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GEOLOGICAL SURVEY OF WYOMING

December 21st, 1907.

Hon. C. D. Clark,
Washington, D. C.,

Dear Sir:-

Herewith I hand you a brief report of my inspection of the showings noted at the Miners Delight Mine, at Miners Delight, in south-western Fremont County, Wyoming.

SITUATION

This property is situated about twenty-eight miles south-west of Lanier, the County Seat of Fremont County, at the southern end of the Wind River Mountain Range, and at the eastern edge of what has been known for many years as the South Pass Gold District, famous for the amount of high grade gold ores found in the mines of this section, the most prominent mine being the Miners Delight itself.

TITLE AND EXTENT

The title of this property is held by United States Patent and is one of the oldest in Wyoming.

It consists of lode claims, comprising acres.

GENERAL GEOLOGY of the DISTRICT.

The South Pass District consists of an island of Algonkian schists, lying on the granites of the Wind River Range, at the southern end of the ranges above, and surrounded by the succeeding sedimentary formations of the Cambrian, Carboniferous, and other later periods.

This island is about thirty miles long and ten or twelve miles wide, with the longer axis extending north easterly and south-westerly, and this direction is also the general trend or strike of the schists.

The ores of this region, that have received all the attention of miners up to this time, have been the high grade gold ores, that have usually been found to occur in lenses of quartz, lying in the schists or smaller stringers of quartz, included in the schists and with the adjacent schist carrying more or less gold values, as well as the quartz.

The gold is "free" or metallic gold and the usual practice has been stamp milling. The percentage of saving varied, and where any careful work was done, it was high, but the usual practice was crude and only a small part of the gold was saved, until quite recently, hence the low grade ores were not considered valuable, but with modern methods of milling these may be readily made commercially profitable, and here is the greatest quantity of mill ore, to be found today, awaiting treatment.

THE MINERS DELIGHT MINE.

This is one of the oldest properties, not only of this section, but of the entire west, and has a great production record, but the full amount will never be known, as the mine at that time was in the hands of ignorant owners, who mined only the ores immediately accessible, "gophering" the ore, which was milled in a kind of a way, and no record kept of the production.

The formation at this point is different from any other

property in the South Pass District in many respects, and the full extent of the ore bearing formations and dykes, and their relation to the ores already known have not yet been fully worked out, as the workings now available have evidently been done at various times and with different ends in view. Enough has been shown, however, to demonstrate the existence of several veins of commercial ore, and it is only necessary to prosecute work on these veins, to place the mine again in shape for a huge production.

The property lies at the eastern end of the schist island and just west of the adjacent sedimentary formations, which may be seen across the canon from the mine. The high ridge, on the easterly side of which the property is situated, consists of the usual schists of the district, hornblend schist and mica schist, but at this point and at the crest of the ridge, are found the beginning of the porphyry dykes, which cut the schist at a varying angle in this property, and are the principal causes of the ore occurrences here.

Nearly all the early workings on the property consisted of open cuts, shallow shafts and stopes leading from drifts at a shallow depth from these old shafts, and which in many cases broke into the surface cuts a few feet below the surface.

These shallow works were all on a vein lying alongside the main dyke of porphyry, and which contained a lense of very high grade ore, that was promptly worked out (as far as specimen ore was concerned at this point), but recent work at the new shaft, at a point on the Young American claim, indicates a continuance of this shoot, or at least a similar shoot coming in there. Work had not

progressed far enough to decide this matter, at the time of this inspection.

The popular opinion has been that the Miners Delight vein made a sharp turn at a point beyond this shaft, but it is evident that this is not the case, as there is every evidence to show that there are two veins coming in at this point, and that each continues beyond the junction, and each should be cut into and followed at a convenient point in the lower workings, as each show further evidence of other shoots beyond this junction point.

At the main shaft, the recent work has been confined to putting the old workings in a state of workable repair and extending the drifts to cut into or further show up the veins already shown at this point.

The greater portion of the work here has been done on what is known as the "Blanket Vein", and which is evidently a crossvein, occurring independently of the adjacent veins and cutting across the formation and other veins, shown in the mine. This "Blanket Vein" has a dip of about 55 degrees and shows a width of from four to eight feet, at the points visited. It is very evident that only a portion of the ore has been worked in this vein, and that there is a great deal of ore left in the levels of the mine in this vein, and every effort should be made to put it in shape to be milled at the earliest possible moment.

At the lower or 250 level, the veins of the property have been cut and shows considerable ore, and the work of driving on the shoots shown should be pushed ahead without delay, as this is the deepest working of the mine accessible; and the showing of any cross

here, on new veins or veins now known, becomes doubly important, as it shows up ore reserves for the mill, and demonstrates the ore conditions at depth.

MAPS

As soon as possible, an accurate map should be made of the workings and these tied in with the surface works and showings as far as are now accessible, and these maps, together with a series of sections showing the levels, raises and winzes, all in relation to the surface lines and each other, will greatly simplify the matter of laying out new work or further tracing up the old veins and ores.

In my opinion, these maps are the most essential thing to be done at this time, as with their aid, the ore now shown can be figured to within a small margin of its value, and the actual working value of the mine, within its present limits, can be shown.

Also the new ore may be reduced to some system of figures, and the necessary new work decided upon.

MILL

The present mill is inadequate to handle the ores, and does not do the property justice, as the foundations are not solid, and losses in milling thereby occur, which gives a lower value to the ores, than actually exists.

Some milling has been done, and some savings made, but only in the face of great difficulties and expense, which can be overcome in a mill in good repair.

SURFACE PLANT

The hoisting plant and surface works have all been repaired and put in workable shape, and, with the exception of the mill, ^{as} above, may be made to do all the work necessary, until a high tonnage is required.

The buildings and other surface works have been enlarged, and put in repair, and are suitable for all purposes at this time.

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This inspection was brief and details of veins, values, etc. could not be taken up at this time, but it confirmed my previous impression of the Kinross Delight Mine, that it is a great mine, and until now, has only been worked in a desultory fashion on a part of the ore available, and further, that there are a number of strong ore veins, which indicate new ore shoots of value to those already partially exploited.

The ore conditions noted here are favorable for a strong continuance of the ore, and there is no reason why these veins should not contain similar shoots, both at depth and laterally along the veins, as indicated by the surface workings in various points on the property.

In my opinion, this mine fully warrants the fullest development and equipment, both in mine and mill, and it should be done at once, as there is no doubt whatever in my mind that it is a great commercial mine, that simply awaits this equipment to become immensely profitable.

I trust you will be successful in your efforts to open up this property and place it in a position for continued, commercial production, and I will at all times be very glad to aid you in so doing, as I consider this property one of the very best in the State.

Respectfully Submitted,



State Geologist.

Date of Examination,

November 18th, 1907.

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