

JOPLING MINE.

The work for the year was confined to extending the 7th level drift from the Gwinn Mine to a point beneath the line of the Jopling shaft, raising the shaft a distance of about 94 feet, and drifting on an elevation of 85 feet above the 7th level drift from Gwinn Mine. The work in detail is as follows:

At the close of 1916 the 7th level drift had reached a point 402 feet East of the Gwinn Mine property line. This drift was extended 150 feet due East, then South-East 155 feet. At a point 70 feet North-West of the breast of this drift a drift was extended 55 feet North-West which brought it to a point beneath the line of the Jopling shaft. The ground near the shaft was then sliced out to make room for material and for a puffer, preparatory to starting to raise the shaft. A tail drift was also driven from the shaft a distance of 74 feet to the North-West to provide room for motor cars for handling the material coming from the raise. The raising of the shaft was then started, but after reaching a height of about 95 feet above the 7th level the raise had to be abandoned on account of the large inflow of water, which amounted to over 400 gallons per minute. It was decided to drift from the raise towards the foot-wall to see if it would be possible to cut off the water. Accordingly a drift was started from the raise at a level of 85 feet above the 7th level and was extended 42 feet North-East across the formation to the foot. This drift cut about eight feet of lean ore, consisting of limonite and blue steel ore averaging about 50% Iron. It was then decided to drift along the strike of this ore to the South-East in order to develop it and, if possible, to decide whether this ore was the downward extension of the main ore body developed by diamond drilling on the Jopling property. It was also necessary to drift here in order to open the ground in an effort to drain the water away from the raise. The drift to the South-East showed up 80 feet of lean ore, after which it passed into jasper and slates. There was evidently a roll in the foot-wall here, which threw the foot much further to the South. The drift was then turned to

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the South-West to cross-cut the formation. Up to the close of the year the drift had been driven a total distance of 300 feet from the raise - the last 220 feet being in foot-wall material. The last 50 feet of the drift was driven in a banded formation of lean ore and jasper, which is probably the ore formation. The dips and strikes of the formation encountered in the drift had been very irregular, indicating that the formation here is very irregular. The last of the year a raise was started near the breast of this drift, as the dips indicated that a raise would develop the ground here much more rapidly than a drift. This raise was put up about 30 feet by the end of the year without showing any change in material.

No further work will be done at this time in the South-East drift as explorations can be conducted from the end of the drift by diamond drilling to better advantage than by drifting. A drift will now be driven to the North-West of the raise following this ore, to determine if there is any change in the grade, or the width of this enrichment. Two plans can then be followed: first - either to attempt to again put up the raise in the line of the shaft to an elevation near the bottom of the ore shown up by drill holes or to put up a small raise on the line of the ore and conduct explorations at various elevations. On account of the water, which is not yet entirely cut off at the raise, it would appear advisable to put up a raise following the ore. Labor conditions have rendered it impossible to push this work rapidly, and the unsatisfactory working conditions, due to the large inflow of water, has rendered it almost impossible to keep men working here. This is another strong argument in favor of conducting explorations by raising on the line of the ore where there is practically no water.

As a general conclusion it may be stated that the results of explorations on the Jopling property have been extremely unfavorable. The finding of so large a flow of water in the line of the shaft at a depth of nearly 900 feet below surface indicates that the formation is porous and badly broken up. Such a condition, if it should develop that it persists in the formation, might readily lead to the encounter of a flow of water which would render

it impossible to conduct mining operations. The discovery of a narrow seam of lean ore near the contact at a depth of about 900 feet, does not indicate that the ore body discovered by diamond drilling persists on its dip to this depth. From the fact that the ore body on the Jopling property extends directly up to the sand, which fact has eliminated about half the tonnage shown up by diamond drilling, there is, as yet, only a small amount of developed ore on the property unless it is later found that this ore body extends to greater depth. As stated before, however, the development work conducted from the raise does not indicate that the main ore body extends down any distance below the point found by the diamond drilling. If labor conditions will permit, the development work should be conducted during the coming year, and it is hoped results will be conclusive enough to permit of an outline of future operations at this property.