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Item 1

April 1st, 1932.

Mr. Dan Zuccone,
Elko, Nevada.

Dear Sir:

At your request I submit the following report on the Black Warrior group of Gold Mines at Charleston, Nevada.

Twenty-six feet above the upper tunnel level a well defined vein averaging 9 ft. wide and assaying \$7.00 to \$8.00 per ton is exposed. The lateral extent of the vein is unknown.

The mine is not sufficiently developed to show the extent of the deposit. The exposures of ore appear promising and I believe the mine has possibilities of being developed into a profitable venture.

Preliminary metallurgical tests indicate that the ore can be treated by amalgamation and cyanidation.

I recommend that the mine be surveyed after which a development plan can be formulated.

Yours truly,

E. M., Met. E.

Preliminary report on the Black Warrior Gold Mines.

Location:

In the Northeast portion of Elko County, Nevada, and 2.6 miles Northeast up Seventy-six Creek from Charleston, Nevada.

Topography:

The Black Warrior Mine is situated on the Western slope of The Bruneau Mountains at an elevation of approximately 6000 ft. The district is drained by Seventysix and Copper Creeks, both flowing into the Bruneau River. Water for milling purposes can be obtained from these streams.

Communication:

The closest railroad point is Deeth, 57 miles distant from which a graded dirt road extends to the mine and onward 18 miles to Jarbidge. From Deeth to Elko, the County seat is 35 miles over oiled roads.

The local telephone line passes within two miles of the mine. Mail and freight are trucked from Deeth to Charleston twice a week.

Claims and Title:

There are nine contiguous claims in the group covering a nearly square area of 180 acres. The title is held by recorded annual assessment in the name of P. R. Prunty of Charleston, Nevada, who acquired the property thru purchase and location. On May 25, 1931 a lease and option was given to Geo. L. McCracken and Dan Zuccone on the following terms. First. A lease for 2 years in consideration of 10% of the net smelter or mint returns, and at least 500 shifts of work per year. Second. An option to purchase for \$75,000., the purchase price to be paid by assigning 20% of the net smelter or mint returns. Further the leases must expend upon the property at least 2000 shifts per annum.

This lease and option is recorded in Elko County, Nevada on pages 320-322 Misc. Book No. 9.

Geology:

The general surface exposure is that of tilted paleozoic sedimentary rocks cut by intrusives of granodiorites and rhyolites. The paleozoic formations dip steeply (70 degrees- 80 degrees) to the North and consist mostly of massive limestone and of shale. They were badly fractured and metamorphosed by the intrusive dykes which stand nearly vertical and cut the bedding of the sedimentaries at approximately right angles.

As in the Jarbidge district the ore forming solutions appear to have followed the intrusives and deposited their contents in

fault zones by fissure filling and by selective replacement of the sedimentary rocks.

The various factors influencing the ore deposition as seen at the Black Warrior mine, that is; the type of deposit, the steeply dipping sedimentary rocks, and the presistant perpendicular intrusives at right angles to the sedimentaries, indicate that the ore forming action was deep seated and that the ore will continue to considerable depths.

Development:

Over 1400ft. of work has been done on the property, most of which is without system and largely useless, except that part of it can be used in further development of a larger ore tonnage. In the so-called upper tunnel 900ft. of drifting has uncovered about 60 ft. of vein averaging 9 ft. wide. From this exposure to the surface is about 60 ft.

At about 300 ft. below these workings a tunnel was driven 500ft. to develop the ore at this depth. This tunnel ~~was driven~~ is in rhyolite and the iron stained condition of the face indicates that it is but a short distance from mineralization.

Values and Tonnage:

The mine has never been developed with the idea of determining how large a tonnage of mill ore existed. The workings are more in the nature of "gophering" for shipping ore.

In the summer of 1931, 192 tons of ore assaying \$8.11 was removed from the upper tunnel workings. During the winter of 1931-32 approximately 800 tons was broken down assaying from \$4.00 to \$32.00 per ton and with an average value of \$7.00 per ton. Probably twice this amount remains between the present workings and the surface. Lack of lateral development prohibits an estimate of the total tonnage of probable ore to be found above the upper tunnel level. Likewise it will require more development before the amount or grade of ore between the upper and lower tunnel levels can be ascertained.

In summation it can be said that a large vein of mill ore has been uncovered and a small tonnage of positive ore developed, however, there is the probability of developing a large tonnage of ore at a relatively small expense.

General Mining Conditions:

Are favorable to low cost mining. The ore limits are definite. The hanging wall is a hard shale which stands strong enough to permit stullled or shrink stope mining. The footwall is a hard massive limestone which has been metamorphosed almost to marble. The ore which is soft in the oxidized portion breaks cleanly from the walls. With development the mine can be operated thru the lower tunnel and without hoisting to a depth of 400 ft. This would place the mill on Seventysix Creek assuring an ample supply of water for milling purposes. Timber can be obtained cheaply from the nearby forest reserve.

Metallurgy:

The values are in gold, the ratio of silver to gold being 1 to 9. All metallurgical test work to date has been done on oxidized ore. Examination of the ore and tests has shown that part of the gold occurs free in particles, some of which are too coarse to be economically treated by cyanide. A 200 hr. test on 14 tons of dry ore crushed to 10 mesh gave 74% extraction with a 3.5 lb. sol. of KCN. Amalgamation of 10 mesh ore gave 29% extraction and at 30 mesh 44%. Concentration by panning at 20 mesh gave 7% and cyanidation of the tails with a 3.5 lb. KCN solution gave an additional 85% or a total of 92%. The present 15 ton cyanide plant on the property is being remodeled so as to amalgamate before cyaniding.