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Item 15

Report on

THE NEVADA WONDER MINE.

HOLDINGS:

The property embraced in this mine consists of five patented lode mining claims, known as the Nevada Wonder, Nevada Wonder No. 2, Ruby No. 1, Blue Jay and Last Chance No. 1, having a total area of between 90 and 100 acres. Title is vested in the Curtis Machinery Co. of Reno, Nevada. All taxes have been paid, and there are no liens nor emcumbrances against the property.

LOCATION:

The mine is located in the Wonder Mining District, Churchill County, Nevada. Wonder is 55 miles east of the town of Fallon, the county seat and nearest railroad point. Forty of the 55 miles are over the paved Lincoln Highway, and for the remaining distance there is a good dirt auto road. There is a gentle grade from the highway to the camp of Wonder, the rise being approximately two thousand feet in fifteen miles.

HISTORY:

The history of the Wonder Mine is well known in this part of Nevada. Discovered in 1906 by Murray Scott, William Mays and others, the rich gold and silver ores caused a stampede to the camp. Prospectors, miners, promoters, merchants, saloon men and the usual array of camp followers flocked to the new strike, and it was not long before a camp of several thousand people was established. Values were found over a wide area but no permanent ore bodies were opened up except in the ground that afterward became the Wonder mine.

The property was taken over by a group of eastern capitalists and they began a thorough, systematic development campaign. An immense tonnage of ore was blocked out and in 1913 a 200-ton cyanide plant was installed. Electric power was brought in from Bishop, California, and at the time of its installation this hydro-electric power line held the distinction of being the longest transmission line in the world. The mine and mill were completely equipped with the most modern, up-to-date electrically driven machinery, and production commenced which eventually yielded over six million dollars.

In 1919 the mine and mill were suddenly closed down and the property remained idle until 1924, when the machinery was placed on the market. In 1925 both the mine and the remaining machinery were purchased by the Curtis Machinery Co. of Reno, who continued to sell off the equipment. In the mean time, with the closing of all operating mines in Rawhide, Nevada Hills and Wonder, the principal points of power consumption, the transmission line was removed and all mining operations ceased. But this mine held the distinction of being the only one in the west where company operations were not followed by lessees or tributers.

Early in the year 1931 a lease on the property was secured by a well known Tonopah lessee and operator. He found a man's size job confronting him. for during the long period of idleness the three-compartment main working shaft that had been sunk to the 1300-ft. level was found to be in poor condition and required retimbering. Having full faith in the property, the lessee set about the task of retimbering the shaft and old workings, which work was completed only to the 200-ft. level, when lack of finances prevented further activity along those lines.

TOPOGRAPHY-ELEVATION-CLIMATE:

The surrounding country is mountainous but only moderately rugged. The hills form a part of the Clan Alpine range, an offshoot of the Sierra Nevadas. All working places at the mine are accessible by wagon road.

The elevation at the main shaft is 6080 feet. Wonder Peak, just back of the main working shaft, attains a height of 6200 feet.

The climate is the same as prevails over western Nevada, there being no excessive heat in summer nor severe cold in winter. Operations were carried on 365 days in the year, as far as weather was concerned, when the mine was running.

TIMBER:

There is no timber on the ground, but a plentiful supply of mine timbers and lumber is obtainable at current market prices and within easy reach from the many nearby saw-mills on the eastern slope of the Sierra Nevada mountains.

WATER:

The old company's requirements were supplied by a ten mile pipe line from Horse Creek, ten and one-half miles north of the camp, but this pipe was taken up and sold several years ago. There is still a pipe line and water which formerly supplied the town of Wonder now owned by a ranch some five or six miles distant to the east, but it is some question whether they could be acquired on favorable terms. However, water can be developed in the West Gate wash some ten miles to the south and near the Lincoln Highway, and this would seem, under the circumstances, the logical point to build the mill, and take the ore to the water, which in this case would be cheaper than taking the water to the ore. The cost of hauling should not exceed 75¢ per ton, and could probably be done for 50¢.

VEINS AND DEVELOPMENT:

There are two strong, well defined veins on the property from which former production came. These veins vary in width from four to forty feet.

The development consists of a main three-compartment shaft from surface to the 1300-ft. level, and an auxiliary shaft 1280 feet distant from the main shaft which was sunk to the 800-ft. level from which various sub-shafts continued on down to the 1900-ft. horizon. Numerous levels connect the two shafts and extend far beyond them on either end of the veins. Altogether there are in excess of eight miles of underground workings.

PRODUCTION:

The old records of the company show that something over six million dollars was produced and in excess of one and one-half million paid in dividends prior to December 31, 1919. No work was performed thereafter until 1931, when lessees made shipments as per schedule following:

Date	Wet Tons	Dry Tons	Assays Gold	Assays Silver	Silver Price	Value Ton	Gross Value
May 23	34.35	34.006	.36	31.75	..29	$16.00	$547.17
June 2	.186	.182	26.076	190.40	.26¼	572.42	104.18
June 4	50.20	49.443	.38	27.71	.26	14.80	731.97
Jun 15	49.76	48.765	.41	32.08	.26½	16.70	814.37
Jul 19	51.45	50.318	.37	25.95	.29½	15.00	754.61
Jul 22	53.89	52.651	.49	26.15	.28	17.08	899.14
Aug.31	52.31	51.63	.58	33.50	.27¾	20.88	1077.80
Oct. 3	41.00	39.565	.295	34.20	.28	15.48	612.59
Oct.20	38.11	37.045	.34½	36.75	.29½	17.76	657.71
Dec.18	27.60	25.944	.26¾	32.25	.297	14.95	387.37
	Averages		.40	32.00	.27-7/8	17.00	

It will be noted that the ore shipped contained .40 oz. gold and 32 oz. silver, which, at the prices prevailing in 1931 of $20 oer ounce for gold and 27-7/8¢ per ounce for silver, yielded an average of $17.00 per ton. The value of this ore at prices prevailing in 1935 would be:

.40 oz. au. @ $35 - - - - - - - - - - -	$14.00
32 oz. ag. @ ~~64½¢~~ 77¢ - - - - - - - - -	20.64
Total value - - - - - - - -	$34.64

14.00
24.62
38.62

ORE RESERVES:

During the lessees' latest prospecting and development work there was opened on the surface what appeared to be either a new vein or a faulted segment of the Wonder vein, and this ore yielded good values. The ore has been cut on the 70-ft. and 200-ft. levels and a considerable quantity shipped, but most of it remains.

In the summer of 1932, when gold was selling for $20 per ounce and silver below 30¢, Mr. W. E. Edwards, a well known and able mining engineer, who had been working the property for many months and was therefore thoroughly acquainted with it, made the statement to the owners that there were between 25,000 and 30,000 tons of $7. ore above the 70-ft. level. On July 6, 1932, Mr. Edwards wrote as follows:

> "Re Wonder Mine: The writer wishes to advise you that in his opinion there is blocked out above the 70-ft. level approximately 25,000 tons of ore available for immediate operations without undue expense to rehabilitate that part of the mine. While this ore is not of a shipping grade, it is quite evident from pilot sampling that the values would range at or near $7.00 per ton at the present price of gold and silver."

This ore at 1935 prices would be worth in excess of $14.00 per ton, and the 25,000 tons above the 70-ft. level would have a gross value of $350,000.

As heretofore stated, no late work has been done below the 200-ft. level, due to the condition of the shaft timbers. From the 200-ft. level to the surface there is an estimated tonnage of 40,000 tons of medium and low grade ore which will probably run from $10 to $15 per ton with occasional bodies of ore of a much higher grade. This ore is contained in supporting pillars, stope fills and unstoped portions of the ore bodies. The same relative conditions are found on the 200-ft. level as on the 70-ft., and there is no reason to doubt that these conditions prevail on the lower levels. If so, the tonnage of ore would be greatly augmented with the reclamation of the lower levels, and the tonnage should reach 300,000 tons having a gross value of between three and four million dollars.

The stope maps of the old company show large areas of unexplored territory in the ore bearing zone, some of which would undoubtedly prove productive with further development, while many places show ore, both developed and undeveloped, which has never been extracted. The maps also show in many places blocks of unstoped ground where ore has actually been taken out on three sides. Such ground should be thoroughly explored; and with the known conditions existing on the 70-ft. and 200-ft. levels there seems no doubt whatever that further ore bodies of magnitude will be developed in the lower levels.

From general indications and the maps of the old company, there is every reason to believe that the same or greater ore reserves will be found on each and every level as on the 70-ft. and 200-ft. Should this prove to be the case, it would mean, as stated above, that the mine contains not less than 300,000 tons of a good commercial grade of ore, all of which would be found to be fairly well developed. What the known ore-bearing but undeveloped territory will produce is a matter of conjecture, but it provides a strong incentive for thorough prospecting. We already know there is ore above and below this zone, and it seems incomprehensible that the intermediate territory should prove unproductive.

MILLING:

During the period of production of the Nevada Wonder mine a 150-200 ton cyanide plant was kept in operation, employing the continuous current decantation process. The results were most gratifying, the 1919 report of the company showing an extraction of 93.99% for the year. It has thus been clearly proven through big scale demonstration that cyanide is an ideal process and that the ore is amenable to treatment by that method.

In the year 1931 some preliminary tests were made by flotation and an extraction around 90% was obtained. Late in 1934 a fifty-pound sample of ore taken from near surface was sent to the International Smelting Co. who ran a series of tests, the best of which showed a recovery of 91% of the silver and 85% of the gold. The ore was not thoroughly representative as it came from near the surface and was pretty well oxidized and was rather high grade ($33.35)per ton) to start with. The tests, however, showed the minimum recovery that could be expected by flotation, and results would be better as the lower level ores were reached.

Before erection of a new mill, further tests should be made, and if it is found that the ore can be satisfactorily handled by flotation, that method might be adopted, as any slight loss in recovery would be offset by the lower cost of mill installation. On the other hand, we know that the ore is perfectly adapted to cyanidation, and probably a simpler process than continuous decantation and an all sliming plant could be worked out.

The ore extracted by lessees during the year 1931 was sent to custom mills and smelters. On $17 ore the costs closely approximated $12.00 per ton for trucking, freight, metal losses and smelting. The ore can be hauled and milled on the ground or at a point not far remote from the mine at a cost not exceeding $4.00 per ton, and it

will be seen that a saving of $8.00 per ton can be effected. This saving along would pay the cost of a 50-ton mill in three months.

RECOMMENDATIONS:

The tonnage in sight, together with the probable and possible ore recoverable, fully justifies the rehabilitation of the shaft and mine workings, and the erection of a 40-50 ton mill. For the purpose of ascertaining the best method of treatment, extraction and initial installation costs considered, further tests should be made by two or three independent ore testing plants and the results checked. With this information in hand, a small mill can be erected at a reasomable cost, using good used machinery where obtainable. Diesel engines should be installed for power; and probably an electric generator.

It would also be necessary to find a water supply, and it is known this can be done by sinking a well in the West Gate wash where an abundance of water has been found in two wells already sunk but which are too far away to be utilized. These wells do not exceed 50 feet in depth and the cost of a new well would be nominal.

One good five-ton truck of late design will handle the ore from mine to mill.

The program, then, would be as follows:

1. Provide necessary mine equipment.
2. Retimber shaft.
3. Make tests on ore to determine best method of treatment.
4. Sink well for water.
5. Build 40-50 ton mill and provide Diesel power plant.

This program can be carried out, if the proper economy is exercised, at an expenditure not exceeding $50,000, and possibly for considerably less.

CONCLUSIONS:

The ore estimates do not take into account anything except known tonnage from the 200-ft. level to surface. There is every reason to expect the same conditions will prevail on every level between the 200-ft. and the 1300-ft. Neither do the estimates take into consideration the possibility of virgin ore bodies which there is every likelihood of discovering. And they do not take into account those blocks of ground shown on the company's own maps as "ORE" and "POSSIBLE ORE"; ~~xxx~~ nor those blocks of ground not so designated but which have been stoped on three, and in some cases four, sides.

We know of no other mining property in the west that offers the same inducements for successful and profitable operation as does the Wonder mine, nor one that can be purchased today and ore extracted tomorrow. It has already produced six million dollars from a comparatively limited area and affords excellent possibilities for another heavy production from undeveloped territory; while the ore already in sight with a mill available puts the property more in the manufacturing class than a mining venture.

Respectfully submitted:

Reno, Nevada,
March 15, 1935.