report needed
Goldbelt Spring Talc Camp	LCS report needed
Gold Hill Mine Site Ruins	LCS report needed
Harmony Borax Works	on LCS - March 1976
Harrisburg Historic District	
Pete Aguereberry CAmp	LCS report needed
Eureka Mine	LCS report needed
Stone Dugout between Eureka Mine and Cashier Mine	LCS report needed
Cashier Mine and Mill Ruins	on LCS - May 1976
Wood and tin-sided dugout	on LCS - May 1976
Hungry Bill's Ranch Historic District	
Arrastras	LCS report needed
Fences	on LCS - Dec 1975
Building Ruins	on LCS - Dec 1975
Hunter Cabin	on LCS - Dec 1975
Journigan's Mill Ruins	on LCS - Dec 1975
Lemoigne Mine and Cabin	LCS report needed
Lost Burro Mine and Mill Ruins	LCS report needed
Nevares Cabin and Root Cellar	on LCS - April 1976

List of Classified Structures (cont)

Structure	Status
Panamint Treasure Mine	LCS report needed
Queen of Sheba (Carbonate) Mine and Mill Ruins	LCS report needed
Skidoo Historic District	
Stamp Mill	on LCS - Dec 1976
Ore Bin and Chute	on LCS - Dec 1976
Tiny Mine and Mill Ruins	LCS report needed
Pipeline Route	LCS report needed
Ulida Mine	LCS report needed
Wildrose Canyon Charcoal Kilns	on LCS - Dec 1975
Wildrose Station Warehouse	on LCS - Dec 1975
2. The East Side	
Ashford Mill	on LCS - Dec 1975
Chloride Cliff Historic District	
1910 One-stamp Mill	LCS report needed
Stone Dugout #1, Chloride City	on LCS - Dec 1975
Stone Dugout #2, Chloride City	on LCS - Dec 1975
Big Bell Cable Road	LCS report needed
Big Bell Mill	LCS report needed
Big Bell Mine	LCS report needed
Big Bell Cabins	LCS report needed
Confidence Mill Site	on LCS - Feb 1976
Echo Canyon Historic District	
Inyo Mill	LCS report needed
Inyo Mine	LCS report needed
Inyo Mine Cabins	LCS report needed
"Furnace" Mill Ruins	LCS report needed
Homestake-King Mine and Mill Ruins	on LCS - Dec 1975
Keane Wonder Historic District	
Keane Wonder Cable Tramway Towers	on LCS - Dec 1975
Keane Wonder Tramway Upper Terminal	on LCS - Dec 1975
Keane Wonder Tramway Lower Terminal	on LCS - Dec 1975
Hoisting Engine and Cable Drum, Keane Wonder Mine	on LCS - Jan 1976

List of Classified Structures (cont)

Structure	Status
Johnnie Cyty's 3-stamp Mill	LCS report needed
Johnnie Cyty's Cabin	LCS report needed
Las Vegas & Tonopah Railroad Grade	on LCS - Dec 1975
Leadfield	
Building #1	on LCS - Dec 1975
Building #2	on LCS - Dec 1975
Building #3	on LCS - Dec 1975
Building #5	on LCS - Dec 1975
Building #6	on LCS - Dec 1975
Building #7	on LCS - Dec 1975
Outhouse (Privy) #1	on LCS - Dec 1975
Outhouse (Privy) #2	on LCS - Dec 1975
Lower Grapevine Ranch	
Scotty's Ranch House	on LCS - Dec 1975
Garage, Lower Vine Ranch	on LCS - Dec 1975
Grain Shed and Corral	on LCS - Jan 1976
Shed	on LCS - Dec 1975
Scotty's.Bridge, Lower Vine	on LCS - Jan 1976
Old Administrative Building	on LCS - Jan 1976
Scotty's Castle Area	
Hacienda-Guest House	on LCS - Dec 1975
Scotty's Castle and Annex	on LCS - Dec 1975
Chimestower	on LCS - Dec 1975
Powerhouse and Pavilion	on LCS - Jan 1976
Gas House	on LCS - Jan 1976
Cookhouse	on LCS - Dec 1975
Motel Unit - Garage	on LCS - Jan 1976
Scotty's Original "Castle"	on LCS - Dec 1975
Solar Heater	on LCS - Jan 1976
Stable	on LCS - Dec 1975
Entrance Gate	on LCS - Jan 1976
Gravel Separator	on LCS - Jan 1976
Powder Storage Structure	on LCS - Jan 1976
Swimming Pool	on LCS - Dec 1975
Texas Spring Campground Comfort Station	on LCS - Jan 1976

GLOSSARY

ADIT: A horizontal passage into a hilside.

AERIAL TRAMWAY: transports loads in carries suspended from cables stretched between two points, often far apart. On continuous tramways a series of loaded carries travel in one direction while empty carriers return in another. A reversible tramway supports one carrier that travels back and forth on the same cable.

AMALGAM: gold or silver combined with mercury.

ARRASTRA: a primitive ore mill whose design was brought to this country by the Spaniards. Considered especially useful because it could be built anywhere from materials at hand, it consisted of a circular trough constructed of smooth, hard, flat-surfaced stones set in clay and averaging about two feet deep and six across, although the size varied according to the amount of area available. A low stone coping followed around the periphery of the trough. In the center of the structure was a pole that pivoted and dragged two large, flat stones around the trough to crush the ore. This pole was powered by horse, mule, water, hand, or steam or gasoline engine. The floor of the arrastra was then covered with one to two inches of broken ore to which water was periodically added. The stones were dragged around until the gold ore was pulverized to a sand, freeing the gold, a period of usually one to two days. The muddy, slimy mixture was then flushed out down a sort of flume and sometimes quicksilver or mercury amalgamated with the gold or silver in catch basins. The amalgam was then distilled and the small gold particles separated and recovered. Any material caught in between the

floor stones could be scooped up with a small horn spoon and panned. Before abandoning the arrastra, its floor stones were pulled up and any ore caught there removed. Sometimes a higher percentage of gold could be gained in this fashion than from a small stamp mill, although the latter was more economical where large tonnages of ore were concerned. The arrastra could only be used with free-milling ore.

ASSAY: chemical or physical method of ascertaining the commercial value of ore.

ASSESSMENT WORK: the locators of unpatented placer and lode claims were required by law to perform $100 (in value) worth of labor and improvements per claim annually in order to prevent relocation of their claim by others.

BALL MILL: a cylindrical or conical container, resting on supports, that is used for coarse primary grinding. Its diameter approximately equals its length. It functions by rotating horizontally while iron or steel balls roll over the ore. These balls may be up to five inches in diameter, but smaller ones are used for finer grinding. In this latter case the mills are longer.

BOND-AND-LEASE SYSTEM: an arrangement that evolved circa the 1890s to protect buyers from salted mines. A prospective purchaser posted bond in the amount of the selling price of a mine, then took possession and carried out development work. The proceeds from all pay ore were his. At the expiration of the lease period, if the mine was still producing, the purchaser could exercise his option and buy the property, with the bond money going to the owner. If the lessee thought the prospect had no future, he returned it to the

vendor along with any development installations and reclaimed his bond. In a leasing situation where no bond has been put up, the vendor can refuse to renew a lease on a profitable mine after the leasing period is up. In this way the owner of a mine who does not have time to work it himself can get the necessary development work started and increase the assets of his holdings.

CLAIM: a parcel of land legally held for mining purposes, the location of which is recorded with the county and marked by monuments.

COLLAR: top of a shaft.

CONCENTRATOR: plant where ore is separated into valuable and rejected materials.

CROSSCUT: horizontal opening driven across a vein or across the direction of the main workings. The connection from a shaft to a vein.

CRUSHERS: an apparatus that grinds ores without water and is designed to produce feed for the grinding mills. Common types used are jaw and gyratory crushers (breakers) and reduction gyratories, cone crushers, and rolls (intermediate crushers). The best-known type of jaw crusher is the Blake, with a movable jaw pivoted at the top.

CUSTOM ORE MILL: a mill designed to treat for a fee small lots of ore from prospects or mines not equipped with reduction facilities. An important factor in the early economic development of a mineral area.

CYANIDE PROCESS: a chemical operation for extracting gold from finely-crushed ores, concentrates, and tailings by application of cyanide of potassium. The ore is first crushed to one-inch size and then conveyed to a set of rollers for grinding to the required fineness. It is then put in circular tanks, about twenty feet in diameter. About eight inches above the base are false bottoms of wood slats over which a canvas is laid to act as a filter. The ore was spread on top of the canvas and a cyanide solution applied from the bottom of the tanks, which worked on the ore until the gold was dissolved. The solution was then drawn off and sent to a tank where it was precipitated. The precipitates were melted in a furnace and poured into molds. Success of this process depended on the amount of tonnage (it could be costly) and the composition of the ore. It was widely used in the 1930s to rework old mine dumps because of its simplicity and the fact that larger percentages of gold could be recovered from the ore.

DRIFT: horizontal underground passage driven along an ore structure such as a vein.

DUMP: a pile or heap of waste rock material or other non-ore refuse excavated in driving a tunnel or shaft and located near a mine.

EXPLORATION: actions such as drilling, trenching, or excavating underground openings to ascertain the size, shape and location of an ore body. Next step after area has been prospected.

FLOTATION: a method of mineral separation akin to concentration. Crushed, ground, and classified ore is pulped with water, while special reagents are used to make one or more of the ore minerals water-repellant and responsive to attachment with air

bubbles. As the desired minerals float to the surface attached to the bubbles they are removed by mechanical paddles as concentrate, leaving the other mineral to sink. Often several stages of flotation with selective reagents are used to obtain the desired concentration.

FLUX: a substance promoting the fusion of minerals or metals.

HANGING WALL: the layer of rock or wall overhinging a lode, on the upper side of an inclined vein.

HEADFRAME: the steel or timber frame at the top of a shaft, carrying a sheave or pulley for hoisting the rope. Its height depends on the method of disposing of the rock and the size of the ore bucket. It is used for development work and shaft sinking. Most were usually constructed of wood because it was less expensive, readily obtained, and quickly erected.

HIGH-GRADE: rich or shipping ore.

INCLINED SHAFT: refers to openings inclined from the vertical to 45 degrees or less.

LEACHING: a solution-mining technique for extracting soluble ores in situations where conventional mining methods are not economical. Heap leaching is performed where the grade of ore is too low to pay for haulage or to be treated by conventional concentration or by leaching in vats. It is also used for complex ores that cannot be economically treated by conventional processes.

LEDGE: mass of rock consituting a valuable mineral deposit.

LEVEL: horizontal passages or drifts spaced at regular intervals in depth and either numbered from the surface in regular order or designated by their actual elevation below the top of the shaft.

LODE: several veins found close together enabling them and intervening rock to be worked as a unit. Generally interchangeable with "vein"; a well-defined occurrence of valuable mineral-bearing material. A lode claim is staked on veins or lodes of quartz-bearing gold or silver and composed of twenty acres. Lode gold is that in place within solid rock where it has been deposited.

MILL: reducing plant where ore is concentrated and/or metals recovered.

MILL-SITE: a five-acre claim of non-mineral land. May be contiguous or not to claim producing ore for the mill. Must be used for mining and milling purposes in order to retain title.

MINING DISTRICT: section of country designated by name, having described boundaries within which minerals are found and worked under the rules and regulations prescribed by miners therein.

OPEN-PIT OPERATIONS: a method of mining an ore body by stripping away the overburden and reaching the ore from above. It requies a large area for mining, stripping, disposal of waste rock, placement of lowgrade stockpiles or heap-leaching operations, construction of roads, etc. A complex and costly operation.

ORE: mineral sufficient in quality to be exploited at a profit.

ORE BODY: solid and fairly continuous ore mass that may include low-grade ore and waste plus pay ore.

ORE CARS: in Western mines horizontal tramming was done basically with one-ton iron ore cars equipped with four closely-set flanged wheels running on an eighteen or twenty-inch gauge track. The body was so suspended that on tripping a latch lever they dumped sideways; many, however, had center pintles, enabling the box to be swung ninety degrees and dumped end over. One loaded car was all a man could push, but mules could pull trains of up to ten cars linked together with short chains. In larger, busier mines the tram system included turnouts and junctions that were directed by hand-operated track switches, and steam, gasoline or electric engines.

PLACERS: superficial deposits, occupying ancient river beds, that have washed down from a vein or lode, or deposits of valuable minerals found in the alluvium of active streambeds. Placer mining involves the recovery of this gold from the sands and gravel of a streambed and is one of the oldest forms of mining. Potentially rich spots are washed with a pan, long tom, and sluice. Gold, particularly, is found in this situation because it is heavy and resists corrosion. Placer claims are limited to twenty acres.

POCKET: rich spot in vein or deposit.

PORTAL: mouth of adit opening.

PROSPECTING: involves ground reconnaissance and preliminary observation. Prospectors could rarely afford to explore their own prospects to any extent, so they tried to interest a well-financed mining organization in carrying out further exploration.

QUARTZ MINE: area in which ore deposits are found in veins or fissures in the rocks of the earth's crust. Usually applied to lode gold mines.

RAISE: vertical or inclined opening driven upward from adit level to connect with level above or to explore ground above for limited distance.

SHAFT: vertical or steeply inclined opening excavated from surface.

STAMP MILL: apparatus that crushes rock by descending pestles or stamps operated by water, steam, electricity, or gasoline power.

STOPE: underground excavation from which ore has been or is being extracted. The particular methods used are dependent on the size and shape of the ore body, overburden conditions, etc.

open stoping--small ore bodies are mined completely out with no pillar of ore left in place to support the walls.

room and pillar--pillars left in regular pattern while rooms are mined out. At the end of the operation they are "robbed" just before that poration of the mine is abandoned. The stope walls will then collapse.

STRIKE: to find an ore vein; a valuable discovery.

TAILINGS: refuse material resulting from the washing, concentration, or treatment of ground ore; material too poor to be treated further. The waste from the concentration process is disposed of as mill tailings that are directed through ditches, pipe systems, etc., to pond disposal areas downhill from the mill. Mill tailing ponds were usually impounded behind embankments built from the tailing material itself. In the ponds the solids separate from the liquid and are deposited on the pond floor, while the water eventually soaks into the ground or is drained off.

TRAMMING: removal of muck into wheelbarrows or mine cars to the surface.

TUNNELS: horizontal or nearly so underground opening from one side of mountain to another. Sometimes wrongly used synonymous with adit or drift.

VEIN: zone or belt of mineralized rock lying within boundaries clearly separating it from neighboring rock.

WASTE ROCK: barren or low-grade material taken from mine during exploration and development.

WINZE: subsidiary shaft starting underground, usually a connection between two levels. Work down from an adit level, as opposed to a raise.[1]

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1. The above has drawn on the following sources: Inyo Independent, 23 July, 20 August, 1937; Stanley W. Paher, Death Valley Ghost Towns (Las Vegas: 1973); Otis E. Young, Jr.,

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