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NEVADA HISTORICAL SOCIETY

Founded in 1904 for the purpose of investigating topics pertaining to the early history of Nevada and of collecting relics for a museum, the **NEVADA HISTORICAL SOCIETY** has dedicated itself to the continuing purpose of preserving the rich heritage of the peoples—past and present—who have inhabited the land of Nevada.

The Society believes that it can best serve the State by arousing in the people an historical consciousness which it hopes will be carried to succeeding generations. Thus, through its director, the Society sponsors an educational program which carries the history of Nevada to the schools and organizations throughout the State.

The Society maintains a library and museum where historical materials of many kinds are on display to the public and are available to students and scholars.

The Society publishes the **NEVADA HISTORICAL SOCIETY'S QUARTERLY** which publishes articles of interest to readers in the social, cultural, economic, and political history of the Great Basin area: Nevada, eastern California, eastern and southern Oregon, Idaho, and Utah.

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COVER

Main street of Searchlight, Nevada, 1903–1905.

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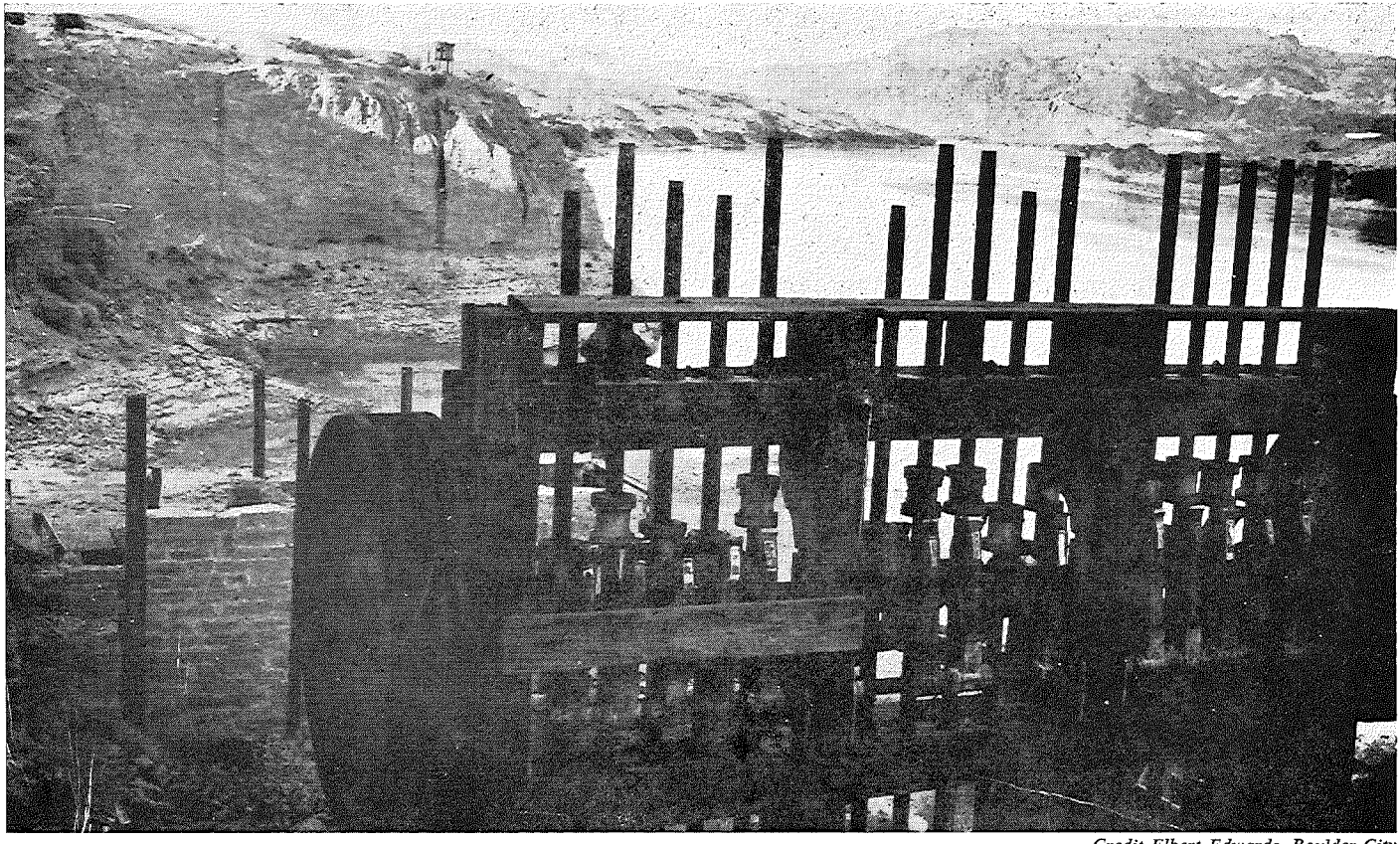

—Credit Elbert Edwards, Boulder City

Fifteen Stamp Mill in Eldorado Canyon overlooking the Colorado River.

Early Development of El Dorado Canyon and Searchlight Mining Districts

JOHN M. TOWNLEY

INTRODUCTION

The El Dorado-Searchlight area is comprised of two contiguous mining districts situated wholly west of the Colorado River, east of El Dorado Valley, and between Boulder City on the north and Grapevine Canyon on the south. The area enclosed within these somewhat arbitrary boundaries approximates 1,150 square miles. The portions of the study area adjacent to the Colorado River lie within the Lake Mead National Recreation Area.

Access to the study area is easily made from U.S. Highway 95, which parallels the districts as it traces a north-south course through El Dorado Valley. Nevada Highway 60 continues past Nelson to the Colorado River. The road carries much tourist traffic and interconnects with many prospector and jeep trails. The area is well covered by roads in various stages of repair. As the drainage pattern is oriented from west to east, most roads follow an easterly direction from the higher ridges down to the Colorado Valley. Travel on most of the roads of the area is not recommended for ordinary motor vehicles although four-wheel drive units can normally be utilized.

The study area lies in the southern portion of the Great Basin of the western United States. To the west and northwest of the district lies the El Dorado Valley, which includes the Searchlight playa. The valley is generally 6 to 10 miles in width and is approximately 35 miles in length. Drainage from the western slopes of the El Dorado and Newberry ranges flows into El Dorado Valley. Flows deriving from the crest line of the same ranges, but in their eastern half, follow the drainage pattern to the Colorado River. Physiographically, the study area is divided into two more or less similar parts. The eastern section belongs to the drainage pattern of the Colorado River, and the western portion is within the Basin and Range Province.

The El Dorado-Searchlight area is geologically a north-south trending orogenous zone, paralleled on the east by the valley of the Colorado, and by an alluvial valley on the west. The successive instrusions of igneous and sub-volcanic lithic masses have created an erosionally positive body that has gradually been eroded into a series of sharp ridges. Valley floor elevation ranges from 2,500 to 3,600 feet (MSL), while the crest line varies between 4,500 and 5,500 feet (MSL).

Annual rainfall averages about 10.5 inches. This usually occurs in the form of violent thunderstorm activity. The fall months are the rainy season, but storms can occur at any time. Snowfall is light to moderate. Moisture derived from snowpack is noticeable enough to substantially effect averages.

The low average moisture is reflected in the climate and flora. The region is an atypical low-altitude desert. Springs occur infrequently and commonly in association with contact zones between intrusive or structural geologic elements.

PREVIOUS WORK

The earliest documented contact by Europeans with the study area was made by Lieutenant Joseph G. Ives in 1858 as a part of the survey made

by the Corps of Topographical Engineers on the navigability of the Colorado River. Ives' vessel, the Explorer, passed El Dorado Canyon, but was damaged in Black Canyon. Ives, himself, went further upstream to about the vicinity of Fortification Hill. The incident wherein the boat was damaged may have had some effect on Ives for later in his report he said, "The region last explored is, of course, altogether valueless. It can be approached only from the south, and after entering it there is nothing to do but leave * * *."

It is possible that J. S. Newberry, a geologist and member of Ives' party, made the first mineral collections in the El Dorado-Searchlight area. Newberry and others made a short trip up a side canyon of the Colorado to the west (El Dorado Canyon?) during the period when the vessel was being repaired. While there, they gathered samples of what was thought to be opal. Comments on the material are included in Ives' report.

G. K. Gilbert described a visit he made to El Dorado Canyon in 1871 for the Wheeler topographic survey. His work is included in the map shown as Figure 1.

The preceding reference to Gilbert was also included in the U.S.G.S. Bulletin 208 by Spurr (1903). This report consolidated much of the earlier work, and included new material on the geology of parts of Nevada and California south of the 40th parallel.

Ransome (1907) described the El Dorado-Searchlight district in his reconnaissance of Nevada south of Goldfield. This report was the initial professional description of the geology of the study area. Although limited in depth and handicapped by a shortage of field work, the report recognized the major features of the structural geology of the district.

Vandenburg (1937) is particularly useful for the production figures and extent of workings listed for individual mines. The description of mill processes is unique and valuable.

A word should be inserted here to outline what works of a purely historical nature were consulted and made a contribution. The lack of primary sources on the immediate area required substantial use of references from works of larger scope that included fragmentary information. This is particularly true of the period prior to 1897. No local source of social history existed prior to the publication of the *Searchlight Bulletin* in 1902. Descriptive material concerning 19th century mining activities is primarily in the form of remembrances published by later histories or as human interest stories in local newspapers. With time, these have become altered, and must be considered somewhat suspect until verified.

The definitive work on the Searchlight District is Callaghan (1941). Each of the major mines, and several of the peripheral camps, is examined in detail. Full production figures and line drawings of the underground workings are provided. A section on the history of the camp is dependable largely due to Searchlight's discovery relatively late in the time-spectrum of western mining.

Hansen (1962) is a recent and valuable dissertation on the geology of the El Dorado Canyon region. It does not cover all the area, but is quite detailed and competently describes the geology of the district.

MINING ACTIVITY PRIOR TO 1897

The Searchlight and El Dorado mining districts are related geographically and geologically, but a time span of more than 50 years separates their discovery by Europeans. If mining was conducted during the period of Spanish or Mexican sovereignty, this hiatus should be extended to include a minimum of one century and possibly two.

If Spanish mining did occur, the only site which would fit the scant historiographic evidence is the region surrounding El Dorado Canyon. However, earlier mining by the aboriginal inhabitants of the study area is well authenticated. Obvious quarries have been found with associated deposits of lithic and organic remains attributable to aboriginal cultures as far back as Basketmaker I time (1000 B.C.–A.D. 0).[1]

The aboriginal inhabitants of the American Southwest engaged in mining activity primarily to produce decorative materials. These workings were established to produce two items: colored pigments for cosmetic and ceramic purposes, and turquoise gemstone to be incorporated into jewelry and images. Both open pit and underground methods were employed to work deposits of turquoise and vari-colored ores.[2]

The earliest Europeans into the Southwest noted in their records the large amounts of metallic ores stored in the Indian settlements.[3] These ores had been finely crushed to facilitate use. Both silver-lead and copper ores were valued by the Indian populace. They used them to color the various earthen utensils made for domestic purposes. The variations in color between blues and greens were suited to decoration of pottery as well as cosmetic-religious painting of the body. At several places in the Southwest, sizeable shaft and stope networks had been excavated in the deposits worked by the Indians.[4] Unique examples of Indian mining development are not evident in the study area. However, the earlier newspapers carry accounts of shallow trenches with debris containing stone picks and hammers.[5]

To obtain stone cores for lithic implements, many quarries were

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[1]Edna Mae Bennett, *Turquoise and the Indian* (Denver: Sage Books, 1966), p. 40, citing F. H. H. Roberts, Jr., *Shabik' Eschee Village,* Bureau of American Ethnology, Bulletin No. 92, (Washington: U.S. Government Printing Office, 1929), p. 129.

[2]Katherine Bartlett, "Prehistoric Mining in the Southwest," *Museum Notes* (Museum of Northern Arizona), VII (April 1935), 42. This article succinctly outlines the extent and procedures employed in aboriginal mining.

[3]Herbert Eugene Bolton (ed.), *Spanish Exploration in the Southwest, 1542–1706,* One of the *Original Narratives of Early American History,* gen'l ed. J. Franklin Jameson (New York: Barnes & Noble, 1908), pp. 180.

[4]Letter from Melquiades Antonio Ortega, Santa Fe, New Mexico, January 31, 1831, to the Editors, *Registro Oficial,* Mexico City, found in *New Mexico Historical Review,* XXIV (October 1949), 331–339.

[5]*The Searchlight (Nevada) Bulletin,* October 22, 1909, p. 1.

located within the study area.[6] Usually, they are in close association with the deposit of material (usually a deposit of rhyolite or obsidian).

Turquoise is obtained near the north and south limits of the El Dorado-Searchlight area. Near Crescent, Nevada, just south of the study area, a sizeable deposit of turquoise was discovered by an Indian prospector in 1894. At the time of the discovery, it was noted that a sizeable quarry had been developed by the Indians, and many tools littered the floor of the working.[7] Between Boulder City and the dam, there is another turquoise deposit. Not as large as the excavation near Crescent, it consisted mainly of open pits along the outcrop of the gemstone. Again, many articles used by the Indians in their work were left behind.

Both from value of product and in the time and energy expended, turquoise represented the prime yield of aboriginal mining. The mining technology employed was simple. A surface exposure would be broken into pieces with stone hammers and the particles of gem removed by hand. The waste would then be carried to the dumps in wicker baskets or blankets. Another method was to utilize the shattering effect of an instantaneous drop in temperature to loosen rock in place by building a fire over or beside the exposure, then douse the heated area with water.[8]

Distribution of turquoise from Southern Nevada to the outlying communities of the Southwest and thence to Mexico was accomplished by an involved system of barter. Turquoise was highly valued by all the residents of the Southwest and Mexico, both Pueblo and Athapascan. Considerable commerce was carried on despite intermittent warfare.[9] Bennett (1966) describes the traffic in turquoise from the Crescent area to California and claims that individuals or parties traveling to obtain the stone were given peaceful access to the deposit. It has been seriously proposed by more than one student of the prehistoric use of turquoise that the vast amounts of the gem used by the Aztec Culture came principally from the American Southwest through trade circulation.[10] The arguments,

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[6]Harold O. Weight, "Crystal Roses of Eldorado," *Desert Magazine,* XVII (August 1954), 13. The following quote is included to show the type of material found in a typical lithic industry.

> "The many caves made us wonder if Indians had occupied this country in the old days. The mesquites, indicating water and guaranteeing food, made it almost certain this had been one of their gathering places.
>
> "Ahead, on a little rise in the wash, towered a picturesque teepee-like mass of rock whose large caves showed even from a distance. There, we agreed, would have been our residential district had be been cave dwelling in that canyon. We stopped opposite the great rock and, sure enough, there were smoked roofs, ash, pottery fragments, and arrow chippings. And the chipping showed, as always, the primitives had favored the most colorful stone the country offered."

[7]Francis Church Lincoln, *Mining Districts and Mineral Resources of Nevada* (Reno: Nevada Newsletter Publishing Company, 1923), p. 19.

[8]Bartlett, *Museum Notes,* VII, No. 2, 42.

[9]Jack D. Forbes, *Apache, Navaho, and Spaniard* (Norman: University of Oklahoma Press, 1960), p. 24.

[10]Benjamin Silliman, "Turquoise of New Mexico," *American Journal of Science,* XXII (1881), 70.

both pro and con, on this question would appear to strongly support the positive contention.

As a trade article, or even as a medium of exchange, turquoise is well adapted for the primitive transportation systems of prehistory. Light and compact, the stones were worth many times their own weight and size in manufactured goods or natural products such as furs, meats, and hides. This feature would tend to encourage the development of trade in turquoise between the Southwest and the interior of Mexico.[11]

POSSIBLE SPANISH MINING IN EL DORADO CANYON

The existence of Spanish mining activity in Nevada is an intriguing question. If such development did, in fact, take place, then it would expectedly occur in Southern Nevada. Many of the historical and technical publications concerning early mining in the State positively mention El Dorado Canyon as the locality.[12]

On the debit side of the question, no account of any authorized Spanish or Mexican mining activity has been found to date. However, this negative rationalization does not preclude such enterprise. At best, it means that such records have not yet been located.

Entrance of Spanish and Mexican slave traders into the Southern Nevada area is commonly supposed. The Paiute and Shoshonean Indian groups then resident in the area were often raided for women and children captives. These raids were conducted both by Europeans and the Ute groups living in southwestern Utah.[13] The time scale for this type of European intrusion into the Great Basin would be the period between 1750 and 1850. Thus if one were to define a period for Spanish mining in Nevada, it should commence at some point in that century. However, it should be stated that no dates for such activity are given in any of the sources making a case for Spanish mining.

Opinion in favor of Hispanic intrusion and later mining within Nevada,[14] from the professional mining community, is epitomized by Francis Church Lincoln, former Dean of the Mackay School of Mines (1914–24). Lincoln positively states:

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[11]Eldred Ray Harrington, "America's First Miners," *New Mexico Professional Engineer Magazine,* II (March 1950), 7.

[12]Sam P. Davis (ed.), *The History of Nevada,* Vol. I, (Reno: The Elms Publishing Company, 1913), pp. 214–222. Mrs. Helen J. Stewart wrote Chapter V, "Early Knowledge of Nevada." She was an early resident of Las Vegas and observed local mining for over forty years (1880–1920). No documentation supports her statements, but they should be grounded in experience and perceptive observation.

[13]Warren L. d'Azevedo, Wilbur A. Davis, Don D. Fowler, and Wayne Suttles (eds.), *The Current Status of Anthropological Research in the Great Basin: 1964,* Desert Research Institute Technical Report Series S–H, Social Sciences and Humanities Publications No. 1, (Reno: Publications Office, DRI, 1966), p. 11.

[14]Francis Church Lincoln, "An Outline of the Mining History of the State of Nevada (1855–1923)", *Nevada Newsletter,* Vol. 19, No. 3, (April 1924), 1–2.

> "Mining operations in Nevada were conducted on a small scale by the Indians and by the Franciscan Fathers prior to the advent of the argonauts." And later,
>
> "With the assistance of their Mexican converts, the Franciscan Fathers worked gold placer mines, silver lode mines, and turquoise deposits in what is now Clark County, Nevada; and left interesting relics in some of the mines."

The interesting relics referred to by Lincoln, are described by Mrs. Stewart.[15]

> "Many interesting relics of these early expeditions have been found at the old Vegas ranch and at the mines. Silver coins have been unearthed having a date of 1770. In one of the mines was discovered a rosary of the period of a century and a half ago, and strung on this rosary were coins, identified as from the Island of Luzon, whence the Franciscan Fathers came to California, and brass or copper coins said to have been coined by the Spanish government especially for the pious fund. Attached to the rosary was also a silver figure of the Saviour outstretched upon the cross."

Subsequent discovery of relics of supposed Spanish or Mexican origin has occurred repeatedly since then. They are, however, only suggestive of Spanish occupation. Proof of occupation can only come from records of such activities kept in private or official collections by contemporaries. As yet, such proof has not been forthcoming.

Belief in Spanish activity in Southern Nevada is widespread. Many individuals maintain that they know of mine workings dating from such activity. There seems to be a truism in the folklore surrounding alleged mining by the Spaniards, i.e., efforts to obtain positive evidence are doomed to certain failure. This tradition is dominant in Southern Nevada. Although relics of the supposed activity are described in the literature, none of the items are now available to the researcher. Likewise, the environment in which the material was found is unknown.

The most impressive evidence for Spanish mining in El Dorado Canyon comes from an account of a visit to the area by a party of Mexicans about 1882. The story is secondhand but the source, John Powers, was a well-known and respected mining man who resided in El Dorado Canyon beginning in the 1870's:

> "Mr. John Powers, who is still living and who at one time owned the Wall Street mine, told me one evening about 1882 that an outfit of Mexicans of the better class rode up to his camp at (the) Wall Street and asked him if he owned the mine. He replied that he did. They then said that they had a very old map of this country and that the Wall Street was marked on this map. The map was evidently correct, as they had come straight to the mine. They stated that the

[15]Davis, *The History*. . . , p. 215.

map had been made very long ago, probably by the early Spaniards."[16]

Obviously, this account is only as valid as the man who made it. In this case, both the author of the above referenced statement, and his recorder were men of high standing in the El Dorado Mining District. Powers is used by several authorities to establish the veracity to mining claims and production figures. Also, Powers was noted as being an unusually taciturn individual. Powers' reputation lends credence to his statement.

Admitting the authenticity of the statement leads to the conclusion that mining was done in El Dorado Canyon by Europeans prior to the Treaty of Guadalupe-Hidalgo. This is as much as can be established at the present. The date of such activity is unknown. Positive documentation through discovery of pene-contemporaneous records alone will settle this question which has been disquieting historiography in Southern Nevada for some time.

MINING DURING THE NINETEENTH CENTURY

If mining was conducted in El Dorado Canyon prior to the Treaty of Guadalupe-Hidalgo, such activity had terminated prior to 1850. Probably, a hiatus of a quarter-century at least separated the conclusion of earlier mining from the rediscovery of precious metals in the late 1850's.

It was only a question of time before the mineral deposits of El Dorado Canyon would be found. The exposures are evident, even to the untrained eye. Furthermore, the sharp drop in gold production in California's placer fields after 1851 drove numerous prospectors into the deserts of California and Nevada.[17]

Before the advent of mineral prospectors into Southern Nevada, two trails were established that brought travelers very close to the site of El Dorado. These routes were the Old Spanish Trail and the military wagon road between Albuquerque and San Bernardino. The earliest of these routes to be established was the Old Spanish Trail. After Jed Smith's initial trip in 1826, individuals or parties were passing near El Dorado Canyon either by the Colorado River or through Las Vegas Valley.[18]

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[16]John L. Riggs, "Reign of Violence in El Dorado Canyon," *Third Biennial Report of the Nevada Historical Society,* Introduction written by Jeanne Elizabeth Wier and manuscript edited by same, (Carson City: State Printing Office, 1913), p. 98. Reference was taken from a note by Clark Alvord, another pioneer miner in El Dorado Canyon.

[17]Rodman W. Paul, California Gold: *The Beginning of Mining in the Far West* (Lincoln: University of Nebraska Press, 1947), p. 171.

[18]Leroy R. Hafen and Ann W. Hafen, *Old Spanish Trail: Santa Fe to Las Angeles,* Vol. 1 of *The Far West and the Rockies Historical Series 1820–1875,* (Glendale: Arthur H. Clark, 1954), pp. 111–119, 365–369; Fred Nathaniel Fletcher, *Early Nevada: The period of Exploration, 1767–1848* (Reno: A Carlisle and Company, 1929), pp. 135–136.

This traffic increased with time as the country between Salt Lake City and San Bernardino grew more populated.

Governmental surveys became active in the study area in the early 1850's. Sitgreave's Expedition of 1851 was followed by the Whipple party in 1854. Most of these early groups either crossed the Colorado River at the Mohave Villages just south of the study area, or rested there before continuing their duties.[19]

None of the previously mentioned parties entered the El Dorado Canyon area during their sojourns through Southern Nevada. The earliest documented visit was by members of the Ives Expedition in 1858.[20] Dr. J. S. Newberry, geologist of the party, walked into the area west of the Colorado River while the vessel used by the group was undergoing repairs. Whether he used El Dorado Canyon to reach the area visited is unknown. However, it is likely because the vessel was damaged between the Mohave Villages and Vegas Wash. In this section, few avenues for westward travel from the river exist. El Dorado Canyon is possibly the easiest means of passage.

While in Black Canyon, Ives had a visitor. The man did not identify himself, but a member of the ship's crew said that he was Jacob Hamlin, a Mormon Bishop and very active in relations between the Indians and the Mormon settlers.

Indians were enticed into camp and stated that white men were living among the Paiutes in the Black Mountains.[21] These men were probably miners as the country had been well prospected since the early 1850's. Newberry did not locate any metallic ores, but did collect specimens of what was thought to be gem quality opal. They were later found to be banded onyx.

The published dates for discovery of the deposits in El Dorado Canyon vary from an unspecified date in the early 1850's to 1861.[22] Usually, these dates are tied to the activities of early settlers in the Las Vegas Valley or the garrison of Fort Mohave. I believe that discovery was not

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[19]Hubert Howe Bancroft, *History of Arizona and New Mexico,* Vol. 17 of *The Works of Hubert Howe Bancroft,* (San Francisco: The History Company, Publishers, 1889), pp. 481–502. There is a seeming inconsistency in the treatment of Southern Nevada by Bancroft. In Hubert Howe Bancroft, *History of Nevada, Colorado, and Wyoming, 1540–1888,* Vol. 25 of *The Works of Hubert Howe Bancroft,* (San Francisco: The History Company, Publishers, 1887), no mention is made of that portion of Nevada south of the present border between Clark and Lincoln Counties. It is found, however, in the cited work on Arizona and New Mexico.

[20]Joseph C. Ives, *Report Upon the Colorado River of the West, Explored in 1857 and 1858* (Washington: U.S. Government Printing Office, 1861), U.S. Government Document, 36th Congress, 1st Session, House Executive Document 90.

[21]Ives, *Report . . .* , 80. Contributory evidence for prospectors in the study area before 1860 is given in Bancroft, *History of Arizona and New Mexico,* 494.

[22]Riggs, *Reign of . . .* , 98; Lincoln, *Mining Districts and . . .* , 19; *Don* Ashbaugh, *Nevada's Turbulent Yesterday . . . A Study in Ghost Towns* (Los Angeles: Westernlore Press, 1963), p. 47; Myron Angel (ed.), *History of Nevada* (Oakland: Thompson and West, 1881), pp. 489–90; James Graves Scrugham, *Nevada: A Narrative of the Conquest of a Frontier Land* (Chicago: American Historical Society, 1935), pp. 611–613.

such a simple process. Probably, the area was prospected by parties operating from the San Bernardino area, or possibly from the southern end of the Mother Lode, beginning sometime after 1851. Prospectors were met by Lt. Whipple in 1854. As the surface deposits were high-grade silver ores, a source of transportation for the hand-sorted ore to reach smelting facilities was needed. Not until 1858 did a steamboat reach El Dorado Canyon.[23] The period preceding 1858 probably saw the deposits located by itinerant prospectors, but nothing could be done with the ore before transportation existed. The knowledge that a route of supply existed was the catalyst for the El Dorado Mining District. After 1858, development began and continued with many interruptions to the present.

In 1858, Fort Mohave was established on the Colorado River at the Mohave Villages. It was garrisoned by three companies of infantry under Col. Huffman.[24] It was the last post abandoned in Arizona during the Civil War (May 1861). One reason for placing the post in that location was the pacification of Indians so that mining could be conducted.

Of the many undocumented stories concerning the discovery of El Dorado Canyon, two approaches are generally taken, i.e., discovery by soldiers[25] or prospectors[26] led by native Indians. The diversity of accounts given makes a poor case for any specific method.

An unrelated statement made by Angel (1881) may contain more evidence on the date of discovery than any of the more definite accounts given. While discussing the Mormon settlement at Las Vegas in 1855–57, he mentions that persons from El Dorado Canyon bought the improvements made by the Mormons in 1857.[27] Should this be true, we know that mining development began before or during 1857.

Following the initial period of discovery and the subsequent development of steam transportation on the Colorado River, production from the deposits became the major problem. Silver ores require milling equipment together with smelters in order to produce bullion. The first mining equipment to be established in El Dorado Canyon, excepting the underground workings of the various mines, was a small stamp mill.

The date and size of this mill was a matter of conjecture. All references to its use and construction are secondary. The date of construction was prior to 1864,[28] while ore shipments had been made before the

[23]Ashbaugh, *Nevada's Turbulent . . .* , 47.

[24]Bancroft, *History of Arizona and New Mexico,* 497.

[25]Scrugham, *History of Nevada . . .* , 611. Supposedly, surface float ore was discovered by soldiers camping in El Dorado Canyon. They took the material into Las Vegas where a group of prospectors recognized the ore as worthwhile. The prospectors traveled to the area and staked locations.

[26]*Mining and Scientific Press,* February 16, 1867, p. 104.

[27]Angel, *History of . . .* , 476.

[28]Lincoln, *Mining Districts . . .* , 19. This account states that the mill was built in 1863; Angel, *History of . . .* , 489. This source maintains that a 10-stamp mill was built in 1864, mainly from parts of an earlier battery; Riggs, *Reign of . . .* , 98–99. Riggs quotes Charles Gracey as believing the first shipment of ore from El Dorado was sent to San Franciso in 1861–62. The first mill was built in 1863–64.

construction of the mill. The destination of this sacked ore was San Francisco. A contemporary account in December, 1862 says:

> "I have deserted Fort Mohave and fixed my quarters at the silver mines. Silver has already been obtained from ten or twelve leads. The work on Mr. Vinyard's mill is going on—a capitalist (George Hearst?) has been here and purchased stock and we expect brisk times here as soon as steamboats can reach here from San Francisco. We have petitioned for soldiers to be stationed here to protect the miners."[29]

Capital came into El Dorado at this early date. George Hearst or an agent visited the camp in 1862 and bought interests in various properties. Increased production brought additional requirements for milling facilities. In 1865, the Spear Brothers began construction of a second 10-stamp mill.[30] This mill was called the New Era to differentiate it from the older mill called the Colorado. Both were close to the river at the mouth of El Dorado Canyon. The New Era had a contract to crush rock for the Techatticup mine.

During the early 1860's, approximately 300–500 persons were working in the Colorado Mining District.[31] When formal organization of the miners working about El Dorado Canyon became necessary, a mining district was established and named the Colorado Mining District. Originally located in New Mexico, the district became part of the new Territory of Arizona in February, 1863. In 1866, the district was incorporated into that part of Nevada formed from Paiute County, Arizona.

The mining done in the 1860's was of the individual or small party scale. The ore was a high grade of silver chloride containing as high as 400 ounces of silver to the ton, worth over a dollar an ounce in the metals market. Even discounting the costs of transportation and smelting, a considerable profit could be realized.

Of prime concern to the miners, and to potential investors, was security from Indian depredations. Once the extent and richness of the surface silver deposits had been determined, it was seen that considerable investment in milling equipment must be made. The equipment required capital that could only be raised in joint-stock companies and such firms would only invest in areas where their investment was protected. Although a military post existed at Ft. Mohave, the only satisfactory solution was a garrison at El Dorado close to the settlement and the mills.

Agitation for a permanent garrison began in the early 1860's. Letters dated December, 1862 record the petitions made for troops by the miners. By the Spring of 1863, troops had arrived:

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[29]Ashbaugh, *Nevada's Turbulent . . .* , 48. The quotation cited was from a letter between James M. Sanford of El Dorado and John Brown of San Bernardino. Brown owned the steamship line that serviced El Dorado. The observation made concerning construction of the early mill in December, 1862 would tend to confirm that operation began in 1863.

[30]*Daily Alta California,* May 28, 1866, p. 1. $33,000 was spent on the first mill in reconstruction.

[31]Scrugham, *History of . . .* , I, 611.

"There are only thirty soldiers at the post now. They came with the steamer to guard the supplies she brought a month ago."[32]

During the Civil War, the regular troops were replaced by members of the volunteer Army of the Pacific, raised in California and made up principally of miners. Detachments of this organization were placed at Ft. Mohave, and Fort Piute. They were allowed to prospect during their off-duty time. Many new discoveries were made because the soldier-miners would travel in well armed groups and could penetrate areas that had to be avoided by the single prospector.

The Civil War had its effect on the Colorado Mining District. Some desertion was experienced at Ft. Mohave and the post at El Dorado. The miners themselves divided into two communities and moved into separate parts of the canyon, depending on their individual proclivities. The Union camp was located at Buster Falls; while the Southern forces gathered at Lucky Jim Camp a mile down the canyon.[33] Population grew as those seeking to avoid military service left the more settled districts looking for areas with an absence of law and order. Some 1,500 persons were in the district at that time.[34]

Hostilities between the two groups were limited to imaginative verbal exchanges. The only powder burnt was in the prospect holes and stopes of the mines. Troops built a wagon road between Hiko (county seat) and El Dorado. It provided a means of moving freight to the Pioche mines.[35] El Dorado became the head of navigation on the Colorado River and all military supplies for the garrisons in Southeastern Nevada and Utah were unloaded there from steamers, then freighted to their destination.

Troops remained based at El Dorado for some time after the war. Considerable location work and development was carried out. Over 760 mineral lodes and 850 mining deeds were recorded by 1865.[36] The district was important enough to warrant military protection until at least 1867. On January 6, 1867, Company D, 9th U.S. Infantry, under the command of Captain Yard, arrived at El Dorado by steamer with a year's supplies for garrison duty.[37] Typical of the military situation in the West, was the establishment of an infantry post to control mounted Indians.

Although the records of the Colorado Mining District before 1875 are missing, one example of the form used in staking a claim exists. In April, 1905, while prospecting in El Dorado Canyon, W. R. Groff found the following location notice dated February 16, 1863:

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[32]Ashbaugh, *Nevada's Turbulent . . .* , 49. Ltr., Sanford to Brown (see footnote 29), dated May 17, 1863.

[33]Scrugham, *History of . . .* , I, 611; Ashbaugh, *Nevada's Turbulent . . .* , 49.

[34]*Ibid.*

[35]Aurora Hunt, *The Army of the Pacific* (Glendale: The Arthur C. Clark Co., c. 1950), p. 203.

[36]Mining and Scientific Press, February 16, 1867, p. 104. It is also claimed that the first stamp mill erected in El Dorado Canyon was also the first mill in Arizona.

[37]*Ibid.*

> "Notice—The undersigned claim six claims of 200 feet each on this lode, commencing at the NE termination of the Folsom Copper Mining Company, and running in a NE direction. Known as the Grace Copper Mining Company. William Miller, Coburn & Co., Ed Waitt, M. Angel, H. N. H. Brown, Odlia Peck, Recorder. February 16, 1863."[38]

The Colorado Mining District was known as an area where the ordinary individual could earn above the average scale for miners. A common saying was, "If you need a stake, go to El Dorado Canyon. Nobody leaves broke."[39]

Organization came to the Colorado Mining District about 1870. The first group to dominate El Dorado was styled the El Dorado Mining Company, and owned the Techatticup mine together with many other properties. The Techatticup had been discovered in 1863 and from the first paid well. The surface ores were the usual silver chlorides carrying considerable "ruby" or native silver. Even after the smelting and transportation charges of $150 per ton, the sacked ore paid a substantial profit. By 1870, the Company was able to make sufficient profits to construct a mill and smelter at El Dorado which handled the Techatticup ore as well as custom work.[40]

The organizer of the El Dorado Company was John Nash. He and his two associates, Davis and Fuller, built the mill and operated it. Like other entrepreneurs in the mining field, they saw that a healthy profit could be made from processing ore as well as owning the mine.

El Dorado in the 70's had a tri-weekly mail service (part of the system between Ft. Mohave and Cedar City) and at least three saloons and two general stores were in business.[41] Wheeler (1872) published a map in his report which showed a mill at El Dorado. The district was prosperous and attracted more miners since milling and smelting could be done locally.

The most memorable event of the 1870's was the use of force by the El Dorado Company to extend its ownership of the local mines. In 1873, Nash decided to "jump" the Silver Queen Mine. This property had been purchased by George Hearst in 1862, when he supposedly visited the area, and the annual work had been done by his agents ever since. The mine was located on the same vein pattern as the Techatticup. As the distribution of the Techatticup ore bodies became known through exploration, it was seen that the stopes extended onto Hearst's property.

In 1873, Hearst's representative who had arrived to do the annual work was prevented from reaching the mine and run out of camp. Nash had agreed to pay $5,000 each to three men to hold the Hearst property

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[38]*The Searchlight,* April 28, 1905, p. 3.

[39]*Searchlight Bulletin,* June 26, 1908, p. 1.

[40]Riggs, *Reign of . . . ,* 98–99. Fuller had been persuaded by Davis to sell his farm in the East and devote the proceeds to the mill. They built the mill and operated it for Nash.

[41]*Searchlight Bulletin,* July 30, 1909, p. 1.

for a specified time. One of the men was later paid. Of the other men, Nash had one killed in camp, and employed the other in the mill.[42] Force and intimidation were commonly resorted to due to the lack of any law within 250 miles. Likewise, no records were kept of the mineral production for fear of taxation from the county authorities. It is estimated that more than $3 million was produced prior to 1879.

The profits made during the 1870's and the potential of the area resulted in the sale of the El Dorado Company in 1879.[43] The purchaser was a Minneapolis group called the Southwestern Mining Company. They took over the older firm's interests and introduced considerable money into the local economy. Production continued and the mills worked constantly. Angel (1881) mentions a new 10-stamp mill built at this time as well as a roasting furnace. Forty locations were made in that year. The main workings in the larger mines were getting somewhat extensive. The Techatticup was over 380 feet deep and had tunnels over 400 feet long. An indicator of the development of the area is seen in the reduction of freight rates to San Francisco from $150 per ton to $80.[44] Costs for supplies were less, but still substantial; firewood cost $10 per cord and was floated 125 miles downstream from Utah while driftwood from the Colorado could be obtained for $1 per cord. The Mormon colonists along the Virgin River supplemented their incomes by rafting cake salt to El Dorado for use in the smelters. The salt occurred in flat lenticular deposits and was readily available on the northeast banks of the Virgin River. The miners found that their ores could be worked by the patio process if sufficient salt was added during the roasting phase of treatment.

The owners of the Southwestern Mining Company soon sold out to the Barker Brothers of Philadelphia, an international mining firm. Later, in order to obtain operating capital for a mining venture in South America, they mortgaged their El Dorado properties. The venture failed, and Joseph Wharton bought the Southwestern Mining Company at sheriff's sale. Date of the sale is given as 1895.[45]

The mining methods employed at El Dorado were unique. Only ore with a value of $40 per ton was worked. No machinery other than those employing mechanical advantage were used. When shafts became too deep to be worked by the windlass, they were abandoned and new workings initiated. Today, the older mining areas are easily discernible because of the long open trenches and stopes. Miners began excavation of a vein at the surface and followed the ore bodies downward. Every bit of ore was removed. Water level was reached between 200 and 300 feet in most

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[42]Riggs, *Reign of . . .* , 99.

[43]*Ibid.*

[44]Angel, *History of . . .* , 489–490.

[45]*The Searchlight,* April 6, 1905, p. 1. The dates mentioned in the local Searchlight paper vary on the acquisition of the El Dorado properties by Wharton. 1895 is the latest date, and is furnished by Charles Gracey. This date is believed to be more reliable since Gracey resided in El Dorado since the middle 1880's and was Wharton's manager from 1895 until 1910.

localities. At that point, the ores turned base. Also, as the deposits became deeper, the percentage of silver decreased while gold increased. Later work was done for gold values rather than silver. The number of individuals working in the Colorado Mining District during the 1890's was far fewer than in the 1860's. However, when it was seen that free-milling gold ores were present in the area, this provided excellent opportunities for the individual or small party. Free gold requires no chemical separation to produce bullion. The individual could locate a vein of high-grade gold ore and spend years working the deposit with an *arrastra*. The rock floors of these grinding machines may yet be seen in parts of the district.

John Powers worked in El Dorado continuously from 1880. Working a small *arrastra* and feeding it by his own labor, Powers made several thousand dollars each year. Others were doing the same thing. Powers owned several of the better properties in El Dorado Canyon. The Wall Street Mine, later to produce several hundred thousand dollars in gold before 1900, was sold to the Southwestern Mining Company by Powers because he thought the surface values were low. The first round after the sale exposed an ore body that fed a 15-stamp mill for the next 2 years. Powers acted as foreman for the Southwestern group during the development of the mine.

In 1888, Powers owned the claim now known as the Black Hawk. A friend wanted to work some property, and Powers deeded the claim to him. The ore was thought to average $85 per ton. When the first shipment of ore was made to the mill, the cost was $70 per ton for handling. In disgust at the unanticipated lack of profit, the miner left the area after delivering the ore to the mill. When the cleanup was done at the end of the processing, it was found that the ore averaged over $300 per ton. The mill kept half and sent the other half to the miner. Powers reclaimed the mine and held it until it was bonded later to the Black Hawk Company.[46]

Foodstuffs for the miners came from canned produce, game animals, or the farms in Las Vegas Valley and along the Virgin and Muddy Rivers. The Mormon settlers were aware of the potential market and in the 1880's began a growing trade with El Dorado Canyon. The Stewart Ranch at Las Vegas made wine from local grapes, which had a steady market. The Kyle Ranch at Las Vegas also sent produce to El Dorado by wagon. The Moapa Valley farmers sent their material by raft.[47]

For over 30 years (1860–97), mining was conducted in El Dorado Canyon in the manner outlined. There was considerable production, but little outside notice. This was due to the isolated nature of the camp, with approaches controlled by "hostile Indians and scarcely less dangerous Mormons."

The El Dorado area had an abnormally high silver-gold ratio. At Searchlight, the ratio of silver to gold in production assays is 1:1. This

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[46]*The Searchlight,* August 5, 1905, pp. 1–4.

[47]Francis H. Leavitt, *The Influence of the Mormon People in the Settlement of Clark County,* unpublished Master's Thesis, University of Nevada, 1934, p. 63.

ratio is 23:1 within the Colorado Mining District. It has been estimated that production from 1874 to 1907 in the district was 37,551 tons of ore with a net value of $934,015.[48] This value was mainly in silver. In the writer's opinion, this represents less than a quarter of the actual production.

The reasons for questioning the reliability of the estimates are (1) they were taken fom the records kept in the county seat (over 300 miles away), (2) the individual miner rarely reported his production, (3) both major companies operating in the district falsified their records to prevent taxation, and (4) the bonanza years of the late 1850's and 1860's were exempted from the estimate.

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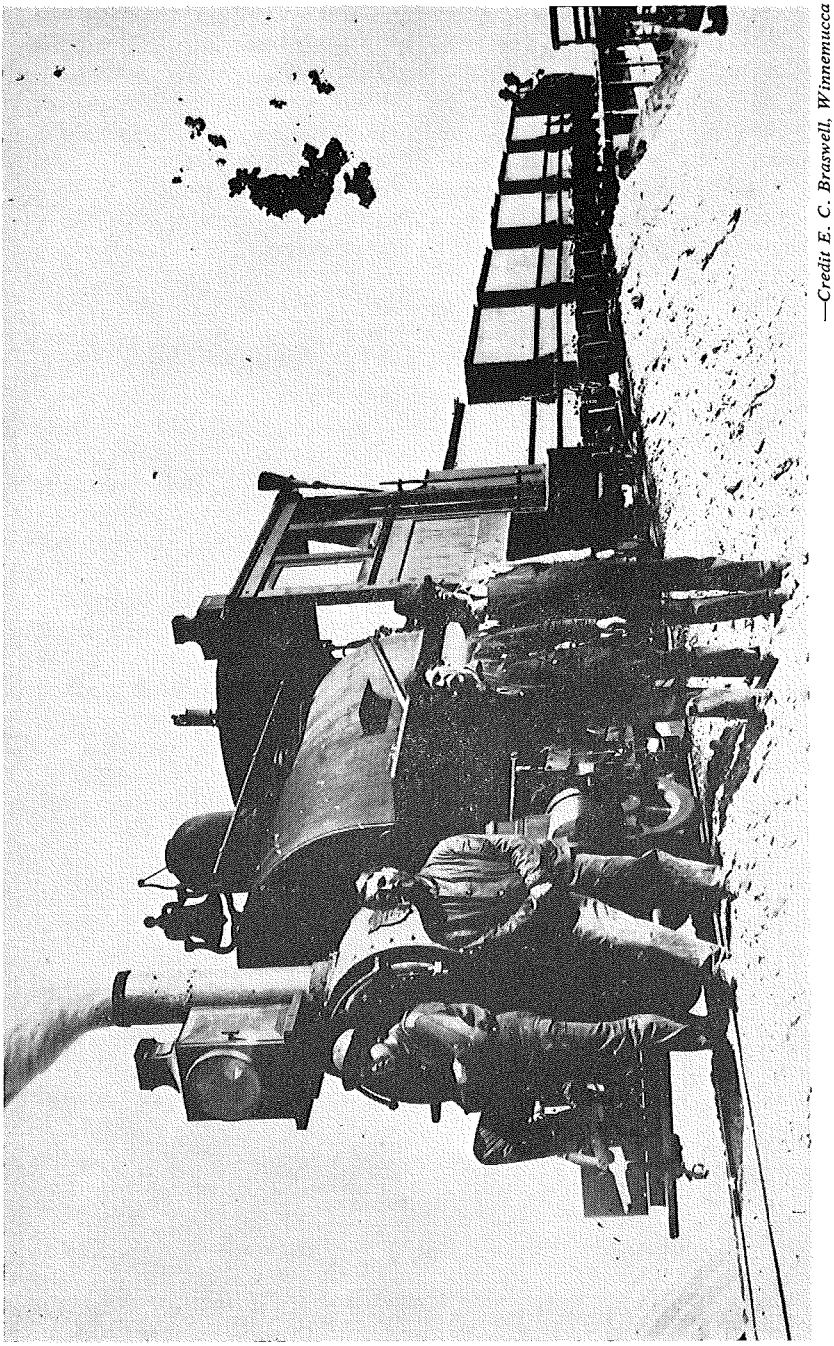
[48]Frederick Leslie Ransome, *Preliminary Account of Goldfield, Bullfrog, and other Mining Districts in Southern Nevada,* U.S.G.S. Bulletin No. 303 (Washington: Gov't. Printing Office, 1907), p. 65.



—*Credit E. C. Braswell, Winnemucca*

Crew and equipment for the Quartette Mining Company Railroad between the mine at Searchlight and the mill located on the Colorado River due east of the mining district.

THE SEARCHLIGHT BOOM

The discovery of the Searchlight Mining District was a gradual process. The region west of the Colorado River had been explored by prospectors since the early 1850's.[1] Mining had been done in nearby areas continually in that period.[2] Considerable capital had been invested in districts such as Crescent, Ivanpah, Chloride (Arizona), and El Dorado Canyon and occasional profits made.[3]

The purpose of the foregoing paragraph is to illustrate that the location of the Searchlight Mining District was not the result of the first exploration for minerals in the area. The area had been close to an intercontinental railroad (AT&SF) since the early 1880's, and had been covered by prospectors thoroughly. The probable reason for the late discovery was the surface barrenness of the veins and their indistinct outcrops.

Another problem in the historiography of this study area is the date given by most sources for the initial location of claims at Searchlight. All authorities cited 1897 as the date of discovery.[4] Later statements by pioneers in the camp refute that date and maintain that 1896 was the correct time period.

Their accounts are summarized as follows.[5] For some years prior to 1896, Fred W. Dunn of Needles, California had corresponded with Boston capitalists to secure financial support for his ventures. Colonel C. A. Hopkins, early in 1896, saw a letter from Dunn describing the Sheep Trail Mine near Needles. He was interested and wrote to Dunn about securing an option on the mine. Dunn was unable to obtain an option, and hired John C. Swickard to locate claims at $1 per location. Swickard located claims in parts of both the Searchlight and Crescent districts. While engaged by Dunn, Swickard located the best of the lodes worked in Searchlight—the Quartette.

At length, Dunn believed he had sufficient properties to interest Hopkins and invited him out for an inspection. Nothing came of the 1896 trip, but Dunn was retained to represent Hopkins.

Swickard had retained ownership of the Quartette and other claims. When he had originally located the Quartette, he left unclaimed two small fractions at either end of the vein. These were claimed by G. Fred Colton and Gus Moore in 1897. In order to have complete title to the outcrop of

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[1]Lincoln, *Mining Districts . . .* , 19.

[2]*Searchlight Bulletin,* August 19, 1910, p. 1.

[3]*Engineering and Mining Journal,* April 29, 1899.

[4]Eugene Callaghan, *Geology of the Searchlight District, Clark County, Nevada,* U.S. Geologic Survey Bulletin No. 906–D, (Washington: U. S. Government Printing Office, 1941), p. 135.

[5]*Searchlight Bulletin,* February 8, 1907, p. 1; *Searchlight Bulletin,* November 27, 1908, p. 1. Henry Hudson Lee, *My Memoirs,* 2 Vols.; in this paper which was read before the January 24, 1966 meeting of the Southern Nevada Historical Society, Lee describes a trip he made to Searchlight and Goodsprings in 1898–1900 to visit the new mining camps.

the vein, Swickard traded the Duplex property to Colton and Moore for their fractional claims on the Quartette. Swickard sold the Quartette to Macready, Hubbard, and Fisher in 1898. They attempted to raise capital to work the vein, but finally sold the property to Col. Hopkins in 1899.

The sale to Hopkins was the genesis of Searchlight as a mining district. Although low-grade surface ores had been known since 1896, no development had taken place, nor any indication seen of the richer ores present at depths of more than 100 feet from the surface. Hopkins quickly organized the Quartette Company among his associates in Boston. They raised $25,000 and employed the former owner, Macready, as superintendent. A shaft was sunk to 300 feet along the vein. The findings were not promising, averaging only $3.84 in gold per ton. Macready was in Los Angeles, and received a telegram from his foreman telling him that the 300-foot level had been reached and the $25,000 operating capital had run out. Macready sent back a message telling the foreman to crosscut south. Within two shifts of work, an ore shoot of $40 per ton value was struck. From that point, the Quartette Company was able to finance its operation from the proceeds of ore shipments or sale of stock. The production from the Quartette served as a spur to the rest of the camp. Capital became available, and by 1903 the camp was in a boom that lasted to 1911.[6]

Formal organization of the district occurred on July 20, 1898. The prospectors of the area gathered in the evening within a frame shack, the only building in camp. At that time it was a 10-day trip to Pioche, the county seat. It was decided to maintain a local office for recording claims. Fourteen men signed the articles establishing the district. Many were to be well-known figures in Searchlight for the next 20 years.[7]

An often expressed question is "How did Searchlight get its name, and who gave it?" Two alternatives are given by the local newspaper. The first story is that Fred Colton came into his camp during 1897 and said, "there is something here, but it would take a searchlight to find it." Another offering is that the name was taken from a popular brand of sulphur matches.[8] There was not certainty even in Searchlight just 5 years after the discovery. It is generally conceded that Colton gave the name, but he never commented on it later.

DEVELOPMENT

The shipment of high-grade gold ores from Searchlight in 1899, following a 20-year slump in Nevada mining, caused increasing interest

[6]*Ibid.* The two newspaper articles cited explain in detail the events in the Searchlight district during the early years. The February 8, 1907 *Searchlight Bulletin* was an illustrated issue printed on heavy magazine paper. The pictures are better defined and offer unusual views of the camp.

[7]*Searchlight Bulletin,* July 14, 1911, p. 1; *Searchlight Bulletin,* July 19, 1907, p. 1. This article gives the names of all attendees, and makes the point of mentioning that district records at that time include over 5,000 pages of manuscript material.

[8]*The Searchlight,* July 29, 1906.

from national mining firms. The first article from a professional mining magazine devoted to Searchlight was dated July 1898.

> "Summit Springs—at this point, 50 miles north of Needles, California and some 10 miles west of the Colorado River, there is some excitement caused by a promising gold strike made by a Mr. Colton. His first shipment of the selected ore yielded at the rate of 72 oz. per ton. He is now shipping a carload that is expected to produce about $200 per ton. Conservative miners who have recently visited the locality are pleased with the outlook in this vicinity."[9]

The rush to Searchlight was noticed in February 1899 by the Engineering and Mining Journal.

> "Miners flocking to the Searchlight camp, located about 100 miles north of Needles. High-grade gold quartz veins have been discovered. The El Dorado Canyon mines are increasing their output which all passes through Needles as shipping point."[10]

The original prospector's camp was located near the present site of the Cyrus Noble mine.[11] It was later moved into the townsite opened by the Searchlight Development Company.

The years between 1897 and 1903 were years of growth and synthesis. After a period of shallow development and prospecting on the surface exposures of the vein system, it was seen that the ore bodies were to be found a minimum of 200 feet below surface level. This was too expensive an undertaking for the individual prospector. Consolidation of the numerous claims into a few large companies resulted. With the example of the Quartette before them, investors were persuaded to fund the development work of the more impressive lodes. The New Era Mining Company incorporated with a capital of $300,000 to work its mine in 1900.[12] The Duplex Mine was developed with capital from Riverside, California. A mill was built and the shallower stopes were worked. The Searchlight Mining and Milling Company began development in 1899. Not until 1904 did they locate paying ore in their mine.

In 1900, the directors of the Quartette Mining Company determined that it would be more profitable to crush their own ore than freight it by wagon to Manvel, then ship by rail to the smelter at Needles. Not having reached water level in any of the various mines, the decision was made to situate the mill and cyanide plant on the Colorado River and haul the ore to the mill from the mine.[13] It was an easy 12 miles, with loads going downhill to the mill and returning up the canyon empty. Later, in May 1901 it was decided to build a narrow-gauge railroad to connect the two

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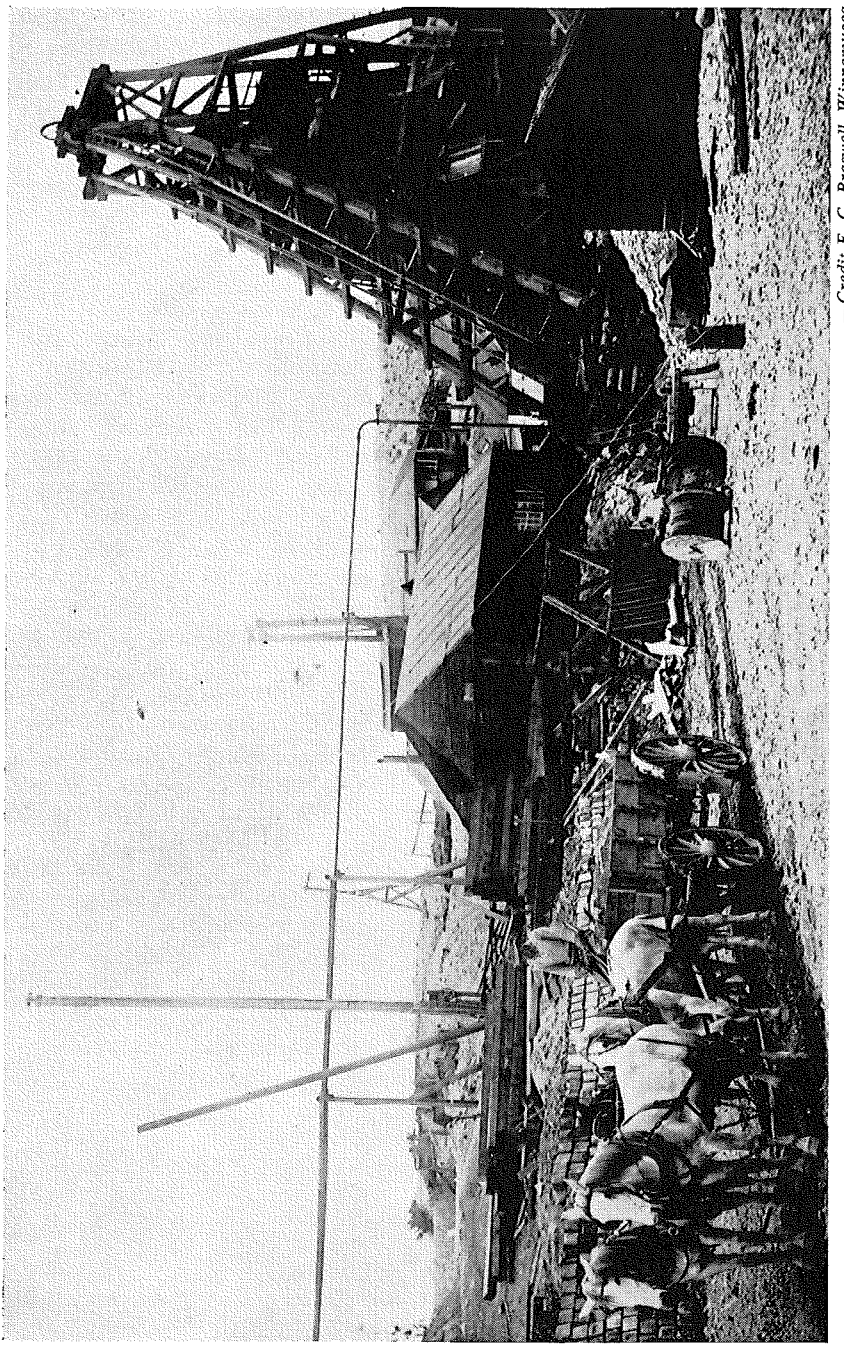
[9]*Engineering and Mining Journal,* July 2, 1898, p. 18. The name "Summit Springs" is used rather than the now traditional Searchlight. The springs were the nearest well-known topographical feature.

[10]*Ibid.,* February 11, 1899, p. 184.

[11]*The Searchlight,* July, 1906, p. 1.

[12]*Engineering and Mining Journal,* November 17, 1900, p. 590.

[13]*Ibid.,* June 2, 1900, p. 660.



Freighting ore from the Quartette Mine to the mill.
—*Credit E. C. Braswell, Winnemucca*

points. The line was opened in May 1902. Paradoxically, shortly after the line was in place, the lower workings of the Quartette Mine encountered a heavy flow of potable water. The mill was thereupon moved to Searchlight and the railroad was abandoned in 1906.[14]

Production from the Searchlight Mining District in the boom years preceding 1911 was between $350,000 and $400,000 annually. This was primarily the product of two mines: the Quartette and the Duplex. Their ores were generally $15–$20 per ton in gold. Only one period of labor trouble caused a drop in production. On June 1, 1903 the Quartette was struck and the work stoppage was maintained for over 5 months. In September 1903, strikebreakers from Colorado were brought in and the strike slowly failed. No violence occurred, but the union was not able to secure recognition from management.[15]

The last boom year was 1910. Thereafter, ore shipments declined. The stock companies instructed their workmen to remove the last of the ore in sight and refused to expend further sums for development or exploration. Mills were closed and only standby crews maintained at the mines. The properties were then offered to individuals under lease.

The steady production of the boom years led the AT&SF Railroad to build a 23-mile section of track between Searchlight and Barnwell. On March 31, 1907 service was begun. The railroad has subsequently maintained that it lost money during every year of operation. The first 3 years provided a steady supply of freight traffic. However, from 1910, tonnage steadily dropped. By 1919, trains were operating only on Monday and Friday. A severe washout in September 1923 stopped all passage. The AT&SF petitioned the I.C.C. for the necessary permission to abandon the line. In February 1924 permission was granted and the line was never restored.[16]

DECLINE

Beginning in 1911, a rapid decline in production from the Searchlight mines began. For the next 10-year period, production averaged only 20 percent of the prior decade. The individuals working the mines were lessees and primarily interested in working over old stopes and removing pillars. Little exploratory effort was expended to locate new deposits.

The leasing period closed the initial development of the Searchlight Mining District. Later activity in the 1930's and 1940's consisted of reworking of the tailings with better separation techniques. No additional mining of any substantial nature was undertaken. Should mining resume, as is now postulated, it will probably be aimed at base, not precious, metals.

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[14]David F. Myrick, *Railroads of Nevada and Eastern California* (Berkeley: Howell-North Books, 1963), II, p. 850.

[15]*The Searchlight,* April 14, 1905, p. 2.

[16]Myrick, *Railroads of . . . ,* pp. 851–852.

SPO, Carson City, Nevada, 1968

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