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## Silver Mining in the Tip Top District

By O. A. ENSIGN. *A brief history of the discovery and production of the mining properties in the Tip Top mining district.*

During the winter of 1876-77 the Tip Top mine and silver were first discovered in what is now the Tip Top mining district by Messrs. Corning and Moore.

In the fall of 1876 Mr. John Corning came into Prescott, Arizona, from the silver mines of Nevada. Among his acquaintances who had preceded him to Prescott were Col. C. P. Head, then a prominent merchant, and among his new acquaintances a southern gentleman, John (Jack) Moore, one time sheriff of Yavapai county. This was at a time when approximately the northeast one-fourth of all Arizona was Yavapai county. As business was dull in and around Prescott, particularly in the mining game, Corning and Moore decided to put in the winter down in the Humbug mining district, where the winters are ever mild and warm, prospecting and obtaining gold by the arrastre process—the poor man's way of milling "free" gold ore—extracting the gold from quartz. They were grubstaked by D. C. Thorn, who "put up" for Moore, and C. P. Head and E. J. Cook, who backed Corning.

On their way to that haven of gold and game—for then deer were plentiful—they followed the old Black Canyon road to the present site of Canon, Arizona, where Mr. Moore met his friend, Jack Swilling, who directed them over an obscure Indian trail leading from his place to Humbug Creek. It happened that this trail crossed the present Tip Top vein, and they found "float" ore heavily impregnated with "horn", or chloride of silver. Mr. Corning's prior experience with silver ore served him well in this instance.

They came down Tip Top Creek to the present site of Tip Top Camp, and camped. Thus they never reached their intended destination. Instead, they "staked" three claims, then known, as now, as the Tip Top, Tip Top South and Joker claims. Next they sent out ore samples for assay, and informed their partners in their venture of their find. Their assay returns showed very high-grade ore and they employed a few miners and immediately began the extraction of high-grade.

A shipment of a considerable tonnage of \$10,000 per ton ore, taken from the Tip Top South claim, attracted much attention in San Francisco. Among others, Mr. Dan Gillette and Mr. Charles Hoffman, who were searching for good properties for

their respective companies, visited the property, liked what they saw, "threw together" and bought the property for \$60,000 spot cash.

It is said that Corning, Moore et al sold \$150,000 worth of ore from the claims before the sale. Pretty fair for about a year's work! But, mind you, these sums were not all "velvet." While silver was around \$1.28-29 an ounce and the ore rich in silver content, the freight rates from mines to San Francisco were \$300 and down to \$225 per ton of ore. Also there were other charges and commissions. And it must be remembered that at this time there was not one foot of our present transcontinental railways in the territory of Arizona.

The Gillette and Hoffman Tip Top Company, upon taking over this property, began active operations. They drove the 100-foot adit along the vein for 600 feet through high-grade ore. They opened and drove the 200 adit along the vein over 300 feet, connecting the two adits by winzes. They also sank winzes 100 feet apart to the 300 level. Also they opened the 100-foot adit on the Tip Top South, and extracted much high-grade therefrom, and started the 200-foot adit on that claim. During this time they added the Foy claims to their holdings.

In the meantime this company decided to install a 10-stamp chlorination mill at the town site of Gillette on the Agua Fria. This plant when completed consisted of two five-stamp batteries of 1,060 pound stamps, a reverberatory roaster, four pans, two settlers, 60-horsepower boiler and engine, etc. This mill was completed in about 18 months from its inception.

During this time the ore was piling up on the dumps of the different claims, so to relieve the various dumps, trails were made, pack trains secured and ores transported to the mill site, nine and one-half miles from the mines. By the time mill wheels were ready to turn, the mines had justified the judgment of the purchasers. The Gillette-Hoffman crowd had quite a long run with the chlorination plant, turning the silver from many tons of high-grade ore into many bars of bullion of several thousand ounces each that would often grade up to 990 points fine out of a possible 1,000 points fine silver.

After the mill had been running, night

and day, for about eight months the control of this property changed hands and a new management came in. Haggin-Head and associates acquired control of the Tip Top stock and George E. Webber was put in charge.

By this time it was pretty generally proven that the oreshoots, or lenses, of the Tip Top vein inclined easterly, approximately 45 degrees. Mr. Webber ceased milling ore for a short time, and sank what is now termed the "main shaft", so as to connect with the 200-foot adit, then with the high-grade oreshoot at 250 feet in depth. Ultimately Mr. Webber put this shaft down along the vein to a depth of 830 feet, passing out of the rich ore somewhere between the 600 and 700 levels. Under the management of Mr. Webber the Tip Top mines and mill were operated about four years, or until October 15, 1883.

When the mill was running steadily the Tip Top company produced from \$80,000 to \$125,000 worth of silver bullion a month, depending upon the price of silver, as the price of silver began to decline. When the mill was operating at full capacity the payroll amounted to about \$1,000 daily. Thomas Brown, mine superintendent during Mr. Webber's management, and Ben M. Belcher, merchant of Tip Top during all these years, estimated and agreed that from first to last the Tip Top company had produced over \$4,000,000 worth of bullion.

When the Tip Top company quit, Mr. Brown was left in charge and he appointed a watchman. In time the watchman wanted some money. Mr. Brown had no company money and inquired of the watchman if he did not know of sufficient ore to pay his wages. The watchman did and proceeded to help himself. During his incumbency, about one year, he managed to save from \$25,000 to \$35,000 of his salary.

On January 1, 1885, the Tip Top holdings were dismembered and the Tip Top mine, rechristened the "Conqueror", fell into the hands of chloriders, who chlorided around in the old workings above the 300 level and sold over \$125,000 worth of silver ore during their twelve years of occupancy. They did not work regularly and the greater part of what time they did

work there were from one to four workmen, despite the fact that silver was steadily declining.

During the spring of 1886 the Conqueror boys sold their claim to the St. Louis & Yavapai Mining & Milling Company, accepting a ten-year lease in part payment therefor. But wait! Let us turn back and see what the balance of the camp was doing all these years and leave the St. Louis and Yavapai for another chapter.

The Tip Top mines and the Peck mines seem to have been found about the same time and attracted the attention of prospectors and miners from all over the west. While the four claims of the Tip Top group were being developed about 1,000 men came into the district. About one-third of this number took claims, or leases on claims, other than the Tip Top group, and the sound of blasting could be heard throughout the silver zone, which was proven to be a territory about four by five and one-half miles in area. (The present Tip Top district was then a part of Humbug district.)

Yes, and the familiar saying of bygone days, "Have one on me", "Have another", etc., became quite common speech in Tip Top camp, for saloon men and merchants, as well as miners and chloriders, came to the camp. At one time there were three general merchandising stores that could furnish supplies at retail or wholesale. From one to five eating places, that compared favorably with the eating houses of today, together with 14 saloons where any wet goods from soda pop to good grade, genuine, red liquor could be had at one bit—12½ cents—per. Right here I wish to remark, the Tip Top camp had a pretty decent lot of saloonmen. They kept places where the teetotaler could come and rest and seek diversion without being "nagged" because he was not a drinking man. In fact, they had to be decent and fair or their houses would have been boycotted.

At this time Tip Top had a daily mail and stage and at least one big freight outfit came into camp every day and some days two and three of them, besides lesser freight outfits. By big freight outfits, I mean outfits consisting of one wagon and eight mules, up to three wagons and 16 mules. This camp contributed hundreds of thousands of dollars to the business of Phoenix, Arizona, for most of the ore was either sold direct, or through the banks of Phoenix, to the smelters. In this district the genuine old chlorider, who produced thousands of tons of ore, was seen and heard for many years, long after the Tip Top company ceased to work.

Silver kept depreciating in price until about 1895, when it had dropped below 50 cents an ounce; then the last of the chloriders quit mining for silver. In the meantime, the St. Louis and Yavapai (nicknamed the St. Louis and Apple Pie) Mining and Milling Company had acquired the Conqueror (old Tip Top) claim and the Keystone claim; also they secured the chlorination mill at Gillette and moved the mill from Gillette to their property at Tip Top. They added concentrators to the old equipment and took about \$235,000 worth of metals from their dumps. They melted their silver bullion into bars, unwatered the mines, using the water for concentrating their dumps.

The water from the mine lasted about eight months, after which they obtained water elsewhere. The mine being unwatered, it took 75 minutes out of 24 hours to empty the shaft sump by bucket.

The company also did between 200 and 300 feet of drifting from the shaft and extracted several tons of ore, before silver got so low in price that they, too, gave up in disgust. Since their time this property has changed hands several times and feeble attempts were made to exploit it as a silver or tungsten property. Pittsburgh people have finally secured control of and now own three claims on the Tip Top vein and three claims on other veins, all in one block.

There yet remains on this property at least 40,000 tons of dumps, 20,000 tons of which should yield 15 ounces of silver per ton, or better. The stoped area should yield between 300,000 and 400,000 ounces of silver, some of it in place. Under the expensive process of working ores in those days (before power drills, concentrators, railroads, gas, etc.), ores of less than \$250 per ton value were not considered worth while. Therefore, much ore of lesser value was left standing. Besides this, there is much high-grade ore in place below the "stoped area".

There are three distinct shoots of ore on the Tip Top vein. Two of these shoots have been but scratched. I believe there is more silver remaining, untouched, in this united group of mines, than was ever taken therefrom, from which, with the present-day methods of mining and milling, greater profits should be derived than were had of yore.

Outside of this group of claims there is not a 200-foot shaft, and with one exception (a grass-root adit), not a 300-foot

adit within this silver zone. Yet there are at least 100 claims that have produced shipping ore. Besides silver, there is some gold, tungsten, lead, zinc and antimony.

The formation of the district is for the greater part granite with lesser dykes of schist, or altered granite, usually interspersed. This formation has a trend or strike, almost due northeast and southwest. The Tip Top series of veins course, or strike, a little more to the east than the general formation. There are several prominent rhyolite dykes that have yet another course, as they strike a little more to the north and south than the granite-schist formation. These dykes seem to interrupt or cut the general formation and Tip Top series of veins.

There is another series of veins whose usual strike is west of north and east of south. Where metal is found in these veins it usually consists of gold, lead and iron. There is yet another vein, or veins, known as the great cross cut fault vein. The general course of this is slightly east of north and west of south. This is one vein that the rhyolite dykes, nor other formations, do not seem to interrupt. This vein cuts them all and is traceable for at least five miles.

This district is well described in the language of a mining engineer who was recently in the district. He said: "I have been in many mining camps before this one where the veins ran crisscross in all directions, but before this camp I never was in a district where the ore veins were so d—d persistent as they are here."

#### AMERICAN INSTITUTE URGES TAX REDUCTION MEASURE

The following resolution has been adopted by the board of directors of the American Institute of Mining and Metallurgical Engineers and is of interest, not only to engineers, but to the public in general:

##### Resolution on Tax Reduction

Whereas, President Coolidge has urged upon congress the revision of the revenue act affecting the taxation of individual incomes as recommended by Secretary Mellon; and,

Whereas, the Mellon plan is drawn with a view to promoting industrial enterprise by discouraging the diversion of investments into tax-exempt securities; and,

Whereas, the plan furthermore is intended to relieve the burdens placed upon moderate incomes, comprising the vast majority of those in the engineering profession; and,

Whereas, the proposed legislation taxes more lightly income from wages, salaries and professional services as compared with income from a business or from investment;

Resolved, That the American Institute of Mining and Metallurgical Engineers, through its board of directors, gives unqualified indorsement to the program of tax reduction as urged upon congress in the president's message; and,

Resolved, furthermore, That the membership at large of the American Institute of Mining and Metallurgical Engineers be called upon to assist in the creation of an informed public sentiment that will impress upon congress the beneficial effects that would follow upon the enactment of the proposed legislation; and,

Resolved, That a copy of these resolutions be transmitted to each member of the institute, and to all national engineering societies.

#### FIRST UNIT OF CONCENTRATOR STARTED AT NEW CORNELIA

The first unit of the new 5000-ton concentrator of the New Cornelia Copper Company, Ajo, Arizona, has been placed in operation. Work on this plant was begun in October, 1922.

The mill was designed by H. Kenyon Burch, but constructed under the supervision of Michael Curley, general superintendent at the Ajo mine. Two additional units will be in operation by the first of March and the remaining two by the middle of the month. At that time the capacity of the leaching plant and the concentrator will run between 7,500,000 and 8,000,000 pounds monthly.

#### CENTRAL COPPER COMPANY TRANSFERS OFFICES TO ARIZONA

Announcement has been made by the Central Copper Company of Arizona that the general offices of the company have been moved from New York to Dos Cabezas, Arizona. This move followed the completion of the financial campaign which closed on December 20, 1923. Six of the company officials who will be located at the mine are: T. N. McCauley, president; D. S. Stevenson, vice-president; George L. Ramsey, treasurer; C. M. Kirby, assistant treasurer; M. C. Morrison, assistant secretary, and S. N. Kemp, editor of the Copper Review.

Officials of the company believe that by bringing together the various departments of the company, greater efficiency, as well as economy, can be secured. The company is now entering on its 1924 development campaign, which will increase the number of men employed from 150 to approximately 300 and will involve the expenditure of a million and a quarter dollars.