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METALLURGICAL WONDER IS THE STANDARD MINE

High Grade Gold-Cobalt Ore Occurs Nowhere
Else On the Globe, So Far as
Known.

CARRIES OTHER VALUES

Not a Freak Sample Mine, But a
Mountain of Fabulously Rich Ore
—Runs From Hundreds Into Thou-
sands—Compressor and Concen-
trating Plant to Be Installed.

The Standard mine, operated by the Killen, Warner, Stewart company, in the Quartzburg district, occupies a unique place in the history of mining and metallurgy. It is not only one of the very few properties in the world producing a high grade cobalt ore, but, so far as known, it is the solitary instance which gold and cobalt values are found combined. The mine, therefore, is of vast interest to the scientific mining man and metallurgist, and to the scientific man generally speaking, on account of this fact, and the investing public as well, because these and other ores exist in immense bodies, holding out great dividend paying possibilities.

So much attention has of late been directed to the Standard on account of the facts generally stated above that a representative of The Miner, accompanying H. H. Nicholson, an eminent mining engineer of Denver, and consulting engineer for the Standard, who is supervising the development work, made a special visit to the mine. A volume could be written about this property, but of course in an article of this character only general features can be mentioned and these from a popular, rather than a scientific, standpoint.

Arrived at the Standard in the middle of the afternoon after a long and dusty drive, and a failure to make connections at lunch time, the first thing in order was the familiar hunger-satisfying process at the board of Zoeth Houser, of Pendleton, ex-United States marshal, who has

charge of the development work. And be it mentioned in passing, that Mr. Houser numbers among his other accomplishments and good traits of character that of being a genial host and a most excellent purveyor.

But the mine. A bonanza has been defined as a hole in the ground owned by a bar. According to the loose application of the term a mine may not even possess the merits of being a hole in the ground. But the Standard does not come in either of these categories. There is a mountain crossed and checkered with rich metal-bearing veins. In the twenty-two claims owned by the company under the amended locations, there is material for many mines, and it is a many-metaled proposition. There are two distinct vein systems, the Standard and the Cleveland-Willie Boy. While the latter is rich in gold and copper, the former perhaps possesses the greater interest, from the fact that it is in the Standard vein proper that the deposits of gold-cobalt ore are found. In addition to this, nickel has also been discovered and some traces of platinum. Standard drift No. 1 is now in over 600 feet with a full breast of this gold-cobalt ore in the face. The richer samples have a steelish gray appearance, which would hardly lead one to the conclusion from a casual observation that there was gold present, but assay values have gone into the thousands, besides showing a high per cent of cobalt. Of course these were from picked specimens, but the average itself is high, running from \$100 to \$300 a ton. Drift No. 2, 171 feet above, is in 430 feet and also shows gold-cobalt values in the face, but not to the same extent as found in the lower workings, which proves conclusively that this ore gains in permanency and value with depth. No. 3 is a blind level reached by the Juneau shaft, which was sunk by the Frenchman Juneau, who was among the former owners of the property. It was he who first discovered the cobalt in the early days, and under great

transportation difficulties made several shipments of it to Germany and France. The outcroppings at this point are very wide and where the rock has weathered show stains of oxidized copper. The widest croppings, however, on the Standard vein are some 800 feet from the face of the lowest drift. Here the vein has a width on the surface of fully seventy-five feet, and it is to this point that the work below is being pushed with all possible rapidity. It is no difficult matter, therefore, to draw a conclusion as to the magnitude of the proposition when the drift has been carried under these croppings. With its rich gold values, its high per cent of cobalt and other metals, this vein alone has the making of one of the biggest mines in the world. But this is not all of the Standard system. There are the Juniper, the Black Horse, the Ruby, on which considerable work has been done, and in times past much rich ore has been taken out, besides several other veins, not yet prospected, belonging to the system.

So far as developed the Cleveland-Willie Boy is the main lead of this cross system. This vein was encountered on the Standard drift No. 1 a distance of 300 feet from the portal, cutting at an angle of about thirty degrees. It has been drifted on north for 500 feet, and the ore is largely gold and copper of a very high grade. The face of the drift is in this character of ore. Development work is now being confined largely to Cleveland-Willie Boy and Standard No. 1 drifts. While these workings are north of Dixie creek on the main Standard mountain, or Copper ridge, the company's property extends across the creek to Cougar ridge, where, from the prospect work done, the same high values may reasonably be expected and the same vast extent of ore bodies. During the visit of The Miner representative, Mr. Houser brought in some samples from this locality which assayed \$2,490 in gold.

Now, a word about the Standard with regard to the feature which gives it a unique place among the mines of the world. It is the only cobalt mine in America. Again, it is one of the very few in the world. Outside of the producing cobalt mines in Germany, Norway and Sweden, which have been worked for years, and the one located on the island of New Caledonia, belonging to France, in the south Pacific, no other deposits are known to exist. But the casual reader will want to know something of the value and use of cobalt. The current quotations in the New York market are: Cobalt carbonate, \$1.75 a pound; nitrate, \$1.50; oxide, \$2.50. It is used in making smalt, a cobalt silicate employed in decorating china and other fine wares. It can also be made to take the place of nickel for plating

purposes, since it gives a better and more durable finish. This, however, will probably not come into general use until the production of the metal is cheapened. It can be readily seen that a cobalt mine possesses untold possibilities of wealth.

The Standard management is carrying out a thorough, conservative and systematic development policy, under the direction, as stated, of Mr. Nicholson, who is a mining engineer of national reputation, having studied in the leading universities in this country, and for several years in Germany, besides his connection with many important mining companies. The next step in the evolution of this wonderful property will be the installation of a compressor plant and concentrating works. This conclusion has been reached and the consulting engineer is figuring on the plans. There is an excellent mill site on the property and Dixie creek furnishes an abundant supply of water.

Such is the brief account of the Standard, about which volumes might be written, from the standpoint of a disinterested observer, and the conclusion already prefigured that this mine will become one of the great producing properties of the world is fully warranted in the premises.

RECORD MAN PLEASSED WITH THE DISTRICT

Edward G. Reinert, general manager of the Daily Mining Record of Denver, who has been in the district for the past week, left this afternoon for Portland to attend the Mining congress. Mr. Reinert visited several of the camps and is greatly pleased with the situation. To a Miner representative he said:

"The possibilities of the Sumpter district in a mining way are immense. The mineral resources of your district are not to be questioned for a minute. It is only a matter of getting money behind the several propositions for development purposes. This is proved by the fact that the companies having the capital to push work for a sufficient length of time are now on a producing basis. You have scarcely scratched the ground yet, and I confidently expect the Sumpter district to show some of the biggest producing mines of the country in the future."

Preparing for Mill Run.

John Thomsen, manager of the May Queen, returned from the property today and left for Baker City. Mr. Thomsen has increased his force at the mine, and is preparing to make a mill run probably within the month.