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THE DEAN MINE

DISTRICT: Maynard Mining District

LOCATION: Approximately 10 miles south of east from Kingman, Arizona.

OWNERS & OPERATORS: Apparently owned by San Francisco group of which Frank O'Shea is the leading spirit and investor. He is at present acting as President and General Manager though his former occupation was that of contractor in San Francisco and he does not claim any knowledge of mining.

DATE VISITED: September 27 and 28, 1921. H. R. Banks.

CLAIMS:

The Dean Mine comprises 3 patented mining claims and 17 unpatented claims together with 6 acre mill site.

GEOLOGY:

The vein occurrence is approximately 10 to 12 feet from the hanging wall of a quartz-sericite-schist evidently developed from a movement of intrusive diorite from the pegmatitic granite of the Hualapai range. This altered zone is approximately 100' in width and is traceable for several thousand feet with a strike approximately N 20 W and dipping 70 W. Within this altered zone and approximately 10 to 12 feet from the Diorite hanging wall the vein matter, consisting of sulphides of lead-zinc-iron with occasional traces of copper forms irregular masses of commercial (?) ore. The enriched zone as so far developed is being worked for a length of approximately 150 feet and will average about 5' in width in the stopes already worked.

HISTORY:

No definite information as to the past production of the vein is available from the present owners but the main adit tunnel from which the ore is now being worked bears the name of "Jack Ryan - 1878" cut in the granite wall. The shaft connecting with the intermediate drift was evidently sunk many years ago and it is reported that considerable high grade was taken from workings down to 120' below the collar of this shaft. Present owners took hold in November 1920 and since that date approximately 1000' of drifting and cross-cutting has been done; 600 feet on the tunnel level, 260' below the collar of the shaft

and the remainder on the intermediate level. Several raises have been started but at present the main workings are from raise #7 from tunnel level to intermediate level and in the vicinity of the old shaft which has been retimbered. The original adit tunnel, driven by hand work, has been enlarged. It is approximately 400' long.

ORE IN SIGHT:

Several engineers have inspected the mine and I am given to understand that the estimate of ore in sight is 60,000 tons. My conclusions, however, from information given me would place the ore in sight in two blocks of which the lower block is approximately 150x140x5 (equivalent to 8750 tons) and the upper block 100x120x5 (equivalent to 5000 tons) or a total of 13750 tons. This of course makes no allowance for any ore which may develop below the present tunnel level and from which a winze is to be sunk 150' in the near future at a point in the center of what has been the best stoping ground. The estimate as above is also based on a conversation with the mine foreman and may err in being too conservative but the estimate of 60,000 tons appealed to me as being a very liberal one and would have to include considerable ground which did not seem to be of commercial value. The ore being milled at present will approximate \$17 per ton, so I am told.

DEVELOPMENT PLANNED:

The tunnel level is at present being driven on SE end of main level toward a vein outcropping some 300 feet from the adit portal and striking across the main vein. The drift has still 30' to go and it is the belief of the operators that the cross vein will bring enrichment in the main vein. The cross vein shows minute traces of mineral at the outcrop. A winze has been started at a point some 200' north of the adit tunnel on the main level. Depth of winze was 20' and a cross-cut from the bottom of this winze was said to have cut the vein and showed that the vein was unchanged from the main level. It is the intention to continue work on the winze at once. Winze to be sunk 150' and development work to be carried out at that level. In my opinion this will be the deciding factor in the value of the mine.

Present backs are entirely limited and the extent of the present ore body is known or at least it would seem that the mining operations have reached the ends of the enriched vein matter and have shown an ore body of 150 to 200 feet in length. On the north end of the main level considerable movement is in evidence and the vein appears to have pinched. The south end of the vein matter (commercial) has also been determined and in fact the ore exposed is not commercial south of the adit tunnel. Therefor it only remains to test the extent of the commercial ore in depth. If work on the winze should develop further ore the mine will be in a considerably stronger position than at present. It is the present intention of the operators, if the development in depth holds up to expectations, to drive a tunnel on the vein from a point some 1600 feet north of the adit tunnel and at a depth of approximately 700' below the collar of the present shaft. A showing of mineral in the outcrop between the shaft and the entrance of the proposed new tunnel would thus be prospected in depth. This work is merely projected at present and will not be carried out until sufficient work has been done on the winze to warrant this new work.

EQUIPMENT:

Power House - 75 HP "V" type Fairbanks-Morse Gas Engine. Operating continuously and giving good satisfaction. Rix Compressor, San Francisco manufacture, delivering approximately 200 cu. ft. of air at the faces. Mill - 6 x 8 Jaw Crusher feeding to storage bins. 4 x 5 Ball Mill with Dorr Rake Classifier in circuit. 4 cell K & K Flotation Machine, rougher and a 2 cell K & K Flotation machine, Cleaner. Settling tanks for return water from concentrates. 2 cone thickeners for concentrates. At present time concentrates are being dried over fire on sheet iron plates. 18' Dorr thickener for tails. 12' Dorr thickener to be coupled with American Filter is in process of erection. Mine Equipment seems well balanced for present capacity and includes 2 Jackhammers, Waugh Stoper and Water Leyner drifter. Mine cars etc. are all in good condition.

CONCLUSIONS:

Conversation with Mr. O'Shea leads me to believe that it is his intention to conduct the mine on the present basis, possibly extended somewhat in the way of milling equipment, with the idea of attempting to reimburse himself and the friends interested with him from the actual profits of their operations. In this he is opposing some of the other interested parties who are desirous of expanding at once. The mine has no indications of being a big producer and what will develop below the tunnel level is purely prospective. Under present operating conditions the production is said to be 3 to 4 cars per month. My observation of what was being sacked and from what information I could gain from the mill foreman as to heads, concentrates and tonnages would lead me to believe that possibly 2 cars per month would be more nearly correct. Mill capacity is approximately 55 tons per day. Heads will assay from 15 to 17 ounces silver and concentrates about 200. With no knowledge of the investment and financial arrangements it is difficult to check up the statement of the operators that the mine is making a nice little profit at the present time. At any rate it will not be possible to greatly increase the capacity of the mine and mill without a considerable outlay of capital, which from my observation of the underground conditions is not warranted until further prospecting has been done.

In the event of the CASCO smelter starting operations again we will be able to offer better terms than they have at present at El Paso and Mr. O'Shea stated that they would willingly divert their shipments to Humboldt. Their present contract at El Paso is for a period of 60 days. From our standpoint therefore we may look for approximately 2 to 3 cars of concentrates per month from this source with a remote possibility that future development will increase the production possible and will warrant the installation of new equipment.

H. R. Banks

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W. R. Bantz.