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The following paper was presented before the Nevada section of the American Institute of ~~Mines~~ ^{Mining Engineers} Friday evening by Percy G. Dobson, general manager of the Summit King Mines, Limited, operating the Dan Tucker mine, thirty miles southeast of Fallon:

Given on

Dec 4, 1939

Summit King Mines, Limited, is a wholly owned subsidiary and Ira B. Joralemon, of San Francisco is consulting engineer for of Bralorne Mines, Limited (N.P.L.), of British Columbia. It is a gold-silver mine situated 600 feet south of the Lincoln Highway, 30 miles southeast of Fallon, Nevada. The original property consisted of a group of five claims, previously known as the Dan Tucker Group. Prospecting and development has extended over the last 15 or 20 years.

When we optioned the property approximately 3000 feet of work had been done, consisting of several tunnels, numerous shallow pits and the two main shafts on the west end of the property, both about 180 feet deep.

When I examined the property in September, 1938, some of the factors that appealed to me were:-

- (1) The exceptionally strong vein system.
- (2) The andesitic country rock.
- (3) The similarity geologically to the nearby Fairview and Wonder camps.

With one exception, samples from the outcrops showed very poor values. As it happened, I had recently been in charge of the examination and development of the old Livloc property, now the Desert Silver Mine, at Silver Peak, Nevada. At that property there is a very strong vein traceable for several thousand feet, with numerous shallow shafts and surface workings, in none of which was encountered even encouraging values. At both properties the vein filling on the surface was nearly identical, being mainly quartz, pseudomorphic after calcite. As the surface conditions were similar in both properties and at

Desert Silver the good values were first encountered on the 400 level, I thought the Dan Tucker warranted further consideration on the chance the present surface was just above the zone of ore deposition. I thought the ore zone would have a quite definite ceiling and floor and, if such was the case, there was a fair chance commercial quantities of ore might be encountered at a shallow depth, and so recommended it to my principals.

Mineralization is associated with a strong compound fracture system striking easterly and dipping 35 to 55 degrees to the south and traceable on the surface for 5000 or 6000 feet. The wall rock is andesite, but, in the immediate vicinity, thin bedded limestones, schists and basalts are encountered. The ore is highly oxidized soft crumbly quartz, in veins 2 to 8 feet wide. Gold occurs in the free state and silver probably in the chloride and argentite. A light-colored mineral, thought to be electrum, has been noticed ⁱⁿ when panning. On the upper level the silver-gold ratio is about 40 to 1, while on the lower levels it is much higher, probably 70 or 80 to 1. The mineralization would be classed as a Tertiary epithermal deposit of hypogene origin.

When we optioned the property we allowed the owners to work for a certain period a high grade shoot in the east end of the 80-foot level of the Dan Tucker shaft. From an underhand stope, mined to a depth of 25 feet, they shipped a number of cars of \$50 to \$80 ore before we started development.

The main Dan Tucker shaft had followed what was considered the main vein to a second level 60 to 70 feet below the 80-foot level.

On this level the vein was 6 or 7 feet wide, but averaged only \$5 or \$6 ^a per ton. After studying the structure, we decided that the rich ore occurred in a parallel vein dipping 10 or 15 degrees steeper than the vein the shaft followed and intersecting this vein on the 80-foot level. With this theory in mind, we started sinking from the 80-foot level, steeping the shaft so that it entered the footwall of the old shaft. The first round exposed, in the footwall, a high grade streak half a foot wide which rapidly widened out to an average of 2 to 8 feet on our first new level, 100 feet down, which is called the 200 level.

From this stage on the property responded splendidly to development on the 200 and 300 foot levels. Continuous ore of an excellent milling grade has been developed for 250 feet to the east and 380 feet to the west of the shaft. In the east end the vein is cut off by a fault which appears to have a horizontal displacement of at least 200 feet. The Gatchell and Dan Tucker shafts were connected by a 200-foot crosscut along this fault in which several veins were encountered, one of which, although narrow, carries good values. In the west end the vein was cut off by a second fault and, in crosscutting to the north along the fault, two veins of good mill ore were encountered about 50 feet from the drift. Near the shaft on the 300 level a very promising vein has split off from the main vein and has been followed 50 or 60 feet to the west.

Below the 300 level the structure is somewhat complicated. Several strong veins have been encountered on the 400 level, which is the bottom level, but insufficient work has been done to determine the possibilities of these veins.

Percy G. Dobson

Summit King Mines, Limited

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At the present time we have sufficient ore developed for two years operation, with excellent indications of several years more.

None

and 1/4 Acre 07 and 1/4 Acre 08 Surveys

181-

from #1 bag

An abundant flow of water was encountered at a well recently drilled at Sand Springs. It will be pipe to the mine through 3 miles of pipe against a head of 800 feet. Pumping equipment consists of a 2 x 2 3/4 inch Deming triplex pump for the pipe line and a 9-stage

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For the Wheel.

Worthington Turbine Pump. Both pumps will be powered with a 15 HP Model 1-71 General Motors Diesel Engine.

Power for the mine and mill will be generated by two 190 HP 6 cylinder, 7" x 10", Cummins Diesel Engines connected to Westinghouse generators.