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Rail Road;  
near chloride  
Arizona

near Tennessee + Galena Mines  
mine

REPORT ON MIDNIGHT MINE

Los Angeles, California,  
December 20, 1915.

G. S. Holmes, Esq.,  
160 State Street,  
Salt Lake City, Utah.

Dear Sir:

I have made an examination of the Midnight Mine and herewith submit the result for your personal information.

LOCATION:

The property is situated in the open border of the Sacramento Valley near the foot of the Cerbat Range and about one and one-half miles southwest of the town of Chloride, Mohave County, Arizona, at an elevation of 4000 feet above sea level.

The Chloride branch of the Santa Fe R. R. is within one mile of the property and a side track from same can be extended under the ore bins without addition to the grade. There is a good automobile road crossing the property.

CHARACTER OF VEINS AND DEVELOPMENT:

The country rocks as given by F. C. Schrader of the U.S.G.S. in Bulletin 397, consist of pressed and crushed Microline, Biotite and Granite and this is intruded by diabase and granite dykes in or near the mine, the diabase apparently being the later of the intrusions.

The main vein has a width of 50 to 75 feet and strikes about N 65° W. As seen in the mine workings, it dips irregularly to the southwest. The other veins have a more easterly and westerly strike and dip to the north. The mine is developed by a 100 foot incline shaft with levels run at 50-70-100 feet. A small amount of stoping has been done above the 100 foot level and a lot of sorted ore sent to the smelters. This ore sampled approximately 60 oz. of silver, \$5.60 in gold, 4.5% copper and 18% zinc. I did not sample any of the stopes as they followed the high grade streaks of ore.

My samples were taken from the 70 and 100 ft. levels and represent stoping widths of the vein. The numbers on the enclosed map will show you the area and width sampled.

No.1 North Vein, 70 ft. level, east of the shaft.

Average width sampled 45" average gold and silver contents,	\$ 4.85
" zinc contents, 5.5% - 110 lbs. @ 18¢ . . . . .	19.80
" copper " 0.4% - 8 " 25¢ . . . . .	2.00
Total Value.....	\$ 26.65

No.2 North Vein, 70 ft. level, west of the shaft.

Average width 52" average gold and silver contents . . . . .	\$ 2.30
" zinc contents, 2.2% - 44 lbs. @ 18¢ . . . . .	7.92
Total Value .....	\$ 10.22

No.3 Big Vein, 70 ft. level, west of the shaft.

Average width sampled, 21 ft. - average gold and silver contents . . \$	3.04
" zinc contents, 5.5% - 110 lbs. @ 18¢ . . . . .	19.80
" copper " 0.4% 8 " 25¢ . . . . .	2.00
Total Value .....	\$ 24.84

No.4, North Vein, 100 ft. level, east of shaft.

Average width sampled, 36" average gold and silver contents,	\$ 3.86
" zinc contents, 9.9% - 198 lbs. @ 18¢ . . . . .	35.64
" copper " 0.6% 12 " 25¢ . . . . .	3.00
Total Value . . . . .	<u>\$42.50</u>

No.5 North Vein, 100 ft. level, west of shaft.

Average width 38" average gold and silver contents . . . . .	\$ 1.52
" zinc contents, 1.5% - 30 lbs., @ 18¢ . . . . .	5.40
Total value . . . . .	<u>\$ 6.92</u>

No.6 Vein #2, 100 ft. level, west of shaft.

Average width, 30" average gold and silver contents . . . . .	\$ 2.48
" zinc contents, 2.2% - 44 lbs. @ 18¢ . . . . .	7.92
Total value . . . . .	<u>\$10.40</u>

Big Vein, 100 ft. level, west of shaft.

No.7 width sampled, 57 ft. average gold and silver contents . . . . .	\$ 1.17
Average zinc contents, 10.5% - 210 lbs. @ 18¢ . . . . .	37.80
" copper " 1.2% 24 " 25¢ . . . . .	6.00
Total Value . . . . .	<u>\$44.97</u>

There is about 35,000 tons of ore developed in the Big Vein above the 100 ft. level and about 5000 tons exposed in the other two veins above the 100 ft. level. The veins show considerable oxidation on this level. When the veins are cross cut on the 200 ft. level they should show an increase in the zinc, copper and silver contents.

The Tennessee Mine nearby, in the same general formation and vein conditions, is now producing very large monthly profits from concentrating ore mined at the 1200 ft. level. Should the Big Vein maintain its width when cross-cut on the 200 ft. level, and I believe it will, and the length of the ore shoot was only 200 feet, it would give an additional 140,000 tons between the 100 and 200 feet levels. When the other veins are opened up on the 200 ft. level, they should produce 25,000 tons of good grade ore between the 100 and 200 ft. levels.

The Big Vein on the 100 ft. level for a width of 57 ft. gave an average of \$1.17 in gold and silver, 10.5% zinc and 1.2% copper. This is a good grade of concentrating ore and will yield a good margin of profit. After you have cross-cut the Big Vein on the 200 ft. level, the shaft should be continued down to the 300 ft. level. As the rock is not hard, sinking the shaft another 100 ft. should be completed in 60 days. The time required for opening up the veins on this level should not exceed 60 days. The 300 ft. level should be in the permanent sulphide zone and you could then determine the size and type of mill required to treat the ore. Within eight months the mine should be on a paying basis.

Judging from the size of the main Midnight vein and comparing it with the Tennessee Mine, when fully developed, the Midnight Mine will produce a much larger tonnage of concentrating ore that will yield a fine margin of profit above all working costs.

The showing of ore exposed in the Midnight workings warrants the expenditure of all the capital necessary to develop the veins in depth and prove their value below the zone of oxidation.

The enclosed sketch of the Midnight claims shows their location to the Railroad, the town of Chloride and the Tennessee Mine. Should the Tennessee vein continue south it will enter the Midnight ground and from all appearances, you have it.

Yours truly,

(Signed) Henry Kehoe, M. E.