

JOPLING MINE.

In order to make more clear the object of the work done on this property during 1919, a brief summary of the exploratory work done in previous years is given herewith:

Work was started in 1916 at the elevation of the 7th level drift, Gwinn Mine. This drift was extended across the Jopling property over to the line of the shaft. A raise was started on the line of the shaft in 1917, but so much water was encountered that it was necessary to abandon work after the raise had been extended up a distance of ninety feet. A sub-level was opened at an elevation of 83 feet, and a total of approximately 400 feet of drifting done here during 1917-1918. A narrow seam of lean ore was developed for a short distance on the foot-wall, but no merchantable ore was discovered. Before abandoning work on this sub level, several diamond drill holes were drilled, but no ore was found. As a result of the development work on this sub level, the water had been cut off from the raise. Raising was resumed in 1918 and the raise continued to an elevation of 380 feet above the drift from the Gwinn Mine. A sub-level was opened at an elevation of 363 feet, or at a point of 543 feet below surface, and in 1918 a drift was driven a distance of 195 feet from the raise. This sub-level was opened just below the elevation of the ore found in #37 diamond drill hole, with the idea of proving up both the grade and size of the ore body. No work was done on this sub-level in December, 1918, or in January 1919, owing to trouble with the cribbing in the raise. Two months were spent in making repairs, and work was resumed on the 543' sub-level in February, 1919.

As stated before, the object of the drift on this sub-level was to find and develop the ore shown up by #37 diamond drill hole. The drift was continued along the footwall until it reached a point opposite to #37 diamond drill hole, it was then turned to the south-east where it crossed the formation over to the supposed location of the drill hole. It was continued a short distance further to the South and the drill hole was actually found. Up to this point the drift had been in lean ore, averaging from 40.00 to 52.00% in Iron. It showed a large area of enriched Jasper. It was decided to put

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up a raise near the diamond drill hole until ore was encountered and then cross-cut the ore. The raise was extended up about thirty feet and a sub-level opened twenty feet above the main sub-level. A cross-cut was driven forty feet to the North of the raise and thirty-five feet to the South, making the total width of the ore body on this sub-level seventy-five feet, the average analyses was 54.41 Iron, .366 Phosphorus. Both the North and South breasts of the cross-cut stopped in lean ore, and in neither case was the foot or hanging actually reached. On completing the work on this auxiliary sub, it was decided to drive the drift on the main sub further to the South. It had been stopped about twenty feet beyond the drill hole, in lean slaty material which resembled the hanging wall, but after blasting a few cuts, good ore was encountered. It was driven a distance of 62 feet further to the South; for part of the distance it was in ore averaging 58.00% in Iron, and was finally stopped in the hanging. Work was then stopped and tools, rails, pipe, etc., on the sub-level were removed, as it was not considered likely that any further work would ever be done at this point. As a result of a conference with Mr. H. L. Smyth, Consulting Geologist, it was decided to recommend that some additional drifting be done at the elevation of the 7th level drift from the Gwinn Mine, and from the end of this new drift to do a small amount of diamond drilling. This work was later authorized, and the drift was started in August. It was planned to extend this drift 400 feet to the South-east. Work was continued throughout the balance of the year and completed the latter part of December. Ground was removed for a drill station at the end of the drift by the end of the month, so that everything is prepared for the diamond drilling, which it is planned to do at this point.

A report of the year's work on this property would not be complete without an explanation of the results of the work. This covers the ore developed by the exploratory work, also the advisability of completing the Jopling shaft and equipping this property, and also the possibility of handling the Jopling ore through the Gwinn Mine shaft. As a matter of fact, the last two points are answered by the first. The ore proven up by the development work on the 543-ft. sub-level and the sub, twenty feet above it, is found in a roll in the footwall near a sharp fold. The ore lies on this flat footwall

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and above this point there may be a considerable tonnage of ore. The development work done on the 83-ft. sub level, as well as at the elevation of the 7th level drift from the Gwinn Mine, however, showed that this ore did not extend down on its dip any distance below the 543-ft. sub. In other words, there was no evidence that there was sufficient ore below the 543-ft. sub to warrant opening this property; in fact to even continue further exploration in this territory. The ore on and above the 543-ft. sub level is not considered available due to the fact that the ground is quite porous, which permits a large amount of water to come down from surface through the ore formation. There is now to exceed 250 gallons of water coming every minute from the raise on the line of shaft, so much in fact that it was extremely difficult to carry on work in the ore encountered on the 543-ft. sub level. This 543-ft. sub level is only about 400 feet below the ledge, and there is from 100 to 150 feet of quick sand above the ledge. In view of these facts, the mining of any ore on or above this sub level is considered inadvisable.

If the ore disclosed by the development work on these sub levels be eliminated from consideration and there is apparently no downward extension of this ore, there remains only one possibility on this property. This possibility lay in the territory further to the south-east along the strike of the formation, beyond the limits of previous explorations. At a point 500 feet below surface, ore was shown in several holes along the strike south and east of hole #37, but no holes had been drilled so as to intersect this ore at a lower elevation or further down on the dip. Therefore, before recommending that the lease on this property be surrendered it was decided that several holes be drilled in this territory. As stated in a previous paragraph of this report, the drift to the point where this drilling is to be done had been completed by the end of the year. It will, therefore, only be a matter of about sixty days until definite information is available and a final decision can be reached in regard to this property.

If this property was opened, and the ore mined on and above the 543-ft. sub, and if the surface then caved, letting in sand and water, not only would the Jopling Mine be lost but it probably would be impossible to save the Gwinn Mine.