

TIP TOP TUNGSTEN

The Rejuvenation of a Historic Silver Mine

BY C. S. SCOTT

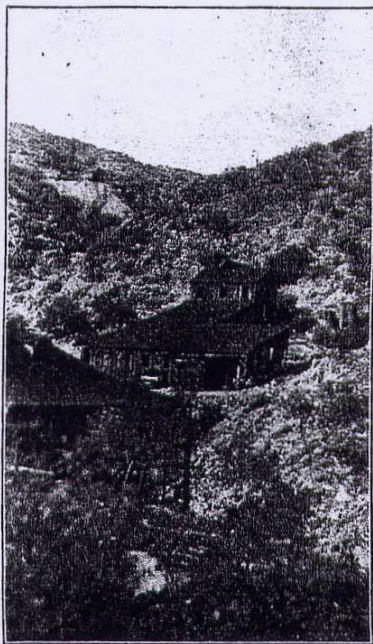
ROMANCE, adventure and quick fortunes, alternating with disappointment, discouragement and bankruptcy always have and no doubt always will attend the business of mining in greater measure than any other legitimate business, for reasons apparent to all, conditions which are a standing invitation to the speculator and the crook. But as in social life the real romance surpasses in interest the most weird climaxes of the fictional drama, so in mining the work of the speculator and the crook are but the froth that foams above the legitimate drama of the business as real as anything human can be, normally developed from ever changing conditions. More often than otherwise, such incidents of mining attend the rejuvenation of old mines that lived through the froth of early romance to an honorable and glorious fame, then lapsed into coma, sometimes for long periods, pending the shifting of the scenes for a greater development and a wider fame. Among many such instances in Arizona may be mentioned Ray and the United Verde among the coppers, Vulture, Congress, Pearce and Harqua Hala, in the golds, Tombstone, Magma and Tip Top among the silvers, and others among the old time proved properties could be mentioned where the same transformation will occur when the psychological moment arrives.

This story deals exclusively with the Tip Top which in the early 80's was the state's most famous silver mine and which may now be hailed as prospectively its most famous tungsten property. This without prejudice to any other of several famous tungsten deposits, but only because the Tip Top is already developed for hundreds of feet and its ore bodies exposed. The romance, as different from other mines, lies only in the fact that save to the knowledge of only a few people, the enormous tungsten deposits were known only as zinc or some other still cheaper and baser metal, tungsten if known was worth but half its present price, and went to the waste dumps or to back filling in abandoned stopes. Silver was the main thing sought while tungsten was not then even a by-product. Now tungsten is king with silver as the by-product, though with the better price of silver and better working conditions, even that metal alone again makes it a valuable property. That the reader may be qualified to appreciate the statement of what is now being done with the Tip Top mine it will be illuminating to recite briefly, something of

Its History

It was discovered in 1876 and was purchased shortly after by Hagen Head and Hearst of San Francisco, who worked it until the early 80's, when the low price of silver and terrific expenses of operation, no nearer to a railroad at that time than Yuma, effected its closing. The watchman

left in charge, sued the company and acquired title. He worked it by leases for several years then sold it to the St. Louis and Yavapai Company. They moved the mill to Tip Top from the town of Gillett, a few miles distant, on the old Black Canyon stage road between Phoenix and Prescott and worked the old dumps over for sil-



THE MILL AND THE HOIST
Courtesy of "Yavapai"

ver, meantime continuing to operate the mine through leasers until 1893. Reference to the silver values recovered by the leasers will be made later in this story.

In 1893 the St. Louis & Yavapai company stopped operations leaving a watchman in charge who failed to do the assessment work, when it was jumped by the Wager Brothers. Eight years ago they formed the Tip Top Heath Mining and Milling Co. and built a small mill which did not operate successfully on the tungsten ores which were then claiming their value. Lack of funds necessitated closing down. Last October the directors decided to sell the property to secure money to take care of its indebtedness and it was taken over on a bond by A. F. Muter. Since that time several thousands of dollars have been spent in exploratory work, the proving of values and ore reserves already disclosed and about two weeks ago, Mr Muter, together with W. W. Elliott, and C. W. Davis who have been associated with him since his connection with the property, organized the Tip Top Consolidated Mining Co., with the modest capitalization of \$375,000. the par value of stock being 25c. Reverting to the days when Tip Top held the center of the stage and when it was engaged in producing the greater part of the four million dollars which the annals of history place to

its credit, the period was the most romantic in the history of the then territory. Agriculture in Arizona was little more than a joke. Cattle raising was an infant industry but a profitable one, to the extent of supplying the mining camps and army posts which were numerous. Merchandising was a get rich quick game for those properly located and with capital enough to operate, but hazardous for anyone else. Rapidly recurring Indian outrages furnished the excitement of the day. Mining was the overshadowing industry, gambling and drinking whiskey were the chief amusements and stage robbing though never publicly approved of was regarded as more or less of an accomplished profession.

When Tip Top was discovered there was not a mile of railroad in Arizona, though before its glory waned both transcontinental lines were completed across the state and the old Black Canyon stage line via Gillett was the main artery of travel between them. Next to Indian outbreaks the news item of the day was normally a stage robbery, usually without tragic features or anything more serious than the loss of money. That was no particular shock to the populace unless it was an unusual haul, for even in those days, people knew the Arizona hills held plenty more of it. During this period the Black Canyon road for twenty-five miles each way from Gillett and Tip Top received so much attention from the bandits that it brought contempt on their profession. Even rank amateurs broke into it, operating so continuously that the proceeds became disappointing. The greater part of the loot came directly or indirectly from the Tip Top mine and the towns that lived off it, but with the carefulness of the officials in protecting the treasure even that great property could not keep up the robbers' dividends.

Today Turkey station on the Bradshaw railroad is only 35 miles from Tip Top; and Phoenix, 50 miles distant, with a down grade haul, is fast becoming a railroad center.

On the surface of the property were two parallel veins which development disclosed came together at the depth of 350 feet. Thus far the foot wall vein had been extremely rich. Below the junction the vein was wider but lower grade and most of the ore had to be concentrated in the mill erected at Gillett on the Agua Fria river. It was then that active operations ceased due to the lower grade ore, expensive concentration and the fact that every ton of ore sent out or every ton of supplies brought in via Yuma entailed an expense of about \$200. Only ore that ran \$400 per ton or better could be handled to a profit.

The St. Louis & Yavapai Company, which later concerned itself only with working over the old dumps took out some \$235,000 worth of silver. The present owners of the property have the accurate record of 49 shipments of ore by leasers during the same period and the values per ton, recovered. The very lowest return secured by any one of the shipments was a little over 108 ounces per ton. Several shipments varied between that and 300 ounces but a majority of the shipments returned between 300 and 1000 ounces per ton. Two shipments ran a little over a thousand ounces, one gave 1985 ounces and one shipment returned 2,104 ounces. These operations cover the shipments of five or six different leasing companies. These figures are only to show the sort of a silver deposit the Tip Top is. The next question is whether the mine is worked out. By noting the following, relative to development work, after reading the above figures one does not need even to see the mine, to emphatically answer no. On the contrary there is every reason to believe there is yet more silver in it than has ever been taken out.

The above records of values are from ores above the 200 foot level for the mine when first abandoned was allowed to fill with water below that depth. Previously however it was opened and explored to the depth of 800 feet where the same inviting conditions prevailed, but was only stoped to the depth of 500 feet. In

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THE MILL AND ONE OF THE DUMPS

Courtesy of "Yavapai"

TIP TOP TUNGSTEN
Continued from page 5

the upper workings many tons of ore that would now be regarded of fine value but which were of too low grade for profitable working under old conditions, were left in columns sustaining the roof, over the old stopes. These were filled in large part by the black refuse that later years have proved to be tungsten, in values exceeding the worth of the original silver with which they were associated, so these old stopes and the three big dumps are now store-houses of rich tungsten ore, already broken, and needing only hoisting to the mill. By drawing some of the old chutes above the 200 level, the present management has uncovered several of the low grade blocks of ore aggregating 1000 tons that will average 40 ounces in silver and 8-10 per cent tungstic acid. These bodies with silver at 60c and a recovery of 90 per cent and with tungsten at \$75 per unit and with 75 per cent recovery, would return a value of \$66,000. Best of all so far as these disclosures are

has been taken from a single shoot 600 feet long though good ore has also been taken from two other shoots that crop on the surface. A little drifting should expose both at depth.

The second vein on the property and running parallel is known as the Joker. It was stoped to the depth of 150 feet and produced good values, identical in general character; though a narrower vein. The original company started a crosscut to the Joker on the 500 level which will doubtless be connected when the mine is again unwatered, thus making available still more stoping ground. The larger vein varies from six inches to five feet in width but is well defined so far as can be explored at this time and according to those who having worked in the mine have seen it as deep as the 800 foot level. It is unquestionably a fissure, and permanent, as indicated by its formation as well as the fact that it is well defined for thousands of feet on the surface. The ore is a banded formation with alternating streaks of black and light or colors and with the silver values

say nothing of what will be revealed by unwatering or later development work.

The headquarters of the company is at Prescott where F. L. Haworth, secretary, is in charge of the office and C. W. Davis, the president, lives at the Jefferson hotel, Phoenix, while Mr. A. F. Muter, the engineer and Mr. W. W. Elliott, superintendent, will be in charge of affairs at Tip Top.

"TITANIC" WHEAT

The Department has recently been advised by a correspondent in California that a variety of wheat is being advertised under the name "Titanic." The assertion is made that it is a new variety of wheat discovered in England about four years ago, and that a small quantity of seed was brought to the United States by one of the survivors of the ill-fated Titanic. The wheat is represented as having extremely high yielding power, the returns reaching as high as 7,000-fold. A photograph sent by this correspondent shows a head identical in appearance with the widely exploited "Alaska" wheat. Five acres of the wheat are said to be growing in the State of Washington, and the seed, it is believed, will be offered at high prices after harvest. The Department has no further or more definite information concerning this variety, but farmers and dealers are cautioned to be on their guard concerning this new exploitation.—U. S. Department of Agriculture.

The Golden State Mining & Milling Co. has leased its holdings to W. H. Dougherty and W. E. Clem for a period of two years. The mines are situated in the Black Rock and Blue Tank districts and the group comprises the Golden State, San Francisco, Buckhorn and Gilbert House claims. The lessees will mine and treat the ore at their own expense, paying to the company certain stipulated royalties.

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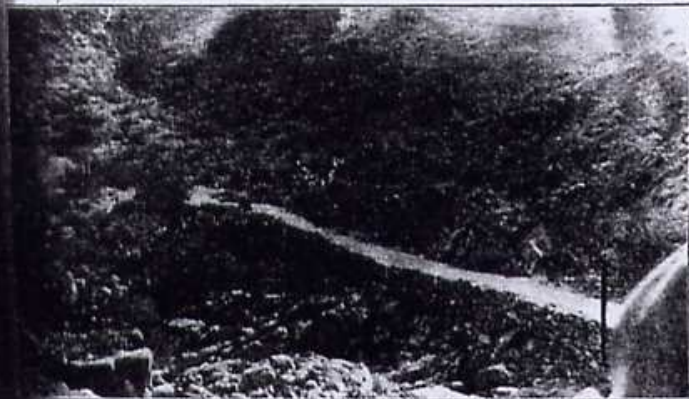
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ROAD TO TIP TOP MINE
—Courtesy of "Yavapai"

they verify accurately the stor-
men who delved in those dark
many years ago and have
of the vast quantities of tungsten
disposed of in those days as
matter of no value.
above was all on the foot wall
The hanging wall vein was on-
to the depth of 150 feet.
between that point and the
of the veins leaves a body
600 by 2 feet. Three thousand
of ore taken from this vein
sample gave returns of 167 ounce
silver. Discounting the size of
vein and the value of the ore by
cent the owners estimate this
of ground to be worth at least
\$100,000.
ths have been spent in prov-
the values of the old ore now avail-
Grab samples and assays from
dumps have been checked by ton
actually run through the mill so
conservatively stated that the
alone will furnish 20,000 tons
carrying 13 ounces in silver
two-tenths per cent tungstic acid.
stope filling is estimated at 20,
ons of 17 ounce silver ore and
same tungsten value.
Tip Top ore occurs in a fine fis-
sile that can be traced for 6,000
feet on the surface. Most of the ore

predominating on the upper side of
the ledge, while the tungsten values,
formerly regarded as waste, predom-
inate on the other side.
There is only one more word to
add and that it that the gentlemen
concerned honestly expect to get rich
out of the ore values in their prop-
erty rather than out of stock opera-
tions. They have spent \$12,000 in ac-
tual experimental work that they
might not be deceived as to the value
of the ore. Satisfied on that point
they have secured a property it will
take a lifetime to thoroughly work
even to the depth of present explora-
tions and on which no "development"
work is required save the cost of un-
watering. There is over a mile of
underground development at this
time, except that much of it is full
of water, and water above the thou-
sand foot level, is the easiest digging
a miner ever encountered. Some mon-
ey will be needed for mill construc-
tion, pumping, etc., and to that end
a limited amount of the stock is of-
fered at PAR value, 25c per share. The
market is not to be flooded with stock
for that owned by the promoters is
all pooled, and as mentioned before,
the total capitalization is only \$375,
000 while the estimated value of ore
in sight and in place is \$966,600, to

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