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Report on the

WALKER MINE

by

V. A. Hart

June 20, 1926

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Lake Almanor Inn,
Greenville, Plumas County, California.
June 20, 1926.

Mr. J. R. Walker, President,
Walker Mining Company,
Salt Lake City, Utah.

Dear Sir:-

The following is my report on the Walker Mining Company's holdings in Plumas County, Calif. This report is supplemental to various reports in the past.

MILL - Camp - General

The mill is an excellent one and is doing very fine work. Costs of from eighty-five to ninety cents per ton on a monthly tonnage of twenty-four to twenty-six thousand tons of the class of ore found here are as low as can be expected. A greater tonnage handled will lower same slightly while a lower tonnage will show a marked increase in cost per ton.

The camp is in fine condition physically. The morale of the men in the camp is not what it should be. This is especially true as regards the underground employees. They do not feel as they should toward their Superintendent. The men, as a rule, who are working under ground impress me as not being the better class of miners.

The tailings pond is so full that next spring high water will carry much tailings down the creek with the possibility that they will clog irrigation ditches at Genessee and cause trouble there and also with the Debris and Fish and Game Commissions. The dam should be raised this summer or the tailings flumed alongside the hill and spread.

MINE -

I find the mine to be in bad shape. The removal of pillars that were scheduled to be left until such time as the mine, or that particular section of the mine, was to be abandoned; has resulted in extensive caving from the surface to the sub level above the tunnel. (These pillars to be left were classified by me as "Unavailable Ore" and "Floor Pillars to be Left" in my Ore Tabulation report for Income Tax Case of April 1st, 1924.)

This caving has filled nearly all of the mine down to the third level and probably two thirds of the area from the third to the sub level above the tunnel. This applies to the Central ore body. Naturally much water entered the mine and the hang wall of the northern portion of this ore body has sloughed badly. It is still working and there is no telling as to how extensive this sloughing near the incline shaft may eventually be. Time alone will tell as to just what effect this sloughing and caving will have on pillars that could otherwise have been

salvaged.

The surface of the ground above the mine is caved and badly cracked. The cracks are still opening on up the hill and it is going to be very difficult, if possible, to keep the surface water from entering the mine.

The present result of this caving has been the net loss to the mill of from twelve to fifteen thousand tons of ore per month from this ore body. This is a most serious matter as the mine is in no shape to supply this lost tonnage. As to how long this production could have been maintained is problematical. The fact that a heavy loss has occurred must be accepted. As to how great this loss is or as to how great it may eventually be is not so much the problem now as is the question of future tonnage for the mill.

I find that development work for the past two years has been largely centered upon the so-called North Ore Body. This ore body at all times has been very spotty in values, very lean in general and badly faulted - the latter making it difficult and costly to mine. Extensive and costly development, stopes and sorting preparation work has been done. The general grade of this ore is such that sorting of any nature other than intelligent selection in breaking is absolutely out of the question.

In my opinion the only hope of mining this at a profit if it can be mined at all at a profit, is in breaking it in large quantities in shrinkage stopes and later bulldozing it in the sub level above the tunnel. This with a minimum of supply drifts and raises for working the stopes. Lifts of at least 150 feet or more should be taken. If this is further attempted, the opening up of the stopes and the selection of ground to be broken daily should be in the hands of one man who must thoroughly understand shrinkage stoping, knows the ore, and who comprehends fully the effect of the faulting on the ore body. Even then, much trouble may be expected.

In order to even have a chance for a small profit under present market conditions, this ore must be loaded into cars at Spring Garden in the form of concentrates for not to exceed two dollars fifty cents per ton. This means a heavy duty per man and doing this with the class of labor apparently obtainable, is very doubtful. It cannot be done without radical changes in the handling of the stopes and in the preparation for same.

No one can calculate the grade of ore as it may be broken here. It is too spotty in value. The southern portion of this ore body should run - within reasonable limits - one point three to one point six percent copper. At the latter figure or even a tenth lower, with gold silver values of fifty

cents to the ton; there is a chance for a small margin of profit if the costs can be made as stated.

I have never felt justified in doing more than recommending its development on the third and sixth levels. (Quotation from report to the Board of Directors of Walker Mining Co. Sept. 15, 1922. "The prospecting of the north ore body is also very advisable as the showing in same will largely determine the question of a new mill.") It is hardly necessary to state that I never recommended a new mill on this or any other showing.

SOUTH ORE BODIES

By south ore bodies I refer to the various fissures that have been opened up south of the granite stock which shows in the tunnel level near where it turns northward. These fissures, to me, are very promising and impress me as being the upper portions of what may make into large ore bodies with depth. The country rock shows intensive mineralization - some of sedimentaries now being thoroughly altered to quartzite - The country is hard and tight but even so, the ore is of the replacement type which has been found in the main or central ore body. (Quotation from report to Mr. Wraith - July 2, 1920: - "I am convinced that after the original formation of our quartz vein that the granite uplift accompanied by much faulting took place and following this granite uplift came the reinriching solutions. -- The original mineralization was largely quartz with small gold and silver content. The solutions following were largely of copper content and probably owed their origin to the granite.")

I quote the above because I have always believed that the granite played an important part in the formation of our commercial ore bodies and latter developments are such as to make it practically impossible to successfully refute the statement. I further believe that the future of the mine hinges on this same granite as will be shown in the next paragraph.

The granite stock shown on the tunnel level and in the levels above is apparently raking to the northward or down under the central ore body. If this country, in depth, has been thoroughly shattered and opened; the discovery of good sized bodies of commercial ore can be logically expected. Eventually it will probably run to pyrite but much more depth than now obtained can be expected.

The central ore body on the tunnel level is in a tight but well altered country. It, however, carries a fair grade of ore. I have always been pessimistic as regards this making much further in depth but the granite to the south raking north-

ward or under this central ore body has changed my views regarding its possibilities with further depth as I believe now that there is an excellent chance for much shattering near where the formation contacts with the granite and on down toward the granite. If this shattering is found to have taken place, the central ore body should show well with depth.

The ore to the south of the granite stock should rake to the northward or lengthen out following the granite and may eventually be found to extend to the northward even under the central ore body.

The prospecting of the central and south ore bodies below the tunnel level is strongly urged as the possibilities for favorable development are considered good. The present winze that has been started is well advised. Another winze that can be made into a three compartment shaft is considered advisable. It should be located at some point about two hundred fifty feet north of the granite stock that shows in the tunnel level. Sinking here will be in waste but very little water should be encountered. It is very advisable to keep clear of the water that shows in the north end of the central ore body as men cannot be held there and progress would be slow and very costly. I cannot urge this point too strongly. Stations should be cut at the 150 and 300 foot points and drifts run on the vein north and south. Stations from the winze should be so calculated that an easy grade to the main shaft can be made later.

RECOMMENDATIONS

Tailings dam as previously stated.

Do diamond drilling by contract - Present costs are entirely out of line. Drilling is now costing \$6.00 to \$7.00 per foot that should be done for \$3.50 plus air or fuel.

The mill should be reduced to at least one ball mill in operation. If this is not done, there will be no feed for it other than the low grade material from the north ore body inside of a few weeks.

Crew at all points should be cut to a minimum and all efforts centered in sinking in the places indicated.

In short, the mine is eighteen months to two years behind in its development owing to too much confidence having been placed in the north ore body and it is now imperative that development for more depth start.

Respectfully submitted,
(Signed) V. A. Hart

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