

GOLD SPRINGS, HOME OF THE JENNIE GOLD MINE.

One of the Successes
of Short & Elliott

NO other western gold camp has the future that the little town of Gold Springs, nestled among the pine-covered hills of southwestern Utah, now before it. Two years previous to the time of the present writing, Gold Springs consisted of two cabins, one belonging to C. A. Short and one to H. R. Elliott. Today it is a population of about 250, with better residences than any other camp in the west; with a first class water system; a big mercantile establishment; hotel, daily stages both ways to Modena, the nearest railroad station on the San Pedro, Los Angeles & Salt Lake railroad, and it commences the new year with an assurance that its population will be increased several hundred-fold and that it will be the center of one of the richest gold mining fields of the west before another Christmas comes around. Adding a new town to the map by the growth of another community is due to the success of the Jennie mine. And the success of the Jennie mine is due to the efforts of Messrs. C. A. Short and H. R. Elliott, whose faith in the richness and permanency of the ore bodies of the Jennie property and surrounding groups kept them for years working away to place the mine where it is today. It took the combination of qualities that these two men possess to make a successful mine and

build up a community like Gold Springs, NATIVE OF THE WEST.

Reared in the west, with a knowledge of mines, mining, milling and smelting acquired by the hard knocks of actual work in these different enterprises, Mr. Short was well equipped to take charge of a property like the Jennie and make a success of the mining end of it. But no mine, even with as big ledges as the Jennie possesses, can operate on a large scale and make a success, without capital. It was in the raising of capital to put the property on its feet that Mr. Elliott was peculiarly fitted. In the east, with many friends of means, he undertook the securing of capital from them and their friends, and his success in that line has placed him among the foremost promoters of the west.

Just two years ago Mr. Elliott went east to secure funds to open up the Jennie mine. He succeeded in placing a block of the stock at 5 cents a share, with which the work was commenced. A shaft was sunk about 400 feet to the present operating shaft upon a ledge that looked strong at that place. Mr. Elliott concluded that he could develop enough of the stock to complete work on the property. He returned to the east for the last time, and from that time until the present day Mr. Elliott has kept in the field and has remained at the property in charge of the mine work, and as a result of their combined efforts the Jennie takes

rank today as one of the few big gold mines of the western country. This is not said without considering all the conditions that exist at the property.

SHAFT STARTED IN APRIL.

The present working shaft was commenced about the 15th of April, 1906. Work was prosecuted the first 25 feet with a 30-ton derrick. Later a whim was purchased, the shaft went down to 315 feet and the ore body cut in a cross-cut 25 feet to the east. A 40-horse power Fairbanks, Morse gasoline engine was used to haul the shaft down to 175 feet, a cross-cut was run to the east 60 feet, and the west ledge cut at this point. In June of this year a 12-hp air compressor was installed which is operated by the hoisting engine. With this, two 2½ wood drills are operated in the drifts and three air hammer drills of the Waugh type are used in the stopes. With this equipment big ledges have been opened up on both the 115-foot and on the 175-foot levels. On the latter 60 feet of drifting both north and south on the ledge has been done, and 40 feet of cross-cutting. On the 115-foot level two ledges are exposed and it is not yet determined whether the first ledge cut on the 115-foot level is the main ledge or not. On the face of the cross-cut to the east for the last 10 feet are that the main ledge has not yet been cut, but as it is the ledge now being developed at this point is from 4 feet to 10 feet wide, and gives a splendid average value of milling ore. It was here that the recent rift ore was encountered in the north drift

which showed sensational values. On the 115-foot level over 200 feet of drifting has been done on the ledge which runs from 5 feet to 10 feet in width. While the amount of drifting seems small, yet the size of the drifts on account of the width of the ledge, are three and four times the size of ordinary drifts. From a point about 50 feet south of the shaft on the 115-foot level an upraise 10 feet long and the full width of the ledge has been put through to the surface affording a safety outlet for the men and establishing a perfect system of ventilation in the mine. Stopes have been opened in both the north and south drifts, however, but little ore has been taken from them, as enough has been taken out in pushing the drifts to run the mill since it started in April last. The showing made in the stopes is one that but few mines possess. In many places both gold and native silver can be seen for many feet along both the hanging and footwalls. In drifting on this level, two new ledges have been encountered, one in the south and one in the north. Both are about 5 feet wide and are now being drifted upon to develop their possibilities. If they continue as at present they will soon put in sight almost double the present tonnage exposed. As the drifts have been pushed forward the levels have been timbered and chutes put in preparatory to taking out the large tonnage that will be demanded by the operation of the new plant, which is about ready to commence business. The showing in the mine for amount of work done and depth attained has astonished all mining men who have visited the property.

With values ranging from \$3 to \$50 and \$100—with streaks of high grade that will run into the thousands, it is established that but few milling propositions can maintain a better average value than the Jennie. With a depth of 200 feet and this big ledge exposed, with no barren portions in the ledge as yet uncovered, with a known length of several hundred feet—all in good ore values on the surface, it is not difficult to figure the present condition of the Jennie and its possibilities.

PLenty OF MILLING ORE.

While the Jennie has shipped several lots of high grade ore running as high as \$61 per ton, yet it is only by milling that its riches are to be realized. A little more than a year ago orders were placed for a four-stamp mill of the Nissen type. On account of the delays in delivery, and the severe weather of last winter, the plant did not get to operating regularly until the latter part of April of the present year. It was discovered that the plant was not large enough, that not enough of the values could be taken out by the amalgamating process, and it was decided by the management to increase the capacity of the mill and to install a cyanide plant. Orders placing orders for the increased capacity, the General Engineering company of Salt Lake City, which operates the best equipped plant in the intermountain country for testing ores of all kinds, were commended to make a thorough test of the Jennie ore and to determine their susceptibility to the cyanide treatment. The result of their

tests proved that close to 90 per cent of all the values could be extracted by combined amalgamation and cyanide methods, and orders were placed in October with Fairbanks, Morse & Co. for eight more of the Nissen stamps and plans were commenced for a cyanide plant. This would give three times the capacity of the present plant, and with the changes in the method of crushing the ore to be made before delivery of the stamps, this would give a tonnage of 100 tons per day. Quick deliveries were secured and at the present writing the mill building is under construction, the new mill engine has been set up on its foundation. The new stamps are being set in place, all the machinery with one or two exceptions, is upon the ground, and if the balance is received without delays it is expected that the stamps will be in place for operation by the first of January or very soon after. Machinery, tanks, etc., for the cyanide plant will soon arrive and it will be only a short time until the Jennie will be upon a dividend basis. With the completion of the new mill, no property in the western country will be better equipped than the Jennie for successful operation of its mines and the extraction of the values in the ore. Everything installed is the best that money could buy, the management believing that success could only be secured through the best methods and the best material.

POWER AT THE MINE.

The power used at the mine is developed by a Fairbanks, Morse & Co. gasoline engine and when the new plant

starts six of these engines will be in operation. They are operated with electricity generated from Los Angeles and are the most efficient and cheapest of any other power that could be secured at the present time. The water for mill purposes is secured from a spring about three-quarters of a mile distant. A sufficient quantity for all purposes is assured.

NEAREST RAILWAY STATION.

The mine is situated 14 miles from the railroad station, Modena, with good roads all of the distance. There is a route for mining purposes can be secured from the neighboring hills. It seems that everything in the way of physical conditions goes to make the Jennie an ideal mining proposition. The size of the ledge, the value of the ore, its location, water, electricity, all combine to make it a big proposition.

The next important feature in its success is the management and record. This is in the hands of Messrs. Short and Elliott, and their standing in the mining circles in Utah alone is sufficient to guarantee that the property will be operated by the best interests of the shareholders in the property. The company has a capitalization of \$100,000, and its officers are C. A. Short, president and manager; H. R. Elliott, vice president; W. W. Barton, secretary and treasurer; and they, with Albert S. Martin and E. J. Kearns form the board of directors. The Salt Lake City offices are at 212 Utah Savings & Trust building, Salt Lake City.

Sierra Madre Mining District

ALTHOUGH Sierra Madre mountain did not, in 1907, begin the shipment of ores to the local market it was not because the mines of that locality did not have the ore to ship, but because development and process of treatment have not been yet completed in the chief mines of that district.

In the Sierra Madre district there are about 300 mineral locations, with nine legally incorporated companies doing active work. These are the Eldorado, Napoleon, Santa Maria, Southern Pacific, Prince of India, Great Northern, Elkhorn, Midland, and Sierra Madre companies; all lying on the western slope of Sierra Madre mountain. The district itself lies about half way between Ogden and Brigham City in Boxelder county, about thirty-five miles north of Salt Lake City.

The heavy work of the district during the year has been carried out in the Napoleon and Santa Maria. These properties lie adjacent, and the mineralization occurs in the same of fissure veins in each. In the Napoleon gold, silver and copper are the metals showing in the greatest value, and in the Santa Maria gold, silver, lead and copper abound.

On the Napoleon during 1907 a very large volume of work has been done, both underground and on the surface, although this company is incorporated under the laws of Utah, yet, most of the stockholders are residents of Illinois and Iowa. The company may be considered a close corporation.

These groups of mines lie on the steep mountain side, the mineral wealth is found in three very wide copper-bearing lodes, two of which run parallel and the third a strong cross country vein that faults the parallel lodes.

Four tunnels have been driven on the veins, the three upper being known as levels Nos. 1, 2 and 3, and are driven at intervals along the Napoleon lode a distance of about 5,000 feet, and still lower down, there is now being driven what is locally known as the Illinois tunnel, this will be the main ore adit of the property, and will connect the mine with the tramway.

The make-up of the ores of the Napoleon veins runs from \$1 to \$3 gold and from one to two ounces silver, and from 2 to 10 per cent copper, the work being done is of a very substantial character.

The tramway now being built will easily discharge at the lower terminal 200 tons every 10 1/2 hrs, and when the tunnels are made between the Illinois tunnel level and No. 1 the work can easily send out that amount of tonnage for reduction at the concentrator. In the upper workings of the property there is a large volume of ore sufficiently high grade to smelt without concentration.

Notwithstanding the depression that has come over the mining interests of our country the Napoleon Copper company is going forward with development work and expects to have its property in the production stages in the early summer of 1908.

ANOTHER ACTIVE PROPERTY.

The Santa Maria Gold & Copper company, whose property lies southeast of the Napoleon, has gone forward with its improvements during 1907, and the work planned for the year 1908 takes in a very large scope of development and improvement.

This company owns a large area of ground, and within its own borders seven fissure veins run from east to west parallel through the gneiss rock that constitutes the base rock of the mountain. In the eastern part of the property is a cross-cut of the Eldorado silver-lead vein for about 4,000 feet. The silver-lead ores of this vein in the Santa Maria are abundant and rich enough for profitable working.

During 1906 the work done opened a large area of ground in the eastern extension of the Santa Maria lode, and a line of shafts were sunk from north to south, each being driven on a separate vein, but in line with each other. This was done to find the advisability of running a cross country tunnel to cut the seven western veins of this property at right angles, with the aim of making this tunnel the main adit from which to draw the entire tonnage of these seven veins.

Above the level of this tunnel the shafts run down on the veins in every instance have shown good values in copper, gold and silver, much of which is sufficiently high grade to smelt without concentration. Finding this condition satisfactory the Clara Belle tunnel was started. It is being driven forward, and is now in about 200 feet. To facilitate and expedite the completion of this tunnel, which, when completed, will be 1,700 feet in length, electric power is now being taken over a line from the Boxelder power line that runs about two miles west. By means of this line the mine and building will be lighted and power drills worked in the mine.

The construction of this line is now under way, and within 30 days the power so obtained will be used at the mine. It is planned to build a tramway from the mouth of the Clara Belle tunnel, and a concentrating mill on the Santa Maria flat, about a mile and a half from Hot Springs station on the Oregon Short Line.

The only other mine now working earnestly in the Sierra Madre district is the Eldorado, a silver-lead producing group of mines on which much work has been done, and in which there is already a large tonnage of high grade silver-lead ore blocked out, but which for several reasons known only to the owners has been idle for four years.

Sierra Madre, in its physical makeup, very much resembles the Little Cottonwood mining district, the situation of the silver-lead ore in the Eldorado workings are in a similar situation.

Record Showing Thirty-six Years' Production of Utah's Mines, Mills and Smelters.

Official records of the metals produced from the mines of Utah have been kept since 1871, and while it must be acknowledged that there are some discrepancies, the following table will give some idea of the enormity of the great wealth that has been poured from the mountains into the world's great storehouse of wealth. The records

1871—Gold and silver, \$2,300,000; lead, \$500,000. Total, \$2,800,000.
1872—Gold and silver, \$2,445,284; lead, \$526,487. Total, \$2,971,771.
1873—Gold \$2,425 (placer gold, \$32,600); silver, \$3,775,200; lead, \$958,365; copper, \$97,134. Total, \$4,882,700.
1874—Gold and silver, \$3,911,601; lead, \$1,480,044; copper, \$29,000. Total, \$5,420,645.
1875—Gold, \$1,526; silver, \$2,955,922; lead, \$1,080,459; copper, \$35,016. Total, \$4,593,923.
In 1876 no records were kept. Beginning with 1877 the record is as follows:

| YEAR. | Gold. | Silver. | Lead. | Copper. | Aggregate. |
|-------|---------------|-----------------|-----------------|--------------|-----------------|
| 1877 | \$ 368,107.76 | \$ 5,231,642.60 | \$ 1,645,082.40 | | \$ 7,244,832.76 |
| 1878 | 276,874.65 | 4,752,159.63 | 795,471.24 | | 5,824,505.52 |
| 1879 | 325,180.44 | 4,105,471.70 | 695,602.00 | | 5,126,254.14 |
| 1880 | 165,773.40 | 4,029,501.50 | 780,065.97 | | 4,975,340.87 |
| 1881 | 144,317.94 | 5,600,762.95 | 1,101,050.14 | | 6,746,131.03 |
| 1882 | 185,338.13 | 6,114,374.59 | 1,771,736.00 | | 8,071,448.72 |
| 1883 | 144,003.97 | 4,954,939.20 | 1,747,326.45 | | 6,846,269.62 |
| 1884 | 114,805.10 | 6,122,047.04 | 1,149,852.67 | | 7,396,704.81 |
| 1885 | 154,025.01 | 6,211,596.56 | 1,222,172.46 | | 7,687,794.03 |
| 1886 | 218,629.59 | 6,860,837.35 | 1,414,898.98 | 144,458.00 | 7,638,815.92 |
| 1887 | 235,252.29 | 6,976,884.09 | 1,208,538.78 | 1,245,696.00 | 7,645,368.16 |
| 1888 | 287,022.62 | 6,787,527.81 | 1,203,212.24 | 288,881.60 | 7,566,443.27 |
| 1889 | 616,233.25 | 6,656,249.59 | 1,468,248.66 | 206,079.20 | 8,946,809.10 |
| 1890 | 699,700.17 | 8,492,209.44 | 2,098,768.51 | 76,536.64 | 11,367,212.76 |
| 1891 | 747,427.20 | 8,769,208.60 | 2,857,497.84 | 100,882.30 | 12,265,112.94 |
| 1892 | 780,221.94 | 7,792,888.65 | 2,500,720.44 | 91,130.80 | 11,178,461.83 |
| 1893 | 1,117,965.24 | 6,233,965.29 | 1,542,153.74 | 69,090.35 | 7,962,329.13 |
| 1894 | 1,396,346.09 | 4,193,674.50 | 953,124.83 | 52,908.90 | 6,595,054.32 |
| 1895 | 1,352,190.06 | 5,566,032.11 | 1,486,427.22 | 151,532.99 | 8,556,182.39 |
| 1896 | 1,940,830.32 | 5,343,868.00 | 1,358,456.11 | 267,159.50 | 9,410,313.93 |
| 1897 | 1,662,252.89 | 4,522,038.65 | 1,818,607.89 | 313,677.28 | 8,317,596.71 |
| 1898 | 2,168,253.00 | 4,403,854.23 | 2,245,998.60 | 426,691.04 | 9,347,826.87 |
| 1899 | 2,581,408.22 | 4,912,351.05 | 2,791,680.00 | 1,246,009.00 | 12,141,628.27 |
| 1900 | 4,283,414.57 | 6,248,610.97 | 3,122,883.25 | 2,514,697.46 | 16,169,606.25 |
| 1901 | 3,945,308.57 | 6,801,816.18 | 3,210,967.50 | 2,780,247.22 | 17,738,339.47 |
| 1902 | 3,972,235.41 | 6,719,353.42 | 4,600,698.15 | 3,017,415.06 | 18,299,699.04 |
| 1903 | 4,905,092.12 | 10,470,824.33 | 4,650,753.94 | 4,440,698.79 | 24,467,359.18 |
| 1904 | 4,188,554.42 | 6,956,985.77 | 6,013,568.47 | 5,648,684.79 | 21,801,288.45 |
| 1905 | 6,050,128.57 | 5,149,787.05 | 4,897,532.63 | 9,240,800.43 | 25,948,149.63 |
| 1906 | 6,218,586.00 | 7,738,325.00 | 6,413,540.00 | 9,715,520.00 | 29,985,471.00 |

During the past two or three years, the production of zinc has out a figure in the metal output of the state. In 1906, 21,449 short tons were produced on which the United States geological survey statisticians place a value of \$248,774. When the figures are made up for the present year the chances are that the output will be even greater as the Seranton mine in the Tintic district has been a steady shipper.

ation as were those in the old Emma, the Flagstaff, Grizzly and Albion mines.

In each locality the silver-lead ore lies in the Silurian limestone or rests along the contact between the Silurian limestone and the Cambrian quartzite. In each place the limestone is about 1,500 feet in thickness, and at the Eldorado the summit of the mountain is capped by a body of Weber quartzite, a remnant of a once vast measure scored away at Alta. But very prominent at the Eldorado peak, and showing much copper at its contact with the limestone.

Sierra Madre is a very large district, mountainous and broken, wild and difficult of access in many parts, really but little prospected. In the western part, where the mines here described lie, there has been considerable work done, while beyond Eldorado peak and Mount Wolf peak and Monte Christo the land is as to its mineral possibilities "terra incognita."

Vast bodies of specular iron extend along the mountain ridge north and south of the Eldorado and limestone iron occurs in beds through the limestone considerable veins of magnetite and hematite are found in the largest vein or lode of abrasive garnet known in this part of the country extends across the area of the Napoleon and Santa Maria groups of claims, all of which in time will come into market with only a limited amount of development.

Jesse Knight's Tintic Mines

(Continued from page 23.)

The ore houses are filled with ore, and the opening of three caves recently has materially increased the reserves. The Black Jack has good equipment and is looked upon with a great deal of favor.

CROWN POINT—IRON BLOSSOM.

The Crown Point and Iron Blossom mines are yet in their prospective stages of development. At 230 feet depth in the Crown Point, recently, a vein of ore carrying low values was encountered. With more depth, however, it is reasonable to assume that results of a gratifying character will be attained. The area covered by the Crown Point locations is extensive. A three-compartment shaft is being sunk.

CONDITIONS FAVORABLE.

In the Iron Blossom Consolidated conditions are looking exceptionally well right now and Mr. Knight and associates feel very confident as to the ultimate outcome. Some good ore has been found in this property and may believe the ground contains an extension of the famous Colorado vein, yet this is to be definitely determined. A triple compartment shaft is being sunk.

Jesse Knight is president of his several Tintic companies, and J. William Knight, manager, John Roundy is mine superintendent.

TINTIC SMELTING.

Another Tintic concern with which Mr. Knight and associates are identified is the Tintic smelting company, which has a lead smelter in course of construction. It will probably be 30 days before it is ready for commission. In connection with the smelter is a standard gauge railroad is now being built, by the Kansas Railway company. The road will be about 10 miles long and will haul ore from all of the Knight properties as well as some of the other leading mines of the camp.

Mountain Lake Mine

THE Mountain Lake mine, operated under the direction of Jesse Knight at Potosi, is a subject of special interest just at this time and there is every reason to believe that the coming year will record some important

developments there. Mr. Knight has the utmost confidence in its future and is shaping matters to conduct a much more vigorous campaign in the future than has been the case in the past.

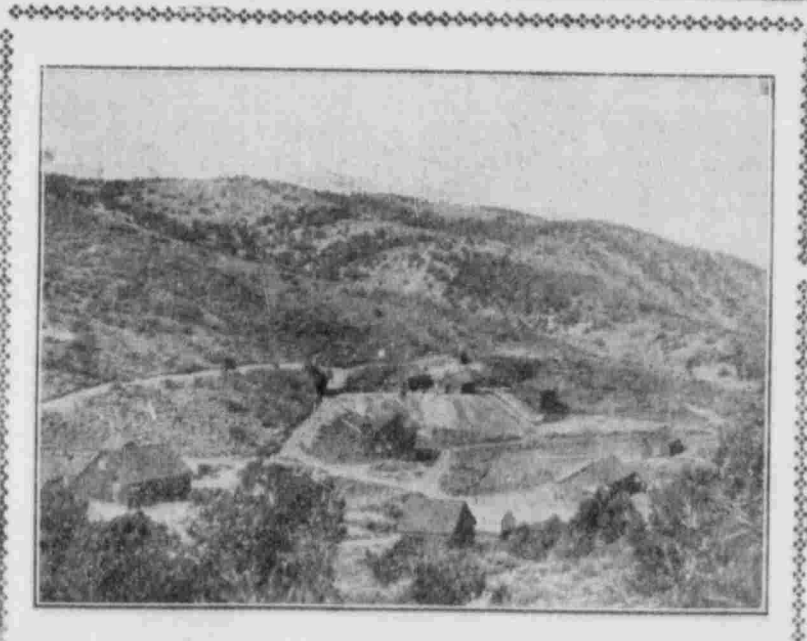
The present year has been devoted almost entirely to the task of enlarging the tunnel through which the property is being developed. This has been going on for about 3,000 feet; the total length of the tunnel being approximately 3,400 feet. Actual development was not resumed until about the first of the present month and Mr. Knight says this work is to be continued vigorously with the main ore body of the property without delay, which it is figured, will be encountered within the next 1,200 feet.

Considerable expense has been gone to in providing the mine with per-

manent buildings and now employees have comfortable quarters, which is an improvement that has been needed. Another innovation was the construction of a telephone line to Heber City giving the camp outside communication; something that it did not have before.

TRAMWAY PROJECTED.

Owing to the inaccessibility of the camp during the winter months it is probable that an aerial tramway will be erected in the near future for the conveyance of ore and supplies. The company owns about 80 claims—mostly patented; also valuable water rights and mill sites. An electric power plant is among the improvements planned for the coming year, and from this source the camp will be supplied with power, light and heat. Mr. Knight believes the Mountain Lake mine to be one of the most valuable of his numerous mining possessions. Some ore has been developed, in fact, considerable.



Seranton Mine in North Tintic.

PERSISTENCE on the part of Theodore G. Wolf, a well known Seranton, Pa., capitalist, is what has perched success upon the banner of the Seranton Mining and Smelting company, operating in the north end of the Tintic mining district. He is the owner of a controlling interest in this property and therefore, advanced the bulk of the money necessary to place the mine upon a self-sustaining basis, which was something like three years ago.

The Seranton company is one of the promotions of the late P. A. H. Franklin, but under his direction it was a success. The stock had been sold in the east extensively and the mine with all its modern equipment would have gone under the hammer had not Mr. Wolfe come to the rescue, and did this even against the advice of certain mining engineers who had examined the property. Newton A. Dunyon, the present manager, like Mr. Wolf, believed the property possessed merit and in due time development was begun upon a systematic scale.

WORKED SINCE 1900.

Work has been going on continuously since June 1, 1900, with a force varying from 20 to 50 men. There are 20 patented and several unpatented claims in the company's domain, which are situated about five miles east of Del Monte station on the San Pedro, Los Angeles & Salt Lake railroad.

The patented ground of the company covers about 6,000 feet of the main mineral bearing zone of that district. There are about three miles of tunnels, drifts

and other workings in the mine, which is equipped with an engine, compressor, air drills and air hoists, a fine set of buildings for bunk house, boarding house, assay office, carpenter's shop, blacksmith shop, barns and ore bins. The output of the Seranton mine from Jan. 1, 1907, up to the recent slump averaged over 1,200 tons of ore per month, of which about 1,000 tons was zinc ore and 200 tons lead ore. The zinc ore is shipped to the zinc smelters in the Kansas city belt, and lead ores are treated in the Utah smelters.

LEAD AND ZINC PRODUCTS.

As may be seen from the above, the chief products of the Seranton mine are lead and zinc. In the mine the lead and the zinc ores are separate. The lead ore has very little, if any, zinc in them and the zinc ores have no lead in them. The most notable thing about the mine is the vastness of the deposits. As yet only the surface of the ground has been scratched, as mining parlance would have it, but the amount of ore exposed is remarkable. For the first four years, the development of the Seranton mine was a heavy task upon the stockholders, but, as already stated, through the able management and financial assistance of Mr. Theodore G. Wolf, the president of the company, the mine finally reached a self-supporting position.

The officers of the company are: President, Theodore G. Wolf, Seranton, Pa.; vice president, Everett Warren, Seranton, Pa.; treasurer, H. J. Knapp, Seranton, Pa.; managing director, N. Dunyon, Salt Lake City; secretary, T. H. Braunel, Salt Lake City.

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