

Ottawa, November 7, 1961.

MEMORANDUM FOR DR. JENNESSJOHOB0 MINES, DOMINION EXPLORERS, LTD.,
KLUANE RANGES,
YUKON TERRITORY.Introduction

On September 11 of this year, I wrote a report on this property on the basis of information obtainable in Ottawa. On September 28, I had the occasion to visit the property in the company of Dr. R. Skinner, Resident Geologist at Whitehorse. The purpose of this memorandum is to add some observations to my previous report.

The day before we went to the property, Mr. Jock McIvlen, Consulting Engineer for Dominion Explorers had started work at Johobo with a crew to initiate the programme of exploration for the winter.

Summary

Previous reports have pointed out that two companies, Comvest Exploration and Cerro de Pasco have held options on Johobo in 1959 and 1960 respectively. Comvest drilled four holes at the first showing at Bornite Creek. Cerro de Pasco put down seven diamond drill holes at the second showing, more than 2,000 ft. northwest of the first.

In the meantime, the original three partners that owned Johobo continued work to mine high-grade ore for direct shipment to a smelter. They found a third showing only 80 ft. north and 50 ft. east of the one drilled unsuccessfully by Cerro de Pasco.

It appears now that the first showing tested by Comvest was only a small pod of high grade. The two showings further northwest appear to have a parallel arrangement and they are either one vein offset by faulting or they are two veins or lenses arranged in echelon. It is my impression that Cerro de Pasco drilled the vein of the second showing from the wrong side. The third showing was uncovered after Cerro de Pasco had dropped its option and the dip

of the vein here is to the north, away from the inclination of the diamond-drilled holes. Moreover, the mineralization tends to follow a few flat shears for a few feet before returning to its original dip. This results in a further flattening of the overall dip to the north.

The third and last showing is the one from which most of the direct shipping ore has been mined and it is the best-looking showing of the three discovered to date. I consider that the Johobo Mine represents a decidedly promising prospect. However, it is my impression that we cannot expect a successful exploration to prove up a large tonnage of ore, but rather we may expect a relatively low tonnage high-grade type of deposit.

Terms of Purchase

Mr. Bert Boyd, one of the three partners at Johobo, told me that the deal with Dominion Explorers was an option on the property. In return, the owners were to receive Dominion Explorers stock and some cash.

Ore Deposits

At the time of my visit, the only showing exposed was the third showing from which the majority of the 1,725 tons of high grade for shipment was mined in 1960-61.

At this showing there is an open cut extending at right angle into the side of the mountain at an elevation of about 3,600 ft. The cut was advanced as far as was possible from the point of the safety of the miners. The open cut is 150 ft. long, and 10 - 12 ft. wide. At the face it is 100 ft. high. Most of the massive copper mineralization of chalcopyrite and bornite has been removed in the cut; however, the massive vein is still present in the bottom of the cut, in the face of the cut, and in places in the walls.

The vein strikes due east and it dips 75° N. Other flat shears in the rock dip $50 - 60^{\circ}$ N.W. The mineralization follows these shears for a few feet before it continues with a steeper dip. This results in offsets to the north going downhill and an overall flattening of the dip. In a height of 80 ft. of exposure, the vein therefore shows an average dip of about 60° . This fact seems to be significant in respect to the manner in which Cerro de Pasco set up its diamond drills at the No. 2 showing.

The massive bornite chalcopyrite vein was from 2 - 6 ft. wide and according to the amount of ore shipped, the average width should have been about $3\frac{1}{2}$ ft. The wall rock carries further copper mineralization in stringers and in dissemination for a width of 10 - 15 ft. on either side of the vein. Visually, this material should average at least 2% Cu.

In the face of the cut, the vein pinches out 20 ft. short of the upper part of the exposed rock giving it a total height of 80 ft. There is a three-inch fracture in continuation of the vein and it may be hoped that mineralization will set in again.

The second showing is now covered by rock blasted and pushed down from the third one. From the description given to me, this showing is parallel to the third one and it occurs only 80 ft. to the south and 50 ft. to the west of the third showing. The top was about 20 ft. below the present bottom exposure of the vein at the third showing.

The second showing was drilled by Cerro de Pasco from the south side; the exposed structure here was nearly vertical. However, we know now that the overall dip seems to be to the north and the drilling should therefore have been from north to south. In general, the setting of the mineralization of the second and third showing could be due to a fault offset between the two or to the fact that this is an echelon arrangement of veins or lenses.

The original first showing is more than 2,000 ft. southeast of the two above showings. There is hardly anything to be seen there now. The original excavation was very small and the mineralization existed in a pod which has been removed. This is the spot where Comest Exploration drilled unsuccessfully in 1959.

Future Plans

Dominion Explorers Ltd. took an option on the Johobo property in August, 1961. On September 27, this company started with its programme of exploration. In view of the fact that winter weather was just setting in, with fresh snow falling, it was a question of preparing as rapidly as possible for an underground programme.

When Dr. Skinner and I visited the Johobo property on September 28, a group of men were busy building additional housing and a churn drill was operating in search of water at the camp site. At the entrance to the open cut of the third showing, two bulldozers were levelling out a bench. Mr. McHiven explained that it is planned to follow the vein as far as possible by an adit, if warranted underground diamond drilling may be done from crosscuts.

The length of this phase of exploration is to be about six months, some 50 men will be employed on the job. The mining work itself is to be done on contract, and on a basis of two shifts per day.

At the camp, there are to be five buildings to house men, a cookery, a tool shop, and a building for a diesel plant for electricity. There are two Caterpillar tractors, a D-6, and a D-7 on hand. For the work at the mine, a 365 Cu. ft. per minute compressor will be used. The fuel needs for running the power plant, operating the compressor, and heating the camp are expected to be about 2,000 gallons per week.

Conclusions

The exploration programme being presently started by Dominion Explorers is definitely warranted as the Johobo can be considered to represent a promising prospect. It is, of course, much too early to know if the work will prove any continuity to the veins. It is my impression that this will not become a large tonnage operation, but that if the present exploration should be successful, we would have a low tonnage high-grade mine.

H. W. P.

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