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REPORT
on the
PORTLAND MINE
Mohave County
Arizona

J. Hope

FROM
TO
SUBJECT

John Hope, Chief Geologist
C. I. Cook, General Manager
Portland Mine, Mohave County, Arizona.

Kimberly, Nevada
CITY
June 1, 1946
DATE

Introduction:

On May 25, 1946, Lester Kitch and I briefly examined the Portland Mine which had been recommended to us by Mr. E. E. Maillot of San Francisco. While the property is already under option to another group, it was felt that a day's examination was warranted since the present option may be dropped at any time due to the holder's financial inability to handle the necessary development program.

Location:

The Portland Mine is located in the Weaver Mining District in Mohave County, Arizona. It is about 14 miles north of Oatman and nearly 5 miles east of the Colorado River. The mine may be reached from Kingman over good roads, a distance of 50 miles.

Ownership:

The principal owner is a Mr. Potter of Kingman who owns a four-fifths interest. A Mr. E. A. McVicar, also of Kingman, owns the remaining interest. The property consists of three patented and seven unpatented mining claims, near all of full size. These claims should cover all the area of interest.

Production:

To date, approximately 122,000 tons of ore have been mined. This tonnage had a total value of \$998,600.00 or \$8.15 per ton. Some 85% of this production came from the south pit as will be described later.

Water, Power, Etc:

Neither water or power is available at the property. Any water needed for milling purposes would probably have to be pumped from the Colorado River, a distance of five or six miles against a 600 foot head. It is reported that a spring on the property could furnish the water needed for domestic purposes.

Power would have to be obtained from the Boulder Dam - Kingman line or produced on the property. To tap the Boulder Dam - Kingman system would require 15 miles of new line.

Development:

In the period between 1936 and 1939, the property was under option to the Gold Standard Mines Corporation who also operated the Tyro Mine and the Gold Standard Mill. During the time of their option, the Gold Standard Company mined and milled nearly 117,000 tons of ore which had an average value of \$7.77.

In the course of their operations, two pits on the outcrop produced a large percentage of the above tonnage. Several hundred feet of shallow shafts, drifts, and crosscuts were driven for exploration and mining

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Portland Mine, Mohave County, Arizona.

purposes but it is improbable that any of this work would be of any value to any future operations. However, the underground workings would provide access for any sampling that would be necessary. Some of the lower workings are under water and these, of course, are inaccessible.

Geology:

The values at the Portland mine are in a well defined shear zone between successive conformable andesitic flows. These flows dip easterly at an angle of 25 degrees, and strike almost due north. The shear zone has been replaced and mineralized by siliceous gold bearing solutions which evidently travelled laterally along the bedding fractures of the flows. The flows are undoubtedly tertiary in age and probably can be correlated with those in the Oatman district.

The vein material is composed of quartz and calcite, of which probably only the quartz is gold bearing. No sulfides were seen in the ore and the gold may be expected to be free. Some of the calcite has been removed by surface solutions and the ore appears to be quite porous for that reason, and the ore near the surface would be expected to be a little higher in grade. At depth, then, the values would tend to decrease slightly. It is probable that more than one stage of quartz filling is represented but no work has been done on that problem to date.

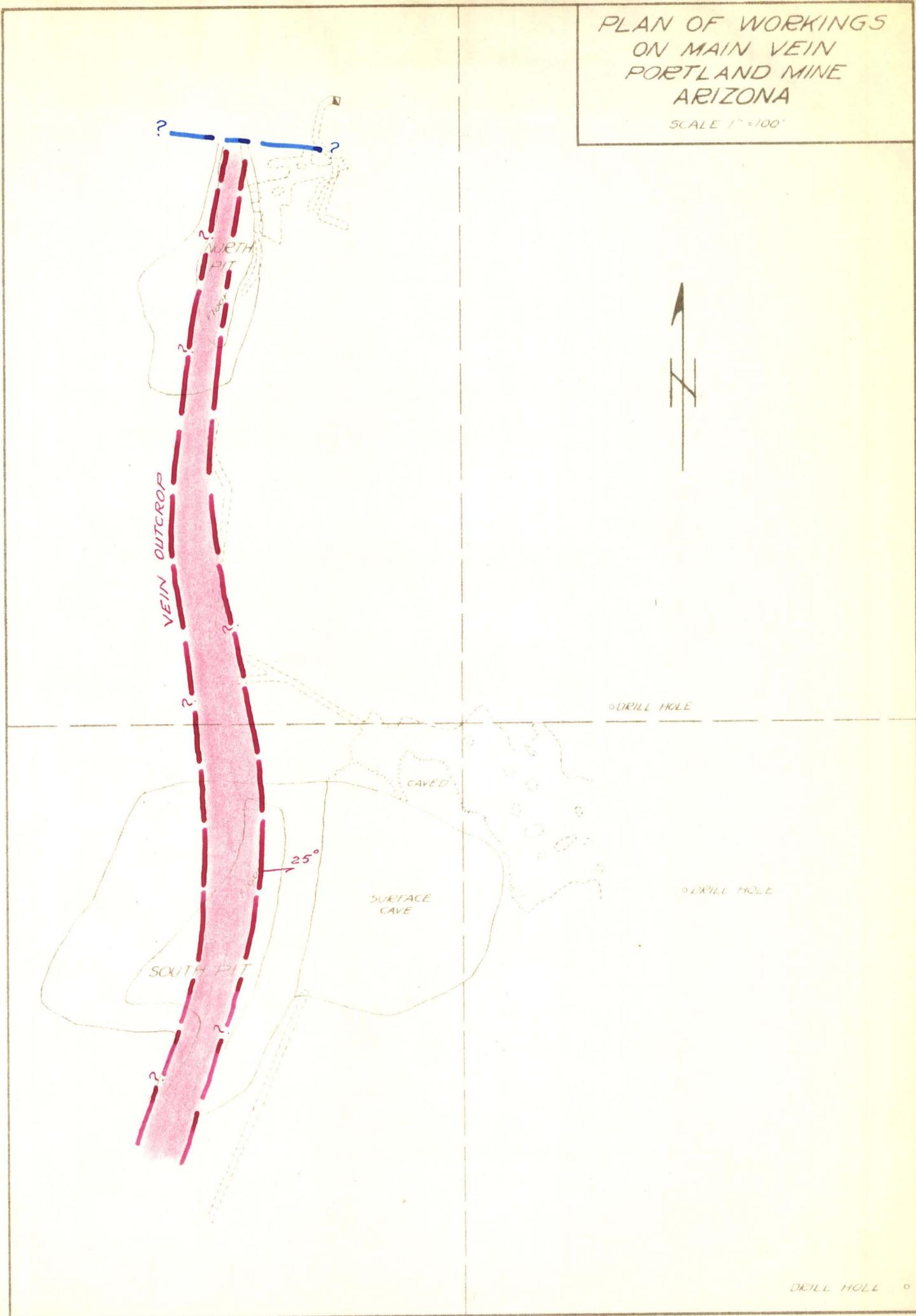
To the south, a narrow ($3\frac{1}{2}$ ft.) vein has been partially developed. This vein strikes nearly east-west and dips 35° to the north. The vein material here contains a high percentage of adularia and therefore, represents another stage of mineralization.

The first or main vein has been opened up for approximately 750 feet along the strike and nearly 300 feet horizontally down the dip. These are maximum distances. As was stated before, two pits on the outcrop of the vein produced a large percentage of the production to date. The north pit is located at the north end of the outcrop and the veins seems to have been terminated by faulting. Here the vein averages, according to reports, nearly 14 feet. The amount of offset by the faulting was not discernible and no attempt has been made, as far as is known, to locate the faulted segment.

The south pit is located at the south end of the outcrop where the vein evidently passes under a large wash. Here again, evidently no attempt was made to explore or develop the vein laterally to the south. The vein in the south end is nearly 50 feet wide and for the entire 750 foot strike length developed, the vein will average nearly 25 feet in width. Down the dip from the south pit, a moderate tonnage of ore has been mined by underground methods. This work was also done by the Gold Standard Company and as a result of not leaving sufficient pillars, the workings caved. It was at this time that the Gold Standard group relinquished their option. All of the development workings are shown on the enclosed

PLAN OF WORKINGS
ON MAIN VEIN
PORTLAND MINE
ARIZONA

SCALE 1" = 100'



○ DRILL HOLE

○ DRILL HOLE

○ DRILL HOLE

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sketch.

Three drill holes were put down by the Gold Standard group down the dip from the south pit. While the data from these holes is not available, it is reported that the Gold Standard group included two of them in their ore reserve estimations.

While the ore deposits in the Oatman district are notorious for the shallow depths to which they extend, it is not unlikely that the main vein contains values down to 500 feet below the outcrop. It is determination of the horizon at which the values terminate which is the problem to be solved. In my opinion the structure should extend to at least that depth.

As was stated before, the vein has not been traced out laterally by drilling and this work should be one of the first considerations in any exploration program planned.

The afore-mentioned narrow vein which strikes at right angles to the main vein has been traced on the surface for a distance of nearly 500 feet. Although the vein is narrow in width, up to $3\frac{1}{2}$ feet, reports are that the values are somewhat higher and that an average of \$14/ton may be expected. While this vein is not too important from an operational standpoint, it does indicate that the area is well mineralized. This small vein lies some 1300 feet to the south of the south pit.

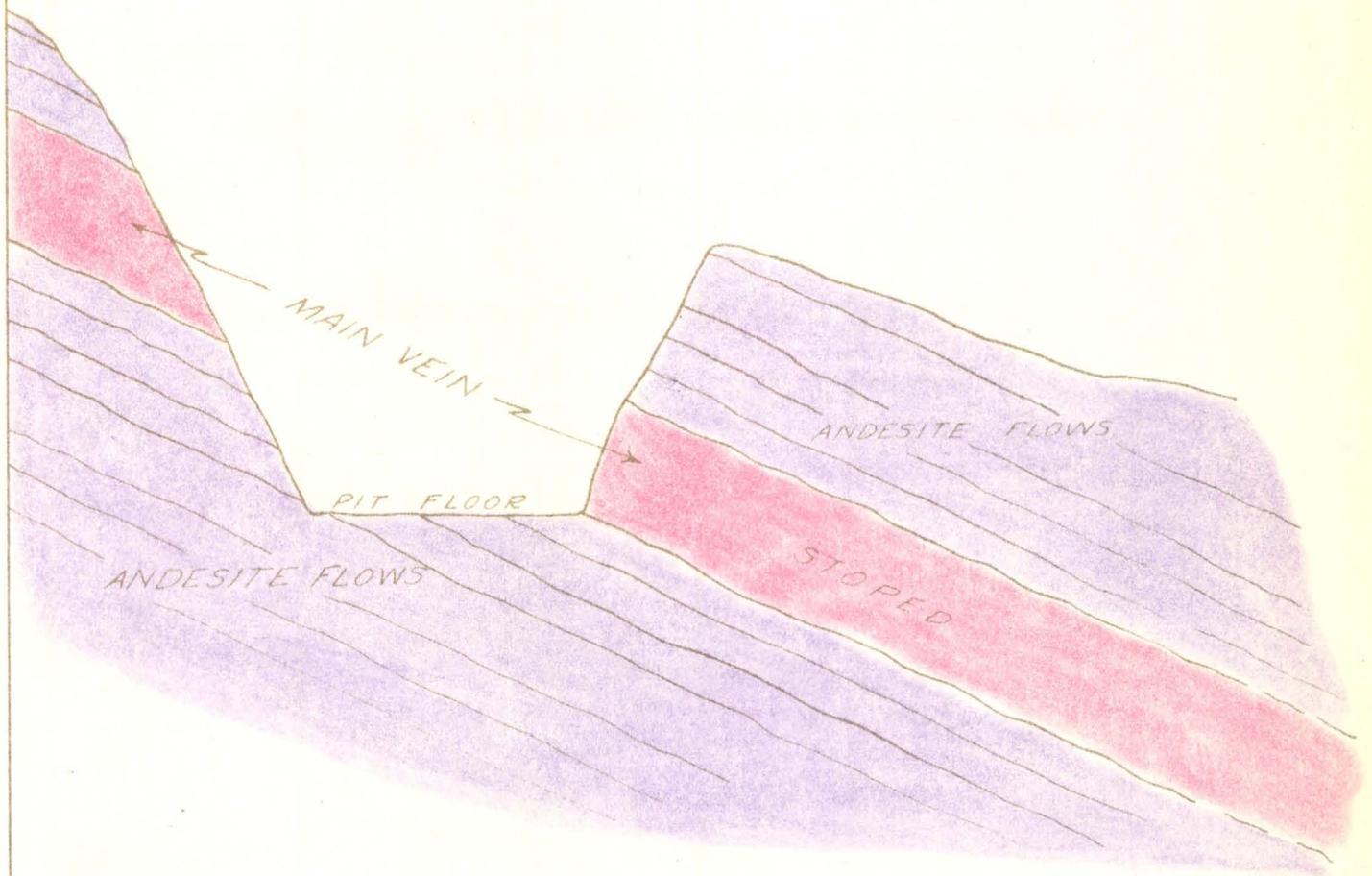
Ore Reserves:

From the data on hand, it is apparent that little or no ore may be considered as being blocked out. However, the stope and pit faces are reported to be comparable in value to the ore which has been mined. E. E. Maillot, a reputable engineer who recommended the property to the company, states that, with a little work, some 200,000 tons of ore averaging approximately \$7.50/ton may be considered as more or less blocked out. This figure is arrived at by calculating the ore in place down to the 115 ft. level over a strike length of 760 feet and then subtracting the tonnage mined to date.

If the values and structure extend to the expected depth of 500 feet, a tonnage of 1,500,000 tons could be considered as potential ore. This figure is arrived at by taking the strike length as 760 feet, the length more or less developed to date. There also exists the possibility of extending the vein laterally to the south. If this could be done, the added potential tonnage would greatly increase the possibilities of the property.

Sampling:

Since the property was under option at the time of our examination, no attempt was made to thoroughly sample the property. Such a procedure would require at least two weeks, and under the circumstances, not warranted.



GENERALIZED SKETCH
THRU
MAIN PORTLAND VEIN
LOOKING NORTH

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TO
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However, six check samples were taken out of curiosity. These are listed below:

<u>Sample No.</u>	<u>Description</u>	<u>Oz. Au/ton</u>
1	8' cut in vein	0.21
2	Hanging Wall Andesite	0.01
3	" " "	0.01
4	Ore from loading platform	0.26
5	Cut from stope pillar	0.13
6	Narrow vein to the south	0.14

While these few samples are valueless, they do indicate that the mineralization is rather constant. Several reputable individuals have thoroughly sampled the property, including E. E. Maillot, and their results check closely the values indicated by the mining operations. Of course, before the property could be considered by any company, the existing faces would have to be thoroughly resampled.

Summary and Recommendations:

Since the property is under option at this time, no recommendations are necessary. However, as was previously stated, the individual who now holds that option lacks the necessary financial backing to do a complete job of exploration and development and it is possible that he may relinquish the option at any time. For this reason, several comments as to the property's possibilities are in order.

Although the examination was brief, we have on hand a report and maps by Mr. E. E. Maillot which contains the pertinent data necessary at this time. Of course, all of this data would be checked in the event the property was given any consideration by this company. From this data, it seems entirely possible that the ore may extend to a depth of 500 feet. Then a potential tonnage of 1,500,000 tons of ore exists of approximately \$7.00/ton.

Although a contour map of the ground is not available, a small percentage of that potential tonnage probably could be stripped and mined by open cut methods. This possibility would be one of the first things to be check in any detailed examination. But the larger percentage would necessarily have to be mined by underground methods.

One of the attractive features of the property is the low cost for which the above mentioned ore possibilities could be explored at depth. Either a large diameter diamond drill or a churn drill could be used. Ten holes would test this possibility at a total cost of approximately \$10,000.00.

If the company is interested in the type of property described, one that would keep a 500 ton mill in operation for several years, I would then recommend that a detailed examination be made if and when the property becomes available. At the same time, the conditions under which an option could be secured could be investigated.

JH/mc

John Hope